

District I

1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720

District II

811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720

District III

1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170

District IV

1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

Form C-101
August 1, 2011

Permit 273567

APPLICATION FOR PERMIT TO DRILL, RE-ENTER, DEEPEN, PLUGBACK, OR ADD A ZONE

1. Operator Name and Address DEVON ENERGY PRODUCTION COMPANY, LP 333 West Sheridan Ave. Oklahoma City, OK 73102		2. OGRID Number 6137
		3. API Number 30-015-46435
4. Property Code 323153	5. Property Name LONE TREE DRAW 14 13 STATE COM	6. Well No. 623H

7. Surface Location

UL - Lot L	Section 14	Township 21S	Range 27E	Lot Idn	Feet From 2040	N/S Line S	Feet From 280	E/W Line W	County Eddy

8. Proposed Bottom Hole Location

UL - Lot I	Section 13	Township 21S	Range 27E	Lot Idn I	Feet From 1700	N/S Line S	Feet From 20	E/W Line E	County Eddy

9. Pool Information

ALACRAN HILLS UPPER WOLFCAMP OIL	98314

Additional Well Information

11. Work Type New Well	12. Well Type OIL	13. Cable/Rotary	14. Lease Type State	15. Ground Level Elevation 3244
16. Multiple N	17. Proposed Depth 19457	18. Formation Wolfcamp	19. Contractor	20. Spud Date
Depth to Ground water		Distance from nearest fresh water well		Distance to nearest surface water

☒ We will be using a closed-loop system in lieu of lined pits

21. Proposed Casing and Cement Program

Type	Hole Size	Casing Size	Casing Weight/ft	Setting Depth	Sacks of Cement	Estimated TOC
Surf	17.5	13.375	48	325	274	0
Int1	9.875	7.625	29.7	8648	1208	0
Prod	6.75	5.5	20	19457	762	0

Casing/Cement Program: Additional Comments

22. Proposed Blowout Prevention Program

Type	Working Pressure	Test Pressure	Manufacturer
Annular	5000	5000	
Blind	5000	5000	
Double Ram	5000	5000	
Annular	5000	5000	
Blind	5000	5000	
Double Ram	5000	5000	

23. I hereby certify that the information given above is true and complete to the best of my knowledge and belief. I further certify I have complied with 19.15.14.9 (A) NMAC ☒ and/or 19.15.14.9 (B) NMAC ☒ if applicable.		OIL CONSERVATION DIVISION	
Signature:			
Printed Name: Electronically filed by Jeff Walla	Approved By: Raymond Podany		
Title: Supervisor Land	Title: Geologist		
Email Address: Jeff.Walla@dmv.com	Approved Date: 11/7/2019	Expiration Date: 11/7/2021	
Date: 11/1/2019	Phone: 575-748-9925	Conditions of Approval Attached	

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Phone: (505) 334-6178 Fax: (505) 334-6170

District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-102
Revised August 1, 2011
Submit one copy to appropriate
District Office
☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number	² Pool Code 98314	³ Pool Name ALACRAN HILLS UPPER WOLFCAMP
⁴ Property Code	⁵ Property Name LONE TREE DRAW 14-13 STATE COM	⁶ Well Number 623H
⁷ OGRID No. 6137	⁸ Operator Name DEVON ENERGY PRODUCTION COMPANY, L.P.	⁹ Elevation 3243.9

¹⁰ Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
L	14	21 S	27 E		2040	SOUTH	280	WEST	EDDY

¹¹ Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
I	13	21 S	27 E		1700	SOUTH	20	EAST	EDDY

¹² Dedicated Acres 320	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.

No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.

17 OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division. <i>Erin Workman</i> 10/15/19 Signature Date Erin Workman Printed Name Erin.workman@dvn.com E-mail Address				18 SURVEYOR CERTIFICATION I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief. MAY 6, 2019 Date of Survey <i>Filimon F. Jaramillo</i> Signature and Seal of Professional Surveyor Certificate Number: FILIMON F. JARAMILLO, PLS 12797 SURVEY NO. 7257			

Intent ☒ As Drilled ☐

API #		
Operator Name: DEVON ENERGY PRODUCTION COMPANY, L.P.	Property Name: LONE TREE DRAW 14-13 STATE COM	Well Number 623H

Kick Off Point (KOP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
	14	21S	27E		1700	SOUTH	50	EAST	EDDY
Latitude 32.477563					Longitude -104.168932				NAD 83

First Take Point (FTP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
L	14	21S	27E		1700	SOUTH	100	WEST	EDDY
Latitude 32.4775596					Longitude 104.1687687				NAD 83

Last Take Point (LTP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
I	13	21S	27E		1700	SOUTH	100	EAST	EDDY
Latitude 32.4778320					Longitude 104.1347466				NAD 83

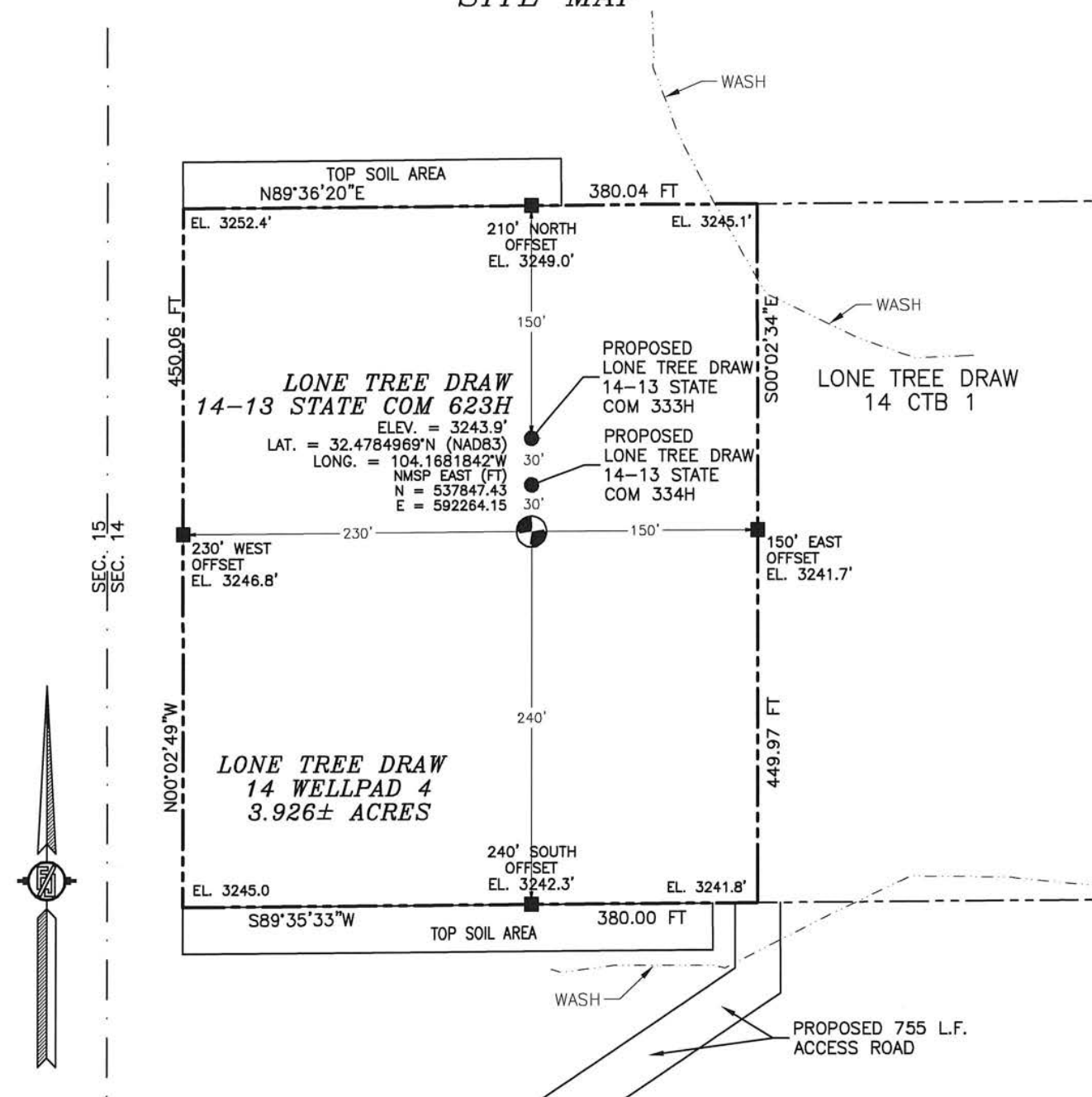
Is this well the defining well for the Horizontal Spacing Unit? ☒Is this well an infill well? ☐

If infill is yes please provide API if available, Operator Name and well number for Defining well for Horizontal Spacing Unit.

API #		
Operator Name:	Property Name:	Well Number

KZ 06/29/2018

**SECTION 14, TOWNSHIP 21 SOUTH, RANGE 27 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
SITE MAP**



010 50 100 200

SCALE 1" = 100'

DIRECTIONS TO LOCATION

FROM CR. 206 (ILLINOIS CAMP) AND CR. 600 (RAINS)
GO EAST ON CR. 600 2.2 MILES, BEND LEFT AND GO
NORTHEAST 0.1 MILES, TURN RIGHT AND GO SOUTHEAST
0.52 MILES, BEND LEFT AND GO EAST 0.9 MILES, TURN
RIGHT AND GO SOUTH 0.5 MILES, TURN RIGHT AND GO
SOUTHWEST 0.8 MILES, TURN LEFT AND GO SOUTHEAST
0.21 MILES TO ROAD SURVEY AND FOLLOW FLAGS
NORTHEAST 705' THEN NORTH 50' TO THE SOUTHEAST
PAD CORNER FOR THIS LOCATION.

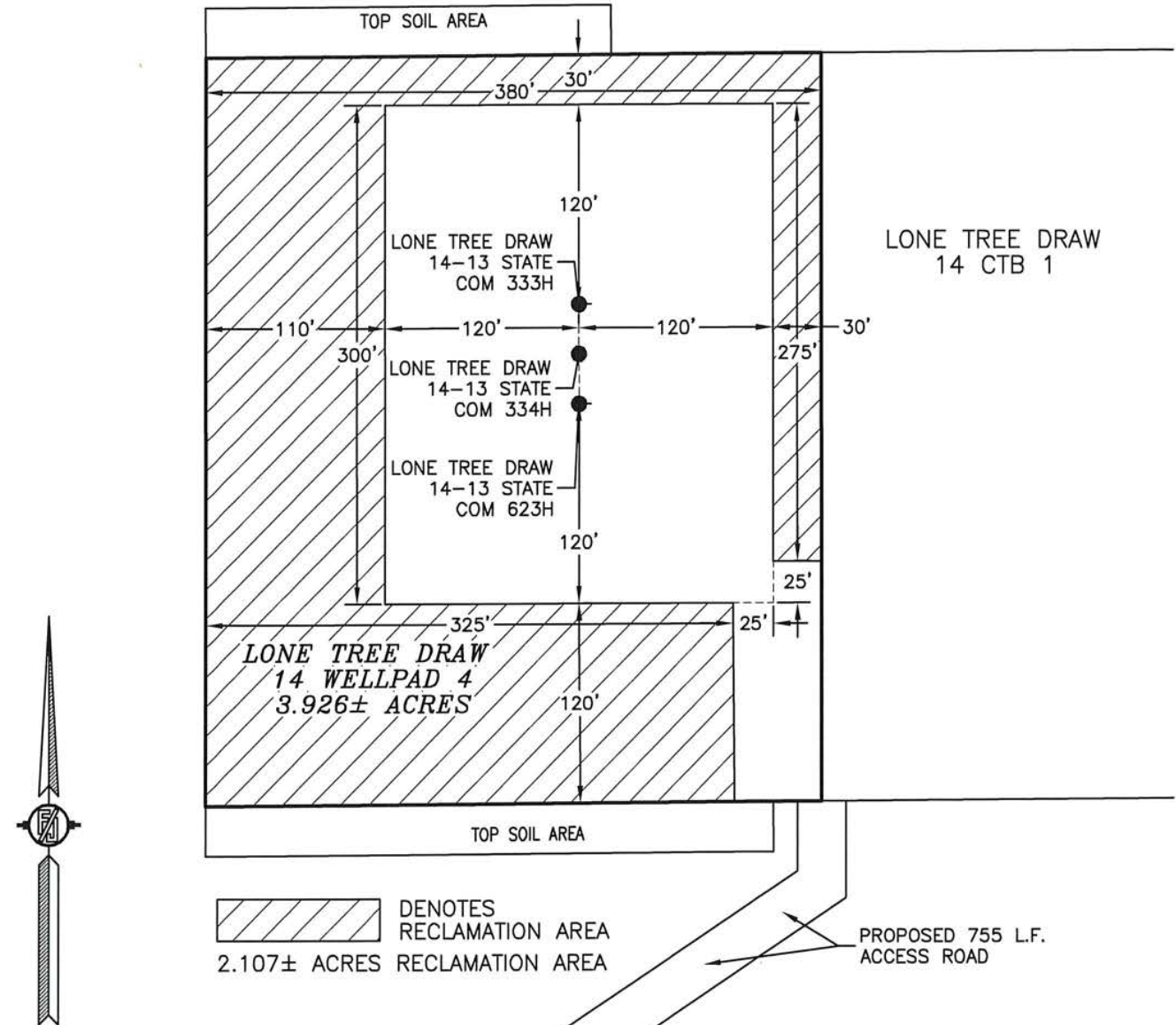
**DEVON ENERGY PRODUCTION COMPANY, L.P.
LONE TREE DRAW 14-13 STATE COM 623H
LOCATED 2040 FT. FROM THE SOUTH LINE
AND 280 FT. FROM THE WEST LINE OF
SECTION 14, TOWNSHIP 21 SOUTH,
RANGE 27 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO**

MAY 6, 2019

SURVEY NO. 7257

MADRON SURVEYING, INC. 301 SOUTH CANAL (575) 234-3341 **CARLSBAD, NEW MEXICO**

SECTION 14, TOWNSHIP 21 SOUTH, RANGE 27 EAST, N.M.P.M.
 EDDY COUNTY, STATE OF NEW MEXICO
 INTERIM SITE RECLAMATION



DEVON ENERGY PRODUCTION COMPANY, L.P.
LONE TREE DRAW 14-13 STATE COM 623H
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 AND 280 FT. FROM THE WEST LINE OF
 SECTION 14, TOWNSHIP 21 SOUTH,
 RANGE 27 EAST, N.M.P.M.
 EDDY COUNTY, STATE OF NEW MEXICO

MAY 6, 2019

SURVEY NO. 7257

MADRON SURVEYING, INC. 301 SOUTH CANAL CARLSBAD, NEW MEXICO
 (575) 234-3341

SECTION 14, TOWNSHIP 21 SOUTH, RANGE 27 EAST, N.M.P.M.
 EDDY COUNTY, STATE OF NEW MEXICO
 LOCATION VERIFICATION MAP



DEVON ENERGY PRODUCTION COMPANY, L.P.
LONE TREE DRAW 14-13 STATE COM 623H

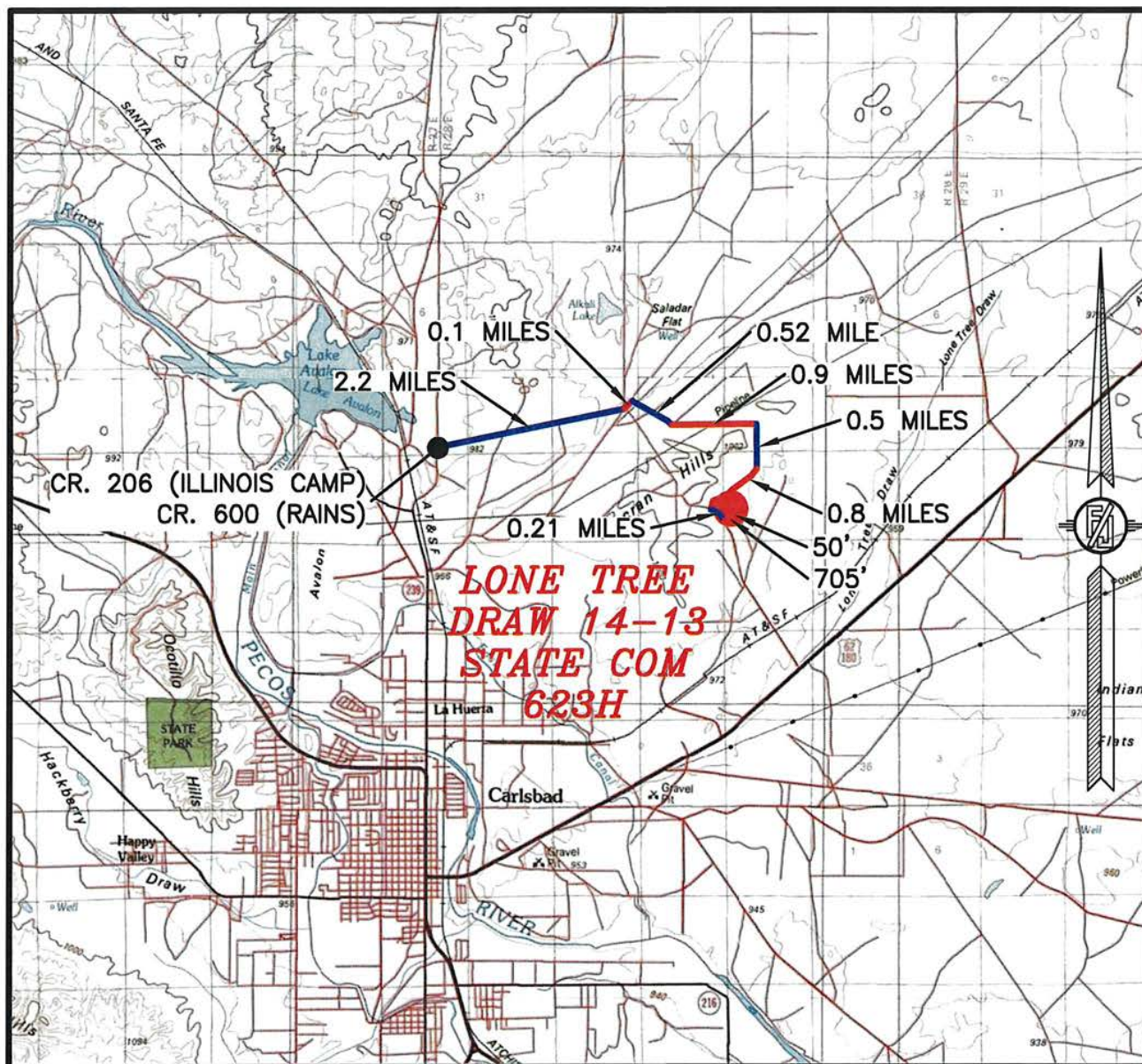
LOCATED 2040 FT. FROM THE SOUTH LINE
 AND 280 FT. FROM THE WEST LINE OF
 SECTION 14, TOWNSHIP 21 SOUTH,
 RANGE 27 EAST, N.M.P.M.
 EDDY COUNTY, STATE OF NEW MEXICO

MAY 6, 2019

SURVEY NO. 7257

MADRON SURVEYING, INC. 301 SOUTH CANAL CARLSBAD, NEW MEXICO
 (575) 234-3341

SECTION 14, TOWNSHIP 21 SOUTH, RANGE 27 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
VICINITY MAP



DISTANCES IN MILES

NOT TO SCALE

DIRECTIONS TO LOCATION

FROM CR. 206 (ILLINOIS CAMP) AND CR. 600 (RAINS)
GO EAST ON CR. 600 2.2 MILES, BEND LEFT AND GO
NORTHEAST 0.1 MILES, TURN RIGHT AND GO SOUTHEAST
0.52 MILES, BEND LEFT AND GO EAST 0.9 MILES, TURN
RIGHT AND GO SOUTH 0.5 MILES, TURN RIGHT AND GO
SOUTHWEST 0.8 MILES, TURN LEFT AND GO SOUTHEAST
0.21 MILES TO ROAD SURVEY AND FOLLOW FLAGS
NORTHEAST 705' THEN NORTH 50' TO THE SOUTHEAST
PAD CORNER FOR THIS LOCATION.

**DEVON ENERGY PRODUCTION COMPANY, L.P.
LONE TREE DRAW 14-13 STATE COM 623H**

LOCATED 2040 FT. FROM THE SOUTH LINE
AND 280 FT. FROM THE WEST LINE OF
SECTION 14, TOWNSHIP 21 SOUTH,
RANGE 27 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

MAY 6, 2019

SURVEY NO. 7257

MADRON SURVEYING, INC. 301 SOUTH CANAL CARLSBAD, NEW MEXICO
(575) 234-3341

SECTION 14, TOWNSHIP 21 SOUTH, RANGE 27 EAST, N.M.P.M.
 EDDY COUNTY, STATE OF NEW MEXICO
 AERIAL PHOTO



NOT TO SCALE
 AERIAL PHOTO:
 GOOGLE EARTH
 MAR. 2019

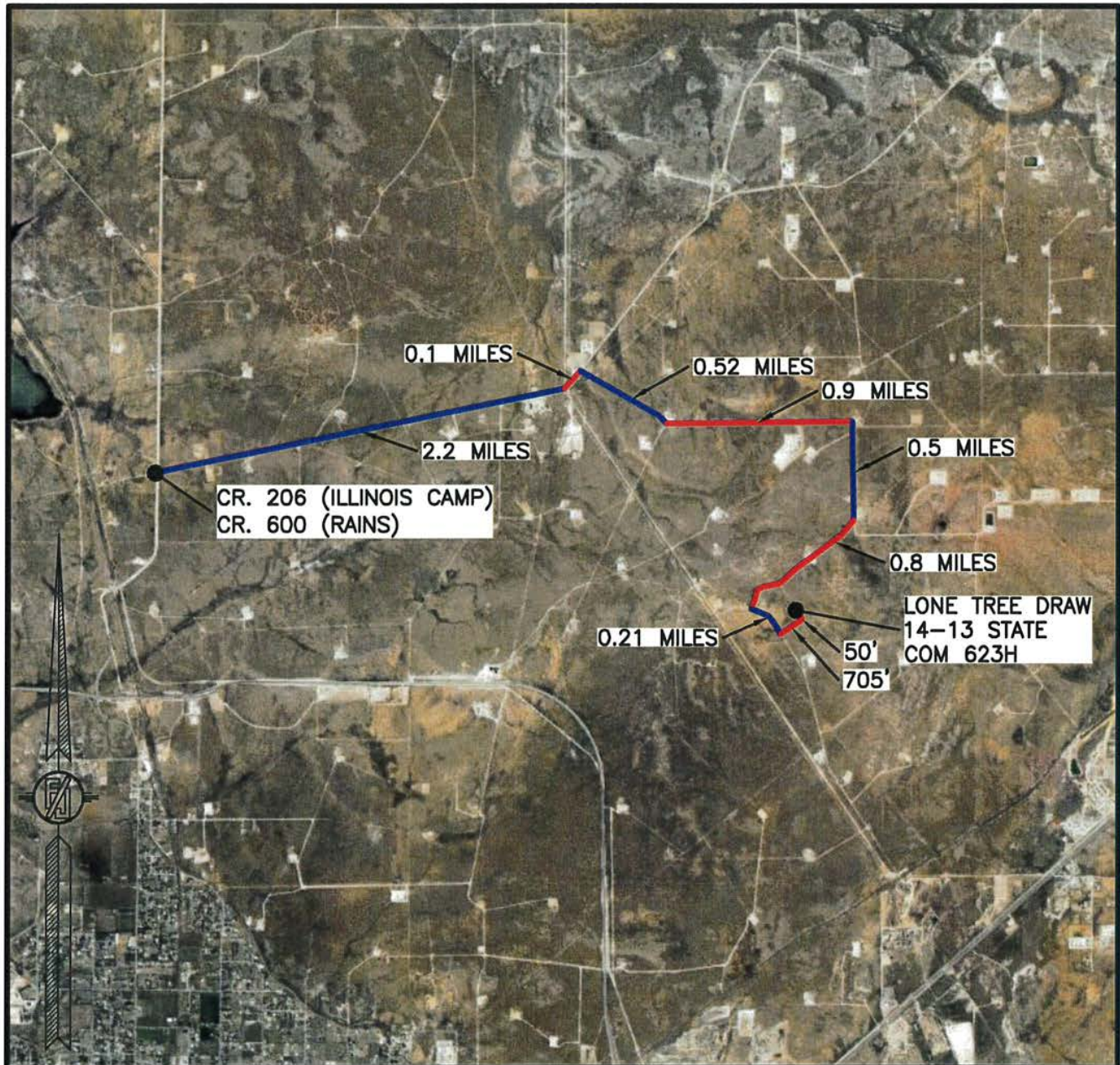
DEVON ENERGY PRODUCTION COMPANY, L.P.
LONE TREE DRAW 14-13 STATE COM 623H
 LOCATED 2040 FT. FROM THE SOUTH LINE
 AND 280 FT. FROM THE WEST LINE OF
 SECTION 14, TOWNSHIP 21 SOUTH,
 RANGE 27 EAST, N.M.P.M.
 EDDY COUNTY, STATE OF NEW MEXICO

MAY 6, 2019

SURVEY NO. 7257

MADRON SURVEYING, INC. 301 SOUTH CANAL (575) 234-3341 CARLSBAD, NEW MEXICO

SECTION 14, TOWNSHIP 21 SOUTH, RANGE 27 EAST, N.M.P.M.
 EDDY COUNTY, STATE OF NEW MEXICO
 AERIAL ACCESS ROUTE MAP



NOT TO SCALE
 AERIAL PHOTO:
 GOOGLE EARTH
 MAR. 2019

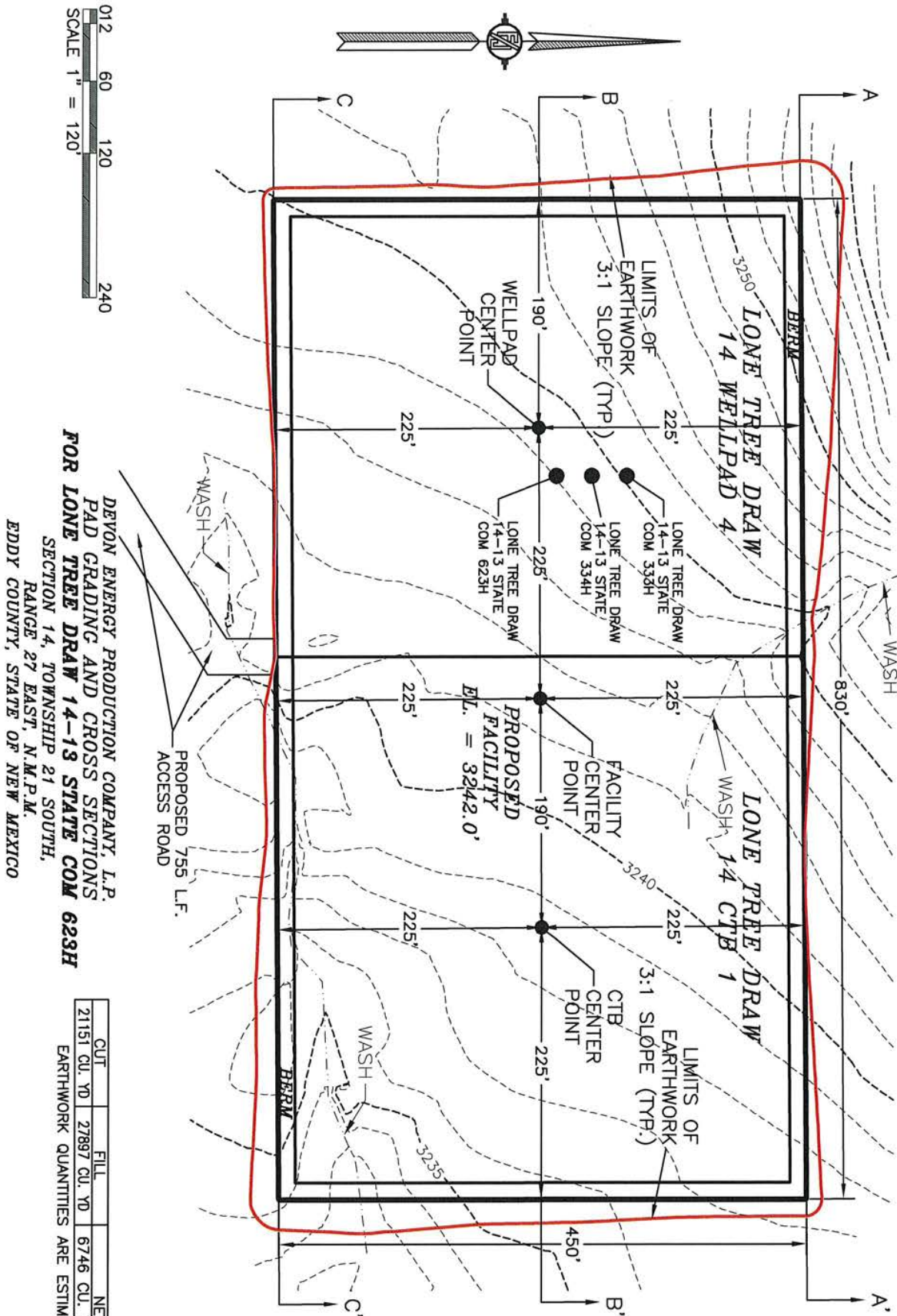
DEVON ENERGY PRODUCTION COMPANY, L.P.
LONE TREE DRAW 14-13 STATE COM 623H
 LOCATED 2040 FT. FROM THE SOUTH LINE
 AND 280 FT. FROM THE WEST LINE OF
 SECTION 14, TOWNSHIP 21 SOUTH,
 RANGE 27 EAST, N.M.P.M.
 EDDY COUNTY, STATE OF NEW MEXICO

MAY 6, 2019

SURVEY NO. 7257

MADRON SURVEYING, INC. 301 SOUTH CANAL (575) 234-3341 CARLSBAD, NEW MEXICO

PLAN VIEW



DEVON ENERGY PRODUCTION COMPANY, L.P.
PAD GRADING AND CROSS SECTIONS
FOR LONE TREE DRAW 14-13 STATE COM 623H
SECTION 14, TOWNSHIP 21 SOUTH,
RANGE 27 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

MAY 6, 2019

MADRON SURVEYING, INC. 301 SOUTH CANAL (973) 234-3341 CARLSBAD, NEW MEXICO

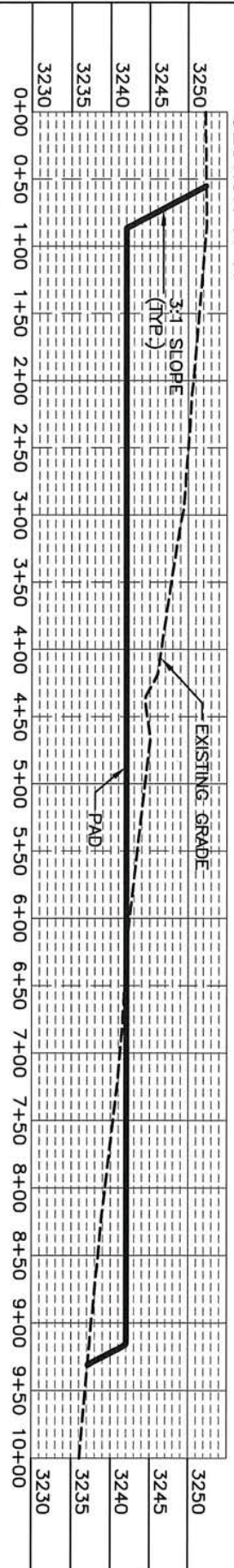
SHEET 1-2 SURVEY NO. 7257

CUT	FILL	NET
21151 CU. YD	27897 CU. YD	6746 CU. YD (FILL)

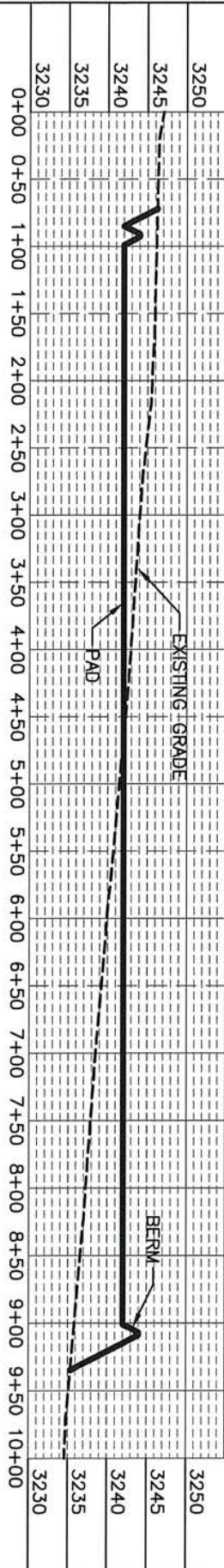
EARTHWORK QUANTITIES ARE ESTIMATED

CROSS-SECTIONS

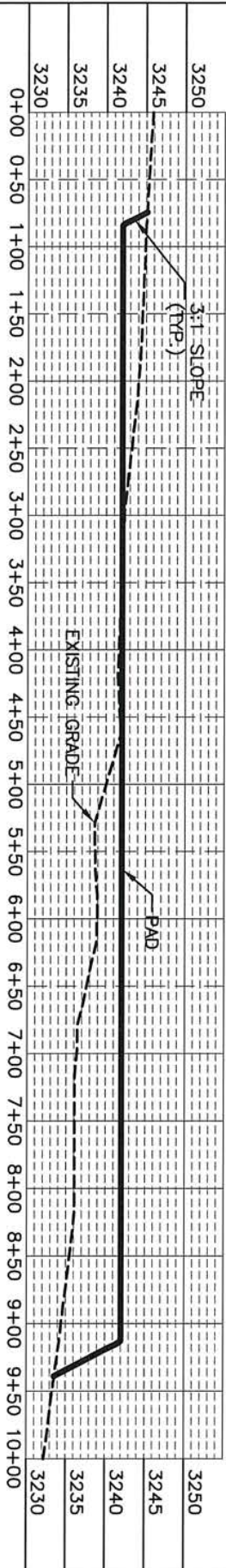
SECTION A-A'



SECTION B-B'



SECTION C-C'



012 60 120 240
SCALE 1" = 120' - 1" = 20' VER

DEVON ENERGY PRODUCTION COMPANY, L.P.
PAD GRADING AND CROSS SECTIONS
FOR LONE TREE DRAW 14-13 STATE COM 623H
SECTION 14, TOWNSHIP 21 SOUTH,
RANGE 27 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO

CUT	FILL	NET
21151 CU. YD	27897 CU. YD	6746 CU. YD (FILL)
EARTHWORK QUANTITIES ARE ESTIMATED		

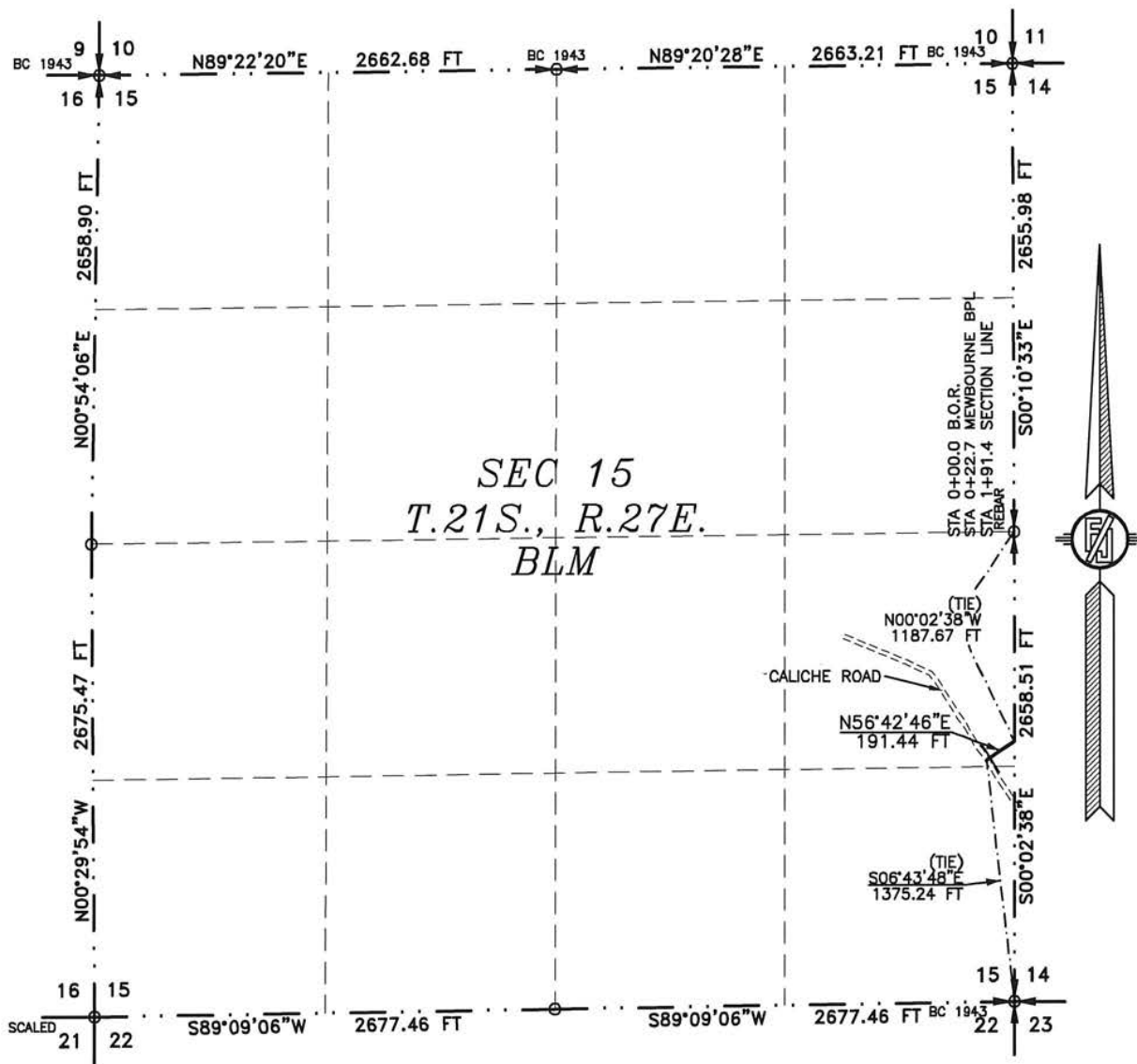
MAY 6, 2019
MADRON SURVEYING, INC. 301 SOUTH CANAL
(505) 234-3341 CARLSBAD, NEW MEXICO

SHEET 2-2
SURVEY NO. 7257

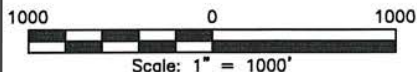
ACCESS ROAD PLAT

ACCESS ROAD FOR LONE TREE DRAW 14 CTB 1 & WELLPAD 4
(LONE TREE DRAW 14-13 STATE COM 333H, 334H, & 623H)

DEVON ENERGY PRODUCTION COMPANY, L.P.
CENTERLINE SURVEY OF AN ACCESS ROAD CROSSING
SECTION 15, TOWNSHIP 21 SOUTH, RANGE 27 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
MAY 6, 2019



SEE NEXT SHEET (2-4) FOR DESCRIPTION

**GENERAL NOTES**

- 1.) THE INTENT OF THIS ROUTE SURVEY IS TO ACQUIRE AN EASEMENT.
- 2.) BASIS OF BEARING AND DISTANCE IS NMSP EAST (NAD83) MODIFIED TO SURFACE COORDINATES. NAD 83 (FEET) AND NAVD 88 (FEET) COORDINATE SYSTEMS USED IN THE SURVEY.

SHEET: 1-4

MADRON SURVEYING, INC. 301 SOUTH CANAL (575) 234-3341 CARLSBAD, NEW MEXICO

SURVEYOR CERTIFICATE

I, FILMON F. JARAMILLO, A NEW MEXICO PROFESSIONAL SURVEYOR NO. 12797, HEREBY CERTIFY THAT I HAVE CONDUCTED AND AM RESPONSIBLE FOR THIS SURVEY, THAT THIS SURVEY IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF, AND THAT THIS SURVEY AND PLAT MEET THE MINIMUM STANDARDS FOR LAND SURVEYING IN THE STATE OF NEW MEXICO.

IN WITNESS WHEREOF, THIS CERTIFICATE IS EXECUTED AT CARLSBAD, NEW MEXICO, THIS 21 DAY OF MAY 2019

FILMON F. JARAMILLO PLS. 12797

MADRON SURVEYING, INC.
301 SOUTH CANAL
CARLSBAD, NEW MEXICO 88220
Phone (575) 234-3341

SURVEY NO. 7257

ACCESS ROAD PLAT

ACCESS ROAD FOR LONE TREE DRAW 14 CTB 1 & WELLPAD 4
(LONE TREE DRAW 14-13 STATE COM 333H, 334H, & 623H)

DEVON ENERGY PRODUCTION COMPANY, L.P.
CENTERLINE SURVEY OF AN ACCESS ROAD CROSSING
SECTION 15, TOWNSHIP 21 SOUTH, RANGE 27 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
MAY 6, 2019

DESCRIPTION

A STRIP OF LAND 30 FEET WIDE CROSSING BUREAU OF LAND MANAGEMENT LAND IN SECTION 15, TOWNSHIP 21 SOUTH, RANGE 27 EAST, N.M.P.M., EDDY COUNTY, STATE OF NEW MEXICO AND BEING 15 FEET EACH SIDE OF THE FOLLOWING DESCRIBED CENTERLINE SURVEY:

BEGINNING AT A POINT WITHIN THE NE/4 SE/4 OF SAID SECTION 15, TOWNSHIP 21 SOUTH, RANGE 27 EAST, N.M.P.M., WHENCE THE SOUTHEAST CORNER OF SAID SECTION 15, TOWNSHIP 21 SOUTH, RANGE 27 EAST, N.M.P.M. BEARS S06°43'48"E, A DISTANCE OF 1375.24 FEET;
THENCE N56°42'46"E A DISTANCE OF 191.44 FEET THE TERMINUS OF THIS CENTERLINE SURVEY, WHENCE THE EAST QUARTER CORNER OF SAID SECTION 15, TOWNSHIP 21 SOUTH, RANGE 27 EAST, N.M.P.M. BEARS N00°02'38"W, A DISTANCE OF 1187.67 FEET;

SAID STRIP OF LAND BEING 191.44 FEET OR 11.60 RODS IN LENGTH, CONTAINING 0.132 ACRES MORE OR LESS AND BEING ALLOCATED BY FORTIES AS FOLLOWS:

NE/4 SE/4 191.44 L.F. 11.60 RODS 0.132 ACRES

GENERAL NOTES

- 1.) THE INTENT OF THIS ROUTE SURVEY IS TO ACQUIRE AN EASEMENT.
- 2.) BASIS OF BEARING AND DISTANCE IS NMSP EAST (NAD83) MODIFIED TO SURFACE COORDINATES. NAD 83 (FEET) AND NAVD 88 (FEET) COORDINATE SYSTEMS USED IN THE SURVEY.

SHEET: 2-4

MADRON SURVEYING, INC. 301 SOUTH CANAL (575) 234-3341 **CARLSBAD, NEW MEXICO**

SURVEYOR CERTIFICATE

I, FILMON F. JARAMILLO, A NEW MEXICO PROFESSIONAL SURVEYOR NO. 12797, HEREBY CERTIFY THAT I HAVE CONDUCTED AND AM RESPONSIBLE FOR THIS SURVEY, THAT THIS SURVEY IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF, AND THAT THIS SURVEY AND PLAT MEET THE MINIMUM STANDARDS FOR LAND SURVEYING IN THE STATE OF NEW MEXICO.

IN WITNESS WHEREOF, THIS CERTIFICATE IS EXECUTED AT CARLSBAD,
NEW MEXICO, THIS 2 DAY OF MAY 2019

FILMON F. JARAMILLO PLS. 12797

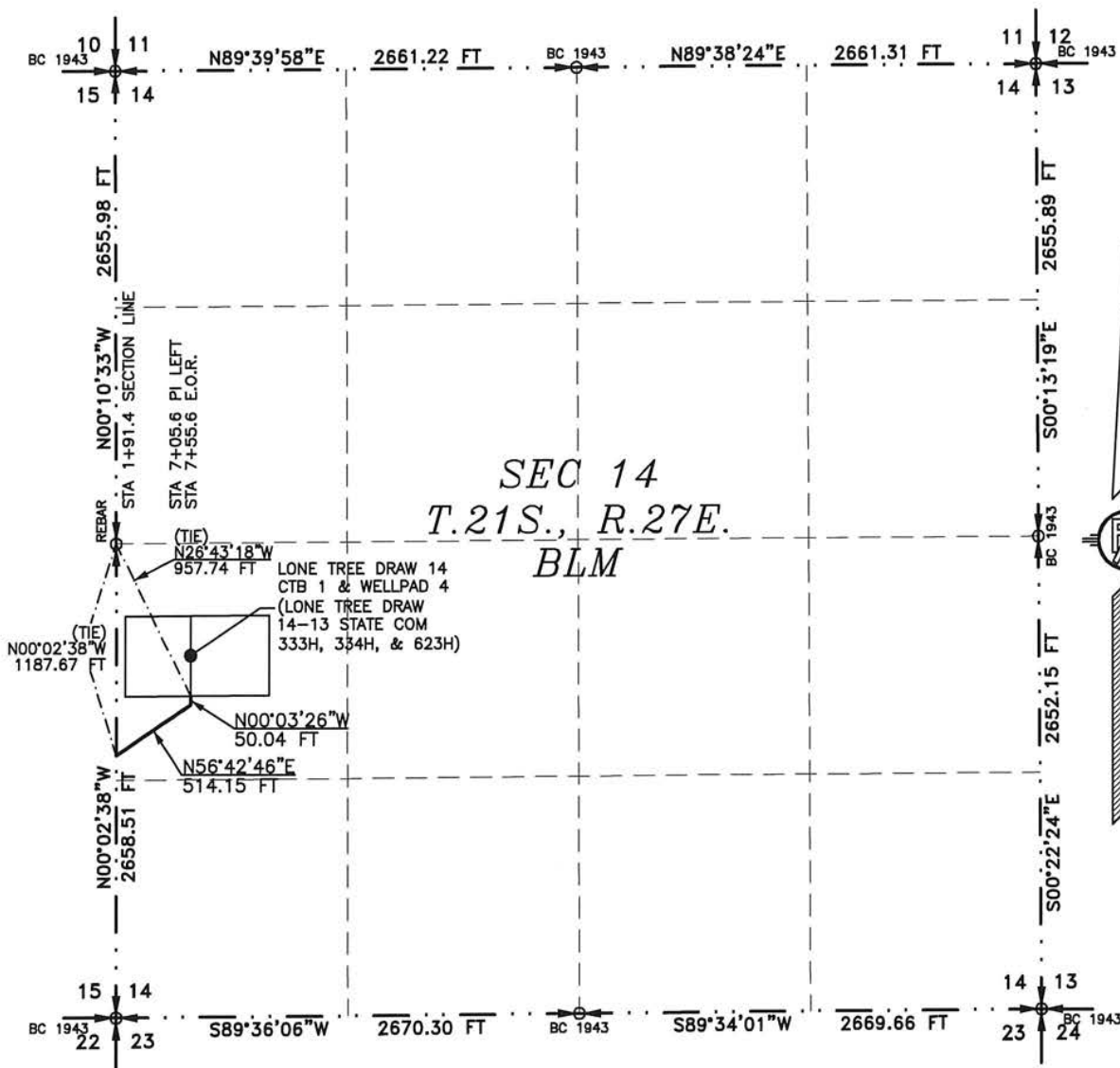
MADRON SURVEYING, INC.
301 SOUTH CANAL
CARLSBAD, NEW MEXICO 88220
Phone (575) 234-3341

SURVEY NO. 7257

ACCESS ROAD PLAT

ACCESS ROAD FOR LONE TREE DRAW 14 CTB 1 & WELLPAD 4
(LONE TREE DRAW 14-13 STATE COM 333H, 334H, & 623H)

DEVON ENERGY PRODUCTION COMPANY, L.P.
CENTERLINE SURVEY OF AN ACCESS ROAD CROSSING
SECTION 14, TOWNSHIP 21 SOUTH, RANGE 27 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
MAY 6, 2019



SEE NEXT SHEET (4-4) FOR DESCRIPTION

SURVEYOR CERTIFICATE

I, FILIMON F. JARAMILLO, A NEW MEXICO PROFESSIONAL SURVEYOR NO. 12797, HEREBY CERTIFY THAT I HAVE CONDUCTED AND AM RESPONSIBLE FOR THIS SURVEY, THAT THIS SURVEY IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF, AND THAT THIS SURVEY AND PLAT MEET THE MINIMUM STANDARDS FOR LAND SURVEYING IN THE STATE OF NEW MEXICO.

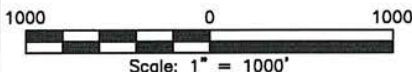
IN WITNESS WHEREOF, THIS CERTIFICATE IS EXECUTED AT CARLSBAD,

NEW MEXICO, THIS 21 DAY OF MAY 2019

[Signature]
FILIMON F. JARAMILLO PLS 12797

MADRON SURVEYING, INC.
301 SOUTH CANAL
CARLSBAD, NEW MEXICO 88220
Phone (575) 234-3341

SURVEY NO. 7257

**GENERAL NOTES**

1.) THE INTENT OF THIS ROUTE SURVEY IS TO ACQUIRE AN EASEMENT.

2.) BASIS OF BEARING AND DISTANCE IS NMSP EAST (NAD83) MODIFIED TO SURFACE COORDINATES. NAD 83 (FEET) AND NAVD 88 (FEET) COORDINATE SYSTEMS USED IN THE SURVEY.

SHEET: 3-4

MADRON SURVEYING, INC. CARLSBAD, NEW MEXICO

ACCESS ROAD PLAT

ACCESS ROAD FOR LONE TREE DRAW 14 CTB 1 & WELLPAD 4
(LONE TREE DRAW 14-13 STATE COM 333H, 334H, & 623H)

DEVON ENERGY PRODUCTION COMPANY, L.P.
CENTERLINE SURVEY OF AN ACCESS ROAD CROSSING
SECTION 14, TOWNSHIP 21 SOUTH, RANGE 27 EAST, N.M.P.M.
EDDY COUNTY, STATE OF NEW MEXICO
MAY 6, 2019

DESCRIPTION

A STRIP OF LAND 30 FEET WIDE CROSSING BUREAU OF LAND MANAGEMENT LAND IN SECTION 14, TOWNSHIP 21 SOUTH, RANGE 27 EAST, N.M.P.M., EDDY COUNTY, STATE OF NEW MEXICO AND BEING 15 FEET EACH SIDE OF THE FOLLOWING DESCRIBED CENTERLINE SURVEY:

BEGINNING AT A POINT WITHIN THE NW/4 SW/4 OF SAID SECTION 14, TOWNSHIP 21 SOUTH, RANGE 27 EAST, N.M.P.M., WHENCE THE WEST QUARTER CORNER OF SAID SECTION 14, TOWNSHIP 21 SOUTH, RANGE 27 EAST, N.M.P.M. BEARS N00°02'38"W, A DISTANCE OF 1187.67 FEET;
THENCE N56°42'46"E A DISTANCE OF 514.15 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;
THENCE N00°03'26"W A DISTANCE OF 50.04 FEET THE TERMINUS OF THIS CENTERLINE SURVEY, WHENCE THE WEST QUARTER CORNER OF SAID SECTION 14, TOWNSHIP 21 SOUTH, RANGE 27 EAST, N.M.P.M. BEARS N26°43'18"W, A DISTANCE OF 957.74 FEET;

SAID STRIP OF LAND BEING 564.19 FEET OR 34.19 RODS IN LENGTH, CONTAINING 0.389 ACRES MORE OR LESS AND BEING ALLOCATED BY FORTIES AS FOLLOWS:

NW/4 SW/4 564.19 L.F. 34.19 RODS 0.389 ACRES

GENERAL NOTES

1.) THE INTENT OF THIS ROUTE SURVEY IS TO ACQUIRE AN EASEMENT.

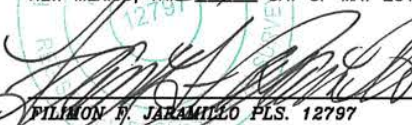
2.) BASIS OF BEARING AND DISTANCE IS NMSP EAST (NAD83) MODIFIED TO SURFACE COORDINATES. NAD 83 (FEET) AND NAVD 88 (FEET) COORDINATE SYSTEMS USED IN THE SURVEY.

SHEET: 4-4

SURVEYOR CERTIFICATE

I, FILIMON F. JARAMILLO, A NEW MEXICO PROFESSIONAL SURVEYOR NO. 12797, HEREBY CERTIFY THAT I HAVE CONDUCTED AND AM RESPONSIBLE FOR THIS SURVEY, THAT THIS SURVEY IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF, AND THAT THIS SURVEY AND PLAT MEET THE MINIMUM STANDARDS FOR LAND SURVEYING IN THE STATE OF NEW MEXICO.

IN WITNESS WHEREOF, THIS CERTIFICATE IS EXECUTED AT CARLSBAD,
NEW MEXICO, THIS 21 DAY OF MAY 2019


FILIMON F. JARAMILLO PLS. 12797

MADRON SURVEYING, INC.
301 SOUTH CANAL
CARLSBAD, NEW MEXICO 88220
Phone (575) 234-3341

SURVEY NO. 7257

MADRON SURVEYING, INC. CARLSBAD, NEW MEXICO

District I

1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720

District II

811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720

District III

1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170

District IV

1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

GAS CAPTURE PLAN

Date: 11/7/2019

☒ Original

Operator & OGRID No.: [6137] DEVON ENERGY PRODUCTION COMPANY, LP

☐ Amended - Reason for
Amendment: _____

This Gas Capture Plan outlines actions to be taken by the Operator to reduce well/production facility flaring/venting for new completion (new drill, recomple to new zone, re-frac) activity.

Note: Form C-129 must be submitted and approved prior to exceeding 60 days allowed by Rule (Subsection A of 19.15.18.12 NMAC).

Well(s)/Production Facility – Name of facility

The well(s) that will be located at the production facility are shown in the table below.

Well Name	API	Well Location (ULSTR)	Footages	Expected MCF/D	Flared or Vented	Comments
LONE TREE DRAW 14 13 STATE COM #623H	30-015-46435	L-14-21S-27E	2040S 0280W	10	Flared	

Gathering System and Pipeline Notification

Well(s) will be connected to a production facility after flowback operations are complete, if gas transporter system is in place. The gas produced from production facility is dedicated to DCP OPERATING COMPANY, LP and will be connected to DCP OPERATING COMPANY, LP High Pressure gathering system located in Eddy County, New Mexico. It will require 21120' of pipeline to connect the facility to High Pressure gathering system. DEVON ENERGY PRODUCTION COMPANY, LP provides (periodically) to DCP OPERATING COMPANY, LP a drilling, completion and estimated first production date for wells that are scheduled to be drilled in the foreseeable future. In addition, DEVON ENERGY PRODUCTION COMPANY, LP and DCP OPERATING COMPANY, LP have periodic conference calls to discuss changes to drilling and completion schedules. Gas from these wells will be processed at DCP OPERATING COMPANY, LP Processing Plant located in Sec. 19, Twn. 19S, Rng. 32E, Eddy County, New Mexico. The actual flow of the gas will be based on compression operating parameters and gathering system pressures.

Flowback Strategy

After the fracture treatment/completion operations, well(s) will be produced to temporary production tanks and gas will be flared or vented. During flowback, the fluids and sand content will be monitored. When the produced fluids contain minimal sand, the wells will be turned to production facilities. Gas sales should start as soon as the wells start flowing through the production facilities, unless there are operational issues on DCP OPERATING COMPANY, LP system at that time. Based on current information, it is DEVON ENERGY PRODUCTION COMPANY, LP's belief the system can take this gas upon completion of the well(s).

Safety requirements during cleanout operations from the use of underbalanced air cleanout systems may necessitate that sand and non-pipeline quality gas be vented and/or flared rather than sold on a temporary basis.

Alternatives to Reduce Flaring

Below are alternatives considered from a conceptual standpoint to reduce the amount of gas flared.

- Power Generation – On lease
 - Only a portion of gas is consumed operating the generator, remainder of gas will be flared
- Compressed Natural Gas – On lease
 - Gas flared would be minimal, but might be uneconomical to operate when gas volume declines
- NGL Removal – On lease
 - Plants are expensive, residue gas is still flared, and uneconomical to operate when gas volume declines

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Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

Form APD Comments

Permit 273567

PERMIT COMMENTS

Operator Name and Address: DEVON ENERGY PRODUCTION COMPANY, LP [6137] 333 West Sheridan Ave. Oklahoma City, OK 73102		API Number: 30-015-46435
		Well: LONE TREE DRAW 14 13 STATE COM #623H

Created By	Comment	Comment Date
ahvermersch	Incorrect County listed, needs correction and refile.	10/29/2019

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Form APD Conditions

Permit 273567

PERMIT CONDITIONS OF APPROVAL

Operator Name and Address: DEVON ENERGY PRODUCTION COMPANY, LP [6137] 333 West Sheridan Ave. Oklahoma City, OK 73102		API Number: 30-015-46435
		Well: LONE TREE DRAW 14 13 STATE COM #623H

OCD Reviewer	Condition
rpodany	Will require a directional survey with the C-104
rpodany	Cement is required to circulate on both surface and intermediate1 strings of casing

WCDSC Permian NM

Eddy County (NAD 83 NM Eastern)

Sec 14-T21S-R27E

Lone Tree Draw 14-13 State Com 623H

Wellbore #1

Permit Plan 1

Anticollision Report

07 October, 2019

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Reference	Permit Plan 1
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria
Interpolation Method:	Stations
Depth Range:	Unlimited
Results Limited by:	Maximum center-center distance of 10,000.00 ft
Warning Levels Evaluated at:	2.00 Sigma
Error Model:	ISCWSA
Scan Method:	Closest Approach 3D
Error Surface:	Pedal Curve
Casing Method:	Not applied

Survey Tool Program	Date	10/4/2019
From (ft)	To (ft)	Survey (Wellbore)
0.00	19,456.84	Permit Plan 1 (Wellbore #1)
		Tool Name
		MWD+IFR1
		Description
		OWSG MWD + IFR1

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
Sec 13-T21S-R27E						
Lone Tree Draw 13 State 11H - Wellbore #1 - Wellbore #	16,199.10	9,793.78	2,223.93	2,137.85	25.835	CC
Lone Tree Draw 13 State 11H - Wellbore #1 - Wellbore #	16,200.00	9,793.80	2,223.94	2,137.84	25.833	ES
Lone Tree Draw 13 State 11H - Wellbore #1 - Wellbore #	16,900.00	9,813.32	2,331.69	2,237.96	24.878	SF
Lone Tree Draw 13 State 15H - Original Hole - Actuals	15,067.09	10,513.23	1,577.38	1,498.34	19.959	CC, ES
Lone Tree Draw 13 State 15H - Original Hole - Actuals	15,600.00	10,525.69	1,664.92	1,577.81	19.113	SF
Lone Tree Draw 13 State Com 4H - Pilot - Pilot	14,920.92	7,876.00	3,603.45	3,456.25	24.479	CC
Lone Tree Draw 13 State Com 4H - Pilot - Pilot	15,000.00	7,876.00	3,604.32	3,455.64	24.242	ES
Lone Tree Draw 13 State Com 4H - Pilot - Pilot	15,800.00	7,876.00	3,709.13	3,548.78	23.132	SF
Lone Tree Draw 13 State Com 4H - Wellbore #2 - Wellbo	15,226.38	8,204.00	4,011.30	3,932.22	50.724	CC, ES
Lone Tree Draw 13 State Com 4H - Wellbore #2 - Wellbo	17,000.00	8,161.83	4,385.34	4,290.05	46.023	SF
Lone Tree Draw 13 State Com 5H - Wellbore #1 - Wellbo	16,934.09	8,407.96	3,999.45	3,906.24	42.906	CC
Lone Tree Draw 13 State Com 5H - Wellbore #1 - Wellbo	17,400.00	17,400.00	4,026.42	3,859.55	24.130	ES
Lone Tree Draw 13 State Com 5H - Wellbore #1 - Wellbo	17,600.00	17,600.00	4,054.44	3,883.03	23.654	SF
Lone Tree Draw 13 State Com 8H - Original Hole - Actua	17,483.22	11,016.90	1,188.71	1,091.89	12.278	CC
Lone Tree Draw 13 State Com 8H - Original Hole - Actua	17,500.00	11,016.78	1,188.83	1,091.83	12.256	ES
Lone Tree Draw 13 State Com 8H - Original Hole - Actua	17,900.00	11,014.10	1,259.65	1,153.99	11.921	SF
Lone Tree Draw State 3H - Wellbore #1 - Wellbore #1	15,853.32	8,192.80	4,019.73	3,935.84	47.913	CC
Lone Tree Draw State 3H - Wellbore #1 - Wellbore #1	15,900.00	8,192.02	4,020.00	3,935.72	47.699	ES
Lone Tree Draw State 3H - Wellbore #1 - Wellbore #1	17,400.00	8,157.44	4,306.94	4,209.39	44.150	SF
Lone Tree Draw State 7H - Wellbore #1 - Wellbore #1	16,522.49	11,222.42	1,269.40	1,176.76	13.703	CC, ES
Lone Tree Draw State 7H - Wellbore #1 - Wellbore #1	16,800.00	11,215.70	1,299.35	1,203.10	13.499	SF
Lone Tree Draw State Com 2H - ST01 - ST01	14,571.87	8,196.56	4,060.31	3,985.72	54.430	CC
Lone Tree Draw State Com 2H - ST01 - ST01	14,600.00	8,194.29	4,060.41	3,985.61	54.282	ES
Lone Tree Draw State Com 2H - ST01 - ST01	16,300.00	7,982.30	4,407.15	4,318.51	49.719	SF
Lone Tree Draw State Com 2H - Wellbore #1 - Wellbore	14,930.29	6,978.42	3,969.40	3,836.54	29.875	CC
Lone Tree Draw State Com 2H - Wellbore #1 - Wellbore	15,000.00	6,978.42	3,970.02	3,835.94	29.610	ES
Lone Tree Draw State Com 2H - Wellbore #1 - Wellbore	16,000.00	6,978.42	4,111.02	3,963.26	27.823	SF
Lone Tree State #001 - Wellbore #1 - Wellbore #1	16,091.41	8,984.10	275.81	-7.96	0.972	Collision, CC, ES, SF

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Summary

Site Name Offset Well - Wellbore - Design	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Between Ellipses (ft)	Separation Factor	Warning
Sec 14-T21S-R27E						
Allied State Com 1 (Active) - Wellbore #1 - Wellbore #1	10,787.48	9,046.10	2,945.49	2,713.25	12.683	CC
Allied State Com 1 (Active) - Wellbore #1 - Wellbore #1	10,800.00	9,046.10	2,945.52	2,713.08	12.672	ES
Allied State Com 1 (Active) - Wellbore #1 - Wellbore #1	11,300.00	9,046.10	2,989.75	2,749.72	12.456	SF
Esperanza 14 State #001 (Active) - Wellbore #1 - Wellbo	9,430.26	9,055.10	1,015.07	846.37	6.017	CC, ES
Esperanza 14 State #001 (Active) - Wellbore #1 - Wellbo	9,500.00	9,055.10	1,017.46	848.35	6.017	SF
Esperanza 14 State #002 (Active) - Wellbore #1 - Wellbo	2,500.00	2,487.10	1,495.02	1,435.17	24.976	CC
Esperanza 14 State #002 (Active) - Wellbore #1 - Wellbo	2,600.00	2,587.09	1,495.85	1,433.66	24.054	ES
Esperanza 14 State #002 (Active) - Wellbore #1 - Wellbo	9,600.00	9,052.10	1,786.93	1,569.30	8.211	SF
Lone Tree Draw 14-13 State Com 331H - Wellbore #1 - P	1,911.95	1,924.35	1,618.69	1,605.35	121.327	CC
Lone Tree Draw 14-13 State Com 331H - Wellbore #1 - P	2,000.00	2,009.71	1,618.70	1,604.74	115.941	ES
Lone Tree Draw 14-13 State Com 331H - Wellbore #1 - P	19,456.84	19,318.31	3,128.81	2,695.35	7.218	SF
Lone Tree Draw 14-13 State Com 332H - Wellbore #1 - P	2,500.00	2,511.10	1,558.68	1,541.13	88.845	CC, ES
Lone Tree Draw 14-13 State Com 332H - Wellbore #1 - P	19,456.84	19,277.58	2,257.83	1,824.73	5.213	SF
Lone Tree Draw 14-13 State Com 333H - Wellbore #1 - P	2,000.00	2,000.90	59.98	46.05	4.306	Alert, CC, ES
Lone Tree Draw 14-13 State Com 333H - Wellbore #1 - P	19,456.84	19,304.38	1,379.81	950.03	3.210	Alert, SF
Lone Tree Draw 14-13 State Com 334H - Wellbore #1 - P	2,500.00	2,500.60	30.01	12.50	1.714	Minor Risk, CC, ES
Lone Tree Draw 14-13 State Com 334H - Wellbore #1 - P	19,456.84	19,290.08	523.55	105.78	1.253	Major Risk, SF
Lone Tree Draw 14-13 State Com 335H - Wellbore #1 - W	16,164.46	15,949.53	387.67	33.26	1.094	Major Risk, CC
Lone Tree Draw 14-13 State Com 335H - Wellbore #1 - W	19,373.50	19,164.57	395.26	-118.28	0.770	Collision, ES, SF
Lone Tree Draw 14-13 State Com 336H - ST01 - ST01	8,090.06	8,072.85	1,388.02	1,332.13	24.837	CC
Lone Tree Draw 14-13 State Com 336H - ST01 - ST01	18,748.45	19,172.00	1,487.67	1,023.33	3.204	Alert, ES
Lone Tree Draw 14-13 State Com 336H - ST01 - ST01	18,800.00	19,172.00	1,488.56	1,023.51	3.201	Alert, SF
Lone Tree Draw 14-13 State Com 336H - Wellbore #1 - W	8,090.06	8,072.85	1,388.02	1,332.13	24.837	CC
Lone Tree Draw 14-13 State Com 336H - Wellbore #1 - W	8,157.59	8,146.05	1,388.37	1,332.00	24.629	ES
Lone Tree Draw 14-13 State Com 336H - Wellbore #1 - W	8,950.00	8,833.03	1,414.78	1,353.44	23.065	SF
Lone Tree Draw 14-13 State Com 621H - Wellbore #1 - P	2,302.97	2,314.67	1,588.67	1,572.53	98.456	CC
Lone Tree Draw 14-13 State Com 621H - Wellbore #1 - P	2,400.00	2,398.64	1,588.92	1,572.14	94.675	ES
Lone Tree Draw 14-13 State Com 621H - Wellbore #1 - P	19,456.84	19,502.36	2,760.08	2,325.68	6.354	SF
Lonetree 14 State Com #001 - Wellbore #1 - Wellbore #1	12,121.63	9,016.10	1,047.33	840.30	5.059	CC, ES
Lonetree 14 State Com #001 - Wellbore #1 - Wellbore #1	12,200.00	9,016.10	1,050.26	841.94	5.041	SF
Magnolia State 2 (P&A) - Wellbore #1 - Wellbore #1	600.00	578.10	2,668.11	2,515.88	17.527	CC, ES
Magnolia State 2 (P&A) - Wellbore #1 - Wellbore #1	700.00	563.00	2,670.59	2,518.17	17.521	SF

Offset Design													Sec 13-T21S-R27E - Lone Tree Draw 13 State 11H - Wellbore #1 - Wellbore #1		Offset Site Error:		5.00 ft	
Survey Program:													111-GYRO-NS-CT, 6243-MWD+HDMG		Offset Well Error:		0.50 ft	
Reference		Offset		Semi Major Axis			Distance											
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor	Warning					
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)							
0.00	0.00	0.00	0.00	0.50	5.02	66.15	3,166.53	7,162.61	7,831.55									
100.00	100.00	28.67	28.67	0.52	5.03	66.15	3,166.53	7,162.64	7,831.38	7,825.84	5.54	1,412.879						
200.00	200.00	95.20	95.20	0.70	5.03	66.15	3,166.52	7,162.94	7,831.78	7,826.05	5.73	1,367.103						
300.00	300.00	222.11	222.11	0.99	5.05	66.15	3,166.50	7,163.53	7,832.20	7,826.16	6.04	1,296.446						
400.00	400.00	283.13	283.13	1.31	5.08	66.16	3,166.12	7,164.04	7,832.72	7,826.33	6.39	1,225.690						
500.00	500.00	596.71	596.61	1.65	5.36	66.20	3,159.29	7,164.09	7,831.28	7,824.27	7.01	1,117.904						
600.00	600.00	672.12	672.00	1.99	5.46	66.21	3,157.51	7,163.39	7,829.47	7,822.03	7.45	1,051.264						
700.00	700.00	794.71	794.55	2.34	5.64	66.23	3,154.63	7,162.24	7,827.66	7,819.68	7.98	981.145						
800.00	800.00	890.81	890.62	2.69	5.81	66.24	3,152.48	7,161.20	7,825.77	7,817.28	8.49	921.742						
900.00	900.00	996.24	996.02	3.04	6.00	66.25	3,150.32	7,159.93	7,823.85	7,814.81	9.04	865.842						
1,000.00	1,000.00	1,139.59	1,139.32	3.40	6.30	66.26	3,147.45	7,157.86	7,821.75	7,812.08	9.68	808.278						
1,100.00	1,100.00	1,307.90	1,307.55	3.75	6.67	66.28	3,143.46	7,154.10	7,818.72	7,808.32	10.40	751.752						

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design		Sec 13-T21S-R27E - Lone Tree Draw 13 State 11H - Wellbore #1 - Wellbore #1											Offset Site Error:		5.00 ft
Survey Program:		111-GYRO-NS-CT, 6243-MWD+HDGM											Offset Well Error:		0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor			
1,200.00	1,200.00	1,455.55	1,455.09	4.11	7.03	66.28	3,140.65	7,149.36	7,815.01	7,803.91	11.10	703.876			
1,300.00	1,300.00	1,562.11	1,561.56	4.46	7.31	66.29	3,138.10	7,145.78	7,810.97	7,799.25	11.72	666.310			
1,400.00	1,400.00	1,655.00	1,654.37	4.82	7.55	66.30	3,135.93	7,142.60	7,806.90	7,794.58	12.32	633.818			
1,500.00	1,500.00	1,735.10	1,734.41	5.18	7.77	66.30	3,134.22	7,139.99	7,803.05	7,790.17	12.88	605.596			
1,600.00	1,600.00	1,830.03	1,829.28	5.53	8.04	66.31	3,132.15	7,137.04	7,799.34	7,785.84	13.50	577.859			
1,700.00	1,700.00	1,994.47	1,993.58	5.89	8.51	66.32	3,128.08	7,132.04	7,795.75	7,781.44	14.31	544.915			
1,800.00	1,800.00	2,145.10	2,144.00	6.25	8.96	66.34	3,122.36	7,126.56	7,790.88	7,775.78	15.09	516.195			
1,900.00	1,900.00	2,254.35	2,253.08	6.61	9.30	66.36	3,118.03	7,122.18	7,785.60	7,769.83	15.77	493.702			
2,000.00	2,000.00	2,355.85	2,354.42	6.96	9.63	66.37	3,114.14	7,118.06	7,780.34	7,763.92	16.43	473.580			
2,100.00	2,100.00	2,474.46	2,472.84	7.32	10.01	66.39	3,109.76	7,113.00	7,774.96	7,757.82	17.14	453.574			
2,200.00	2,200.00	2,561.06	2,559.30	7.68	10.29	66.39	3,106.68	7,109.20	7,769.51	7,751.75	17.76	437.391			
2,300.00	2,300.00	2,637.45	2,635.58	8.04	10.54	66.41	3,103.62	7,106.19	7,764.30	7,745.94	18.36	422.941			
2,400.00	2,400.00	2,771.30	2,769.21	8.39	10.98	66.43	3,098.11	7,101.04	7,759.16	7,740.03	19.13	405.618			
2,500.00	2,500.00	2,880.62	2,878.35	8.75	11.34	66.44	3,093.98	7,096.18	7,753.58	7,733.75	19.83	391.039			
2,600.00	2,599.99	2,965.19	2,962.78	9.09	11.63	-147.65	3,090.93	7,092.42	7,748.79	7,728.36	20.44	379.161			
2,700.00	2,699.96	3,046.69	3,044.14	9.42	11.90	-147.67	3,087.80	7,089.08	7,745.71	7,724.69	21.02	368.443			
2,800.00	2,799.86	3,153.45	3,150.74	9.75	12.26	-147.68	3,083.88	7,084.71	7,744.18	7,722.49	21.69	357.024			
2,862.94	2,862.70	3,222.92	3,220.11	9.96	12.50	-147.69	3,081.59	7,081.69	7,743.91	7,721.79	22.12	350.087			
2,900.00	2,899.68	3,257.94	3,255.08	10.08	12.62	-147.70	3,080.47	7,080.13	7,744.02	7,721.66	22.35	346.413			
2,945.33	2,944.88	3,298.72	3,295.80	10.23	12.76	-147.70	3,079.13	7,078.37	7,744.44	7,721.80	22.64	342.122			
3,000.00	2,999.39	3,354.21	3,351.21	10.41	12.95	-147.71	3,077.25	7,076.01	7,745.16	7,722.16	23.00	336.794			
3,100.00	3,099.08	3,461.17	3,458.00	10.75	13.32	-147.74	3,073.81	7,071.26	7,746.37	7,722.70	23.68	327.189			
3,200.00	3,198.78	3,557.59	3,554.28	11.08	13.65	-147.76	3,070.96	7,066.89	7,747.60	7,723.28	24.32	318.517			
3,300.00	3,298.48	3,654.29	3,650.84	11.42	13.98	-147.78	3,068.19	7,062.50	7,748.86	7,723.89	24.98	310.252			
3,400.00	3,398.18	3,745.37	3,741.80	11.76	14.30	-147.81	3,065.86	7,058.32	7,750.20	7,724.59	25.61	302.593			
3,500.00	3,497.88	3,835.71	3,832.02	12.10	14.61	-147.83	3,063.59	7,054.28	7,751.68	7,725.43	26.25	295.314			
3,600.00	3,597.58	3,929.21	3,925.41	12.45	14.93	-147.86	3,061.68	7,050.01	7,753.26	7,726.36	26.90	288.255			
3,700.00	3,697.27	4,023.20	4,019.28	12.79	15.25	-147.89	3,059.73	7,045.81	7,754.91	7,727.36	27.55	281.493			
3,800.00	3,796.97	4,110.82	4,106.80	13.14	15.56	-147.91	3,057.77	7,042.05	7,756.66	7,728.48	28.18	275.228			
3,900.00	3,896.67	9,445.73	6,794.24	13.48	48.46	-127.66	201.05	7,114.41	7,755.76	7,697.22	58.53	132.500			
4,000.00	3,996.37	9,450.79	6,794.18	13.83	48.53	-127.62	195.99	7,114.63	7,722.60	7,663.46	59.14	130.585			
4,100.00	4,096.07	9,455.67	6,794.11	14.18	48.60	-127.58	191.12	7,114.84	7,690.59	7,630.86	59.74	128.735			
4,200.00	4,195.76	9,460.37	6,794.05	14.53	48.66	-127.54	186.42	7,115.05	7,659.76	7,599.42	60.34	126.949			
4,300.00	4,295.46	9,464.91	6,793.98	14.88	48.72	-127.51	181.90	7,115.25	7,630.11	7,569.18	60.93	125.226			
4,400.00	4,395.16	9,469.28	6,793.91	15.23	48.77	-127.47	177.53	7,115.45	7,601.65	7,540.13	61.52	123.563			
4,500.00	4,494.86	9,473.50	6,793.84	15.58	48.83	-127.44	173.31	7,115.64	7,574.41	7,512.31	62.11	121.961			
4,600.00	4,594.56	9,477.58	6,793.77	15.93	48.88	-127.41	169.23	7,115.82	7,548.39	7,485.71	62.68	120.418			
4,700.00	4,694.25	9,481.53	6,793.70	16.29	48.94	-127.38	165.29	7,116.01	7,523.61	7,460.35	63.26	118.933			
4,800.00	4,793.95	9,485.35	6,793.63	16.64	48.99	-127.35	161.48	7,116.18	7,500.08	7,436.25	63.83	117.504			
4,900.00	4,893.65	9,489.04	6,793.56	17.00	49.04	-127.32	157.79	7,116.35	7,477.80	7,413.41	64.39	116.132			
5,000.00	4,993.35	9,492.62	6,793.49	17.35	49.08	-127.29	154.22	7,116.52	7,456.80	7,391.86	64.95	114.814			
5,100.00	5,093.05	9,496.00	6,793.42	17.71	49.13	-127.27	150.84	7,116.68	7,437.09	7,371.59	65.50	113.551			
5,200.00	5,192.75	9,496.00	6,793.42	18.06	49.13	-127.27	150.84	7,116.68	7,418.67	7,352.67	65.99	112.414			
5,300.00	5,292.44	9,496.00	6,793.42	18.42	49.13	-127.27	150.84	7,116.68	7,401.55	7,335.06	66.49	111.323			
5,400.00	5,392.14	9,496.00	6,793.42	18.77	49.13	-127.27	150.84	7,116.68	7,385.75	7,318.78	66.97	110.280			
5,500.00	5,491.84	9,496.00	6,793.42	19.13	49.13	-127.27	150.84	7,116.68	7,371.27	7,303.82	67.45	109.283			
5,600.00	5,591.54	9,496.00	6,793.42	19.49	49.13	-127.27	150.84	7,116.68	7,358.12	7,290.20	67.92	108.331			
5,700.00	5,691.24	9,496.00	6,793.42	19.85	49.13	-127.27	150.84	7,116.68	7,346.31	7,277.93	68.39	107.425			
5,800.00	5,790.93	9,496.00	6,793.42	20.20	49.13	-127.27	150.84	7,116.68	7,335.85	7,267.00	68.84	106.562			
5,900.00	5,890.63	9,496.00	6,793.42	20.56	49.13	-127.27	150.84	7,116.68	7,326.73	7,257.44	69.29	105.744			
6,000.00	5,990.33	9,496.00	6,793.42	20.92	49.13	-127.27	150.84	7,116.68	7,318.97	7,249.24	69.73	104.969			
6,100.00	6,090.03	9,496.00	6,793.42	21.28	49.13	-127.27	150.84	7,116.68	7,312.57	7,242.41	70.15	104.236			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Sec 13-T21S-R27E - Lone Tree Draw 13 State 11H - Wellbore #1 - Wellbore #1													Offset Well Error:	0.50 ft
Survey Program: 111-GYRO-NS-CT, 6243-MWD+HDGM														
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
6,200.00	6,189.73	9,496.00	6,793.42	21.64	49.13	-127.27	150.84	7,116.68	7,307.53	7,236.96	70.57	103.545		
6,300.00	6,289.42	9,518.74	6,792.99	22.00	49.43	-127.09	128.13	7,117.79	7,303.78	7,232.49	71.29	102.457		
6,400.00	6,389.12	9,520.85	6,792.96	22.36	49.46	-127.07	126.02	7,117.90	7,301.46	7,229.74	71.72	101.812		
6,500.00	6,488.82	9,523.01	6,792.93	22.72	49.49	-127.05	123.87	7,118.00	7,300.51	7,228.37	72.13	101.207		
6,519.52	6,508.28	9,523.43	6,792.92	22.79	49.49	-127.05	123.45	7,118.03	7,300.48	7,228.27	72.22	101.094		
6,600.00	6,588.52	9,525.20	6,792.89	23.08	49.52	-127.04	121.68	7,118.12	7,300.93	7,228.38	72.54	100.641		
6,700.00	6,688.22	9,527.43	6,792.86	23.44	49.55	-127.02	119.45	7,118.23	7,302.71	7,229.77	72.94	100.114		
6,800.00	6,787.91	9,529.70	6,792.83	23.80	49.58	-127.00	117.18	7,118.35	7,305.86	7,232.53	73.33	99.625		
6,900.00	6,887.61	9,532.02	6,792.80	24.16	49.61	-126.98	114.87	7,118.47	7,310.38	7,236.67	73.71	99.173		
7,000.00	6,987.31	9,534.38	6,792.76	24.52	49.64	-126.96	112.52	7,118.59	7,316.26	7,242.18	74.08	98.757		
7,100.00	7,087.01	9,536.78	6,792.73	24.88	49.67	-126.95	110.11	7,118.72	7,323.50	7,249.06	74.44	98.378		
7,200.00	7,186.71	9,539.24	6,792.70	25.24	49.70	-126.93	107.66	7,118.85	7,332.09	7,257.30	74.79	98.033		
7,300.00	7,286.41	9,541.74	6,792.67	25.60	49.74	-126.91	105.17	7,118.99	7,342.04	7,266.91	75.13	97.723		
7,400.00	7,386.10	9,544.28	6,792.64	25.96	49.77	-126.89	102.62	7,119.12	7,353.33	7,277.87	75.46	97.446		
7,500.00	7,485.80	9,546.89	6,792.61	26.33	49.81	-126.87	100.03	7,119.27	7,365.96	7,290.18	75.78	97.203		
7,600.00	7,585.50	9,549.54	6,792.59	26.69	49.84	-126.85	97.38	7,119.41	7,379.92	7,303.83	76.09	96.992		
7,700.00	7,685.20	9,552.24	6,792.56	27.05	49.88	-126.82	94.68	7,119.56	7,395.20	7,318.81	76.39	96.813		
7,800.00	7,784.90	9,555.01	6,792.53	27.41	49.91	-126.80	91.92	7,119.71	7,411.80	7,335.12	76.68	96.665		
7,860.70	7,845.41	9,556.71	6,792.52	27.63	49.94	-126.79	90.21	7,119.81	7,422.51	7,345.67	76.85	96.590		
7,900.00	7,884.61	9,557.74	6,792.51	27.77	49.95	-126.87	89.19	7,119.87	7,429.59	7,352.64	76.95	96.547		
8,000.00	7,984.46	9,559.62	6,792.50	28.13	49.98	-127.07	87.31	7,119.97	7,447.42	7,370.21	77.21	96.461		
8,100.00	8,084.42	9,560.40	6,792.49	28.49	49.99	-127.28	86.53	7,120.02	7,464.99	7,387.56	77.43	96.406		
8,157.59	8,142.00	9,560.34	6,792.49	28.69	49.99	86.68	86.59	7,120.01	7,474.99	7,397.45	77.55	96.395		
8,200.00	8,184.41	9,560.15	6,792.49	28.83	49.98	86.68	86.78	7,120.00	7,482.44	7,404.82	77.62	96.396		
8,300.00	8,284.41	9,559.71	6,792.49	29.17	49.98	86.67	87.23	7,119.98	7,500.93	7,423.14	77.79	96.420		
8,400.00	8,384.41	9,559.25	6,792.50	29.51	49.97	86.67	87.68	7,119.95	7,520.70	7,442.75	77.96	96.472		
8,507.63	8,492.04	9,558.75	6,792.50	29.87	49.96	86.67	88.18	7,119.92	7,543.41	7,465.28	78.12	96.558		
8,550.00	8,534.37	9,558.59	6,792.50	30.02	49.96	-2.67	88.34	7,119.91	7,551.21	7,473.03	78.18	96.583		
8,600.00	8,584.01	9,558.51	6,792.50	30.18	49.96	-2.64	88.43	7,119.91	7,556.74	7,478.49	78.25	96.573		
8,650.00	8,632.95	9,558.54	6,792.50	30.34	49.96	-2.64	88.39	7,119.91	7,558.26	7,479.95	78.31	96.517		
8,700.00	8,680.82	9,558.69	6,792.50	30.50	49.96	-2.65	88.25	7,119.92	7,555.74	7,477.38	78.36	96.418		
8,750.00	8,727.25	9,558.95	6,792.50	30.66	49.97	-2.67	87.98	7,119.94	7,549.22	7,470.81	78.41	96.277		
8,800.00	8,771.89	9,559.34	6,792.50	30.81	49.97	-2.72	87.59	7,119.96	7,538.73	7,460.28	78.45	96.096		
8,850.00	8,814.40	9,559.85	6,792.49	30.95	49.98	-2.79	87.08	7,119.99	7,524.32	7,445.84	78.48	95.876		
8,900.00	8,854.46	9,560.48	6,792.49	31.09	49.99	-2.88	86.46	7,120.02	7,506.10	7,427.60	78.50	95.617		
8,950.00	8,891.75	9,561.22	6,792.48	31.23	50.00	-3.00	85.72	7,120.06	7,484.17	7,405.66	78.51	95.322		
9,000.00	8,926.01	9,562.07	6,792.48	31.37	50.01	-3.15	84.86	7,120.11	7,458.66	7,380.15	78.52	94.992		
9,050.00	8,956.96	9,563.04	6,792.47	31.53	50.02	-3.34	83.90	7,120.17	7,429.74	7,351.23	78.52	94.627		
9,100.00	8,984.38	9,564.10	6,792.46	31.69	50.04	-3.59	82.83	7,120.23	7,397.59	7,319.08	78.51	94.230		
9,150.00	9,008.05	9,565.27	6,792.45	31.87	50.05	-3.90	81.67	7,120.29	7,362.40	7,283.91	78.49	93.801		
9,200.00	9,027.79	9,566.52	6,792.44	32.07	50.07	-4.30	80.42	7,120.37	7,324.41	7,245.94	78.47	93.342		
9,250.00	9,043.45	9,567.85	6,792.44	32.29	50.09	-4.84	79.09	7,120.44	7,283.86	7,205.42	78.44	92.853		
9,300.00	9,054.92	9,569.25	6,792.43	32.53	50.11	-5.57	77.69	7,120.52	7,241.02	7,162.60	78.42	92.338		
9,350.00	9,062.10	9,570.71	6,792.42	32.79	50.12	-6.62	76.24	7,120.61	7,196.19	7,117.79	78.39	91.796		
9,400.00	9,064.95	9,572.22	6,792.41	33.06	50.14	-8.24	74.74	7,120.70	7,149.66	7,071.29	78.37	91.230		
9,407.63	9,065.00	9,572.45	6,792.41	33.10	50.15	-8.56	74.50	7,120.71	7,142.43	7,064.06	78.37	91.139		
9,500.00	9,065.00	9,575.30	6,792.39	33.68	50.19	-8.49	71.66	7,120.88	7,054.78	6,976.46	78.32	90.076		
9,600.00	9,065.00	9,578.43	6,792.38	34.41	50.23	-8.41	68.53	7,121.06	6,960.03	6,881.76	78.27	88.925		
9,700.00	9,065.00	9,591.00	6,792.34	35.24	50.40	-8.09	55.99	7,121.82	6,865.43	6,787.09	78.34	87.638		
9,800.00	9,065.00	9,591.00	6,792.34	36.17	50.40	-8.09	55.99	7,121.82	6,770.97	6,692.72	78.25	86.535		
9,900.00	9,065.00	9,591.00	6,792.34	37.19	50.40	-8.09	55.99	7,121.82	6,676.67	6,598.52	78.15	85.431		
10,000.00	9,065.00	9,591.00	6,792.34	38.30	50.40	-8.09	55.99	7,121.82	6,582.54	6,504.48	78.06	84.327		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design		Sec 13-T21S-R27E - Lone Tree Draw 13 State 11H - Wellbore #1 - Wellbore #1											Offset Site Error:		5.00 ft
Survey Program:		111-GYRO-NS-CT, 6243-MWD+HDGM											Offset Well Error:		0.50 ft
Reference		Offset		Semi Major Axis			Distance						Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor			
10,100.00	9,065.00	9,591.00	6,792.34	39.48	50.40	-8.09	55.99	7,121.82	6,488.59	6,410.62	77.97	83.223			
10,200.00	9,065.00	9,598.89	6,792.32	40.72	50.50	-7.89	48.11	7,122.30	6,394.81	6,316.84	77.98	82.010			
10,300.00	9,065.00	9,602.50	6,792.31	42.03	50.55	-7.80	44.51	7,122.52	6,301.23	6,223.30	77.93	80.858			
10,400.00	9,065.00	9,606.10	6,792.29	43.40	50.60	-7.71	40.92	7,122.74	6,207.84	6,129.95	77.88	79.708			
10,500.00	9,065.00	9,609.68	6,792.27	44.82	50.65	-7.62	37.34	7,122.95	6,114.65	6,036.82	77.84	78.558			
10,600.00	9,065.00	9,613.26	6,792.25	46.29	50.70	-7.53	33.77	7,123.17	6,021.69	5,943.90	77.79	77.410			
10,700.00	9,065.00	9,616.83	6,792.22	47.79	50.74	-7.44	30.21	7,123.39	5,928.95	5,851.20	77.74	76.264			
10,800.00	9,065.00	9,620.39	6,792.19	49.34	50.79	-7.35	26.66	7,123.60	5,836.44	5,758.74	77.70	75.119			
10,900.00	9,065.00	9,623.93	6,792.16	50.92	50.84	-7.26	23.11	7,123.82	5,744.18	5,666.53	77.65	73.976			
11,000.00	9,065.00	9,627.47	6,792.13	52.54	50.89	-7.17	19.58	7,124.03	5,652.19	5,574.58	77.60	72.834			
11,100.00	9,065.00	9,631.00	6,792.09	54.18	50.93	-7.08	16.06	7,124.24	5,560.46	5,482.91	77.56	71.694			
11,200.00	9,065.00	9,634.52	6,792.05	55.85	50.98	-6.99	12.55	7,124.46	5,469.03	5,391.51	77.51	70.556			
11,300.00	9,065.00	9,638.03	6,792.01	57.54	51.03	-6.90	9.04	7,124.67	5,377.89	5,300.42	77.47	69.420			
11,400.00	9,065.00	9,641.53	6,791.97	59.26	51.08	-6.81	5.55	7,124.88	5,287.08	5,209.65	77.43	68.285			
11,500.00	9,065.00	9,645.03	6,791.92	61.00	51.12	-6.72	2.06	7,125.09	5,196.59	5,119.21	77.38	67.153			
11,600.00	9,065.00	9,648.51	6,791.87	62.75	51.17	-6.63	-1.41	7,125.30	5,106.46	5,029.12	77.34	66.023			
11,700.00	9,065.00	9,651.98	6,791.82	64.52	51.22	-6.54	-4.88	7,125.50	5,016.70	4,939.39	77.31	64.895			
11,800.00	9,065.00	9,655.45	6,791.77	66.31	51.26	-6.45	-8.34	7,125.71	4,927.33	4,850.06	77.27	63.769			
11,900.00	9,065.00	9,658.90	6,791.71	68.11	51.31	-6.37	-11.79	7,125.92	4,838.37	4,761.14	77.23	62.646			
12,000.00	9,065.00	9,662.35	6,791.65	69.93	51.36	-6.28	-15.23	7,126.12	4,749.85	4,672.65	77.20	61.525			
12,100.00	9,065.00	9,665.79	6,791.59	71.76	51.40	-6.19	-18.66	7,126.33	4,661.79	4,584.62	77.17	60.407			
12,200.00	9,065.00	9,669.21	6,791.52	73.60	51.45	-6.10	-22.08	7,126.53	4,574.21	4,497.07	77.15	59.291			
12,300.00	9,065.00	9,672.63	6,791.46	75.45	51.50	-6.01	-25.49	7,126.74	4,487.16	4,410.03	77.13	58.179			
12,400.00	9,065.00	9,676.04	6,791.39	77.31	51.54	-5.93	-28.89	7,126.94	4,400.64	4,323.54	77.11	57.071			
12,500.00	9,065.00	9,685.00	6,791.19	79.18	51.66	-5.70	-37.83	7,127.47	4,314.72	4,237.56	77.15	55.923			
12,600.00	9,065.00	9,685.00	6,791.19	81.05	51.66	-5.70	-37.83	7,127.47	4,229.39	4,152.28	77.11	54.848			
12,700.00	9,065.00	9,686.84	6,791.15	82.94	51.69	-5.65	-39.67	7,127.58	4,144.73	4,067.63	77.09	53.762			
12,800.00	9,065.00	9,691.81	6,791.03	84.83	51.75	-5.52	-44.63	7,127.87	4,060.75	3,983.64	77.11	52.659			
12,900.00	9,065.00	9,696.57	6,790.91	86.73	51.82	-5.40	-49.38	7,128.14	3,977.52	3,900.38	77.14	51.563			
13,000.00	9,065.00	9,701.14	6,790.79	88.64	51.88	-5.28	-53.94	7,128.40	3,895.06	3,817.89	77.17	50.474			
13,100.00	9,065.00	9,705.53	6,790.67	90.55	51.94	-5.17	-58.32	7,128.65	3,813.44	3,736.23	77.21	49.393			
13,200.00	9,065.00	9,709.75	6,790.54	92.47	52.00	-5.06	-62.54	7,128.88	3,732.71	3,655.46	77.25	48.320			
13,300.00	9,065.00	9,713.81	6,790.42	94.39	52.05	-4.96	-66.59	7,129.10	3,652.92	3,575.62	77.30	47.256			
13,400.00	9,065.00	9,717.72	6,790.29	96.32	52.10	-4.86	-70.49	7,129.30	3,574.15	3,496.79	77.36	46.201			
13,500.00	9,065.00	9,721.49	6,790.17	98.25	52.15	-4.76	-74.25	7,129.50	3,496.46	3,419.03	77.43	45.157			
13,600.00	9,065.00	9,725.12	6,790.05	100.19	52.20	-4.67	-77.88	7,129.69	3,419.93	3,342.42	77.51	44.123			
13,700.00	9,065.00	9,728.62	6,789.92	102.13	52.25	-4.58	-81.37	7,129.87	3,344.63	3,267.03	77.60	43.101			
13,800.00	9,065.00	9,732.01	6,789.80	104.08	52.30	-4.49	-84.75	7,130.04	3,270.65	3,192.95	77.70	42.092			
13,900.00	9,065.00	9,735.27	6,789.68	106.03	52.34	-4.41	-88.01	7,130.20	3,198.08	3,120.26	77.82	41.098			
14,000.00	9,065.00	9,738.43	6,789.56	107.98	52.38	-4.33	-91.16	7,130.35	3,127.02	3,049.08	77.94	40.119			
14,100.00	9,065.00	9,741.49	6,789.44	109.94	52.42	-4.25	-94.21	7,130.50	3,057.58	2,979.50	78.08	39.158			
14,200.00	9,065.00	9,744.44	6,789.33	111.90	52.46	-4.17	-97.16	7,130.64	2,989.87	2,911.63	78.24	38.216			
14,300.00	9,065.00	9,747.30	6,789.21	113.86	52.50	-4.10	-100.02	7,130.77	2,924.00	2,845.60	78.40	37.295			
14,400.00	9,065.00	9,750.07	6,789.09	115.82	52.54	-4.03	-102.78	7,130.90	2,860.11	2,781.53	78.58	36.397			
14,500.00	9,065.00	9,752.76	6,788.98	117.79	52.57	-3.96	-105.46	7,131.03	2,798.34	2,719.56	78.78	35.523			
14,600.00	9,065.00	9,755.36	6,788.87	119.76	52.61	-3.89	-108.06	7,131.14	2,738.81	2,659.83	78.98	34.676			
14,700.00	9,065.00	9,757.89	6,788.76	121.74	52.64	-3.83	-110.58	7,131.26	2,681.70	2,602.50	79.20	33.859			
14,800.00	9,065.00	9,760.34	6,788.65	123.71	52.68	-3.76	-113.03	7,131.37	2,627.15	2,547.71	79.44	33.072			
14,900.00	9,065.00	9,762.72	6,788.54	125.69	52.71	-3.70	-115.40	7,131.47	2,575.32	2,495.64	79.69	32.318			
15,000.00	9,065.00	9,765.03	6,788.44	127.67	52.74	-3.64	-117.71	7,131.57	2,526.39	2,446.44	79.95	31.599			
15,100.00	9,065.00	9,767.27	6,788.33	129.65	52.77	-3.58	-119.95	7,131.67	2,480.52	2,400.29	80.23	30.917			
15,200.00	9,065.00	9,769.46	6,788.23	131.63	52.80	-3.53	-122.13	7,131.76	2,437.89	2,357.36	80.54	30.271			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design		Sec 13-T21S-R27E - Lone Tree Draw 13 State 11H - Wellbore #1 - Wellbore #1											Offset Site Error:		5.00 ft
Survey Program:		111-GYRO-NS-CT, 6243-MWD+HDGM											Offset Well Error:		0.50 ft
Reference		Offset		Semi Major Axis			Distance						Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor			
15,300.00	9,065.00	9,780.00	6,787.71	133.62	52.94	-3.26	-132.65	7,132.19	2,398.69	2,317.82	80.88	29.658			
15,400.00	9,065.00	9,780.00	6,787.71	135.61	52.94	-3.26	-132.65	7,132.19	2,363.05	2,281.82	81.23	29.091			
15,500.00	9,065.00	9,780.00	6,787.71	137.60	52.94	-3.26	-132.65	7,132.19	2,331.15	2,249.53	81.62	28.562			
15,600.00	9,065.00	9,780.00	6,787.71	139.59	52.94	-3.26	-132.65	7,132.19	2,303.15	2,221.10	82.05	28.070			
15,700.00	9,065.00	9,780.00	6,787.71	141.58	52.94	-3.26	-132.65	7,132.19	2,279.21	2,196.67	82.54	27.614			
15,800.00	9,065.00	9,782.20	6,787.60	143.57	52.97	-3.20	-134.84	7,132.28	2,259.43	2,176.34	83.09	27.192			
15,900.00	9,065.00	9,785.13	6,787.45	145.57	53.01	-3.12	-137.77	7,132.40	2,243.94	2,160.22	83.72	26.804			
16,000.00	9,065.00	9,788.04	6,787.30	147.56	53.05	-3.05	-140.68	7,132.51	2,232.82	2,148.40	84.42	26.448			
16,100.00	9,065.00	9,790.93	6,787.16	149.56	53.09	-2.97	-143.56	7,132.63	2,226.14	2,140.93	85.21	26.124			
16,199.10	9,065.00	9,793.78	6,787.01	151.54	53.13	-2.90	-146.40	7,132.74	2,223.93	2,137.85	86.08	25.835 CC			
16,200.00	9,065.00	9,793.80	6,787.01	151.56	53.13	-2.90	-146.42	7,132.74	2,223.94	2,137.84	86.09	25.833 ES			
16,300.00	9,065.00	9,796.65	6,786.87	153.56	53.17	-2.83	-149.27	7,132.86	2,226.22	2,139.17	87.05	25.575			
16,400.00	9,065.00	9,799.48	6,786.73	155.56	53.20	-2.75	-152.09	7,132.97	2,232.98	2,144.91	88.08	25.353			
16,500.00	9,065.00	9,802.29	6,786.58	157.57	53.24	-2.68	-154.89	7,133.08	2,244.18	2,155.02	89.16	25.170			
16,600.00	9,065.00	9,805.08	6,786.44	159.57	53.28	-2.61	-157.67	7,133.19	2,259.75	2,169.46	90.29	25.028			
16,700.00	9,065.00	9,807.84	6,786.30	161.57	53.32	-2.54	-160.43	7,133.29	2,279.60	2,188.17	91.44	24.931			
16,800.00	9,065.00	9,810.59	6,786.16	163.58	53.35	-2.47	-163.17	7,133.40	2,303.62	2,211.04	92.59	24.880			
16,900.00	9,065.00	9,813.32	6,786.03	165.59	53.39	-2.40	-165.90	7,133.51	2,331.69	2,237.96	93.72	24.878 SF			
17,000.00	9,065.00	9,816.03	6,785.89	167.60	53.43	-2.33	-168.60	7,133.61	2,363.65	2,268.82	94.83	24.925			
17,100.00	9,065.00	9,818.71	6,785.75	169.60	53.46	-2.26	-171.28	7,133.72	2,399.35	2,303.46	95.89	25.021			
17,200.00	9,065.00	9,821.38	6,785.62	171.61	53.50	-2.19	-173.95	7,133.82	2,438.63	2,341.73	96.90	25.166			
17,300.00	9,065.00	9,824.03	6,785.48	173.62	53.53	-2.12	-176.59	7,133.92	2,481.31	2,383.47	97.85	25.358			
17,400.00	9,065.00	9,826.67	6,785.35	175.63	53.57	-2.05	-179.22	7,134.02	2,527.24	2,428.50	98.73	25.597			
17,500.00	9,065.00	9,829.28	6,785.22	177.65	53.60	-1.99	-181.83	7,134.12	2,576.22	2,476.67	99.55	25.879			
17,600.00	9,065.00	9,831.88	6,785.09	179.66	53.64	-1.92	-184.42	7,134.22	2,628.10	2,527.80	100.30	26.202			
17,700.00	9,065.00	9,834.45	6,784.96	181.67	53.67	-1.85	-186.99	7,134.32	2,682.70	2,581.71	100.98	26.566			
17,800.00	9,065.00	9,837.01	6,784.83	183.69	53.71	-1.79	-189.55	7,134.42	2,739.85	2,638.25	101.60	26.967			
17,900.00	9,065.00	9,839.56	6,784.70	185.70	53.74	-1.72	-192.08	7,134.52	2,799.42	2,697.26	102.16	27.402			
18,000.00	9,065.00	9,842.08	6,784.57	187.72	53.78	-1.66	-194.60	7,134.61	2,861.23	2,758.57	102.66	27.871			
18,100.00	9,065.00	9,844.59	6,784.44	189.73	53.81	-1.59	-197.11	7,134.71	2,925.16	2,822.05	103.11	28.370			
18,200.00	9,065.00	9,847.08	6,784.32	191.75	53.84	-1.53	-199.59	7,134.80	2,991.06	2,887.55	103.51	28.897			
18,300.00	9,065.00	9,849.55	6,784.19	193.77	53.88	-1.47	-202.06	7,134.89	3,058.81	2,954.95	103.86	29.451			
18,400.00	9,065.00	9,852.01	6,784.07	195.78	53.91	-1.40	-204.51	7,134.98	3,128.29	3,024.12	104.17	30.029			
18,500.00	9,065.00	9,854.45	6,783.95	197.80	53.94	-1.34	-206.95	7,135.08	3,199.38	3,094.93	104.45	30.631			
18,600.00	9,065.00	9,856.87	6,783.82	199.82	53.97	-1.28	-209.36	7,135.17	3,271.99	3,167.29	104.69	31.253			
18,700.00	9,065.00	9,859.28	6,783.70	201.84	54.01	-1.21	-211.77	7,135.26	3,346.00	3,241.10	104.91	31.896			
18,800.00	9,065.00	9,861.67	6,783.58	203.86	54.04	-1.15	-214.15	7,135.34	3,421.34	3,316.25	105.09	32.556			
18,900.00	9,065.00	9,864.04	6,783.46	205.88	54.07	-1.09	-216.52	7,135.43	3,497.91	3,392.65	105.25	33.233			
19,000.00	9,065.00	9,866.40	6,783.34	207.90	54.10	-1.03	-218.88	7,135.52	3,575.63	3,470.24	105.39	33.926			
19,100.00	9,065.00	9,868.75	6,783.22	209.92	54.13	-0.97	-221.22	7,135.61	3,654.44	3,548.92	105.52	34.634			
19,200.00	9,065.00	9,871.07	6,783.10	211.95	54.17	-0.91	-223.54	7,135.69	3,734.26	3,628.63	105.62	35.355			
19,300.00	9,065.00	9,873.39	6,782.99	213.97	54.20	-0.85	-225.85	7,135.78	3,815.03	3,709.31	105.71	36.088			
19,400.00	9,065.00	9,876.92	6,782.81	215.99	54.24	-0.76	-229.37	7,135.91	3,896.69	3,790.88	105.81	36.828			
19,456.84	9,065.00	9,880.53	6,782.63	217.14	54.29	-0.67	-232.98	7,136.04	3,943.48	3,837.61	105.88	37.246			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Survey Program: 106-MWD+IGRF, 2746-MWD+IGRF													Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)						
0.00	0.00	0.00	0.00	0.50	5.00	65.32	2,709.18	5,894.96	6,487.93					
100.00	100.00	51.78	51.78	0.52	5.00	65.32	2,709.01	5,895.01	6,487.67	6,482.16	5.52	1,175.673		
200.00	200.00	324.22	324.14	0.70	5.08	65.31	2,708.04	5,890.36	6,485.51	6,479.73	5.79	1,120.994		
300.00	300.00	390.29	390.18	0.99	5.13	65.30	2,708.82	5,888.17	6,483.00	6,476.88	6.12	1,059.800		
400.00	400.00	456.97	456.83	1.31	5.19	65.29	2,709.31	5,886.52	6,481.05	6,474.55	6.50	997.540		
500.00	500.00	538.67	538.52	1.65	5.28	65.28	2,709.66	5,884.95	6,479.47	6,472.56	6.92	936.432		
600.00	600.00	608.29	608.12	1.99	5.36	65.27	2,710.14	5,883.77	6,478.24	6,470.89	7.35	881.630		
700.00	700.00	687.70	687.53	2.34	5.47	65.26	2,710.90	5,882.77	6,477.48	6,469.67	7.80	829.944		
800.00	800.00	791.42	791.23	2.69	5.63	65.25	2,711.94	5,881.56	6,476.84	6,468.52	8.32	778.904		
900.00	900.00	935.75	935.54	3.04	5.88	65.23	2,712.73	5,879.52	6,475.79	6,466.86	8.92	725.790		
1,000.00	1,000.00	1,017.00	1,016.78	3.40	6.04	65.22	2,713.10	5,878.24	6,474.55	6,465.11	9.43	686.235		
1,100.00	1,100.00	1,071.00	1,070.77	3.75	6.15	65.22	2,713.43	5,877.65	6,473.80	6,463.90	9.90	653.957		
1,165.68	1,165.68	1,111.00	1,110.78	3.99	6.24	65.22	2,713.69	5,877.46	6,473.69	6,463.48	10.22	633.654		
1,200.00	1,200.00	1,127.87	1,127.65	4.11	6.27	65.22	2,713.82	5,877.44	6,473.75	6,463.38	10.37	624.059		
1,300.00	1,300.00	1,189.39	1,189.16	4.46	6.40	65.21	2,714.42	5,877.55	6,474.32	6,463.46	10.86	596.146		
1,400.00	1,400.00	1,259.43	1,259.20	4.82	6.55	65.21	2,715.24	5,878.03	6,475.43	6,464.06	11.37	569.598		
1,500.00	1,500.00	1,391.65	1,391.41	5.18	6.85	65.20	2,716.30	5,879.40	6,476.77	6,464.74	12.03	538.576		
1,600.00	1,600.00	1,477.54	1,477.29	5.53	7.06	65.20	2,716.60	5,880.13	6,477.69	6,465.10	12.59	514.692		
1,700.00	1,700.00	1,595.12	1,594.86	5.89	7.34	65.21	2,716.60	5,881.35	6,478.63	6,465.40	13.23	489.699		
1,800.00	1,800.00	1,716.62	1,716.36	6.25	7.65	65.21	2,716.24	5,882.38	6,479.29	6,465.39	13.90	466.225		
1,900.00	1,900.00	1,841.82	1,841.56	6.61	7.99	65.21	2,716.32	5,882.64	6,479.50	6,464.91	14.59	444.156		
2,000.00	2,000.00	1,927.98	1,927.72	6.96	8.22	65.22	2,716.13	5,882.83	6,479.61	6,464.43	15.18	426.833		
2,100.00	2,100.00	2,022.75	2,022.48	7.32	8.49	65.21	2,716.48	5,883.04	6,479.97	6,464.17	15.80	410.034		
2,200.00	2,200.00	2,178.16	2,177.89	7.68	8.93	65.21	2,716.97	5,882.76	6,479.95	6,463.35	16.61	390.155		
2,300.00	2,300.00	2,281.16	2,280.90	8.04	9.23	65.21	2,717.06	5,881.98	6,479.30	6,462.04	17.27	375.231		
2,400.00	2,400.00	2,357.26	2,356.99	8.39	9.46	65.21	2,716.87	5,881.78	6,478.95	6,461.11	17.85	363.006		
2,500.00	2,500.00	2,461.38	2,461.11	8.75	9.76	65.21	2,716.79	5,881.70	6,478.86	6,460.34	18.51	349.962		
2,538.47	2,538.47	2,538.47	2,506.79	8.88	10.00	-148.87	2,716.84	5,881.42	6,478.75	6,459.88	18.88	343.228		
2,600.00	2,599.99	2,564.14	2,563.87	9.09	10.08	-148.87	2,716.93	5,881.08	6,479.11	6,459.94	19.16	338.076		
2,700.00	2,699.96	2,626.10	2,625.83	9.42	10.26	-148.87	2,717.11	5,881.01	6,481.36	6,461.68	19.68	329.331		
2,800.00	2,799.86	2,748.02	2,747.75	9.75	10.46	-148.88	2,717.20	5,881.15	6,485.23	6,465.03	20.20	321.047		
2,900.00	2,899.68	2,809.50	2,809.23	10.08	10.46	-148.87	2,717.31	5,881.14	6,490.60	6,470.07	20.53	316.081		
2,945.33	2,944.88	2,828.49	2,828.22	10.23	10.46	-148.86	2,717.54	5,881.20	6,493.80	6,473.11	20.69	313.905		
3,000.00	2,999.39	2,872.00	2,871.72	10.41	10.47	-148.88	2,718.47	5,881.44	6,498.17	6,477.29	20.88	311.287		
3,100.00	3,099.08	2,872.00	2,871.72	10.75	10.47	-148.88	2,718.47	5,881.44	6,506.70	6,485.50	21.20	306.896		
3,200.00	3,198.78	2,935.97	2,935.64	11.08	10.49	-148.92	2,720.84	5,882.13	6,516.02	6,494.47	21.55	302.359		
3,300.00	3,298.48	2,966.00	2,965.63	11.42	10.50	-148.94	2,722.35	5,882.58	6,526.33	6,504.45	21.89	298.190		
3,400.00	3,398.18	3,028.49	3,027.99	11.76	10.52	-148.99	2,726.18	5,883.77	6,537.38	6,515.14	22.24	293.897		
3,500.00	3,497.88	3,090.26	3,089.57	12.10	10.55	-149.04	2,730.73	5,885.19	6,549.20	6,526.60	22.60	289.724		
3,600.00	3,597.58	3,181.47	3,180.48	12.45	10.60	-149.12	2,737.89	5,887.33	6,561.33	6,538.34	23.00	285.328		
3,700.00	3,697.27	3,287.88	3,286.52	12.79	10.68	-149.22	2,746.44	5,889.74	6,573.47	6,550.06	23.41	280.756		
3,800.00	3,796.97	3,405.48	3,403.74	13.14	10.78	-149.32	2,755.53	5,892.29	6,585.42	6,561.56	23.86	276.019		
3,900.00	3,896.67	3,468.74	3,466.79	13.48	10.84	-149.38	2,760.38	5,893.64	6,597.39	6,573.13	24.26	271.996		
4,000.00	3,996.37	3,531.00	3,528.76	13.83	10.91	-149.44	2,766.20	5,895.20	6,610.23	6,585.58	24.66	268.105		
4,100.00	4,096.07	3,531.00	3,528.76	14.18	10.91	-149.44	2,766.20	5,895.20	6,623.89	6,598.91	24.97	265.231		
4,200.00	4,195.76	3,592.16	3,589.53	14.53	10.98	-149.50	2,772.83	5,897.16	6,638.32	6,612.94	25.38	261.556		
4,300.00	4,295.46	3,645.03	3,641.98	14.88	11.05	-149.56	2,779.08	5,899.30	6,653.71	6,627.94	25.77	258.147		
4,400.00	4,395.16	3,769.13	3,765.08	15.23	11.23	-149.70	2,794.12	5,904.14	6,669.21	6,642.91	26.30	253.606		
4,500.00	4,494.86	3,929.63	3,924.32	15.58	11.49	-149.89	2,813.55	5,908.93	6,683.62	6,656.91	26.91	248.380		
4,600.00	4,594.56	3,974.42	3,968.73	15.93	11.57	-149.95	2,819.20	5,910.18	6,698.63	6,671.32	27.31	245.238		
4,700.00	4,694.25	4,700.00	7,435.19	16.29	43.53	-126.21	-66.99	5,997.57	6,695.56	6,640.50	55.06	121.613		
4,800.00	4,793.95	10,352.10	7,434.74	16.64	58.99	-126.05	-85.10	5,997.89	6,658.53	6,588.09	70.45	94.516		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Sec 13-T21S-R27E - Lone Tree Draw 13 State 15H - Original Hole - Actuals													Offset Well Error:	0.00 ft
Survey Program: 106-MWD+IGRF, 2746-MWD+IGRF														
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
4,900.00	4,893.65	10,354.26	7,434.69	17.00	59.03	-126.03	-87.27	5,997.92	6,622.85	6,551.70	71.15	93.077		
5,000.00	4,993.35	10,356.48	7,434.65	17.35	59.07	-126.01	-89.49	5,997.96	6,588.49	6,516.63	71.86	91.688		
5,100.00	5,093.05	10,358.76	7,434.60	17.71	59.11	-125.99	-91.77	5,998.00	6,555.48	6,482.92	72.56	90.347		
5,200.00	5,192.75	10,361.10	7,434.55	18.06	59.16	-125.96	-94.11	5,998.05	6,523.82	6,450.57	73.26	89.056		
5,300.00	5,292.44	10,363.51	7,434.50	18.42	59.20	-125.94	-96.51	5,998.09	6,493.56	6,419.61	73.95	87.812		
5,400.00	5,392.14	10,365.98	7,434.46	18.77	59.24	-125.92	-98.98	5,998.14	6,464.69	6,390.06	74.64	86.617		
5,500.00	5,491.84	10,368.51	7,434.41	19.13	59.29	-125.90	-101.51	5,998.18	6,437.25	6,361.93	75.32	85.468		
5,600.00	5,591.54	10,371.12	7,434.36	19.49	59.34	-125.87	-104.12	5,998.23	6,411.25	6,335.26	75.99	84.366		
5,700.00	5,691.24	10,373.80	7,434.32	19.85	59.39	-125.85	-106.80	5,998.28	6,386.71	6,310.05	76.66	83.311		
5,800.00	5,790.93	10,376.57	7,434.27	20.20	59.44	-125.82	-109.56	5,998.33	6,363.64	6,286.32	77.32	82.300		
5,900.00	5,890.63	10,379.41	7,434.23	20.56	59.49	-125.80	-112.41	5,998.39	6,342.07	6,264.09	77.97	81.335		
6,000.00	5,990.33	10,382.33	7,434.18	20.92	59.54	-125.77	-115.33	5,998.44	6,322.00	6,243.38	78.62	80.414		
6,100.00	6,090.03	10,385.35	7,434.14	21.28	59.60	-125.74	-118.34	5,998.50	6,303.45	6,224.19	79.25	79.536		
6,200.00	6,189.73	10,388.45	7,434.10	21.64	59.65	-125.71	-121.45	5,998.56	6,286.43	6,206.55	79.88	78.702		
6,300.00	6,289.42	10,391.66	7,434.06	22.00	59.71	-125.68	-124.65	5,998.62	6,270.96	6,190.47	80.49	77.910		
6,400.00	6,389.12	10,394.96	7,434.02	22.36	59.77	-125.65	-127.96	5,998.69	6,257.05	6,175.96	81.09	77.160		
6,500.00	6,488.82	10,398.37	7,433.98	22.72	59.83	-125.62	-131.37	5,998.76	6,244.70	6,163.02	81.68	76.451		
6,600.00	6,588.52	10,401.89	7,433.94	23.08	59.90	-125.59	-134.89	5,998.83	6,233.94	6,151.68	82.26	75.783		
6,700.00	6,688.22	10,405.53	7,433.91	23.44	59.96	-125.55	-138.52	5,998.90	6,224.75	6,141.93	82.83	75.155		
6,800.00	6,787.91	10,409.29	7,433.88	23.80	60.03	-125.52	-142.29	5,998.98	6,217.16	6,133.78	83.38	74.566		
6,900.00	6,887.61	10,413.19	7,433.85	24.16	60.10	-125.48	-146.18	5,999.05	6,211.17	6,127.25	83.92	74.015		
7,000.00	6,987.31	10,417.21	7,433.82	24.52	60.17	-125.45	-150.20	5,999.14	6,206.78	6,122.34	84.44	73.503		
7,100.00	7,087.01	10,421.00	7,433.77	24.88	60.35	-125.36	-159.99	5,999.34	6,204.00	6,118.94	85.06	72.941		
7,200.00	7,186.71	10,427.00	7,433.77	25.24	60.35	-125.36	-159.99	5,999.34	6,202.81	6,117.34	85.47	72.569		
7,223.34	7,209.98	10,427.00	7,433.77	25.33	60.35	-125.36	-159.99	5,999.34	6,202.77	6,117.20	85.57	72.488		
7,300.00	7,286.41	10,427.00	7,433.77	25.60	60.35	-125.36	-159.99	5,999.34	6,203.24	6,117.37	85.88	72.235		
7,400.00	7,386.10	10,427.00	7,433.77	25.96	60.35	-125.36	-159.99	5,999.34	6,205.28	6,119.02	86.26	71.937		
7,500.00	7,485.80	10,427.00	7,433.77	26.33	60.35	-125.36	-159.99	5,999.34	6,208.94	6,122.31	86.63	71.675		
7,600.00	7,585.50	10,427.00	7,433.77	26.69	60.35	-125.36	-159.99	5,999.34	6,214.19	6,127.22	86.98	71.448		
7,700.00	7,685.20	10,427.00	7,433.77	27.05	60.35	-125.36	-159.99	5,999.34	6,221.06	6,133.75	87.31	71.256		
7,800.00	7,784.90	10,427.00	7,433.77	27.41	60.35	-125.36	-159.99	5,999.34	6,229.52	6,141.90	87.62	71.098		
7,860.70	7,845.41	10,427.00	7,433.77	27.63	60.35	-125.36	-159.99	5,999.34	6,235.43	6,147.63	87.80	71.019		
7,900.00	7,884.61	10,427.00	7,433.77	27.77	60.35	-125.41	-159.99	5,999.34	6,239.45	6,151.54	87.91	70.973		
8,000.00	7,984.46	10,448.16	7,433.66	28.13	60.74	-125.34	-181.14	5,999.83	6,249.67	6,161.09	88.57	70.559		
8,100.00	8,084.42	10,448.94	7,433.66	28.49	60.75	-125.46	-181.92	5,999.84	6,260.02	6,171.18	88.84	70.463		
8,157.59	8,142.00	10,448.92	7,433.66	28.69	60.75	88.55	-181.90	5,999.84	6,266.01	6,177.04	88.97	70.426		
8,200.00	8,184.41	10,448.78	7,433.66	28.83	60.75	88.55	-181.76	5,999.84	6,270.58	6,181.52	89.06	70.408		
8,300.00	8,284.41	10,448.46	7,433.66	29.17	60.74	88.54	-181.45	5,999.83	6,282.46	6,193.21	89.26	70.387		
8,400.00	8,384.41	10,448.15	7,433.66	29.51	60.74	88.54	-181.13	5,999.82	6,295.91	6,206.48	89.43	70.397		
8,507.63	8,492.04	10,447.81	7,433.67	29.87	60.73	88.54	-180.80	5,999.82	6,312.13	6,222.52	89.61	70.442		
8,550.00	8,534.37	10,427.00	7,433.77	30.02	60.35	-1.02	-159.99	5,999.34	6,317.52	6,228.23	89.30	70.749		
8,600.00	8,584.01	10,427.00	7,433.77	30.18	60.35	-1.01	-159.99	5,999.34	6,320.15	6,230.79	89.36	70.725		
8,650.00	8,632.95	10,427.00	7,433.77	30.34	60.35	-1.01	-159.99	5,999.34	6,318.82	6,229.40	89.42	70.664		
8,700.00	8,680.82	10,427.00	7,433.77	30.50	60.35	-1.02	-159.99	5,999.34	6,313.53	6,224.06	89.47	70.566		
8,750.00	8,727.25	10,427.00	7,433.77	30.66	60.35	-1.04	-159.99	5,999.34	6,304.31	6,214.80	89.51	70.432		
8,800.00	8,771.89	10,427.00	7,433.77	30.81	60.35	-1.06	-159.99	5,999.34	6,291.22	6,201.68	89.54	70.264		
8,850.00	8,814.40	10,427.00	7,433.77	30.95	60.35	-1.10	-159.99	5,999.34	6,274.33	6,184.78	89.55	70.063		
8,900.00	8,854.46	10,427.00	7,433.77	31.09	60.35	-1.14	-159.99	5,999.34	6,253.74	6,164.18	89.56	69.829		
8,950.00	8,891.75	10,427.00	7,433.77	31.23	60.35	-1.20	-159.99	5,999.34	6,229.57	6,140.02	89.55	69.564		
9,000.00	8,926.01	10,427.00	7,433.77	31.37	60.35	-1.27	-159.99	5,999.34	6,201.97	6,112.44	89.53	69.269		
9,050.00	8,956.96	10,427.00	7,433.77	31.53	60.35	-1.36	-159.99	5,999.34	6,171.10	6,081.59	89.51	68.944		
9,100.00	8,984.38	10,427.00	7,433.77	31.69	60.35	-1.47	-159.99	5,999.34	6,137.14	6,047.67	89.47	68.591		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Sec 13-T21S-R27E - Lone Tree Draw 13 State 15H - Original Hole - Actuals													Offset Well Error:	0.00 ft
Survey Program: 106-MWD+IGRF, 2746-MWD+IGRF														
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
9,150.00	9,008.05	10,448.25	7,433.66	31.87	60.74	-1.31	-181.23	5,999.83	6,100.23	6,010.42	89.81	67.923		
9,200.00	9,027.79	10,448.47	7,433.66	32.07	60.74	-1.47	-181.45	5,999.83	6,060.76	5,970.99	89.77	67.515		
9,250.00	9,043.45	10,448.72	7,433.66	32.29	60.75	-1.67	-181.70	5,999.84	6,018.89	5,929.17	89.72	67.083		
9,300.00	9,054.92	10,448.99	7,433.66	32.53	60.75	-1.96	-181.97	5,999.85	5,974.91	5,885.23	89.68	66.627		
9,350.00	9,062.10	10,449.28	7,433.66	32.79	60.76	-2.39	-182.27	5,999.85	5,929.10	5,839.47	89.63	66.150		
9,400.00	9,064.95	10,449.60	7,433.65	33.06	60.76	-3.08	-182.58	5,999.86	5,881.77	5,792.18	89.59	65.652		
9,407.63	9,065.00	10,449.64	7,433.65	33.10	60.77	-3.22	-182.62	5,999.86	5,874.43	5,784.85	89.59	65.573		
9,500.00	9,065.00	10,450.24	7,433.65	33.68	60.78	-3.20	-183.22	5,999.88	5,785.51	5,696.00	89.51	64.636		
9,600.00	9,065.00	10,450.90	7,433.64	34.41	60.79	-3.18	-183.88	5,999.89	5,689.37	5,599.95	89.42	63.624		
9,700.00	9,065.00	10,451.57	7,433.64	35.24	60.80	-3.15	-184.55	5,999.91	5,593.37	5,504.04	89.33	62.612		
9,800.00	9,065.00	10,452.25	7,433.64	36.17	60.81	-3.13	-185.23	5,999.93	5,497.51	5,408.27	89.24	61.602		
9,900.00	9,065.00	10,452.94	7,433.63	37.19	60.83	-3.10	-185.91	5,999.94	5,401.80	5,312.65	89.15	60.593		
10,000.00	9,065.00	10,453.64	7,433.62	38.30	60.84	-3.08	-186.61	5,999.96	5,306.24	5,217.19	89.05	59.585		
10,100.00	9,065.00	10,454.35	7,433.62	39.48	60.85	-3.05	-187.32	5,999.98	5,210.86	5,121.90	88.96	58.578		
10,200.00	9,065.00	10,455.07	7,433.61	40.72	60.86	-3.03	-188.05	6,000.00	5,115.65	5,026.79	88.85	57.573		
10,300.00	9,065.00	10,455.80	7,433.61	42.03	60.88	-3.00	-188.78	6,000.02	5,020.62	4,931.87	88.75	56.570		
10,400.00	9,065.00	10,456.55	7,433.60	43.40	60.89	-2.97	-189.53	6,000.04	4,925.80	4,837.15	88.64	55.569		
10,500.00	9,065.00	10,457.31	7,433.60	44.82	60.91	-2.95	-190.28	6,000.06	4,831.18	4,742.64	88.53	54.569		
10,600.00	9,065.00	10,458.08	7,433.59	46.29	60.92	-2.92	-191.05	6,000.08	4,736.78	4,648.36	88.42	53.572		
10,700.00	9,065.00	10,458.86	7,433.58	47.79	60.93	-2.89	-191.84	6,000.10	4,642.61	4,554.31	88.30	52.577		
10,800.00	9,065.00	10,459.66	7,433.58	49.34	60.95	-2.86	-192.63	6,000.12	4,548.70	4,460.52	88.18	51.584		
10,900.00	9,065.00	10,460.47	7,433.57	50.92	60.96	-2.83	-193.45	6,000.14	4,455.05	4,366.99	88.05	50.594		
11,000.00	9,065.00	10,461.29	7,433.56	52.54	60.98	-2.80	-194.27	6,000.16	4,361.68	4,273.75	87.92	49.607		
11,100.00	9,065.00	10,462.13	7,433.56	54.18	60.99	-2.77	-195.11	6,000.18	4,268.61	4,180.82	87.79	48.623		
11,200.00	9,065.00	10,462.99	7,433.55	55.85	61.01	-2.74	-195.96	6,000.21	4,175.86	4,088.21	87.65	47.642		
11,300.00	9,065.00	10,463.85	7,433.54	57.54	61.03	-2.71	-196.83	6,000.23	4,083.45	3,995.95	87.51	46.665		
11,400.00	9,065.00	10,464.74	7,433.53	59.26	61.04	-2.68	-197.71	6,000.25	3,991.41	3,904.06	87.36	45.692		
11,500.00	9,065.00	10,465.64	7,433.52	61.00	61.06	-2.64	-198.61	6,000.28	3,899.76	3,812.56	87.20	44.722		
11,600.00	9,065.00	10,466.55	7,433.52	62.75	61.07	-2.61	-199.53	6,000.30	3,808.53	3,721.49	87.04	43.757		
11,700.00	9,065.00	10,467.49	7,433.51	64.52	61.09	-2.58	-200.46	6,000.33	3,717.75	3,630.88	86.87	42.796		
11,800.00	9,065.00	10,468.44	7,433.50	66.31	61.11	-2.54	-201.41	6,000.36	3,627.46	3,540.76	86.70	41.841		
11,900.00	9,065.00	10,469.40	7,433.49	68.11	61.13	-2.51	-202.38	6,000.38	3,537.69	3,451.17	86.52	40.890		
12,000.00	9,065.00	10,470.39	7,433.48	69.93	61.14	-2.47	-203.36	6,000.41	3,448.48	3,362.15	86.33	39.946		
12,100.00	9,065.00	10,471.39	7,433.47	71.76	61.16	-2.44	-204.36	6,000.44	3,359.87	3,273.74	86.13	39.008		
12,200.00	9,065.00	10,472.42	7,433.46	73.60	61.18	-2.40	-205.39	6,000.47	3,271.92	3,185.99	85.93	38.076		
12,300.00	9,065.00	10,473.46	7,433.45	75.45	61.20	-2.36	-206.43	6,000.50	3,184.69	3,098.97	85.72	37.152		
12,400.00	9,065.00	10,474.52	7,433.44	77.31	61.22	-2.32	-207.49	6,000.53	3,098.22	3,012.72	85.50	36.236		
12,500.00	9,065.00	10,475.61	7,433.43	79.18	61.24	-2.28	-208.58	6,000.56	3,012.60	2,927.32	85.27	35.329		
12,600.00	9,065.00	10,476.71	7,433.41	81.05	61.26	-2.24	-209.68	6,000.59	2,927.88	2,842.84	85.04	34.431		
12,700.00	9,065.00	10,477.84	7,433.40	82.94	61.28	-2.20	-210.81	6,000.62	2,844.15	2,759.36	84.79	33.543		
12,800.00	9,065.00	10,478.99	7,433.39	84.83	61.30	-2.16	-211.96	6,000.66	2,761.51	2,676.98	84.53	32.667		
12,900.00	9,065.00	10,480.17	7,433.38	86.73	61.32	-2.12	-213.14	6,000.69	2,680.05	2,595.78	84.27	31.804		
13,000.00	9,065.00	10,481.37	7,433.36	88.64	61.34	-2.07	-214.33	6,000.73	2,599.88	2,515.89	83.99	30.954		
13,100.00	9,065.00	10,482.59	7,433.35	90.55	61.37	-2.03	-215.56	6,000.77	2,521.13	2,437.43	83.70	30.120		
13,200.00	9,065.00	10,483.84	7,433.33	92.47	61.39	-1.98	-216.81	6,000.80	2,443.93	2,360.53	83.40	29.303		
13,300.00	9,065.00	10,485.12	7,433.32	94.39	61.41	-1.94	-218.08	6,000.84	2,368.44	2,285.35	83.09	28.505		
13,400.00	9,065.00	10,486.42	7,433.30	96.32	61.44	-1.89	-219.39	6,000.88	2,294.82	2,212.07	82.76	27.729		
13,500.00	9,065.00	10,487.76	7,433.29	98.25	61.46	-1.84	-220.72	6,000.92	2,223.27	2,140.85	82.42	26.976		
13,600.00	9,065.00	10,489.12	7,433.27	100.19	61.49	-1.79	-222.08	6,000.97	2,153.98	2,071.92	82.06	26.250		
13,700.00	9,065.00	10,490.51	7,433.25	102.13	61.51	-1.74	-223.47	6,001.01	2,087.17	2,005.50	81.68	25.553		
13,800.00	9,065.00	10,491.94	7,433.23	104.08	61.54	-1.69	-224.90	6,001.05	2,023.11	1,941.83	81.28	24.890		
13,900.00	9,065.00	10,493.39	7,433.21	106.03	61.56	-1.64	-226.35	6,001.10	1,962.05	1,881.18	80.87	24.262		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Sec 13-T21S-R27E - Lone Tree Draw 13 State 15H - Original Hole - Actuals													Offset Well Error:	0.00 ft
Survey Program: 106-MWD+IGRF, 2746-MWD+IGRF														
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)						
14,000.00	9,065.00	10,494.88	7,433.19	107.98	61.59	-1.58	-227.84	6,001.15	1,904.29	1,823.85	80.44	23.675		
14,100.00	9,065.00	10,496.41	7,433.17	109.94	61.62	-1.53	-229.37	6,001.20	1,850.13	1,770.14	79.99	23.130		
14,200.00	9,065.00	10,497.97	7,433.15	111.90	61.65	-1.47	-230.93	6,001.25	1,799.90	1,720.37	79.53	22.632		
14,300.00	9,065.00	10,499.57	7,433.13	113.86	61.68	-1.41	-232.52	6,001.30	1,753.93	1,674.86	79.07	22.181		
14,400.00	9,065.00	10,501.20	7,433.11	115.82	61.71	-1.35	-234.16	6,001.35	1,712.58	1,633.94	78.64	21.779		
14,500.00	9,065.00	10,502.88	7,433.08	117.79	61.74	-1.29	-235.84	6,001.41	1,676.17	1,597.93	78.24	21.423		
14,600.00	9,065.00	10,504.60	7,433.06	119.76	61.77	-1.23	-237.55	6,001.47	1,645.05	1,567.12	77.93	21.109		
14,700.00	9,065.00	10,506.36	7,433.03	121.74	61.80	-1.17	-239.32	6,001.53	1,619.51	1,541.76	77.75	20.831		
14,800.00	9,065.00	10,508.17	7,433.00	123.71	61.83	-1.10	-241.12	6,001.59	1,599.82	1,522.07	77.74	20.578		
14,900.00	9,065.00	10,510.02	7,432.98	125.69	61.87	-1.03	-242.97	6,001.65	1,586.20	1,508.22	77.98	20.341		
15,000.00	9,065.00	10,511.93	7,432.95	127.67	61.90	-0.96	-244.87	6,001.72	1,578.80	1,500.30	78.50	20.111		
15,067.09	9,065.00	10,513.23	7,432.93	129.00	61.93	-0.92	-246.18	6,001.76	1,577.38	1,498.34	79.03	19.959 CC, ES		
15,100.00	9,065.00	10,513.88	7,432.92	129.65	61.94	-0.89	-246.83	6,001.79	1,577.72	1,498.38	79.34	19.885		
15,200.00	9,065.00	10,515.88	7,432.88	131.63	61.98	-0.82	-248.83	6,001.86	1,582.96	1,502.48	80.49	19.667		
15,300.00	9,065.00	10,517.94	7,432.85	133.62	62.01	-0.75	-250.89	6,001.93	1,594.47	1,512.57	81.90	19.467		
15,400.00	9,065.00	10,520.06	7,432.81	135.61	62.05	-0.67	-253.00	6,002.01	1,612.11	1,528.58	83.53	19.300		
15,500.00	9,065.00	10,522.72	7,432.77	137.60	62.10	-0.57	-255.66	6,002.10	1,635.67	1,550.39	85.29	19.178		
15,600.00	9,065.00	10,525.69	7,432.72	139.59	62.15	-0.46	-258.63	6,002.21	1,664.92	1,577.81	87.11	19.113 SF		
15,700.00	9,065.00	10,528.57	7,432.67	141.58	62.21	-0.36	-261.51	6,002.31	1,699.55	1,610.63	88.92	19.114		
15,800.00	9,065.00	10,531.37	7,432.63	143.57	62.26	-0.26	-264.30	6,002.41	1,739.25	1,648.58	90.67	19.182		
15,900.00	9,065.00	10,534.08	7,432.59	145.57	62.31	-0.16	-267.01	6,002.50	1,783.66	1,691.34	92.33	19.319		
16,000.00	9,065.00	10,536.71	7,432.55	147.56	62.36	-0.06	-269.64	6,002.59	1,832.47	1,738.60	93.87	19.522		
16,100.00	9,065.00	10,539.27	7,432.51	149.56	62.40	0.03	-272.20	6,002.68	1,885.31	1,790.03	95.28	19.788		
16,200.00	9,065.00	10,541.76	7,432.47	151.56	62.45	0.12	-274.69	6,002.77	1,941.87	1,845.31	96.56	20.111		
16,300.00	9,065.00	10,544.18	7,432.44	153.56	62.49	0.21	-277.10	6,002.85	2,001.82	1,904.11	97.71	20.488		
16,400.00	9,065.00	10,546.53	7,432.41	155.56	62.54	0.29	-279.45	6,002.92	2,064.88	1,966.14	98.74	20.913		
16,500.00	9,065.00	10,548.82	7,432.38	157.57	62.58	0.38	-281.74	6,003.00	2,130.76	2,031.11	99.65	21.382		
16,600.00	9,065.00	10,551.04	7,432.35	159.57	62.62	0.46	-283.96	6,003.07	2,199.21	2,098.75	100.46	21.891		
16,700.00	9,065.00	10,553.21	7,432.32	161.57	62.66	0.53	-286.13	6,003.14	2,270.01	2,168.83	101.18	22.436		
16,800.00	9,065.00	10,555.32	7,432.29	163.58	62.70	0.61	-288.24	6,003.21	2,342.93	2,241.12	101.81	23.013		
16,900.00	9,065.00	10,557.38	7,432.27	165.59	62.74	0.69	-290.30	6,003.27	2,417.79	2,315.42	102.37	23.619		
17,000.00	9,065.00	10,559.39	7,432.25	167.60	62.77	0.76	-292.30	6,003.34	2,494.41	2,391.55	102.86	24.251		
17,100.00	9,065.00	10,561.34	7,432.22	169.60	62.81	0.83	-294.26	6,003.40	2,572.63	2,469.34	103.30	24.906		
17,200.00	9,065.00	10,563.25	7,432.20	171.61	62.84	0.90	-296.16	6,003.46	2,652.32	2,548.64	103.68	25.582		
17,300.00	9,065.00	10,565.11	7,432.18	173.62	62.88	0.97	-298.02	6,003.51	2,733.34	2,629.32	104.02	26.277		
17,400.00	9,065.00	10,566.92	7,432.16	175.63	62.91	1.03	-299.84	6,003.57	2,815.58	2,711.26	104.32	26.989		
17,500.00	9,065.00	10,568.70	7,432.14	177.65	62.94	1.10	-301.61	6,003.62	2,898.94	2,794.35	104.59	27.717		
17,600.00	9,065.00	10,570.43	7,432.13	179.66	62.97	1.16	-303.34	6,003.68	2,983.31	2,878.48	104.83	28.458		
17,700.00	9,065.00	10,572.12	7,432.11	181.67	63.01	1.22	-305.03	6,003.73	3,068.63	2,963.58	105.05	29.212		
17,800.00	9,065.00	10,573.77	7,432.09	183.69	63.04	1.28	-306.68	6,003.77	3,154.81	3,049.57	105.24	29.978		
17,900.00	9,065.00	10,575.38	7,432.08	185.70	63.07	1.34	-308.29	6,003.82	3,241.78	3,136.36	105.41	30.753		
18,000.00	9,065.00	10,576.96	7,432.06	187.72	63.09	1.40	-309.87	6,003.87	3,329.48	3,223.91	105.57	31.538		
18,100.00	9,065.00	10,578.50	7,432.05	189.73	63.12	1.45	-311.41	6,003.91	3,417.85	3,312.14	105.72	32.331		
18,200.00	9,065.00	10,580.01	7,432.04	191.75	63.15	1.51	-312.92	6,003.96	3,506.83	3,401.00	105.85	33.131		
18,300.00	9,065.00	10,581.49	7,432.02	193.77	63.18	1.56	-314.39	6,004.00	3,596.43	3,490.46	105.97	33.939		
18,400.00	9,065.00	10,582.93	7,432.01	195.78	63.20	1.61	-315.83	6,004.04	3,686.54	3,580.46	106.08	34.752		
18,500.00	9,065.00	10,584.34	7,432.00	197.80	63.23	1.66	-317.25	6,004.08	3,777.15	3,670.96	106.19	35.571		
18,600.00	9,065.00	10,585.73	7,431.99	199.82	63.26	1.71	-318.63	6,004.12	3,868.22	3,761.94	106.28	36.395		
18,700.00	9,065.00	10,587.08	7,431.98	201.84	63.28	1.76	-319.98	6,004.15	3,959.72	3,853.35	106.38	37.224		
18,800.00	9,065.00	10,588.41	7,431.97	203.86	63.30	1.81	-321.31	6,004.19	4,051.63	3,945.16	106.46	38.057		
18,900.00	9,065.00	10,589.71	7,431.96	205.88	63.33	1.86	-322.61	6,004.23	4,143.90	4,037.36	106.55	38.893		
19,000.00	9,065.00	10,590.98	7,431.95	207.90	63.35	1.91	-323.88	6,004.26	4,236.53	4,129.90	106.63	39.733		

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design												Sec 13-T21S-R27E - Lone Tree Draw 13 State 15H - Original Hole - Actuals		Offset Site Error:		5.00 ft			
Survey Program:												106-MWD+IGRF, 2746-MWD+IGRF				Offset Well Error:		0.00 ft	
Reference		Offset		Semi Major Axis			Distance							Warning					
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre	Between Centres	Between Ellipses	Minimum Separation	Separation Factor								
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)								
19,100.00	9,065.00	10,592.23	7,431.94	209.92	63.37	1.95	-325.13	6,004.30	4,329.48	4,222.78	106.70	40.575							
19,200.00	9,065.00	10,593.45	7,431.93	211.95	63.40	1.99	-326.35	6,004.33	4,422.75	4,315.97	106.78	41.420							
19,300.00	9,065.00	10,594.65	7,431.93	213.97	63.42	2.04	-327.55	6,004.36	4,516.30	4,409.45	106.85	42.268							
19,400.00	9,065.00	10,595.83	7,431.92	215.99	63.44	2.08	-328.73	6,004.39	4,610.12	4,503.20	106.92	43.117							
19,456.84	9,065.00	10,596.49	7,431.91	217.14	63.45	2.10	-329.38	6,004.41	4,663.56	4,556.60	106.96	43.601							

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Survey Program: 18-GYRO-NS-CT													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0.00	0.00	0.00	0.00	0.50	5.02	61.36	3,158.45	5,782.98	6,589.59					
100.00	100.00	9.85	9.85	0.52	5.02	61.36	3,158.46	5,782.99	6,589.36	6,583.81	5.54	1,188.828		
200.00	200.00	84.17	84.17	0.70	5.03	61.36	3,158.86	5,783.40	6,590.05	6,584.32	5.73	1,150.464		
300.00	300.00	190.22	190.21	0.99	5.04	61.36	3,159.06	5,784.22	6,590.82	6,584.79	6.03	1,093.001		
400.00	400.00	289.89	289.88	1.31	5.08	61.36	3,158.97	5,785.05	6,591.51	6,585.12	6.39	1,031.055		
500.00	500.00	387.78	387.76	1.65	5.15	61.37	3,158.98	5,785.84	6,592.23	6,585.43	6.79	970.412		
600.00	600.00	492.73	492.72	1.99	5.24	61.37	3,158.96	5,786.69	6,592.93	6,585.70	7.23	911.917		
700.00	700.00	597.10	597.08	2.34	5.35	61.37	3,158.76	5,787.52	6,593.53	6,585.84	7.69	857.035		
800.00	800.00	743.25	743.23	2.69	5.55	61.37	3,159.48	5,787.92	6,594.12	6,585.88	8.24	800.088		
900.00	900.00	884.50	884.48	3.04	5.78	61.37	3,159.32	5,786.96	6,593.37	6,584.55	8.82	747.536		
1,000.00	1,000.00	953.30	953.27	3.40	5.90	61.37	3,158.68	5,787.05	6,592.98	6,583.69	9.30	709.201		
1,017.17	1,017.17	953.30	953.27	3.46	5.90	61.37	3,158.68	5,787.05	6,592.96	6,583.60	9.36	704.581		
1,100.00	1,100.00	1,030.43	1,030.39	3.75	6.04	61.38	3,157.98	5,787.49	6,593.02	6,583.22	9.80	672.961		
1,200.00	1,200.00	1,131.02	1,130.98	4.11	6.25	61.39	3,157.44	5,787.88	6,593.10	6,582.75	10.35	636.725		
1,300.00	1,300.00	1,226.36	1,226.32	4.46	6.45	61.39	3,157.17	5,788.14	6,593.21	6,582.30	10.91	604.102		
1,400.00	1,400.00	1,322.59	1,322.55	4.82	6.67	61.39	3,156.98	5,788.44	6,593.39	6,581.90	11.49	574.017		
1,500.00	1,500.00	1,421.70	1,421.66	5.18	6.90	61.40	3,156.76	5,788.81	6,593.60	6,581.53	12.08	546.026		
1,600.00	1,600.00	1,528.46	1,528.42	5.53	7.16	61.40	3,156.30	5,789.27	6,593.78	6,581.09	12.69	519.470		
1,700.00	1,700.00	1,646.93	1,646.89	5.89	7.46	61.41	3,155.65	5,789.58	6,593.75	6,580.40	13.35	493.895		
1,800.00	1,800.00	1,762.85	1,762.80	6.25	7.77	61.41	3,155.06	5,789.54	6,593.47	6,579.46	14.01	470.599		
1,900.00	1,900.00	1,862.52	1,862.47	6.61	8.03	61.41	3,154.82	5,789.17	6,593.03	6,578.39	14.64	450.474		
2,000.00	2,000.00	1,962.60	1,962.55	6.96	8.31	61.41	3,154.87	5,788.70	6,592.65	6,577.38	15.27	431.793		
2,100.00	2,100.00	2,067.36	2,067.31	7.32	8.60	61.41	3,154.97	5,788.13	6,592.21	6,576.29	15.92	414.103		
2,200.00	2,200.00	2,173.74	2,173.69	7.68	8.91	61.40	3,155.10	5,787.43	6,591.69	6,575.11	16.58	397.554		
2,300.00	2,300.00	2,274.12	2,274.06	8.04	9.20	61.40	3,155.31	5,786.65	6,591.11	6,573.88	17.23	382.542		
2,400.00	2,400.00	2,367.14	2,367.08	8.39	9.47	61.39	3,155.56	5,785.95	6,590.58	6,572.72	17.86	368.987		
2,500.00	2,500.00	2,457.27	2,457.21	8.75	9.74	61.39	3,155.86	5,785.40	6,590.20	6,571.71	18.49	356.467		
2,522.73	2,522.73	2,482.13	2,482.07	8.83	9.81	-152.69	3,155.94	5,785.26	6,590.16	6,571.52	18.64	353.559		
2,600.00	2,599.99	2,565.02	2,564.96	9.09	10.06	-152.70	3,156.09	5,784.80	6,590.59	6,571.43	19.15	344.106		
2,700.00	2,699.96	2,667.42	2,667.36	9.42	10.37	-152.70	3,156.09	5,784.27	6,592.46	6,572.67	19.79	333.118		
2,800.00	2,799.86	2,767.00	2,766.94	9.75	10.68	-152.70	3,156.21	5,783.64	6,595.84	6,575.42	20.42	322.946		
2,900.00	2,899.68	2,880.22	2,880.15	10.08	11.03	-152.72	3,156.64	5,782.78	6,600.80	6,579.69	21.10	312.768		
2,945.33	2,944.88	2,947.12	2,947.05	10.23	11.24	-152.73	3,156.79	5,782.06	6,603.39	6,581.93	21.46	307.665		
3,000.00	2,999.39	3,028.83	3,028.75	10.41	11.50	-152.76	3,156.68	5,781.00	6,606.51	6,584.61	21.90	301.671		
3,100.00	3,099.08	3,106.26	3,106.18	10.75	11.74	-152.78	3,156.41	5,780.12	6,612.24	6,589.76	22.48	294.171		
3,200.00	3,198.78	3,187.66	3,187.57	11.08	12.00	-152.81	3,156.04	5,779.46	6,618.21	6,595.14	23.07	286.868		
3,300.00	3,298.48	3,264.13	3,264.04	11.42	12.24	-152.83	3,155.94	5,778.96	6,624.50	6,600.85	23.65	280.097		
3,400.00	3,398.18	3,324.58	3,324.49	11.76	12.43	-152.86	3,156.30	5,778.61	6,631.22	6,607.04	24.18	274.229		
3,500.00	3,497.88	3,385.60	3,385.50	12.10	12.63	-152.88	3,156.83	5,778.72	6,638.66	6,613.95	24.71	268.612		
3,600.00	3,597.58	3,489.54	3,489.44	12.45	12.96	-152.91	3,157.64	5,779.28	6,646.42	6,621.03	25.39	261.786		
3,700.00	3,697.27	3,610.34	3,610.24	12.79	13.35	-152.95	3,158.09	5,779.66	6,653.79	6,627.67	26.12	254.731		
3,800.00	3,796.97	3,712.63	3,712.53	13.14	13.68	-152.98	3,158.33	5,779.92	6,661.04	6,634.25	26.80	248.591		
3,900.00	3,896.67	3,816.40	3,816.30	13.48	14.02	-153.02	3,158.53	5,780.14	6,668.25	6,640.77	27.48	242.685		
4,000.00	3,996.37	3,925.64	3,925.53	13.83	14.38	-153.05	3,158.84	5,780.20	6,675.36	6,647.18	28.18	236.890		
4,100.00	4,096.07	4,029.45	4,029.35	14.18	14.72	-153.09	3,159.16	5,780.10	6,682.35	6,653.48	28.87	231.498		
4,200.00	4,195.76	4,134.28	4,134.17	14.53	15.06	-153.12	3,159.54	5,779.89	6,689.28	6,659.72	29.56	226.314		
4,300.00	4,295.46	4,240.22	4,240.11	14.88	15.41	-153.16	3,159.92	5,779.59	6,696.13	6,665.88	30.25	221.324		
4,400.00	4,395.16	4,354.85	4,354.75	15.23	15.79	-153.20	3,160.24	5,779.13	6,702.86	6,671.88	30.98	216.339		
4,500.00	4,494.86	4,485.28	4,485.17	15.58	16.22	-153.24	3,160.26	5,778.25	6,709.21	6,677.45	31.77	211.209		
4,600.00	4,594.56	4,591.82	4,591.71	15.93	16.58	-153.27	3,160.01	5,777.30	6,715.26	6,682.79	32.47	206.813		
4,700.00	4,694.25	4,685.42	4,685.30	16.29	16.89	-153.31	3,160.09	5,776.33	6,721.34	6,688.20	33.13	202.861		
4,800.00	4,793.95	4,774.60	4,774.47	16.64	17.19	-153.34	3,160.39	5,775.40	6,727.54	6,693.76	33.78	199.148		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Sec 13-T21S-R27E - Lone Tree Draw 13 State Com 4H - Pilot - Pilot													Offset Well Error:	0.50 ft
Survey Program: 18-GYRO-NS-CT														
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
4,900.00	4,893.65	4,863.26	4,863.13	17.00	17.48	-153.37	3,160.78	5,774.59	6,733.90	6,699.48	34.43	195.585		
5,000.00	4,993.35	4,929.69	4,929.56	17.35	17.70	-153.39	3,161.13	5,774.16	6,740.57	6,705.56	35.00	192.576		
5,100.00	5,093.05	5,000.42	5,000.29	17.71	17.94	-153.42	3,161.56	5,774.16	6,747.79	6,712.20	35.59	189.603		
5,200.00	5,192.75	5,098.74	5,098.60	18.06	18.27	-153.45	3,161.77	5,774.50	6,755.14	6,718.87	36.27	186.240		
5,300.00	5,292.44	5,185.92	5,185.78	18.42	18.56	-153.47	3,161.72	5,775.08	6,762.64	6,725.72	36.92	183.191		
5,400.00	5,392.14	5,278.48	5,278.33	18.77	18.88	-153.49	3,161.46	5,775.95	6,770.27	6,732.69	37.58	180.157		
5,500.00	5,491.84	5,378.76	5,378.61	19.13	19.21	-153.52	3,161.60	5,776.79	6,778.01	6,739.74	38.27	177.104		
5,600.00	5,591.54	5,509.82	5,509.67	19.49	19.66	-153.56	3,162.23	5,777.14	6,785.44	6,746.36	39.07	173.670		
5,700.00	5,691.24	5,638.94	5,638.79	19.85	20.09	-153.60	3,162.84	5,776.88	6,792.45	6,752.59	39.86	170.389		
5,800.00	5,790.93	5,724.10	5,723.95	20.20	20.38	-153.63	3,163.17	5,776.66	6,799.37	6,758.86	40.51	167.860		
5,900.00	5,890.63	5,816.54	5,816.39	20.56	20.69	-153.66	3,163.50	5,776.57	6,806.43	6,765.26	41.17	165.310		
6,000.00	5,990.33	5,911.67	5,911.52	20.92	21.02	-153.69	3,163.69	5,776.67	6,813.58	6,771.73	41.85	162.806		
6,100.00	6,090.03	6,029.22	6,029.06	21.28	21.41	-153.72	3,163.61	5,776.82	6,820.62	6,778.02	42.61	160.081		
6,200.00	6,189.73	6,148.94	6,148.78	21.64	21.82	-153.75	3,162.82	5,777.05	6,827.44	6,784.07	43.37	157.416		
6,300.00	6,289.42	6,249.14	6,248.97	22.00	22.16	-153.77	3,161.56	5,777.29	6,833.99	6,789.92	44.07	155.074		
6,400.00	6,389.12	6,334.54	6,334.37	22.36	22.45	-153.79	3,160.51	5,777.66	6,840.72	6,796.01	44.72	152.983		
6,500.00	6,488.82	6,412.41	6,412.23	22.72	22.72	-153.80	3,159.65	5,778.14	6,847.69	6,802.35	45.34	151.044		
6,600.00	6,588.52	6,472.75	6,472.57	23.08	22.92	-153.81	3,159.00	5,778.78	6,855.08	6,809.18	45.89	149.370		
6,700.00	6,688.22	6,543.72	6,543.52	23.44	23.16	-153.82	3,158.35	5,779.87	6,862.95	6,816.46	46.49	147.629		
6,800.00	6,787.91	6,642.28	6,642.06	23.80	23.50	-153.84	3,157.62	5,781.74	6,871.20	6,824.02	47.18	145.632		
6,900.00	6,887.61	6,766.35	6,766.11	24.16	23.93	-153.85	3,156.44	5,783.88	6,879.19	6,831.22	47.97	143.412		
7,000.00	6,987.31	6,837.16	6,836.91	24.52	24.17	-153.87	3,156.00	5,785.03	6,887.25	6,838.69	48.56	141.821		
7,100.00	7,087.01	6,931.22	6,930.96	24.88	24.49	-153.89	3,156.00	5,786.45	6,895.54	6,846.29	49.24	140.036		
7,200.00	7,186.71	6,998.10	6,997.83	25.24	24.72	-153.90	3,156.28	5,787.49	6,904.06	6,854.24	49.82	138.579		
7,300.00	7,286.41	7,062.77	7,062.48	25.60	24.94	-153.92	3,156.59	5,788.85	6,913.10	6,862.71	50.39	137.189		
7,400.00	7,386.10	7,127.60	7,127.29	25.96	25.17	-153.93	3,156.87	5,790.60	6,922.63	6,871.67	50.96	135.841		
7,500.00	7,485.80	7,205.80	7,205.44	26.33	25.44	-153.94	3,156.92	5,793.24	6,932.56	6,880.98	51.58	134.401		
7,600.00	7,585.50	7,302.85	7,302.41	26.69	25.77	-153.95	3,156.13	5,797.25	6,942.70	6,890.43	52.27	132.817		
7,700.00	7,685.20	7,390.01	7,389.46	27.05	26.08	-153.95	3,154.82	5,801.26	6,952.90	6,899.97	52.93	131.365		
7,800.00	7,784.90	7,470.53	7,469.89	27.41	26.36	-153.95	3,153.77	5,805.08	6,963.33	6,909.77	53.56	130.013		
7,860.70	7,845.41	7,599.12	7,598.34	27.63	26.81	-153.95	3,152.41	5,810.75	6,969.68	6,915.44	54.24	128.491		
7,900.00	7,884.61	7,900.00	7,666.91	27.77	27.85	-153.98	3,151.71	5,812.88	6,973.03	6,917.60	55.43	125.796		
8,000.00	7,984.46	7,803.28	7,802.41	28.13	27.51	-154.03	3,150.42	5,816.42	6,979.65	6,924.18	55.46	125.844		
8,100.00	8,084.42	7,876.00	7,875.11	28.49	27.77	-154.05	3,149.79	5,818.21	6,983.92	6,927.86	56.06	124.575		
8,157.59	8,142.00	7,876.00	7,875.11	28.69	27.77	60.02	3,149.79	5,818.21	6,985.75	6,929.50	56.25	124.202		
8,200.00	8,184.41	7,876.00	7,875.11	28.83	27.77	60.02	3,149.79	5,818.21	6,987.11	6,930.73	56.37	123.941		
8,300.00	8,284.41	7,876.00	7,875.11	29.17	27.77	60.02	3,149.79	5,818.21	6,991.33	6,934.66	56.67	123.360		
8,400.00	8,384.41	7,876.00	7,875.11	29.51	27.77	60.02	3,149.79	5,818.21	6,996.99	6,940.02	56.97	122.829		
8,507.63	8,492.04	7,876.00	7,875.11	29.87	27.77	60.02	3,149.79	5,818.21	7,004.66	6,947.39	57.27	122.311		
8,550.00	8,534.37	7,876.00	7,875.11	30.02	27.77	-29.25	3,149.79	5,818.21	7,006.77	6,949.39	57.38	122.103		
8,600.00	8,584.01	7,876.00	7,875.11	30.18	27.77	-29.28	3,149.79	5,818.21	7,006.08	6,948.56	57.51	121.817		
8,650.00	8,632.95	7,876.00	7,875.11	30.34	27.77	-29.49	3,149.79	5,818.21	7,001.94	6,944.30	57.64	121.487		
8,700.00	8,680.82	7,876.00	7,875.11	30.50	27.77	-29.87	3,149.79	5,818.21	6,994.38	6,936.63	57.75	121.118		
8,750.00	8,727.25	7,876.00	7,875.11	30.66	27.77	-30.43	3,149.79	5,818.21	6,983.45	6,925.60	57.85	120.711		
8,800.00	8,771.89	7,876.00	7,875.11	30.81	27.77	-31.19	3,149.79	5,818.21	6,969.22	6,911.27	57.95	120.269		
8,850.00	8,814.40	7,876.00	7,875.11	30.95	27.77	-32.17	3,149.79	5,818.21	6,951.77	6,893.74	58.03	119.793		
8,900.00	8,854.46	7,876.00	7,875.11	31.09	27.77	-33.39	3,149.79	5,818.21	6,931.21	6,873.11	58.11	119.284		
8,950.00	8,891.75	7,876.00	7,875.11	31.23	27.77	-34.89	3,149.79	5,818.21	6,907.68	6,849.51	58.17	118.742		
9,000.00	8,926.01	7,876.00	7,875.11	31.37	27.77	-36.70	3,149.79	5,818.21	6,881.32	6,823.09	58.23	118.167		
9,050.00	8,956.96	7,876.00	7,875.11	31.53	27.77	-38.89	3,149.79	5,818.21	6,852.30	6,794.01	58.29	117.559		
9,100.00	8,984.38	7,876.00	7,875.11	31.69	27.77	-41.51	3,149.79	5,818.21	6,820.82	6,762.48	58.34	116.916		
9,150.00	9,008.05	7,876.00	7,875.11	31.87	27.77	-44.63	3,149.79	5,818.21	6,787.06	6,728.68	58.39	116.239		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Survey Program: 18-GYRO-NS-CT													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
9,200.00	9,027.79	7,876.00	7,875.11	32.07	27.77	-48.35	3,149.79	5,818.21	6,751.28	6,692.84	58.44	115.525		
9,250.00	9,043.45	7,876.00	7,875.11	32.29	27.77	-52.75	3,149.79	5,818.21	6,713.69	6,655.20	58.49	114.777		
9,300.00	9,054.92	7,876.00	7,875.11	32.53	27.77	-57.92	3,149.79	5,818.21	6,674.57	6,616.02	58.55	113.993		
9,350.00	9,062.10	7,876.00	7,875.11	32.79	27.77	-63.90	3,149.79	5,818.21	6,634.19	6,575.57	58.62	113.177		
9,400.00	9,064.95	7,876.00	7,875.11	33.06	27.77	-70.69	3,149.79	5,818.21	6,592.82	6,534.13	58.69	112.329		
9,407.63	9,065.00	7,876.00	7,875.11	33.10	27.77	-71.79	3,149.79	5,818.21	6,586.44	6,527.74	58.71	112.195		
9,500.00	9,065.00	7,876.00	7,875.11	33.68	27.77	-71.79	3,149.79	5,818.21	6,509.32	6,450.45	58.87	110.573		
9,600.00	9,065.00	7,876.00	7,875.11	34.41	27.77	-71.79	3,149.79	5,818.21	6,426.28	6,367.19	59.09	108.753		
9,700.00	9,065.00	7,876.00	7,875.11	35.24	27.77	-71.79	3,149.79	5,818.21	6,343.73	6,284.36	59.36	106.866		
9,800.00	9,065.00	7,876.00	7,875.11	36.17	27.77	-71.79	3,149.79	5,818.21	6,261.68	6,202.00	59.68	104.914		
9,900.00	9,065.00	7,876.00	7,875.11	37.19	27.77	-71.79	3,149.79	5,818.21	6,180.17	6,120.11	60.06	102.900		
10,000.00	9,065.00	7,876.00	7,875.11	38.30	27.77	-71.79	3,149.79	5,818.21	6,099.21	6,038.71	60.49	100.827		
10,100.00	9,065.00	7,876.00	7,875.11	39.48	27.77	-71.79	3,149.79	5,818.21	6,018.81	5,957.83	60.98	98.700		
10,200.00	9,065.00	7,876.00	7,875.11	40.72	27.77	-71.79	3,149.79	5,818.21	5,939.02	5,877.49	61.53	96.523		
10,300.00	9,065.00	7,876.00	7,875.11	42.03	27.77	-71.79	3,149.79	5,818.21	5,859.84	5,797.70	62.14	94.302		
10,400.00	9,065.00	7,876.00	7,875.11	43.40	27.77	-71.79	3,149.79	5,818.21	5,781.31	5,718.50	62.81	92.042		
10,500.00	9,065.00	7,876.00	7,875.11	44.82	27.77	-71.79	3,149.79	5,818.21	5,703.45	5,639.91	63.55	89.752		
10,600.00	9,065.00	7,876.00	7,875.11	46.29	27.77	-71.79	3,149.79	5,818.21	5,626.30	5,561.95	64.35	87.437		
10,700.00	9,065.00	7,876.00	7,875.11	47.79	27.77	-71.79	3,149.79	5,818.21	5,549.87	5,484.65	65.21	85.104		
10,800.00	9,065.00	7,876.00	7,875.11	49.34	27.77	-71.79	3,149.79	5,818.21	5,474.20	5,408.05	66.14	82.761		
10,900.00	9,065.00	7,876.00	7,875.11	50.92	27.77	-71.79	3,149.79	5,818.21	5,399.32	5,332.18	67.14	80.414		
11,000.00	9,065.00	7,876.00	7,875.11	52.54	27.77	-71.79	3,149.79	5,818.21	5,325.27	5,257.06	68.21	78.072		
11,100.00	9,065.00	7,876.00	7,875.11	54.18	27.77	-71.79	3,149.79	5,818.21	5,252.07	5,182.73	69.34	75.740		
11,200.00	9,065.00	7,876.00	7,875.11	55.85	27.77	-71.79	3,149.79	5,818.21	5,179.78	5,109.23	70.55	73.425		
11,300.00	9,065.00	7,876.00	7,875.11	57.54	27.77	-71.79	3,149.79	5,818.21	5,108.42	5,036.60	71.81	71.134		
11,400.00	9,065.00	7,876.00	7,875.11	59.26	27.77	-71.79	3,149.79	5,818.21	5,038.03	4,964.88	73.15	68.871		
11,500.00	9,065.00	7,876.00	7,875.11	61.00	27.77	-71.79	3,149.79	5,818.21	4,968.66	4,894.10	74.56	66.644		
11,600.00	9,065.00	7,876.00	7,875.11	62.75	27.77	-71.79	3,149.79	5,818.21	4,900.34	4,824.32	76.03	64.456		
11,700.00	9,065.00	7,876.00	7,875.11	64.52	27.77	-71.79	3,149.79	5,818.21	4,833.13	4,755.57	77.56	62.311		
11,800.00	9,065.00	7,876.00	7,875.11	66.31	27.77	-71.79	3,149.79	5,818.21	4,767.07	4,687.91	79.17	60.215		
11,900.00	9,065.00	7,876.00	7,875.11	68.11	27.77	-71.79	3,149.79	5,818.21	4,702.21	4,621.38	80.84	58.170		
12,000.00	9,065.00	7,876.00	7,875.11	69.93	27.77	-71.79	3,149.79	5,818.21	4,638.60	4,556.03	82.57	56.179		
12,100.00	9,065.00	7,876.00	7,875.11	71.76	27.77	-71.79	3,149.79	5,818.21	4,576.29	4,491.93	84.36	54.244		
12,200.00	9,065.00	7,876.00	7,875.11	73.60	27.77	-71.79	3,149.79	5,818.21	4,515.34	4,429.12	86.22	52.369		
12,300.00	9,065.00	7,876.00	7,875.11	75.45	27.77	-71.79	3,149.79	5,818.21	4,455.79	4,367.65	88.14	50.554		
12,400.00	9,065.00	7,876.00	7,875.11	77.31	27.77	-71.79	3,149.79	5,818.21	4,397.72	4,307.60	90.11	48.801		
12,500.00	9,065.00	7,876.00	7,875.11	79.18	27.77	-71.79	3,149.79	5,818.21	4,341.17	4,249.02	92.15	47.112		
12,600.00	9,065.00	7,876.00	7,875.11	81.05	27.77	-71.79	3,149.79	5,818.21	4,286.20	4,191.97	94.23	45.486		
12,700.00	9,065.00	7,876.00	7,875.11	82.94	27.77	-71.79	3,149.79	5,818.21	4,232.89	4,136.52	96.37	43.924		
12,800.00	9,065.00	7,876.00	7,875.11	84.83	27.77	-71.79	3,149.79	5,818.21	4,181.29	4,082.73	98.55	42.426		
12,900.00	9,065.00	7,876.00	7,875.11	86.73	27.77	-71.79	3,149.79	5,818.21	4,131.46	4,030.68	100.79	40.993		
13,000.00	9,065.00	7,876.00	7,875.11	88.64	27.77	-71.79	3,149.79	5,818.21	4,083.48	3,980.42	103.06	39.623		
13,100.00	9,065.00	7,876.00	7,875.11	90.55	27.77	-71.79	3,149.79	5,818.21	4,037.40	3,932.03	105.37	38.318		
13,200.00	9,065.00	7,876.00	7,875.11	92.47	27.77	-71.79	3,149.79	5,818.21	3,993.30	3,885.59	107.71	37.075		
13,300.00	9,065.00	7,876.00	7,875.11	94.39	27.77	-71.79	3,149.79	5,818.21	3,951.23	3,841.15	110.08	35.894		
13,400.00	9,065.00	7,876.00	7,875.11	96.32	27.77	-71.79	3,149.79	5,818.21	3,911.27	3,798.80	112.48	34.775		
13,500.00	9,065.00	7,876.00	7,875.11	98.25	27.77	-71.79	3,149.79	5,818.21	3,873.48	3,758.60	114.89	33.716		
13,600.00	9,065.00	7,876.00	7,875.11	100.19	27.77	-71.79	3,149.79	5,818.21	3,837.93	3,720.62	117.31	32.716		
13,700.00	9,065.00	7,876.00	7,875.11	102.13	27.77	-71.79	3,149.79	5,818.21	3,804.67	3,684.93	119.74	31.774		
13,800.00	9,065.00	7,876.00	7,875.11	104.08	27.77	-71.79	3,149.79	5,818.21	3,773.77	3,651.60	122.17	30.890		
13,900.00	9,065.00	7,876.00	7,875.11	106.03	27.77	-71.79	3,149.79	5,818.21	3,745.28	3,620.69	124.59	30.061		
14,000.00	9,065.00	7,876.00	7,875.11	107.98	27.77	-71.79	3,149.79	5,818.21	3,719.27	3,592.27	126.99	29.287		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Sec 13-T21S-R27E - Lone Tree Draw 13 State Com 4H - Pilot - Pilot													Offset Well Error:	0.50 ft
Survey Program: 18-GYRO-NS-CT														
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
14,100.00	9,065.00	7,876.00	7,875.11	109.94	27.77	-71.79	3,149.79	5,818.21	3,695.78	3,566.40	129.38	28.566		
14,200.00	9,065.00	7,876.00	7,875.11	111.90	27.77	-71.79	3,149.79	5,818.21	3,674.86	3,543.13	131.73	27.896		
14,300.00	9,065.00	7,876.00	7,875.11	113.86	27.77	-71.79	3,149.79	5,818.21	3,656.56	3,522.50	134.05	27.277		
14,400.00	9,065.00	7,876.00	7,875.11	115.82	27.77	-71.79	3,149.79	5,818.21	3,640.91	3,504.58	136.33	26.707		
14,500.00	9,065.00	7,876.00	7,875.11	117.79	27.77	-71.79	3,149.79	5,818.21	3,627.95	3,489.40	138.55	26.185		
14,600.00	9,065.00	7,876.00	7,875.11	119.76	27.77	-71.79	3,149.79	5,818.21	3,617.71	3,477.00	140.72	25.709		
14,700.00	9,065.00	7,876.00	7,875.11	121.74	27.77	-71.79	3,149.79	5,818.21	3,610.22	3,467.40	142.82	25.278		
14,800.00	9,065.00	7,876.00	7,875.11	123.71	27.77	-71.79	3,149.79	5,818.21	3,605.48	3,460.63	144.85	24.891		
14,900.00	9,065.00	7,876.00	7,875.11	125.69	27.77	-71.79	3,149.79	5,818.21	3,603.51	3,456.71	146.80	24.546		
14,920.92	9,065.00	7,876.00	7,875.11	126.10	27.77	-71.79	3,149.79	5,818.21	3,603.45	3,456.25	147.20	24.479 CC		
15,000.00	9,065.00	7,876.00	7,875.11	127.67	27.77	-71.79	3,149.79	5,818.21	3,604.32	3,455.64	148.68	24.242 ES		
15,100.00	9,065.00	7,876.00	7,875.11	129.65	27.77	-71.79	3,149.79	5,818.21	3,607.90	3,457.43	150.47	23.978		
15,200.00	9,065.00	7,876.00	7,875.11	131.63	27.77	-71.79	3,149.79	5,818.21	3,614.24	3,462.08	152.17	23.752		
15,300.00	9,065.00	7,876.00	7,875.11	133.62	27.77	-71.79	3,149.79	5,818.21	3,623.34	3,469.56	153.77	23.563		
15,400.00	9,065.00	7,876.00	7,875.11	135.61	27.77	-71.79	3,149.79	5,818.21	3,635.16	3,479.88	155.28	23.410		
15,500.00	9,065.00	7,876.00	7,875.11	137.60	27.77	-71.79	3,149.79	5,818.21	3,649.68	3,492.99	156.70	23.291		
15,600.00	9,065.00	7,876.00	7,875.11	139.59	27.77	-71.79	3,149.79	5,818.21	3,666.88	3,508.87	158.01	23.206		
15,700.00	9,065.00	7,876.00	7,875.11	141.58	27.77	-71.79	3,149.79	5,818.21	3,686.71	3,527.48	159.23	23.154		
15,800.00	9,065.00	7,876.00	7,875.11	143.57	27.77	-71.79	3,149.79	5,818.21	3,709.13	3,548.78	160.35	23.132 SF		
15,900.00	9,065.00	7,876.00	7,875.11	145.57	27.77	-71.79	3,149.79	5,818.21	3,734.09	3,572.73	161.37	23.141		
16,000.00	9,065.00	7,876.00	7,875.11	147.56	27.77	-71.79	3,149.79	5,818.21	3,761.55	3,599.26	162.29	23.178		
16,100.00	9,065.00	7,876.00	7,875.11	149.56	27.77	-71.79	3,149.79	5,818.21	3,791.45	3,628.33	163.12	23.243		
16,200.00	9,065.00	7,876.00	7,875.11	151.56	27.77	-71.79	3,149.79	5,818.21	3,823.73	3,659.87	163.86	23.335		
16,300.00	9,065.00	7,876.00	7,875.11	153.56	27.77	-71.79	3,149.79	5,818.21	3,858.33	3,693.82	164.51	23.454		
16,400.00	9,065.00	7,876.00	7,875.11	155.56	27.77	-71.79	3,149.79	5,818.21	3,895.20	3,730.12	165.07	23.597		
16,500.00	9,065.00	7,876.00	7,875.11	157.57	27.77	-71.79	3,149.79	5,818.21	3,934.25	3,768.70	165.56	23.764		
16,600.00	9,065.00	7,876.00	7,875.11	159.57	27.77	-71.79	3,149.79	5,818.21	3,975.45	3,809.49	165.96	23.954		
16,700.00	9,065.00	7,876.00	7,875.11	161.57	27.77	-71.79	3,149.79	5,818.21	4,018.71	3,852.42	166.29	24.167		
16,800.00	9,065.00	7,876.00	7,875.11	163.58	27.77	-71.79	3,149.79	5,818.21	4,063.96	3,897.42	166.55	24.401		
16,900.00	9,065.00	7,876.00	7,875.11	165.59	27.77	-71.79	3,149.79	5,818.21	4,111.16	3,944.42	166.74	24.656		
17,000.00	9,065.00	7,876.00	7,875.11	167.60	27.77	-71.79	3,149.79	5,818.21	4,160.22	3,993.35	166.87	24.931		
17,100.00	9,065.00	7,876.00	7,875.11	169.60	27.77	-71.79	3,149.79	5,818.21	4,211.09	4,044.15	166.94	25.225		
17,200.00	9,065.00	7,876.00	7,875.11	171.61	27.77	-71.79	3,149.79	5,818.21	4,263.69	4,096.74	166.96	25.538		
17,300.00	9,065.00	7,876.00	7,875.11	173.62	27.77	-71.79	3,149.79	5,818.21	4,317.97	4,151.05	166.92	25.868		
17,400.00	9,065.00	7,876.00	7,875.11	175.63	27.77	-71.79	3,149.79	5,818.21	4,373.87	4,207.02	166.84	26.215		
17,500.00	9,065.00	7,876.00	7,875.11	177.65	27.77	-71.79	3,149.79	5,818.21	4,431.31	4,264.59	166.72	26.579		
17,600.00	9,065.00	7,876.00	7,875.11	179.66	27.77	-71.79	3,149.79	5,818.21	4,490.25	4,323.69	166.56	26.959		
17,700.00	9,065.00	7,876.00	7,875.11	181.67	27.77	-71.79	3,149.79	5,818.21	4,550.62	4,384.26	166.36	27.354		
17,800.00	9,065.00	7,876.00	7,875.11	183.69	27.77	-71.79	3,149.79	5,818.21	4,612.37	4,446.24	166.13	27.764		
17,900.00	9,065.00	7,876.00	7,875.11	185.70	27.77	-71.79	3,149.79	5,818.21	4,675.45	4,509.58	165.87	28.188		
18,000.00	9,065.00	7,876.00	7,875.11	187.72	27.77	-71.79	3,149.79	5,818.21	4,739.79	4,574.21	165.58	28.625		
18,100.00	9,065.00	7,876.00	7,875.11	189.73	27.77	-71.79	3,149.79	5,818.21	4,805.35	4,640.08	165.27	29.076		
18,200.00	9,065.00	7,876.00	7,875.11	191.75	27.77	-71.79	3,149.79	5,818.21	4,872.09	4,707.15	164.94	29.539		
18,300.00	9,065.00	7,876.00	7,875.11	193.77	27.77	-71.79	3,149.79	5,818.21	4,939.94	4,775.36	164.58	30.015		
18,400.00	9,065.00	7,876.00	7,875.11	195.78	27.77	-71.79	3,149.79	5,818.21	5,008.88	4,844.66	164.21	30.502		
18,500.00	9,065.00	7,876.00	7,875.11	197.80	27.77	-71.79	3,149.79	5,818.21	5,078.85	4,915.02	163.83	31.001		
18,600.00	9,065.00	7,876.00	7,875.11	199.82	27.77	-71.79	3,149.79	5,818.21	5,149.81	4,986.37	163.43	31.510		
18,700.00	9,065.00	7,876.00	7,875.11	201.84	27.77	-71.79	3,149.79	5,818.21	5,221.72	5,058.69	163.02	32.030		
18,800.00	9,065.00	7,876.00	7,875.11	203.86	27.77	-71.79	3,149.79	5,818.21	5,294.54	5,131.93	162.61	32.560		
18,900.00	9,065.00	7,876.00	7,875.11	205.88	27.77	-71.79	3,149.79	5,818.21	5,368.24	5,206.05	162.18	33.100		
19,000.00	9,065.00	7,876.00	7,875.11	207.90	27.77	-71.79	3,149.79	5,818.21	5,442.77	5,281.02	161.75	33.650		
19,100.00	9,065.00	7,876.00	7,875.11	209.92	27.77	-71.79	3,149.79	5,818.21	5,518.11	5,356.80	161.31	34.208		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Sec 13-T21S-R27E - Lone Tree Draw 13 State Com 4H - Pilot - Pilot		Offset Site Error:		5.00 ft	
Survey Program:													18-GYRO-NS-CT		Offset Well Error:		0.50 ft	
Reference		Offset		Semi Major Axis			Distance							Warning				
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor						
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)							
19,200.00	9,065.00	7,876.00	7,875.11	211.95	27.77	-71.79	3,149.79	5,818.21	5,594.23	5,433.36	160.87	34.775						
19,300.00	9,065.00	7,876.00	7,875.11	213.97	27.77	-71.79	3,149.79	5,818.21	5,671.09	5,510.66	160.42	35.351						
19,400.00	9,065.00	7,876.00	7,875.11	215.99	27.77	-71.79	3,149.79	5,818.21	5,748.65	5,588.68	159.98	35.935						
19,456.84	9,065.00	7,876.00	7,875.11	217.14	27.77	-71.79	3,149.79	5,818.21	5,793.05	5,633.33	159.72	36.270						

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Survey Program: 18-GYRO-NS-CT, 4369-MWD+HDGM													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)						
0.00	0.00	0.00	0.00	0.50	5.02	61.36	3,158.45	5,782.98	6,589.59					
100.00	100.00	9.85	9.85	0.52	5.02	61.36	3,158.46	5,782.99	6,589.36	6,583.81	5.54	1,188.828		
200.00	200.00	84.17	84.17	0.70	5.03	61.36	3,158.86	5,783.40	6,590.05	6,584.32	5.73	1,150.464		
300.00	300.00	190.22	190.21	0.99	5.04	61.36	3,159.06	5,784.22	6,590.82	6,584.79	6.03	1,093.001		
400.00	400.00	289.89	289.88	1.31	5.08	61.36	3,158.97	5,785.05	6,591.51	6,585.12	6.39	1,031.055		
500.00	500.00	387.78	387.76	1.65	5.15	61.37	3,158.98	5,785.84	6,592.23	6,585.43	6.79	970.412		
600.00	600.00	492.73	492.72	1.99	5.24	61.37	3,158.96	5,786.69	6,592.93	6,585.70	7.23	911.917		
700.00	700.00	597.10	597.08	2.34	5.35	61.37	3,158.76	5,787.52	6,593.53	6,585.84	7.69	857.035		
800.00	800.00	743.25	743.23	2.69	5.55	61.37	3,159.48	5,787.92	6,594.12	6,585.88	8.24	800.088		
900.00	900.00	884.50	884.48	3.04	5.78	61.37	3,159.32	5,786.96	6,593.37	6,584.55	8.82	747.536		
1,000.00	1,000.00	953.30	953.27	3.40	5.90	61.37	3,158.68	5,787.05	6,592.98	6,583.69	9.30	709.201		
1,017.17	1,017.17	953.30	953.27	3.46	5.90	61.37	3,158.68	5,787.05	6,592.96	6,583.60	9.36	704.581		
1,100.00	1,100.00	1,030.43	1,030.39	3.75	6.04	61.38	3,157.98	5,787.49	6,593.02	6,583.22	9.80	672.961		
1,200.00	1,200.00	1,131.02	1,130.98	4.11	6.25	61.39	3,157.44	5,787.88	6,593.10	6,582.75	10.35	636.725		
1,300.00	1,300.00	1,226.36	1,226.32	4.46	6.45	61.39	3,157.17	5,788.14	6,593.21	6,582.30	10.91	604.102		
1,400.00	1,400.00	1,322.59	1,322.55	4.82	6.67	61.39	3,156.98	5,788.44	6,593.39	6,581.90	11.49	574.017		
1,500.00	1,500.00	1,421.70	1,421.66	5.18	6.90	61.40	3,156.76	5,788.81	6,593.60	6,581.53	12.08	546.026		
1,600.00	1,600.00	1,528.46	1,528.42	5.53	7.16	61.40	3,156.30	5,789.27	6,593.78	6,581.09	12.69	519.470		
1,700.00	1,700.00	1,646.93	1,646.89	5.89	7.46	61.41	3,155.65	5,789.58	6,593.75	6,580.40	13.35	493.895		
1,800.00	1,800.00	1,762.85	1,762.80	6.25	7.77	61.41	3,155.06	5,789.54	6,593.47	6,579.46	14.01	470.599		
1,900.00	1,900.00	1,862.52	1,862.47	6.61	8.03	61.41	3,154.82	5,789.17	6,593.03	6,578.39	14.64	450.474		
2,000.00	2,000.00	1,962.60	1,962.55	6.96	8.31	61.41	3,154.87	5,788.70	6,592.65	6,577.38	15.27	431.793		
2,100.00	2,100.00	2,067.36	2,067.31	7.32	8.60	61.41	3,154.97	5,788.13	6,592.21	6,576.29	15.92	414.103		
2,200.00	2,200.00	2,173.74	2,173.69	7.68	8.91	61.40	3,155.10	5,787.43	6,591.69	6,575.11	16.58	397.554		
2,300.00	2,300.00	2,274.12	2,274.06	8.04	9.20	61.40	3,155.31	5,786.65	6,591.11	6,573.88	17.23	382.542		
2,400.00	2,400.00	2,367.14	2,367.08	8.39	9.47	61.39	3,155.56	5,785.95	6,590.58	6,572.72	17.86	368.987		
2,500.00	2,500.00	2,457.27	2,457.21	8.75	9.74	61.39	3,155.86	5,785.40	6,590.20	6,571.71	18.49	356.467		
2,522.73	2,522.73	2,482.13	2,482.07	8.83	9.81	-152.69	3,155.94	5,785.26	6,590.16	6,571.52	18.64	353.559		
2,600.00	2,599.99	2,565.02	2,564.96	9.09	10.06	-152.70	3,156.09	5,784.80	6,590.59	6,571.43	19.15	344.106		
2,700.00	2,699.96	2,730.00	4,982.67	9.42	48.56	-126.59	203.09	6,146.58	6,584.33	6,529.52	54.82	120.119		
2,800.00	2,799.86	7,730.00	4,982.67	9.75	48.56	-126.87	203.09	6,146.58	6,551.80	6,496.45	55.35	118.365		
2,900.00	2,899.68	7,730.00	4,982.67	10.08	48.56	-127.12	203.09	6,146.58	6,521.64	6,465.75	55.89	116.686		
2,945.33	2,944.88	7,730.00	4,982.67	10.23	48.56	-127.23	203.09	6,146.58	6,508.76	6,452.63	56.13	115.950		
3,000.00	2,999.39	7,730.00	4,982.67	10.41	48.56	-127.23	203.09	6,146.58	6,493.74	6,437.31	56.43	115.079		
3,100.00	3,099.08	7,730.00	4,982.67	10.75	48.56	-127.23	203.09	6,146.58	6,467.37	6,410.41	56.97	113.531		
3,200.00	3,198.78	7,730.00	4,982.67	11.08	48.56	-127.23	203.09	6,146.58	6,442.45	6,384.95	57.50	112.045		
3,300.00	3,298.48	7,730.00	4,982.67	11.42	48.56	-127.23	203.09	6,146.58	6,418.99	6,360.96	58.03	110.618		
3,400.00	3,398.18	7,730.00	4,982.67	11.76	48.56	-127.23	203.09	6,146.58	6,397.00	6,338.45	58.55	109.253		
3,500.00	3,497.88	7,730.00	4,982.67	12.10	48.56	-127.23	203.09	6,146.58	6,376.51	6,317.44	59.07	107.946		
3,600.00	3,597.58	7,761.15	4,983.35	12.45	49.00	-126.94	171.96	6,147.41	6,357.29	6,297.30	59.99	105.974		
3,700.00	3,697.27	7,763.88	4,983.41	12.79	49.04	-126.92	169.24	6,147.49	6,339.78	6,279.25	60.53	104.736		
3,800.00	3,796.97	7,766.58	4,983.46	13.14	49.07	-126.89	166.54	6,147.58	6,323.80	6,262.73	61.07	103.557		
3,900.00	3,896.67	7,769.26	4,983.51	13.48	49.11	-126.87	163.86	6,147.68	6,309.36	6,247.77	61.59	102.437		
4,000.00	3,996.37	7,771.92	4,983.57	13.83	49.15	-126.84	161.20	6,147.77	6,296.47	6,234.36	62.11	101.377		
4,100.00	4,096.07	7,774.56	4,983.62	14.18	49.18	-126.82	158.56	6,147.87	6,285.15	6,222.53	62.62	100.373		
4,200.00	4,195.76	7,777.18	4,983.66	14.53	49.22	-126.80	155.95	6,147.97	6,275.39	6,212.27	63.12	99.427		
4,300.00	4,295.46	7,779.77	4,983.71	14.88	49.26	-126.77	153.35	6,148.07	6,267.21	6,203.61	63.60	98.536		
4,400.00	4,395.16	7,782.35	4,983.76	15.23	49.29	-126.75	150.78	6,148.17	6,260.62	6,196.54	64.08	97.700		
4,500.00	4,494.86	7,784.90	4,983.80	15.58	49.33	-126.73	148.23	6,148.27	6,255.61	6,191.06	64.54	96.919		
4,600.00	4,594.56	7,787.43	4,983.85	15.93	49.36	-126.70	145.70	6,148.37	6,252.19	6,187.20	65.00	96.190		
4,700.00	4,694.25	7,789.94	4,983.89	16.29	49.40	-126.68	143.19	6,148.48	6,250.37	6,184.94	65.44	95.514		
4,763.97	4,758.03	7,791.54	4,983.92	16.51	49.42	-126.67	141.60	6,148.55	6,250.05	6,184.33	65.71	95.109		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Sec 13-T21S-R27E - Lone Tree Draw 13 State Com 4H - Wellbore #2 - Wellbore #2													Offset Well Error:	0.50 ft
Survey Program: 18-GYRO-NS-CT, 4369-MWD+HDGM														
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
4,800.00	4,793.95	7,792.44	4,983.93	16.64	49.43	-126.66	140.70	6,148.58	6,250.15	6,184.28	65.87	94.890		
4,900.00	4,893.65	7,794.91	4,983.97	17.00	49.47	-126.63	138.23	6,148.69	6,251.52	6,185.24	66.28	94.316		
5,000.00	4,993.35	7,825.00	4,984.42	17.35	49.88	-126.36	108.18	6,150.18	6,254.69	6,187.64	67.05	93.277		
5,100.00	5,093.05	7,825.00	4,984.42	17.71	49.88	-126.36	108.18	6,150.18	6,259.22	6,191.81	67.41	92.851		
5,200.00	5,192.75	7,825.00	4,984.42	18.06	49.88	-126.36	108.18	6,150.18	6,265.34	6,197.59	67.75	92.471		
5,300.00	5,292.44	7,825.00	4,984.42	18.42	49.88	-126.36	108.18	6,150.18	6,273.05	6,204.97	68.08	92.136		
5,400.00	5,392.14	7,825.00	4,984.42	18.77	49.88	-126.36	108.18	6,150.18	6,282.35	6,213.95	68.40	91.846		
5,500.00	5,491.84	7,825.00	4,984.42	19.13	49.88	-126.36	108.18	6,150.18	6,293.22	6,224.52	68.70	91.600		
5,600.00	5,591.54	8,393.00	4,988.07	19.49	57.65	-121.17	-459.14	6,151.26	6,305.55	6,229.25	76.30	82.643		
5,700.00	5,691.24	8,393.00	4,988.07	19.85	57.65	-121.17	-459.14	6,151.26	6,318.91	6,242.34	76.57	82.520		
5,800.00	5,790.93	8,424.58	4,987.95	20.20	58.07	-120.88	-490.67	6,149.60	6,333.57	6,256.35	77.22	82.018		
5,900.00	5,890.63	8,426.70	4,987.96	20.56	58.10	-120.86	-492.79	6,149.50	6,349.99	6,272.50	77.49	81.942		
6,000.00	5,990.33	8,428.86	4,987.96	20.92	58.13	-120.84	-494.95	6,149.40	6,367.94	6,290.19	77.75	81.902		
6,100.00	6,090.03	8,431.07	4,987.97	21.28	58.16	-120.82	-497.15	6,149.31	6,387.40	6,309.40	77.99	81.895		
6,200.00	6,189.73	8,433.31	4,987.98	21.64	58.19	-120.80	-499.39	6,149.21	6,408.35	6,330.13	78.22	81.923		
6,300.00	6,289.42	8,435.60	4,987.99	22.00	58.22	-120.78	-501.68	6,149.11	6,430.80	6,352.36	78.44	81.983		
6,400.00	6,389.12	8,437.93	4,988.00	22.36	58.25	-120.76	-504.01	6,149.01	6,454.71	6,376.06	78.64	82.076		
6,500.00	6,488.82	8,440.30	4,988.01	22.72	58.28	-120.74	-506.38	6,148.92	6,480.07	6,401.24	78.83	82.200		
6,600.00	6,588.52	8,442.72	4,988.03	23.08	58.31	-120.72	-508.80	6,148.82	6,506.87	6,427.86	79.01	82.355		
6,700.00	6,688.22	8,445.19	4,988.05	23.44	58.34	-120.70	-511.26	6,148.72	6,535.09	6,455.91	79.18	82.539		
6,800.00	6,787.91	8,447.71	4,988.07	23.80	58.38	-120.67	-513.78	6,148.63	6,564.70	6,485.38	79.33	82.753		
6,900.00	6,887.61	8,450.28	4,988.09	24.16	58.41	-120.65	-516.35	6,148.53	6,595.70	6,516.23	79.47	82.996		
7,000.00	6,987.31	8,452.90	4,988.11	24.52	58.45	-120.63	-518.96	6,148.44	6,628.06	6,548.46	79.60	83.266		
7,100.00	7,087.01	8,455.57	4,988.14	24.88	58.48	-120.60	-521.64	6,148.35	6,661.76	6,582.04	79.72	83.563		
7,200.00	7,186.71	8,458.30	4,988.17	25.24	58.52	-120.58	-524.36	6,148.25	6,696.78	6,616.95	79.83	83.886		
7,300.00	7,286.41	8,488.00	4,988.65	25.60	58.92	-120.30	-554.05	6,147.44	6,733.25	6,652.99	80.26	83.896		
7,400.00	7,386.10	8,488.00	4,988.65	25.96	58.92	-120.30	-554.05	6,147.44	6,770.81	6,690.50	80.31	84.305		
7,500.00	7,485.80	8,488.00	4,988.65	26.33	58.92	-120.30	-554.05	6,147.44	6,809.64	6,729.28	80.36	84.738		
7,600.00	7,585.50	8,488.00	4,988.65	26.69	58.92	-120.30	-554.05	6,147.44	6,849.71	6,769.31	80.40	85.196		
7,700.00	7,685.20	8,488.00	4,988.65	27.05	58.92	-120.30	-554.05	6,147.44	6,891.00	6,810.57	80.43	85.677		
7,800.00	7,784.90	8,488.00	4,988.65	27.41	58.92	-120.30	-554.05	6,147.44	6,933.48	6,853.03	80.45	86.181		
7,860.70	7,845.41	8,488.00	4,988.65	27.63	58.92	-120.30	-554.05	6,147.44	6,959.84	6,879.38	80.46	86.498		
7,900.00	7,884.61	8,488.00	4,988.65	27.77	58.92	-120.55	-554.05	6,147.44	6,977.04	6,896.58	80.47	86.707		
8,000.00	7,984.46	8,488.00	4,988.65	28.13	58.92	-121.18	-554.05	6,147.44	7,020.79	6,940.32	80.47	87.248		
8,100.00	8,084.42	8,488.00	4,988.65	28.49	58.92	-121.80	-554.05	6,147.44	7,064.47	6,984.01	80.46	87.801		
8,157.59	8,142.00	8,488.00	4,988.65	28.69	58.92	91.92	-554.05	6,147.44	7,089.58	7,009.14	80.44	88.130		
8,200.00	8,184.41	8,488.00	4,988.65	28.83	58.92	91.92	-554.05	6,147.44	7,108.17	7,027.74	80.43	88.378		
8,300.00	8,284.41	8,488.00	4,988.65	29.17	58.92	91.92	-554.05	6,147.44	7,152.79	7,072.40	80.39	88.976		
8,400.00	8,384.41	8,488.00	4,988.65	29.51	58.92	91.92	-554.05	6,147.44	7,198.53	7,118.18	80.35	89.594		
8,507.63	8,492.04	8,488.00	4,988.65	29.87	58.92	91.92	-554.05	6,147.44	7,248.97	7,168.68	80.29	90.280		
8,550.00	8,534.37	8,488.00	4,988.65	30.02	58.92	2.46	-554.05	6,147.44	7,267.78	7,187.51	80.27	90.545		
8,600.00	8,584.01	8,488.00	4,988.65	30.18	58.92	2.38	-554.05	6,147.44	7,286.57	7,206.34	80.22	90.828		
8,650.00	8,632.95	8,488.00	4,988.65	30.34	58.92	2.31	-554.05	6,147.44	7,301.55	7,221.38	80.17	91.074		
8,700.00	8,680.82	8,488.00	4,988.65	30.50	58.92	2.27	-554.05	6,147.44	7,312.66	7,232.55	80.11	91.283		
8,750.00	8,727.25	8,488.00	4,988.65	30.66	58.92	2.24	-554.05	6,147.44	7,319.80	7,239.77	80.04	91.454		
8,800.00	8,771.89	8,488.00	4,988.65	30.81	58.92	2.22	-554.05	6,147.44	7,322.96	7,243.00	79.96	91.588		
8,850.00	8,814.40	8,488.00	4,988.65	30.95	58.92	2.23	-554.05	6,147.44	7,322.09	7,242.23	79.86	91.684		
8,900.00	8,854.46	8,488.00	4,988.65	31.09	58.92	2.25	-554.05	6,147.44	7,317.22	7,237.46	79.76	91.742		
8,950.00	8,891.75	8,488.00	4,988.65	31.23	58.92	2.28	-554.05	6,147.44	7,308.36	7,228.71	79.65	91.761		
9,000.00	8,926.01	8,488.00	4,988.65	31.37	58.92	2.34	-554.05	6,147.44	7,295.57	7,216.05	79.52	91.742		
9,050.00	8,956.96	8,488.00	4,988.65	31.53	58.92	2.41	-554.05	6,147.44	7,278.94	7,199.54	79.39	91.682		
9,100.00	8,984.38	8,488.00	4,988.65	31.69	58.92	2.51	-554.05	6,147.44	7,258.55	7,179.29	79.26	91.583		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design		Sec 13-T21S-R27E - Lone Tree Draw 13 State Com 4H - Wellbore #2 - Wellbore #2											Offset Site Error:		5.00 ft
Survey Program:		18-GYRO-NS-CT, 4369-MWD+HDGM											Offset Well Error:		0.50 ft
Reference		Offset		Semi Major Axis			Distance								
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning		
9,150.00	9,008.05	8,488.00	4,988.65	31.87	58.92	2.63	-554.05	6,147.44	7,234.54	7,155.42	79.11	91.444			
9,200.00	9,027.79	8,488.00	4,988.65	32.07	58.92	2.78	-554.05	6,147.44	7,207.04	7,128.08	78.97	91.265			
9,250.00	9,043.45	8,488.00	4,988.65	32.29	58.92	2.98	-554.05	6,147.44	7,176.24	7,097.42	78.82	91.045			
9,300.00	9,054.92	8,488.00	4,988.65	32.53	58.92	3.23	-554.05	6,147.44	7,142.33	7,063.65	78.67	90.784			
9,350.00	9,062.10	8,488.00	4,988.65	32.79	58.92	3.55	-554.05	6,147.44	7,105.51	7,026.98	78.53	90.484			
9,400.00	9,064.95	8,488.00	4,988.65	33.06	58.92	3.98	-554.05	6,147.44	7,066.03	6,987.64	78.39	90.144			
9,407.63	9,065.00	8,488.00	4,988.65	33.10	58.92	4.05	-554.05	6,147.44	7,059.79	6,981.42	78.37	90.084			
9,500.00	9,065.00	8,488.00	4,988.65	33.68	58.92	4.05	-554.05	6,147.44	6,984.08	6,905.98	78.10	89.426			
9,600.00	9,065.00	8,488.00	4,988.65	34.41	58.92	4.05	-554.05	6,147.44	6,902.57	6,824.76	77.81	88.714			
9,700.00	9,065.00	8,488.00	4,988.65	35.24	58.92	4.05	-554.05	6,147.44	6,821.55	6,744.04	77.52	88.003			
9,800.00	9,065.00	8,488.00	4,988.65	36.17	58.92	4.05	-554.05	6,147.44	6,741.05	6,663.82	77.22	87.291			
9,900.00	9,065.00	8,488.00	4,988.65	37.19	58.92	4.05	-554.05	6,147.44	6,661.07	6,584.13	76.94	86.580			
10,000.00	9,065.00	8,471.38	4,988.35	38.30	58.70	3.82	-537.44	6,147.85	6,581.60	6,505.14	76.46	86.074			
10,100.00	9,065.00	8,469.14	4,988.32	39.48	58.67	3.78	-535.20	6,147.92	6,502.73	6,426.57	76.16	85.388			
10,200.00	9,065.00	8,466.80	4,988.28	40.72	58.63	3.75	-532.86	6,147.99	6,424.44	6,348.59	75.85	84.701			
10,300.00	9,065.00	8,464.35	4,988.25	42.03	58.60	3.72	-530.41	6,148.06	6,346.76	6,271.22	75.54	84.014			
10,400.00	9,065.00	8,461.79	4,988.22	43.40	58.57	3.68	-527.85	6,148.14	6,269.72	6,194.47	75.24	83.327			
10,500.00	9,065.00	8,459.10	4,988.18	44.82	58.53	3.64	-525.16	6,148.23	6,193.32	6,118.38	74.94	82.639			
10,600.00	9,065.00	8,456.27	4,988.15	46.29	58.49	3.60	-522.34	6,148.32	6,117.61	6,042.96	74.65	81.949			
10,700.00	9,065.00	8,453.30	4,988.12	47.79	58.45	3.56	-519.37	6,148.43	6,042.60	5,968.24	74.36	81.258			
10,800.00	9,065.00	8,450.18	4,988.09	49.34	58.41	3.51	-516.25	6,148.54	5,968.32	5,894.24	74.08	80.566			
10,900.00	9,065.00	8,446.89	4,988.06	50.92	58.37	3.47	-512.96	6,148.66	5,894.80	5,821.00	73.80	79.872			
11,000.00	9,065.00	8,443.42	4,988.03	52.54	58.32	3.42	-509.49	6,148.79	5,822.07	5,748.53	73.53	79.176			
11,100.00	9,065.00	8,439.75	4,988.01	54.18	58.27	3.37	-505.83	6,148.94	5,750.15	5,676.88	73.27	78.479			
11,200.00	9,065.00	8,435.86	4,987.99	55.85	58.22	3.31	-501.95	6,149.10	5,679.07	5,606.06	73.02	77.779			
11,300.00	9,065.00	8,431.75	4,987.97	57.54	58.16	3.25	-497.83	6,149.28	5,608.88	5,536.11	72.77	77.077			
11,400.00	9,065.00	8,427.37	4,987.96	59.26	58.11	3.19	-493.46	6,149.47	5,539.60	5,467.07	72.53	76.373			
11,500.00	9,065.00	8,422.72	4,987.95	61.00	58.04	3.12	-488.82	6,149.69	5,471.26	5,398.96	72.31	75.668			
11,600.00	9,065.00	8,417.76	4,987.95	62.75	57.98	3.05	-483.86	6,149.92	5,403.91	5,331.82	72.09	74.960			
11,700.00	9,065.00	8,412.46	4,987.96	64.52	57.91	2.98	-478.57	6,150.19	5,337.57	5,265.69	71.88	74.252			
11,800.00	9,065.00	8,406.79	4,987.98	66.31	57.83	2.90	-472.90	6,150.48	5,272.29	5,200.60	71.69	73.542			
11,900.00	9,065.00	8,401.70	4,987.99	68.11	57.76	2.83	-467.82	6,150.75	5,208.10	5,136.58	71.52	72.822			
12,000.00	9,065.00	8,394.25	4,988.06	69.93	57.66	2.72	-460.38	6,151.18	5,145.05	5,073.71	71.34	72.120			
12,100.00	9,065.00	8,386.80	4,988.12	71.76	57.56	2.61	-452.95	6,151.62	5,083.18	5,012.00	71.18	71.414			
12,200.00	9,065.00	8,379.35	4,988.18	73.60	57.47	2.51	-445.51	6,152.06	5,022.52	4,951.48	71.04	70.704			
12,300.00	9,065.00	8,371.91	4,988.25	75.45	57.37	2.40	-438.08	6,152.49	4,963.12	4,892.21	70.91	69.989			
12,400.00	9,065.00	8,364.46	4,988.31	77.31	57.27	2.30	-430.64	6,152.93	4,905.04	4,834.23	70.81	69.272			
12,500.00	9,065.00	8,357.01	4,988.38	79.18	57.17	2.19	-423.21	6,153.37	4,848.31	4,777.59	70.72	68.552			
12,600.00	9,065.00	8,349.56	4,988.44	81.05	57.08	2.08	-415.77	6,153.80	4,792.99	4,722.33	70.66	67.831			
12,700.00	9,065.00	8,342.11	4,988.51	82.94	56.98	1.98	-408.34	6,154.24	4,739.12	4,668.50	70.62	67.108			
12,800.00	9,065.00	8,334.67	4,988.58	84.83	56.88	1.87	-400.90	6,154.68	4,686.75	4,616.15	70.60	66.386			
12,900.00	9,065.00	8,327.22	4,988.65	86.73	56.78	1.77	-393.47	6,155.11	4,635.94	4,565.34	70.60	65.664			
13,000.00	9,065.00	8,319.77	4,988.72	88.64	56.68	1.66	-386.04	6,155.55	4,586.73	4,516.10	70.63	64.944			
13,100.00	9,065.00	8,312.32	4,988.79	90.55	56.59	1.55	-378.60	6,155.98	4,539.18	4,468.51	70.67	64.227			
13,200.00	9,065.00	8,309.24	4,988.82	92.47	56.55	1.51	-375.53	6,156.15	4,493.34	4,422.55	70.79	63.476			
13,300.00	9,065.00	8,297.64	4,988.94	94.39	56.39	1.35	-363.94	6,156.85	4,449.27	4,378.43	70.85	62.803			
13,400.00	9,065.00	8,286.86	4,989.05	96.32	56.25	1.19	-353.18	6,157.47	4,407.01	4,336.08	70.94	62.127			
13,500.00	9,065.00	8,276.82	4,989.14	98.25	56.12	1.05	-343.16	6,158.02	4,366.62	4,295.56	71.06	61.449			
13,600.00	9,065.00	8,267.45	4,989.23	100.19	55.99	0.92	-333.80	6,158.51	4,328.15	4,256.93	71.22	60.773			
13,700.00	9,065.00	8,258.68	4,989.31	102.13	55.88	0.79	-325.04	6,158.96	4,291.65	4,220.24	71.41	60.099			
13,800.00	9,065.00	8,250.46	4,989.39	104.08	55.77	0.67	-316.83	6,159.36	4,257.17	4,185.54	71.63	59.430			
13,900.00	9,065.00	8,242.73	4,989.46	106.03	55.67	0.56	-309.11	6,159.72	4,224.77	4,152.88	71.89	58.765			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Sec 13-T21S-R27E - Lone Tree Draw 13 State Com 4H - Wellbore #2 - Wellbore #2													Offset Well Error:	0.50 ft
Survey Program: 18-GYRO-NS-CT, 4369-MWD+HDGM														
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
14,000.00	9,065.00	8,235.46	4,989.53	107.98	55.57	0.46	-301.85	6,160.05	4,194.49	4,122.31	72.19	58.108		
14,100.00	9,065.00	8,228.60	4,989.59	109.94	55.48	0.36	-295.00	6,160.35	4,166.39	4,093.88	72.51	57.457		
14,200.00	9,065.00	8,222.13	4,989.64	111.90	55.40	0.27	-288.53	6,160.62	4,140.50	4,067.62	72.88	56.816		
14,300.00	9,065.00	8,216.00	4,989.70	113.86	55.32	0.18	-282.41	6,160.87	4,116.87	4,043.59	73.28	56.183		
14,400.00	9,065.00	8,210.19	4,989.75	115.82	55.24	0.10	-276.61	6,161.10	4,095.54	4,021.82	73.71	55.560		
14,500.00	9,065.00	8,204.69	4,989.79	117.79	55.17	0.02	-271.11	6,161.31	4,076.54	4,002.35	74.19	54.948		
14,600.00	9,065.00	8,204.00	4,989.80	119.76	55.16	0.01	-270.42	6,161.34	4,059.91	3,985.17	74.74	54.321		
14,700.00	9,065.00	8,204.00	4,989.80	121.74	55.16	0.01	-270.42	6,161.34	4,045.69	3,970.36	75.33	53.704		
14,800.00	9,065.00	8,204.00	4,989.80	123.71	55.16	0.01	-270.42	6,161.34	4,033.90	3,957.94	75.96	53.102		
14,900.00	9,065.00	8,204.00	4,989.80	125.69	55.16	0.01	-270.42	6,161.34	4,024.56	3,947.92	76.63	52.517		
15,000.00	9,065.00	8,204.00	4,989.80	127.67	55.16	0.01	-270.42	6,161.34	4,017.68	3,940.34	77.34	51.947		
15,100.00	9,065.00	8,204.00	4,989.80	129.65	55.16	0.01	-270.42	6,161.34	4,013.29	3,935.21	78.09	51.395		
15,200.00	9,065.00	8,204.00	4,989.80	131.63	55.16	0.01	-270.42	6,161.34	4,011.39	3,932.52	78.87	50.861		
15,226.38	9,065.00	8,204.00	4,989.80	132.16	55.16	0.01	-270.42	6,161.34	4,011.30	3,932.22	79.08	50.724 CC, ES		
15,300.00	9,065.00	8,204.00	4,989.80	133.62	55.16	0.01	-270.42	6,161.34	4,011.98	3,932.29	79.69	50.347		
15,400.00	9,065.00	8,204.00	4,989.80	135.61	55.16	0.01	-270.42	6,161.34	4,015.06	3,934.52	80.54	49.854		
15,500.00	9,065.00	8,204.00	4,989.80	137.60	55.16	0.01	-270.42	6,161.34	4,020.62	3,939.21	81.42	49.384		
15,600.00	9,065.00	8,180.78	4,989.92	139.59	54.84	-0.32	-247.21	6,162.09	4,028.51	3,946.39	82.12	49.054		
15,700.00	9,065.00	8,179.10	4,989.92	141.58	54.82	-0.34	-245.53	6,162.13	4,038.99	3,955.95	83.04	48.640		
15,800.00	9,065.00	8,177.49	4,989.92	143.57	54.80	-0.37	-243.92	6,162.17	4,051.91	3,967.93	83.97	48.252		
15,900.00	9,065.00	8,175.93	4,989.92	145.57	54.78	-0.39	-242.36	6,162.21	4,067.24	3,982.31	84.92	47.893		
16,000.00	9,065.00	8,174.43	4,989.93	147.56	54.76	-0.41	-240.86	6,162.25	4,084.96	3,999.08	85.89	47.563		
16,100.00	9,065.00	8,172.97	4,989.93	149.56	54.74	-0.43	-239.41	6,162.29	4,105.04	4,018.19	86.86	47.263		
16,200.00	9,065.00	8,171.57	4,989.93	151.56	54.72	-0.45	-238.00	6,162.32	4,127.45	4,039.62	87.83	46.995		
16,300.00	9,065.00	8,170.21	4,989.92	153.56	54.70	-0.47	-236.65	6,162.35	4,152.14	4,063.34	88.80	46.759		
16,400.00	9,065.00	8,168.90	4,989.92	155.56	54.68	-0.49	-235.33	6,162.38	4,179.08	4,089.32	89.77	46.555		
16,500.00	9,065.00	8,167.63	4,989.92	157.57	54.67	-0.51	-234.06	6,162.41	4,208.23	4,117.50	90.73	46.384		
16,600.00	9,065.00	8,166.39	4,989.92	159.57	54.65	-0.53	-232.83	6,162.44	4,239.53	4,147.85	91.67	46.247		
16,700.00	9,065.00	8,165.20	4,989.92	161.57	54.63	-0.54	-231.63	6,162.46	4,272.94	4,180.33	92.60	46.142		
16,800.00	9,065.00	8,164.04	4,989.91	163.58	54.62	-0.56	-230.48	6,162.49	4,308.41	4,214.89	93.52	46.070		
16,900.00	9,065.00	8,162.92	4,989.91	165.59	54.60	-0.58	-229.35	6,162.51	4,345.90	4,251.48	94.41	46.030		
17,000.00	9,065.00	8,161.83	4,989.91	167.60	54.59	-0.59	-228.26	6,162.53	4,385.34	4,290.05	95.29	46.023 SF		
17,100.00	9,065.00	8,160.77	4,989.90	169.60	54.57	-0.61	-227.20	6,162.55	4,426.69	4,330.56	96.14	46.046		
17,200.00	9,065.00	8,159.74	4,989.90	171.61	54.56	-0.62	-226.18	6,162.57	4,469.90	4,372.94	96.96	46.100		
17,300.00	9,065.00	8,158.74	4,989.90	173.62	54.55	-0.64	-225.18	6,162.59	4,514.90	4,417.14	97.76	46.184		
17,400.00	9,065.00	8,157.77	4,989.89	175.63	54.53	-0.65	-224.21	6,162.61	4,561.66	4,463.13	98.53	46.297		
17,500.00	9,065.00	8,156.82	4,989.89	177.65	54.52	-0.66	-223.26	6,162.62	4,610.11	4,510.83	99.28	46.437		
17,600.00	9,065.00	8,155.91	4,989.88	179.66	54.51	-0.68	-222.34	6,162.64	4,660.20	4,560.21	99.99	46.605		
17,700.00	9,065.00	8,155.01	4,989.88	181.67	54.50	-0.69	-221.45	6,162.65	4,711.88	4,611.20	100.68	46.799		
17,800.00	9,065.00	8,154.14	4,989.87	183.69	54.48	-0.70	-220.58	6,162.67	4,765.10	4,663.75	101.34	47.019		
17,900.00	9,065.00	8,153.29	4,989.87	185.70	54.47	-0.71	-219.73	6,162.68	4,819.80	4,717.82	101.98	47.262		
18,000.00	9,065.00	8,152.47	4,989.87	187.72	54.46	-0.72	-218.90	6,162.70	4,875.94	4,773.36	102.59	47.529		
18,100.00	9,065.00	8,151.66	4,989.86	189.73	54.45	-0.74	-218.10	6,162.71	4,933.47	4,830.30	103.17	47.819		
18,200.00	9,065.00	8,150.87	4,989.86	191.75	54.44	-0.75	-217.31	6,162.72	4,992.34	4,888.62	103.73	48.130		
18,300.00	9,065.00	8,150.11	4,989.85	193.77	54.43	-0.76	-216.55	6,162.73	5,052.51	4,948.25	104.26	48.462		
18,400.00	9,065.00	8,149.36	4,989.85	195.78	54.42	-0.77	-215.80	6,162.74	5,113.92	5,009.15	104.76	48.814		
18,500.00	9,065.00	8,148.63	4,989.84	197.80	54.41	-0.78	-215.07	6,162.75	5,176.53	5,071.29	105.25	49.185		
18,600.00	9,065.00	8,147.92	4,989.84	199.82	54.40	-0.79	-214.36	6,162.76	5,240.30	5,134.60	105.71	49.574		
18,700.00	9,065.00	8,147.23	4,989.83	201.84	54.39	-0.80	-213.66	6,162.77	5,305.20	5,199.05	106.14	49.981		
18,800.00	9,065.00	8,146.55	4,989.83	203.86	54.38	-0.81	-212.98	6,162.78	5,371.16	5,264.60	106.56	50.405		
18,900.00	9,065.00	8,145.88	4,989.82	205.88	54.37	-0.82	-212.32	6,162.79	5,438.17	5,331.22	106.96	50.844		
19,000.00	9,065.00	8,145.24	4,989.82	207.90	54.36	-0.83	-211.67	6,162.80	5,506.18	5,398.85	107.33	51.299		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Sec 13-T21S-R27E - Lone Tree Draw 13 State Com 4H - Wellbore #2 - Wellbore #2		Offset Site Error:		5.00 ft			
Survey Program:													18-GYRO-NS-CT, 4369-MWD+HDGM				Offset Well Error:		0.50 ft	
Reference		Offset		Semi Major Axis			Distance							Warning						
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor								
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)		(ft)	(ft)	(ft)								
19,100.00	9,065.00	8,144.60	4,989.81	209.92	54.36	-0.84	-211.04	6,162.81	5,575.15	5,467.46	107.69	51.769								
19,200.00	9,065.00	8,143.98	4,989.81	211.95	54.35	-0.85	-210.42	6,162.81	5,645.05	5,537.02	108.03	52.253								
19,300.00	9,065.00	8,143.38	4,989.80	213.97	54.34	-0.85	-209.82	6,162.82	5,715.85	5,607.49	108.36	52.750								
19,400.00	9,065.00	8,142.78	4,989.80	215.99	54.33	-0.86	-209.22	6,162.83	5,787.50	5,678.84	108.67	53.260								
19,456.84	9,065.00	8,142.45	4,989.79	217.14	54.33	-0.87	-208.89	6,162.83	5,828.61	5,719.77	108.83	53.555								

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Survey Program: 233-GYRO-NS-CT, 4541-MWD+HDGM													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)						
0.00	0.00	0.00	0.00	0.50	5.02	66.72	3,319.90	7,715.44	8,399.74					
100.00	100.00	26.84	26.84	0.52	5.03	66.72	3,319.90	7,715.43	8,399.38	8,393.84	5.54	1,515.349		
200.00	200.00	143.02	143.02	0.70	5.03	66.72	3,320.12	7,715.15	8,399.24	8,393.51	5.73	1,465.338		
300.00	300.00	271.76	271.75	0.99	5.05	66.71	3,320.63	7,714.42	8,398.89	8,392.85	6.04	1,391.281		
400.00	400.00	382.31	382.30	1.31	5.10	66.71	3,320.49	7,713.59	8,398.13	8,391.72	6.41	1,309.951		
500.00	500.00	468.86	468.86	1.65	5.16	66.71	3,320.11	7,713.17	8,397.52	8,390.71	6.81	1,233.285		
600.00	600.00	570.61	570.60	1.99	5.26	66.71	3,319.62	7,712.81	8,397.00	8,389.75	7.25	1,158.717		
700.00	700.00	685.20	685.18	2.34	5.39	66.72	3,318.89	7,712.31	8,396.35	8,388.62	7.73	1,086.644		
800.00	800.00	783.63	783.61	2.69	5.52	66.72	3,318.07	7,711.88	8,395.61	8,387.40	8.21	1,022.373		
900.00	900.00	853.75	853.73	3.04	5.63	66.72	3,317.60	7,711.67	8,395.07	8,386.40	8.67	968.168		
1,000.00	1,000.00	964.90	964.87	3.40	5.81	66.73	3,317.07	7,711.45	8,394.71	8,385.50	9.21	911.414		
1,100.00	1,100.00	1,051.06	1,051.03	3.75	5.97	66.73	3,316.67	7,711.23	8,394.29	8,384.57	9.72	863.345		
1,200.00	1,200.00	1,174.71	1,174.68	4.11	6.22	66.72	3,316.69	7,710.46	8,393.71	8,383.38	10.32	813.113		
1,300.00	1,300.00	1,240.90	1,240.87	4.46	6.35	66.72	3,316.90	7,710.08	8,393.30	8,382.48	10.82	775.865		
1,400.00	1,400.00	1,332.76	1,332.73	4.82	6.55	66.72	3,317.20	7,709.79	8,393.14	8,381.76	11.38	737.825		
1,500.00	1,500.00	1,432.49	1,432.46	5.18	6.78	66.72	3,317.46	7,709.57	8,393.04	8,381.08	11.96	701.705		
1,600.00	1,600.00	1,576.73	1,576.69	5.53	7.13	66.71	3,318.06	7,708.71	8,392.65	8,379.98	12.67	662.602		
1,700.00	1,700.00	1,662.86	1,662.82	5.89	7.35	66.71	3,318.22	7,708.04	8,392.02	8,378.78	13.24	633.818		
1,800.00	1,800.00	1,742.58	1,742.54	6.25	7.56	66.71	3,318.06	7,707.83	8,391.70	8,377.89	13.80	607.932		
1,900.00	1,900.00	1,831.45	1,831.41	6.61	7.79	66.71	3,317.62	7,707.86	8,391.53	8,377.14	14.40	582.922		
1,987.41	1,987.41	1,910.54	1,910.50	6.92	8.00	66.71	3,317.21	7,708.00	8,391.49	8,376.57	14.92	562.397		
2,000.00	2,000.00	1,922.24	1,922.20	6.96	8.03	66.72	3,317.13	7,708.04	8,391.49	8,376.50	15.00	559.516		
2,100.00	2,100.00	7,758.00	4,988.81	7.32	46.55	87.37	359.76	7,837.12	8,387.21	8,335.97	51.24	163.670		
2,200.00	2,200.00	7,758.00	4,988.81	7.68	46.55	87.37	359.76	7,837.12	8,352.37	8,300.64	51.74	161.437		
2,300.00	2,300.00	7,758.00	4,988.81	8.04	46.55	87.37	359.76	7,837.12	8,318.59	8,266.36	52.23	159.268		
2,400.00	2,400.00	7,758.00	4,988.81	8.39	46.55	87.37	359.76	7,837.12	8,285.88	8,233.16	52.72	157.162		
2,500.00	2,500.00	7,758.00	4,988.81	8.75	46.55	87.37	359.76	7,837.12	8,254.26	8,201.04	53.21	155.118		
2,600.00	2,599.99	7,758.00	4,988.81	9.09	46.55	-126.96	359.76	7,837.12	8,224.22	8,170.53	53.69	153.191		
2,700.00	2,699.96	7,758.00	4,988.81	9.42	46.55	-127.19	359.76	7,837.12	8,196.30	8,142.16	54.14	151.380		
2,800.00	2,799.86	7,758.00	4,988.81	9.75	46.55	-127.40	359.76	7,837.12	8,170.53	8,115.93	54.60	149.637		
2,900.00	2,899.68	7,758.00	4,988.81	10.08	46.55	-127.59	359.76	7,837.12	8,146.94	8,091.88	55.06	147.963		
2,945.33	2,944.88	7,758.00	4,988.81	10.23	46.55	-127.68	359.76	7,837.12	8,136.97	8,081.70	55.27	147.228		
3,000.00	2,999.39	7,758.00	4,988.81	10.41	46.55	-127.68	359.76	7,837.12	8,125.40	8,069.88	55.52	146.354		
3,100.00	3,099.08	7,758.00	4,988.81	10.75	46.55	-127.68	359.76	7,837.12	8,105.13	8,049.16	55.98	144.796		
3,200.00	3,198.78	7,758.00	4,988.81	11.08	46.55	-127.68	359.76	7,837.12	8,086.06	8,029.63	56.43	143.289		
3,300.00	3,298.48	7,758.00	4,988.81	11.42	46.55	-127.68	359.76	7,837.12	8,068.18	8,011.29	56.88	141.833		
3,400.00	3,398.18	7,758.00	4,988.81	11.76	46.55	-127.68	359.76	7,837.12	8,051.50	7,994.16	57.34	140.429		
3,500.00	3,497.88	7,758.00	4,988.81	12.10	46.55	-127.68	359.76	7,837.12	8,036.03	7,978.25	57.78	139.075		
3,600.00	3,597.58	7,758.00	4,988.81	12.45	46.55	-127.68	359.76	7,837.12	8,021.77	7,963.55	58.22	137.772		
3,700.00	3,697.27	7,758.00	4,988.81	12.79	46.55	-127.68	359.76	7,837.12	8,008.75	7,950.08	58.66	136.519		
3,800.00	3,796.97	7,758.00	4,988.81	13.14	46.55	-127.68	359.76	7,837.12	7,996.95	7,937.85	59.10	135.315		
3,900.00	3,896.67	7,758.00	4,988.81	13.48	46.55	-127.68	359.76	7,837.12	7,986.38	7,926.85	59.53	134.161		
4,000.00	3,896.37	7,758.00	4,988.81	13.83	46.55	-127.68	359.76	7,837.12	7,977.06	7,917.10	59.95	133.055		
4,100.00	4,096.07	7,761.59	4,988.83	14.18	46.60	-127.65	356.17	7,837.32	7,968.97	7,908.55	60.42	131.887		
4,200.00	4,195.76	7,821.71	4,988.76	14.53	47.44	-127.22	296.14	7,840.50	7,962.11	7,900.43	61.68	129.090		
4,300.00	4,295.46	7,867.91	4,988.35	14.88	48.09	-126.88	250.00	7,842.71	7,956.47	7,893.73	62.73	126.827		
4,400.00	4,395.16	4,400.00	4,988.63	15.23	15.53	-127.24	299.24	7,840.25	7,952.00	7,931.93	20.07	396.183		
4,500.00	4,494.86	4,500.00	4,988.61	15.58	15.57	-127.20	293.36	7,840.55	7,948.88	7,928.30	20.58	386.273		
4,600.00	4,594.56	4,600.00	4,988.59	15.93	15.61	-127.15	287.47	7,840.86	7,947.01	7,925.77	21.24	374.125		
4,698.93	4,693.19	4,698.93	4,988.58	16.28	15.65	-127.11	281.65	7,841.16	7,946.40	7,924.18	22.21	357.729		
4,700.00	4,694.25	4,700.00	4,988.58	16.29	15.65	-127.11	281.59	7,841.16	7,946.40	7,924.17	22.23	357.537		
4,800.00	4,793.95	4,800.00	4,988.56	16.64	15.69	-127.07	275.70	7,841.46	7,947.04	7,923.60	23.44	339.000		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Sec 13-T21S-R27E - Lone Tree Draw 13 State Com 5H - Wellbore #1 - Wellbore #1													Offset Well Error:	0.50 ft
Survey Program: 233-GYRO-NS-CT, 4541-MWD+HDGM														
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
4,900.00	4,893.65	4,900.00	4,988.54	17.00	15.73	-127.03	269.82	7,841.77	7,948.93	7,924.12	24.82	320.313		
5,000.00	4,993.35	5,000.00	4,988.52	17.35	15.77	-126.98	263.93	7,842.07	7,952.08	7,925.79	26.29	302.456		
5,100.00	5,093.05	5,100.00	4,988.50	17.71	15.81	-126.94	258.05	7,842.38	7,956.48	7,928.64	27.83	285.851		
5,200.00	5,192.75	7,852.00	4,988.53	18.06	47.86	-127.00	265.89	7,841.97	7,962.14	7,896.25	65.88	120.852		
5,300.00	5,292.44	7,876.32	4,988.34	18.42	48.21	-126.82	241.60	7,843.16	7,968.96	7,902.40	66.56	119.718		
5,400.00	5,392.14	7,878.89	4,988.33	18.77	48.24	-126.81	239.03	7,843.30	7,977.10	7,910.17	66.93	119.187		
5,500.00	5,491.84	7,881.50	4,988.32	19.13	48.28	-126.79	236.42	7,843.43	7,986.48	7,919.19	67.29	118.693		
5,600.00	5,591.54	7,884.15	4,988.31	19.49	48.32	-126.77	233.77	7,843.57	7,997.09	7,929.46	67.64	118.236		
5,700.00	5,691.24	7,886.86	4,988.30	19.85	48.36	-126.75	231.07	7,843.71	8,008.94	7,940.96	67.98	117.815		
5,800.00	5,790.93	7,889.60	4,988.29	20.20	48.39	-126.73	228.33	7,843.86	8,022.02	7,953.70	68.31	117.430		
5,900.00	5,890.63	7,892.40	4,988.28	20.56	48.43	-126.71	225.54	7,844.01	8,036.32	7,967.68	68.64	117.079		
6,000.00	5,990.33	7,895.24	4,988.28	20.92	48.47	-126.69	222.70	7,844.16	8,051.83	7,982.87	68.96	116.762		
6,100.00	6,090.03	7,898.14	4,988.27	21.28	48.51	-126.67	219.81	7,844.32	8,068.55	7,999.28	69.27	116.478		
6,200.00	6,189.73	7,901.09	4,988.27	21.64	48.56	-126.65	216.86	7,844.48	8,086.47	8,016.89	69.57	116.227		
6,300.00	6,289.42	7,904.09	4,988.27	22.00	48.60	-126.62	213.87	7,844.64	8,105.58	8,035.71	69.87	116.008		
6,400.00	6,389.12	7,907.14	4,988.27	22.36	48.64	-126.60	210.82	7,844.81	8,125.87	8,055.71	70.16	115.819		
6,500.00	6,488.82	7,910.25	4,988.28	22.72	48.69	-126.58	207.71	7,844.99	8,147.34	8,076.90	70.44	115.661		
6,600.00	6,588.52	7,913.42	4,988.28	23.08	48.73	-126.56	204.55	7,845.17	8,169.98	8,099.26	70.72	115.533		
6,700.00	6,688.22	7,916.65	4,988.29	23.44	48.78	-126.53	201.32	7,845.35	8,193.77	8,122.78	70.98	115.433		
6,800.00	6,787.91	7,919.94	4,988.30	23.80	48.82	-126.51	198.04	7,845.54	8,218.70	8,147.46	71.24	115.362		
6,900.00	6,887.61	7,923.30	4,988.31	24.16	48.87	-126.49	194.69	7,845.74	8,244.77	8,173.28	71.50	115.318		
7,000.00	6,987.31	7,926.71	4,988.32	24.52	48.92	-126.46	191.28	7,845.94	8,271.97	8,200.22	71.74	115.301		
7,100.00	7,087.01	7,947.00	4,988.45	24.88	49.20	-126.32	171.03	7,847.17	8,300.31	8,228.09	72.22	114.936		
7,200.00	7,186.71	7,947.00	4,988.45	25.24	49.20	-126.32	171.03	7,847.17	8,329.70	8,257.30	72.40	115.051		
7,300.00	7,286.41	7,947.00	4,988.45	25.60	49.20	-126.32	171.03	7,847.17	8,360.19	8,287.62	72.58	115.190		
7,400.00	7,386.10	7,947.00	4,988.45	25.96	49.20	-126.32	171.03	7,847.17	8,391.76	8,319.02	72.75	115.355		
7,500.00	7,485.80	7,947.00	4,988.45	26.33	49.20	-126.32	171.03	7,847.17	8,424.40	8,351.49	72.91	115.545		
7,600.00	7,585.50	7,954.79	4,988.52	26.69	49.31	-126.26	163.25	7,847.65	8,458.10	8,384.92	73.18	115.587		
7,700.00	7,685.20	7,972.28	4,988.64	27.05	49.56	-126.13	145.80	7,848.71	8,492.82	8,419.26	73.57	115.443		
7,800.00	7,784.90	7,989.25	4,988.75	27.41	49.80	-126.01	128.86	7,849.71	8,528.57	8,454.62	73.95	115.336		
7,860.70	7,845.41	7,999.31	4,988.80	27.63	49.94	-125.94	118.82	7,850.29	8,550.75	8,476.59	74.17	115.289		
7,900.00	7,884.61	8,005.33	4,988.83	27.77	50.03	-126.08	112.80	7,850.64	8,565.21	8,490.90	74.30	115.273		
8,000.00	7,984.46	8,016.86	4,988.88	28.13	50.19	-126.48	101.29	7,851.28	8,601.67	8,527.08	74.59	115.319		
8,100.00	8,084.42	8,023.11	4,988.90	28.49	50.28	-126.90	95.06	7,851.63	8,637.70	8,562.90	74.80	115.484		
8,157.59	8,142.00	8,024.39	4,988.91	28.69	50.30	86.93	93.77	7,851.70	8,658.23	8,583.36	74.87	115.637		
8,200.00	8,184.41	8,024.73	4,988.91	28.83	50.30	86.93	93.43	7,851.72	8,673.39	8,598.47	74.92	115.769		
8,300.00	8,284.41	8,025.51	4,988.91	29.17	50.31	86.94	92.66	7,851.76	8,709.85	8,634.82	75.02	116.094		
8,400.00	8,384.41	8,026.27	4,988.91	29.51	50.33	86.94	91.90	7,851.80	8,747.30	8,672.17	75.12	116.439		
8,507.63	8,492.04	8,027.06	4,988.92	29.87	50.34	86.95	91.11	7,851.85	8,788.69	8,713.47	75.23	116.831		
8,550.00	8,534.37	8,027.51	4,988.92	30.02	50.34	-2.35	90.66	7,851.87	8,803.84	8,728.58	75.26	116.976		
8,600.00	8,584.01	8,028.42	4,988.92	30.18	50.36	-2.29	89.75	7,851.92	8,818.15	8,742.84	75.30	117.102		
8,650.00	8,632.95	8,029.73	4,988.93	30.34	50.37	-2.24	88.45	7,851.99	8,828.49	8,753.15	75.34	117.178		
8,700.00	8,680.82	8,031.39	4,988.93	30.50	50.40	-2.20	86.78	7,852.08	8,834.82	8,759.44	75.38	117.204		
8,750.00	8,727.25	8,033.40	4,988.94	30.66	50.43	-2.18	84.78	7,852.19	8,837.08	8,761.66	75.41	117.182		
8,800.00	8,771.89	8,035.72	4,988.94	30.81	50.46	-2.17	82.46	7,852.32	8,835.27	8,759.82	75.44	117.114		
8,850.00	8,814.40	8,038.31	4,988.95	30.95	50.50	-2.18	79.87	7,852.46	8,829.39	8,753.92	75.46	117.001		
8,900.00	8,854.46	8,041.16	4,988.96	31.09	50.54	-2.19	77.03	7,852.61	8,819.48	8,744.00	75.48	116.845		
8,950.00	8,891.75	8,044.22	4,988.96	31.23	50.58	-2.23	73.98	7,852.77	8,805.61	8,730.12	75.49	116.647		
9,000.00	8,926.01	8,047.46	4,988.97	31.37	50.63	-2.28	70.74	7,852.94	8,787.86	8,712.37	75.49	116.408		
9,050.00	8,956.96	8,050.85	4,988.98	31.53	50.67	-2.35	67.35	7,853.12	8,766.35	8,690.86	75.49	116.129		
9,100.00	8,984.38	8,054.36	4,988.98	31.69	50.72	-2.45	63.84	7,853.30	8,741.20	8,665.72	75.48	115.811		
9,150.00	9,008.05	8,057.97	4,988.99	31.87	50.77	-2.57	60.25	7,853.49	8,712.59	8,637.12	75.46	115.456		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Survey Program: 233-GYRO-NS-CT, 4541-MWD+HDGM													Offset Well Error:	0.50 ft
Reference														
Semi Major Axis														
Distance														
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
9,200.00	9,027.79	8,061.63	4,988.99	32.07	50.83	-2.73	56.59	7,853.68	8,680.68	8,605.24	75.44	115.064		
9,250.00	9,043.45	8,052.81	4,988.90	32.29	67.68	-3.27	86.67	7,852.05	8,645.72	8,554.82	90.89	95.118		
9,300.00	9,054.92	8,052.81	4,988.91	32.53	68.39	-3.59	84.34	7,852.18	8,607.90	8,516.45	91.45	94.124		
9,350.00	9,062.10	8,054.21	4,988.98	32.79	50.70	-3.82	65.39	7,853.23	8,567.48	8,492.38	75.10	114.078		
9,400.00	9,064.95	8,054.21	4,988.98	33.06	50.72	-4.39	64.00	7,853.30	8,524.74	8,449.70	75.05	113.595		
9,407.63	9,065.00	8,054.42	4,988.98	33.10	50.72	-4.50	63.79	7,853.31	8,518.03	8,442.99	75.04	113.513		
9,500.00	9,065.00	8,056.99	4,988.98	33.68	50.76	-4.46	61.22	7,853.45	8,436.66	8,361.73	74.93	112.600		
9,600.00	9,065.00	8,059.78	4,988.98	34.41	50.80	-4.42	58.43	7,853.60	8,348.82	8,274.02	74.80	111.610		
9,700.00	9,065.00	8,062.57	4,988.98	35.24	50.84	-4.39	55.65	7,853.75	8,261.26	8,186.57	74.68	110.618		
9,800.00	9,065.00	8,065.36	4,988.98	36.17	50.88	-4.35	52.87	7,853.90	8,173.98	8,099.41	74.56	109.623		
9,900.00	9,065.00	8,068.14	4,988.97	37.19	50.92	-4.31	50.08	7,854.04	8,086.99	8,012.54	74.45	108.627		
10,000.00	9,065.00	8,070.93	4,988.97	38.30	50.96	-4.27	47.30	7,854.19	8,000.30	7,925.97	74.33	107.627		
10,100.00	9,065.00	8,073.72	4,988.97	39.48	51.00	-4.23	44.52	7,854.34	7,913.93	7,839.71	74.22	106.625		
10,200.00	9,065.00	8,076.51	4,988.96	40.72	51.04	-4.19	41.73	7,854.49	7,827.88	7,753.77	74.11	105.620		
10,300.00	9,065.00	8,079.30	4,988.95	42.03	51.08	-4.15	38.95	7,854.64	7,742.17	7,668.16	74.01	104.611		
10,400.00	9,065.00	8,082.08	4,988.95	43.40	51.12	-4.11	36.16	7,854.78	7,656.80	7,582.89	73.91	103.600		
10,500.00	9,065.00	8,084.87	4,988.94	44.82	51.16	-4.07	33.38	7,854.93	7,571.79	7,497.98	73.81	102.585		
10,600.00	9,065.00	8,087.66	4,988.93	46.29	51.20	-4.03	30.60	7,855.08	7,487.14	7,413.43	73.72	101.567		
10,700.00	9,065.00	8,090.45	4,988.92	47.79	51.23	-3.99	27.81	7,855.23	7,402.88	7,329.25	73.63	100.545		
10,800.00	9,065.00	8,093.23	4,988.91	49.34	51.27	-3.95	25.03	7,855.38	7,319.01	7,245.47	73.54	99.519		
10,900.00	9,065.00	8,096.02	4,988.89	50.92	51.31	-3.91	22.25	7,855.53	7,235.55	7,162.08	73.47	98.489		
11,000.00	9,065.00	8,098.81	4,988.88	52.54	51.35	-3.87	19.46	7,855.67	7,152.51	7,079.12	73.39	97.455		
11,100.00	9,065.00	8,101.60	4,988.87	54.18	51.39	-3.83	16.68	7,855.82	7,069.91	6,996.59	73.33	96.417		
11,200.00	9,065.00	8,104.38	4,988.85	55.85	51.43	-3.79	13.89	7,855.97	6,987.77	6,914.50	73.27	95.375		
11,300.00	9,065.00	8,107.17	4,988.83	57.54	51.47	-3.75	11.11	7,856.12	6,906.09	6,832.87	73.21	94.328		
11,400.00	9,065.00	8,109.96	4,988.82	59.26	51.51	-3.71	8.33	7,856.27	6,824.90	6,751.73	73.17	93.277		
11,500.00	9,065.00	8,112.75	4,988.80	61.00	51.55	-3.67	5.54	7,856.42	6,744.21	6,671.08	73.13	92.222		
11,600.00	9,065.00	11,600.00	4,988.52	62.75	101.08	-2.88	-49.87	7,859.18	6,664.02	6,548.26	115.76	57.567		
11,700.00	9,065.00	11,700.00	4,988.51	64.52	102.50	-2.83	-53.47	7,859.34	6,584.36	6,467.62	116.74	56.400		
11,800.00	9,065.00	11,800.00	4,988.51	66.31	103.93	-2.78	-57.07	7,859.51	6,505.27	6,387.54	117.72	55.260		
11,900.00	9,065.00	11,900.00	4,988.50	68.11	105.35	-2.72	-60.67	7,859.68	6,426.75	6,308.06	118.69	54.147		
12,000.00	9,065.00	12,000.00	4,988.49	69.93	106.77	-2.67	-64.27	7,859.85	6,348.84	6,229.18	119.65	53.060		
12,100.00	9,065.00	12,100.00	4,988.48	71.76	108.19	-2.62	-67.87	7,860.02	6,271.55	6,150.94	120.61	52.000		
12,200.00	9,065.00	12,200.00	4,988.47	73.60	109.62	-2.57	-71.46	7,860.19	6,194.90	6,073.35	121.55	50.965		
12,300.00	9,065.00	12,300.00	4,988.47	75.45	111.04	-2.52	-75.06	7,860.36	6,118.93	5,996.45	122.49	49.956		
12,400.00	9,065.00	12,400.00	4,988.46	77.31	112.46	-2.47	-78.66	7,860.53	6,043.66	5,920.25	123.41	48.971		
12,500.00	9,065.00	12,500.00	4,988.45	79.18	113.88	-2.42	-82.26	7,860.70	5,969.11	5,844.78	124.33	48.010		
12,600.00	9,065.00	8,254.28	4,988.48	81.05	53.56	-1.65	-135.83	7,863.08	5,895.32	5,820.71	74.60	79.022		
12,700.00	9,065.00	8,256.54	4,988.49	82.94	53.59	-1.62	-138.08	7,863.17	5,822.27	5,747.59	74.68	77.963		
12,800.00	9,065.00	8,258.79	4,988.50	84.83	53.62	-1.58	-140.33	7,863.26	5,750.04	5,675.27	74.77	76.904		
12,900.00	9,065.00	8,261.04	4,988.51	86.73	53.65	-1.55	-142.59	7,863.35	5,678.64	5,603.77	74.87	75.843		
13,000.00	9,065.00	8,263.30	4,988.51	88.64	53.68	-1.52	-144.84	7,863.45	5,608.12	5,533.13	74.99	74.784		
13,100.00	9,065.00	8,265.55	4,988.52	90.55	53.72	-1.49	-147.09	7,863.54	5,538.51	5,463.39	75.12	73.725		
13,200.00	9,065.00	8,267.81	4,988.52	92.47	53.75	-1.45	-149.34	7,863.63	5,469.84	5,394.57	75.27	72.668		
13,300.00	9,065.00	8,270.06	4,988.53	94.39	53.78	-1.42	-151.60	7,863.72	5,402.14	5,326.71	75.43	71.613		
13,400.00	9,065.00	8,272.32	4,988.53	96.32	53.81	-1.39	-153.85	7,863.81	5,335.46	5,259.85	75.61	70.563		
13,500.00	9,065.00	8,274.57	4,988.54	98.25	53.84	-1.36	-156.10	7,863.91	5,269.83	5,194.02	75.81	69.517		
13,600.00	9,065.00	8,276.82	4,988.54	100.19	53.88	-1.33	-158.35	7,864.00	5,205.29	5,129.28	76.02	68.476		
13,700.00	9,065.00	8,279.08	4,988.55	102.13	53.91	-1.29	-160.61	7,864.09	5,141.89	5,065.65	76.24	67.442		
13,800.00	9,065.00	8,281.33	4,988.55	104.08	53.94	-1.26	-162.86	7,864.18	5,079.66	5,003.18	76.48	66.416		
13,900.00	9,065.00	8,283.59	4,988.55	106.03	53.97	-1.23	-165.11	7,864.27	5,018.66	4,941.92	76.74	65.398		
14,000.00	9,065.00	8,285.84	4,988.56	107.98	54.00	-1.20	-167.36	7,864.37	4,958.91	4,881.90	77.01	64.391		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Sec 13-T21S-R27E - Lone Tree Draw 13 State Com 5H - Wellbore #1 - Wellbore #1													Offset Well Error:	0.50 ft
Survey Program: 233-GYRO-NS-CT, 4541-MWD+HDGM														
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (ft)	Separation Factor	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)				
14,100.00	9,065.00	8,288.10	4,988.56	109.94	54.04	-1.16	-169.62	7,864.46	4,900.48	4,823.18	77.30	63.394		
14,200.00	9,065.00	8,290.35	4,988.56	111.90	54.07	-1.13	-171.87	7,864.55	4,843.41	4,765.80	77.61	62.410		
14,300.00	9,065.00	8,292.60	4,988.56	113.86	54.10	-1.10	-174.12	7,864.64	4,787.75	4,709.82	77.93	61.439		
14,400.00	9,065.00	8,294.86	4,988.56	115.82	54.13	-1.07	-176.37	7,864.73	4,733.54	4,655.27	78.26	60.482		
14,500.00	9,065.00	8,297.11	4,988.56	117.79	54.16	-1.04	-178.63	7,864.83	4,680.84	4,602.22	78.62	59.541		
14,600.00	9,065.00	8,299.37	4,988.56	119.76	54.20	-1.00	-180.88	7,864.92	4,629.69	4,550.71	78.98	58.616		
14,700.00	9,065.00	8,301.62	4,988.56	121.74	54.23	-0.97	-183.13	7,865.01	4,580.16	4,500.80	79.37	57.709		
14,800.00	9,065.00	8,303.88	4,988.56	123.71	54.26	-0.94	-185.38	7,865.10	4,532.29	4,452.53	79.77	56.820		
14,900.00	9,065.00	8,306.13	4,988.56	125.69	54.29	-0.91	-187.63	7,865.19	4,486.14	4,405.96	80.18	55.951		
15,000.00	9,065.00	8,308.38	4,988.56	127.67	54.32	-0.87	-189.89	7,865.29	4,441.76	4,361.15	80.61	55.101		
15,100.00	9,065.00	8,310.64	4,988.55	129.65	54.36	-0.84	-192.14	7,865.38	4,399.21	4,318.15	81.06	54.273		
15,200.00	9,065.00	8,312.89	4,988.55	131.63	54.39	-0.81	-194.39	7,865.47	4,358.53	4,277.01	81.52	53.466		
15,300.00	9,065.00	8,315.15	4,988.55	133.62	54.42	-0.78	-196.64	7,865.56	4,319.79	4,237.79	82.00	52.681		
15,400.00	9,065.00	8,317.40	4,988.55	135.61	54.45	-0.74	-198.90	7,865.65	4,283.02	4,200.53	82.50	51.918		
15,500.00	9,065.00	8,319.66	4,988.54	137.60	54.48	-0.71	-201.15	7,865.75	4,248.29	4,165.28	83.01	51.178		
15,600.00	9,065.00	8,326.00	4,988.53	139.59	54.57	-0.62	-207.49	7,866.01	4,215.65	4,132.08	83.57	50.442		
15,700.00	9,065.00	8,326.00	4,988.53	141.58	54.57	-0.62	-207.49	7,866.01	4,185.14	4,101.03	84.11	49.760		
15,800.00	9,065.00	8,327.32	4,988.53	143.57	54.59	-0.60	-208.81	7,866.06	4,156.81	4,072.14	84.67	49.095		
15,900.00	9,065.00	8,334.43	4,988.52	145.57	54.69	-0.50	-215.91	7,866.35	4,130.70	4,045.40	85.30	48.426		
16,000.00	9,065.00	8,341.54	4,988.51	147.56	54.79	-0.40	-223.02	7,866.64	4,106.86	4,020.91	85.95	47.782		
16,100.00	9,065.00	8,348.65	4,988.52	149.56	54.89	-0.30	-230.12	7,866.93	4,085.32	3,998.70	86.62	47.163		
16,200.00	9,065.00	8,355.76	4,988.53	151.56	55.00	-0.20	-237.23	7,867.22	4,066.12	3,978.81	87.32	46.567		
16,300.00	9,065.00	8,362.87	4,988.54	153.56	55.10	-0.09	-244.33	7,867.51	4,049.30	3,961.26	88.04	45.994		
16,400.00	9,065.00	8,369.98	4,988.57	155.56	55.20	0.01	-251.44	7,867.80	4,034.88	3,946.10	88.79	45.445		
16,500.00	9,065.00	8,377.09	4,988.60	157.57	55.30	0.11	-258.54	7,868.09	4,022.89	3,933.33	89.56	44.920		
16,600.00	9,065.00	8,384.21	4,988.64	159.57	55.40	0.21	-265.64	7,868.38	4,013.35	3,923.00	90.36	44.417		
16,700.00	9,065.00	8,391.32	4,988.69	161.57	55.50	0.31	-272.75	7,868.67	4,006.28	3,915.10	91.18	43.938		
16,800.00	9,065.00	8,398.43	4,988.75	163.58	55.60	0.42	-279.85	7,868.96	4,001.70	3,909.66	92.03	43.481		
16,900.00	9,065.00	8,405.54	4,988.81	165.59	55.70	0.52	-286.96	7,869.25	3,999.60	3,906.69	92.91	43.048		
16,934.09	9,065.00	8,407.96	4,988.83	166.27	55.74	0.55	-289.38	7,869.35	3,999.45	3,906.24	93.21	42.906 CC		
17,000.00	9,065.00	8,412.65	4,988.88	167.60	55.80	0.62	-294.06	7,869.54	4,000.00	3,906.19	93.81	42.639		
17,100.00	9,065.00	8,419.76	4,988.95	169.60	55.90	0.72	-301.17	7,869.83	4,002.89	3,908.15	94.73	42.254		
17,200.00	9,065.00	8,426.87	4,989.04	171.61	56.01	0.82	-308.27	7,870.12	4,008.26	3,912.59	95.68	41.894		
17,300.00	9,065.00	8,433.98	4,989.13	173.62	56.11	0.92	-315.37	7,870.41	4,016.12	3,919.48	96.64	41.558		
17,400.00	9,065.00	17,400.00	4,988.88	175.63	183.85	0.46	-283.28	7,869.10	4,026.42	3,859.55	166.86	24.130 ES		
17,500.00	9,065.00	17,500.00	4,988.89	177.65	185.27	0.51	-286.26	7,869.22	4,039.21	3,870.14	169.08	23.889		
17,600.00	9,065.00	17,600.00	4,988.91	179.66	186.70	0.55	-289.24	7,869.35	4,054.44	3,883.03	171.40	23.654 SF		
17,700.00	9,065.00	8,433.22	4,989.10	181.67	56.10	0.91	-314.62	7,870.37	4,072.04	3,971.74	100.30	40.599		
17,800.00	9,065.00	8,435.19	4,989.12	183.69	56.12	0.94	-316.59	7,870.45	4,092.01	3,990.77	101.24	40.418		
17,900.00	9,065.00	8,437.12	4,989.14	185.70	56.15	0.97	-318.52	7,870.53	4,114.31	4,012.13	102.18	40.265		
18,000.00	9,065.00	8,439.03	4,989.16	187.72	56.18	1.00	-320.42	7,870.60	4,138.91	4,035.80	103.11	40.141		
18,100.00	9,065.00	8,440.89	4,989.18	189.73	56.20	1.02	-322.28	7,870.67	4,165.76	4,061.73	104.03	40.045		
18,200.00	9,065.00	8,442.73	4,989.20	191.75	56.23	1.05	-324.12	7,870.74	4,194.82	4,089.89	104.93	39.977		
18,300.00	9,065.00	8,444.53	4,989.22	193.77	56.26	1.08	-325.92	7,870.81	4,226.05	4,120.24	105.82	39.938		
18,400.00	9,065.00	8,446.30	4,989.23	195.78	56.28	1.10	-327.69	7,870.88	4,259.40	4,152.72	106.68	39.926		
18,500.00	9,065.00	8,448.05	4,989.25	197.80	56.31	1.13	-329.43	7,870.94	4,294.82	4,187.29	107.53	39.942		
18,600.00	9,065.00	8,449.76	4,989.27	199.82	56.33	1.15	-331.15	7,871.01	4,332.25	4,223.91	108.34	39.986		
18,700.00	9,065.00	8,451.45	4,989.28	201.84	56.35	1.17	-332.83	7,871.07	4,371.65	4,262.51	109.14	40.056		
18,800.00	9,065.00	8,453.10	4,989.30	203.86	56.38	1.20	-334.49	7,871.13	4,412.97	4,303.06	109.90	40.153		
18,900.00	9,065.00	8,454.74	4,989.31	205.88	56.40	1.22	-336.12	7,871.19	4,456.14	4,345.50	110.64	40.275		
19,000.00	9,065.00	8,456.34	4,989.33	207.90	56.42	1.24	-337.72	7,871.25	4,501.12	4,389.77	111.35	40.422		
19,100.00	9,065.00	8,457.92	4,989.34	209.92	56.45	1.27	-339.30	7,871.30	4,547.86	4,435.82	112.04	40.593		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design	Sec 13-T21S-R27E - Lone Tree Draw 13 State Com 5H - Wellbore #1 - Wellbore #1												Offset Site Error:	5.00 ft
Survey Program:	233-GYRO-NS-CT, 4541-MWD+HDGM												Offset Well Error:	0.50 ft
Reference	Offset		Semi Major Axis		Distance									
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor	Warning	
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)			
19,200.00	9,065.00	8,459.47	4,989.35	211.95	56.47	1.29	-340.85	7,871.36	4,596.29	4,483.60	112.69	40.787		
19,300.00	9,065.00	8,461.00	4,989.37	213.97	56.49	1.31	-342.38	7,871.41	4,646.37	4,533.06	113.31	41.005		
19,400.00	9,065.00	8,462.51	4,989.38	215.99	56.51	1.33	-343.88	7,871.47	4,698.05	4,584.14	113.91	41.244		
19,456.84	9,065.00	8,463.35	4,989.38	217.14	56.52	1.34	-344.73	7,871.50	4,728.12	4,613.88	114.23	41.389		

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Sec 13-T21S-R27E - Lone Tree Draw 13 State Com 8H - Original Hole - Actuals													Offset Well Error:	0.00 ft
Survey Program: 81-GYRO-NS, 7138-MWD+IGRF														
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
0.00	0.00	0.00	0.00	0.50	5.00	69.35	3,174.32	8,420.97	8,999.68					
100.00	100.00	34.43	34.43	0.52	5.00	69.35	3,174.27	8,420.97	8,999.38	8,993.86	5.52	1,630.933		
200.00	200.00	141.50	141.49	0.70	5.01	69.35	3,173.66	8,421.03	8,999.23	8,993.52	5.71	1,575.567		
283.82	283.82	211.52	211.52	0.94	5.03	69.35	3,173.37	8,421.06	8,999.14	8,993.17	5.97	1,507.776		
300.00	300.00	223.54	223.53	0.99	5.04	69.35	3,173.36	8,421.07	8,999.15	8,993.12	6.02	1,494.173		
400.00	400.00	303.94	303.93	1.31	5.08	69.35	3,173.63	8,421.12	8,999.32	8,992.93	6.39	1,409.347		
500.00	500.00	397.94	397.94	1.65	5.14	69.35	3,174.26	8,421.20	8,999.64	8,992.85	6.79	1,325.546		
600.00	600.00	497.17	497.16	1.99	5.24	69.34	3,175.01	8,421.26	8,999.96	8,992.73	7.23	1,245.489		
700.00	700.00	590.09	590.08	2.34	5.34	69.34	3,175.80	8,421.34	9,000.33	8,992.65	7.68	1,171.904		
800.00	800.00	681.44	681.42	2.69	5.46	69.33	3,176.67	8,421.46	9,000.80	8,992.65	8.15	1,104.144		
900.00	900.00	778.19	778.16	3.04	5.61	69.33	3,177.75	8,421.62	9,001.35	8,992.70	8.65	1,040.678		
1,000.00	1,000.00	886.39	886.36	3.40	5.79	69.32	3,179.19	8,421.68	9,001.87	8,992.68	9.18	980.085		
1,100.00	1,100.00	974.50	974.46	3.75	5.95	69.31	3,180.46	8,421.65	9,002.35	8,992.65	9.70	927.980		
1,200.00	1,200.00	1,056.99	1,056.93	4.11	6.11	69.30	3,181.89	8,421.73	9,003.05	8,992.84	10.22	881.115		
1,300.00	1,300.00	1,137.36	1,137.29	4.46	6.28	69.30	3,183.20	8,421.99	9,003.93	8,993.19	10.74	838.390		
1,400.00	1,400.00	1,224.80	1,224.72	4.82	6.47	69.29	3,184.38	8,422.59	9,005.05	8,993.77	11.29	797.947		
1,500.00	1,500.00	1,391.86	1,391.76	5.18	6.85	69.28	3,186.82	8,423.14	9,005.91	8,993.88	12.03	748.763		
1,600.00	1,600.00	1,472.00	1,471.90	5.53	7.05	69.27	3,188.10	8,423.09	9,006.42	8,993.84	12.58	715.981		
1,700.00	1,700.00	1,542.98	1,542.87	5.89	7.23	69.26	3,189.27	8,423.25	9,007.20	8,994.09	13.11	686.884		
1,800.00	1,800.00	1,617.31	1,617.18	6.25	7.42	69.26	3,190.45	8,423.67	9,008.29	8,994.63	13.66	659.469		
1,900.00	1,900.00	1,733.13	1,732.99	6.61	7.72	69.25	3,192.24	8,424.54	9,009.56	8,995.24	14.32	629.094		
2,000.00	2,000.00	1,852.86	1,852.70	6.96	8.04	69.24	3,194.35	8,424.90	9,010.47	8,995.46	15.00	600.585		
2,100.00	2,100.00	1,934.54	1,934.36	7.32	8.27	69.23	3,195.79	8,425.18	9,011.40	8,995.82	15.59	578.176		
2,200.00	2,200.00	2,042.77	2,042.57	7.68	8.58	69.22	3,197.96	8,425.52	9,012.41	8,996.16	16.25	554.665		
2,300.00	2,300.00	2,102.59	2,102.38	8.04	8.75	69.21	3,199.11	8,425.84	9,013.59	8,996.82	16.78	537.278		
2,400.00	2,400.00	2,251.52	2,251.28	8.39	9.18	69.19	3,202.02	8,426.51	9,014.70	8,997.14	17.57	513.154		
2,500.00	2,500.00	2,320.50	2,320.24	8.75	9.39	69.19	3,203.56	8,426.78	9,015.82	8,997.69	18.13	497.340		
2,600.00	2,599.99	2,378.70	2,378.43	9.09	9.56	-144.89	3,204.86	8,427.26	9,018.03	8,999.39	18.64	483.764		
2,700.00	2,699.96	2,552.42	2,552.10	9.42	10.08	-144.91	3,208.81	8,427.89	9,021.26	9,001.77	19.49	462.819		
2,800.00	2,799.86	2,615.51	2,615.17	9.75	10.28	-144.90	3,210.41	8,428.00	9,025.88	9,005.87	20.41	451.027		
2,900.00	2,899.68	2,697.00	2,696.63	10.08	10.53	-144.89	3,212.53	8,428.37	9,032.23	9,011.64	20.59	438.643		
2,945.33	2,944.88	2,746.09	2,745.70	10.23	10.68	-144.89	3,213.83	8,428.63	9,035.62	9,014.72	20.89	432.469		
3,000.00	2,999.39	2,807.12	2,806.70	10.41	10.87	-144.92	3,215.51	8,428.88	9,039.84	9,018.58	21.26	425.129		
3,100.00	3,099.08	2,886.00	2,885.56	10.75	11.11	-144.96	3,217.68	8,429.23	9,047.61	9,025.77	21.84	414.230		
3,200.00	3,198.78	2,948.33	2,947.86	11.08	11.31	-144.98	3,219.30	8,429.75	9,055.71	9,033.33	22.37	404.804		
3,300.00	3,298.48	3,111.62	3,111.10	11.42	11.83	-145.05	3,223.42	8,431.05	9,063.73	9,040.51	23.22	390.262		
3,400.00	3,398.18	3,191.01	3,190.46	11.76	12.08	-145.08	3,225.47	8,431.44	9,071.49	9,047.68	23.81	380.922		
3,500.00	3,497.88	3,276.83	3,276.25	12.10	12.35	-145.12	3,227.72	8,432.02	9,079.44	9,055.01	24.43	371.686		
3,600.00	3,597.58	3,371.85	3,371.23	12.45	12.66	-145.16	3,230.24	8,432.75	9,087.49	9,062.42	25.07	362.437		
3,700.00	3,697.27	3,700.00	3,611.98	12.79	13.72	-145.26	3,235.94	8,433.60	9,095.43	9,068.95	26.48	343.475		
3,800.00	3,796.97	3,691.11	3,690.40	13.14	13.69	-145.29	3,236.87	8,433.06	9,101.72	9,074.92	26.79	339.683		
3,900.00	3,896.67	3,731.50	3,730.79	13.48	13.83	-145.30	3,236.65	8,433.55	9,108.90	9,081.63	27.27	334.042		
4,000.00	3,996.37	4,000.00	3,820.92	13.83	14.70	-145.32	3,237.18	8,434.44	9,116.41	9,087.92	28.49	319.971		
4,100.00	4,096.07	3,889.56	3,888.82	14.18	14.34	-145.35	3,238.61	8,434.70	9,123.99	9,095.52	28.47	320.425		
4,200.00	4,195.76	3,955.85	3,955.09	14.53	14.56	-145.37	3,239.91	8,435.42	9,132.09	9,103.05	29.04	314.495		
4,300.00	4,295.46	4,054.24	4,053.46	14.88	14.88	-145.41	3,241.54	8,436.80	9,140.38	9,110.68	29.71	307.665		
4,400.00	4,395.16	4,217.33	4,216.53	15.23	15.42	-145.45	3,242.46	8,439.04	9,148.25	9,117.65	30.60	298.966		
4,500.00	4,494.86	10,619.00	7,792.46	15.58	65.29	-126.90	107.70	8,416.86	9,140.94	9,064.87	76.07	120.167		
4,600.00	4,594.56	4,600.00	7,794.24	15.93	42.02	-126.60	61.60	8,417.16	9,108.76	9,053.84	54.91	165.875		
4,700.00	4,694.25	4,700.00	7,797.42	16.29	40.53	-125.92	-41.87	8,417.55	9,077.54	9,023.48	54.06	167.914		
4,800.00	4,793.95	4,800.00	7,797.63	16.64	38.73	-125.86	-50.66	8,417.56	9,047.30	8,994.46	52.84	171.220		
4,900.00	4,893.65	4,900.00	7,797.84	17.00	36.92	-125.80	-59.46	8,417.57	9,018.05	8,966.44	51.61	174.745		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Sec 13-T21S-R27E - Lone Tree Draw 13 State Com 8H - Original Hole - Actuals													Offset Well Error:	0.00 ft
Survey Program: 81-GYRO-NS, 7138-MWD+IGRF														
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
5,000.00	4,993.35	5,000.00	7,798.05	17.35	35.11	-125.74	-68.26	8,417.58	8,989.81	8,939.45	50.36	178.509		
5,100.00	5,093.05	5,100.00	7,798.26	17.71	33.31	-125.69	-77.05	8,417.59	8,962.60	8,913.49	49.10	182.532		
5,200.00	5,192.75	5,192.75	7,798.78	18.06	69.04	-125.52	-102.61	8,417.57	8,936.35	8,852.58	83.77	106.682		
5,300.00	5,292.44	5,292.44	7,798.87	18.42	69.11	-125.49	-106.54	8,417.57	8,911.18	8,826.77	84.41	105.567		
5,400.00	5,392.14	5,392.14	7,798.96	18.77	69.18	-125.46	-110.53	8,417.57	8,887.07	8,802.01	85.06	104.485		
5,500.00	5,491.84	5,491.84	7,799.05	19.13	69.25	-125.44	-114.56	8,417.58	8,864.01	8,778.31	85.69	103.437		
5,600.00	5,591.54	5,591.54	7,799.15	19.49	69.33	-125.41	-118.65	8,417.58	8,842.02	8,755.69	86.33	102.423		
5,700.00	5,691.24	5,691.24	7,799.24	19.85	69.40	-125.38	-122.79	8,417.59	8,821.10	8,734.14	86.96	101.441		
5,800.00	5,790.93	5,790.93	7,799.35	20.20	69.48	-125.36	-126.98	8,417.60	8,801.27	8,713.68	87.58	100.492		
5,900.00	5,890.63	5,890.63	7,799.45	20.56	69.55	-125.33	-131.23	8,417.61	8,782.52	8,694.32	88.20	99.574		
6,000.00	5,990.33	5,990.33	7,799.57	20.92	69.63	-125.30	-135.54	8,417.62	8,764.87	8,676.06	88.81	98.688		
6,100.00	6,090.03	6,090.03	7,799.68	21.28	69.71	-125.27	-139.90	8,417.63	8,748.33	8,658.91	89.42	97.833		
6,200.00	6,189.73	6,189.73	7,799.80	21.64	69.79	-125.24	-144.33	8,417.65	8,732.89	8,642.87	90.02	97.009		
6,300.00	6,289.42	6,289.42	7,799.92	22.00	69.87	-125.21	-148.81	8,417.67	8,718.57	8,627.95	90.62	96.215		
6,400.00	6,389.12	6,389.12	7,800.05	22.36	69.95	-125.18	-153.35	8,417.69	8,705.37	8,614.17	91.20	95.451		
6,500.00	6,488.82	6,488.82	7,800.17	22.72	70.04	-125.15	-157.92	8,417.71	8,693.33	8,601.24	91.79	94.702		
6,600.00	6,588.52	6,588.52	7,800.29	23.08	70.13	-125.12	-162.53	8,417.73	8,682.37	8,589.79	92.38	93.953		
6,700.00	6,688.22	6,688.22	7,800.41	23.44	70.22	-125.09	-167.18	8,417.75	8,672.55	8,579.49	92.97	93.204		
6,800.00	6,787.91	6,787.91	7,800.53	23.80	70.31	-125.06	-171.86	8,417.77	8,663.87	8,570.34	93.56	92.455		
6,900.00	6,887.61	6,887.61	7,800.65	24.16	70.40	-125.03	-176.57	8,417.79	8,656.33	8,562.28	94.15	91.706		
7,000.00	6,987.31	6,987.31	7,800.77	24.52	70.49	-125.00	-181.30	8,417.81	8,649.94	8,555.26	94.74	90.957		
7,100.00	7,087.01	7,087.01	7,800.89	24.88	70.58	-124.97	-186.05	8,417.83	8,644.69	8,549.39	95.33	90.208		
7,200.00	7,186.71	7,186.71	7,801.01	25.24	70.67	-124.94	-190.82	8,418.03	8,640.59	8,544.68	95.92	89.459		
7,300.00	7,286.41	7,286.41	7,801.13	25.60	70.76	-124.91	-195.61	8,418.10	8,637.62	8,541.11	96.51	88.710		
7,400.00	7,386.10	7,386.10	7,801.25	25.96	70.85	-124.88	-200.41	8,418.16	8,635.81	8,538.70	97.10	87.961		
7,500.00	7,485.80	7,485.80	7,801.37	26.32	70.94	-124.85	-205.22	8,418.23	8,635.13	8,537.44	97.69	87.212		
7,508.57	7,494.34	10,966.05	7,802.91	26.36	71.49	-124.61	-239.18	8,418.24	8,635.13	8,537.39	97.74	88.345		
7,600.00	7,585.50	10,975.65	7,803.26	26.69	71.67	-124.55	-248.77	8,418.30	8,635.61	8,537.33	98.27	87.873		
7,700.00	7,685.20	10,986.31	7,803.67	27.05	71.86	-124.48	-259.43	8,418.36	8,637.23	8,538.38	98.85	87.380		
7,800.00	7,784.90	7,800.00	7,805.94	27.41	25.06	-124.07	-320.86	8,418.43	8,639.84	8,597.52	42.31	204.181		
7,860.70	7,845.41	7,860.70	7,806.16	27.63	25.07	-124.03	-326.98	8,418.44	8,642.04	8,598.47	43.57	198.352		
7,900.00	7,884.61	11,147.31	7,809.49	27.77	74.76	-123.44	-420.31	8,418.00	8,643.58	8,541.09	102.48	84.341		
8,000.00	7,984.46	11,173.01	7,810.41	28.13	75.23	-123.31	-446.00	8,417.71	8,647.17	8,543.88	103.29	83.716		
8,100.00	8,084.42	11,192.18	7,811.12	28.49	75.57	-123.23	-465.15	8,417.46	8,650.47	8,546.50	103.97	83.202		
8,157.59	8,142.00	11,200.18	7,811.41	28.69	75.72	90.88	-473.15	8,417.35	8,652.23	8,547.94	104.29	82.961		
8,200.00	8,184.41	8,200.00	7,809.91	28.83	25.17	90.61	-431.46	8,417.81	8,653.57	8,602.99	50.58	171.083		
8,300.00	8,284.41	8,300.00	7,810.04	29.17	25.21	90.63	-435.00	8,417.77	8,657.64	8,604.98	52.66	164.419		
8,400.00	8,384.41	8,400.00	7,810.16	29.51	25.52	90.65	-438.54	8,417.74	8,662.86	8,608.13	54.73	158.283		
8,507.63	8,492.04	8,507.63	7,810.30	29.87	27.31	90.68	-442.35	8,417.71	8,669.76	8,612.80	56.96	152.210		
8,550.00	8,534.37	8,550.00	7,810.35	30.02	28.06	1.31	-443.82	8,417.69	8,671.28	8,613.44	57.83	149.934		
8,600.00	8,584.01	11,197.68	7,811.33	30.18	75.67	1.50	-470.65	8,417.40	8,669.30	8,563.84	105.46	82.202		
8,650.00	8,632.95	11,198.71	7,811.37	30.34	75.69	1.52	-471.67	8,417.39	8,663.26	8,557.67	105.60	82.042		
8,700.00	8,680.82	11,199.66	7,811.41	30.50	75.71	1.55	-472.62	8,417.38	8,653.20	8,547.49	105.72	81.851		
8,750.00	8,727.25	11,200.52	7,811.44	30.66	75.72	1.60	-473.49	8,417.37	8,639.19	8,533.36	105.83	81.632		
8,800.00	8,771.89	11,201.30	7,811.47	30.81	75.74	1.66	-474.27	8,417.36	8,621.30	8,515.37	105.93	81.387		
8,850.00	8,814.40	11,201.98	7,811.50	30.95	75.75	1.74	-474.95	8,417.35	8,599.65	8,493.64	106.02	81.116		
8,900.00	8,854.46	11,202.56	7,811.52	31.09	75.76	1.83	-475.52	8,417.34	8,574.38	8,468.30	106.09	80.823		
8,950.00	8,891.75	11,203.02	7,811.54	31.23	75.77	1.95	-475.98	8,417.34	8,545.66	8,439.51	106.15	80.507		
9,000.00	8,926.01	11,203.37	7,811.55	31.37	75.77	2.10	-476.33	8,417.33	8,513.65	8,407.46	106.19	80.171		
9,050.00	8,956.96	11,203.59	7,811.56	31.53	75.78	2.29	-476.55	8,417.33	8,478.58	8,372.35	106.23	79.817		
9,100.00	8,984.38	11,203.69	7,811.57	31.69	75.78	2.54	-476.65	8,417.33	8,440.67	8,334.42	106.25	79.445		
9,150.00	9,008.05	11,203.66	7,811.57	31.87	75.78	2.87	-476.62	8,417.33	8,400.17	8,293.92	106.25	79.057		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Sec 13-T21S-R27E - Lone Tree Draw 13 State Com 8H - Original Hole - Actuals													Offset Well Error:	0.00 ft
Survey Program: 81-GYRO-NS, 7138-MWD+IGRF														
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
9,200.00	9,027.79	11,203.50	7,811.56	32.07	75.78	3.31	-476.46	8,417.33	8,357.36	8,251.11	106.25	78.655		
9,250.00	9,043.45	11,203.21	7,811.55	32.29	75.77	3.95	-476.17	8,417.34	8,312.53	8,206.29	106.24	78.241		
9,300.00	9,054.92	11,202.79	7,811.53	32.53	75.76	4.93	-475.75	8,417.34	8,266.00	8,159.77	106.23	77.815		
9,350.00	9,062.10	11,202.24	7,811.51	32.79	75.75	6.61	-475.20	8,417.35	8,218.08	8,111.88	106.20	77.379		
9,400.00	9,064.95	11,201.56	7,811.48	33.06	75.74	10.11	-474.53	8,417.35	8,169.13	8,062.95	106.18	76.936		
9,407.63	9,065.00	11,201.45	7,811.48	33.10	75.74	11.00	-474.41	8,417.36	8,161.59	8,055.41	106.18	76.867		
9,500.00	9,065.00	11,200.05	7,811.42	33.68	75.71	10.93	-473.02	8,417.37	8,070.24	7,964.11	106.13	76.042		
9,600.00	9,065.00	11,198.52	7,811.36	34.41	75.69	10.86	-471.49	8,417.39	7,971.37	7,865.30	106.07	75.149		
9,700.00	9,065.00	11,196.97	7,811.30	35.24	75.66	10.79	-469.94	8,417.41	7,872.53	7,766.51	106.02	74.256		
9,800.00	9,065.00	9,800.00	7,810.32	36.17	50.47	9.52	-443.02	8,417.70	7,773.71	7,692.67	81.04	95.921		
9,900.00	9,065.00	9,900.00	7,810.25	37.19	52.27	9.42	-440.99	8,417.72	7,674.92	7,592.12	82.81	92.685		
10,000.00	9,065.00	10,000.00	7,810.18	38.30	54.07	9.32	-438.96	8,417.74	7,576.17	7,491.60	84.57	89.585		
10,100.00	9,065.00	10,100.00	7,810.11	39.48	55.87	9.23	-436.93	8,417.76	7,477.44	7,391.11	86.33	86.611		
10,200.00	9,065.00	11,199.35	7,811.38	40.72	75.70	10.90	-472.32	8,417.36	7,378.78	7,272.85	105.94	69.653		
10,300.00	9,065.00	11,193.09	7,811.15	42.03	75.59	10.60	-466.06	8,417.45	7,280.14	7,174.34	105.80	68.810		
10,400.00	9,065.00	11,187.06	7,810.93	43.40	75.48	10.32	-460.04	8,417.53	7,181.53	7,075.86	105.67	67.962		
10,500.00	9,065.00	11,181.27	7,810.72	44.82	75.37	10.05	-454.25	8,417.61	7,082.96	6,977.41	105.54	67.110		
10,600.00	9,065.00	11,175.69	7,810.51	46.29	75.27	9.78	-448.67	8,417.68	6,984.42	6,879.00	105.42	66.253		
10,700.00	9,065.00	11,170.31	7,810.32	47.79	75.18	9.53	-443.30	8,417.74	6,885.93	6,780.63	105.30	65.392		
10,800.00	9,065.00	11,165.12	7,810.13	49.34	75.08	9.28	-438.12	8,417.80	6,787.48	6,682.29	105.19	64.528		
10,900.00	9,065.00	11,160.12	7,809.95	50.92	74.99	9.04	-433.12	8,417.86	6,689.07	6,584.00	105.08	63.660		
11,000.00	9,065.00	11,155.29	7,809.77	52.54	74.91	8.82	-428.29	8,417.91	6,590.71	6,485.74	104.97	62.788		
11,100.00	9,065.00	11,150.62	7,809.61	54.18	74.82	8.59	-423.62	8,417.96	6,492.40	6,387.54	104.86	61.914		
11,200.00	9,065.00	11,146.11	7,809.45	55.85	74.74	8.38	-419.11	8,418.01	6,394.14	6,289.38	104.76	61.036		
11,300.00	9,065.00	11,141.74	7,809.29	57.54	74.66	8.17	-414.75	8,418.05	6,295.93	6,191.27	104.66	60.156		
11,400.00	9,065.00	11,137.52	7,809.14	59.26	74.58	7.97	-410.53	8,418.09	6,197.78	6,093.21	104.56	59.273		
11,500.00	9,065.00	11,133.43	7,809.00	61.00	74.51	7.77	-406.44	8,418.13	6,099.68	5,995.21	104.47	58.387		
11,600.00	9,065.00	11,129.47	7,808.86	62.75	74.44	7.59	-402.49	8,418.16	6,001.65	5,897.27	104.38	57.499		
11,700.00	9,065.00	11,125.63	7,808.72	64.52	74.37	7.40	-398.65	8,418.20	5,903.68	5,799.39	104.29	56.609		
11,800.00	9,065.00	11,121.90	7,808.59	66.31	74.30	7.22	-394.93	8,418.23	5,805.78	5,701.58	104.20	55.717		
11,900.00	9,065.00	11,118.29	7,808.46	68.11	74.24	7.05	-391.32	8,418.26	5,707.96	5,603.84	104.12	54.822		
12,000.00	9,065.00	11,114.79	7,808.34	69.93	74.17	6.88	-387.81	8,418.28	5,610.21	5,506.17	104.03	53.927		
12,100.00	9,065.00	12,100.00	7,806.87	71.76	91.95	4.88	-346.14	8,418.44	5,512.53	5,391.10	121.43	45.398		
12,200.00	9,065.00	12,200.00	7,806.83	73.60	93.75	4.83	-345.07	8,418.44	5,414.93	5,291.77	123.16	43.966		
12,300.00	9,065.00	12,300.00	7,806.79	75.45	95.56	4.78	-344.00	8,418.44	5,317.42	5,192.53	124.89	42.575		
12,400.00	9,065.00	11,105.52	7,808.01	77.31	74.01	6.44	-378.55	8,418.34	5,220.03	5,116.24	103.79	50.294		
12,500.00	9,065.00	11,101.33	7,807.87	79.18	73.93	6.24	-374.37	8,418.37	5,122.73	5,019.03	103.69	49.402		
12,600.00	9,065.00	11,097.37	7,807.74	81.05	73.86	6.05	-370.41	8,418.40	5,025.53	4,921.92	103.60	48.507		
12,700.00	9,065.00	11,093.63	7,807.61	82.94	73.79	5.87	-366.67	8,418.42	4,928.43	4,824.92	103.52	47.610		
12,800.00	9,065.00	11,090.08	7,807.49	84.83	73.73	5.70	-363.12	8,418.45	4,831.46	4,728.03	103.43	46.711		
12,900.00	9,065.00	11,086.70	7,807.37	86.73	73.67	5.54	-359.75	8,418.46	4,734.61	4,631.26	103.35	45.811		
13,000.00	9,065.00	11,083.50	7,807.26	88.64	73.61	5.38	-356.54	8,418.48	4,637.89	4,534.62	103.27	44.908		
13,100.00	9,065.00	11,080.44	7,807.16	90.55	73.55	5.24	-353.49	8,418.49	4,541.32	4,438.11	103.20	44.005		
13,200.00	9,065.00	11,077.54	7,807.06	92.47	73.50	5.10	-350.59	8,418.51	4,444.89	4,341.76	103.13	43.100		
13,300.00	9,065.00	11,074.76	7,806.96	94.39	73.45	4.96	-347.81	8,418.52	4,348.62	4,245.56	103.06	42.195		
13,400.00	9,065.00	11,072.11	7,806.87	96.32	73.40	4.84	-345.16	8,418.53	4,252.53	4,149.54	102.99	41.289		
13,500.00	9,065.00	11,069.58	7,806.78	98.25	73.36	4.71	-342.63	8,418.53	4,156.62	4,053.69	102.93	40.383		
13,600.00	9,065.00	11,067.15	7,806.69	100.19	73.31	4.60	-340.21	8,418.54	4,060.91	3,958.04	102.87	39.476		
13,700.00	9,065.00	11,064.83	7,806.61	102.13	73.27	4.49	-337.89	8,418.55	3,965.40	3,862.59	102.81	38.570		
13,800.00	9,065.00	11,062.60	7,806.53	104.08	73.23	4.38	-335.66	8,418.55	3,870.12	3,767.37	102.75	37.664		
13,900.00	9,065.00	11,060.46	7,806.45	106.03	73.19	4.28	-333.52	8,418.56	3,775.09	3,672.39	102.70	36.758		
14,000.00	9,065.00	11,058.41	7,806.38	107.98	73.16	4.18	-331.47	8,418.56	3,680.32	3,577.67	102.65	35.853		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Sec 13-T21S-R27E - Lone Tree Draw 13 State Com 8H - Original Hole - Actuals													Offset Well Error:	0.00 ft
Survey Program: 81-GYRO-NS, 7138-MWD+IGRF														
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (ft)	Separation Factor	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)				
14,100.00	9,065.00	11,056.44	7,806.31	109.94	73.12	4.08	-329.50	8,418.56	3,585.83	3,483.23	102.60	34.949		
14,200.00	9,065.00	11,054.54	7,806.24	111.90	73.09	3.99	-327.60	8,418.57	3,491.65	3,389.09	102.56	34.046		
14,300.00	9,065.00	11,052.71	7,806.18	113.86	73.05	3.90	-325.78	8,418.57	3,397.80	3,295.29	102.51	33.145		
14,400.00	9,065.00	11,050.95	7,806.11	115.82	73.02	3.82	-324.02	8,418.57	3,304.31	3,201.84	102.48	32.245		
14,500.00	9,065.00	11,049.25	7,806.05	117.79	72.99	3.74	-322.32	8,418.57	3,211.21	3,108.77	102.44	31.347		
14,600.00	9,065.00	11,047.61	7,805.99	119.76	72.96	3.66	-320.68	8,418.57	3,118.54	3,016.14	102.41	30.452		
14,700.00	9,065.00	11,046.03	7,805.93	121.74	72.93	3.58	-319.10	8,418.57	3,026.34	2,923.96	102.38	29.560		
14,800.00	9,065.00	11,044.51	7,805.88	123.71	72.91	3.51	-317.58	8,418.57	2,934.64	2,832.29	102.36	28.671		
14,900.00	9,065.00	11,043.03	7,805.82	125.69	72.88	3.44	-316.10	8,418.57	2,843.51	2,741.17	102.34	27.786		
15,000.00	9,065.00	11,041.61	7,805.77	127.67	72.85	3.37	-314.68	8,418.57	2,752.99	2,650.67	102.32	26.906		
15,100.00	9,065.00	11,040.23	7,805.72	129.65	72.83	3.30	-313.30	8,418.57	2,663.15	2,560.84	102.31	26.030		
15,200.00	9,065.00	11,038.89	7,805.67	131.63	72.81	3.24	-311.96	8,418.57	2,574.05	2,471.75	102.30	25.161		
15,300.00	9,065.00	11,037.60	7,805.62	133.62	72.78	3.18	-310.67	8,418.57	2,485.79	2,383.49	102.30	24.299		
15,400.00	9,065.00	11,036.34	7,805.58	135.61	72.76	3.11	-309.42	8,418.57	2,398.44	2,296.14	102.30	23.445		
15,500.00	9,065.00	11,035.13	7,805.53	137.60	72.74	3.06	-308.20	8,418.57	2,312.12	2,209.82	102.31	22.600		
15,600.00	9,065.00	11,033.95	7,805.49	139.59	72.72	3.00	-307.03	8,418.56	2,226.95	2,124.64	102.31	21.766		
15,700.00	9,065.00	11,032.80	7,805.45	141.58	72.70	2.94	-305.88	8,418.56	2,143.05	2,040.74	102.32	20.945		
15,800.00	9,065.00	11,031.69	7,805.40	143.57	72.68	2.89	-304.77	8,418.56	2,060.60	1,958.28	102.32	20.139		
15,900.00	9,065.00	11,030.61	7,805.36	145.57	72.66	2.84	-303.69	8,418.56	1,979.76	1,877.45	102.31	19.350		
16,000.00	9,065.00	11,029.57	7,805.32	147.56	72.64	2.79	-302.65	8,418.56	1,900.74	1,798.45	102.29	18.582		
16,100.00	9,065.00	11,028.55	7,805.29	149.56	72.62	2.74	-301.63	8,418.55	1,823.79	1,721.54	102.24	17.837		
16,200.00	9,065.00	11,027.56	7,805.25	151.56	72.60	2.69	-300.64	8,418.55	1,749.16	1,647.00	102.17	17.121		
16,300.00	9,065.00	11,026.59	7,805.21	153.56	72.58	2.64	-299.68	8,418.55	1,677.19	1,575.14	102.04	16.436		
16,400.00	9,065.00	11,025.65	7,805.18	155.56	72.57	2.60	-298.74	8,418.55	1,608.20	1,506.35	101.85	15.789		
16,500.00	9,065.00	11,024.74	7,805.14	157.57	72.55	2.56	-297.83	8,418.55	1,542.62	1,441.04	101.58	15.186		
16,600.00	9,065.00	11,023.85	7,805.11	159.57	72.53	2.51	-296.94	8,418.54	1,480.90	1,379.69	101.21	14.632		
16,700.00	9,065.00	11,022.98	7,805.08	161.57	72.52	2.47	-296.07	8,418.54	1,423.53	1,322.81	100.72	14.134		
16,800.00	9,065.00	11,022.14	7,805.05	163.58	72.50	2.43	-295.23	8,418.54	1,371.05	1,270.96	100.09	13.698		
16,900.00	9,065.00	11,021.32	7,805.02	165.59	72.49	2.39	-294.40	8,418.54	1,324.07	1,224.73	99.33	13.330		
17,000.00	9,065.00	11,020.51	7,804.98	167.60	72.47	2.35	-293.60	8,418.53	1,283.17	1,184.70	98.47	13.031		
17,100.00	9,065.00	11,019.73	7,804.96	169.60	72.46	2.31	-292.82	8,418.53	1,248.95	1,151.39	97.57	12.801		
17,200.00	9,065.00	11,018.97	7,804.93	171.61	72.45	2.28	-292.06	8,418.53	1,221.98	1,125.22	96.76	12.629		
17,300.00	9,065.00	11,018.22	7,804.90	173.62	72.43	2.24	-291.31	8,418.53	1,202.75	1,106.50	96.24	12.497		
17,400.00	9,065.00	11,017.49	7,804.87	175.63	72.42	2.21	-290.58	8,418.52	1,191.62	1,095.36	96.26	12.380		
17,483.22	9,065.00	11,016.90	7,804.85	177.31	72.41	2.18	-289.99	8,418.52	1,188.71	1,091.89	96.82	12.278 CC		
17,500.00	9,065.00	11,016.78	7,804.84	177.65	72.41	2.17	-289.87	8,418.52	1,188.83	1,091.83	97.00	12.256 ES		
17,600.00	9,065.00	11,016.09	7,804.82	179.66	72.39	2.14	-289.18	8,418.52	1,194.43	1,095.93	98.51	12.126		
17,700.00	9,065.00	11,015.41	7,804.79	181.67	72.38	2.11	-288.50	8,418.52	1,208.31	1,107.68	100.63	12.008		
17,800.00	9,065.00	11,014.74	7,804.77	183.69	72.37	2.07	-287.84	8,418.51	1,230.19	1,127.09	103.10	11.931		
17,900.00	9,065.00	11,014.10	7,804.74	185.70	72.36	2.04	-287.19	8,418.51	1,259.65	1,153.99	105.66	11.921 SF		
18,000.00	9,065.00	11,013.46	7,804.72	187.72	72.35	2.01	-286.55	8,418.51	1,296.18	1,188.07	108.11	11.989		
18,100.00	9,065.00	11,012.84	7,804.69	189.73	72.34	1.98	-285.93	8,418.51	1,339.19	1,228.87	110.32	12.139		
18,200.00	9,065.00	11,012.23	7,804.67	191.75	72.32	1.95	-285.33	8,418.50	1,388.09	1,275.85	112.24	12.368		
18,300.00	9,065.00	11,011.64	7,804.65	193.77	72.31	1.92	-284.73	8,418.50	1,442.27	1,328.42	113.85	12.668		
18,400.00	9,065.00	11,011.06	7,804.62	195.78	72.30	1.90	-284.15	8,418.50	1,501.16	1,385.99	115.17	13.034		
18,500.00	9,065.00	11,010.49	7,804.60	197.80	72.29	1.87	-283.58	8,418.50	1,564.23	1,448.00	116.24	13.457		
18,600.00	9,065.00	11,009.93	7,804.58	199.82	72.28	1.84	-283.03	8,418.49	1,631.00	1,513.93	117.07	13.931		
18,700.00	9,065.00	11,009.39	7,804.56	201.84	72.27	1.82	-282.48	8,418.49	1,701.04	1,583.31	117.72	14.450		
18,800.00	9,065.00	11,008.85	7,804.54	203.86	72.26	1.79	-281.95	8,418.49	1,773.94	1,655.73	118.21	15.006		
18,900.00	9,065.00	11,008.33	7,804.52	205.88	72.25	1.76	-281.42	8,418.49	1,849.38	1,730.81	118.57	15.597		
19,000.00	9,065.00	11,007.81	7,804.50	207.90	72.24	1.74	-280.91	8,418.48	1,927.06	1,808.23	118.83	16.217		
19,100.00	9,065.00	11,007.31	7,804.48	209.92	72.24	1.72	-280.41	8,418.48	2,006.71	1,887.71	119.00	16.863		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Sec 13-T21S-R27E - Lone Tree Draw 13 State Com 8H - Original Hole - Actuals		Offset Site Error:		5.00 ft	
Survey Program:													81-GYRO-NS, 7138-MWD+IGRF		Offset Well Error:		0.00 ft	
Reference		Offset		Semi Major Axis			Distance							Warning				
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre	Between Centres	Between Ellipses	Minimum Separation	Separation Factor							
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)							
19,200.00	9,065.00	11,006.81	7,804.46	211.95	72.23	1.69	-279.91	8,418.48	2,088.12	1,969.01	119.11	17.531						
19,300.00	9,065.00	11,006.33	7,804.44	213.97	72.22	1.67	-279.43	8,418.48	2,171.08	2,051.91	119.17	18.218						
19,400.00	9,065.00	11,009.90	7,804.59	215.99	72.28	1.84	-283.00	8,418.51	2,255.41	2,136.14	119.27	18.910						
19,456.84	9,065.00	11,009.59	7,804.58	217.14	72.28	1.83	-282.69	8,418.50	2,303.91	2,184.64	119.27	19.317						

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Sec 13-T21S-R27E - Lone Tree Draw State 3H - Wellbore #1 - Wellbore #1													Offset Well Error:	0.50 ft
Survey Program: 100-GYRO-NS-CT, 4452-MWD+HDGM														
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (ft)	Separation Factor	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)				
0.00	0.00	0.00	0.00	0.50	5.02	65.24	3,164.82	6,862.71	7,557.53					
100.00	100.00	26.80	26.80	0.52	5.03	65.24	3,164.85	6,862.73	7,557.35	7,551.81	5.54	1,363.446		
200.00	200.00	100.00	100.00	0.70	5.03	65.24	3,165.28	6,862.92	7,557.80	7,552.07	5.73	1,319.261		
300.00	300.00	214.52	214.52	0.99	5.05	65.24	3,166.10	6,863.24	7,558.38	7,552.34	6.04	1,251.274		
400.00	400.00	278.79	278.78	1.31	5.08	65.23	3,166.82	6,863.40	7,559.03	7,552.64	6.39	1,182.739		
500.00	500.00	392.87	392.85	1.65	5.16	65.22	3,168.70	6,863.56	7,559.86	7,553.05	6.80	1,111.125		
600.00	600.00	507.43	507.39	1.99	5.26	65.21	3,170.29	6,863.51	7,560.41	7,553.15	7.25	1,042.277		
700.00	700.00	576.28	576.24	2.34	5.34	65.20	3,171.21	6,863.61	7,561.09	7,553.41	7.68	984.629		
800.00	800.00	675.47	675.41	2.69	5.47	65.19	3,172.92	6,863.85	7,562.03	7,553.87	8.16	926.895		
900.00	900.00	788.16	788.09	3.04	5.64	65.18	3,175.04	6,863.86	7,562.83	7,554.15	8.68	871.310		
1,000.00	1,000.00	858.77	858.68	3.40	5.75	65.17	3,176.19	6,864.00	7,563.71	7,554.56	9.15	826.591		
1,100.00	1,100.00	1,100.00	974.72	3.75	6.21	65.15	3,178.47	6,864.24	7,564.73	7,554.76	9.96	759.218		
1,200.00	1,200.00	1,193.64	1,193.49	4.11	6.41	65.12	3,182.07	6,862.45	7,564.49	7,553.97	10.52	719.236		
1,300.00	1,300.00	1,316.11	1,315.93	4.46	6.68	65.11	3,183.47	6,860.63	7,563.61	7,552.46	11.15	678.513		
1,400.00	1,400.00	1,401.53	1,401.35	4.82	6.88	65.10	3,184.09	6,859.51	7,562.73	7,551.03	11.70	646.181		
1,500.00	1,500.00	1,526.56	1,526.36	5.18	7.19	65.09	3,185.18	6,857.66	7,561.75	7,549.38	12.37	611.518		
1,600.00	1,600.00	1,627.23	1,627.01	5.53	7.45	65.07	3,186.40	6,855.83	7,560.61	7,547.63	12.98	582.527		
1,700.00	1,700.00	1,700.00	1,764.98	5.89	7.64	65.05	3,187.97	6,853.07	7,559.29	7,545.76	13.53	558.876		
1,800.00	1,800.00	8,057.99	4,987.40	6.25	51.13	91.19	-141.46	6,789.92	7,526.95	7,473.66	53.29	141.253		
1,900.00	1,900.00	8,057.78	4,987.40	6.61	51.13	91.19	-141.25	6,789.92	7,484.38	7,430.56	53.82	139.063		
2,000.00	2,000.00	8,057.57	4,987.40	6.96	51.12	91.19	-141.04	6,789.92	7,442.90	7,388.55	54.35	136.933		
2,100.00	2,100.00	8,057.36	4,987.40	7.32	51.12	91.19	-140.83	6,789.93	7,402.55	7,347.66	54.89	134.863		
2,200.00	2,200.00	8,057.15	4,987.40	7.68	51.12	91.19	-140.62	6,789.93	7,363.34	7,307.91	55.43	132.852		
2,300.00	2,300.00	8,056.93	4,987.40	8.04	51.11	91.18	-140.40	6,789.94	7,325.27	7,269.31	55.96	130.900		
2,400.00	2,400.00	8,056.72	4,987.40	8.39	51.11	91.18	-140.19	6,789.94	7,288.39	7,231.89	56.50	129.007		
2,500.00	2,500.00	8,056.50	4,987.41	8.75	51.11	91.18	-139.97	6,789.94	7,252.69	7,195.66	57.03	127.173		
2,600.00	2,599.99	8,056.76	4,987.40	9.09	51.11	-123.20	-140.23	6,789.94	7,218.65	7,161.10	57.55	125.426		
2,700.00	2,699.96	8,057.97	4,987.40	9.42	51.13	-123.47	-141.44	6,789.92	7,186.75	7,128.67	58.07	123.753		
2,800.00	2,799.86	8,060.14	4,987.39	9.75	51.16	-123.71	-143.61	6,789.87	7,157.02	7,098.41	58.61	122.119		
2,900.00	2,899.68	8,063.27	4,987.38	10.08	51.20	-123.92	-146.74	6,789.82	7,129.50	7,070.35	59.15	120.526		
2,945.33	2,944.88	8,065.01	4,987.38	10.23	51.22	-124.01	-148.48	6,789.78	7,117.76	7,058.36	59.40	119.819		
3,000.00	2,999.39	8,067.23	4,987.37	10.41	51.25	-123.99	-150.70	6,789.74	7,104.08	7,044.37	59.71	118.977		
3,100.00	3,099.08	8,080.00	4,987.34	10.75	51.43	-123.88	-163.47	6,789.51	7,080.08	7,019.70	60.38	117.255		
3,200.00	3,198.78	8,080.00	4,987.34	11.08	51.43	-123.88	-163.47	6,789.51	7,057.40	6,996.52	60.88	115.919		
3,300.00	3,298.48	8,080.00	4,987.34	11.42	51.43	-123.88	-163.47	6,789.51	7,036.07	6,974.69	61.38	114.634		
3,400.00	3,398.18	8,080.00	4,987.34	11.76	51.43	-123.88	-163.47	6,789.51	7,016.10	6,954.23	61.87	113.399		
3,500.00	3,497.88	8,080.00	4,987.34	12.10	51.43	-123.88	-163.47	6,789.51	6,997.50	6,935.15	62.36	112.215		
3,600.00	3,597.58	8,080.00	4,987.34	12.45	51.43	-123.88	-163.47	6,789.51	6,980.29	6,917.45	62.84	111.081		
3,700.00	3,697.27	8,080.00	4,987.34	12.79	51.43	-123.88	-163.47	6,789.51	6,964.47	6,901.15	63.32	109.997		
3,800.00	3,796.97	8,080.00	4,987.34	13.14	51.43	-123.88	-163.47	6,789.51	6,950.05	6,886.26	63.78	108.962		
3,900.00	3,896.67	8,080.00	4,987.34	13.48	51.43	-123.88	-163.47	6,789.51	6,937.04	6,872.80	64.25	107.975		
4,000.00	3,996.37	8,101.59	4,987.30	13.83	51.73	-123.70	-185.05	6,789.16	6,925.39	6,860.39	65.00	106.551		
4,100.00	4,096.07	8,104.78	4,987.29	14.18	51.77	-123.68	-188.25	6,789.11	6,915.21	6,849.72	65.49	105.596		
4,200.00	4,195.76	8,107.99	4,987.29	14.53	51.82	-123.65	-191.45	6,789.06	6,906.45	6,840.48	65.97	104.690		
4,300.00	4,295.46	8,111.21	4,987.29	14.88	51.86	-123.62	-194.67	6,789.02	6,899.14	6,832.69	66.45	103.832		
4,400.00	4,395.16	8,114.45	4,987.28	15.23	51.91	-123.60	-197.91	6,788.98	6,893.26	6,826.35	66.91	103.020		
4,500.00	4,494.86	8,117.70	4,987.28	15.58	51.95	-123.57	-201.16	6,788.94	6,888.83	6,821.46	67.37	102.256		
4,600.00	4,594.56	8,120.97	4,987.28	15.93	52.00	-123.54	-204.43	6,788.89	6,885.84	6,818.03	67.82	101.537		
4,700.00	4,694.25	8,124.25	4,987.28	16.29	52.04	-123.52	-207.71	6,788.86	6,884.31	6,816.05	68.25	100.863		
4,756.07	4,750.15	8,126.10	4,987.28	16.49	52.07	-123.50	-209.56	6,788.83	6,884.08	6,815.58	68.50	100.504		
4,800.00	4,793.95	8,127.55	4,987.28	16.64	52.09	-123.49	-211.01	6,788.82	6,884.22	6,815.54	68.68	100.233		
4,900.00	4,893.65	8,130.86	4,987.28	17.00	52.13	-123.46	-214.32	6,788.78	6,885.58	6,816.48	69.10	99.647		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Survey Program: 100-GYRO-NS-CT, 4452-MWD+HDGM													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
5,000.00	4,993.35	8,134.19	4,987.28	17.35	52.18	-123.43	-217.65	6,788.75	6,888.39	6,818.88	69.51	99.104		
5,100.00	5,093.05	8,137.53	4,987.28	17.71	52.23	-123.41	-220.99	6,788.71	6,892.65	6,822.74	69.90	98.603		
5,200.00	5,192.75	8,140.89	4,987.28	18.06	52.27	-123.38	-224.35	6,788.68	6,898.35	6,828.06	70.29	98.143		
5,300.00	5,292.44	8,144.26	4,987.29	18.42	52.32	-123.35	-227.72	6,788.65	6,905.49	6,834.83	70.66	97.724		
5,400.00	5,392.14	8,147.65	4,987.29	18.77	52.37	-123.32	-231.11	6,788.62	6,914.07	6,843.04	71.03	97.344		
5,500.00	5,491.84	8,151.06	4,987.29	19.13	52.41	-123.29	-234.52	6,788.59	6,924.07	6,852.69	71.38	97.004		
5,600.00	5,591.54	8,154.48	4,987.30	19.49	52.46	-123.26	-237.94	6,788.56	6,935.50	6,863.78	71.72	96.702		
5,700.00	5,691.24	8,175.00	4,987.34	19.85	52.74	-123.09	-258.46	6,788.44	6,948.39	6,876.11	72.29	96.124		
5,800.00	5,790.93	8,175.00	4,987.34	20.20	52.74	-123.09	-258.46	6,788.44	6,962.64	6,890.08	72.56	95.962		
5,900.00	5,890.63	8,175.00	4,987.34	20.56	52.74	-123.09	-258.46	6,788.44	6,978.28	6,905.47	72.82	95.835		
6,000.00	5,990.33	8,175.00	4,987.34	20.92	52.74	-123.09	-258.46	6,788.44	6,995.33	6,922.26	73.06	95.743		
6,100.00	6,090.03	8,175.00	4,987.34	21.28	52.74	-123.09	-258.46	6,788.44	7,013.75	6,940.45	73.30	95.686		
6,200.00	6,189.73	8,175.00	4,987.34	21.64	52.74	-123.09	-258.46	6,788.44	7,033.55	6,960.03	73.53	95.662		
6,300.00	6,289.42	8,180.66	4,987.35	22.00	52.82	-123.05	-264.12	6,788.41	7,054.71	6,980.90	73.82	95.569		
6,400.00	6,389.12	8,185.81	4,987.36	22.36	52.89	-123.00	-269.27	6,788.39	7,077.22	7,003.13	74.09	95.519		
6,500.00	6,488.82	8,190.97	4,987.38	22.72	52.97	-122.96	-274.43	6,788.37	7,101.05	7,026.70	74.36	95.501		
6,600.00	6,588.52	8,196.13	4,987.39	23.08	53.04	-122.92	-279.59	6,788.35	7,126.21	7,051.60	74.61	95.515		
6,700.00	6,688.22	8,201.31	4,987.41	23.44	53.11	-122.88	-284.76	6,788.33	7,152.67	7,077.82	74.85	95.559		
6,800.00	6,787.91	8,206.49	4,987.42	23.80	53.18	-122.83	-289.95	6,788.31	7,180.42	7,105.34	75.08	95.632		
6,900.00	6,887.61	8,211.68	4,987.44	24.16	53.25	-122.79	-295.14	6,788.30	7,209.45	7,134.14	75.31	95.735		
7,000.00	6,987.31	8,216.88	4,987.45	24.52	53.33	-122.75	-300.34	6,788.28	7,239.73	7,164.22	75.52	95.866		
7,100.00	7,087.01	8,222.09	4,987.47	24.88	53.40	-122.70	-305.54	6,788.27	7,271.27	7,195.54	75.72	96.025		
7,200.00	7,186.71	8,227.30	4,987.48	25.24	53.47	-122.66	-310.76	6,788.26	7,304.02	7,228.11	75.92	96.210		
7,300.00	7,286.41	8,232.53	4,987.50	25.60	53.54	-122.62	-315.99	6,788.24	7,338.00	7,261.89	76.10	96.422		
7,400.00	7,386.10	8,237.76	4,987.52	25.96	53.62	-122.57	-321.22	6,788.23	7,373.16	7,296.88	76.28	96.659		
7,500.00	7,485.80	8,243.01	4,987.53	26.33	53.69	-122.53	-326.46	6,788.22	7,409.51	7,333.06	76.45	96.921		
7,600.00	7,585.50	8,248.26	4,987.55	26.69	53.76	-122.49	-331.72	6,788.22	7,447.01	7,370.40	76.61	97.206		
7,700.00	7,685.20	8,253.52	4,987.57	27.05	53.83	-122.44	-336.98	6,788.21	7,485.66	7,408.89	76.76	97.515		
7,800.00	7,784.90	8,258.79	4,987.59	27.41	53.91	-122.40	-342.25	6,788.21	7,525.43	7,448.52	76.91	97.846		
7,860.70	7,845.41	8,261.99	4,987.60	27.63	53.95	-122.37	-345.45	6,788.20	7,550.12	7,473.12	77.00	98.058		
7,900.00	7,884.61	8,263.94	4,987.61	27.77	53.98	-122.58	-347.39	6,788.20	7,566.22	7,489.17	77.05	98.201		
8,000.00	7,984.46	8,270.00	4,987.63	28.13	54.06	-123.09	-353.46	6,788.20	7,607.04	7,529.86	77.19	98.552		
8,100.00	8,084.42	8,270.00	4,987.63	28.49	54.06	-123.65	-353.46	6,788.20	7,647.66	7,570.42	77.24	99.014		
8,157.59	8,142.00	8,270.43	4,987.63	28.69	54.07	90.11	-353.89	6,788.20	7,670.95	7,593.68	77.26	99.281		
8,200.00	8,184.41	8,270.63	4,987.63	28.83	54.07	90.11	-354.08	6,788.20	7,688.17	7,610.89	77.28	99.487		
8,300.00	8,284.41	8,271.09	4,987.63	29.17	54.08	90.12	-354.55	6,788.20	7,729.53	7,652.22	77.31	99.984		
8,400.00	8,384.41	8,271.55	4,987.63	29.51	54.09	90.12	-355.01	6,788.20	7,771.97	7,694.63	77.33	100.500		
8,507.63	8,492.04	8,272.05	4,987.64	29.87	54.09	90.13	-355.50	6,788.20	7,818.81	7,741.45	77.35	101.077		
8,550.00	8,534.37	8,272.22	4,987.64	30.02	54.09	0.73	-355.68	6,788.20	7,836.16	7,758.80	77.36	101.298		
8,600.00	8,584.01	8,272.36	4,987.64	30.18	54.10	0.71	-355.82	6,788.20	7,853.15	7,775.80	77.35	101.527		
8,650.00	8,632.95	8,272.44	4,987.64	30.34	54.10	0.70	-355.90	6,788.20	7,866.27	7,788.94	77.33	101.718		
8,700.00	8,680.82	8,272.45	4,987.64	30.50	54.10	0.68	-355.91	6,788.20	7,875.44	7,798.14	77.31	101.869		
8,750.00	8,727.25	8,272.40	4,987.64	30.66	54.10	0.68	-355.86	6,788.20	7,880.61	7,803.34	77.27	101.982		
8,800.00	8,771.89	8,272.28	4,987.64	30.81	54.10	0.68	-355.74	6,788.20	7,881.75	7,804.52	77.23	102.056		
8,850.00	8,814.40	8,272.10	4,987.64	30.95	54.09	0.68	-355.56	6,788.20	7,878.84	7,801.66	77.17	102.092		
8,900.00	8,854.46	8,271.86	4,987.63	31.09	54.09	0.68	-355.32	6,788.20	7,871.90	7,794.79	77.11	102.091		
8,950.00	8,891.75	8,271.55	4,987.63	31.23	54.09	0.70	-355.01	6,788.20	7,860.98	7,783.95	77.03	102.051		
9,000.00	8,926.01	8,271.19	4,987.63	31.37	54.08	0.71	-354.65	6,788.20	7,846.14	7,769.20	76.94	101.972		
9,050.00	8,956.96	8,270.78	4,987.63	31.53	54.07	0.73	-354.24	6,788.20	7,827.48	7,750.63	76.85	101.855		
9,100.00	8,984.38	8,270.31	4,987.63	31.69	54.07	0.76	-353.77	6,788.20	7,805.11	7,728.36	76.75	101.700		
9,150.00	9,008.05	8,270.00	4,987.63	31.87	54.06	0.80	-353.46	6,788.20	7,779.17	7,702.53	76.64	101.503		
9,200.00	9,027.79	8,270.00	4,987.63	32.07	54.06	0.85	-353.46	6,788.20	7,749.81	7,673.28	76.53	101.261		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Sec 13-T21S-R27E - Lone Tree Draw State 3H - Wellbore #1 - Wellbore #1													Offset Well Error:	0.50 ft
Survey Program: 100-GYRO-NS-CT, 4452-MWD+HDGM														
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (ft)	Separation Factor	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)				
9,250.00	9,043.45	8,270.00	4,987.63	32.29	54.06	0.92	-353.46	6,788.20	7,717.24	7,640.82	76.42	100.981		
9,300.00	9,054.92	8,270.00	4,987.63	32.53	54.06	1.01	-353.46	6,788.20	7,681.65	7,605.34	76.31	100.661		
9,350.00	9,062.10	8,270.00	4,987.63	32.79	54.06	1.12	-353.46	6,788.20	7,643.28	7,567.08	76.20	100.304		
9,400.00	9,064.95	8,267.83	4,987.62	33.06	54.03	1.24	-351.29	6,788.20	7,602.37	7,526.31	76.07	99.945		
9,407.63	9,065.00	8,267.76	4,987.62	33.10	54.03	1.26	-351.22	6,788.20	7,595.93	7,519.87	76.05	99.878		
9,500.00	9,065.00	8,266.91	4,987.62	33.68	54.02	1.25	-350.37	6,788.20	7,517.71	7,441.88	75.83	99.136		
9,600.00	9,065.00	8,265.98	4,987.61	34.41	54.01	1.24	-349.44	6,788.20	7,433.41	7,357.81	75.60	98.331		
9,700.00	9,065.00	8,265.04	4,987.61	35.24	53.99	1.22	-348.50	6,788.20	7,349.49	7,274.14	75.36	97.526		
9,800.00	9,065.00	8,264.10	4,987.61	36.17	53.98	1.21	-347.56	6,788.20	7,265.99	7,190.86	75.13	96.719		
9,900.00	9,065.00	8,263.15	4,987.60	37.19	53.97	1.19	-346.61	6,788.20	7,182.91	7,108.01	74.89	95.910		
10,000.00	9,065.00	8,262.19	4,987.60	38.30	53.95	1.18	-345.65	6,788.20	7,100.26	7,025.60	74.66	95.099		
10,100.00	9,065.00	8,261.22	4,987.60	39.48	53.94	1.17	-344.68	6,788.20	7,018.06	6,943.63	74.43	94.285		
10,200.00	9,065.00	8,260.25	4,987.59	40.72	53.93	1.15	-343.71	6,788.20	6,936.33	6,862.12	74.21	93.470		
10,300.00	9,065.00	8,259.27	4,987.59	42.03	53.91	1.14	-342.73	6,788.20	6,855.09	6,781.10	73.99	92.651		
10,400.00	9,065.00	8,258.28	4,987.59	43.40	53.90	1.13	-341.74	6,788.21	6,774.34	6,700.57	73.77	91.829		
10,500.00	9,065.00	8,257.28	4,987.58	44.82	53.89	1.11	-340.74	6,788.21	6,694.12	6,620.56	73.56	91.004		
10,600.00	9,065.00	8,256.28	4,987.58	46.29	53.87	1.10	-339.74	6,788.21	6,614.44	6,541.08	73.35	90.176		
10,700.00	9,065.00	8,255.27	4,987.58	47.79	53.86	1.08	-338.73	6,788.21	6,535.31	6,462.16	73.15	89.343		
10,800.00	9,065.00	8,254.25	4,987.57	49.34	53.84	1.07	-337.71	6,788.21	6,456.76	6,383.81	72.95	88.507		
10,900.00	9,065.00	8,253.22	4,987.57	50.92	53.83	1.05	-336.68	6,788.21	6,378.81	6,306.05	72.76	87.666		
11,000.00	9,065.00	8,252.19	4,987.56	52.54	53.82	1.04	-335.65	6,788.21	6,301.49	6,228.91	72.58	86.820		
11,100.00	9,065.00	8,251.14	4,987.56	54.18	53.80	1.02	-334.60	6,788.21	6,224.81	6,152.40	72.41	85.970		
11,200.00	9,065.00	8,250.09	4,987.56	55.85	53.79	1.01	-333.55	6,788.21	6,148.80	6,076.56	72.24	85.114		
11,300.00	9,065.00	8,249.03	4,987.55	57.54	53.77	0.99	-332.49	6,788.22	6,073.49	6,001.40	72.09	84.254		
11,400.00	9,065.00	8,247.96	4,987.55	59.26	53.76	0.98	-331.42	6,788.22	5,998.90	5,926.96	71.94	83.388		
11,500.00	9,065.00	8,246.89	4,987.55	61.00	53.74	0.96	-330.35	6,788.22	5,925.05	5,853.25	71.80	82.516		
11,600.00	9,065.00	8,245.80	4,987.54	62.75	53.73	0.95	-329.26	6,788.22	5,851.98	5,780.30	71.68	81.640		
11,700.00	9,065.00	8,244.71	4,987.54	64.52	53.71	0.93	-328.17	6,788.22	5,779.72	5,708.15	71.57	80.757		
11,800.00	9,065.00	8,243.60	4,987.54	66.31	53.70	0.92	-327.06	6,788.22	5,708.30	5,636.83	71.47	79.870		
11,900.00	9,065.00	8,242.49	4,987.53	68.11	53.68	0.90	-325.95	6,788.23	5,637.74	5,566.36	71.38	78.977		
12,000.00	9,065.00	8,241.37	4,987.53	69.93	53.67	0.88	-324.83	6,788.23	5,568.09	5,496.78	71.31	78.079		
12,100.00	9,065.00	8,240.24	4,987.52	71.76	53.65	0.87	-323.70	6,788.23	5,499.37	5,428.12	71.26	77.177		
12,200.00	9,065.00	8,239.10	4,987.52	73.60	53.63	0.85	-322.56	6,788.23	5,431.63	5,360.41	71.22	76.270		
12,300.00	9,065.00	8,237.95	4,987.52	75.45	53.62	0.84	-321.41	6,788.23	5,364.89	5,293.70	71.19	75.360		
12,400.00	9,065.00	8,236.79	4,987.51	77.31	53.60	0.82	-320.25	6,788.24	5,299.20	5,228.02	71.18	74.447		
12,500.00	9,065.00	8,235.62	4,987.51	79.18	53.59	0.80	-319.08	6,788.24	5,234.59	5,163.40	71.19	73.531		
12,600.00	9,065.00	8,234.45	4,987.51	81.05	53.57	0.79	-317.90	6,788.24	5,171.11	5,099.90	71.21	72.613		
12,700.00	9,065.00	8,233.26	4,987.50	82.94	53.55	0.77	-316.72	6,788.24	5,108.80	5,037.54	71.26	71.694		
12,800.00	9,065.00	8,232.06	4,987.50	84.83	53.54	0.75	-315.52	6,788.24	5,047.70	4,976.38	71.32	70.775		
12,900.00	9,065.00	8,230.85	4,987.49	86.73	53.52	0.73	-314.31	6,788.25	4,987.86	4,916.46	71.40	69.857		
13,000.00	9,065.00	8,229.63	4,987.49	88.64	53.50	0.72	-313.09	6,788.25	4,929.32	4,857.82	71.50	68.941		
13,100.00	9,065.00	8,228.40	4,987.49	90.55	53.49	0.70	-311.86	6,788.25	4,872.13	4,800.51	71.62	68.028		
13,200.00	9,065.00	8,227.16	4,987.48	92.47	53.47	0.68	-310.62	6,788.26	4,816.33	4,744.58	71.76	67.119		
13,300.00	9,065.00	8,225.91	4,987.48	94.39	53.45	0.66	-309.37	6,788.26	4,761.99	4,690.07	71.92	66.215		
13,400.00	9,065.00	8,224.65	4,987.47	96.32	53.43	0.65	-308.11	6,788.26	4,709.13	4,637.04	72.10	65.318		
13,500.00	9,065.00	8,223.38	4,987.47	98.25	53.42	0.63	-306.84	6,788.26	4,657.83	4,585.53	72.29	64.429		
13,600.00	9,065.00	8,222.10	4,987.47	100.19	53.40	0.61	-305.56	6,788.27	4,608.12	4,535.61	72.51	63.548		
13,700.00	9,065.00	8,220.80	4,987.46	102.13	53.38	0.59	-304.26	6,788.27	4,560.07	4,487.31	72.75	62.678		
13,800.00	9,065.00	8,219.50	4,987.46	104.08	53.36	0.57	-302.96	6,788.27	4,513.72	4,440.70	73.02	61.819		
13,900.00	9,065.00	8,218.18	4,987.46	106.03	53.34	0.55	-301.64	6,788.28	4,469.12	4,395.82	73.30	60.972		
14,000.00	9,065.00	8,216.85	4,987.45	107.98	53.32	0.54	-300.31	6,788.28	4,426.34	4,352.73	73.60	60.138		
14,100.00	9,065.00	8,215.51	4,987.45	109.94	53.31	0.52	-298.97	6,788.29	4,385.41	4,311.48	73.93	59.319		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Survey Program: 100-GYRO-NS-CT, 4452-MWD+HDGM													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Minimum Separation (ft)	Separation Factor	Warning			
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)						
14,200.00	9,065.00	8,214.16	4,987.44	111.90	53.29	0.50	-297.62	6,788.29	4,346.41	4,272.13	74.28	58.515		
14,300.00	9,065.00	8,212.79	4,987.44	113.86	53.27	0.48	-296.25	6,788.29	4,309.37	4,234.72	74.65	57.727		
14,400.00	9,065.00	8,211.42	4,987.44	115.82	53.25	0.46	-294.87	6,788.30	4,274.35	4,199.30	75.05	56.956		
14,500.00	9,065.00	8,210.03	4,987.43	117.79	53.23	0.44	-293.48	6,788.30	4,241.40	4,165.93	75.47	56.202		
14,600.00	9,065.00	8,208.62	4,987.43	119.76	53.21	0.42	-292.08	6,788.31	4,210.56	4,134.65	75.91	55.467		
14,700.00	9,065.00	8,207.21	4,987.42	121.74	53.19	0.40	-290.67	6,788.31	4,181.89	4,105.51	76.38	54.750		
14,800.00	9,065.00	8,205.78	4,987.42	123.71	53.17	0.38	-289.24	6,788.32	4,155.43	4,078.55	76.88	54.051		
14,900.00	9,065.00	8,204.34	4,987.41	125.69	53.15	0.36	-287.80	6,788.32	4,131.22	4,053.81	77.40	53.372		
15,000.00	9,065.00	8,202.88	4,987.41	127.67	53.13	0.34	-286.34	6,788.33	4,109.30	4,031.34	77.96	52.713		
15,100.00	9,065.00	8,201.41	4,987.41	129.65	53.11	0.32	-284.87	6,788.33	4,089.71	4,011.17	78.54	52.073		
15,200.00	9,065.00	8,199.93	4,987.40	131.63	53.09	0.29	-283.39	6,788.34	4,072.48	3,993.33	79.15	51.453		
15,300.00	9,065.00	8,198.43	4,987.40	133.62	53.07	0.27	-281.89	6,788.34	4,057.64	3,977.85	79.79	50.854		
15,400.00	9,065.00	8,196.92	4,987.39	135.61	53.05	0.25	-280.38	6,788.35	4,045.22	3,964.75	80.46	50.275		
15,500.00	9,065.00	8,195.40	4,987.39	137.60	53.03	0.23	-278.86	6,788.35	4,035.23	3,954.07	81.16	49.718		
15,600.00	9,065.00	8,193.86	4,987.39	139.59	53.01	0.21	-277.32	6,788.36	4,027.71	3,945.82	81.89	49.183		
15,700.00	9,065.00	8,192.30	4,987.38	141.58	52.98	0.19	-275.76	6,788.36	4,022.66	3,940.01	82.65	48.669		
15,800.00	9,065.00	8,193.69	4,987.39	143.57	53.00	0.21	-277.14	6,788.37	4,020.09	3,936.62	83.47	48.164		
15,853.32	9,065.00	8,192.80	4,987.39	144.64	52.99	0.19	-276.26	6,788.38	4,019.73	3,935.84	83.90	47.913 CC		
15,900.00	9,065.00	8,192.02	4,987.39	145.57	52.98	0.18	-275.47	6,788.38	4,020.00	3,935.72	84.28	47.699 ES		
16,000.00	9,065.00	8,190.29	4,987.38	147.56	52.95	0.16	-273.74	6,788.38	4,022.41	3,937.29	85.12	47.258		
16,100.00	9,065.00	8,188.49	4,987.38	149.56	52.93	0.13	-271.95	6,788.39	4,027.29	3,941.32	85.97	46.843		
16,200.00	9,065.00	8,186.63	4,987.37	151.56	52.90	0.10	-270.09	6,788.39	4,034.65	3,947.80	86.85	46.455		
16,300.00	9,065.00	8,184.70	4,987.36	153.56	52.88	0.08	-268.16	6,788.40	4,044.47	3,956.72	87.74	46.094		
16,400.00	9,065.00	8,182.70	4,987.36	155.56	52.85	0.05	-266.16	6,788.41	4,056.73	3,968.08	88.65	45.762		
16,500.00	9,065.00	8,180.62	4,987.35	157.57	52.82	0.02	-264.08	6,788.41	4,071.40	3,981.84	89.56	45.460		
16,600.00	9,065.00	8,178.46	4,987.35	159.57	52.79	-0.01	-261.92	6,788.42	4,088.48	3,998.00	90.48	45.188		
16,700.00	9,065.00	8,176.20	4,987.34	161.57	52.76	-0.04	-259.66	6,788.43	4,107.91	4,016.51	91.40	44.946		
16,800.00	9,065.00	8,173.86	4,987.33	163.58	52.73	-0.08	-257.32	6,788.44	4,129.67	4,037.36	92.31	44.737		
16,900.00	9,065.00	8,171.41	4,987.33	165.59	52.69	-0.11	-254.87	6,788.46	4,153.73	4,060.51	93.22	44.559		
17,000.00	9,065.00	8,168.86	4,987.32	167.60	52.66	-0.15	-252.32	6,788.47	4,180.04	4,085.92	94.12	44.413		
17,100.00	9,065.00	8,166.19	4,987.32	169.60	52.62	-0.19	-249.65	6,788.49	4,208.56	4,113.56	95.00	44.299		
17,200.00	9,065.00	8,163.41	4,987.31	171.61	52.58	-0.23	-246.87	6,788.50	4,239.25	4,143.38	95.87	44.217		
17,300.00	9,065.00	8,160.49	4,987.31	173.62	52.54	-0.27	-243.95	6,788.52	4,272.06	4,175.34	96.72	44.168		
17,400.00	9,065.00	8,157.44	4,987.30	175.63	52.50	-0.31	-240.90	6,788.54	4,306.94	4,209.39	97.55	44.150 SF		
17,500.00	9,065.00	8,154.24	4,987.30	177.65	52.46	-0.36	-237.70	6,788.57	4,343.84	4,245.48	98.36	44.163		
17,600.00	9,065.00	8,150.88	4,987.29	179.66	52.41	-0.41	-234.34	6,788.59	4,382.71	4,283.57	99.14	44.207		
17,700.00	9,065.00	8,147.34	4,987.29	181.67	52.36	-0.46	-230.80	6,788.62	4,423.50	4,323.61	99.90	44.281		
17,800.00	9,065.00	8,143.62	4,987.29	183.69	52.31	-0.51	-227.08	6,788.65	4,466.15	4,365.53	100.62	44.386		
17,900.00	9,065.00	8,139.70	4,987.28	185.70	52.26	-0.56	-223.16	6,788.69	4,510.62	4,409.30	101.32	44.519		
18,000.00	9,065.00	8,135.57	4,987.28	187.72	52.20	-0.62	-219.03	6,788.73	4,556.85	4,454.86	101.99	44.680		
18,100.00	9,065.00	8,131.19	4,987.28	189.73	52.14	-0.69	-214.65	6,788.78	4,604.78	4,502.15	102.63	44.869		
18,200.00	9,065.00	8,126.57	4,987.28	191.75	52.07	-0.75	-210.03	6,788.83	4,654.36	4,551.13	103.24	45.085		
18,300.00	9,065.00	8,121.66	4,987.28	193.77	52.01	-0.82	-205.12	6,788.89	4,705.55	4,601.73	103.81	45.326		
18,400.00	9,065.00	8,116.44	4,987.28	195.78	51.93	-0.90	-199.91	6,788.95	4,758.28	4,653.92	104.36	45.594		
18,500.00	9,065.00	8,110.89	4,987.29	197.80	51.86	-0.97	-194.36	6,789.02	4,812.51	4,707.63	104.88	45.886		
18,600.00	9,065.00	8,104.98	4,987.29	199.82	51.78	-1.06	-188.44	6,789.11	4,868.19	4,762.82	105.37	46.202		
18,700.00	9,065.00	8,098.65	4,987.30	201.84	51.69	-1.15	-182.12	6,789.20	4,925.27	4,819.44	105.83	46.541		
18,800.00	9,065.00	8,091.88	4,987.31	203.86	51.59	-1.25	-175.34	6,789.31	4,983.69	4,877.44	106.26	46.903		
18,900.00	9,065.00	8,084.61	4,987.33	205.88	51.49	-1.35	-168.07	6,789.43	5,043.42	4,936.77	106.66	47.287		
19,000.00	9,065.00	8,078.18	4,987.34	207.90	51.41	-1.44	-161.65	6,789.54	5,104.41	4,997.37	107.04	47.687		
19,100.00	9,065.00	8,073.59	4,987.35	209.92	51.34	-1.51	-157.06	6,789.62	5,166.61	5,059.19	107.42	48.099		
19,200.00	9,065.00	8,068.90	4,987.37	211.95	51.28	-1.57	-152.37	6,789.71	5,229.97	5,122.20	107.77	48.529		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design		Sec 13-T21S-R27E - Lone Tree Draw State 3H - Wellbore #1 - Wellbore #1										Offset Site Error:		5.00 ft
Survey Program:		100-GYRO-NS-CT, 4452-MWD+HDGM										Offset Well Error:		0.50 ft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor		
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)			
19,300.00	9,065.00	8,064.12	4,987.38	213.97	51.21	-1.64	-147.58	6,789.80	5,294.47	5,186.37	108.10	48.977		
19,400.00	9,065.00	8,059.22	4,987.40	215.99	51.14	-1.71	-142.69	6,789.89	5,360.05	5,251.64	108.41	49.441		
19,456.84	9,065.00	8,056.40	4,987.41	217.14	51.11	-1.75	-139.87	6,789.95	5,397.80	5,289.22	108.58	49.713		

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design		Sec 13-T21S-R27E - Lone Tree Draw State 7H - Wellbore #1 - Wellbore #1											Offset Site Error:		5.00 ft
Survey Program:		100-GYRO-NS-CT, 2922-MWD+HDGM											Offset Well Error:		0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor			
0.00	0.00	0.00	0.00	0.50	5.02	66.72	3,319.90	7,715.44	8,399.58						
100.00	100.00	39.11	39.11	0.52	5.03	66.72	3,319.90	7,715.44	8,399.39	8,393.85	5.54	1,515.327			
200.00	200.00	139.31	139.31	0.70	5.03	66.72	3,319.98	7,715.50	8,399.48	8,393.74	5.73	1,464.796			
300.00	300.00	262.92	262.92	0.99	5.07	66.71	3,320.39	7,715.21	8,399.40	8,393.34	6.06	1,385.841			
400.00	400.00	400.00	468.21	1.31	5.16	66.71	3,319.75	7,713.55	8,398.53	8,392.06	6.47	1,298.021			
500.00	500.00	626.05	626.00	1.65	5.40	66.72	3,317.34	7,711.04	8,396.33	8,389.29	7.04	1,192.165			
600.00	600.00	700.00	699.93	1.99	5.50	66.73	3,316.39	7,709.93	8,394.40	8,386.92	7.49	1,121.131			
700.00	700.00	764.79	764.71	2.34	5.60	66.73	3,315.87	7,709.07	8,392.83	8,384.90	7.93	1,058.065			
800.00	800.00	876.22	876.13	2.69	5.78	66.73	3,315.29	7,707.56	8,391.38	8,382.92	8.47	991.262			
900.00	900.00	1,005.03	1,004.92	3.04	6.02	66.72	3,314.93	7,705.25	8,389.62	8,380.57	9.05	926.708			
1,000.00	1,000.00	1,070.73	1,070.61	3.40	6.15	66.72	3,314.89	7,704.05	8,387.91	8,378.38	9.54	879.517			
1,100.00	1,100.00	1,362.68	1,362.45	3.75	6.80	66.72	3,311.66	7,697.31	8,385.56	8,375.03	10.53	796.517			
1,200.00	1,200.00	1,441.87	1,441.57	4.11	7.00	66.73	3,309.35	7,695.12	8,381.87	8,370.79	11.07	756.919			
1,300.00	1,300.00	1,517.18	1,516.82	4.46	7.19	66.74	3,307.11	7,693.28	8,378.45	8,366.83	11.62	721.253			
1,400.00	1,400.00	1,591.17	1,590.77	4.82	7.38	66.75	3,304.95	7,691.70	8,375.34	8,363.18	12.16	688.686			
1,500.00	1,500.00	1,718.54	1,718.06	5.18	7.72	66.76	3,301.31	7,688.89	8,372.17	8,359.32	12.85	651.515			
1,600.00	1,600.00	1,790.71	1,790.18	5.53	7.92	66.77	3,299.31	7,687.30	8,369.05	8,355.65	13.40	624.471			
1,700.00	1,700.00	1,924.34	1,923.73	5.89	8.29	66.79	3,295.50	7,684.40	8,365.95	8,351.82	14.13	592.255			
1,800.00	1,800.00	2,098.27	2,097.50	6.25	8.80	66.81	3,290.11	7,679.64	8,362.25	8,347.28	14.97	558.480			
1,900.00	1,900.00	2,179.38	2,178.53	6.61	9.05	66.82	3,287.76	7,677.00	8,358.12	8,342.55	15.57	536.939			
2,000.00	2,000.00	2,247.14	2,246.24	6.96	9.25	66.82	3,285.85	7,674.98	8,354.28	8,338.16	16.12	518.139			
2,100.00	2,100.00	2,320.13	2,319.18	7.32	9.47	66.83	3,283.72	7,673.19	8,350.86	8,334.16	16.70	500.102			
2,200.00	2,200.00	2,424.39	2,423.36	7.68	9.79	66.84	3,280.57	7,670.69	8,347.47	8,330.10	17.37	480.618			
2,300.00	2,300.00	2,500.00	2,498.92	8.04	10.03	66.85	3,278.38	7,669.01	8,344.27	8,326.32	17.96	464.713			
2,400.00	2,400.00	2,599.56	2,598.42	8.39	10.34	66.87	3,275.61	7,666.90	8,341.23	8,322.61	18.62	448.028			
2,500.00	2,500.00	2,695.14	2,693.94	8.75	10.64	66.88	3,273.03	7,664.84	8,338.19	8,318.92	19.27	432.699			
2,600.00	2,599.99	2,775.00	2,773.76	9.09	10.89	-147.21	3,271.00	7,663.21	8,336.05	8,316.19	19.86	419.746			
2,668.38	2,668.35	2,818.61	2,817.35	9.32	10.96	-147.21	3,270.05	7,662.38	8,335.61	8,315.46	20.15	413.630			
2,700.00	2,699.96	2,839.60	2,838.33	9.42	10.99	-147.21	3,269.68	7,661.99	8,335.70	8,315.41	20.29	410.850			
2,800.00	2,799.86	2,905.94	2,904.65	9.75	11.10	-147.21	3,268.88	7,660.79	8,337.23	8,316.51	20.72	402.321			
2,900.00	2,899.68	2,994.03	2,992.73	10.08	11.14	-147.21	3,268.45	7,659.22	8,340.53	8,319.44	21.09	395.501			
2,945.33	2,944.88	3,275.19	3,273.47	10.23	11.23	-147.35	3,274.16	7,646.74	8,341.68	8,320.36	21.32	391.238			
3,000.00	2,999.39	3,336.94	3,334.99	10.41	11.26	-147.40	3,277.06	7,642.35	8,342.69	8,321.16	21.54	387.389			
3,100.00	3,099.08	3,438.29	3,435.97	10.75	11.33	-147.48	3,281.85	7,635.09	8,344.53	8,322.60	21.93	380.446			
3,200.00	3,198.78	3,537.64	3,534.96	11.08	11.40	-147.56	3,286.53	7,627.97	8,346.36	8,324.02	22.34	373.537			
3,300.00	3,298.48	3,635.05	3,632.01	11.42	11.48	-147.63	3,291.13	7,621.00	8,348.23	8,325.47	22.77	366.693			
3,400.00	3,398.18	3,733.30	3,729.90	11.76	11.57	-147.71	3,295.82	7,613.97	8,350.13	8,326.93	23.20	359.895			
3,500.00	3,497.88	3,832.46	3,828.67	12.10	11.68	-147.79	3,300.69	7,606.82	8,352.06	8,328.41	23.65	353.149			
3,600.00	3,597.58	3,928.47	3,924.32	12.45	11.79	-147.86	3,305.39	7,599.92	8,354.01	8,329.90	24.11	346.538			
3,700.00	3,697.27	3,990.34	3,985.96	12.79	11.86	-147.91	3,308.40	7,595.58	8,356.16	8,331.63	24.53	340.630			
3,800.00	3,796.97	4,056.00	4,051.41	13.14	11.95	-147.96	3,311.82	7,591.45	8,359.00	8,334.04	24.96	334.835			
3,900.00	3,896.67	4,260.56	4,255.42	13.48	12.24	-148.10	3,318.95	7,578.32	8,361.01	8,335.41	25.60	326.581			
4,000.00	3,996.37	4,280.97	4,275.78	13.83	12.27	-148.12	3,319.58	7,577.11	8,363.18	8,337.20	25.99	321.832			
4,100.00	4,096.07	4,340.00	4,334.69	14.18	12.36	-148.15	3,321.65	7,574.10	8,366.32	8,339.89	26.43	316.569			
4,200.00	4,195.76	11,175.18	7,738.39	14.53	55.69	-124.86	-211.50	7,458.31	8,340.23	8,274.44	65.78	126.780			
4,300.00	4,295.46	11,181.44	7,738.44	14.88	55.78	-124.81	-217.76	7,458.18	8,301.54	8,235.13	66.41	124.996			
4,400.00	4,395.16	11,187.68	7,738.49	15.23	55.86	-124.77	-224.00	7,458.06	8,263.88	8,196.83	67.04	123.261			
4,500.00	4,494.86	11,193.90	7,738.55	15.58	55.94	-124.72	-230.23	7,457.94	8,227.25	8,159.58	67.67	121.573			
4,600.00	4,594.56	11,259.34	7,738.66	15.93	56.82	-124.23	-295.64	7,456.64	8,191.66	8,122.59	69.06	118.613			
4,700.00	4,694.25	4,700.00	7,738.47	16.29	31.67	-124.30	-286.75	7,456.79	8,156.99	8,111.80	45.19	180.514			
4,800.00	4,793.95	4,800.00	7,738.46	16.64	30.30	-124.25	-293.12	7,456.66	8,123.52	8,079.15	44.38	183.063			
4,900.00	4,893.65	4,900.00	7,738.45	17.00	28.93	-124.20	-299.48	7,456.53	8,091.15	8,047.60	43.55	185.778			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Sec 13-T21S-R27E - Lone Tree Draw State 7H - Wellbore #1 - Wellbore #1													Offset Well Error:	0.50 ft
Survey Program: 100-GYRO-NS-CT, 2922-MWD+HDGM														
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
5,000.00	4,993.35	5,000.00	7,738.44	17.35	27.56	-124.16	-305.84	7,456.40	8,059.89	8,017.17	42.72	188.671		
5,100.00	5,093.05	5,100.00	7,738.43	17.71	26.18	-124.11	-312.20	7,456.27	8,029.74	7,987.87	41.87	191.758		
5,200.00	5,192.75	5,200.00	7,738.42	18.06	24.80	-124.06	-318.56	7,456.13	8,000.72	7,959.71	41.02	195.057		
5,300.00	5,292.44	5,300.00	7,738.41	18.42	23.42	-124.01	-324.92	7,456.00	7,972.85	7,932.70	40.15	198.586		
5,400.00	5,392.14	5,400.00	7,738.40	18.77	22.04	-123.97	-331.28	7,455.87	7,946.14	7,906.87	39.27	202.367		
5,500.00	5,491.84	11,290.00	7,738.41	19.13	57.24	-124.00	-326.30	7,455.98	7,920.60	7,846.25	74.34	106.545		
5,600.00	5,591.54	11,314.00	7,738.18	19.49	57.56	-123.82	-350.29	7,455.48	7,896.16	7,820.98	75.18	105.025		
5,700.00	5,691.24	11,316.76	7,738.17	19.85	57.60	-123.80	-353.06	7,455.42	7,872.98	7,797.24	75.74	103.946		
5,800.00	5,790.93	11,319.58	7,738.15	20.20	57.64	-123.78	-355.87	7,455.37	7,851.00	7,774.70	76.29	102.905		
5,900.00	5,890.63	11,322.44	7,738.13	20.56	57.68	-123.76	-358.73	7,455.31	7,830.23	7,753.39	76.84	101.901		
6,000.00	5,990.33	11,325.36	7,738.12	20.92	57.71	-123.74	-361.65	7,455.26	7,810.69	7,733.31	77.38	100.934		
6,100.00	6,090.03	11,328.33	7,738.10	21.28	57.76	-123.72	-364.61	7,455.20	7,792.38	7,714.46	77.92	100.003		
6,200.00	6,189.73	11,331.35	7,738.09	21.64	57.80	-123.70	-367.64	7,455.15	7,775.31	7,696.86	78.45	99.109		
6,300.00	6,289.42	11,334.42	7,738.08	22.00	57.84	-123.67	-370.71	7,455.09	7,759.49	7,680.51	78.98	98.250		
6,400.00	6,389.12	11,337.56	7,738.07	22.36	57.88	-123.65	-373.85	7,455.04	7,744.93	7,665.43	79.50	97.426		
6,500.00	6,488.82	11,340.75	7,738.06	22.72	57.92	-123.63	-377.04	7,454.98	7,731.63	7,651.62	80.01	96.637		
6,600.00	6,588.52	11,344.00	7,738.06	23.08	57.97	-123.60	-380.29	7,454.92	7,719.60	7,639.08	80.51	95.882		
6,700.00	6,688.22	11,347.32	7,738.05	23.44	58.01	-123.58	-383.60	7,454.87	7,708.84	7,627.83	81.01	95.162		
6,800.00	6,787.91	11,350.69	7,738.05	23.80	58.06	-123.55	-386.98	7,454.81	7,699.37	7,617.87	81.50	94.474		
6,900.00	6,887.61	11,354.14	7,738.05	24.16	58.10	-123.53	-390.42	7,454.76	7,691.18	7,609.20	81.98	93.820		
7,000.00	6,987.31	11,357.65	7,738.06	24.52	58.15	-123.50	-393.93	7,454.70	7,684.28	7,601.83	82.45	93.198		
7,100.00	7,087.01	11,361.23	7,738.06	24.88	58.20	-123.47	-397.51	7,454.65	7,678.68	7,595.76	82.92	92.608		
7,200.00	7,186.71	11,364.88	7,738.07	25.24	58.25	-123.45	-401.16	7,454.59	7,674.37	7,590.99	83.37	92.050		
7,300.00	7,286.41	11,368.60	7,738.08	25.60	58.30	-123.42	-404.89	7,454.54	7,671.36	7,587.54	83.82	91.523		
7,400.00	7,386.10	11,372.40	7,738.09	25.96	58.35	-123.39	-408.69	7,454.48	7,669.64	7,585.39	84.26	91.027		
7,482.59	7,468.45	11,389.00	7,738.18	26.26	58.58	-123.27	-425.28	7,454.26	7,669.23	7,584.44	84.80	90.444		
7,500.00	7,485.80	11,389.00	7,738.18	26.33	58.58	-123.27	-425.28	7,454.26	7,669.25	7,584.39	84.86	90.375		
7,600.00	7,585.50	11,389.00	7,738.18	26.69	58.58	-123.27	-425.28	7,454.26	7,670.13	7,584.90	85.23	89.997		
7,700.00	7,685.20	11,389.00	7,738.18	27.05	58.58	-123.27	-425.28	7,454.26	7,672.31	7,586.73	85.58	89.649		
7,800.00	7,784.90	11,389.00	7,738.18	27.41	58.58	-123.27	-425.28	7,454.26	7,675.80	7,589.87	85.93	89.329		
7,860.70	7,845.41	11,393.44	7,738.21	27.63	58.64	-123.23	-429.72	7,454.20	7,678.55	7,592.35	86.19	89.086		
7,900.00	7,884.61	11,396.90	7,738.23	27.77	58.68	-123.23	-433.18	7,454.16	7,680.47	7,594.10	86.37	88.925		
8,000.00	7,984.46	11,403.52	7,738.27	28.13	58.77	-123.24	-439.80	7,454.07	7,685.26	7,598.48	86.78	88.557		
8,100.00	8,084.42	11,407.12	7,738.28	28.49	58.82	-123.27	-443.40	7,454.02	7,689.92	7,602.78	87.14	88.247		
8,157.59	8,142.00	11,407.89	7,738.29	28.69	58.83	90.78	-444.17	7,454.01	7,692.54	7,605.22	87.32	88.097		
8,200.00	8,184.41	11,408.11	7,738.29	28.83	58.84	90.78	-444.39	7,454.01	7,694.57	7,607.13	87.44	87.999		
8,300.00	8,284.41	11,408.62	7,738.29	29.17	58.84	90.78	-444.90	7,454.00	7,700.27	7,612.56	87.72	87.787		
8,400.00	8,384.41	11,409.11	7,738.29	29.51	58.85	90.79	-445.39	7,453.99	7,707.27	7,619.29	87.98	87.601		
8,507.63	8,492.04	11,409.62	7,738.29	29.87	58.86	90.79	-445.90	7,453.99	7,716.25	7,627.99	88.26	87.430		
8,550.00	8,534.37	11,409.77	7,738.30	30.02	58.86	1.42	-446.05	7,453.99	7,718.63	7,630.27	88.36	87.356		
8,600.00	8,584.01	11,409.83	7,738.30	30.18	58.86	1.42	-446.11	7,453.98	7,717.71	7,629.24	88.47	87.234		
8,650.00	8,632.95	11,409.77	7,738.30	30.34	58.86	1.43	-446.05	7,453.99	7,712.76	7,624.18	88.58	87.074		
8,700.00	8,680.82	11,409.58	7,738.29	30.50	58.86	1.45	-445.86	7,453.99	7,703.81	7,615.14	88.67	86.880		
8,750.00	8,727.25	11,409.28	7,738.29	30.66	58.85	1.48	-445.56	7,453.99	7,690.91	7,602.16	88.76	86.652		
8,800.00	8,771.89	11,408.86	7,738.29	30.81	58.85	1.53	-445.14	7,454.00	7,674.15	7,585.32	88.83	86.393		
8,850.00	8,814.40	11,408.34	7,738.29	30.95	58.84	1.58	-444.62	7,454.00	7,653.63	7,564.74	88.89	86.104		
8,900.00	8,854.46	11,407.72	7,738.29	31.09	58.83	1.66	-444.00	7,454.01	7,629.46	7,540.53	88.94	85.786		
8,950.00	8,891.75	11,407.00	7,738.28	31.23	58.82	1.75	-443.28	7,454.02	7,601.81	7,512.84	88.97	85.442		
9,000.00	8,926.01	11,406.20	7,738.28	31.37	58.81	1.87	-442.48	7,454.03	7,570.85	7,481.86	88.99	85.072		
9,050.00	8,956.96	11,405.32	7,738.28	31.53	58.80	2.01	-441.60	7,454.04	7,536.77	7,447.76	89.00	84.679		
9,100.00	8,984.38	11,404.36	7,738.27	31.69	58.78	2.21	-440.64	7,454.06	7,499.79	7,410.78	89.00	84.263		
9,150.00	9,008.05	11,403.34	7,738.27	31.87	58.77	2.46	-439.62	7,454.07	7,460.15	7,371.15	89.00	83.826		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Sec 13-T21S-R27E - Lone Tree Draw State 7H - Wellbore #1 - Wellbore #1													Offset Well Error:	0.50 ft
Survey Program: 100-GYRO-NS-CT, 2922-MWD+HDGM														
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)						
9,200.00	9,027.79	11,402.26	7,738.26	32.07	58.76	2.80	-438.54	7,454.09	7,418.11	7,329.13	88.98	83.370		
9,250.00	9,043.45	11,401.12	7,738.26	32.29	58.74	3.28	-437.40	7,454.10	7,373.96	7,285.00	88.95	82.897		
9,300.00	9,054.92	11,399.94	7,738.25	32.53	58.72	4.00	-436.23	7,454.12	7,327.99	7,239.07	88.92	82.407		
9,350.00	9,062.10	11,398.73	7,738.24	32.79	58.71	5.18	-435.01	7,454.13	7,280.53	7,191.64	88.89	81.903		
9,400.00	9,064.95	11,397.48	7,738.24	33.06	58.69	7.45	-433.76	7,454.15	7,231.91	7,143.05	88.86	81.386		
9,407.63	9,065.00	11,397.29	7,738.23	33.10	58.69	7.99	-433.57	7,454.15	7,224.41	7,135.55	88.86	81.305		
9,500.00	9,065.00	11,394.97	7,738.22	33.68	58.66	7.88	-431.25	7,454.18	7,133.52	7,044.73	88.79	80.340		
9,600.00	9,065.00	11,392.47	7,738.21	34.41	58.62	7.77	-428.75	7,454.21	7,035.17	6,946.45	88.72	79.295		
9,700.00	9,065.00	11,389.98	7,738.19	35.24	58.59	7.66	-426.27	7,454.24	6,936.87	6,848.22	88.65	78.248		
9,800.00	9,065.00	11,389.00	7,738.18	36.17	58.58	7.62	-425.28	7,454.26	6,838.61	6,750.01	88.60	77.182		
9,900.00	9,065.00	11,389.00	7,738.18	37.19	58.58	7.62	-425.28	7,454.26	6,740.41	6,651.84	88.57	76.103		
10,000.00	9,065.00	11,389.00	7,738.18	38.30	58.58	7.62	-425.28	7,454.26	6,642.26	6,553.73	88.53	75.024		
10,100.00	9,065.00	11,382.72	7,738.14	39.48	58.49	7.34	-419.01	7,454.34	6,544.16	6,455.75	88.41	74.017		
10,200.00	9,065.00	11,380.93	7,738.13	40.72	58.47	7.26	-417.21	7,454.36	6,446.13	6,357.77	88.36	72.956		
10,300.00	9,065.00	11,379.10	7,738.12	42.03	58.44	7.18	-415.39	7,454.39	6,348.15	6,259.85	88.30	71.895		
10,400.00	9,065.00	11,377.25	7,738.11	43.40	58.42	7.10	-413.54	7,454.41	6,250.23	6,162.00	88.24	70.833		
10,500.00	9,065.00	11,375.38	7,738.10	44.82	58.39	7.01	-411.66	7,454.44	6,152.39	6,064.21	88.18	69.771		
10,600.00	9,065.00	11,373.48	7,738.10	46.29	58.37	6.93	-409.76	7,454.47	6,054.61	5,966.49	88.12	68.709		
10,700.00	9,065.00	11,371.55	7,738.09	47.79	58.34	6.84	-407.83	7,454.49	5,956.90	5,868.84	88.06	67.646		
10,800.00	9,065.00	11,369.59	7,738.08	49.34	58.31	6.76	-405.88	7,454.52	5,859.28	5,771.27	88.00	66.582		
10,900.00	9,065.00	11,367.61	7,738.08	50.92	58.29	6.67	-403.89	7,454.55	5,761.73	5,673.79	87.94	65.518		
11,000.00	9,065.00	11,365.60	7,738.07	52.54	58.26	6.58	-401.88	7,454.58	5,664.26	5,576.38	87.88	64.454		
11,100.00	9,065.00	11,363.55	7,738.07	54.18	58.23	6.49	-399.84	7,454.61	5,566.89	5,479.07	87.82	63.390		
11,200.00	9,065.00	11,361.48	7,738.06	55.85	58.20	6.39	-397.76	7,454.64	5,469.61	5,381.85	87.76	62.326		
11,300.00	9,065.00	11,359.37	7,738.06	57.54	58.18	6.30	-395.66	7,454.68	5,372.43	5,284.73	87.70	61.261		
11,400.00	9,065.00	11,357.24	7,738.05	59.26	58.15	6.21	-393.52	7,454.71	5,275.35	5,187.71	87.64	60.197		
11,500.00	9,065.00	11,355.07	7,738.05	61.00	58.12	6.11	-391.36	7,454.74	5,178.38	5,090.81	87.57	59.132		
11,600.00	9,065.00	11,352.87	7,738.05	62.75	58.09	6.01	-389.15	7,454.78	5,081.53	4,994.02	87.51	58.067		
11,700.00	9,065.00	11,350.63	7,738.05	64.52	58.06	5.91	-386.92	7,454.81	4,984.80	4,897.36	87.45	57.003		
11,800.00	9,065.00	11,348.36	7,738.05	66.31	58.03	5.81	-384.65	7,454.85	4,888.21	4,800.82	87.39	55.938		
11,900.00	9,065.00	11,346.06	7,738.05	68.11	57.99	5.71	-382.34	7,454.89	4,791.75	4,704.43	87.32	54.874		
12,000.00	9,065.00	11,343.71	7,738.06	69.93	57.96	5.60	-380.00	7,454.93	4,695.44	4,608.18	87.26	53.810		
12,100.00	9,065.00	11,341.34	7,738.06	71.76	57.93	5.50	-377.62	7,454.97	4,599.28	4,512.08	87.20	52.747		
12,200.00	9,065.00	11,338.92	7,738.07	73.60	57.90	5.39	-375.20	7,455.01	4,503.29	4,416.16	87.13	51.684		
12,300.00	9,065.00	11,336.46	7,738.07	75.45	57.87	5.28	-372.75	7,455.06	4,407.48	4,320.41	87.07	50.621		
12,400.00	9,065.00	11,333.96	7,738.08	77.31	57.83	5.17	-370.25	7,455.10	4,311.85	4,224.85	87.00	49.559		
12,500.00	9,065.00	11,331.43	7,738.09	79.18	57.80	5.05	-367.72	7,455.15	4,216.43	4,129.49	86.94	48.498		
12,600.00	9,065.00	11,328.85	7,738.10	81.05	57.76	4.94	-365.14	7,455.19	4,121.22	4,034.34	86.88	47.438		
12,700.00	9,065.00	11,326.23	7,738.11	82.94	57.73	4.82	-362.51	7,455.24	4,026.24	3,939.43	86.81	46.378		
12,800.00	9,065.00	11,323.56	7,738.13	84.83	57.69	4.70	-359.85	7,455.29	3,931.51	3,844.76	86.75	45.320		
12,900.00	9,065.00	11,320.85	7,738.14	86.73	57.65	4.58	-357.14	7,455.34	3,837.04	3,750.35	86.69	44.262		
13,000.00	9,065.00	11,318.09	7,738.16	88.64	57.62	4.46	-354.38	7,455.40	3,742.86	3,656.23	86.63	43.206		
13,100.00	9,065.00	11,315.28	7,738.18	90.55	57.58	4.33	-351.57	7,455.45	3,648.99	3,562.42	86.57	42.152		
13,200.00	9,065.00	11,312.43	7,738.20	92.47	57.54	4.20	-348.72	7,455.51	3,555.45	3,468.94	86.51	41.099		
13,300.00	9,065.00	11,309.52	7,738.22	94.39	57.50	4.07	-345.82	7,455.56	3,462.26	3,375.81	86.45	40.047		
13,400.00	9,065.00	11,306.57	7,738.24	96.32	57.46	3.94	-342.86	7,455.62	3,369.47	3,283.07	86.40	38.998		
13,500.00	9,065.00	11,303.56	7,738.27	98.25	57.42	3.80	-339.85	7,455.69	3,277.09	3,190.74	86.35	37.951		
13,600.00	9,065.00	11,300.50	7,738.30	100.19	57.38	3.67	-336.79	7,455.75	3,185.18	3,098.88	86.30	36.907		
13,700.00	9,065.00	11,297.38	7,738.33	102.13	57.34	3.53	-333.67	7,455.82	3,093.76	3,007.50	86.26	35.865		
13,800.00	9,065.00	11,294.20	7,738.36	104.08	57.29	3.38	-330.50	7,455.88	3,002.89	2,916.66	86.22	34.827		
13,900.00	9,065.00	11,290.97	7,738.40	106.03	57.25	3.24	-327.26	7,455.95	2,912.61	2,826.41	86.19	33.792		
14,000.00	9,065.00	11,288.04	7,738.43	107.98	57.21	3.11	-324.34	7,456.02	2,822.98	2,736.81	86.17	32.760		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design		Sec 13-T21S-R27E - Lone Tree Draw State 7H - Wellbore #1 - Wellbore #1											Offset Site Error:		5.00 ft
Survey Program:		100-GYRO-NS-CT, 2922-MWD+HDGM											Offset Well Error:		0.50 ft
Reference		Offset		Semi Major Axis			Distance								
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning		
14,100.00	9,065.00	11,285.27	7,738.46	109.94	57.17	2.98	-321.57	7,456.08	2,734.07	2,647.90	86.17	31.730			
14,200.00	9,065.00	11,282.52	7,738.49	111.90	57.14	2.86	-318.82	7,456.14	2,645.94	2,559.77	86.17	30.707			
14,300.00	9,065.00	11,279.79	7,738.51	113.86	57.10	2.74	-316.09	7,456.20	2,558.69	2,472.50	86.18	29.689			
14,400.00	9,065.00	11,277.06	7,738.54	115.82	57.06	2.61	-313.36	7,456.26	2,472.40	2,386.18	86.21	28.678			
14,500.00	9,065.00	11,274.35	7,738.56	117.79	57.03	2.49	-310.66	7,456.32	2,387.17	2,300.92	86.26	27.676			
14,600.00	9,065.00	11,271.66	7,738.58	119.76	56.99	2.37	-307.96	7,456.37	2,303.13	2,216.82	86.31	26.683			
14,700.00	9,065.00	11,268.98	7,738.60	121.74	56.95	2.25	-305.28	7,456.43	2,220.41	2,134.02	86.39	25.702			
14,800.00	9,065.00	11,266.31	7,738.62	123.71	56.92	2.13	-302.61	7,456.49	2,139.16	2,052.67	86.49	24.734			
14,900.00	9,065.00	11,263.66	7,738.64	125.69	56.88	2.01	-299.96	7,456.54	2,059.56	1,972.95	86.60	23.782			
15,000.00	9,065.00	11,261.01	7,738.65	127.67	56.85	1.89	-297.32	7,456.60	1,981.80	1,895.06	86.74	22.848			
15,100.00	9,065.00	11,258.39	7,738.67	129.65	56.81	1.77	-294.69	7,456.66	1,906.11	1,819.21	86.90	21.935			
15,200.00	9,065.00	11,255.77	7,738.68	131.63	56.78	1.66	-292.08	7,456.71	1,832.75	1,745.68	87.08	21.048			
15,300.00	9,065.00	11,253.17	7,738.69	133.62	56.74	1.54	-289.48	7,456.76	1,762.01	1,674.74	87.27	20.190			
15,400.00	9,065.00	11,250.59	7,738.70	135.61	56.71	1.42	-286.90	7,456.82	1,694.22	1,606.73	87.49	19.365			
15,500.00	9,065.00	11,248.01	7,738.71	137.60	56.67	1.31	-284.32	7,456.87	1,629.74	1,542.02	87.72	18.579			
15,600.00	9,065.00	11,245.45	7,738.71	139.59	56.64	1.19	-281.76	7,456.92	1,568.98	1,481.01	87.97	17.836			
15,700.00	9,065.00	11,242.90	7,738.72	141.58	56.60	1.07	-279.21	7,456.98	1,512.39	1,424.17	88.22	17.143			
15,800.00	9,065.00	11,240.37	7,738.72	143.57	56.57	0.96	-276.68	7,457.03	1,460.46	1,371.97	88.50	16.503			
15,900.00	9,065.00	11,237.85	7,738.72	145.57	56.53	0.85	-274.16	7,457.08	1,413.71	1,324.92	88.79	15.922			
16,000.00	9,065.00	11,235.34	7,738.72	147.56	56.50	0.73	-271.65	7,457.13	1,372.64	1,283.53	89.12	15.403			
16,100.00	9,065.00	11,232.84	7,738.72	149.56	56.47	0.62	-269.15	7,457.18	1,337.81	1,248.30	89.51	14.947			
16,200.00	9,065.00	11,230.35	7,738.72	151.56	56.43	0.51	-266.67	7,457.23	1,309.69	1,219.70	89.99	14.554			
16,300.00	9,065.00	11,227.88	7,738.72	153.56	56.40	0.40	-264.20	7,457.28	1,288.73	1,198.12	90.61	14.223			
16,400.00	9,065.00	11,225.42	7,738.71	155.56	56.37	0.29	-261.74	7,457.33	1,275.29	1,183.89	91.40	13.953			
16,500.00	9,065.00	11,222.97	7,738.71	157.57	56.33	0.18	-259.29	7,457.38	1,269.60	1,177.21	92.39	13.742			
16,522.49	9,065.00	11,222.42	7,738.71	158.02	56.33	0.15	-258.74	7,457.39	1,269.40	1,176.76	92.64	13.703 CC, ES			
16,600.00	9,065.00	11,220.54	7,738.70	159.57	56.30	0.07	-256.85	7,457.43	1,271.76	1,178.20	93.56	13.593			
16,700.00	9,065.00	11,218.11	7,738.69	161.57	56.27	-0.04	-254.43	7,457.48	1,281.74	1,186.87	94.87	13.510			
16,800.00	9,065.00	11,215.70	7,738.68	163.58	56.24	-0.15	-252.02	7,457.52	1,299.35	1,203.10	96.26	13.499 SF			
16,900.00	9,065.00	11,213.30	7,738.67	165.59	56.20	-0.26	-249.62	7,457.57	1,324.30	1,226.67	97.63	13.564			
17,000.00	9,065.00	11,210.91	7,738.66	167.60	56.17	-0.37	-247.23	7,457.62	1,356.18	1,257.25	98.93	13.708			
17,100.00	9,065.00	11,208.53	7,738.65	169.60	56.14	-0.48	-244.85	7,457.66	1,394.50	1,294.40	100.10	13.931			
17,200.00	9,065.00	11,206.17	7,738.64	171.61	56.11	-0.58	-242.49	7,457.71	1,438.77	1,337.65	101.11	14.229			
17,300.00	9,065.00	11,203.81	7,738.62	173.62	56.08	-0.69	-240.13	7,457.76	1,488.44	1,386.48	101.96	14.599			
17,400.00	9,065.00	11,203.42	7,738.63	175.63	56.07	-0.71	-239.74	7,457.76	1,542.99	1,440.34	102.64	15.032			
17,500.00	9,065.00	11,200.42	7,738.60	177.65	56.03	-0.84	-236.74	7,457.82	1,601.93	1,498.77	103.16	15.528			
17,600.00	9,065.00	11,197.39	7,738.58	179.66	55.99	-0.98	-233.71	7,457.88	1,664.80	1,561.26	103.54	16.079			
17,700.00	9,065.00	11,194.35	7,738.55	181.67	55.95	-1.12	-230.67	7,457.94	1,731.15	1,627.35	103.80	16.678			
17,800.00	9,065.00	11,191.29	7,738.52	183.69	55.91	-1.25	-227.61	7,457.99	1,800.61	1,696.65	103.96	17.320			
17,900.00	9,065.00	11,188.21	7,738.50	185.70	55.87	-1.39	-224.53	7,458.05	1,872.84	1,768.79	104.04	18.001			
18,000.00	9,065.00	11,185.10	7,738.47	187.72	55.83	-1.53	-221.43	7,458.11	1,947.51	1,843.45	104.06	18.716			
18,100.00	9,065.00	11,181.98	7,738.45	189.73	55.78	-1.67	-218.30	7,458.17	2,024.37	1,920.35	104.02	19.462			
18,200.00	9,065.00	11,178.84	7,738.42	191.75	55.74	-1.81	-215.16	7,458.24	2,103.17	1,999.22	103.94	20.234			
18,300.00	9,065.00	11,175.67	7,738.39	193.77	55.70	-1.96	-212.00	7,458.30	2,183.70	2,079.86	103.84	21.030			
18,400.00	9,065.00	11,172.49	7,738.36	195.78	55.66	-2.10	-208.81	7,458.36	2,265.78	2,162.07	103.71	21.848			
18,500.00	9,065.00	11,169.28	7,738.34	197.80	55.61	-2.24	-205.61	7,458.42	2,349.24	2,245.68	103.56	22.685			
18,600.00	9,065.00	11,166.06	7,738.31	199.82	55.57	-2.39	-202.38	7,458.49	2,433.95	2,330.54	103.41	23.538			
18,700.00	9,065.00	11,162.81	7,738.28	201.84	55.53	-2.54	-199.14	7,458.55	2,519.77	2,416.53	103.24	24.406			
18,800.00	9,065.00	11,159.54	7,738.25	203.86	55.48	-2.68	-195.87	7,458.62	2,606.60	2,503.53	103.08	25.288			
18,900.00	9,065.00	11,156.25	7,738.22	205.88	55.44	-2.83	-192.58	7,458.68	2,694.34	2,591.43	102.91	26.182			
19,000.00	9,065.00	11,152.94	7,738.19	207.90	55.39	-2.98	-189.26	7,458.75	2,782.91	2,680.16	102.74	27.086			
19,100.00	9,065.00	11,149.60	7,738.16	209.92	55.35	-3.13	-185.93	7,458.82	2,872.22	2,769.64	102.58	28.000			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design Sec 13-T21S-R27E - Lone Tree Draw State 7H - Wellbore #1 - Wellbore #1													Offset Site Error:	5.00 ft
Survey Program: 100-GYRO-NS-CT, 2922-MWD+HDGM													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
19,200.00	9,065.00	11,146.24	7,738.13	211.95	55.30	-3.28	-182.57	7,458.89	2,962.21	2,859.79	102.42	28.922		
19,300.00	9,065.00	11,142.86	7,738.10	213.97	55.26	-3.43	-179.19	7,458.96	3,052.82	2,950.56	102.26	29.852		
19,400.00	9,065.00	11,139.46	7,738.06	215.99	55.21	-3.59	-175.79	7,459.03	3,144.00	3,041.88	102.11	30.789		
19,456.84	9,065.00	11,137.51	7,738.05	217.14	55.19	-3.67	-173.85	7,459.07	3,196.06	3,094.03	102.03	31.324		

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design		Sec 13-T21S-R27E - Lone Tree Draw State Com 2H - ST01 - ST01											Offset Site Error:		5.00 ft
Survey Program:		80-GYRO-NS-CT, 4361-MWD+HDGM											Offset Well Error:		0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor			
0.00	0.00	0.00	0.00	0.50	5.02	61.36	3,158.45	5,782.98	6,589.48						
100.00	100.00	45.00	45.00	0.52	5.03	61.36	3,158.44	5,783.00	6,589.30	6,583.76	5.54	1,188.766			
200.00	200.00	140.67	140.67	0.70	5.03	61.36	3,158.37	5,783.16	6,589.41	6,583.67	5.74	1,148.701			
300.00	300.00	236.04	236.04	0.99	5.07	61.36	3,158.26	5,783.38	6,589.56	6,583.51	6.05	1,088.660			
400.00	400.00	333.23	333.23	1.31	5.12	61.36	3,158.12	5,783.72	6,589.79	6,583.36	6.43	1,025.049			
500.00	500.00	426.72	426.72	1.65	5.19	61.37	3,157.92	5,784.12	6,590.07	6,583.23	6.84	963.698			
600.00	600.00	520.68	520.68	1.99	5.29	61.37	3,157.65	5,784.69	6,590.46	6,583.19	7.28	905.878			
700.00	700.00	611.59	611.58	2.34	5.39	61.38	3,157.28	5,785.40	6,590.95	6,583.22	7.73	852.536			
800.00	800.00	711.04	711.02	2.69	5.53	61.39	3,156.74	5,786.38	6,591.56	6,583.34	8.22	802.063			
900.00	900.00	806.58	806.56	3.04	5.68	61.40	3,155.88	5,787.48	6,592.14	6,583.42	8.72	756.048			
1,000.00	1,000.00	895.06	895.02	3.40	5.83	61.41	3,154.95	5,788.72	6,592.87	6,583.64	9.22	714.708			
1,100.00	1,100.00	985.91	985.85	3.75	6.00	61.42	3,153.85	5,790.26	6,593.77	6,584.02	9.75	676.414			
1,200.00	1,200.00	1,089.98	1,089.90	4.11	6.20	61.44	3,152.38	5,792.20	6,594.73	6,584.42	10.31	639.528			
1,300.00	1,300.00	1,201.91	1,201.78	4.46	6.45	61.47	3,150.30	5,794.35	6,595.54	6,584.63	10.91	604.600			
1,400.00	1,400.00	8,329.00	4,956.38	4.82	54.40	95.07	-487.01	5,492.56	6,589.22	6,536.85	52.37	125.822			
1,500.00	1,500.00	8,329.00	4,956.38	5.18	54.40	95.07	-487.01	5,492.56	6,535.01	6,482.06	52.95	123.425			
1,600.00	1,600.00	8,329.00	4,956.38	5.53	54.40	95.07	-487.01	5,492.56	6,481.89	6,428.36	53.53	121.085			
1,700.00	1,700.00	8,329.00	4,956.38	5.89	54.40	95.07	-487.01	5,492.56	6,429.89	6,375.77	54.12	118.803			
1,800.00	1,800.00	8,329.00	4,956.38	6.25	54.40	95.07	-487.01	5,492.56	6,379.03	6,324.31	54.72	116.580			
1,900.00	1,900.00	8,329.00	4,956.38	6.61	54.40	95.07	-487.01	5,492.56	6,329.34	6,274.02	55.32	114.417			
2,000.00	2,000.00	8,329.00	4,956.38	6.96	54.40	95.07	-487.01	5,492.56	6,280.85	6,224.93	55.92	112.314			
2,100.00	2,100.00	8,329.00	4,956.38	7.32	54.40	95.07	-487.01	5,492.56	6,233.59	6,177.06	56.53	110.272			
2,200.00	2,200.00	8,329.00	4,956.38	7.68	54.40	95.07	-487.01	5,492.56	6,187.58	6,130.44	57.14	108.291			
2,300.00	2,300.00	8,329.00	4,956.38	8.04	54.40	95.07	-487.01	5,492.56	6,142.86	6,085.11	57.75	106.371			
2,400.00	2,400.00	8,329.00	4,956.38	8.39	54.40	95.07	-487.01	5,492.56	6,099.45	6,041.09	58.36	104.511			
2,500.00	2,500.00	8,329.00	4,956.38	8.75	54.40	95.07	-487.01	5,492.56	6,057.38	5,998.40	58.97	102.713			
2,600.00	2,599.99	8,329.00	4,956.38	9.09	54.40	-119.39	-487.01	5,492.56	6,017.06	5,957.49	59.57	101.007			
2,700.00	2,699.96	8,329.00	4,956.38	9.42	54.40	-119.75	-487.01	5,492.56	5,978.94	5,918.79	60.15	99.395			
2,800.00	2,799.86	8,329.00	4,956.38	9.75	54.40	-120.09	-487.01	5,492.56	5,943.07	5,882.34	60.74	97.850			
2,900.00	2,899.68	8,329.00	4,956.38	10.08	54.40	-120.39	-487.01	5,492.56	5,909.50	5,848.18	61.32	96.371			
2,945.33	2,944.88	8,329.00	4,956.38	10.23	54.40	-120.53	-487.01	5,492.56	5,895.05	5,833.47	61.58	95.724			
3,000.00	2,999.39	8,356.23	4,956.66	10.41	54.77	-120.25	-514.13	5,490.07	5,878.14	5,815.89	62.26	94.415			
3,100.00	3,099.08	8,402.58	4,956.65	10.75	55.40	-119.77	-560.27	5,485.74	5,848.36	5,784.91	63.45	92.175			
3,200.00	3,198.78	8,435.34	4,956.29	11.08	55.85	-119.44	-592.88	5,482.61	5,820.10	5,755.64	64.46	90.290			
3,300.00	3,298.48	3,300.00	4,956.44	11.42	14.08	-119.86	-551.79	5,486.49	5,793.35	5,768.59	24.77	233.932			
3,400.00	3,398.18	3,400.00	4,956.44	11.76	14.13	-119.79	-558.65	5,485.85	5,768.32	5,744.57	23.75	242.893			
3,500.00	3,497.88	3,500.00	4,956.45	12.10	14.19	-119.72	-565.52	5,485.20	5,744.91	5,722.21	22.70	253.091			
3,600.00	3,597.58	3,600.00	4,956.45	12.45	14.24	-119.65	-572.39	5,484.56	5,723.14	5,701.53	21.61	264.891			
3,700.00	3,697.27	3,700.00	4,956.46	12.79	14.30	-119.58	-579.25	5,483.92	5,703.03	5,682.58	20.45	278.895			
3,800.00	3,796.97	8,441.39	4,956.23	13.14	55.93	-119.38	-598.91	5,482.06	5,684.55	5,616.67	67.88	83.740			
3,900.00	3,896.67	8,444.19	4,956.19	13.48	55.97	-119.35	-601.69	5,481.80	5,667.81	5,599.37	68.45	82.808			
4,000.00	3,996.37	8,446.97	4,956.15	13.83	56.01	-119.32	-604.46	5,481.55	5,652.79	5,583.79	69.00	81.929			
4,100.00	4,096.07	8,449.73	4,956.11	14.18	56.05	-119.29	-607.22	5,481.30	5,639.50	5,569.97	69.53	81.104			
4,200.00	4,195.76	8,452.48	4,956.08	14.53	56.08	-119.26	-609.95	5,481.05	5,627.95	5,557.89	70.06	80.332			
4,300.00	4,295.46	8,455.21	4,956.04	14.88	56.12	-119.24	-612.67	5,480.80	5,618.16	5,547.59	70.57	79.612			
4,400.00	4,395.16	8,457.92	4,956.00	15.23	56.16	-119.21	-615.37	5,480.56	5,610.13	5,539.06	71.07	78.943			
4,500.00	4,494.86	8,460.62	4,955.96	15.58	56.20	-119.18	-618.06	5,480.32	5,603.87	5,532.32	71.55	78.324			
4,600.00	4,594.56	8,463.30	4,955.92	15.93	56.23	-119.15	-620.73	5,480.08	5,599.38	5,527.37	72.01	77.756			
4,700.00	4,694.25	8,465.96	4,955.89	16.29	56.27	-119.13	-623.38	5,479.84	5,596.68	5,524.22	72.46	77.237			
4,800.00	4,793.95	8,468.61	4,955.85	16.64	56.31	-119.10	-626.02	5,479.61	5,595.76	5,522.87	72.89	76.766			
4,801.50	4,795.44	8,468.65	4,955.85	16.65	56.31	-119.10	-626.06	5,479.61	5,595.76	5,522.86	72.90	76.759			
4,900.00	4,893.65	8,471.24	4,955.81	17.00	56.34	-119.07	-628.64	5,479.38	5,596.63	5,523.32	73.31	76.343			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Sec 13-T21S-R27E - Lone Tree Draw State Com 2H - ST01 - ST01													Offset Well Error:	0.50 ft
Survey Program: 80-GYRO-NS-CT, 4361-MWD+HDGM														
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
5,000.00	4,993.35	8,473.85	4,955.77	17.35	56.38	-119.05	-631.24	5,479.16	5,599.28	5,525.57	73.71	75.967		
5,100.00	5,093.05	8,476.45	4,955.73	17.71	56.41	-119.02	-633.83	5,478.93	5,603.71	5,529.62	74.09	75.637		
5,200.00	5,192.75	8,479.04	4,955.69	18.06	56.45	-118.99	-636.40	5,478.71	5,609.92	5,535.47	74.45	75.352		
5,300.00	5,292.44	8,481.60	4,955.65	18.42	56.48	-118.97	-638.96	5,478.49	5,617.89	5,543.10	74.79	75.112		
5,400.00	5,392.14	8,484.15	4,955.61	18.77	56.52	-118.94	-641.50	5,478.27	5,627.64	5,552.52	75.12	74.916		
5,500.00	5,491.84	8,486.69	4,955.57	19.13	56.55	-118.91	-644.03	5,478.06	5,639.13	5,563.70	75.43	74.763		
5,600.00	5,591.54	8,489.21	4,955.53	19.49	56.59	-118.89	-646.54	5,477.85	5,652.37	5,576.65	75.72	74.651		
5,700.00	5,691.24	8,491.72	4,955.49	19.85	56.62	-118.86	-649.04	5,477.64	5,667.34	5,591.35	75.99	74.582		
5,800.00	5,790.93	8,494.21	4,955.45	20.20	56.66	-118.84	-651.52	5,477.43	5,684.03	5,607.79	76.24	74.552		
5,900.00	5,890.63	8,496.68	4,955.41	20.56	56.69	-118.81	-653.99	5,477.23	5,702.42	5,625.95	76.48	74.563		
6,000.00	5,990.33	8,518.00	4,955.05	20.92	56.98	-118.59	-675.23	5,475.51	5,722.57	5,645.61	76.96	74.362		
6,100.00	6,090.03	8,518.00	4,955.05	21.28	56.98	-118.59	-675.23	5,475.51	5,744.30	5,667.18	77.12	74.483		
6,200.00	6,189.73	8,518.00	4,955.05	21.64	56.98	-118.59	-675.23	5,475.51	5,767.68	5,690.41	77.27	74.639		
6,300.00	6,289.42	8,518.00	4,955.05	22.00	56.98	-118.59	-675.23	5,475.51	5,792.70	5,715.29	77.41	74.832		
6,400.00	6,389.12	8,518.00	4,955.05	22.36	56.98	-118.59	-675.23	5,475.51	5,819.32	5,741.80	77.53	75.060		
6,500.00	6,488.82	8,518.00	4,955.05	22.72	56.98	-118.59	-675.23	5,475.51	5,847.54	5,769.91	77.63	75.323		
6,600.00	6,588.52	8,527.33	4,955.21	23.08	57.11	-118.69	-665.93	5,476.25	5,877.32	5,799.47	77.85	75.499		
6,700.00	6,688.22	8,522.32	4,955.13	23.44	57.04	-118.64	-670.92	5,475.85	5,908.65	5,830.79	77.86	75.892		
6,800.00	6,787.91	8,518.69	4,955.04	23.80	56.99	-118.59	-675.92	5,475.46	5,941.49	5,863.62	77.87	76.299		
6,900.00	6,887.61	8,523.71	4,954.95	24.16	57.06	-118.54	-680.92	5,475.07	5,975.82	5,897.83	77.99	76.624		
7,000.00	6,987.31	8,528.72	4,954.86	24.52	57.13	-118.49	-685.91	5,474.67	6,011.62	5,933.53	78.09	76.980		
7,100.00	7,087.01	8,533.73	4,954.78	24.88	57.20	-118.43	-690.91	5,474.28	6,048.85	5,970.67	78.19	77.365		
7,200.00	7,186.71	8,538.74	4,954.69	25.24	57.27	-118.38	-695.90	5,473.89	6,087.50	6,009.23	78.27	77.778		
7,300.00	7,286.41	8,543.75	4,954.60	25.60	57.34	-118.33	-700.90	5,473.49	6,127.53	6,049.19	78.34	78.219		
7,400.00	7,386.10	8,548.76	4,954.51	25.96	57.40	-118.28	-705.89	5,473.10	6,168.91	6,090.52	78.40	78.686		
7,500.00	7,485.80	8,553.78	4,954.43	26.33	57.47	-118.23	-710.89	5,472.71	6,211.63	6,133.18	78.45	79.179		
7,600.00	7,585.50	8,558.79	4,954.34	26.69	57.54	-118.18	-715.88	5,472.31	6,255.65	6,177.16	78.49	79.697		
7,700.00	7,685.20	8,563.80	4,954.25	27.05	57.61	-118.13	-720.88	5,471.92	6,300.95	6,222.42	78.53	80.239		
7,800.00	7,784.90	8,568.81	4,954.16	27.41	57.68	-118.08	-725.88	5,471.53	6,347.49	6,268.94	78.55	80.804		
7,860.70	7,845.41	8,571.85	4,954.11	27.63	57.72	-118.04	-728.91	5,471.29	6,376.34	6,297.77	78.57	81.157		
7,900.00	7,884.61	8,573.65	4,954.08	27.77	57.75	-118.31	-730.70	5,471.15	6,395.17	6,316.60	78.57	81.393		
8,000.00	7,984.46	8,576.63	4,954.03	28.13	57.79	-119.00	-733.67	5,470.91	6,443.16	6,364.61	78.56	82.020		
8,100.00	8,084.42	8,577.33	4,954.02	28.49	57.80	-119.71	-734.37	5,470.86	6,491.24	6,412.74	78.50	82.690		
8,157.59	8,142.00	8,576.71	4,954.03	28.69	57.79	93.95	-733.74	5,470.91	6,518.94	6,440.49	78.45	83.099		
8,200.00	8,184.41	8,575.96	4,954.04	28.83	57.78	93.94	-733.01	5,470.97	6,539.46	6,461.06	78.40	83.409		
8,300.00	8,284.41	8,574.22	4,954.07	29.17	57.75	93.93	-731.27	5,471.10	6,588.66	6,510.37	78.29	84.155		
8,400.00	8,384.41	8,572.47	4,954.10	29.51	57.73	93.91	-729.53	5,471.24	6,639.00	6,560.82	78.18	84.921		
8,507.63	8,492.04	8,570.60	4,954.13	29.87	57.70	93.89	-727.65	5,471.39	6,694.42	6,616.37	78.05	85.766		
8,550.00	8,534.37	8,569.72	4,954.15	30.02	57.69	4.33	-726.78	5,471.46	6,715.24	6,637.25	78.00	86.097		
8,600.00	8,584.01	8,568.33	4,954.17	30.18	57.67	4.14	-725.39	5,471.57	6,736.51	6,658.60	77.91	86.463		
8,650.00	8,632.95	8,566.56	4,954.20	30.34	57.65	3.99	-723.64	5,471.70	6,754.09	6,676.27	77.81	86.799		
8,700.00	8,680.82	8,564.44	4,954.24	30.50	57.62	3.87	-721.52	5,471.87	6,767.86	6,690.16	77.70	87.104		
8,750.00	8,727.25	8,561.98	4,954.28	30.66	57.59	3.79	-719.06	5,472.06	6,777.76	6,700.19	77.57	87.376		
8,800.00	8,771.89	8,559.19	4,954.33	30.81	57.55	3.72	-716.28	5,472.28	6,783.72	6,706.29	77.43	87.615		
8,850.00	8,814.40	8,556.09	4,954.39	30.95	57.50	3.68	-713.20	5,472.53	6,785.71	6,708.44	77.27	87.821		
8,900.00	8,854.46	8,552.72	4,954.45	31.09	57.46	3.67	-709.84	5,472.79	6,783.71	6,706.61	77.10	87.991		
8,950.00	8,891.75	8,549.09	4,954.51	31.23	57.41	3.68	-706.22	5,473.07	6,777.73	6,700.82	76.91	88.124		
9,000.00	8,926.01	8,545.24	4,954.58	31.37	57.36	3.71	-702.38	5,473.38	6,767.82	6,691.10	76.71	88.221		
9,050.00	8,956.96	8,541.19	4,954.65	31.53	57.30	3.77	-698.35	5,473.69	6,754.02	6,677.51	76.51	88.278		
9,100.00	8,984.38	8,536.98	4,954.72	31.69	57.24	3.85	-694.14	5,474.03	6,736.43	6,660.13	76.29	88.296		
9,150.00	9,008.05	8,532.63	4,954.80	31.87	57.18	3.97	-689.81	5,474.37	6,715.14	6,639.06	76.07	88.272		
9,200.00	9,027.79	8,528.18	4,954.87	32.07	57.12	4.13	-685.37	5,474.72	6,690.28	6,614.43	75.85	88.206		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Sec 13-T21S-R27E - Lone Tree Draw State Com 2H - ST01 - ST01													Offset Well Error:	0.50 ft
Survey Program: 80-GYRO-NS-CT, 4361-MWD+HDGM														
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
9,250.00	9,043.45	8,523.66	4,954.95	32.29	57.06	4.34	-680.87	5,475.07	6,662.00	6,586.38	75.62	88.097		
9,300.00	9,054.92	8,519.11	4,955.03	32.53	57.00	4.60	-676.34	5,475.43	6,630.47	6,555.08	75.39	87.944		
9,350.00	9,062.10	8,521.44	4,955.11	32.79	57.03	4.95	-671.80	5,475.78	6,595.90	6,520.65	75.25	87.652		
9,400.00	9,064.95	8,525.95	4,955.19	33.06	57.09	5.40	-667.30	5,476.14	6,558.49	6,483.35	75.14	87.286		
9,407.63	9,065.00	8,526.63	4,955.20	33.10	57.10	5.48	-666.62	5,476.19	6,552.55	6,477.43	75.13	87.222		
9,500.00	9,065.00	8,518.00	4,955.05	33.68	56.98	5.60	-675.23	5,475.51	6,480.51	6,405.80	74.72	86.736		
9,600.00	9,065.00	8,518.00	4,955.05	34.41	56.98	5.60	-675.23	5,475.51	6,403.11	6,328.73	74.38	86.088		
9,700.00	9,065.00	8,518.00	4,955.05	35.24	56.98	5.60	-675.23	5,475.51	6,326.34	6,252.30	74.04	85.441		
9,800.00	9,065.00	8,497.15	4,955.40	36.17	56.70	5.31	-654.45	5,477.19	6,250.16	6,176.70	73.46	85.081		
9,900.00	9,065.00	8,492.67	4,955.48	37.19	56.63	5.25	-649.98	5,477.56	6,174.69	6,101.61	73.08	84.494		
10,000.00	9,065.00	8,488.10	4,955.55	38.30	56.57	5.18	-645.43	5,477.94	6,099.92	6,027.22	72.70	83.906		
10,100.00	9,065.00	8,483.45	4,955.62	39.48	56.51	5.12	-640.80	5,478.33	6,025.88	5,953.56	72.32	83.318		
10,200.00	9,065.00	8,478.72	4,955.69	40.72	56.44	5.05	-636.09	5,478.74	5,952.59	5,880.64	71.95	82.729		
10,300.00	9,065.00	8,473.90	4,955.77	42.03	56.38	4.99	-631.29	5,479.15	5,880.08	5,808.49	71.59	82.138		
10,400.00	9,065.00	8,469.00	4,955.84	43.40	56.31	4.92	-626.40	5,479.58	5,808.38	5,737.15	71.23	81.545		
10,500.00	9,065.00	8,464.00	4,955.91	44.82	56.24	4.85	-621.43	5,480.02	5,737.51	5,666.63	70.88	80.949		
10,600.00	9,065.00	8,458.91	4,955.99	46.29	56.17	4.78	-616.36	5,480.47	5,667.51	5,596.98	70.54	80.350		
10,700.00	9,065.00	8,453.72	4,956.06	47.79	56.10	4.71	-611.19	5,480.93	5,598.42	5,528.22	70.20	79.747		
10,800.00	9,065.00	8,448.44	4,956.13	49.34	56.03	4.63	-605.93	5,481.41	5,530.26	5,460.38	69.88	79.140		
10,900.00	9,065.00	8,443.05	4,956.20	50.92	55.96	4.56	-600.56	5,481.91	5,463.08	5,393.51	69.57	78.529		
11,000.00	9,065.00	8,423.00	4,956.46	52.54	55.68	4.28	-580.60	5,483.79	5,396.93	5,327.83	69.10	78.108		
11,100.00	9,065.00	8,423.00	4,956.46	54.18	55.68	4.28	-580.60	5,483.79	5,331.77	5,262.89	68.88	77.410		
11,200.00	9,065.00	8,423.00	4,956.46	55.85	55.68	4.28	-580.60	5,483.79	5,267.70	5,199.03	68.67	76.705		
11,300.00	9,065.00	8,423.00	4,956.46	57.54	55.68	4.28	-580.60	5,483.79	5,204.77	5,136.28	68.49	75.994		
11,400.00	9,065.00	8,423.00	4,956.46	59.26	55.68	4.28	-580.60	5,483.79	5,143.00	5,074.68	68.32	75.276		
11,500.00	9,065.00	8,423.00	4,956.46	61.00	55.68	4.28	-580.60	5,483.79	5,082.46	5,014.29	68.17	74.552		
11,600.00	9,065.00	8,404.30	4,956.64	62.75	55.43	4.02	-561.99	5,485.57	5,023.11	4,955.29	67.82	74.062		
11,700.00	9,065.00	8,398.93	4,956.67	64.52	55.35	3.94	-556.65	5,486.08	4,965.08	4,897.43	67.65	73.391		
11,800.00	9,065.00	8,393.60	4,956.70	66.31	55.28	3.87	-551.33	5,486.59	4,908.40	4,840.90	67.50	72.713		
11,900.00	9,065.00	8,388.29	4,956.72	68.11	55.21	3.79	-546.05	5,487.09	4,853.11	4,785.73	67.38	72.027		
12,000.00	9,065.00	8,383.01	4,956.73	69.93	55.13	3.72	-540.80	5,487.58	4,799.24	4,731.97	67.28	71.335		
12,100.00	9,065.00	8,377.77	4,956.73	71.76	55.06	3.65	-535.57	5,488.07	4,746.87	4,679.67	67.20	70.636		
12,200.00	9,065.00	8,372.55	4,956.72	73.60	54.99	3.57	-530.38	5,488.56	4,696.03	4,628.87	67.15	69.932		
12,300.00	9,065.00	8,367.36	4,956.71	75.45	54.92	3.50	-525.21	5,489.04	4,646.77	4,579.64	67.13	69.223		
12,400.00	9,065.00	8,362.20	4,956.69	77.31	54.85	3.43	-520.07	5,489.52	4,599.14	4,532.01	67.13	68.510		
12,500.00	9,065.00	8,357.06	4,956.66	79.18	54.78	3.36	-514.96	5,489.99	4,553.21	4,486.05	67.16	67.795		
12,600.00	9,065.00	8,351.96	4,956.63	81.05	54.71	3.28	-509.88	5,490.46	4,509.01	4,441.79	67.22	67.077		
12,700.00	9,065.00	8,329.00	4,956.38	82.94	54.40	2.96	-487.01	5,492.56	4,466.67	4,399.57	67.10	66.566		
12,800.00	9,065.00	8,329.00	4,956.38	84.83	54.40	2.96	-487.01	5,492.56	4,426.07	4,358.79	67.28	65.787		
12,900.00	9,065.00	8,329.00	4,956.38	86.73	54.40	2.96	-487.01	5,492.56	4,387.38	4,319.89	67.49	65.010		
13,000.00	9,065.00	8,329.00	4,956.38	88.64	54.40	2.96	-487.01	5,492.56	4,350.64	4,282.91	67.73	64.239		
13,100.00	9,065.00	8,329.00	4,956.38	90.55	54.40	2.96	-487.01	5,492.56	4,315.90	4,247.90	68.00	63.473		
13,200.00	9,065.00	8,318.99	4,956.24	92.47	54.26	2.82	-477.05	5,493.48	4,283.20	4,215.01	68.18	62.819		
13,300.00	9,065.00	8,311.54	4,956.14	94.39	54.16	2.72	-469.64	5,494.20	4,252.58	4,184.15	68.43	62.142		
13,400.00	9,065.00	8,303.68	4,956.03	96.32	54.05	2.61	-461.82	5,494.97	4,224.09	4,155.38	68.71	61.474		
13,500.00	9,065.00	8,295.37	4,955.92	98.25	53.94	2.49	-453.55	5,495.82	4,197.77	4,128.74	69.02	60.817		
13,600.00	9,065.00	8,286.57	4,955.80	100.19	53.82	2.37	-444.80	5,496.75	4,173.65	4,104.29	69.36	60.170		
13,700.00	9,065.00	8,277.24	4,955.68	102.13	53.69	2.24	-435.52	5,497.76	4,151.78	4,082.04	69.74	59.535		
13,800.00	9,065.00	8,267.32	4,955.55	104.08	53.56	2.10	-425.67	5,498.88	4,132.18	4,062.04	70.14	58.913		
13,900.00	9,065.00	8,256.76	4,955.42	106.03	53.41	1.95	-415.18	5,500.10	4,114.90	4,044.32	70.58	58.304		
14,000.00	9,065.00	8,245.50	4,955.28	107.98	53.26	1.79	-404.00	5,501.46	4,099.94	4,028.90	71.04	57.711		
14,100.00	9,065.00	8,234.00	4,955.14	109.94	53.10	1.63	-392.59	5,502.90	4,087.34	4,015.79	71.55	57.128		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design		Sec 13-T21S-R27E - Lone Tree Draw State Com 2H - ST01 - ST01											Offset Site Error:	5.00 ft
Survey Program:		80-GYRO-NS-CT, 4361-MWD+HDM											Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
14,200.00	9,065.00	8,234.00	4,955.14	111.90	53.10	1.63	-392.59	5,502.90	4,077.13	4,004.92	72.21	56.465		
14,300.00	9,065.00	8,218.16	4,954.92	113.86	52.89	1.41	-376.88	5,504.92	4,069.30	3,996.56	72.74	55.942		
14,400.00	9,065.00	8,210.29	4,954.79	115.82	52.78	1.30	-369.08	5,505.94	4,063.91	3,990.51	73.39	55.371		
14,500.00	9,065.00	8,202.33	4,954.66	117.79	52.67	1.19	-361.19	5,506.97	4,060.94	3,986.86	74.08	54.817		
14,571.87	9,065.00	8,196.56	4,954.55	119.21	52.60	1.11	-355.47	5,507.72	4,060.31	3,985.72	74.60	54.430 CC		
14,600.00	9,065.00	8,194.29	4,954.50	119.76	52.56	1.08	-353.22	5,508.01	4,060.41	3,985.61	74.80	54.282 ES		
14,700.00	9,065.00	8,186.17	4,954.34	121.74	52.45	0.96	-345.17	5,509.08	4,062.31	3,986.76	75.55	53.768		
14,800.00	9,065.00	8,177.96	4,954.16	123.71	52.34	0.85	-337.04	5,510.16	4,066.64	3,990.31	76.33	53.276		
14,900.00	9,065.00	8,169.67	4,953.97	125.69	52.23	0.73	-328.82	5,511.26	4,073.40	3,996.26	77.14	52.808		
15,000.00	9,065.00	8,161.28	4,953.76	127.67	52.12	0.62	-320.51	5,512.38	4,082.56	4,004.60	77.96	52.366		
15,100.00	9,065.00	8,140.00	4,953.17	129.65	51.83	0.32	-299.43	5,515.25	4,094.15	4,015.46	78.69	52.028		
15,200.00	9,065.00	8,148.71	4,953.43	131.63	51.95	0.44	-308.05	5,514.07	4,108.04	4,028.34	79.71	51.540		
15,300.00	9,065.00	8,130.97	4,952.90	133.62	51.71	0.19	-290.49	5,516.47	4,124.32	4,043.82	80.50	51.236		
15,400.00	9,065.00	8,113.08	4,952.38	135.61	51.46	-0.06	-272.78	5,518.91	4,142.88	4,061.59	81.30	50.961		
15,500.00	9,065.00	8,095.04	4,951.87	137.60	51.22	-0.31	-254.90	5,521.38	4,163.70	4,081.60	82.10	50.714		
15,600.00	9,065.00	8,076.83	4,951.37	139.59	50.98	-0.56	-236.87	5,523.89	4,186.74	4,103.83	82.91	50.497		
15,700.00	9,065.00	8,058.45	4,950.87	141.58	50.73	-0.82	-218.68	5,526.43	4,211.97	4,128.25	83.72	50.310		
15,800.00	9,065.00	8,041.60	4,950.42	143.57	50.50	-1.05	-202.00	5,528.77	4,239.34	4,154.80	84.54	50.148		
15,900.00	9,065.00	8,029.32	4,950.10	145.57	50.33	-1.22	-189.84	5,530.47	4,268.83	4,183.44	85.38	49.997		
16,000.00	9,065.00	8,017.25	4,949.78	147.56	50.17	-1.39	-177.89	5,532.12	4,300.40	4,214.18	86.22	49.878		
16,100.00	9,065.00	8,005.40	4,949.46	149.56	50.01	-1.56	-166.15	5,533.72	4,334.00	4,246.96	87.04	49.793		
16,200.00	9,065.00	7,993.75	4,949.15	151.56	49.85	-1.72	-154.61	5,535.28	4,369.60	4,281.75	87.85	49.740		
16,300.00	9,065.00	7,982.30	4,948.84	153.56	49.70	-1.88	-143.28	5,536.81	4,407.15	4,318.51	88.64	49.719 SF		
16,400.00	9,065.00	7,971.06	4,948.53	155.56	49.55	-2.03	-132.13	5,538.29	4,446.58	4,357.17	89.41	49.731		
16,500.00	9,065.00	7,964.51	4,948.35	157.57	49.46	-2.12	-125.65	5,539.15	4,487.86	4,397.67	90.20	49.757		
16,600.00	9,065.00	7,948.72	4,947.91	159.57	49.25	-2.34	-109.99	5,541.19	4,530.95	4,440.06	90.89	49.849		
16,700.00	9,065.00	7,933.00	4,947.47	161.57	49.04	-2.56	-94.40	5,543.21	4,575.77	4,484.20	91.57	49.969		
16,800.00	9,065.00	7,917.33	4,947.05	163.58	48.83	-2.78	-78.88	5,545.22	4,622.28	4,530.05	92.23	50.119		
16,900.00	9,065.00	7,901.74	4,946.64	165.59	48.62	-3.00	-63.41	5,547.21	4,670.41	4,577.55	92.86	50.296		
17,000.00	9,065.00	7,886.20	4,946.24	167.60	48.41	-3.21	-48.01	5,549.20	4,720.13	4,626.66	93.47	50.500		
17,100.00	9,065.00	7,870.73	4,945.85	169.60	48.20	-3.43	-32.67	5,551.17	4,771.38	4,677.33	94.05	50.731		
17,200.00	9,065.00	7,856.00	4,945.48	171.61	48.00	-3.63	-18.06	5,553.04	4,824.11	4,729.49	94.62	50.985		
17,300.00	9,065.00	7,846.37	4,945.25	173.62	47.87	-3.77	-8.51	5,554.26	4,878.29	4,783.11	95.19	51.250		
17,400.00	9,065.00	7,837.30	4,945.02	175.63	47.75	-3.89	0.48	5,555.40	4,933.88	4,838.15	95.73	51.538		
17,500.00	9,065.00	7,828.39	4,944.80	177.65	47.63	-4.01	9.32	5,556.50	4,990.83	4,894.57	96.25	51.850		
17,600.00	9,065.00	7,819.63	4,944.57	179.66	47.51	-4.14	18.01	5,557.58	5,049.09	4,952.34	96.75	52.185		
17,700.00	9,065.00	7,811.01	4,944.35	181.67	47.40	-4.26	26.57	5,558.63	5,108.62	5,011.39	97.23	52.542		
17,800.00	9,065.00	7,802.53	4,944.12	183.69	47.28	-4.37	34.98	5,559.65	5,169.38	5,071.70	97.68	52.920		
17,900.00	9,065.00	7,794.19	4,943.90	185.70	47.17	-4.49	43.26	5,560.65	5,231.33	5,133.21	98.12	53.318		
18,000.00	9,065.00	7,785.98	4,943.68	187.72	47.06	-4.60	51.40	5,561.62	5,294.42	5,195.89	98.53	53.736		
18,100.00	9,065.00	7,777.90	4,943.46	189.73	46.95	-4.71	59.42	5,562.57	5,358.61	5,259.69	98.92	54.172		
18,200.00	9,065.00	7,761.00	4,943.00	191.75	46.73	-4.95	76.21	5,564.53	5,423.88	5,324.63	99.25	54.648		
18,300.00	9,065.00	7,763.02	4,943.05	193.77	46.75	-4.92	74.20	5,564.30	5,490.15	5,390.51	99.65	55.096		
18,400.00	9,065.00	7,749.24	4,942.67	195.78	46.57	-5.11	87.88	5,565.88	5,557.42	5,457.47	99.96	55.598		
18,500.00	9,065.00	7,735.57	4,942.30	197.80	46.39	-5.30	101.46	5,567.44	5,625.64	5,525.39	100.25	56.116		
18,600.00	9,065.00	7,722.01	4,941.95	199.82	46.21	-5.49	114.93	5,568.99	5,694.76	5,594.23	100.53	56.648		
18,700.00	9,065.00	7,708.55	4,941.61	201.84	46.03	-5.67	128.29	5,570.51	5,764.76	5,663.97	100.79	57.195		
18,800.00	9,065.00	7,695.21	4,941.28	203.86	45.85	-5.86	141.55	5,572.01	5,835.61	5,734.57	101.04	57.755		
18,900.00	9,065.00	7,681.96	4,940.96	205.88	45.67	-6.04	154.71	5,573.50	5,907.27	5,805.99	101.28	58.328		
19,000.00	9,065.00	7,668.82	4,940.66	207.90	45.50	-6.22	167.76	5,574.97	5,979.72	5,878.22	101.50	58.913		
19,100.00	9,065.00	7,658.65	4,940.43	209.92	45.36	-6.36	177.87	5,576.10	6,052.93	5,951.20	101.72	59.505		
19,200.00	9,065.00	7,649.08	4,940.22	211.95	45.23	-6.49	187.38	5,577.15	6,126.87	6,024.94	101.93	60.107		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Sec 13-T21S-R27E - Lone Tree Draw State Com 2H - ST01 - ST01		Offset Site Error:		5.00 ft
Survey Program:													80-GYRO-NS-CT, 4361-MWD+HDGM		Offset Well Error:		0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning			
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor					
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)	(ft)					
19,300.00	9,065.00	7,639.65	4,940.01	213.97	45.11	-6.62	196.75	5,578.19	6,201.53	6,099.40	102.13	60.720					
19,400.00	9,065.00	7,630.34	4,939.81	215.99	44.98	-6.75	206.00	5,579.20	6,276.88	6,174.56	102.32	61.345					
19,456.84	9,065.00	7,352.55	4,940.70	217.14	41.31	-10.54	481.88	5,611.19	6,319.91	6,217.80	102.11	61.892					

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Survey Program: 80-GYRO-NS-CT													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0.00	0.00	0.00	0.00	0.50	5.02	61.36	3,158.45	5,782.98	6,589.48					
100.00	100.00	45.00	45.00	0.52	5.03	61.36	3,158.44	5,783.00	6,589.30	6,583.76	5.54	1,188.766		
200.00	200.00	140.67	140.67	0.70	5.03	61.36	3,158.37	5,783.16	6,589.41	6,583.67	5.74	1,148.701		
300.00	300.00	236.04	236.04	0.99	5.07	61.36	3,158.26	5,783.38	6,589.56	6,583.51	6.05	1,088.660		
400.00	400.00	333.23	333.23	1.31	5.12	61.36	3,158.12	5,783.72	6,589.79	6,583.36	6.43	1,025.049		
500.00	500.00	426.72	426.72	1.65	5.19	61.37	3,157.92	5,784.12	6,590.07	6,583.23	6.84	963.698		
600.00	600.00	520.68	520.68	1.99	5.29	61.37	3,157.65	5,784.69	6,590.46	6,583.19	7.28	905.878		
700.00	700.00	611.59	611.58	2.34	5.39	61.38	3,157.28	5,785.40	6,590.95	6,583.22	7.73	852.536		
800.00	800.00	711.04	711.02	2.69	5.53	61.39	3,156.74	5,786.38	6,591.56	6,583.34	8.22	802.063		
900.00	900.00	806.58	806.56	3.04	5.68	61.40	3,155.88	5,787.48	6,592.14	6,583.42	8.72	756.048		
1,000.00	1,000.00	895.06	895.02	3.40	5.83	61.41	3,154.95	5,788.72	6,592.87	6,583.64	9.22	714.708		
1,100.00	1,100.00	985.91	985.85	3.75	6.00	61.42	3,153.85	5,790.26	6,593.77	6,584.02	9.75	676.414		
1,200.00	1,200.00	1,089.98	1,089.90	4.11	6.20	61.44	3,152.38	5,792.20	6,594.73	6,584.42	10.31	639.528		
1,300.00	1,300.00	1,201.91	1,201.78	4.46	6.45	61.47	3,150.30	5,794.35	6,595.54	6,584.63	10.91	604.600		
1,400.00	1,400.00	1,311.70	1,311.52	4.82	6.70	61.50	3,147.49	5,796.68	6,596.18	6,584.66	11.52	572.677		
1,500.00	1,500.00	1,417.07	1,416.81	5.18	6.95	61.53	3,144.32	5,799.04	6,596.71	6,584.58	12.13	543.780		
1,600.00	1,600.00	1,522.50	1,522.17	5.53	7.22	61.56	3,141.29	5,801.21	6,597.15	6,584.40	12.75	517.243		
1,700.00	1,700.00	1,612.96	1,612.59	5.89	7.46	61.59	3,139.16	5,802.80	6,597.58	6,584.24	13.35	494.341		
1,800.00	1,800.00	1,686.42	1,686.03	6.25	7.65	61.60	3,137.78	5,804.22	6,598.38	6,584.48	13.90	474.785		
1,900.00	1,900.00	1,775.44	1,775.02	6.61	7.89	61.62	3,136.46	5,806.03	6,599.46	6,584.97	14.49	455.303		
2,000.00	2,000.00	1,896.30	1,895.85	6.96	8.22	61.64	3,135.23	5,808.01	6,600.41	6,585.23	15.18	434.694		
2,100.00	2,100.00	1,999.85	1,999.39	7.32	8.51	61.65	3,134.46	5,809.34	6,601.19	6,585.36	15.83	416.974		
2,200.00	2,200.00	2,099.06	2,098.59	7.68	8.79	61.66	3,133.80	5,810.52	6,601.93	6,585.46	16.47	400.816		
2,300.00	2,300.00	2,190.76	2,190.28	8.04	9.06	61.67	3,132.99	5,811.83	6,602.76	6,585.67	17.09	386.253		
2,400.00	2,400.00	2,286.45	2,285.95	8.39	9.34	61.69	3,132.11	5,813.32	6,603.69	6,585.96	17.73	372.388		
2,500.00	2,500.00	2,385.94	2,385.43	8.75	9.64	61.70	3,131.22	5,814.89	6,604.66	6,586.27	18.39	359.197		
2,600.00	2,599.99	2,488.72	2,488.19	9.09	9.95	-152.36	3,130.44	5,816.41	6,606.38	6,587.34	19.04	347.018		
2,700.00	2,699.96	2,593.89	2,593.36	9.42	10.27	-152.35	3,129.79	5,817.82	6,609.58	6,589.90	19.68	335.797		
2,800.00	2,799.86	2,696.92	2,696.38	9.75	10.58	-152.33	3,129.07	5,819.16	6,614.26	6,593.93	20.33	325.387		
2,900.00	2,899.68	2,796.87	2,796.31	10.08	10.89	-152.32	3,128.36	5,820.44	6,620.46	6,599.49	20.97	315.763		
2,945.33	2,944.88	2,840.24	2,839.67	10.23	11.03	-152.31	3,128.00	5,821.02	6,623.78	6,602.53	21.25	311.682		
3,000.00	2,999.39	2,890.43	2,889.85	10.41	11.18	-152.32	3,127.57	5,821.74	6,628.00	6,606.41	21.59	306.996		
3,100.00	3,099.08	2,990.43	2,989.84	10.75	11.50	-152.34	3,126.73	5,823.22	6,635.78	6,613.54	22.24	298.409		
3,200.00	3,198.78	3,088.23	3,087.64	11.08	11.81	-152.36	3,126.08	5,824.55	6,643.55	6,620.67	22.88	290.352		
3,300.00	3,298.48	3,173.53	3,172.92	11.42	12.08	-152.38	3,125.63	5,825.76	6,651.43	6,627.94	23.49	283.186		
3,400.00	3,398.18	3,253.56	3,252.94	11.76	12.34	-152.39	3,125.33	5,827.07	6,659.57	6,635.49	24.08	276.558		
3,500.00	3,497.88	3,341.40	3,340.77	12.10	12.62	-152.41	3,125.18	5,828.70	6,668.00	6,643.30	24.70	269.957		
3,600.00	3,597.58	3,456.96	3,456.31	12.45	12.99	-152.44	3,125.31	5,830.63	6,676.42	6,651.01	25.41	262.718		
3,700.00	3,697.27	3,563.35	3,562.70	12.79	13.33	-152.47	3,125.65	5,831.99	6,684.57	6,658.47	26.10	256.134		
3,800.00	3,796.97	3,666.16	3,665.50	13.14	13.66	-152.50	3,126.15	5,833.15	6,692.69	6,665.92	26.77	249.973		
3,900.00	3,896.67	3,759.35	3,758.67	13.48	13.96	-152.53	3,126.88	5,834.08	6,700.83	6,673.41	27.42	244.381		
4,000.00	3,896.37	3,860.92	3,860.24	13.83	14.29	-152.57	3,127.93	5,835.00	6,709.01	6,680.91	28.10	238.794		
4,100.00	4,096.07	3,965.29	3,964.60	14.18	14.63	-152.60	3,128.99	5,835.90	6,717.15	6,688.37	28.78	233.374		
4,200.00	4,195.76	4,082.08	4,081.38	14.53	15.02	-152.65	3,130.05	5,836.71	6,725.08	6,695.57	29.51	227.863		
4,300.00	4,295.46	4,187.11	4,186.40	14.88	15.36	-152.68	3,130.95	5,837.32	6,732.90	6,702.70	30.21	222.890		
4,400.00	4,395.16	4,293.08	4,292.37	15.23	15.71	-152.72	3,131.83	5,837.81	6,740.61	6,709.70	30.91	218.102		
4,500.00	4,494.86	4,395.68	4,394.97	15.58	16.05	-152.75	3,132.67	5,838.22	6,748.26	6,716.67	31.59	213.589		
4,600.00	4,594.56	4,494.61	4,493.89	15.93	16.38	-152.79	3,133.43	5,838.62	6,755.89	6,723.62	32.27	209.339		
4,700.00	4,694.25	4,596.78	4,596.06	16.29	16.72	-152.82	3,134.22	5,839.03	6,763.53	6,730.57	32.96	205.187		
4,800.00	4,793.95	4,705.07	4,704.34	16.64	17.08	-152.86	3,135.05	5,839.37	6,771.08	6,737.41	33.67	201.072		
4,900.00	4,893.65	4,814.52	4,813.79	17.00	17.44	-152.90	3,135.86	5,839.54	6,778.49	6,744.10	34.39	197.092		
5,000.00	4,993.35	4,909.26	4,908.53	17.35	17.76	-152.93	3,136.67	5,839.60	6,785.87	6,750.81	35.06	193.544		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Sec 13-T21S-R27E - Lone Tree Draw State Com 2H - Wellbore #1 - Wellbore #1													Offset Well Error:	0.50 ft
Survey Program: 80-GYRO-NS-CT														
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
5,100.00	5,093.05	4,992.45	4,991.71	17.71	18.04	-152.96	3,137.59	5,839.68	6,793.41	6,757.72	35.69	190.338		
5,200.00	5,192.75	5,061.67	5,060.93	18.06	18.27	-152.99	3,138.56	5,839.90	6,801.29	6,765.02	36.27	187.500		
5,300.00	5,292.44	5,138.65	5,137.89	18.42	18.53	-153.02	3,139.85	5,840.41	6,809.59	6,772.71	36.88	184.627		
5,400.00	5,392.14	5,222.87	5,222.09	18.77	18.81	-153.05	3,141.44	5,841.11	6,818.16	6,780.64	37.52	181.730		
5,500.00	5,491.84	5,328.96	5,328.16	19.13	19.17	-153.10	3,143.58	5,842.08	6,826.87	6,788.64	38.23	178.571		
5,600.00	5,591.54	5,440.43	5,439.61	19.49	19.55	-153.14	3,145.73	5,842.81	6,835.30	6,796.34	38.96	175.430		
5,700.00	5,691.24	5,539.13	5,538.28	19.85	19.88	-153.19	3,147.71	5,843.38	6,843.71	6,804.06	39.65	172.596		
5,800.00	5,790.93	5,671.07	5,670.20	20.20	20.33	-153.24	3,149.86	5,844.10	6,851.92	6,811.46	40.46	169.360		
5,900.00	5,890.63	5,786.63	5,785.75	20.56	20.72	-153.27	3,150.72	5,844.92	6,859.85	6,818.64	41.21	166.476		
6,000.00	5,990.33	5,944.63	5,943.75	20.92	21.26	-153.31	3,149.92	5,845.97	6,867.11	6,825.01	42.10	163.103		
6,100.00	6,090.03	6,105.41	6,104.51	21.28	21.80	-153.34	3,147.80	5,846.18	6,873.50	6,830.49	43.01	159.824		
6,200.00	6,189.73	6,300.21	6,299.29	21.64	22.46	-153.39	3,145.51	5,844.09	6,879.06	6,835.04	44.02	156.272		
6,300.00	6,289.42	6,466.61	6,465.61	22.00	23.02	-153.44	3,143.67	5,839.25	6,882.76	6,837.83	44.93	153.176		
6,400.00	6,389.12	6,568.61	6,567.55	22.36	23.37	-153.47	3,141.52	5,836.67	6,886.48	6,840.84	45.64	150.903		
6,500.00	6,488.82	6,645.28	6,644.17	22.72	23.63	-153.48	3,139.66	5,834.84	6,890.18	6,843.93	46.25	148.965		
6,600.00	6,588.52	6,709.31	6,708.18	23.08	23.84	-153.50	3,138.33	5,833.60	6,894.43	6,847.60	46.83	147.222		
6,700.00	6,688.22	6,790.44	6,789.29	23.44	24.12	-153.52	3,136.92	5,832.22	6,899.05	6,851.59	47.46	145.355		
6,800.00	6,787.91	6,950.15	6,948.93	23.80	24.66	-153.56	3,134.24	5,828.50	6,903.02	6,854.66	48.36	142.743		
6,900.00	6,887.61	6,978.42	6,977.18	24.16	24.76	-153.57	3,133.80	5,827.76	6,907.29	6,858.47	48.82	141.494		
7,000.00	6,987.31	6,978.42	6,977.18	24.52	24.76	-153.57	3,133.80	5,827.76	6,912.93	6,863.76	49.17	140.588		
7,100.00	7,087.01	6,978.42	6,977.18	24.88	24.76	-153.57	3,133.80	5,827.76	6,920.02	6,870.50	49.52	139.747		
7,200.00	7,186.71	6,978.42	6,977.18	25.24	24.76	-153.57	3,133.80	5,827.76	6,928.54	6,878.69	49.86	138.970		
7,300.00	7,286.41	6,978.42	6,977.18	25.60	24.76	-153.57	3,133.80	5,827.76	6,938.50	6,888.31	50.19	138.256		
7,400.00	7,386.10	6,978.42	6,977.18	25.96	24.76	-153.57	3,133.80	5,827.76	6,949.88	6,899.37	50.51	137.603		
7,500.00	7,485.80	6,978.42	6,977.18	26.33	24.76	-153.57	3,133.80	5,827.76	6,962.68	6,911.86	50.82	137.010		
7,600.00	7,585.50	6,978.42	6,977.18	26.69	24.76	-153.57	3,133.80	5,827.76	6,976.88	6,925.76	51.12	136.474		
7,700.00	7,685.20	6,978.42	6,977.18	27.05	24.76	-153.57	3,133.80	5,827.76	6,992.49	6,941.08	51.42	135.994		
7,800.00	7,784.90	6,978.42	6,977.18	27.41	24.76	-153.57	3,133.80	5,827.76	7,009.49	6,957.79	51.70	135.570		
7,860.70	7,845.41	6,978.42	6,977.18	27.63	24.76	-153.57	3,133.80	5,827.76	7,020.49	6,968.61	51.87	135.338		
7,900.00	7,884.61	6,978.42	6,977.18	27.77	24.76	-153.62	3,133.80	5,827.76	7,027.70	6,975.72	51.98	135.196		
8,000.00	7,984.46	6,978.42	6,977.18	28.13	24.76	-153.73	3,133.80	5,827.76	7,045.40	6,993.15	52.25	134.842		
8,100.00	8,084.42	6,978.42	6,977.18	28.49	24.76	-153.85	3,133.80	5,827.76	7,062.16	7,009.65	52.51	134.499		
8,157.59	8,142.00	6,978.42	6,977.18	28.69	24.76	60.17	3,133.80	5,827.76	7,071.39	7,018.74	52.65	134.318		
8,200.00	8,184.41	6,978.42	6,977.18	28.83	24.76	60.17	3,133.80	5,827.76	7,078.19	7,025.45	52.74	134.197		
8,300.00	8,284.41	6,978.42	6,977.18	29.17	24.76	60.17	3,133.80	5,827.76	7,095.22	7,042.25	52.97	133.945		
8,400.00	8,384.41	6,978.42	6,977.18	29.51	24.76	60.17	3,133.80	5,827.76	7,113.60	7,060.41	53.19	133.739		
8,507.63	8,492.04	6,978.42	6,977.18	29.87	24.76	60.17	3,133.80	5,827.76	7,134.91	7,081.49	53.42	133.568		
8,550.00	8,534.37	6,978.42	6,977.18	30.02	24.76	-28.83	3,133.80	5,827.76	7,142.38	7,088.88	53.50	133.497		
8,600.00	8,584.01	6,978.42	6,977.18	30.18	24.76	-28.56	3,133.80	5,827.76	7,148.02	7,094.42	53.60	133.370		
8,650.00	8,632.95	6,978.42	6,977.18	30.34	24.76	-28.46	3,133.80	5,827.76	7,150.18	7,096.50	53.68	133.195		
8,700.00	8,680.82	6,978.42	6,977.18	30.50	24.76	-28.52	3,133.80	5,827.76	7,148.86	7,095.10	53.76	132.975		
8,750.00	8,727.25	6,978.42	6,977.18	30.66	24.76	-28.75	3,133.80	5,827.76	7,144.07	7,090.24	53.83	132.712		
8,800.00	8,771.89	6,978.42	6,977.18	30.81	24.76	-29.16	3,133.80	5,827.76	7,135.83	7,081.94	53.89	132.408		
8,850.00	8,814.40	6,978.42	6,977.18	30.95	24.76	-29.74	3,133.80	5,827.76	7,124.19	7,070.25	53.95	132.063		
8,900.00	8,854.46	6,978.42	6,977.18	31.09	24.76	-30.53	3,133.80	5,827.76	7,109.23	7,055.24	53.99	131.678		
8,950.00	8,891.75	6,978.42	6,977.18	31.23	24.76	-31.54	3,133.80	5,827.76	7,091.04	7,037.01	54.03	131.251		
9,000.00	8,926.01	6,978.42	6,977.18	31.37	24.76	-32.79	3,133.80	5,827.76	7,069.73	7,015.67	54.06	130.783		
9,050.00	8,956.96	6,978.42	6,977.18	31.53	24.76	-34.33	3,133.80	5,827.76	7,045.44	6,991.36	54.08	130.270		
9,100.00	8,984.38	6,978.42	6,977.18	31.69	24.76	-36.20	3,133.80	5,827.76	7,018.32	6,964.21	54.11	129.711		
9,150.00	9,008.05	6,978.42	6,977.18	31.87	24.76	-38.44	3,133.80	5,827.76	6,988.55	6,934.42	54.13	129.106		
9,200.00	9,027.79	6,978.42	6,977.18	32.07	24.76	-41.14	3,133.80	5,827.76	6,956.33	6,902.17	54.16	128.451		
9,250.00	9,043.45	6,978.42	6,977.18	32.29	24.76	-44.37	3,133.80	5,827.76	6,921.85	6,867.67	54.18	127.747		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Survey Program: 80-GYRO-NS-CT													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
9,300.00	9,054.92	6,978.42	6,977.18	32.53	24.76	-48.23	3,133.80	5,827.76	6,885.37	6,831.15	54.22	126.993		
9,350.00	9,062.10	6,978.42	6,977.18	32.79	24.76	-52.82	3,133.80	5,827.76	6,847.11	6,792.85	54.26	126.189		
9,400.00	9,064.95	6,978.42	6,977.18	33.06	24.76	-58.23	3,133.80	5,827.76	6,807.35	6,753.04	54.31	125.339		
9,407.63	9,065.00	6,978.42	6,977.18	33.10	24.76	-59.13	3,133.80	5,827.76	6,801.17	6,746.85	54.32	125.201		
9,500.00	9,065.00	6,978.42	6,977.18	33.68	24.76	-59.13	3,133.80	5,827.76	6,726.38	6,671.94	54.44	123.557		
9,600.00	9,065.00	6,978.42	6,977.18	34.41	24.76	-59.13	3,133.80	5,827.76	6,645.91	6,591.30	54.61	121.699		
9,700.00	9,065.00	6,978.42	6,977.18	35.24	24.76	-59.13	3,133.80	5,827.76	6,565.98	6,511.15	54.83	119.759		
9,800.00	9,065.00	6,978.42	6,977.18	36.17	24.76	-59.13	3,133.80	5,827.76	6,486.60	6,431.51	55.09	117.740		
9,900.00	9,065.00	6,978.42	6,977.18	37.19	24.76	-59.13	3,133.80	5,827.76	6,407.81	6,352.40	55.41	115.644		
10,000.00	9,065.00	6,978.42	6,977.18	38.30	24.76	-59.13	3,133.80	5,827.76	6,329.61	6,273.83	55.78	113.476		
10,100.00	9,065.00	6,978.42	6,977.18	39.48	24.76	-59.13	3,133.80	5,827.76	6,252.03	6,195.83	56.20	111.239		
10,200.00	9,065.00	6,978.42	6,977.18	40.72	24.76	-59.13	3,133.80	5,827.76	6,175.10	6,118.41	56.68	108.939		
10,300.00	9,065.00	6,978.42	6,977.18	42.03	24.76	-59.13	3,133.80	5,827.76	6,098.83	6,041.61	57.22	106.583		
10,400.00	9,065.00	6,978.42	6,977.18	43.40	24.76	-59.13	3,133.80	5,827.76	6,023.26	5,965.44	57.82	104.177		
10,500.00	9,065.00	6,978.42	6,977.18	44.82	24.76	-59.13	3,133.80	5,827.76	5,948.41	5,889.94	58.47	101.729		
10,600.00	9,065.00	6,978.42	6,977.18	46.29	24.76	-59.13	3,133.80	5,827.76	5,874.31	5,815.13	59.19	99.247		
10,700.00	9,065.00	6,978.42	6,977.18	47.79	24.76	-59.13	3,133.80	5,827.76	5,800.99	5,741.03	59.97	96.739		
10,800.00	9,065.00	6,978.42	6,977.18	49.34	24.76	-59.13	3,133.80	5,827.76	5,728.48	5,667.68	60.80	94.214		
10,900.00	9,065.00	6,978.42	6,977.18	50.92	24.76	-59.13	3,133.80	5,827.76	5,656.80	5,595.10	61.70	91.680		
11,000.00	9,065.00	6,978.42	6,977.18	52.54	24.76	-59.13	3,133.80	5,827.76	5,586.00	5,523.33	62.66	89.145		
11,100.00	9,065.00	6,978.42	6,977.18	54.18	24.76	-59.13	3,133.80	5,827.76	5,516.09	5,452.41	63.68	86.618		
11,200.00	9,065.00	6,978.42	6,977.18	55.85	24.76	-59.13	3,133.80	5,827.76	5,447.13	5,382.36	64.77	84.105		
11,300.00	9,065.00	6,978.42	6,977.18	57.54	24.76	-59.13	3,133.80	5,827.76	5,379.14	5,313.23	65.91	81.615		
11,400.00	9,065.00	6,978.42	6,977.18	59.26	24.76	-59.13	3,133.80	5,827.76	5,312.17	5,245.05	67.11	79.154		
11,500.00	9,065.00	6,978.42	6,977.18	61.00	24.76	-59.13	3,133.80	5,827.76	5,246.24	5,177.87	68.38	76.727		
11,600.00	9,065.00	6,978.42	6,977.18	62.75	24.76	-59.13	3,133.80	5,827.76	5,181.41	5,111.71	69.70	74.342		
11,700.00	9,065.00	6,978.42	6,977.18	64.52	24.76	-59.13	3,133.80	5,827.76	5,117.71	5,046.63	71.08	72.002		
11,800.00	9,065.00	6,978.42	6,977.18	66.31	24.76	-59.13	3,133.80	5,827.76	5,055.18	4,982.67	72.51	69.713		
11,900.00	9,065.00	6,978.42	6,977.18	68.11	24.76	-59.13	3,133.80	5,827.76	4,993.88	4,919.87	74.01	67.478		
12,000.00	9,065.00	6,978.42	6,977.18	69.93	24.76	-59.13	3,133.80	5,827.76	4,933.84	4,858.28	75.56	65.301		
12,100.00	9,065.00	6,978.42	6,977.18	71.76	24.76	-59.13	3,133.80	5,827.76	4,875.11	4,797.95	77.16	63.185		
12,200.00	9,065.00	6,978.42	6,977.18	73.60	24.76	-59.13	3,133.80	5,827.76	4,817.74	4,738.93	78.81	61.131		
12,300.00	9,065.00	6,978.42	6,977.18	75.45	24.76	-59.13	3,133.80	5,827.76	4,761.78	4,681.27	80.51	59.143		
12,400.00	9,065.00	6,978.42	6,977.18	77.31	24.76	-59.13	3,133.80	5,827.76	4,707.28	4,625.02	82.26	57.221		
12,500.00	9,065.00	6,978.42	6,977.18	79.18	24.76	-59.13	3,133.80	5,827.76	4,654.30	4,570.23	84.06	55.367		
12,600.00	9,065.00	6,978.42	6,977.18	81.05	24.76	-59.13	3,133.80	5,827.76	4,602.87	4,516.96	85.91	53.580		
12,700.00	9,065.00	6,978.42	6,977.18	82.94	24.76	-59.13	3,133.80	5,827.76	4,553.06	4,465.27	87.79	51.863		
12,800.00	9,065.00	6,978.42	6,977.18	84.83	24.76	-59.13	3,133.80	5,827.76	4,504.92	4,415.21	89.71	50.214		
12,900.00	9,065.00	6,978.42	6,977.18	86.73	24.76	-59.13	3,133.80	5,827.76	4,458.50	4,366.83	91.67	48.634		
13,000.00	9,065.00	6,978.42	6,977.18	88.64	24.76	-59.13	3,133.80	5,827.76	4,413.86	4,320.19	93.67	47.122		
13,100.00	9,065.00	6,978.42	6,977.18	90.55	24.76	-59.13	3,133.80	5,827.76	4,371.06	4,275.36	95.69	45.679		
13,200.00	9,065.00	6,978.42	6,977.18	92.47	24.76	-59.13	3,133.80	5,827.76	4,330.13	4,232.39	97.74	44.302		
13,300.00	9,065.00	6,978.42	6,977.18	94.39	24.76	-59.13	3,133.80	5,827.76	4,291.15	4,191.34	99.82	42.991		
13,400.00	9,065.00	6,978.42	6,977.18	96.32	24.76	-59.13	3,133.80	5,827.76	4,254.17	4,152.26	101.91	41.746		
13,500.00	9,065.00	6,978.42	6,977.18	98.25	24.76	-59.13	3,133.80	5,827.76	4,219.23	4,115.22	104.01	40.564		
13,600.00	9,065.00	6,978.42	6,977.18	100.19	24.76	-59.13	3,133.80	5,827.76	4,186.39	4,080.26	106.13	39.446		
13,700.00	9,065.00	6,978.42	6,977.18	102.13	24.76	-59.13	3,133.80	5,827.76	4,155.69	4,047.44	108.25	38.389		
13,800.00	9,065.00	6,978.42	6,977.18	104.08	24.76	-59.13	3,133.80	5,827.76	4,127.19	4,016.82	110.38	37.392		
13,900.00	9,065.00	6,978.42	6,977.18	106.03	24.76	-59.13	3,133.80	5,827.76	4,100.93	3,988.44	112.49	36.454		
14,000.00	9,065.00	6,978.42	6,977.18	107.98	24.76	-59.13	3,133.80	5,827.76	4,076.96	3,962.36	114.60	35.574		
14,100.00	9,065.00	6,978.42	6,977.18	109.94	24.76	-59.13	3,133.80	5,827.76	4,055.31	3,938.61	116.70	34.750		
14,200.00	9,065.00	6,978.42	6,977.18	111.90	24.76	-59.13	3,133.80	5,827.76	4,036.02	3,917.25	118.78	33.980		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Sec 13-T21S-R27E - Lone Tree Draw State Com 2H - Wellbore #1 - Wellbore #1													Offset Well Error:	0.50 ft
Survey Program: 80-GYRO-NS-CT														
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
14,300.00	9,065.00	6,978.42	6,977.18	113.86	24.76	-59.13	3,133.80	5,827.76	4,019.13	3,898.31	120.83	33.264		
14,400.00	9,065.00	6,978.42	6,977.18	115.82	24.76	-59.13	3,133.80	5,827.76	4,004.67	3,881.82	122.85	32.599		
14,500.00	9,065.00	6,978.42	6,977.18	117.79	24.76	-59.13	3,133.80	5,827.76	3,992.66	3,867.82	124.83	31.984		
14,600.00	9,065.00	6,978.42	6,977.18	119.76	24.76	-59.13	3,133.80	5,827.76	3,983.12	3,856.34	126.78	31.418		
14,700.00	9,065.00	6,978.42	6,977.18	121.74	24.76	-59.13	3,133.80	5,827.76	3,976.08	3,847.40	128.68	30.898		
14,800.00	9,065.00	6,978.42	6,977.18	123.71	24.76	-59.13	3,133.80	5,827.76	3,971.54	3,841.01	130.53	30.425		
14,900.00	9,065.00	6,978.42	6,977.18	125.69	24.76	-59.13	3,133.80	5,827.76	3,969.52	3,837.19	132.33	29.996		
14,930.29	9,065.00	6,978.42	6,977.18	126.29	24.76	-59.13	3,133.80	5,827.76	3,969.40	3,836.54	132.87	29.875 CC		
15,000.00	9,065.00	6,978.42	6,977.18	127.67	24.76	-59.13	3,133.80	5,827.76	3,970.02	3,835.94	134.08	29.610 ES		
15,100.00	9,065.00	6,978.42	6,977.18	129.65	24.76	-59.13	3,133.80	5,827.76	3,973.03	3,837.27	135.76	29.266		
15,200.00	9,065.00	6,978.42	6,977.18	131.63	24.76	-59.13	3,133.80	5,827.76	3,978.56	3,841.18	137.37	28.962		
15,300.00	9,065.00	6,978.42	6,977.18	133.62	24.76	-59.13	3,133.80	5,827.76	3,986.58	3,847.66	138.92	28.696		
15,400.00	9,065.00	6,978.42	6,977.18	135.61	24.76	-59.13	3,133.80	5,827.76	3,997.10	3,856.70	140.40	28.469		
15,500.00	9,065.00	6,978.42	6,977.18	137.60	24.76	-59.13	3,133.80	5,827.76	4,010.08	3,868.27	141.81	28.277		
15,600.00	9,065.00	6,978.42	6,977.18	139.59	24.76	-59.13	3,133.80	5,827.76	4,025.50	3,882.35	143.15	28.121		
15,700.00	9,065.00	6,978.42	6,977.18	141.58	24.76	-59.13	3,133.80	5,827.76	4,043.34	3,898.93	144.41	27.999		
15,800.00	9,065.00	6,978.42	6,977.18	143.57	24.76	-59.13	3,133.80	5,827.76	4,063.57	3,917.96	145.60	27.909		
15,900.00	9,065.00	6,978.42	6,977.18	145.57	24.76	-59.13	3,133.80	5,827.76	4,086.14	3,939.42	146.71	27.851		
16,000.00	9,065.00	6,978.42	6,977.18	147.56	24.76	-59.13	3,133.80	5,827.76	4,111.02	3,963.26	147.75	27.823 SF		
16,100.00	9,065.00	6,978.42	6,977.18	149.56	24.76	-59.13	3,133.80	5,827.76	4,138.16	3,989.44	148.72	27.825		
16,200.00	9,065.00	6,978.42	6,977.18	151.56	24.76	-59.13	3,133.80	5,827.76	4,167.53	4,017.92	149.61	27.855		
16,300.00	9,065.00	6,978.42	6,977.18	153.56	24.76	-59.13	3,133.80	5,827.76	4,199.08	4,048.64	150.44	27.913		
16,400.00	9,065.00	6,978.42	6,977.18	155.56	24.76	-59.13	3,133.80	5,827.76	4,232.75	4,081.57	151.19	27.997		
16,500.00	9,065.00	6,978.42	6,977.18	157.57	24.76	-59.13	3,133.80	5,827.76	4,268.51	4,116.64	151.87	28.106		
16,600.00	9,065.00	6,978.42	6,977.18	159.57	24.76	-59.13	3,133.80	5,827.76	4,306.29	4,153.80	152.49	28.240		
16,700.00	9,065.00	6,978.42	6,977.18	161.57	24.76	-59.13	3,133.80	5,827.76	4,346.04	4,192.99	153.04	28.397		
16,800.00	9,065.00	6,978.42	6,977.18	163.58	24.76	-59.13	3,133.80	5,827.76	4,387.71	4,234.17	153.54	28.578		
16,900.00	9,065.00	6,978.42	6,977.18	165.59	24.76	-59.13	3,133.80	5,827.76	4,431.24	4,277.27	153.97	28.780		
17,000.00	9,065.00	6,978.42	6,977.18	167.60	24.76	-59.13	3,133.80	5,827.76	4,476.59	4,322.24	154.35	29.003		
17,100.00	9,065.00	6,978.42	6,977.18	169.60	24.76	-59.13	3,133.80	5,827.76	4,523.69	4,369.02	154.67	29.247		
17,200.00	9,065.00	6,978.42	6,977.18	171.61	24.76	-59.13	3,133.80	5,827.76	4,572.50	4,417.56	154.94	29.511		
17,300.00	9,065.00	6,978.42	6,977.18	173.62	24.76	-59.13	3,133.80	5,827.76	4,622.95	4,467.79	155.17	29.793		
17,400.00	9,065.00	6,978.42	6,977.18	175.63	24.76	-59.13	3,133.80	5,827.76	4,675.00	4,519.66	155.35	30.094		
17,500.00	9,065.00	6,978.42	6,977.18	177.65	24.76	-59.13	3,133.80	5,827.76	4,728.59	4,573.11	155.48	30.413		
17,600.00	9,065.00	6,978.42	6,977.18	179.66	24.76	-59.13	3,133.80	5,827.76	4,783.67	4,628.10	155.58	30.748		
17,700.00	9,065.00	6,978.42	6,977.18	181.67	24.76	-59.13	3,133.80	5,827.76	4,840.19	4,684.56	155.63	31.100		
17,800.00	9,065.00	6,978.42	6,977.18	183.69	24.76	-59.13	3,133.80	5,827.76	4,898.10	4,742.45	155.65	31.468		
17,900.00	9,065.00	6,978.42	6,977.18	185.70	24.76	-59.13	3,133.80	5,827.76	4,957.35	4,801.71	155.64	31.851		
18,000.00	9,065.00	6,978.42	6,977.18	187.72	24.76	-59.13	3,133.80	5,827.76	5,017.90	4,862.29	155.60	32.248		
18,100.00	9,065.00	6,978.42	6,977.18	189.73	24.76	-59.13	3,133.80	5,827.76	5,079.69	4,924.16	155.53	32.660		
18,200.00	9,065.00	6,978.42	6,977.18	191.75	24.76	-59.13	3,133.80	5,827.76	5,142.68	4,987.24	155.44	33.085		
18,300.00	9,065.00	6,978.42	6,977.18	193.77	24.76	-59.13	3,133.80	5,827.76	5,206.83	5,051.52	155.32	33.524		
18,400.00	9,065.00	6,978.42	6,977.18	195.78	24.76	-59.13	3,133.80	5,827.76	5,272.10	5,116.93	155.17	33.975		
18,500.00	9,065.00	6,978.42	6,977.18	197.80	24.76	-59.13	3,133.80	5,827.76	5,338.45	5,183.43	155.01	34.439		
18,600.00	9,065.00	6,978.42	6,977.18	199.82	24.76	-59.13	3,133.80	5,827.76	5,405.82	5,250.99	154.83	34.914		
18,700.00	9,065.00	6,978.42	6,977.18	201.84	24.76	-59.13	3,133.80	5,827.76	5,474.20	5,319.57	154.63	35.401		
18,800.00	9,065.00	6,978.42	6,977.18	203.86	24.76	-59.13	3,133.80	5,827.76	5,543.54	5,389.12	154.42	35.899		
18,900.00	9,065.00	6,978.42	6,977.18	205.88	24.76	-59.13	3,133.80	5,827.76	5,613.80	5,459.61	154.19	36.407		
19,000.00	9,065.00	6,978.42	6,977.18	207.90	24.76	-59.13	3,133.80	5,827.76	5,684.95	5,531.00	153.96	36.926		
19,100.00	9,065.00	6,978.42	6,977.18	209.92	24.76	-59.13	3,133.80	5,827.76	5,756.97	5,603.26	153.71	37.455		
19,200.00	9,065.00	6,978.42	6,977.18	211.95	24.76	-59.13	3,133.80	5,827.76	5,829.80	5,676.36	153.45	37.993		
19,300.00	9,065.00	6,978.42	6,977.18	213.97	24.76	-59.13	3,133.80	5,827.76	5,903.43	5,750.26	153.18	38.540		

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design	Sec 13-T21S-R27E - Lone Tree Draw State Com 2H - Wellbore #1 - Wellbore #1											Offset Site Error:	5.00 ft
Survey Program:	80-GYRO-NS-CT											Offset Well Error:	0.50 ft
Reference	Offset		Semi Major Axis		Distance								
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor	Warning
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)		
19,400.00	9,065.00	6,978.42	6,977.18	215.99	24.76	-59.13	3,133.80	5,827.76	5,977.83	5,824.93	152.90	39.096	
19,456.84	9,065.00	6,978.42	6,977.18	217.14	24.76	-59.13	3,133.80	5,827.76	6,020.45	5,867.71	152.74	39.417	

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Survey Program: 10-INC-ONLY													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0.00	0.00	0.00	0.00	0.50	5.02	89.87	15.65	7,023.26	7,023.75					
100.00	100.00	19.10	19.10	0.52	5.03	89.87	15.65	7,023.26	7,023.28	7,017.73	5.54	1,266.702		
200.00	200.00	119.10	119.10	0.70	5.28	89.87	15.65	7,023.26	7,023.28	7,017.29	5.99	1,173.368		
300.00	300.00	219.10	219.10	0.99	5.92	89.87	15.65	7,023.26	7,023.28	7,016.37	6.91	1,016.871		
400.00	400.00	319.10	319.10	1.31	6.83	89.87	15.65	7,023.26	7,023.28	7,015.14	8.14	862.960		
500.00	500.00	419.10	419.10	1.65	7.92	89.87	15.65	7,023.26	7,023.28	7,013.71	9.57	734.203		
600.00	600.00	519.10	519.10	1.99	9.13	89.87	15.65	7,023.26	7,023.28	7,012.16	11.12	631.791		
700.00	700.00	619.10	619.10	2.34	10.41	89.87	15.65	7,023.26	7,023.28	7,010.53	12.75	550.979		
800.00	800.00	719.10	719.10	2.69	11.74	89.87	15.65	7,023.26	7,023.28	7,008.85	14.43	486.687		
900.00	900.00	819.10	819.10	3.04	13.11	89.87	15.65	7,023.26	7,023.28	7,007.13	16.15	434.831		
1,000.00	1,000.00	919.10	919.10	3.40	14.50	89.87	15.65	7,023.26	7,023.28	7,005.38	17.90	392.379		
1,100.00	1,100.00	1,019.10	1,019.10	3.75	15.91	89.87	15.65	7,023.26	7,023.28	7,003.61	19.67	357.123		
1,200.00	1,200.00	1,119.10	1,119.10	4.11	17.34	89.87	15.65	7,023.26	7,023.28	7,001.83	21.45	327.456		
1,300.00	1,300.00	1,219.10	1,219.10	4.46	18.78	89.87	15.65	7,023.26	7,023.28	7,000.04	23.24	302.191		
1,400.00	1,400.00	1,319.10	1,319.10	4.82	20.22	89.87	15.65	7,023.26	7,023.28	6,998.24	25.04	280.446		
1,500.00	1,500.00	1,419.10	1,419.10	5.18	21.68	89.87	15.65	7,023.26	7,023.28	6,996.43	26.85	261.550		
1,600.00	1,600.00	1,519.10	1,519.10	5.53	23.13	89.87	15.65	7,023.26	7,023.28	6,994.61	28.67	244.990		
1,700.00	1,700.00	1,619.10	1,619.10	5.89	24.60	89.87	15.65	7,023.26	7,023.28	6,992.79	30.49	230.366		
1,800.00	1,800.00	1,719.10	1,719.10	6.25	26.06	89.87	15.65	7,023.26	7,023.28	6,990.97	32.31	217.363		
1,900.00	1,900.00	1,819.10	1,819.10	6.61	27.53	89.87	15.65	7,023.26	7,023.28	6,989.14	34.14	205.729		
2,000.00	2,000.00	1,919.10	1,919.10	6.96	29.01	89.87	15.65	7,023.26	7,023.28	6,987.31	35.97	195.262		
2,100.00	2,100.00	2,019.10	2,019.10	7.32	30.48	89.87	15.65	7,023.26	7,023.28	6,985.48	37.80	185.797		
2,200.00	2,200.00	2,119.10	2,119.10	7.68	31.96	89.87	15.65	7,023.26	7,023.28	6,983.64	39.64	177.198		
2,300.00	2,300.00	2,219.10	2,219.10	8.04	33.44	89.87	15.65	7,023.26	7,023.28	6,981.81	41.47	169.352		
2,400.00	2,400.00	2,319.10	2,319.10	8.39	34.92	89.87	15.65	7,023.26	7,023.28	6,979.97	43.31	162.165		
2,500.00	2,500.00	2,419.10	2,419.10	8.75	36.40	89.87	15.65	7,023.26	7,023.28	6,978.13	45.15	155.559		
2,600.00	2,599.99	2,519.09	2,519.09	9.09	37.88	-124.21	15.65	7,023.26	7,023.77	6,976.80	46.97	149.530		
2,700.00	2,699.96	2,619.06	2,619.06	9.42	39.36	-124.21	15.65	7,023.26	7,025.24	6,976.46	48.78	144.015		
2,800.00	2,799.86	2,718.96	2,718.96	9.75	40.85	-124.22	15.65	7,023.26	7,027.70	6,977.10	50.59	138.909		
2,900.00	2,899.68	2,818.78	2,818.78	10.08	42.33	-124.23	15.65	7,023.26	7,031.13	6,978.73	52.40	134.170		
2,945.33	2,944.88	2,863.98	2,863.98	10.23	43.00	-124.24	15.65	7,023.26	7,033.02	6,979.79	53.23	132.134		
3,000.00	2,999.39	2,918.49	2,918.49	10.41	43.81	-124.27	15.65	7,023.26	7,035.41	6,981.19	54.22	129.762		
3,100.00	3,099.08	3,018.18	3,018.18	10.75	45.29	-124.32	15.65	7,023.26	7,039.80	6,983.76	56.03	125.635		
3,200.00	3,198.78	3,117.88	3,117.88	11.08	46.78	-124.37	15.65	7,023.26	7,044.19	6,986.33	57.85	121.762		
3,300.00	3,298.48	3,217.58	3,217.58	11.42	48.26	-124.43	15.65	7,023.26	7,048.58	6,988.91	59.67	118.120		
3,400.00	3,398.18	3,317.28	3,317.28	11.76	49.74	-124.48	15.65	7,023.26	7,052.98	6,991.49	61.50	114.690		
3,500.00	3,497.88	3,416.98	3,416.98	12.10	51.23	-124.53	15.65	7,023.26	7,057.39	6,994.07	63.32	111.454		
3,600.00	3,597.58	3,516.68	3,516.68	12.45	52.71	-124.58	15.65	7,023.26	7,061.80	6,996.66	65.15	108.397		
3,700.00	3,697.27	3,616.37	3,616.37	12.79	54.20	-124.63	15.65	7,023.26	7,066.22	6,999.25	66.98	105.503		
3,800.00	3,796.97	3,716.07	3,716.07	13.14	55.68	-124.68	15.65	7,023.26	7,070.65	7,001.84	68.81	102.762		
3,900.00	3,896.67	3,815.77	3,815.77	13.48	57.17	-124.74	15.65	7,023.26	7,075.08	7,004.44	70.64	100.160		
4,000.00	3,996.37	3,915.47	3,915.47	13.83	58.66	-124.79	15.65	7,023.26	7,079.51	7,007.04	72.47	97.688		
4,100.00	4,096.07	4,015.17	4,015.17	14.18	60.14	-124.84	15.65	7,023.26	7,083.96	7,009.65	74.30	95.337		
4,200.00	4,195.76	4,114.86	4,114.86	14.53	61.63	-124.89	15.65	7,023.26	7,088.40	7,012.26	76.14	93.097		
4,300.00	4,295.46	4,214.56	4,214.56	14.88	63.12	-124.94	15.65	7,023.26	7,092.86	7,014.88	77.98	90.962		
4,400.00	4,395.16	4,314.26	4,314.26	15.23	64.60	-124.99	15.65	7,023.26	7,097.32	7,017.50	79.81	88.924		
4,500.00	4,494.86	4,413.96	4,413.96	15.58	66.09	-125.04	15.65	7,023.26	7,101.78	7,020.13	81.65	86.977		
4,600.00	4,594.56	4,513.66	4,513.66	15.93	67.58	-125.10	15.65	7,023.26	7,106.25	7,022.76	83.49	85.114		
4,700.00	4,694.25	4,613.35	4,613.35	16.29	69.07	-125.15	15.65	7,023.26	7,110.73	7,025.40	85.33	83.332		
4,800.00	4,793.95	4,713.05	4,713.05	16.64	70.55	-125.20	15.65	7,023.26	7,115.21	7,028.04	87.17	81.623		
4,900.00	4,893.65	4,812.75	4,812.75	17.00	72.04	-125.25	15.65	7,023.26	7,119.70	7,030.68	89.01	79.985		
5,000.00	4,993.35	4,912.45	4,912.45	17.35	73.53	-125.30	15.65	7,023.26	7,124.19	7,033.33	90.85	78.413		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Survey Program: 10-INC-ONLY													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
5,100.00	5,093.05	5,012.15	5,012.15	17.71	75.02	-125.35	15.65	7,023.26	7,128.69	7,035.99	92.70	76.903		
5,200.00	5,192.75	5,111.85	5,111.85	18.06	76.51	-125.40	15.65	7,023.26	7,133.19	7,038.65	94.54	75.452		
5,300.00	5,292.44	5,211.54	5,211.54	18.42	78.00	-125.45	15.65	7,023.26	7,137.70	7,041.32	96.38	74.055		
5,400.00	5,392.14	5,311.24	5,311.24	18.77	79.49	-125.50	15.65	7,023.26	7,142.22	7,043.99	98.23	72.711		
5,500.00	5,491.84	5,410.94	5,410.94	19.13	80.97	-125.55	15.65	7,023.26	7,146.74	7,046.67	100.07	71.415		
5,600.00	5,591.54	5,510.64	5,510.64	19.49	82.46	-125.60	15.65	7,023.26	7,151.26	7,049.35	101.92	70.167		
5,700.00	5,691.24	5,610.34	5,610.34	19.85	83.95	-125.65	15.65	7,023.26	7,155.80	7,052.03	103.76	68.963		
5,800.00	5,790.93	5,710.03	5,710.03	20.20	85.44	-125.70	15.65	7,023.26	7,160.33	7,054.72	105.61	67.800		
5,900.00	5,890.63	5,809.73	5,809.73	20.56	86.93	-125.75	15.65	7,023.26	7,164.88	7,057.42	107.46	66.677		
6,000.00	5,990.33	5,909.43	5,909.43	20.92	88.42	-125.80	15.65	7,023.26	7,169.43	7,060.12	109.30	65.592		
6,100.00	6,090.03	6,009.13	6,009.13	21.28	89.91	-125.86	15.65	7,023.26	7,173.98	7,062.83	111.15	64.543		
6,200.00	6,189.73	6,108.83	6,108.83	21.64	91.40	-125.91	15.65	7,023.26	7,178.54	7,065.54	113.00	63.528		
6,300.00	6,289.42	6,208.52	6,208.52	22.00	92.89	-125.96	15.65	7,023.26	7,183.11	7,068.26	114.85	62.546		
6,400.00	6,389.12	6,308.22	6,308.22	22.36	94.38	-126.01	15.65	7,023.26	7,187.68	7,070.98	116.69	61.595		
6,500.00	6,488.82	6,407.92	6,407.92	22.72	95.87	-126.06	15.65	7,023.26	7,192.25	7,073.71	118.54	60.673		
6,600.00	6,588.52	6,507.62	6,507.62	23.08	97.36	-126.11	15.65	7,023.26	7,196.83	7,076.44	120.39	59.779		
6,700.00	6,688.22	6,607.32	6,607.32	23.44	98.85	-126.15	15.65	7,023.26	7,201.42	7,079.18	122.24	58.913		
6,800.00	6,787.91	6,707.01	6,707.01	23.80	100.34	-126.20	15.65	7,023.26	7,206.01	7,081.93	124.09	58.072		
6,900.00	6,887.61	6,806.71	6,806.71	24.16	101.83	-126.25	15.65	7,023.26	7,210.61	7,084.67	125.94	57.255		
7,000.00	6,987.31	6,906.41	6,906.41	24.52	103.32	-126.30	15.65	7,023.26	7,215.22	7,087.43	127.79	56.463		
7,100.00	7,087.01	7,006.11	7,006.11	24.88	104.81	-126.35	15.65	7,023.26	7,219.82	7,090.19	129.64	55.693		
7,200.00	7,186.71	7,105.81	7,105.81	25.24	106.30	-126.40	15.65	7,023.26	7,224.44	7,092.95	131.49	54.944		
7,300.00	7,286.41	7,205.51	7,205.51	25.60	107.79	-126.45	15.65	7,023.26	7,229.06	7,095.72	133.34	54.216		
7,400.00	7,386.10	7,305.20	7,305.20	25.96	109.28	-126.50	15.65	7,023.26	7,233.68	7,098.50	135.19	53.508		
7,500.00	7,485.80	7,404.90	7,404.90	26.33	110.77	-126.55	15.65	7,023.26	7,238.31	7,101.28	137.04	52.820		
7,600.00	7,585.50	7,504.60	7,504.60	26.69	112.26	-126.60	15.65	7,023.26	7,242.95	7,104.06	138.89	52.149		
7,700.00	7,685.20	7,604.30	7,604.30	27.05	113.75	-126.65	15.65	7,023.26	7,247.59	7,106.85	140.74	51.496		
7,800.00	7,784.90	7,704.00	7,704.00	27.41	115.24	-126.70	15.65	7,023.26	7,252.24	7,109.65	142.59	50.860		
7,860.70	7,845.41	7,764.51	7,764.51	27.63	116.15	-126.73	15.65	7,023.26	7,255.06	7,111.35	143.72	50.482		
7,900.00	7,884.61	7,803.71	7,803.71	27.77	116.73	-126.77	15.65	7,023.26	7,256.77	7,112.33	144.44	50.240		
8,000.00	7,984.46	7,903.56	7,903.56	28.13	118.22	-126.84	15.65	7,023.26	7,260.03	7,113.73	146.29	49.626		
8,100.00	8,084.42	8,003.52	8,003.52	28.49	119.72	-126.88	15.65	7,023.26	7,261.72	7,113.57	148.14	49.018		
8,157.59	8,142.00	8,061.10	8,061.10	28.69	120.58	87.19	15.65	7,023.26	7,261.98	7,112.77	149.21	48.671		
8,200.00	8,184.41	8,103.51	8,103.51	28.83	121.21	87.19	15.65	7,023.26	7,261.98	7,111.99	149.98	48.419		
8,300.00	8,284.41	8,203.51	8,203.51	29.17	122.71	87.19	15.65	7,023.26	7,261.98	7,110.16	151.82	47.834		
8,400.00	8,384.41	8,303.51	8,303.51	29.51	124.20	87.19	15.65	7,023.26	7,261.98	7,108.33	153.65	47.263		
8,507.63	8,492.04	8,411.14	8,411.14	29.87	125.81	87.19	15.65	7,023.26	7,261.98	7,106.35	155.62	46.664		
8,550.00	8,534.37	8,453.47	8,453.47	30.02	126.45	-2.18	15.65	7,023.26	7,260.41	7,104.01	156.40	46.423		
8,600.00	8,584.01	8,503.11	8,503.11	30.18	127.19	-2.21	15.65	7,023.26	7,254.55	7,097.25	157.30	46.118		
8,650.00	8,632.95	8,552.05	8,552.05	30.34	127.92	-2.25	15.65	7,023.26	7,244.39	7,086.20	158.20	45.794		
8,700.00	8,680.82	8,599.92	8,599.92	30.50	128.64	-2.32	15.65	7,023.26	7,230.01	7,070.94	159.06	45.454		
8,750.00	8,727.25	8,646.35	8,646.35	30.66	129.33	-2.40	15.65	7,023.26	7,211.51	7,051.61	159.90	45.100		
8,800.00	8,771.89	8,690.99	8,690.99	30.81	130.00	-2.52	15.65	7,023.26	7,189.04	7,028.34	160.70	44.736		
8,850.00	8,814.40	8,733.50	8,733.50	30.95	130.63	-2.67	15.65	7,023.26	7,162.76	7,001.31	161.46	44.363		
8,900.00	8,854.46	8,773.56	8,773.56	31.09	131.23	-2.86	15.65	7,023.26	7,132.89	6,970.72	162.16	43.986		
8,950.00	8,891.75	8,810.85	8,810.85	31.23	131.79	-3.11	15.65	7,023.26	7,099.64	6,936.82	162.82	43.605		
9,000.00	8,926.01	8,845.11	8,845.11	31.37	132.30	-3.43	15.65	7,023.26	7,063.27	6,899.85	163.41	43.224		
9,050.00	8,956.96	8,876.06	8,876.06	31.53	132.77	-3.85	15.65	7,023.26	7,024.05	6,860.10	163.95	42.844		
9,100.00	8,984.38	8,903.48	8,903.48	31.69	133.18	-4.42	15.65	7,023.26	6,982.29	6,817.88	164.41	42.468		
9,150.00	9,008.05	8,927.15	8,927.15	31.87	133.53	-5.23	15.65	7,023.26	6,938.30	6,773.49	164.81	42.098		
9,200.00	9,027.79	8,946.89	8,946.89	32.07	133.82	-6.45	15.65	7,023.26	6,892.41	6,727.27	165.14	41.737		
9,250.00	9,043.45	8,962.55	8,962.55	32.29	134.06	-8.44	15.65	7,023.26	6,844.98	6,679.59	165.40	41.385		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Survey Program: 10-INC-ONLY													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
9,300.00	9,054.92	8,974.02	8,974.02	32.53	134.23	-12.27	15.65	7,023.26	6,796.37	6,630.79	165.59	41.044		
9,350.00	9,062.10	8,981.20	8,981.20	32.79	134.34	-22.17	15.65	7,023.26	6,746.95	6,581.25	165.70	40.717		
9,400.00	9,064.95	8,984.05	8,984.05	33.06	134.38	-72.10	15.65	7,023.26	6,697.09	6,531.34	165.75	40.404		
9,407.63	9,065.00	8,984.10	8,984.10	33.10	134.38	-90.00	15.65	7,023.26	6,689.47	6,523.71	165.75	40.358		
9,500.00	9,065.00	8,984.10	8,984.10	33.68	134.38	-90.00	15.65	7,023.26	6,597.17	6,431.41	165.76	39.799		
9,600.00	9,065.00	8,984.10	8,984.10	34.41	134.38	-90.00	15.65	7,023.26	6,497.26	6,331.49	165.77	39.195		
9,700.00	9,065.00	8,984.10	8,984.10	35.24	134.38	-90.00	15.65	7,023.26	6,397.35	6,231.58	165.78	38.590		
9,800.00	9,065.00	8,984.10	8,984.10	36.17	134.38	-90.00	15.65	7,023.26	6,297.45	6,131.66	165.79	37.984		
9,900.00	9,065.00	8,984.10	8,984.10	37.19	134.38	-90.00	15.65	7,023.26	6,197.55	6,031.74	165.80	37.379		
10,000.00	9,065.00	8,984.10	8,984.10	38.30	134.38	-90.00	15.65	7,023.26	6,097.65	5,931.83	165.82	36.773		
10,100.00	9,065.00	8,984.10	8,984.10	39.48	134.38	-90.00	15.65	7,023.26	5,997.75	5,831.92	165.83	36.167		
10,200.00	9,065.00	8,984.10	8,984.10	40.72	134.38	-90.00	15.65	7,023.26	5,897.86	5,732.01	165.85	35.561		
10,300.00	9,065.00	8,984.10	8,984.10	42.03	134.38	-90.00	15.65	7,023.26	5,797.97	5,632.10	165.87	34.955		
10,400.00	9,065.00	8,984.10	8,984.10	43.40	134.38	-90.00	15.65	7,023.26	5,698.09	5,532.19	165.89	34.348		
10,500.00	9,065.00	8,984.10	8,984.10	44.82	134.38	-90.00	15.65	7,023.26	5,598.20	5,432.29	165.91	33.742		
10,600.00	9,065.00	8,984.10	8,984.10	46.29	134.38	-90.00	15.65	7,023.26	5,498.33	5,332.39	165.94	33.135		
10,700.00	9,065.00	8,984.10	8,984.10	47.79	134.38	-90.00	15.65	7,023.26	5,398.46	5,232.49	165.96	32.528		
10,800.00	9,065.00	8,984.10	8,984.10	49.34	134.38	-90.00	15.65	7,023.26	5,298.59	5,132.60	165.99	31.921		
10,900.00	9,065.00	8,984.10	8,984.10	50.92	134.38	-90.00	15.65	7,023.26	5,198.73	5,032.71	166.02	31.314		
11,000.00	9,065.00	8,984.10	8,984.10	52.54	134.38	-90.00	15.65	7,023.26	5,098.87	4,932.82	166.05	30.706		
11,100.00	9,065.00	8,984.10	8,984.10	54.18	134.38	-90.00	15.65	7,023.26	4,999.02	4,832.93	166.09	30.099		
11,200.00	9,065.00	8,984.10	8,984.10	55.85	134.38	-90.00	15.65	7,023.26	4,899.18	4,733.05	166.12	29.491		
11,300.00	9,065.00	8,984.10	8,984.10	57.54	134.38	-90.00	15.65	7,023.26	4,799.34	4,633.17	166.16	28.883		
11,400.00	9,065.00	8,984.10	8,984.10	59.26	134.38	-90.00	15.65	7,023.26	4,699.51	4,533.30	166.21	28.275		
11,500.00	9,065.00	8,984.10	8,984.10	61.00	134.38	-90.00	15.65	7,023.26	4,599.68	4,433.43	166.25	27.667		
11,600.00	9,065.00	8,984.10	8,984.10	62.75	134.38	-90.00	15.65	7,023.26	4,499.87	4,333.57	166.30	27.059		
11,700.00	9,065.00	8,984.10	8,984.10	64.52	134.38	-90.00	15.65	7,023.26	4,400.06	4,233.71	166.35	26.451		
11,800.00	9,065.00	8,984.10	8,984.10	66.31	134.38	-90.00	15.65	7,023.26	4,300.26	4,133.86	166.40	25.843		
11,900.00	9,065.00	8,984.10	8,984.10	68.11	134.38	-90.00	15.65	7,023.26	4,200.47	4,034.01	166.46	25.234		
12,000.00	9,065.00	8,984.10	8,984.10	69.93	134.38	-90.00	15.65	7,023.26	4,100.69	3,934.17	166.52	24.626		
12,100.00	9,065.00	8,984.10	8,984.10	71.76	134.38	-90.00	15.65	7,023.26	4,000.92	3,834.34	166.59	24.017		
12,200.00	9,065.00	8,984.10	8,984.10	73.60	134.38	-90.00	15.65	7,023.26	3,901.17	3,734.51	166.66	23.408		
12,300.00	9,065.00	8,984.10	8,984.10	75.45	134.38	-90.00	15.65	7,023.26	3,801.42	3,634.69	166.73	22.800		
12,400.00	9,065.00	8,984.10	8,984.10	77.31	134.38	-90.00	15.65	7,023.26	3,701.70	3,534.88	166.81	22.191		
12,500.00	9,065.00	8,984.10	8,984.10	79.18	134.38	-90.00	15.65	7,023.26	3,601.98	3,435.08	166.90	21.582		
12,600.00	9,065.00	8,984.10	8,984.10	81.05	134.38	-90.00	15.65	7,023.26	3,502.28	3,335.29	166.99	20.973		
12,700.00	9,065.00	8,984.10	8,984.10	82.94	134.38	-90.00	15.65	7,023.26	3,402.60	3,235.51	167.09	20.363		
12,800.00	9,065.00	8,984.10	8,984.10	84.83	134.38	-90.00	15.65	7,023.26	3,302.94	3,135.74	167.20	19.754		
12,900.00	9,065.00	8,984.10	8,984.10	86.73	134.38	-90.00	15.65	7,023.26	3,203.30	3,035.98	167.32	19.144		
13,000.00	9,065.00	8,984.10	8,984.10	88.64	134.38	-90.00	15.65	7,023.26	3,103.69	2,936.23	167.45	18.535		
13,100.00	9,065.00	8,984.10	8,984.10	90.55	134.38	-90.00	15.65	7,023.26	3,004.09	2,836.50	167.59	17.925		
13,200.00	9,065.00	8,984.10	8,984.10	92.47	134.38	-90.00	15.65	7,023.26	2,904.53	2,736.78	167.75	17.315		
13,300.00	9,065.00	8,984.10	8,984.10	94.39	134.38	-90.00	15.65	7,023.26	2,805.00	2,637.08	167.92	16.705		
13,400.00	9,065.00	8,984.10	8,984.10	96.32	134.38	-90.00	15.65	7,023.26	2,705.50	2,537.40	168.10	16.094		
13,500.00	9,065.00	8,984.10	8,984.10	98.25	134.38	-90.00	15.65	7,023.26	2,606.04	2,437.73	168.31	15.483		
13,600.00	9,065.00	8,984.10	8,984.10	100.19	134.38	-90.00	15.65	7,023.26	2,506.63	2,338.08	168.54	14.872		
13,700.00	9,065.00	8,984.10	8,984.10	102.13	134.38	-90.00	15.65	7,023.26	2,407.26	2,238.46	168.80	14.261		
13,800.00	9,065.00	8,984.10	8,984.10	104.08	134.38	-90.00	15.65	7,023.26	2,307.95	2,138.86	169.09	13.649		
13,900.00	9,065.00	8,984.10	8,984.10	106.03	134.38	-90.00	15.65	7,023.26	2,208.69	2,039.28	169.41	13.037		
14,000.00	9,065.00	8,984.10	8,984.10	107.98	134.38	-90.00	15.65	7,023.26	2,109.51	1,939.73	169.78	12.425		
14,100.00	9,065.00	8,984.10	8,984.10	109.94	134.38	-90.00	15.65	7,023.26	2,010.42	1,840.21	170.21	11.812		
14,200.00	9,065.00	8,984.10	8,984.10	111.90	134.38	-90.00	15.65	7,023.26	1,911.41	1,740.72	170.69	11.198		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design		Sec 13-T21S-R27E - Lone Tree State #001 - Wellbore #1 - Wellbore #1											Offset Site Error:		5.00 ft
Survey Program:		10-INC-ONLY											Offset Well Error:		0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor			
14,300.00	9,065.00	8,984.10	8,984.10	113.86	134.38	-90.00	15.65	7,023.26	1,812.51	1,641.26	171.25	10.584			
14,400.00	9,065.00	8,984.10	8,984.10	115.82	134.38	-90.00	15.65	7,023.26	1,713.75	1,541.85	171.90	9.969			
14,500.00	9,065.00	8,984.10	8,984.10	117.79	134.38	-90.00	15.65	7,023.26	1,615.13	1,442.47	172.66	9.354			
14,600.00	9,065.00	8,984.10	8,984.10	119.76	134.38	-90.00	15.65	7,023.26	1,516.69	1,343.13	173.56	8.739			
14,700.00	9,065.00	8,984.10	8,984.10	121.74	134.38	-90.00	15.65	7,023.26	1,418.48	1,243.84	174.64	8.122			
14,800.00	9,065.00	8,984.10	8,984.10	123.71	134.38	-90.00	15.65	7,023.26	1,320.53	1,144.60	175.93	7.506			
14,900.00	9,065.00	8,984.10	8,984.10	125.69	134.38	-90.00	15.65	7,023.26	1,222.91	1,045.41	177.50	6.890			
15,000.00	9,065.00	8,984.10	8,984.10	127.67	134.38	-90.00	15.65	7,023.26	1,125.72	946.29	179.43	6.274			
15,100.00	9,065.00	8,984.10	8,984.10	129.65	134.38	-90.00	15.65	7,023.26	1,029.06	847.23	181.82	5.660			
15,200.00	9,065.00	8,984.10	8,984.10	131.63	134.38	-90.00	15.65	7,023.26	933.10	748.26	184.84	5.048			
15,300.00	9,065.00	8,984.10	8,984.10	133.62	134.38	-90.00	15.65	7,023.26	838.09	649.41	188.68	4.442	Alert		
15,400.00	9,065.00	8,984.10	8,984.10	135.61	134.38	-90.00	15.65	7,023.26	744.39	550.73	193.65	3.844	Alert		
15,500.00	9,065.00	8,984.10	8,984.10	137.60	134.38	-90.00	15.65	7,023.26	652.56	452.36	200.20	3.260	Alert		
15,600.00	9,065.00	8,984.10	8,984.10	139.59	134.38	-90.00	15.65	7,023.26	563.52	354.60	208.92	2.697	Alert		
15,700.00	9,065.00	8,984.10	8,984.10	141.58	134.38	-90.00	15.65	7,023.26	478.82	258.17	220.65	2.170	Minor Risk		
15,800.00	9,065.00	8,984.10	8,984.10	143.57	134.38	-90.00	15.65	7,023.26	401.23	164.98	236.25	1.698	Minor Risk		
15,900.00	9,065.00	8,984.10	8,984.10	145.57	134.38	-90.00	15.65	7,023.26	335.72	80.05	255.67	1.313	Major Risk		
16,000.00	9,065.00	8,984.10	8,984.10	147.56	134.38	-90.00	15.65	7,023.26	290.56	15.62	274.95	1.057	Major Risk		
16,091.41	9,065.00	8,984.10	8,984.10	149.39	134.38	-90.00	15.65	7,023.26	275.81	-7.96	283.77	0.972	Collision, CC, ES, SF		
16,100.00	9,065.00	8,984.10	8,984.10	149.56	134.38	-90.00	15.65	7,023.26	275.94	-7.92	283.87	0.972	Collision		
16,200.00	9,065.00	8,984.10	8,984.10	151.56	134.38	-90.00	15.65	7,023.26	296.42	20.57	275.85	1.075	Major Risk		
16,300.00	9,065.00	8,984.10	8,984.10	153.56	134.38	-90.00	15.65	7,023.26	345.81	87.42	258.39	1.338	Major Risk		
16,400.00	9,065.00	8,984.10	8,984.10	155.56	134.38	-90.00	15.65	7,023.26	413.89	172.98	240.90	1.718	Minor Risk		
16,500.00	9,065.00	8,984.10	8,984.10	157.57	134.38	-90.00	15.65	7,023.26	492.97	266.24	226.73	2.174	Minor Risk		
16,600.00	9,065.00	8,984.10	8,984.10	159.57	134.38	-90.00	15.65	7,023.26	578.57	362.63	215.94	2.679	Alert		
16,700.00	9,065.00	8,984.10	8,984.10	161.57	134.38	-90.00	15.65	7,023.26	668.17	460.40	207.78	3.216	Alert		
16,800.00	9,065.00	8,984.10	8,984.10	163.58	134.38	-90.00	15.65	7,023.26	760.38	558.82	201.56	3.773	Alert		
16,900.00	9,065.00	8,984.10	8,984.10	165.59	134.38	-90.00	15.65	7,023.26	854.34	657.60	196.74	4.342	Alert		
17,000.00	9,065.00	8,984.10	8,984.10	167.60	134.38	-90.00	15.65	7,023.26	949.53	756.57	192.96	4.921	Alert		
17,100.00	9,065.00	8,984.10	8,984.10	169.60	134.38	-90.00	15.65	7,023.26	1,045.63	855.68	189.95	5.505			
17,200.00	9,065.00	8,984.10	8,984.10	171.61	134.38	-90.00	15.65	7,023.26	1,142.39	954.88	187.51	6.092			
17,300.00	9,065.00	8,984.10	8,984.10	173.62	134.38	-90.00	15.65	7,023.26	1,239.67	1,054.14	185.52	6.682			
17,400.00	9,065.00	8,984.10	8,984.10	175.63	134.38	-90.00	15.65	7,023.26	1,337.34	1,153.46	183.88	7.273			
17,500.00	9,065.00	8,984.10	8,984.10	177.65	134.38	-90.00	15.65	7,023.26	1,435.34	1,252.83	182.51	7.864			
17,600.00	9,065.00	8,984.10	8,984.10	179.66	134.38	-90.00	15.65	7,023.26	1,533.60	1,352.24	181.36	8.456			
17,700.00	9,065.00	8,984.10	8,984.10	181.67	134.38	-90.00	15.65	7,023.26	1,632.07	1,451.68	180.39	9.048			
17,800.00	9,065.00	8,984.10	8,984.10	183.69	134.38	-90.00	15.65	7,023.26	1,730.71	1,551.15	179.56	9.639			
17,900.00	9,065.00	8,984.10	8,984.10	185.70	134.38	-90.00	15.65	7,023.26	1,829.50	1,650.66	178.85	10.229			
18,000.00	9,065.00	8,984.10	8,984.10	187.72	134.38	-90.00	15.65	7,023.26	1,928.42	1,750.18	178.24	10.819			
18,100.00	9,065.00	8,984.10	8,984.10	189.73	134.38	-90.00	15.65	7,023.26	2,027.44	1,849.73	177.71	11.409			
18,200.00	9,065.00	8,984.10	8,984.10	191.75	134.38	-90.00	15.65	7,023.26	2,126.56	1,949.30	177.25	11.997			
18,300.00	9,065.00	8,984.10	8,984.10	193.77	134.38	-90.00	15.65	7,023.26	2,225.75	2,048.89	176.86	12.585			
18,400.00	9,065.00	8,984.10	8,984.10	195.78	134.38	-90.00	15.65	7,023.26	2,325.01	2,148.50	176.51	13.172			
18,500.00	9,065.00	8,984.10	8,984.10	197.80	134.38	-90.00	15.65	7,023.26	2,424.33	2,248.12	176.21	13.758			
18,600.00	9,065.00	8,984.10	8,984.10	199.82	134.38	-90.00	15.65	7,023.26	2,523.71	2,347.76	175.95	14.343			
18,700.00	9,065.00	8,984.10	8,984.10	201.84	134.38	-90.00	15.65	7,023.26	2,623.13	2,447.41	175.72	14.928			
18,800.00	9,065.00	8,984.10	8,984.10	203.86	134.38	-90.00	15.65	7,023.26	2,722.60	2,547.08	175.52	15.511			
18,900.00	9,065.00	8,984.10	8,984.10	205.88	134.38	-90.00	15.65	7,023.26	2,822.10	2,646.75	175.35	16.094			
19,000.00	9,065.00	8,984.10	8,984.10	207.90	134.38	-90.00	15.65	7,023.26	2,921.64	2,746.44	175.20	16.676			
19,100.00	9,065.00	8,984.10	8,984.10	209.92	134.38	-90.00	15.65	7,023.26	3,021.21	2,846.14	175.07	17.257			
19,200.00	9,065.00	8,984.10	8,984.10	211.95	134.38	-90.00	15.65	7,023.26	3,120.81	2,945.85	174.96	17.837			
19,300.00	9,065.00	8,984.10	8,984.10	213.97	134.38	-90.00	15.65	7,023.26	3,220.43	3,045.56	174.86	18.417			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design		Sec 13-T21S-R27E - Lone Tree State #001 - Wellbore #1 - Wellbore #1										Offset Site Error:		5.00 ft
Survey Program:		10-INC-ONLY										Offset Well Error:		0.50 ft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor		
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)			
19,400.00	9,065.00	8,984.10	8,984.10	215.99	134.38	-90.00	15.65	7,023.26	3,320.07	3,145.29	174.78	18.995		
19,456.84	9,065.00	8,984.10	8,984.10	217.14	134.38	-90.00	15.65	7,023.26	3,376.72	3,201.98	174.74	19.324		

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 10-INC-ONLY													Offset Well Error:	10.00 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0.00	0.00	0.00	0.00	0.50	10.00	32.76	2,626.81	1,690.28	3,123.70					
100.00	100.00	81.10	81.10	0.52	10.10	32.76	2,626.81	1,690.28	3,123.64	3,113.02	10.62	294.109		
200.00	200.00	181.10	181.10	0.70	10.58	32.76	2,626.81	1,690.28	3,123.64	3,112.36	11.28	276.812		
300.00	300.00	281.10	281.10	0.99	11.41	32.76	2,626.81	1,690.28	3,123.64	3,111.25	12.39	252.051		
400.00	400.00	381.10	381.10	1.31	12.51	32.76	2,626.81	1,690.28	3,123.64	3,109.83	13.81	226.119		
500.00	500.00	481.10	481.10	1.65	13.82	32.76	2,626.81	1,690.28	3,123.64	3,108.18	15.46	202.033		
600.00	600.00	581.10	581.10	1.99	15.28	32.76	2,626.81	1,690.28	3,123.64	3,106.37	17.27	180.852		
700.00	700.00	681.10	681.10	2.34	16.86	32.76	2,626.81	1,690.28	3,123.64	3,104.44	19.20	162.668		
800.00	800.00	781.10	781.10	2.69	18.53	32.76	2,626.81	1,690.28	3,123.64	3,102.42	21.22	147.190		
900.00	900.00	881.10	881.10	3.04	20.26	32.76	2,626.81	1,690.28	3,123.64	3,100.33	23.31	134.018		
1,000.00	1,000.00	981.10	981.10	3.40	22.05	32.76	2,626.81	1,690.28	3,123.64	3,098.20	25.44	122.765		
1,100.00	1,100.00	1,081.10	1,081.10	3.75	23.87	32.76	2,626.81	1,690.28	3,123.64	3,096.02	27.62	113.094		
1,200.00	1,200.00	1,181.10	1,181.10	4.11	25.72	32.76	2,626.81	1,690.28	3,123.64	3,093.82	29.83	104.727		
1,300.00	1,300.00	1,281.10	1,281.10	4.46	27.59	32.76	2,626.81	1,690.28	3,123.64	3,091.58	32.06	97.438		
1,400.00	1,400.00	1,381.10	1,381.10	4.82	29.49	32.76	2,626.81	1,690.28	3,123.64	3,089.33	34.31	91.044		
1,500.00	1,500.00	1,481.10	1,481.10	5.18	31.40	32.76	2,626.81	1,690.28	3,123.64	3,087.07	36.58	85.400		
1,600.00	1,600.00	1,581.10	1,581.10	5.53	33.32	32.76	2,626.81	1,690.28	3,123.64	3,084.78	38.86	80.387		
1,700.00	1,700.00	1,681.10	1,681.10	5.89	35.26	32.76	2,626.81	1,690.28	3,123.64	3,082.49	41.15	75.909		
1,800.00	1,800.00	1,781.10	1,781.10	6.25	37.20	32.76	2,626.81	1,690.28	3,123.64	3,080.19	43.45	71.887		
1,900.00	1,900.00	1,881.10	1,881.10	6.61	39.16	32.76	2,626.81	1,690.28	3,123.64	3,077.88	45.76	68.259		
2,000.00	2,000.00	1,981.10	1,981.10	6.96	41.12	32.76	2,626.81	1,690.28	3,123.64	3,075.56	48.08	64.969		
2,100.00	2,100.00	2,081.10	2,081.10	7.32	43.08	32.76	2,626.81	1,690.28	3,123.64	3,073.24	50.40	61.975		
2,200.00	2,200.00	2,181.10	2,181.10	7.68	45.05	32.76	2,626.81	1,690.28	3,123.64	3,070.91	52.73	59.239		
2,300.00	2,300.00	2,281.10	2,281.10	8.04	47.03	32.76	2,626.81	1,690.28	3,123.64	3,068.58	55.06	56.729		
2,400.00	2,400.00	2,381.10	2,381.10	8.39	49.01	32.76	2,626.81	1,690.28	3,123.64	3,066.24	57.40	54.420		
2,500.00	2,500.00	2,481.10	2,481.10	8.75	50.99	32.76	2,626.81	1,690.28	3,123.64	3,063.90	59.74	52.288		
2,600.00	2,599.99	2,581.09	2,581.09	9.09	52.97	178.68	2,626.81	1,690.28	3,124.51	3,062.45	62.07	50.342		
2,700.00	2,699.96	2,681.06	2,681.06	9.42	54.96	178.68	2,626.81	1,690.28	3,127.13	3,062.75	64.38	48.573		
2,800.00	2,799.86	2,780.96	2,780.96	9.75	56.95	178.68	2,626.81	1,690.28	3,131.49	3,064.79	66.70	46.951		
2,900.00	2,899.68	2,880.78	2,880.78	10.08	58.94	178.69	2,626.81	1,690.28	3,137.60	3,068.58	69.02	45.461		
2,945.33	2,944.88	2,925.98	2,925.98	10.23	59.84	178.69	2,626.81	1,690.28	3,140.94	3,070.87	70.07	44.826		
3,000.00	2,999.39	2,980.49	2,980.49	10.41	60.93	178.69	2,626.81	1,690.28	3,145.18	3,073.84	71.34	44.088		
3,100.00	3,099.08	3,080.18	3,080.18	10.75	62.92	178.69	2,626.81	1,690.28	3,152.94	3,079.28	73.66	42.802		
3,200.00	3,198.78	3,179.88	3,179.88	11.08	64.91	178.69	2,626.81	1,690.28	3,160.70	3,084.71	75.99	41.594		
3,300.00	3,298.48	3,279.58	3,279.58	11.42	66.91	178.70	2,626.81	1,690.28	3,168.47	3,090.15	78.32	40.455		
3,400.00	3,398.18	3,379.28	3,379.28	11.76	68.90	178.70	2,626.81	1,690.28	3,176.23	3,095.58	80.65	39.381		
3,500.00	3,497.88	3,478.98	3,478.98	12.10	70.90	178.70	2,626.81	1,690.28	3,183.99	3,101.00	82.99	38.366		
3,600.00	3,597.58	3,578.68	3,578.68	12.45	72.89	178.71	2,626.81	1,690.28	3,191.75	3,106.43	85.33	37.405		
3,700.00	3,697.27	3,678.37	3,678.37	12.79	74.89	178.71	2,626.81	1,690.28	3,199.52	3,111.85	87.67	36.495		
3,800.00	3,796.97	3,778.07	3,778.07	13.14	76.89	178.71	2,626.81	1,690.28	3,207.28	3,117.27	90.01	35.632		
3,900.00	3,896.67	3,877.77	3,877.77	13.48	78.89	178.72	2,626.81	1,690.28	3,215.04	3,122.69	92.36	34.811		
4,000.00	3,996.37	3,977.47	3,977.47	13.83	80.89	178.72	2,626.81	1,690.28	3,222.81	3,128.10	94.70	34.031		
4,100.00	4,096.07	4,077.17	4,077.17	14.18	82.90	178.72	2,626.81	1,690.28	3,230.57	3,133.52	97.05	33.287		
4,200.00	4,195.76	4,176.86	4,176.86	14.53	84.90	178.73	2,626.81	1,690.28	3,238.33	3,138.93	99.40	32.579		
4,300.00	4,295.46	4,276.56	4,276.56	14.88	86.90	178.73	2,626.81	1,690.28	3,246.09	3,144.34	101.75	31.902		
4,400.00	4,395.16	4,376.26	4,376.26	15.23	88.91	178.73	2,626.81	1,690.28	3,253.86	3,149.75	104.10	31.256		
4,500.00	4,494.86	4,475.96	4,475.96	15.58	90.91	178.73	2,626.81	1,690.28	3,261.62	3,155.16	106.46	30.638		
4,600.00	4,594.56	4,575.66	4,575.66	15.93	92.92	178.74	2,626.81	1,690.28	3,269.38	3,160.57	108.81	30.047		
4,700.00	4,694.25	4,675.35	4,675.35	16.29	94.92	178.74	2,626.81	1,690.28	3,277.14	3,165.98	111.17	29.480		
4,800.00	4,793.95	4,775.05	4,775.05	16.64	96.93	178.74	2,626.81	1,690.28	3,284.91	3,171.38	113.52	28.936		
4,900.00	4,893.65	4,874.75	4,874.75	17.00	98.94	178.75	2,626.81	1,690.28	3,292.67	3,176.79	115.88	28.414		
5,000.00	4,993.35	4,974.45	4,974.45	17.35	100.94	178.75	2,626.81	1,690.28	3,300.43	3,182.19	118.24	27.913		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 10-INC-ONLY													Offset Well Error:	10.00 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
5,100.00	5,093.05	5,074.15	5,074.15	17.71	102.95	178.75	2,626.81	1,690.28	3,308.20	3,187.60	120.60	27.432		
5,200.00	5,192.75	5,173.85	5,173.85	18.06	104.96	178.76	2,626.81	1,690.28	3,315.96	3,193.00	122.96	26.968		
5,300.00	5,292.44	5,273.54	5,273.54	18.42	106.97	178.76	2,626.81	1,690.28	3,323.72	3,198.40	125.32	26.522		
5,400.00	5,392.14	5,373.24	5,373.24	18.77	108.97	178.76	2,626.81	1,690.28	3,331.48	3,203.80	127.68	26.093		
5,500.00	5,491.84	5,472.94	5,472.94	19.13	110.98	178.76	2,626.81	1,690.28	3,339.25	3,209.20	130.04	25.678		
5,600.00	5,591.54	5,572.64	5,572.64	19.49	112.99	178.77	2,626.81	1,690.28	3,347.01	3,214.61	132.40	25.279		
5,700.00	5,691.24	5,672.34	5,672.34	19.85	115.00	178.77	2,626.81	1,690.28	3,354.77	3,220.00	134.77	24.893		
5,800.00	5,790.93	5,772.03	5,772.03	20.20	117.01	178.77	2,626.81	1,690.28	3,362.53	3,225.40	137.13	24.521		
5,900.00	5,890.63	5,871.73	5,871.73	20.56	119.02	178.78	2,626.81	1,690.28	3,370.30	3,230.80	139.50	24.161		
6,000.00	5,990.33	5,971.43	5,971.43	20.92	121.03	178.78	2,626.81	1,690.28	3,378.06	3,236.20	141.86	23.813		
6,100.00	6,090.03	6,071.13	6,071.13	21.28	123.04	178.78	2,626.81	1,690.28	3,385.82	3,241.60	144.23	23.476		
6,200.00	6,189.73	6,170.83	6,170.83	21.64	125.05	178.78	2,626.81	1,690.28	3,393.59	3,246.99	146.59	23.150		
6,300.00	6,289.42	6,270.52	6,270.52	22.00	127.06	178.79	2,626.81	1,690.28	3,401.35	3,252.39	148.96	22.834		
6,400.00	6,389.12	6,370.22	6,370.22	22.36	129.07	178.79	2,626.81	1,690.28	3,409.11	3,257.79	151.32	22.529		
6,500.00	6,488.82	6,469.92	6,469.92	22.72	131.09	178.79	2,626.81	1,690.28	3,416.87	3,263.18	153.69	22.232		
6,600.00	6,588.52	6,569.62	6,569.62	23.08	133.10	178.80	2,626.81	1,690.28	3,424.64	3,268.58	156.06	21.945		
6,700.00	6,688.22	6,669.32	6,669.32	23.44	135.11	178.80	2,626.81	1,690.28	3,432.40	3,273.97	158.43	21.666		
6,800.00	6,787.91	6,769.01	6,769.01	23.80	137.12	178.80	2,626.81	1,690.28	3,440.16	3,279.37	160.79	21.395		
6,900.00	6,887.61	6,868.71	6,868.71	24.16	139.13	178.80	2,626.81	1,690.28	3,447.93	3,284.76	163.16	21.132		
7,000.00	6,987.31	6,968.41	6,968.41	24.52	141.14	178.81	2,626.81	1,690.28	3,455.69	3,290.16	165.53	20.876		
7,100.00	7,087.01	7,068.11	7,068.11	24.88	143.16	178.81	2,626.81	1,690.28	3,463.45	3,295.55	167.90	20.628		
7,200.00	7,186.71	7,167.81	7,167.81	25.24	145.17	178.81	2,626.81	1,690.28	3,471.21	3,300.95	170.27	20.387		
7,300.00	7,286.41	7,267.51	7,267.51	25.60	147.18	178.81	2,626.81	1,690.28	3,478.98	3,306.34	172.64	20.152		
7,400.00	7,386.10	7,367.20	7,367.20	25.96	149.19	178.82	2,626.81	1,690.28	3,486.74	3,311.73	175.01	19.923		
7,500.00	7,485.80	7,466.90	7,466.90	26.33	151.21	178.82	2,626.81	1,690.28	3,494.50	3,317.12	177.38	19.701		
7,600.00	7,585.50	7,566.60	7,566.60	26.69	153.22	178.82	2,626.81	1,690.28	3,502.27	3,322.52	179.75	19.484		
7,700.00	7,685.20	7,666.30	7,666.30	27.05	155.23	178.82	2,626.81	1,690.28	3,510.03	3,327.91	182.12	19.273		
7,800.00	7,784.90	7,766.00	7,766.00	27.41	157.25	178.83	2,626.81	1,690.28	3,517.79	3,333.30	184.49	19.068		
7,900.00	7,884.61	7,865.71	7,865.71	27.77	159.26	178.83	2,626.81	1,690.28	3,525.55	3,338.69	186.86	18.866		
8,000.00	7,984.31	7,965.41	7,965.41	28.13	161.28	178.83	2,626.81	1,690.28	3,533.31	3,344.08	189.23	18.658		
8,100.00	8,084.02	8,065.12	8,065.12	28.49	163.29	178.84	2,626.81	1,690.28	3,541.07	3,349.47	191.61	18.442		
8,157.59	8,142.00	8,123.10	8,123.10	28.69	164.46	32.91	2,626.81	1,690.28	3,548.83	3,354.86	193.97	18.219		
8,200.00	8,184.41	8,165.51	8,165.51	28.83	165.31	32.91	2,626.81	1,690.28	3,556.59	3,360.25	196.33	18.000		
8,300.00	8,284.41	8,265.51	8,265.51	29.17	167.33	32.91	2,626.81	1,690.28	3,564.35	3,365.64	198.69	17.787		
8,400.00	8,384.41	8,365.51	8,365.51	29.51	169.35	32.91	2,626.81	1,690.28	3,572.11	3,371.03	201.05	17.574		
8,507.63	8,492.04	8,473.14	8,473.14	29.87	171.37	32.91	2,626.81	1,690.28	3,579.87	3,376.42	203.41	17.361		
8,550.00	8,534.37	8,515.47	8,515.47	30.02	172.38	-56.55	2,626.81	1,690.28	3,587.63	3,381.81	205.77	17.148		
8,600.00	8,584.01	8,565.11	8,565.11	30.18	173.38	-56.90	2,626.81	1,690.28	3,595.39	3,387.20	208.13	16.935		
8,650.00	8,632.95	8,614.05	8,614.05	30.34	174.37	-57.51	2,626.81	1,690.28	3,603.15	3,392.59	210.49	16.722		
8,700.00	8,680.82	8,661.92	8,661.92	30.50	175.34	-58.38	2,626.81	1,690.28	3,610.91	3,397.98	212.85	16.509		
8,750.00	8,727.25	8,708.35	8,708.35	30.66	176.28	-59.51	2,626.81	1,690.28	3,618.67	3,403.37	215.21	16.296		
8,800.00	8,771.89	8,752.99	8,752.99	30.81	177.18	-60.89	2,626.81	1,690.28	3,626.43	3,408.76	217.57	16.083		
8,850.00	8,814.40	8,795.50	8,795.50	30.95	178.04	-62.52	2,626.81	1,690.28	3,634.19	3,414.15	219.93	15.870		
8,900.00	8,854.46	8,835.56	8,835.56	31.09	178.85	-64.38	2,626.81	1,690.28	3,641.95	3,419.54	222.29	15.657		
8,950.00	8,891.75	8,872.85	8,872.85	31.23	179.60	-66.47	2,626.81	1,690.28	3,649.71	3,424.93	224.65	15.444		
9,000.00	8,926.01	8,907.11	8,907.11	31.37	180.29	-68.75	2,626.81	1,690.28	3,657.47	3,430.32	227.01	15.231		
9,050.00	8,956.96	8,938.06	8,938.06	31.53	180.92	-71.21	2,626.81	1,690.28	3,665.23	3,435.71	229.37	15.018		
9,100.00	8,984.38	8,965.48	8,965.48	31.69	181.47	-73.80	2,626.81	1,690.28	3,672.99	3,441.10	231.73	14.805		
9,150.00	9,008.05	8,989.15	8,989.15	31.87	181.95	-76.48	2,626.81	1,690.28	3,680.75	3,446.49	234.09	14.592		
9,200.00	9,027.79	9,008.89	9,008.89	32.07	182.35	-79.21	2,626.81	1,690.28	3,688.51	3,451.88	236.45	14.379		
9,250.00	9,043.45	9,024.55	9,024.55	32.29	182.67	-81.94	2,626.81	1,690.28	3,696.27	3,457.27	238.81	14.166		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 10-INC-ONLY													Offset Well Error:	10.00 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
9,300.00	9,054.92	9,036.02	9,036.02	32.53	182.90	-84.61	2,626.81	1,690.28	3,299.49	3,084.43	215.07	15.342		
9,350.00	9,062.10	9,043.20	9,043.20	32.79	183.04	-87.19	2,626.81	1,690.28	3,277.50	3,062.06	215.44	15.213		
9,400.00	9,064.95	9,046.05	9,046.05	33.06	183.10	-89.64	2,626.81	1,690.28	3,255.92	3,040.17	215.75	15.091		
9,407.63	9,065.00	9,046.10	9,046.10	33.10	183.10	-90.00	2,626.81	1,690.28	3,252.68	3,036.89	215.79	15.073		
9,500.00	9,065.00	9,046.10	9,046.10	33.68	183.10	-90.00	2,626.81	1,690.28	3,214.58	2,998.25	216.33	14.860		
9,600.00	9,065.00	9,046.10	9,046.10	34.41	183.10	-90.00	2,626.81	1,690.28	3,175.85	2,958.83	217.03	14.633		
9,700.00	9,065.00	9,046.10	9,046.10	35.24	183.10	-90.00	2,626.81	1,690.28	3,139.83	2,921.99	217.84	14.413		
9,800.00	9,065.00	9,046.10	9,046.10	36.17	183.10	-90.00	2,626.81	1,690.28	3,106.61	2,887.84	218.77	14.200		
9,900.00	9,065.00	9,046.10	9,046.10	37.19	183.10	-90.00	2,626.81	1,690.28	3,076.29	2,856.48	219.81	13.995		
10,000.00	9,065.00	9,046.10	9,046.10	38.30	183.10	-90.00	2,626.81	1,690.28	3,048.94	2,827.99	220.95	13.799		
10,100.00	9,065.00	9,046.10	9,046.10	39.48	183.10	-90.00	2,626.81	1,690.28	3,024.66	2,802.47	222.18	13.613		
10,200.00	9,065.00	9,046.10	9,046.10	40.72	183.10	-90.00	2,626.81	1,690.28	3,003.51	2,780.01	223.50	13.439		
10,300.00	9,065.00	9,046.10	9,046.10	42.03	183.10	-90.00	2,626.81	1,690.28	2,985.56	2,760.68	224.88	13.276		
10,400.00	9,065.00	9,046.10	9,046.10	43.40	183.10	-90.00	2,626.81	1,690.28	2,970.87	2,744.55	226.32	13.127		
10,500.00	9,065.00	9,046.10	9,046.10	44.82	183.10	-90.00	2,626.81	1,690.28	2,959.49	2,731.68	227.81	12.991		
10,600.00	9,065.00	9,046.10	9,046.10	46.29	183.10	-90.00	2,626.81	1,690.28	2,951.45	2,722.12	229.34	12.870		
10,700.00	9,065.00	9,046.10	9,046.10	47.79	183.10	-90.00	2,626.81	1,690.28	2,946.79	2,715.91	230.88	12.763		
10,787.48	9,065.00	9,046.10	9,046.10	49.15	183.10	-90.00	2,626.81	1,690.28	2,945.49	2,713.25	232.25	12.683 CC		
10,800.00	9,065.00	9,046.10	9,046.10	49.34	183.10	-90.00	2,626.81	1,690.28	2,945.52	2,713.08	232.44	12.672 ES		
10,900.00	9,065.00	9,046.10	9,046.10	50.92	183.10	-90.00	2,626.81	1,690.28	2,947.64	2,713.64	234.00	12.597		
11,000.00	9,065.00	9,046.10	9,046.10	52.54	183.10	-90.00	2,626.81	1,690.28	2,953.15	2,717.60	235.55	12.538		
11,100.00	9,065.00	9,046.10	9,046.10	54.18	183.10	-90.00	2,626.81	1,690.28	2,962.03	2,724.95	237.07	12.494		
11,200.00	9,065.00	9,046.10	9,046.10	55.85	183.10	-90.00	2,626.81	1,690.28	2,974.24	2,735.67	238.57	12.467		
11,300.00	9,065.00	9,046.10	9,046.10	57.54	183.10	-90.00	2,626.81	1,690.28	2,989.75	2,749.72	240.03	12.456 SF		
11,400.00	9,065.00	9,046.10	9,046.10	59.26	183.10	-90.00	2,626.81	1,690.28	3,008.51	2,767.05	241.45	12.460		
11,500.00	9,065.00	9,046.10	9,046.10	61.00	183.10	-90.00	2,626.81	1,690.28	3,030.45	2,787.62	242.82	12.480		
11,600.00	9,065.00	9,046.10	9,046.10	62.75	183.10	-90.00	2,626.81	1,690.28	3,055.51	2,811.36	244.14	12.515		
11,700.00	9,065.00	9,046.10	9,046.10	64.52	183.10	-90.00	2,626.81	1,690.28	3,083.60	2,838.20	245.40	12.565		
11,800.00	9,065.00	9,046.10	9,046.10	66.31	183.10	-90.00	2,626.81	1,690.28	3,114.66	2,868.06	246.61	12.630		
11,900.00	9,065.00	9,046.10	9,046.10	68.11	183.10	-90.00	2,626.81	1,690.28	3,148.59	2,900.84	247.75	12.709		
12,000.00	9,065.00	9,046.10	9,046.10	69.93	183.10	-90.00	2,626.81	1,690.28	3,185.30	2,936.47	248.83	12.801		
12,100.00	9,065.00	9,046.10	9,046.10	71.76	183.10	-90.00	2,626.81	1,690.28	3,224.69	2,974.84	249.85	12.907		
12,200.00	9,065.00	9,046.10	9,046.10	73.60	183.10	-90.00	2,626.81	1,690.28	3,266.67	3,015.87	250.80	13.025		
12,300.00	9,065.00	9,046.10	9,046.10	75.45	183.10	-90.00	2,626.81	1,690.28	3,311.14	3,059.44	251.70	13.155		
12,400.00	9,065.00	9,046.10	9,046.10	77.31	183.10	-90.00	2,626.81	1,690.28	3,358.00	3,105.46	252.54	13.297		
12,500.00	9,065.00	9,046.10	9,046.10	79.18	183.10	-90.00	2,626.81	1,690.28	3,407.15	3,153.83	253.32	13.450		
12,600.00	9,065.00	9,046.10	9,046.10	81.05	183.10	-90.00	2,626.81	1,690.28	3,458.49	3,204.45	254.04	13.614		
12,700.00	9,065.00	9,046.10	9,046.10	82.94	183.10	-90.00	2,626.81	1,690.28	3,511.93	3,257.22	254.71	13.788		
12,800.00	9,065.00	9,046.10	9,046.10	84.83	183.10	-90.00	2,626.81	1,690.28	3,567.37	3,312.04	255.33	13.971		
12,900.00	9,065.00	9,046.10	9,046.10	86.73	183.10	-90.00	2,626.81	1,690.28	3,624.73	3,368.82	255.91	14.164		
13,000.00	9,065.00	9,046.10	9,046.10	88.64	183.10	-90.00	2,626.81	1,690.28	3,683.91	3,427.47	256.43	14.366		
13,100.00	9,065.00	9,046.10	9,046.10	90.55	183.10	-90.00	2,626.81	1,690.28	3,744.82	3,487.90	256.92	14.576		
13,200.00	9,065.00	9,046.10	9,046.10	92.47	183.10	-90.00	2,626.81	1,690.28	3,807.38	3,550.02	257.36	14.794		
13,300.00	9,065.00	9,046.10	9,046.10	94.39	183.10	-90.00	2,626.81	1,690.28	3,871.52	3,613.75	257.77	15.019		
13,400.00	9,065.00	9,046.10	9,046.10	96.32	183.10	-90.00	2,626.81	1,690.28	3,937.15	3,679.01	258.14	15.252		
13,500.00	9,065.00	9,046.10	9,046.10	98.25	183.10	-90.00	2,626.81	1,690.28	4,004.21	3,745.73	258.48	15.491		
13,600.00	9,065.00	9,046.10	9,046.10	100.19	183.10	-90.00	2,626.81	1,690.28	4,072.62	3,813.83	258.79	15.737		
13,700.00	9,065.00	9,046.10	9,046.10	102.13	183.10	-90.00	2,626.81	1,690.28	4,142.31	3,883.24	259.07	15.989		
13,800.00	9,065.00	9,046.10	9,046.10	104.08	183.10	-90.00	2,626.81	1,690.28	4,213.22	3,953.89	259.32	16.247		
13,900.00	9,065.00	9,046.10	9,046.10	106.03	183.10	-90.00	2,626.81	1,690.28	4,285.29	4,025.74	259.55	16.510		
14,000.00	9,065.00	9,046.10	9,046.10	107.98	183.10	-90.00	2,626.81	1,690.28	4,358.46	4,098.70	259.76	16.779		
14,100.00	9,065.00	9,046.10	9,046.10	109.94	183.10	-90.00	2,626.81	1,690.28	4,432.69	4,172.74	259.95	17.052		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 10-INC-ONLY													Offset Well Error:	10.00 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
14,200.00	9,065.00	9,046.10	9,046.10	111.90	183.10	-90.00	2,626.81	1,690.28	4,507.91	4,247.79	260.12	17.330		
14,300.00	9,065.00	9,046.10	9,046.10	113.86	183.10	-90.00	2,626.81	1,690.28	4,584.07	4,323.81	260.27	17.613		
14,400.00	9,065.00	9,046.10	9,046.10	115.82	183.10	-90.00	2,626.81	1,690.28	4,661.14	4,400.74	260.40	17.900		
14,500.00	9,065.00	9,046.10	9,046.10	117.79	183.10	-90.00	2,626.81	1,690.28	4,739.06	4,478.54	260.52	18.191		
14,600.00	9,065.00	9,046.10	9,046.10	119.76	183.10	-90.00	2,626.81	1,690.28	4,817.80	4,557.18	260.63	18.485		
14,700.00	9,065.00	9,046.10	9,046.10	121.74	183.10	-90.00	2,626.81	1,690.28	4,897.32	4,636.60	260.72	18.784		
14,800.00	9,065.00	9,046.10	9,046.10	123.71	183.10	-90.00	2,626.81	1,690.28	4,977.57	4,716.77	260.80	19.086		
14,900.00	9,065.00	9,046.10	9,046.10	125.69	183.10	-90.00	2,626.81	1,690.28	5,058.53	4,797.66	260.87	19.391		
15,000.00	9,065.00	9,046.10	9,046.10	127.67	183.10	-90.00	2,626.81	1,690.28	5,140.16	4,879.22	260.94	19.699		
15,100.00	9,065.00	9,046.10	9,046.10	129.65	183.10	-90.00	2,626.81	1,690.28	5,222.43	4,961.44	260.99	20.010		
15,200.00	9,065.00	9,046.10	9,046.10	131.63	183.10	-90.00	2,626.81	1,690.28	5,305.31	5,044.27	261.04	20.324		
15,300.00	9,065.00	9,046.10	9,046.10	133.62	183.10	-90.00	2,626.81	1,690.28	5,388.76	5,127.69	261.08	20.641		
15,400.00	9,065.00	9,046.10	9,046.10	135.61	183.10	-90.00	2,626.81	1,690.28	5,472.78	5,211.67	261.11	20.960		
15,500.00	9,065.00	9,046.10	9,046.10	137.60	183.10	-90.00	2,626.81	1,690.28	5,557.32	5,296.18	261.14	21.281		
15,600.00	9,065.00	9,046.10	9,046.10	139.59	183.10	-90.00	2,626.81	1,690.28	5,642.36	5,381.21	261.16	21.605		
15,700.00	9,065.00	9,046.10	9,046.10	141.58	183.10	-90.00	2,626.81	1,690.28	5,727.90	5,466.72	261.17	21.931		
15,800.00	9,065.00	9,046.10	9,046.10	143.57	183.10	-90.00	2,626.81	1,690.28	5,813.89	5,552.70	261.19	22.260		
15,900.00	9,065.00	9,046.10	9,046.10	145.57	183.10	-90.00	2,626.81	1,690.28	5,900.32	5,639.13	261.19	22.590		
16,000.00	9,065.00	9,046.10	9,046.10	147.56	183.10	-90.00	2,626.81	1,690.28	5,987.18	5,725.98	261.20	22.922		
16,100.00	9,065.00	9,046.10	9,046.10	149.56	183.10	-90.00	2,626.81	1,690.28	6,074.44	5,813.24	261.20	23.256		
16,200.00	9,065.00	9,046.10	9,046.10	151.56	183.10	-90.00	2,626.81	1,690.28	6,162.09	5,900.89	261.20	23.591		
16,300.00	9,065.00	9,046.10	9,046.10	153.56	183.10	-90.00	2,626.81	1,690.28	6,250.10	5,988.91	261.20	23.929		
16,400.00	9,065.00	9,046.10	9,046.10	155.56	183.10	-90.00	2,626.81	1,690.28	6,338.48	6,077.29	261.19	24.268		
16,500.00	9,065.00	9,046.10	9,046.10	157.57	183.10	-90.00	2,626.81	1,690.28	6,427.19	6,166.01	261.18	24.608		
16,600.00	9,065.00	9,046.10	9,046.10	159.57	183.10	-90.00	2,626.81	1,690.28	6,516.23	6,255.06	261.17	24.950		
16,700.00	9,065.00	9,046.10	9,046.10	161.57	183.10	-90.00	2,626.81	1,690.28	6,605.59	6,344.43	261.16	25.293		
16,800.00	9,065.00	9,046.10	9,046.10	163.58	183.10	-90.00	2,626.81	1,690.28	6,695.25	6,434.10	261.15	25.637		
16,900.00	9,065.00	9,046.10	9,046.10	165.59	183.10	-90.00	2,626.81	1,690.28	6,785.19	6,524.05	261.14	25.983		
17,000.00	9,065.00	9,046.10	9,046.10	167.60	183.10	-90.00	2,626.81	1,690.28	6,875.42	6,614.29	261.12	26.330		
17,100.00	9,065.00	9,046.10	9,046.10	169.60	183.10	-90.00	2,626.81	1,690.28	6,965.91	6,704.80	261.11	26.678		
17,200.00	9,065.00	9,046.10	9,046.10	171.61	183.10	-90.00	2,626.81	1,690.28	7,056.65	6,795.56	261.09	27.027		
17,300.00	9,065.00	9,046.10	9,046.10	173.62	183.10	-90.00	2,626.81	1,690.28	7,147.65	6,886.57	261.08	27.377		
17,400.00	9,065.00	9,046.10	9,046.10	175.63	183.10	-90.00	2,626.81	1,690.28	7,238.88	6,977.82	261.06	27.729		
17,500.00	9,065.00	9,046.10	9,046.10	177.65	183.10	-90.00	2,626.81	1,690.28	7,330.34	7,069.29	261.05	28.081		
17,600.00	9,065.00	9,046.10	9,046.10	179.66	183.10	-90.00	2,626.81	1,690.28	7,422.02	7,160.99	261.03	28.434		
17,700.00	9,065.00	9,046.10	9,046.10	181.67	183.10	-90.00	2,626.81	1,690.28	7,513.91	7,252.90	261.01	28.788		
17,800.00	9,065.00	9,046.10	9,046.10	183.69	183.10	-90.00	2,626.81	1,690.28	7,606.01	7,345.01	261.00	29.142		
17,900.00	9,065.00	9,046.10	9,046.10	185.70	183.10	-90.00	2,626.81	1,690.28	7,698.30	7,437.32	260.98	29.498		
18,000.00	9,065.00	9,046.10	9,046.10	187.72	183.10	-90.00	2,626.81	1,690.28	7,790.79	7,529.83	260.96	29.854		
18,100.00	9,065.00	9,046.10	9,046.10	189.73	183.10	-90.00	2,626.81	1,690.28	7,883.46	7,622.51	260.95	30.211		
18,200.00	9,065.00	9,046.10	9,046.10	191.75	183.10	-90.00	2,626.81	1,690.28	7,976.30	7,715.37	260.93	30.569		
18,300.00	9,065.00	9,046.10	9,046.10	193.77	183.10	-90.00	2,626.81	1,690.28	8,069.32	7,808.40	260.91	30.927		
18,400.00	9,065.00	9,046.10	9,046.10	195.78	183.10	-90.00	2,626.81	1,690.28	8,162.50	7,901.60	260.90	31.286		
18,500.00	9,065.00	9,046.10	9,046.10	197.80	183.10	-90.00	2,626.81	1,690.28	8,255.84	7,994.95	260.89	31.645		
18,600.00	9,065.00	9,046.10	9,046.10	199.82	183.10	-90.00	2,626.81	1,690.28	8,349.34	8,088.46	260.87	32.006		
18,700.00	9,065.00	9,046.10	9,046.10	201.84	183.10	-90.00	2,626.81	1,690.28	8,442.98	8,182.12	260.86	32.366		
18,800.00	9,065.00	9,046.10	9,046.10	203.86	183.10	-90.00	2,626.81	1,690.28	8,536.77	8,275.92	260.84	32.727		
18,900.00	9,065.00	9,046.10	9,046.10	205.88	183.10	-90.00	2,626.81	1,690.28	8,630.70	8,369.86	260.83	33.089		
19,000.00	9,065.00	9,046.10	9,046.10	207.90	183.10	-90.00	2,626.81	1,690.28	8,724.76	8,463.94	260.82	33.451		
19,100.00	9,065.00	9,046.10	9,046.10	209.92	183.10	-90.00	2,626.81	1,690.28	8,818.95	8,558.14	260.81	33.814		
19,200.00	9,065.00	9,046.10	9,046.10	211.95	183.10	-90.00	2,626.81	1,690.28	8,913.27	8,652.47	260.80	34.177		
19,300.00	9,065.00	9,046.10	9,046.10	213.97	183.10	-90.00	2,626.81	1,690.28	9,007.71	8,746.92	260.79	34.540		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design	Sec 14-T21S-R27E - Allied State Com 1 (Active) - Wellbore #1 - Wellbore #1												Offset Site Error:	0.00 ft
Survey Program:	10-INC-ONLY												Offset Well Error:	10.00 ft
Reference	Offset	Semi Major Axis			Distance								Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
19,400.00	9,065.00	9,046.10	9,046.10	215.99	183.10	-90.00	2,626.81	1,690.28	9,102.28	8,841.49	260.78	34.904		
19,456.84	9,065.00	9,046.10	9,046.10	217.14	183.10	-90.00	2,626.81	1,690.28	9,156.08	8,895.30	260.78	35.111		

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 10-INC-ONLY													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0.00	0.00	0.00	0.00	0.50	0.50	164.39	-1,348.45	376.73	1,400.12					
100.00	100.00	90.10	90.10	0.52	1.30	164.39	-1,348.45	376.73	1,400.09	1,398.27	1.82	770.382		
200.00	200.00	190.10	190.10	0.70	2.74	164.39	-1,348.45	376.73	1,400.09	1,396.64	3.45	406.376		
300.00	300.00	290.10	290.10	0.99	4.22	164.39	-1,348.45	376.73	1,400.09	1,394.88	5.21	268.632		
400.00	400.00	390.10	390.10	1.31	5.71	164.39	-1,348.45	376.73	1,400.09	1,393.07	7.02	199.342		
500.00	500.00	490.10	490.10	1.65	7.21	164.39	-1,348.45	376.73	1,400.09	1,391.24	8.85	158.137		
600.00	600.00	590.10	590.10	1.99	8.70	164.39	-1,348.45	376.73	1,400.09	1,389.40	10.69	130.938		
700.00	700.00	690.10	690.10	2.34	10.20	164.39	-1,348.45	376.73	1,400.09	1,387.55	12.54	111.676		
800.00	800.00	790.10	790.10	2.69	11.69	164.39	-1,348.45	376.73	1,400.09	1,385.71	14.38	97.334		
900.00	900.00	890.10	890.10	3.04	13.19	164.39	-1,348.45	376.73	1,400.09	1,383.86	16.23	86.245		
1,000.00	1,000.00	990.10	990.10	3.40	14.69	164.39	-1,348.45	376.73	1,400.09	1,382.01	18.08	77.419		
1,100.00	1,100.00	1,090.10	1,090.10	3.75	16.18	164.39	-1,348.45	376.73	1,400.09	1,380.15	19.94	70.228		
1,200.00	1,200.00	1,190.10	1,190.10	4.11	17.68	164.39	-1,348.45	376.73	1,400.09	1,378.30	21.79	64.257		
1,300.00	1,300.00	1,290.10	1,290.10	4.46	19.18	164.39	-1,348.45	376.73	1,400.09	1,376.45	23.64	59.220		
1,400.00	1,400.00	1,390.10	1,390.10	4.82	20.68	164.39	-1,348.45	376.73	1,400.09	1,374.59	25.50	54.915		
1,500.00	1,500.00	1,490.10	1,490.10	5.18	22.17	164.39	-1,348.45	376.73	1,400.09	1,372.74	27.35	51.193		
1,600.00	1,600.00	1,590.10	1,590.10	5.53	23.67	164.39	-1,348.45	376.73	1,400.09	1,370.89	29.20	47.942		
1,700.00	1,700.00	1,690.10	1,690.10	5.89	25.17	164.39	-1,348.45	376.73	1,400.09	1,369.03	31.06	45.080		
1,800.00	1,800.00	1,790.10	1,790.10	6.25	26.66	164.39	-1,348.45	376.73	1,400.09	1,367.18	32.91	42.540		
1,900.00	1,900.00	1,890.10	1,890.10	6.61	28.16	164.39	-1,348.45	376.73	1,400.09	1,365.32	34.77	40.270		
2,000.00	2,000.00	1,990.10	1,990.10	6.96	29.66	164.39	-1,348.45	376.73	1,400.09	1,363.47	36.62	38.230		
2,100.00	2,100.00	2,090.10	2,090.10	7.32	31.16	164.39	-1,348.45	376.73	1,400.09	1,361.61	38.48	36.387		
2,200.00	2,200.00	2,190.10	2,190.10	7.68	32.65	164.39	-1,348.45	376.73	1,400.09	1,359.76	40.33	34.714		
2,300.00	2,300.00	2,290.10	2,290.10	8.04	34.15	164.39	-1,348.45	376.73	1,400.09	1,357.90	42.19	33.187		
2,400.00	2,400.00	2,390.10	2,390.10	8.39	35.65	164.39	-1,348.45	376.73	1,400.09	1,356.05	44.04	31.789		
2,500.00	2,500.00	2,490.10	2,490.10	8.75	37.15	164.39	-1,348.45	376.73	1,400.09	1,354.19	45.90	30.504		
2,600.00	2,599.99	2,590.09	2,590.09	9.09	38.64	-49.72	-1,348.45	376.73	1,399.53	1,351.79	47.74	29.317		
2,700.00	2,699.96	2,690.06	2,690.06	9.42	40.14	-49.81	-1,348.45	376.73	1,397.83	1,348.27	49.56	28.204		
2,800.00	2,799.86	2,789.96	2,789.96	9.75	41.64	-49.97	-1,348.45	376.73	1,395.02	1,343.64	51.39	27.148		
2,900.00	2,899.68	2,889.78	2,889.78	10.08	43.13	-50.19	-1,348.45	376.73	1,391.10	1,337.89	53.21	26.143		
2,945.33	2,944.88	2,934.98	2,934.98	10.23	43.81	-50.32	-1,348.45	376.73	1,388.96	1,334.92	54.04	25.703		
3,000.00	2,999.39	2,989.49	2,989.49	10.41	44.62	-50.45	-1,348.45	376.73	1,386.25	1,331.21	55.04	25.187		
3,100.00	3,099.08	3,089.18	3,089.18	10.75	46.12	-50.70	-1,348.45	376.73	1,381.31	1,324.44	56.87	24.291		
3,200.00	3,198.78	3,188.88	3,188.88	11.08	47.61	-50.95	-1,348.45	376.73	1,376.40	1,317.70	58.69	23.450		
3,300.00	3,298.48	3,288.58	3,288.58	11.42	49.10	-51.20	-1,348.45	376.73	1,371.51	1,310.98	60.53	22.660		
3,400.00	3,398.18	3,388.28	3,388.28	11.76	50.60	-51.45	-1,348.45	376.73	1,366.65	1,304.29	62.36	21.916		
3,500.00	3,497.88	3,487.98	3,487.98	12.10	52.09	-51.71	-1,348.45	376.73	1,361.81	1,297.62	64.19	21.214		
3,600.00	3,597.58	3,587.68	3,587.68	12.45	53.58	-51.96	-1,348.45	376.73	1,357.01	1,290.98	66.03	20.552		
3,700.00	3,697.27	3,687.37	3,687.37	12.79	55.08	-52.22	-1,348.45	376.73	1,352.23	1,284.36	67.87	19.925		
3,800.00	3,796.97	3,787.07	3,787.07	13.14	56.57	-52.48	-1,348.45	376.73	1,347.48	1,277.77	69.70	19.331		
3,900.00	3,896.67	3,886.77	3,886.77	13.48	58.06	-52.75	-1,348.45	376.73	1,342.75	1,271.21	71.54	18.768		
4,000.00	3,996.37	3,986.47	3,986.47	13.83	59.56	-53.01	-1,348.45	376.73	1,338.06	1,264.67	73.38	18.234		
4,100.00	4,096.07	4,086.17	4,086.17	14.18	61.05	-53.28	-1,348.45	376.73	1,333.39	1,258.17	75.22	17.726		
4,200.00	4,195.76	4,185.86	4,185.86	14.53	62.54	-53.54	-1,348.45	376.73	1,328.75	1,251.69	77.07	17.242		
4,300.00	4,295.46	4,285.56	4,285.56	14.88	64.03	-53.81	-1,348.45	376.73	1,324.14	1,245.24	78.91	16.781		
4,400.00	4,395.16	4,385.26	4,385.26	15.23	65.53	-54.09	-1,348.45	376.73	1,319.57	1,238.81	80.75	16.341		
4,500.00	4,494.86	4,484.96	4,484.96	15.58	67.02	-54.36	-1,348.45	376.73	1,315.02	1,232.42	82.60	15.921		
4,600.00	4,594.56	4,584.66	4,584.66	15.93	68.51	-54.63	-1,348.45	376.73	1,310.50	1,226.06	84.44	15.520		
4,700.00	4,694.25	4,684.35	4,684.35	16.29	70.01	-54.91	-1,348.45	376.73	1,306.01	1,219.73	86.29	15.136		
4,800.00	4,793.95	4,784.05	4,784.05	16.64	71.50	-55.19	-1,348.45	376.73	1,301.55	1,213.42	88.13	14.768		
4,900.00	4,893.65	4,883.75	4,883.75	17.00	72.99	-55.47	-1,348.45	376.73	1,297.13	1,207.15	89.98	14.416		
5,000.00	4,993.35	4,983.45	4,983.45	17.35	74.49	-55.75	-1,348.45	376.73	1,292.73	1,200.91	91.82	14.078		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 10-INC-ONLY													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
5,100.00	5,093.05	5,083.15	5,083.15	17.71	75.98	-56.04	-1,348.45	376.73	1,288.37	1,194.70	93.67	13.754		
5,200.00	5,192.75	5,182.85	5,182.85	18.06	77.47	-56.33	-1,348.45	376.73	1,284.04	1,188.52	95.52	13.443		
5,300.00	5,292.44	5,282.54	5,282.54	18.42	78.97	-56.61	-1,348.45	376.73	1,279.74	1,182.38	97.37	13.143		
5,400.00	5,392.14	5,382.24	5,382.24	18.77	80.46	-56.91	-1,348.45	376.73	1,275.48	1,176.26	99.22	12.856		
5,500.00	5,491.84	5,481.94	5,481.94	19.13	81.95	-57.20	-1,348.45	376.73	1,271.25	1,170.18	101.07	12.578		
5,600.00	5,591.54	5,581.64	5,581.64	19.49	83.44	-57.49	-1,348.45	376.73	1,267.05	1,164.13	102.91	12.312		
5,700.00	5,691.24	5,681.34	5,681.34	19.85	84.94	-57.79	-1,348.45	376.73	1,262.88	1,158.12	104.76	12.054		
5,800.00	5,790.93	5,781.03	5,781.03	20.20	86.43	-58.09	-1,348.45	376.73	1,258.75	1,152.14	106.61	11.807		
5,900.00	5,890.63	5,880.73	5,880.73	20.56	87.92	-58.39	-1,348.45	376.73	1,254.66	1,146.19	108.47	11.567		
6,000.00	5,990.33	5,980.43	5,980.43	20.92	89.42	-58.69	-1,348.45	376.73	1,250.59	1,140.28	110.32	11.336		
6,100.00	6,090.03	6,080.13	6,080.13	21.28	90.91	-58.99	-1,348.45	376.73	1,246.57	1,134.40	112.17	11.113		
6,200.00	6,189.73	6,179.83	6,179.83	21.64	92.40	-59.30	-1,348.45	376.73	1,242.58	1,128.56	114.02	10.898		
6,300.00	6,289.42	6,279.52	6,279.52	22.00	93.90	-59.61	-1,348.45	376.73	1,238.62	1,122.75	115.87	10.690		
6,400.00	6,389.12	6,379.22	6,379.22	22.36	95.39	-59.92	-1,348.45	376.73	1,234.70	1,116.98	117.72	10.488		
6,500.00	6,488.82	6,478.92	6,478.92	22.72	96.88	-60.23	-1,348.45	376.73	1,230.82	1,111.25	119.57	10.293		
6,600.00	6,588.52	6,578.62	6,578.62	23.08	98.38	-60.54	-1,348.45	376.73	1,226.98	1,105.55	121.43	10.105		
6,700.00	6,688.22	6,678.32	6,678.32	23.44	99.87	-60.86	-1,348.45	376.73	1,223.17	1,099.89	123.28	9.922		
6,800.00	6,787.91	6,778.01	6,778.01	23.80	101.36	-61.18	-1,348.45	376.73	1,219.40	1,094.26	125.13	9.745		
6,900.00	6,887.61	6,877.71	6,877.71	24.16	102.86	-61.50	-1,348.45	376.73	1,215.66	1,088.68	126.98	9.573		
7,000.00	6,987.31	6,977.41	6,977.41	24.52	104.35	-61.82	-1,348.45	376.73	1,211.97	1,083.13	128.84	9.407		
7,100.00	7,087.01	7,077.11	7,077.11	24.88	105.84	-62.14	-1,348.45	376.73	1,208.31	1,077.62	130.69	9.246		
7,200.00	7,186.71	7,176.81	7,176.81	25.24	107.33	-62.47	-1,348.45	376.73	1,204.70	1,072.15	132.55	9.089		
7,300.00	7,286.41	7,276.51	7,276.51	25.60	108.83	-62.80	-1,348.45	376.73	1,201.12	1,066.72	134.40	8.937		
7,400.00	7,386.10	7,376.20	7,376.20	25.96	110.32	-63.13	-1,348.45	376.73	1,197.58	1,061.33	136.25	8.789		
7,500.00	7,485.80	7,475.90	7,475.90	26.33	111.81	-63.46	-1,348.45	376.73	1,194.08	1,055.97	138.11	8.646		
7,600.00	7,585.50	7,575.60	7,575.60	26.69	113.31	-63.79	-1,348.45	376.73	1,190.62	1,050.66	139.96	8.507		
7,700.00	7,685.20	7,675.30	7,675.30	27.05	114.80	-64.13	-1,348.45	376.73	1,187.21	1,045.39	141.82	8.371		
7,800.00	7,784.90	7,775.00	7,775.00	27.41	116.29	-64.46	-1,348.45	376.73	1,183.83	1,040.16	143.67	8.240		
7,860.70	7,845.41	7,835.51	7,835.51	27.63	117.20	-64.67	-1,348.45	376.73	1,181.80	1,037.00	144.80	8.162		
7,900.00	7,884.61	7,874.71	7,874.71	27.77	117.79	-64.78	-1,348.45	376.73	1,180.58	1,035.06	145.53	8.112		
8,000.00	7,984.46	7,974.56	7,974.56	28.13	119.28	-64.99	-1,348.45	376.73	1,178.27	1,030.89	147.38	7.995		
8,100.00	8,084.42	8,074.52	8,074.52	28.49	120.78	-65.09	-1,348.45	376.73	1,177.08	1,027.85	149.23	7.888		
8,157.59	8,142.00	8,132.10	8,132.10	28.69	121.64	148.97	-1,348.45	376.73	1,176.90	1,026.61	150.30	7.831		
8,200.00	8,184.41	8,174.51	8,174.51	28.83	122.28	148.97	-1,348.45	376.73	1,176.90	1,025.83	151.07	7.790		
8,300.00	8,284.41	8,274.51	8,274.51	29.17	123.77	148.97	-1,348.45	376.73	1,176.90	1,023.99	152.91	7.697		
8,400.00	8,384.41	8,374.51	8,374.51	29.51	125.27	148.97	-1,348.45	376.73	1,176.90	1,022.15	154.75	7.605		
8,507.63	8,492.04	8,482.14	8,482.14	29.87	126.88	148.97	-1,348.45	376.73	1,176.90	1,020.18	156.73	7.509		
8,550.00	8,534.37	8,524.47	8,524.47	30.02	127.52	59.73	-1,348.45	376.73	1,176.11	1,018.61	157.50	7.467		
8,600.00	8,584.01	8,574.11	8,574.11	30.18	128.26	60.23	-1,348.45	376.73	1,173.16	1,014.75	158.41	7.406		
8,650.00	8,632.95	8,623.05	8,623.05	30.34	128.99	61.10	-1,348.45	376.73	1,168.09	1,008.79	159.31	7.332		
8,700.00	8,680.82	8,670.92	8,670.92	30.50	129.71	62.34	-1,348.45	376.73	1,161.04	1,000.85	160.19	7.248		
8,750.00	8,727.25	8,717.35	8,717.35	30.66	130.41	63.91	-1,348.45	376.73	1,152.17	991.13	161.04	7.155		
8,800.00	8,771.89	8,761.99	8,761.99	30.81	131.07	65.81	-1,348.45	376.73	1,141.70	979.84	161.86	7.054		
8,850.00	8,814.40	8,804.50	8,804.50	30.95	131.71	67.99	-1,348.45	376.73	1,129.91	967.26	162.64	6.947		
8,900.00	8,854.46	8,844.56	8,844.56	31.09	132.31	70.41	-1,348.45	376.73	1,117.10	953.71	163.39	6.837		
8,950.00	8,891.75	8,881.85	8,881.85	31.23	132.87	73.00	-1,348.45	376.73	1,103.62	939.53	164.09	6.726		
9,000.00	8,926.01	8,916.11	8,916.11	31.37	133.38	75.68	-1,348.45	376.73	1,089.85	925.09	164.75	6.615		
9,050.00	8,956.96	8,947.06	8,947.06	31.53	133.85	78.37	-1,348.45	376.73	1,076.18	910.81	165.37	6.508		
9,100.00	8,984.38	8,974.48	8,974.48	31.69	134.26	80.96	-1,348.45	376.73	1,063.03	897.08	165.95	6.406		
9,150.00	9,008.05	8,998.15	8,998.15	31.87	134.61	83.36	-1,348.45	376.73	1,050.79	884.31	166.48	6.312		
9,200.00	9,027.79	9,017.89	9,017.89	32.07	134.91	85.49	-1,348.45	376.73	1,039.87	872.89	166.98	6.228		
9,250.00	9,043.45	9,033.55	9,033.55	32.29	135.14	87.27	-1,348.45	376.73	1,030.61	863.17	167.43	6.155		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 10-INC-ONLY													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
9,300.00	9,054.92	9,045.02	9,045.02	32.53	135.31	88.63	-1,348.45	376.73	1,023.31	855.47	167.84	6.097		
9,350.00	9,062.10	9,052.20	9,052.20	32.79	135.42	89.55	-1,348.45	376.73	1,018.23	850.02	168.21	6.053		
9,400.00	9,064.95	9,055.05	9,055.05	33.06	135.46	89.98	-1,348.45	376.73	1,015.52	847.00	168.52	6.026		
9,407.63	9,065.00	9,055.10	9,055.10	33.10	135.46	90.00	-1,348.45	376.73	1,015.32	846.76	168.56	6.023		
9,430.26	9,065.00	9,055.10	9,055.10	33.24	135.46	90.00	-1,348.45	376.73	1,015.07	846.37	168.70	6.017 CC, ES		
9,500.00	9,065.00	9,055.10	9,055.10	33.68	135.46	90.00	-1,348.45	376.73	1,017.46	848.35	169.11	6.017 SF		
9,600.00	9,065.00	9,055.10	9,055.10	34.41	135.46	90.00	-1,348.45	376.73	1,029.16	859.41	169.76	6.063		
9,700.00	9,065.00	9,055.10	9,055.10	35.24	135.46	90.00	-1,348.45	376.73	1,050.30	879.88	170.42	6.163		
9,800.00	9,065.00	9,055.10	9,055.10	36.17	135.46	90.00	-1,348.45	376.73	1,080.31	909.25	171.06	6.315		
9,900.00	9,065.00	9,055.10	9,055.10	37.19	135.46	90.00	-1,348.45	376.73	1,118.49	946.83	171.66	6.516		
10,000.00	9,065.00	9,055.10	9,055.10	38.30	135.46	90.00	-1,348.45	376.73	1,164.03	991.84	172.19	6.760		
10,100.00	9,065.00	9,055.10	9,055.10	39.48	135.46	90.00	-1,348.45	376.73	1,216.11	1,043.46	172.65	7.044		
10,200.00	9,065.00	9,055.10	9,055.10	40.72	135.46	90.00	-1,348.45	376.73	1,273.92	1,100.88	173.04	7.362		
10,300.00	9,065.00	9,055.10	9,055.10	42.03	135.46	90.00	-1,348.45	376.73	1,336.72	1,163.35	173.36	7.711		
10,400.00	9,065.00	9,055.10	9,055.10	43.40	135.46	90.00	-1,348.45	376.73	1,403.84	1,230.21	173.63	8.085		
10,500.00	9,065.00	9,055.10	9,055.10	44.82	135.46	90.00	-1,348.45	376.73	1,474.69	1,300.84	173.85	8.483		
10,600.00	9,065.00	9,055.10	9,055.10	46.29	135.46	90.00	-1,348.45	376.73	1,548.76	1,374.73	174.03	8.899		
10,700.00	9,065.00	9,055.10	9,055.10	47.79	135.46	90.00	-1,348.45	376.73	1,625.61	1,451.43	174.17	9.333		
10,800.00	9,065.00	9,055.10	9,055.10	49.34	135.46	90.00	-1,348.45	376.73	1,704.86	1,530.57	174.29	9.782		
10,900.00	9,065.00	9,055.10	9,055.10	50.92	135.46	90.00	-1,348.45	376.73	1,786.20	1,611.81	174.38	10.243		
11,000.00	9,065.00	9,055.10	9,055.10	52.54	135.46	90.00	-1,348.45	376.73	1,869.34	1,694.88	174.46	10.715		
11,100.00	9,065.00	9,055.10	9,055.10	54.18	135.46	90.00	-1,348.45	376.73	1,954.07	1,779.55	174.52	11.197		
11,200.00	9,065.00	9,055.10	9,055.10	55.85	135.46	90.00	-1,348.45	376.73	2,040.18	1,865.61	174.57	11.687		
11,300.00	9,065.00	9,055.10	9,055.10	57.54	135.46	90.00	-1,348.45	376.73	2,127.51	1,952.89	174.61	12.184		
11,400.00	9,065.00	9,055.10	9,055.10	59.26	135.46	90.00	-1,348.45	376.73	2,215.90	2,041.26	174.65	12.688		
11,500.00	9,065.00	9,055.10	9,055.10	61.00	135.46	90.00	-1,348.45	376.73	2,305.25	2,130.58	174.67	13.197		
11,600.00	9,065.00	9,055.10	9,055.10	62.75	135.46	90.00	-1,348.45	376.73	2,395.44	2,220.74	174.70	13.712		
11,700.00	9,065.00	9,055.10	9,055.10	64.52	135.46	90.00	-1,348.45	376.73	2,486.38	2,311.66	174.72	14.231		
11,800.00	9,065.00	9,055.10	9,055.10	66.31	135.46	90.00	-1,348.45	376.73	2,577.99	2,403.25	174.74	14.754		
11,900.00	9,065.00	9,055.10	9,055.10	68.11	135.46	90.00	-1,348.45	376.73	2,670.20	2,495.45	174.75	15.280		
12,000.00	9,065.00	9,055.10	9,055.10	69.93	135.46	90.00	-1,348.45	376.73	2,762.95	2,588.19	174.77	15.809		
12,100.00	9,065.00	9,055.10	9,055.10	71.76	135.46	90.00	-1,348.45	376.73	2,856.20	2,681.42	174.78	16.341		
12,200.00	9,065.00	9,055.10	9,055.10	73.60	135.46	90.00	-1,348.45	376.73	2,949.88	2,775.09	174.80	16.876		
12,300.00	9,065.00	9,055.10	9,055.10	75.45	135.46	90.00	-1,348.45	376.73	3,043.97	2,869.16	174.81	17.413		
12,400.00	9,065.00	9,055.10	9,055.10	77.31	135.46	90.00	-1,348.45	376.73	3,138.42	2,963.60	174.82	17.952		
12,500.00	9,065.00	9,055.10	9,055.10	79.18	135.46	90.00	-1,348.45	376.73	3,233.21	3,058.37	174.84	18.493		
12,600.00	9,065.00	9,055.10	9,055.10	81.05	135.46	90.00	-1,348.45	376.73	3,328.30	3,153.45	174.85	19.035		
12,700.00	9,065.00	9,055.10	9,055.10	82.94	135.46	90.00	-1,348.45	376.73	3,423.67	3,248.81	174.87	19.579		
12,800.00	9,065.00	9,055.10	9,055.10	84.83	135.46	90.00	-1,348.45	376.73	3,519.30	3,344.42	174.88	20.124		
12,900.00	9,065.00	9,055.10	9,055.10	86.73	135.46	90.00	-1,348.45	376.73	3,615.17	3,440.27	174.90	20.670		
13,000.00	9,065.00	9,055.10	9,055.10	88.64	135.46	90.00	-1,348.45	376.73	3,711.25	3,536.33	174.92	21.217		
13,100.00	9,065.00	9,055.10	9,055.10	90.55	135.46	90.00	-1,348.45	376.73	3,807.54	3,632.60	174.94	21.765		
13,200.00	9,065.00	9,055.10	9,055.10	92.47	135.46	90.00	-1,348.45	376.73	3,904.01	3,729.05	174.96	22.314		
13,300.00	9,065.00	9,055.10	9,055.10	94.39	135.46	90.00	-1,348.45	376.73	4,000.65	3,825.68	174.98	22.864		
13,400.00	9,065.00	9,055.10	9,055.10	96.32	135.46	90.00	-1,348.45	376.73	4,097.46	3,922.46	175.00	23.414		
13,500.00	9,065.00	9,055.10	9,055.10	98.25	135.46	90.00	-1,348.45	376.73	4,194.42	4,019.40	175.02	23.965		
13,600.00	9,065.00	9,055.10	9,055.10	100.19	135.46	90.00	-1,348.45	376.73	4,291.51	4,116.47	175.04	24.517		
13,700.00	9,065.00	9,055.10	9,055.10	102.13	135.46	90.00	-1,348.45	376.73	4,388.74	4,213.67	175.07	25.069		
13,800.00	9,065.00	9,055.10	9,055.10	104.08	135.46	90.00	-1,348.45	376.73	4,486.09	4,310.99	175.09	25.621		
13,900.00	9,065.00	9,055.10	9,055.10	106.03	135.46	90.00	-1,348.45	376.73	4,583.55	4,408.43	175.12	26.174		
14,000.00	9,065.00	9,055.10	9,055.10	107.98	135.46	90.00	-1,348.45	376.73	4,681.12	4,505.97	175.15	26.727		
14,100.00	9,065.00	9,055.10	9,055.10	109.94	135.46	90.00	-1,348.45	376.73	4,778.79	4,603.61	175.18	27.280		

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 10-INC-ONLY													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
14,200.00	9,065.00	9,055.10	9,055.10	111.90	135.46	90.00	-1,348.45	376.73	4,876.55	4,701.35	175.21	27.833		
14,300.00	9,065.00	9,055.10	9,055.10	113.86	135.46	90.00	-1,348.45	376.73	4,974.41	4,799.17	175.24	28.387		
14,400.00	9,065.00	9,055.10	9,055.10	115.82	135.46	90.00	-1,348.45	376.73	5,072.34	4,897.07	175.27	28.940		
14,500.00	9,065.00	9,055.10	9,055.10	117.79	135.46	90.00	-1,348.45	376.73	5,170.36	4,995.06	175.30	29.494		
14,600.00	9,065.00	9,055.10	9,055.10	119.76	135.46	90.00	-1,348.45	376.73	5,268.45	5,093.11	175.34	30.048		
14,700.00	9,065.00	9,055.10	9,055.10	121.74	135.46	90.00	-1,348.45	376.73	5,366.61	5,191.24	175.37	30.602		
14,800.00	9,065.00	9,055.10	9,055.10	123.71	135.46	90.00	-1,348.45	376.73	5,464.84	5,289.43	175.41	31.155		
14,900.00	9,065.00	9,055.10	9,055.10	125.69	135.46	90.00	-1,348.45	376.73	5,563.13	5,387.69	175.44	31.709		
15,000.00	9,065.00	9,055.10	9,055.10	127.67	135.46	90.00	-1,348.45	376.73	5,661.48	5,486.00	175.48	32.263		
15,100.00	9,065.00	9,055.10	9,055.10	129.65	135.46	90.00	-1,348.45	376.73	5,759.89	5,584.37	175.52	32.816		
15,200.00	9,065.00	9,055.10	9,055.10	131.63	135.46	90.00	-1,348.45	376.73	5,858.35	5,682.79	175.56	33.370		
15,300.00	9,065.00	9,055.10	9,055.10	133.62	135.46	90.00	-1,348.45	376.73	5,956.86	5,781.26	175.60	33.923		
15,400.00	9,065.00	9,055.10	9,055.10	135.61	135.46	90.00	-1,348.45	376.73	6,055.42	5,879.78	175.64	34.476		
15,500.00	9,065.00	9,055.10	9,055.10	137.60	135.46	90.00	-1,348.45	376.73	6,154.03	5,978.35	175.68	35.029		
15,600.00	9,065.00	9,055.10	9,055.10	139.59	135.46	90.00	-1,348.45	376.73	6,252.68	6,076.95	175.73	35.582		
15,700.00	9,065.00	9,055.10	9,055.10	141.58	135.46	90.00	-1,348.45	376.73	6,351.38	6,175.60	175.77	36.134		
15,800.00	9,065.00	9,055.10	9,055.10	143.57	135.46	90.00	-1,348.45	376.73	6,450.11	6,274.29	175.82	36.686		
15,900.00	9,065.00	9,055.10	9,055.10	145.57	135.46	90.00	-1,348.45	376.73	6,548.88	6,373.02	175.86	37.238		
16,000.00	9,065.00	9,055.10	9,055.10	147.56	135.46	90.00	-1,348.45	376.73	6,647.69	6,471.78	175.91	37.790		
16,100.00	9,065.00	9,055.10	9,055.10	149.56	135.46	90.00	-1,348.45	376.73	6,746.54	6,570.58	175.96	38.342		
16,200.00	9,065.00	9,055.10	9,055.10	151.56	135.46	90.00	-1,348.45	376.73	6,845.42	6,669.41	176.01	38.893		
16,300.00	9,065.00	9,055.10	9,055.10	153.56	135.46	90.00	-1,348.45	376.73	6,944.33	6,768.27	176.06	39.443		
16,400.00	9,065.00	9,055.10	9,055.10	155.56	135.46	90.00	-1,348.45	376.73	7,043.27	6,867.16	176.11	39.994		
16,500.00	9,065.00	9,055.10	9,055.10	157.57	135.46	90.00	-1,348.45	376.73	7,142.24	6,966.08	176.16	40.544		
16,600.00	9,065.00	9,055.10	9,055.10	159.57	135.46	90.00	-1,348.45	376.73	7,241.24	7,065.02	176.21	41.094		
16,700.00	9,065.00	9,055.10	9,055.10	161.57	135.46	90.00	-1,348.45	376.73	7,340.26	7,164.00	176.27	41.643		
16,800.00	9,065.00	9,055.10	9,055.10	163.58	135.46	90.00	-1,348.45	376.73	7,439.31	7,262.99	176.32	42.192		
16,900.00	9,065.00	9,055.10	9,055.10	165.59	135.46	90.00	-1,348.45	376.73	7,538.39	7,362.02	176.38	42.741		
17,000.00	9,065.00	9,055.10	9,055.10	167.60	135.46	90.00	-1,348.45	376.73	7,637.49	7,461.06	176.43	43.289		
17,100.00	9,065.00	9,055.10	9,055.10	169.60	135.46	90.00	-1,348.45	376.73	7,736.62	7,560.13	176.49	43.837		
17,200.00	9,065.00	9,055.10	9,055.10	171.61	135.46	90.00	-1,348.45	376.73	7,835.76	7,659.22	176.55	44.384		
17,300.00	9,065.00	9,055.10	9,055.10	173.62	135.46	90.00	-1,348.45	376.73	7,934.93	7,758.33	176.60	44.931		
17,400.00	9,065.00	9,055.10	9,055.10	175.63	135.46	90.00	-1,348.45	376.73	8,034.12	7,857.46	176.66	45.477		
17,500.00	9,065.00	9,055.10	9,055.10	177.65	135.46	90.00	-1,348.45	376.73	8,133.33	7,956.61	176.72	46.023		
17,600.00	9,065.00	9,055.10	9,055.10	179.66	135.46	90.00	-1,348.45	376.73	8,232.56	8,055.77	176.78	46.569		
17,700.00	9,065.00	9,055.10	9,055.10	181.67	135.46	90.00	-1,348.45	376.73	8,331.80	8,154.96	176.84	47.114		
17,800.00	9,065.00	9,055.10	9,055.10	183.69	135.46	90.00	-1,348.45	376.73	8,431.07	8,254.16	176.91	47.658		
17,900.00	9,065.00	9,055.10	9,055.10	185.70	135.46	90.00	-1,348.45	376.73	8,530.35	8,353.38	176.97	48.202		
18,000.00	9,065.00	9,055.10	9,055.10	187.72	135.46	90.00	-1,348.45	376.73	8,629.64	8,452.61	177.03	48.746		
18,100.00	9,065.00	9,055.10	9,055.10	189.73	135.46	90.00	-1,348.45	376.73	8,728.96	8,551.86	177.10	49.289		
18,200.00	9,065.00	9,055.10	9,055.10	191.75	135.46	90.00	-1,348.45	376.73	8,828.29	8,651.12	177.16	49.831		
18,300.00	9,065.00	9,055.10	9,055.10	193.77	135.46	90.00	-1,348.45	376.73	8,927.63	8,750.40	177.23	50.373		
18,400.00	9,065.00	9,055.10	9,055.10	195.78	135.46	90.00	-1,348.45	376.73	9,026.99	8,849.69	177.30	50.915		
18,500.00	9,065.00	9,055.10	9,055.10	197.80	135.46	90.00	-1,348.45	376.73	9,126.36	8,949.00	177.36	51.456		
18,600.00	9,065.00	9,055.10	9,055.10	199.82	135.46	90.00	-1,348.45	376.73	9,225.75	9,048.32	177.43	51.996		
18,700.00	9,065.00	9,055.10	9,055.10	201.84	135.46	90.00	-1,348.45	376.73	9,325.15	9,147.65	177.50	52.536		
18,800.00	9,065.00	9,055.10	9,055.10	203.86	135.46	90.00	-1,348.45	376.73	9,424.56	9,246.99	177.57	53.075		
18,900.00	9,065.00	9,055.10	9,055.10	205.88	135.46	90.00	-1,348.45	376.73	9,523.99	9,346.34	177.64	53.614		
19,000.00	9,065.00	9,055.10	9,055.10	207.90	135.46	90.00	-1,348.45	376.73	9,623.42	9,445.71	177.71	54.152		
19,100.00	9,065.00	9,055.10	9,055.10	209.92	135.46	90.00	-1,348.45	376.73	9,722.87	9,545.09	177.78	54.689		
19,200.00	9,065.00	9,055.10	9,055.10	211.95	135.46	90.00	-1,348.45	376.73	9,822.33	9,644.47	177.86	55.226		
19,300.00	9,065.00	9,055.10	9,055.10	213.97	135.46	90.00	-1,348.45	376.73	9,921.80	9,743.87	177.93	55.763		

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 10-INC-ONLY													Offset Well Error:	10.00 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0.00	0.00	0.00	0.00	0.50	10.00	14.42	1,447.91	372.37	1,495.08					
100.00	100.00	87.10	87.10	0.52	10.12	14.42	1,447.91	372.37	1,495.02	1,484.39	10.64	140.527		
200.00	200.00	187.10	187.10	0.70	10.62	14.42	1,447.91	372.37	1,495.02	1,483.70	11.32	132.014		
300.00	300.00	287.10	287.10	0.99	11.46	14.42	1,447.91	372.37	1,495.02	1,482.57	12.45	120.065		
400.00	400.00	387.10	387.10	1.31	12.58	14.42	1,447.91	372.37	1,495.02	1,481.14	13.89	107.653		
500.00	500.00	487.10	487.10	1.65	13.90	14.42	1,447.91	372.37	1,495.02	1,479.48	15.55	96.173		
600.00	600.00	587.10	587.10	1.99	15.37	14.42	1,447.91	372.37	1,495.02	1,477.66	17.36	86.099		
700.00	700.00	687.10	687.10	2.34	16.96	14.42	1,447.91	372.37	1,495.02	1,475.72	19.30	77.460		
800.00	800.00	787.10	787.10	2.69	18.63	14.42	1,447.91	372.37	1,495.02	1,473.70	21.32	70.109		
900.00	900.00	887.10	887.10	3.04	20.37	14.42	1,447.91	372.37	1,495.02	1,471.61	23.41	63.853		
1,000.00	1,000.00	987.10	987.10	3.40	22.15	14.42	1,447.91	372.37	1,495.02	1,469.47	25.55	58.508		
1,100.00	1,100.00	1,087.10	1,087.10	3.75	23.98	14.42	1,447.91	372.37	1,495.02	1,467.29	27.73	53.913		
1,200.00	1,200.00	1,187.10	1,187.10	4.11	25.83	14.42	1,447.91	372.37	1,495.02	1,465.09	29.94	49.936		
1,300.00	1,300.00	1,287.10	1,287.10	4.46	27.71	14.42	1,447.91	372.37	1,495.02	1,462.85	32.17	46.471		
1,400.00	1,400.00	1,387.10	1,387.10	4.82	29.60	14.42	1,447.91	372.37	1,495.02	1,460.60	34.42	43.430		
1,500.00	1,500.00	1,487.10	1,487.10	5.18	31.51	14.42	1,447.91	372.37	1,495.02	1,458.33	36.69	40.745		
1,600.00	1,600.00	1,587.10	1,587.10	5.53	33.44	14.42	1,447.91	372.37	1,495.02	1,456.05	38.97	38.360		
1,700.00	1,700.00	1,687.10	1,687.10	5.89	35.38	14.42	1,447.91	372.37	1,495.02	1,453.76	41.27	36.228		
1,800.00	1,800.00	1,787.10	1,787.10	6.25	37.32	14.42	1,447.91	372.37	1,495.02	1,451.46	43.57	34.314		
1,900.00	1,900.00	1,887.10	1,887.10	6.61	39.27	14.42	1,447.91	372.37	1,495.02	1,449.14	45.88	32.586		
2,000.00	2,000.00	1,987.10	1,987.10	6.96	41.23	14.42	1,447.91	372.37	1,495.02	1,446.83	48.20	31.019		
2,100.00	2,100.00	2,087.10	2,087.10	7.32	43.20	14.42	1,447.91	372.37	1,495.02	1,444.50	50.52	29.592		
2,200.00	2,200.00	2,187.10	2,187.10	7.68	45.17	14.42	1,447.91	372.37	1,495.02	1,442.18	52.85	28.289		
2,300.00	2,300.00	2,287.10	2,287.10	8.04	47.15	14.42	1,447.91	372.37	1,495.02	1,439.84	55.18	27.093		
2,400.00	2,400.00	2,387.10	2,387.10	8.39	49.12	14.42	1,447.91	372.37	1,495.02	1,437.51	57.52	25.992		
2,500.00	2,500.00	2,487.10	2,487.10	8.75	51.11	14.42	1,447.91	372.37	1,495.02	1,435.17	59.86	24.976 CC		
2,600.00	2,599.99	2,587.09	2,587.09	9.09	53.09	160.35	1,447.91	372.37	1,495.85	1,433.66	62.19	24.054 ES		
2,700.00	2,699.96	2,687.06	2,687.06	9.42	55.08	160.38	1,447.91	372.37	1,498.31	1,433.81	64.50	23.229		
2,800.00	2,799.86	2,786.96	2,786.96	9.75	57.07	160.42	1,447.91	372.37	1,502.42	1,435.60	66.82	22.485		
2,900.00	2,899.68	2,886.78	2,886.78	10.08	59.06	160.48	1,447.91	372.37	1,508.18	1,439.04	69.14	21.814		
2,945.33	2,944.88	2,931.98	2,931.98	10.23	59.96	160.51	1,447.91	372.37	1,511.33	1,441.13	70.19	21.532		
3,000.00	2,999.39	2,986.49	2,986.49	10.41	61.05	160.57	1,447.91	372.37	1,515.33	1,443.87	71.46	21.205		
3,100.00	3,099.08	3,086.18	3,086.18	10.75	63.04	160.66	1,447.91	372.37	1,522.66	1,448.87	73.79	20.636		
3,200.00	3,198.78	3,185.88	3,185.88	11.08	65.03	160.76	1,447.91	372.37	1,529.99	1,453.87	76.11	20.101		
3,300.00	3,298.48	3,285.58	3,285.58	11.42	67.03	160.85	1,447.91	372.37	1,537.32	1,458.88	78.44	19.598		
3,400.00	3,398.18	3,385.28	3,385.28	11.76	69.02	160.95	1,447.91	372.37	1,544.66	1,463.88	80.78	19.122		
3,500.00	3,497.88	3,484.98	3,484.98	12.10	71.02	161.04	1,447.91	372.37	1,552.01	1,468.89	83.11	18.673		
3,600.00	3,597.58	3,584.68	3,584.68	12.45	73.01	161.13	1,447.91	372.37	1,559.35	1,473.90	85.45	18.248		
3,700.00	3,697.27	3,684.37	3,684.37	12.79	75.01	161.23	1,447.91	372.37	1,566.71	1,478.91	87.80	17.845		
3,800.00	3,796.97	3,784.07	3,784.07	13.14	77.01	161.32	1,447.91	372.37	1,574.06	1,483.92	90.14	17.463		
3,900.00	3,896.67	3,883.77	3,883.77	13.48	79.01	161.41	1,447.91	372.37	1,581.42	1,488.94	92.48	17.100		
4,000.00	3,996.37	3,983.47	3,983.47	13.83	81.02	161.50	1,447.91	372.37	1,588.78	1,493.95	94.83	16.754		
4,100.00	4,096.07	4,083.17	4,083.17	14.18	83.02	161.58	1,447.91	372.37	1,596.15	1,498.97	97.18	16.425		
4,200.00	4,195.76	4,182.86	4,182.86	14.53	85.02	161.67	1,447.91	372.37	1,603.52	1,504.00	99.53	16.111		
4,300.00	4,295.46	4,282.56	4,282.56	14.88	87.02	161.76	1,447.91	372.37	1,610.90	1,509.02	101.88	15.811		
4,400.00	4,395.16	4,382.26	4,382.26	15.23	89.03	161.85	1,447.91	372.37	1,618.28	1,514.04	104.23	15.526		
4,500.00	4,494.86	4,481.96	4,481.96	15.58	91.03	161.93	1,447.91	372.37	1,625.66	1,519.07	106.58	15.252		
4,600.00	4,594.56	4,581.66	4,581.66	15.93	93.04	162.02	1,447.91	372.37	1,633.04	1,524.10	108.94	14.990		
4,700.00	4,694.25	4,681.35	4,681.35	16.29	95.04	162.10	1,447.91	372.37	1,640.43	1,529.14	111.30	14.739		
4,800.00	4,793.95	4,781.05	4,781.05	16.64	97.05	162.18	1,447.91	372.37	1,647.83	1,534.17	113.65	14.499		
4,900.00	4,893.65	4,880.75	4,880.75	17.00	99.06	162.26	1,447.91	372.37	1,655.22	1,539.21	116.01	14.268		
5,000.00	4,993.35	4,980.45	4,980.45	17.35	101.06	162.35	1,447.91	372.37	1,662.62	1,544.25	118.37	14.046		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 10-INC-ONLY													Offset Well Error:	10.00 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
5,100.00	5,093.05	5,080.15	5,080.15	17.71	103.07	162.43	1,447.91	372.37	1,670.02	1,549.30	120.73	13.833		
5,200.00	5,192.75	5,179.85	5,179.85	18.06	105.08	162.51	1,447.91	372.37	1,677.43	1,554.34	123.09	13.628		
5,300.00	5,292.44	5,279.54	5,279.54	18.42	107.09	162.59	1,447.91	372.37	1,684.84	1,559.39	125.45	13.430		
5,400.00	5,392.14	5,379.24	5,379.24	18.77	109.10	162.66	1,447.91	372.37	1,692.25	1,564.44	127.81	13.240		
5,500.00	5,491.84	5,478.94	5,478.94	19.13	111.10	162.74	1,447.91	372.37	1,699.67	1,569.49	130.17	13.057		
5,600.00	5,591.54	5,578.64	5,578.64	19.49	113.11	162.82	1,447.91	372.37	1,707.08	1,574.55	132.54	12.880		
5,700.00	5,691.24	5,678.34	5,678.34	19.85	115.12	162.90	1,447.91	372.37	1,714.51	1,579.61	134.90	12.710		
5,800.00	5,790.93	5,778.03	5,778.03	20.20	117.13	162.97	1,447.91	372.37	1,721.93	1,584.67	137.26	12.545		
5,900.00	5,890.63	5,877.73	5,877.73	20.56	119.14	163.05	1,447.91	372.37	1,729.36	1,589.73	139.63	12.386		
6,000.00	5,990.33	5,977.43	5,977.43	20.92	121.15	163.12	1,447.91	372.37	1,736.79	1,594.80	141.99	12.232		
6,100.00	6,090.03	6,077.13	6,077.13	21.28	123.16	163.20	1,447.91	372.37	1,744.22	1,599.86	144.36	12.083		
6,200.00	6,189.73	6,176.83	6,176.83	21.64	125.17	163.27	1,447.91	372.37	1,751.66	1,604.93	146.72	11.939		
6,300.00	6,289.42	6,276.52	6,276.52	22.00	127.19	163.34	1,447.91	372.37	1,759.10	1,610.01	149.09	11.799		
6,400.00	6,389.12	6,376.22	6,376.22	22.36	129.20	163.41	1,447.91	372.37	1,766.54	1,615.08	151.46	11.664		
6,500.00	6,488.82	6,475.92	6,475.92	22.72	131.21	163.49	1,447.91	372.37	1,773.98	1,620.16	153.82	11.533		
6,600.00	6,588.52	6,575.62	6,575.62	23.08	133.22	163.56	1,447.91	372.37	1,781.43	1,625.24	156.19	11.405		
6,700.00	6,688.22	6,675.32	6,675.32	23.44	135.23	163.63	1,447.91	372.37	1,788.88	1,630.32	158.56	11.282		
6,800.00	6,787.91	6,775.01	6,775.01	23.80	137.24	163.70	1,447.91	372.37	1,796.33	1,635.41	160.93	11.162		
6,900.00	6,887.61	6,874.71	6,874.71	24.16	139.25	163.77	1,447.91	372.37	1,803.79	1,640.49	163.30	11.046		
7,000.00	6,987.31	6,974.41	6,974.41	24.52	141.27	163.84	1,447.91	372.37	1,811.25	1,645.58	165.66	10.933		
7,100.00	7,087.01	7,074.11	7,074.11	24.88	143.28	163.90	1,447.91	372.37	1,818.71	1,650.68	168.03	10.823		
7,200.00	7,186.71	7,173.81	7,173.81	25.24	145.29	163.97	1,447.91	372.37	1,826.17	1,655.77	170.40	10.717		
7,300.00	7,286.41	7,273.51	7,273.51	25.60	147.30	164.04	1,447.91	372.37	1,833.64	1,660.87	172.77	10.613		
7,400.00	7,386.10	7,373.20	7,373.20	25.96	149.32	164.10	1,447.91	372.37	1,841.11	1,665.96	175.14	10.512		
7,500.00	7,485.80	7,472.90	7,472.90	26.33	151.33	164.17	1,447.91	372.37	1,848.58	1,671.06	177.51	10.414		
7,600.00	7,585.50	7,572.60	7,572.60	26.69	153.34	164.24	1,447.91	372.37	1,856.05	1,676.17	179.88	10.318		
7,700.00	7,685.20	7,672.30	7,672.30	27.05	155.35	164.30	1,447.91	372.37	1,863.52	1,681.27	182.25	10.225		
7,800.00	7,784.90	7,772.00	7,772.00	27.41	157.37	164.36	1,447.91	372.37	1,871.00	1,686.38	184.62	10.134		
7,860.70	7,845.41	7,832.51	7,832.51	27.63	158.59	164.40	1,447.91	372.37	1,875.54	1,689.48	186.06	10.080		
7,900.00	7,884.61	7,871.71	7,871.71	27.77	159.38	164.44	1,447.91	372.37	1,878.29	1,691.29	187.00	10.045		
8,000.00	7,984.46	7,971.56	7,971.56	28.13	161.40	164.50	1,447.91	372.37	1,883.52	1,694.15	189.37	9.946		
8,100.00	8,084.42	8,071.52	8,071.52	28.49	163.42	164.54	1,447.91	372.37	1,886.24	1,694.49	191.74	9.837		
8,157.59	8,142.00	8,129.10	8,129.10	28.69	164.58	18.62	1,447.91	372.37	1,886.65	1,693.55	193.10	9.770		
8,200.00	8,184.41	8,171.51	8,171.51	28.83	165.44	18.62	1,447.91	372.37	1,886.65	1,692.55	194.11	9.720		
8,300.00	8,284.41	8,271.51	8,271.51	29.17	167.45	18.62	1,447.91	372.37	1,886.65	1,690.19	196.47	9.603		
8,400.00	8,384.41	8,371.51	8,371.51	29.51	169.47	18.62	1,447.91	372.37	1,886.65	1,687.83	198.83	9.489		
8,507.63	8,492.04	8,479.14	8,479.14	29.87	171.65	18.62	1,447.91	372.37	1,886.65	1,685.29	201.37	9.369		
8,550.00	8,534.37	8,521.47	8,521.47	30.02	172.50	-70.84	1,447.91	372.37	1,886.14	1,683.77	202.37	9.320		
8,600.00	8,584.01	8,571.11	8,571.11	30.18	173.51	-71.19	1,447.91	372.37	1,884.22	1,680.68	203.53	9.258		
8,650.00	8,632.95	8,620.05	8,620.05	30.34	174.49	-71.79	1,447.91	372.37	1,880.93	1,676.24	204.68	9.189		
8,700.00	8,680.82	8,667.92	8,667.92	30.50	175.46	-72.63	1,447.91	372.37	1,876.35	1,670.54	205.81	9.117		
8,750.00	8,727.25	8,714.35	8,714.35	30.66	176.40	-73.69	1,447.91	372.37	1,870.61	1,663.71	206.90	9.041		
8,800.00	8,771.89	8,758.99	8,758.99	30.81	177.30	-74.95	1,447.91	372.37	1,863.86	1,655.91	207.95	8.963		
8,850.00	8,814.40	8,801.50	8,801.50	30.95	178.16	-76.36	1,447.91	372.37	1,856.29	1,647.33	208.96	8.884		
8,900.00	8,854.46	8,841.56	8,841.56	31.09	178.97	-77.90	1,447.91	372.37	1,848.09	1,638.18	209.91	8.804		
8,950.00	8,891.75	8,878.85	8,878.85	31.23	179.72	-79.53	1,447.91	372.37	1,839.50	1,628.68	210.81	8.726		
9,000.00	8,926.01	8,913.11	8,913.11	31.37	180.41	-81.18	1,447.91	372.37	1,830.75	1,619.08	211.66	8.649		
9,050.00	8,956.96	8,944.06	8,944.06	31.53	181.04	-82.82	1,447.91	372.37	1,822.07	1,609.62	212.45	8.576		
9,100.00	8,984.38	8,971.48	8,971.48	31.69	181.59	-84.39	1,447.91	372.37	1,813.73	1,600.55	213.18	8.508		
9,150.00	9,008.05	8,995.15	8,995.15	31.87	182.07	-85.84	1,447.91	372.37	1,805.94	1,592.09	213.85	8.445		
9,200.00	9,027.79	9,014.89	9,014.89	32.07	182.47	-87.13	1,447.91	372.37	1,798.93	1,584.47	214.46	8.388		
9,250.00	9,043.45	9,030.55	9,030.55	32.29	182.79	-88.21	1,447.91	372.37	1,792.90	1,577.88	215.01	8.339		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 10-INC-ONLY													Offset Well Error:	10.00 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
9,300.00	9,054.92	9,042.02	9,042.02	32.53	183.02	-89.06	1,447.91	372.37	1,787.99	1,572.50	215.50	8.297		
9,350.00	9,062.10	9,049.20	9,049.20	32.79	183.16	-89.66	1,447.91	372.37	1,784.36	1,568.44	215.92	8.264		
9,400.00	9,064.95	9,052.05	9,052.05	33.06	183.22	-89.98	1,447.91	372.37	1,782.07	1,565.81	216.26	8.240		
9,407.63	9,065.00	9,052.10	9,052.10	33.10	183.22	-90.00	1,447.91	372.37	1,781.85	1,565.54	216.31	8.238		
9,456.68	9,065.00	9,052.10	9,052.10	33.41	183.22	-90.00	1,447.91	372.37	1,781.17	1,564.55	216.62	8.222		
9,500.00	9,065.00	9,052.10	9,052.10	33.68	183.22	-90.00	1,447.91	372.37	1,781.70	1,564.80	216.90	8.214		
9,600.00	9,065.00	9,052.10	9,052.10	34.41	183.22	-90.00	1,447.91	372.37	1,786.93	1,569.30	217.62	8.211 SF		
9,700.00	9,065.00	9,052.10	9,052.10	35.24	183.22	-90.00	1,447.91	372.37	1,797.71	1,579.29	218.42	8.231		
9,800.00	9,065.00	9,052.10	9,052.10	36.17	183.22	-90.00	1,447.91	372.37	1,813.96	1,594.69	219.26	8.273		
9,900.00	9,065.00	9,052.10	9,052.10	37.19	183.22	-90.00	1,447.91	372.37	1,835.51	1,615.38	220.13	8.338		
10,000.00	9,065.00	9,052.10	9,052.10	38.30	183.22	-90.00	1,447.91	372.37	1,862.20	1,641.18	221.01	8.426		
10,100.00	9,065.00	9,052.10	9,052.10	39.48	183.22	-90.00	1,447.91	372.37	1,893.79	1,671.90	221.88	8.535		
10,200.00	9,065.00	9,052.10	9,052.10	40.72	183.22	-90.00	1,447.91	372.37	1,930.05	1,707.32	222.73	8.665		
10,300.00	9,065.00	9,052.10	9,052.10	42.03	183.22	-90.00	1,447.91	372.37	1,970.73	1,747.18	223.55	8.816		
10,400.00	9,065.00	9,052.10	9,052.10	43.40	183.22	-90.00	1,447.91	372.37	2,015.55	1,791.23	224.32	8.985		
10,500.00	9,065.00	9,052.10	9,052.10	44.82	183.22	-90.00	1,447.91	372.37	2,064.24	1,839.20	225.05	9.173		
10,600.00	9,065.00	9,052.10	9,052.10	46.29	183.22	-90.00	1,447.91	372.37	2,116.54	1,890.82	225.72	9.377		
10,700.00	9,065.00	9,052.10	9,052.10	47.79	183.22	-90.00	1,447.91	372.37	2,172.19	1,945.84	226.35	9.597		
10,800.00	9,065.00	9,052.10	9,052.10	49.34	183.22	-90.00	1,447.91	372.37	2,230.94	2,004.01	226.93	9.831		
10,900.00	9,065.00	9,052.10	9,052.10	50.92	183.22	-90.00	1,447.91	372.37	2,292.54	2,065.08	227.46	10.079		
11,000.00	9,065.00	9,052.10	9,052.10	52.54	183.22	-90.00	1,447.91	372.37	2,356.78	2,128.83	227.95	10.339		
11,100.00	9,065.00	9,052.10	9,052.10	54.18	183.22	-90.00	1,447.91	372.37	2,423.44	2,195.05	228.39	10.611		
11,200.00	9,065.00	9,052.10	9,052.10	55.85	183.22	-90.00	1,447.91	372.37	2,492.34	2,263.54	228.80	10.893		
11,300.00	9,065.00	9,052.10	9,052.10	57.54	183.22	-90.00	1,447.91	372.37	2,563.28	2,334.11	229.17	11.185		
11,400.00	9,065.00	9,052.10	9,052.10	59.26	183.22	-90.00	1,447.91	372.37	2,636.11	2,406.61	229.50	11.486		
11,500.00	9,065.00	9,052.10	9,052.10	61.00	183.22	-90.00	1,447.91	372.37	2,710.67	2,480.87	229.80	11.796		
11,600.00	9,065.00	9,052.10	9,052.10	62.75	183.22	-90.00	1,447.91	372.37	2,786.83	2,556.75	230.08	12.112		
11,700.00	9,065.00	9,052.10	9,052.10	64.52	183.22	-90.00	1,447.91	372.37	2,864.45	2,634.12	230.33	12.436		
11,800.00	9,065.00	9,052.10	9,052.10	66.31	183.22	-90.00	1,447.91	372.37	2,943.42	2,712.86	230.56	12.766		
11,900.00	9,065.00	9,052.10	9,052.10	68.11	183.22	-90.00	1,447.91	372.37	3,023.64	2,792.87	230.77	13.103		
12,000.00	9,065.00	9,052.10	9,052.10	69.93	183.22	-90.00	1,447.91	372.37	3,105.01	2,874.05	230.96	13.444		
12,100.00	9,065.00	9,052.10	9,052.10	71.76	183.22	-90.00	1,447.91	372.37	3,187.43	2,956.30	231.13	13.791		
12,200.00	9,065.00	9,052.10	9,052.10	73.60	183.22	-90.00	1,447.91	372.37	3,270.84	3,039.55	231.29	14.142		
12,300.00	9,065.00	9,052.10	9,052.10	75.45	183.22	-90.00	1,447.91	372.37	3,355.15	3,123.72	231.43	14.497		
12,400.00	9,065.00	9,052.10	9,052.10	77.31	183.22	-90.00	1,447.91	372.37	3,440.31	3,208.74	231.57	14.857		
12,500.00	9,065.00	9,052.10	9,052.10	79.18	183.22	-90.00	1,447.91	372.37	3,526.24	3,294.55	231.69	15.220		
12,600.00	9,065.00	9,052.10	9,052.10	81.05	183.22	-90.00	1,447.91	372.37	3,612.90	3,381.10	231.80	15.586		
12,700.00	9,065.00	9,052.10	9,052.10	82.94	183.22	-90.00	1,447.91	372.37	3,700.23	3,468.33	231.91	15.956		
12,800.00	9,065.00	9,052.10	9,052.10	84.83	183.22	-90.00	1,447.91	372.37	3,788.19	3,556.19	232.00	16.328		
12,900.00	9,065.00	9,052.10	9,052.10	86.73	183.22	-90.00	1,447.91	372.37	3,876.73	3,644.64	232.09	16.703		
13,000.00	9,065.00	9,052.10	9,052.10	88.64	183.22	-90.00	1,447.91	372.37	3,965.82	3,733.64	232.18	17.081		
13,100.00	9,065.00	9,052.10	9,052.10	90.55	183.22	-90.00	1,447.91	372.37	4,055.41	3,823.16	232.26	17.461		
13,200.00	9,065.00	9,052.10	9,052.10	92.47	183.22	-90.00	1,447.91	372.37	4,145.48	3,913.15	232.33	17.843		
13,300.00	9,065.00	9,052.10	9,052.10	94.39	183.22	-90.00	1,447.91	372.37	4,236.00	4,003.60	232.40	18.227		
13,400.00	9,065.00	9,052.10	9,052.10	96.32	183.22	-90.00	1,447.91	372.37	4,326.93	4,094.47	232.47	18.613		
13,500.00	9,065.00	9,052.10	9,052.10	98.25	183.22	-90.00	1,447.91	372.37	4,418.26	4,185.73	232.53	19.001		
13,600.00	9,065.00	9,052.10	9,052.10	100.19	183.22	-90.00	1,447.91	372.37	4,509.95	4,277.37	232.59	19.390		
13,700.00	9,065.00	9,052.10	9,052.10	102.13	183.22	-90.00	1,447.91	372.37	4,601.99	4,369.35	232.65	19.781		
13,800.00	9,065.00	9,052.10	9,052.10	104.08	183.22	-90.00	1,447.91	372.37	4,694.36	4,461.66	232.70	20.173		
13,900.00	9,065.00	9,052.10	9,052.10	106.03	183.22	-90.00	1,447.91	372.37	4,787.03	4,554.28	232.75	20.567		
14,000.00	9,065.00	9,052.10	9,052.10	107.98	183.22	-90.00	1,447.91	372.37	4,879.99	4,647.19	232.80	20.962		
14,100.00	9,065.00	9,052.10	9,052.10	109.94	183.22	-90.00	1,447.91	372.37	4,973.23	4,740.38	232.85	21.358		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 10-INC-ONLY													Offset Well Error:	10.00 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
14,200.00	9,065.00	9,052.10	9,052.10	111.90	183.22	-90.00	1,447.91	372.37	5,066.72	4,833.82	232.90	21.755		
14,300.00	9,065.00	9,052.10	9,052.10	113.86	183.22	-90.00	1,447.91	372.37	5,160.46	4,927.51	232.95	22.153		
14,400.00	9,065.00	9,052.10	9,052.10	115.82	183.22	-90.00	1,447.91	372.37	5,254.43	5,021.44	232.99	22.552		
14,500.00	9,065.00	9,052.10	9,052.10	117.79	183.22	-90.00	1,447.91	372.37	5,348.61	5,115.58	233.04	22.952		
14,600.00	9,065.00	9,052.10	9,052.10	119.76	183.22	-90.00	1,447.91	372.37	5,443.01	5,209.93	233.08	23.353		
14,700.00	9,065.00	9,052.10	9,052.10	121.74	183.22	-90.00	1,447.91	372.37	5,537.60	5,304.48	233.12	23.754		
14,800.00	9,065.00	9,052.10	9,052.10	123.71	183.22	-90.00	1,447.91	372.37	5,632.38	5,399.21	233.16	24.156		
14,900.00	9,065.00	9,052.10	9,052.10	125.69	183.22	-90.00	1,447.91	372.37	5,727.33	5,494.12	233.21	24.559		
15,000.00	9,065.00	9,052.10	9,052.10	127.67	183.22	-90.00	1,447.91	372.37	5,822.46	5,589.21	233.25	24.962		
15,100.00	9,065.00	9,052.10	9,052.10	129.65	183.22	-90.00	1,447.91	372.37	5,917.74	5,684.45	233.29	25.366		
15,200.00	9,065.00	9,052.10	9,052.10	131.63	183.22	-90.00	1,447.91	372.37	6,013.18	5,779.85	233.33	25.771		
15,300.00	9,065.00	9,052.10	9,052.10	133.62	183.22	-90.00	1,447.91	372.37	6,108.76	5,875.39	233.37	26.176		
15,400.00	9,065.00	9,052.10	9,052.10	135.61	183.22	-90.00	1,447.91	372.37	6,204.49	5,971.07	233.41	26.582		
15,500.00	9,065.00	9,052.10	9,052.10	137.60	183.22	-90.00	1,447.91	372.37	6,300.34	6,066.89	233.45	26.988		
15,600.00	9,065.00	9,052.10	9,052.10	139.59	183.22	-90.00	1,447.91	372.37	6,396.33	6,162.83	233.49	27.394		
15,700.00	9,065.00	9,052.10	9,052.10	141.58	183.22	-90.00	1,447.91	372.37	6,492.43	6,258.89	233.54	27.801		
15,800.00	9,065.00	9,052.10	9,052.10	143.57	183.22	-90.00	1,447.91	372.37	6,588.65	6,355.07	233.58	28.208		
15,900.00	9,065.00	9,052.10	9,052.10	145.57	183.22	-90.00	1,447.91	372.37	6,684.98	6,451.36	233.62	28.615		
16,000.00	9,065.00	9,052.10	9,052.10	147.56	183.22	-90.00	1,447.91	372.37	6,781.42	6,547.76	233.66	29.023		
16,100.00	9,065.00	9,052.10	9,052.10	149.56	183.22	-90.00	1,447.91	372.37	6,877.96	6,644.26	233.70	29.430		
16,200.00	9,065.00	9,052.10	9,052.10	151.56	183.22	-90.00	1,447.91	372.37	6,974.59	6,740.85	233.74	29.839		
16,300.00	9,065.00	9,052.10	9,052.10	153.56	183.22	-90.00	1,447.91	372.37	7,071.32	6,837.54	233.79	30.247		
16,400.00	9,065.00	9,052.10	9,052.10	155.56	183.22	-90.00	1,447.91	372.37	7,168.14	6,934.32	233.83	30.655		
16,500.00	9,065.00	9,052.10	9,052.10	157.57	183.22	-90.00	1,447.91	372.37	7,265.05	7,031.18	233.87	31.064		
16,600.00	9,065.00	9,052.10	9,052.10	159.57	183.22	-90.00	1,447.91	372.37	7,362.04	7,128.12	233.92	31.473		
16,700.00	9,065.00	9,052.10	9,052.10	161.57	183.22	-90.00	1,447.91	372.37	7,459.11	7,225.15	233.96	31.882		
16,800.00	9,065.00	9,052.10	9,052.10	163.58	183.22	-90.00	1,447.91	372.37	7,556.25	7,322.25	234.00	32.291		
16,900.00	9,065.00	9,052.10	9,052.10	165.59	183.22	-90.00	1,447.91	372.37	7,653.47	7,419.42	234.05	32.700		
17,000.00	9,065.00	9,052.10	9,052.10	167.60	183.22	-90.00	1,447.91	372.37	7,750.76	7,516.67	234.09	33.109		
17,100.00	9,065.00	9,052.10	9,052.10	169.60	183.22	-90.00	1,447.91	372.37	7,848.12	7,613.98	234.14	33.519		
17,200.00	9,065.00	9,052.10	9,052.10	171.61	183.22	-90.00	1,447.91	372.37	7,945.54	7,711.35	234.19	33.928		
17,300.00	9,065.00	9,052.10	9,052.10	173.62	183.22	-90.00	1,447.91	372.37	8,043.03	7,808.79	234.23	34.338		
17,400.00	9,065.00	9,052.10	9,052.10	175.63	183.22	-90.00	1,447.91	372.37	8,140.57	7,906.29	234.28	34.747		
17,500.00	9,065.00	9,052.10	9,052.10	177.65	183.22	-90.00	1,447.91	372.37	8,238.18	8,003.85	234.33	35.157		
17,600.00	9,065.00	9,052.10	9,052.10	179.66	183.22	-90.00	1,447.91	372.37	8,335.84	8,101.47	234.38	35.566		
17,700.00	9,065.00	9,052.10	9,052.10	181.67	183.22	-90.00	1,447.91	372.37	8,433.56	8,199.13	234.43	35.975		
17,800.00	9,065.00	9,052.10	9,052.10	183.69	183.22	-90.00	1,447.91	372.37	8,531.33	8,296.86	234.47	36.385		
17,900.00	9,065.00	9,052.10	9,052.10	185.70	183.22	-90.00	1,447.91	372.37	8,629.15	8,394.63	234.52	36.794		
18,000.00	9,065.00	9,052.10	9,052.10	187.72	183.22	-90.00	1,447.91	372.37	8,727.02	8,492.45	234.57	37.204		
18,100.00	9,065.00	9,052.10	9,052.10	189.73	183.22	-90.00	1,447.91	372.37	8,824.94	8,590.32	234.63	37.613		
18,200.00	9,065.00	9,052.10	9,052.10	191.75	183.22	-90.00	1,447.91	372.37	8,922.91	8,688.23	234.68	38.022		
18,300.00	9,065.00	9,052.10	9,052.10	193.77	183.22	-90.00	1,447.91	372.37	9,020.92	8,786.19	234.73	38.431		
18,400.00	9,065.00	9,052.10	9,052.10	195.78	183.22	-90.00	1,447.91	372.37	9,118.97	8,884.19	234.78	38.840		
18,500.00	9,065.00	9,052.10	9,052.10	197.80	183.22	-90.00	1,447.91	372.37	9,217.06	8,982.23	234.83	39.249		
18,600.00	9,065.00	9,052.10	9,052.10	199.82	183.22	-90.00	1,447.91	372.37	9,315.20	9,080.31	234.89	39.658		
18,700.00	9,065.00	9,052.10	9,052.10	201.84	183.22	-90.00	1,447.91	372.37	9,413.37	9,178.43	234.94	40.067		
18,800.00	9,065.00	9,052.10	9,052.10	203.86	183.22	-90.00	1,447.91	372.37	9,511.58	9,276.59	235.00	40.475		
18,900.00	9,065.00	9,052.10	9,052.10	205.88	183.22	-90.00	1,447.91	372.37	9,609.83	9,374.78	235.05	40.884		
19,000.00	9,065.00	9,052.10	9,052.10	207.90	183.22	-90.00	1,447.91	372.37	9,708.12	9,473.01	235.11	41.292		
19,100.00	9,065.00	9,052.10	9,052.10	209.92	183.22	-90.00	1,447.91	372.37	9,806.44	9,571.27	235.16	41.700		
19,200.00	9,065.00	9,052.10	9,052.10	211.95	183.22	-90.00	1,447.91	372.37	9,904.79	9,669.57	235.22	42.108		

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 0-MWD+IFR1													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0.00	0.00	12.40	12.40	0.50	0.50	-0.13	1,618.68	-3.59	1,618.69					
100.00	100.00	112.40	112.40	0.52	0.53	-0.13	1,618.68	-3.59	1,618.69	1,617.64	1.05	1,543.386		
200.00	200.00	212.40	212.40	0.70	0.73	-0.13	1,618.68	-3.59	1,618.69	1,617.25	1.44	1,127.145		
300.00	300.00	312.40	312.40	0.99	1.03	-0.13	1,618.68	-3.59	1,618.69	1,616.67	2.01	804.018		
400.00	400.00	412.40	412.40	1.31	1.35	-0.13	1,618.68	-3.59	1,618.69	1,616.03	2.66	608.674		
500.00	500.00	512.40	512.40	1.65	1.69	-0.13	1,618.68	-3.59	1,618.69	1,615.35	3.33	485.425		
600.00	600.00	612.40	612.40	1.99	2.03	-0.13	1,618.68	-3.59	1,618.69	1,614.66	4.02	402.232		
700.00	700.00	712.40	712.40	2.34	2.38	-0.13	1,618.68	-3.59	1,618.69	1,613.97	4.72	342.792		
800.00	800.00	812.40	812.40	2.69	2.73	-0.13	1,618.68	-3.59	1,618.69	1,613.26	5.42	298.382		
900.00	900.00	912.40	912.40	3.04	3.09	-0.13	1,618.68	-3.59	1,618.69	1,612.56	6.13	264.019		
1,000.00	1,000.00	1,012.40	1,012.40	3.40	3.44	-0.13	1,618.68	-3.59	1,618.69	1,611.85	6.84	236.675		
1,100.00	1,100.00	1,112.40	1,112.40	3.75	3.80	-0.13	1,618.68	-3.59	1,618.69	1,611.14	7.55	214.417		
1,200.00	1,200.00	1,212.40	1,212.40	4.11	4.15	-0.13	1,618.68	-3.59	1,618.69	1,610.43	8.26	195.957		
1,300.00	1,300.00	1,312.40	1,312.40	4.46	4.51	-0.13	1,618.68	-3.59	1,618.69	1,609.71	8.97	180.405		
1,400.00	1,400.00	1,412.40	1,412.40	4.82	4.86	-0.13	1,618.68	-3.59	1,618.69	1,609.00	9.69	167.128		
1,500.00	1,500.00	1,512.40	1,512.40	5.18	5.22	-0.13	1,618.68	-3.59	1,618.69	1,608.29	10.40	155.662		
1,600.00	1,600.00	1,612.40	1,612.40	5.53	5.58	-0.13	1,618.68	-3.59	1,618.69	1,607.57	11.11	145.663		
1,700.00	1,700.00	1,712.40	1,712.40	5.89	5.94	-0.13	1,618.68	-3.59	1,618.69	1,606.86	11.83	136.867		
1,800.00	1,800.00	1,812.40	1,812.40	6.25	6.29	-0.13	1,618.68	-3.59	1,618.69	1,606.15	12.54	129.069		
1,900.00	1,900.00	1,912.40	1,912.40	6.61	6.65	-0.13	1,618.68	-3.59	1,618.69	1,605.43	13.26	122.109		
1,911.95	1,911.95	1,924.35	1,924.35	6.65	6.69	-0.13	1,618.68	-3.59	1,618.69	1,605.35	13.34	121.327 CC		
2,000.00	2,000.00	2,009.71	2,009.71	6.96	7.00	-0.13	1,618.69	-3.59	1,618.70	1,604.74	13.96	115.941 ES		
2,100.00	2,100.00	2,088.03	2,088.03	7.32	7.28	-0.13	1,619.35	-3.73	1,619.53	1,604.94	14.60	110.945		
2,200.00	2,200.00	2,166.32	2,166.29	7.68	7.56	-0.14	1,621.05	-4.08	1,621.71	1,606.48	15.23	106.471		
2,300.00	2,300.00	2,244.54	2,244.46	8.04	7.84	-0.16	1,623.79	-4.65	1,625.22	1,609.36	15.86	102.457		
2,400.00	2,400.00	2,322.67	2,322.50	8.39	8.12	-0.19	1,627.58	-5.44	1,630.07	1,613.58	16.49	98.849		
2,500.00	2,500.00	2,400.00	2,399.68	8.75	8.39	-0.23	1,632.35	-6.43	1,636.25	1,619.14	17.11	95.618		
2,600.00	2,599.99	2,478.50	2,477.95	9.09	8.67	145.62	1,638.24	-7.65	1,644.48	1,626.76	17.72	92.804		
2,700.00	2,699.96	2,556.02	2,555.14	9.42	8.95	145.55	1,645.08	-9.07	1,655.47	1,637.16	18.31	90.434		
2,800.00	2,799.86	2,633.14	2,631.85	9.75	9.23	145.48	1,652.90	-10.70	1,669.19	1,650.30	18.89	88.368		
2,900.00	2,899.68	2,709.78	2,707.97	10.08	9.50	145.42	1,661.67	-12.52	1,685.64	1,666.17	19.47	86.582		
2,945.33	2,944.88	2,744.34	2,742.25	10.23	9.62	145.39	1,665.95	-13.41	1,693.99	1,674.26	19.73	85.856		
3,000.00	2,999.39	2,785.89	2,783.43	10.41	9.77	145.42	1,671.37	-14.54	1,704.58	1,684.54	20.04	85.040		
3,100.00	3,099.08	2,861.59	2,858.35	10.75	10.04	145.46	1,681.99	-16.74	1,724.94	1,704.33	20.62	83.673		
3,200.00	3,198.78	2,936.88	2,932.71	11.08	10.31	145.49	1,693.51	-19.14	1,746.56	1,725.38	21.18	82.452		
3,300.00	3,298.48	3,011.73	3,006.48	11.42	10.58	145.51	1,705.91	-21.71	1,769.44	1,747.69	21.75	81.368		
3,400.00	3,398.18	3,086.12	3,079.63	11.76	10.85	145.53	1,719.17	-24.47	1,793.55	1,771.24	22.31	80.408		
3,500.00	3,497.88	3,173.18	3,165.05	12.10	11.16	145.55	1,735.61	-27.88	1,818.69	1,795.76	22.93	79.300		
3,600.00	3,597.58	3,269.93	3,259.97	12.45	11.51	145.56	1,753.98	-31.70	1,843.94	1,820.32	23.62	78.069		
3,700.00	3,697.27	3,366.69	3,354.89	12.79	11.86	145.57	1,772.34	-35.51	1,869.20	1,844.89	24.31	76.901		
3,800.00	3,796.97	3,463.45	3,449.82	13.14	12.21	145.59	1,790.71	-39.33	1,894.45	1,869.45	25.00	75.790		
3,900.00	3,896.67	3,560.21	3,544.74	13.48	12.57	145.60	1,809.07	-43.14	1,919.70	1,894.02	25.69	74.732		
4,000.00	3,896.37	3,656.97	3,639.66	13.83	12.93	145.61	1,827.44	-46.96	1,944.96	1,918.58	26.38	73.725		
4,100.00	4,096.07	3,753.72	3,734.58	14.18	13.28	145.63	1,845.80	-50.77	1,970.21	1,943.14	27.08	72.765		
4,200.00	4,195.76	3,850.48	3,829.50	14.53	13.64	145.64	1,864.17	-54.59	1,995.47	1,967.69	27.77	71.849		
4,300.00	4,295.46	3,947.24	3,924.43	14.88	14.00	145.65	1,882.53	-58.40	2,020.72	1,992.25	28.47	70.973		
4,400.00	4,395.16	4,044.00	4,019.35	15.23	14.36	145.66	1,900.90	-62.22	2,045.98	2,016.80	29.17	70.137		
4,500.00	4,494.86	4,140.75	4,114.27	15.58	14.72	145.68	1,919.26	-66.03	2,071.23	2,041.36	29.87	69.336		
4,600.00	4,594.56	4,237.51	4,209.19	15.93	15.08	145.69	1,937.63	-69.85	2,096.48	2,065.91	30.57	68.569		
4,700.00	4,694.25	4,334.27	4,304.12	16.29	15.44	145.70	1,955.99	-73.66	2,121.74	2,090.46	31.28	67.835		
4,800.00	4,793.95	4,431.03	4,399.04	16.64	15.81	145.71	1,974.36	-77.48	2,146.99	2,115.01	31.98	67.130		
4,900.00	4,893.65	4,527.79	4,493.96	17.00	16.17	145.72	1,992.72	-81.29	2,172.25	2,139.56	32.69	66.454		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 0-MWD+IFR1													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
5,000.00	4,993.35	4,624.54	4,588.88	17.35	16.54	145.73	2,011.09	-85.11	2,197.50	2,164.11	33.39	65.804		
5,100.00	5,093.05	4,721.30	4,683.81	17.71	16.90	145.74	2,029.45	-88.92	2,222.76	2,188.66	34.10	65.180		
5,200.00	5,192.75	4,818.06	4,778.73	18.06	17.27	145.75	2,047.82	-92.74	2,248.01	2,213.20	34.81	64.579		
5,300.00	5,292.44	4,914.82	4,873.65	18.42	17.63	145.76	2,066.18	-96.55	2,273.27	2,237.75	35.52	64.001		
5,400.00	5,392.14	5,011.57	4,968.57	18.77	18.00	145.77	2,084.55	-100.37	2,298.52	2,262.29	36.23	63.444		
5,500.00	5,491.84	5,108.33	5,063.49	19.13	18.36	145.78	2,102.91	-104.18	2,323.78	2,286.84	36.94	62.908		
5,600.00	5,591.54	5,205.09	5,158.42	19.49	18.73	145.79	2,121.28	-108.00	2,349.03	2,311.38	37.65	62.390		
5,700.00	5,691.24	5,301.85	5,253.34	19.85	19.10	145.79	2,139.64	-111.81	2,374.29	2,335.92	38.36	61.891		
5,800.00	5,790.93	5,401.40	5,348.26	20.20	19.48	145.80	2,158.01	-115.63	2,399.54	2,360.46	39.09	61.392		
5,900.00	5,890.63	5,504.64	5,443.18	20.56	19.87	145.81	2,176.37	-119.45	2,424.80	2,384.97	39.82	60.889		
6,000.00	5,990.33	5,592.12	5,538.11	20.92	20.20	145.82	2,194.73	-123.26	2,450.05	2,409.55	40.50	60.492		
6,100.00	6,090.03	5,688.88	5,633.03	21.28	20.57	145.83	2,213.10	-127.08	2,475.31	2,434.09	41.22	60.057		
6,200.00	6,189.73	5,785.64	5,727.95	21.64	20.94	145.84	2,231.46	-130.89	2,500.56	2,458.63	41.93	59.636		
6,300.00	6,289.42	5,882.39	5,822.87	22.00	21.31	145.84	2,249.83	-134.71	2,525.82	2,483.17	42.65	59.228		
6,400.00	6,389.12	5,979.15	5,917.79	22.36	21.68	145.85	2,268.19	-138.52	2,551.07	2,507.71	43.36	58.832		
6,500.00	6,488.82	6,075.91	6,012.72	22.72	22.05	145.86	2,286.56	-142.34	2,576.33	2,532.25	44.08	58.450		
6,600.00	6,588.52	6,172.67	6,107.64	23.08	22.42	145.87	2,304.92	-146.15	2,601.59	2,556.79	44.79	58.078		
6,700.00	6,688.22	6,269.42	6,202.56	23.44	22.79	145.87	2,323.29	-149.97	2,626.84	2,581.33	45.51	57.718		
6,800.00	6,787.91	6,366.18	6,297.48	23.80	23.16	145.88	2,341.65	-153.78	2,652.10	2,605.87	46.23	57.369		
6,900.00	6,887.61	6,462.94	6,392.41	24.16	23.53	145.89	2,360.02	-157.60	2,677.35	2,630.41	46.95	57.029		
7,000.00	6,987.31	6,559.70	6,487.33	24.52	23.90	145.89	2,378.38	-161.41	2,702.61	2,654.94	47.67	56.700		
7,100.00	7,087.01	6,656.45	6,582.25	24.88	24.27	145.90	2,396.75	-165.23	2,727.86	2,679.48	48.38	56.380		
7,200.00	7,186.71	6,753.21	6,677.17	25.24	24.64	145.91	2,415.11	-169.04	2,753.12	2,704.02	49.10	56.069		
7,300.00	7,286.41	6,849.97	6,772.09	25.60	25.01	145.91	2,433.48	-172.86	2,778.37	2,728.55	49.82	55.766		
7,400.00	7,386.10	6,946.73	6,867.02	25.96	25.38	145.92	2,451.84	-176.67	2,803.63	2,753.09	50.54	55.472		
7,500.00	7,485.80	7,043.49	6,961.94	26.33	25.75	145.93	2,470.21	-180.49	2,828.89	2,777.62	51.26	55.185		
7,600.00	7,585.50	7,140.24	7,056.86	26.69	26.12	145.93	2,488.57	-184.30	2,854.14	2,802.16	51.98	54.906		
7,700.00	7,685.20	7,237.00	7,151.78	27.05	26.50	145.94	2,506.94	-188.12	2,879.40	2,826.70	52.70	54.635		
7,800.00	7,784.90	7,333.76	7,246.71	27.41	26.87	145.94	2,525.30	-191.93	2,904.65	2,851.23	53.42	54.370		
7,860.70	7,845.41	7,407.51	7,304.33	27.63	27.15	145.95	2,536.45	-194.25	2,919.99	2,866.07	53.92	54.155		
7,900.00	7,884.61	7,430.56	7,341.67	27.77	27.24	146.03	2,543.67	-195.75	2,929.75	2,875.60	54.15	54.109		
8,000.00	7,984.46	7,527.78	7,437.05	28.13	27.61	146.21	2,562.13	-199.58	2,953.12	2,898.26	54.87	53.823		
8,100.00	8,084.42	7,625.46	7,532.87	28.49	27.99	146.34	2,580.67	-203.43	2,974.38	2,918.79	55.59	53.506		
8,157.59	8,142.00	7,681.89	7,588.24	28.69	28.21	0.48	2,591.38	-205.66	2,985.65	2,929.65	56.00	53.314		
8,200.00	8,184.41	7,723.50	7,629.06	28.83	28.37	0.44	2,599.28	-207.30	2,993.69	2,937.39	56.30	53.171		
8,300.00	8,284.41	7,821.61	7,725.30	29.17	28.74	0.36	2,617.90	-211.17	3,012.66	2,955.65	57.01	52.840		
8,400.00	8,384.41	7,919.71	7,821.54	29.51	29.12	0.29	2,636.52	-215.04	3,031.64	2,973.91	57.73	52.517		
8,507.63	8,492.04	8,025.29	7,925.12	29.87	29.53	0.21	2,656.56	-219.20	3,052.06	2,993.57	58.49	52.177		
8,550.00	8,534.37	8,066.77	7,965.81	30.02	29.69	-88.41	2,664.43	-220.84	3,060.08	3,001.28	58.79	52.047		
8,600.00	8,584.01	8,115.25	8,013.37	30.18	29.87	-87.60	2,673.63	-222.75	3,069.43	3,010.29	59.14	51.897		
8,650.00	8,632.95	8,162.88	8,060.10	30.34	30.06	-86.89	2,682.67	-224.63	3,078.64	3,019.16	59.49	51.753		
8,700.00	8,680.82	8,209.30	8,105.64	30.50	30.24	-86.26	2,691.48	-226.46	3,087.69	3,027.86	59.82	51.615		
8,750.00	8,727.25	8,254.16	8,149.64	30.66	30.41	-85.71	2,700.00	-228.22	3,096.56	3,036.41	60.15	51.484		
8,800.00	8,771.89	8,302.89	8,191.78	30.81	30.60	-85.22	2,708.15	-229.92	3,105.27	3,044.79	60.48	51.342		
8,850.00	8,814.40	8,337.83	8,231.73	30.95	30.73	-84.78	2,715.88	-231.52	3,113.84	3,053.07	60.76	51.246		
8,900.00	8,854.46	8,379.36	8,272.48	31.09	30.89	-84.41	2,723.76	-232.91	3,122.28	3,061.21	61.07	51.123		
8,950.00	8,891.75	8,428.20	8,320.39	31.23	31.07	-84.16	2,733.05	-231.32	3,130.54	3,069.11	61.43	50.959		
9,000.00	8,926.01	8,481.00	8,371.82	31.37	31.27	-83.99	2,743.05	-224.94	3,138.52	3,076.70	61.82	50.770		
9,050.00	8,956.96	8,538.80	8,427.18	31.53	31.46	-83.89	2,753.85	-212.46	3,146.16	3,083.92	62.24	50.550		
9,100.00	8,984.38	8,602.94	8,486.82	31.69	31.67	-83.90	2,765.52	-192.04	3,153.37	3,090.68	62.70	50.297		
9,150.00	9,008.05	8,675.12	8,550.76	31.87	31.88	-84.01	2,778.09	-161.11	3,160.05	3,096.86	63.19	50.005		
9,200.00	9,027.79	8,757.41	8,618.32	32.07	32.10	-84.24	2,791.45	-116.19	3,166.07	3,102.33	63.74	49.672		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 0-MWD+IFR1													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
9,250.00	9,043.45	8,852.07	8,687.27	32.29	32.31	-84.57	2,805.18	-52.97	3,171.26	3,106.92	64.34	49.289		
9,300.00	9,054.92	9,300.00	8,740.72	32.53	33.68	-84.82	2,815.94	15.07	3,175.38	3,109.13	66.25	47.933		
9,350.00	9,062.10	9,084.63	8,806.13	32.79	32.99	-85.37	2,829.37	143.59	3,178.23	3,112.41	65.81	48.291		
9,400.00	9,064.95	9,220.16	8,836.46	33.06	33.63	-85.66	2,836.03	275.19	3,179.51	3,112.75	66.76	47.623		
9,407.63	9,065.00	9,241.51	8,838.42	33.10	33.74	-85.69	2,836.53	296.44	3,179.56	3,112.64	66.92	47.512		
9,500.00	9,065.00	9,361.59	8,840.00	33.68	34.45	-85.72	2,837.55	416.48	3,179.16	3,110.95	68.21	46.606		
9,600.00	9,065.00	9,461.59	8,840.00	34.41	35.16	-85.72	2,838.14	516.47	3,178.66	3,109.01	69.65	45.639		
9,700.00	9,065.00	9,561.59	8,840.00	35.24	35.96	-85.72	2,838.74	616.47	3,178.15	3,106.86	71.29	44.582		
9,800.00	9,065.00	9,661.59	8,840.00	36.17	36.87	-85.72	2,839.33	716.47	3,177.64	3,104.53	73.12	43.459		
9,900.00	9,065.00	9,761.59	8,840.00	37.19	37.86	-85.71	2,839.92	816.47	3,177.14	3,102.01	75.13	42.291		
10,000.00	9,065.00	9,861.59	8,840.00	38.30	38.93	-85.71	2,840.52	916.46	3,176.63	3,099.33	77.30	41.096		
10,100.00	9,065.00	9,961.58	8,840.00	39.48	40.08	-85.71	2,841.11	1,016.46	3,176.13	3,096.51	79.62	39.891		
10,200.00	9,065.00	10,061.58	8,840.00	40.72	41.29	-85.71	2,841.70	1,116.46	3,175.62	3,093.54	82.08	38.690		
10,300.00	9,065.00	10,161.58	8,840.00	42.03	42.57	-85.71	2,842.30	1,216.45	3,175.12	3,090.45	84.66	37.503		
10,400.00	9,065.00	10,261.58	8,840.00	43.40	43.91	-85.71	2,842.89	1,316.45	3,174.61	3,087.25	87.36	36.338		
10,500.00	9,065.00	10,361.58	8,840.00	44.82	45.30	-85.71	2,843.48	1,416.45	3,174.10	3,083.94	90.17	35.203		
10,600.00	9,065.00	10,461.58	8,840.00	46.29	46.74	-85.71	2,844.08	1,516.44	3,173.60	3,080.53	93.06	34.101		
10,700.00	9,065.00	10,561.58	8,840.00	47.79	48.23	-85.71	2,844.67	1,616.44	3,173.09	3,077.04	96.05	33.036		
10,800.00	9,065.00	10,661.58	8,840.00	49.34	49.75	-85.71	2,845.27	1,716.44	3,172.59	3,073.47	99.11	32.010		
10,900.00	9,065.00	10,761.57	8,840.00	50.92	51.31	-85.71	2,845.86	1,816.43	3,172.08	3,069.84	102.25	31.024		
11,000.00	9,065.00	10,861.57	8,840.00	52.54	52.90	-85.71	2,846.45	1,916.43	3,171.58	3,066.13	105.44	30.078		
11,100.00	9,065.00	10,961.57	8,840.00	54.18	54.52	-85.71	2,847.05	2,016.43	3,171.07	3,062.37	108.70	29.172		
11,200.00	9,065.00	11,061.57	8,840.00	55.85	56.17	-85.71	2,847.64	2,116.43	3,170.56	3,058.55	112.01	28.305		
11,300.00	9,065.00	11,161.57	8,840.00	57.54	57.85	-85.71	2,848.23	2,216.42	3,170.06	3,054.68	115.38	27.476		
11,400.00	9,065.00	11,261.57	8,840.00	59.26	59.55	-85.70	2,848.83	2,316.42	3,169.55	3,050.77	118.78	26.684		
11,500.00	9,065.00	11,361.57	8,840.00	61.00	61.27	-85.70	2,849.42	2,416.42	3,169.05	3,046.82	122.23	25.927		
11,600.00	9,065.00	11,461.57	8,840.00	62.75	63.01	-85.70	2,850.01	2,516.41	3,168.54	3,042.82	125.72	25.204		
11,700.00	9,065.00	11,561.56	8,840.00	64.52	64.76	-85.70	2,850.61	2,616.41	3,168.04	3,038.80	129.24	24.513		
11,800.00	9,065.00	11,661.56	8,840.00	66.31	66.54	-85.70	2,851.20	2,716.41	3,167.53	3,034.74	132.79	23.854		
11,900.00	9,065.00	11,761.56	8,840.00	68.11	68.33	-85.70	2,851.79	2,816.40	3,167.02	3,030.65	136.37	23.223		
12,000.00	9,065.00	11,861.56	8,840.00	69.93	70.13	-85.70	2,852.39	2,916.40	3,166.52	3,026.53	139.98	22.621		
12,100.00	9,065.00	11,961.56	8,840.00	71.76	71.95	-85.70	2,852.98	3,016.40	3,166.01	3,022.39	143.62	22.045		
12,200.00	9,065.00	12,061.56	8,840.00	73.60	73.77	-85.70	2,853.57	3,116.40	3,165.51	3,018.23	147.28	21.493		
12,300.00	9,065.00	12,161.56	8,840.00	75.45	75.61	-85.70	2,854.17	3,216.39	3,165.00	3,014.04	150.96	20.966		
12,400.00	9,065.00	12,261.56	8,840.00	77.31	77.46	-85.70	2,854.76	3,316.39	3,164.50	3,009.84	154.66	20.461		
12,500.00	9,065.00	12,361.55	8,840.00	79.18	79.32	-85.70	2,855.35	3,416.39	3,163.99	3,005.61	158.38	19.977		
12,600.00	9,065.00	12,461.55	8,840.00	81.05	81.19	-85.70	2,855.95	3,516.38	3,163.48	3,001.37	162.12	19.514		
12,700.00	9,065.00	12,561.55	8,840.00	82.94	83.07	-85.70	2,856.54	3,616.38	3,162.98	2,997.11	165.87	19.069		
12,800.00	9,065.00	12,661.55	8,840.00	84.83	84.95	-85.69	2,857.13	3,716.38	3,162.47	2,992.84	169.64	18.643		
12,900.00	9,065.00	12,761.55	8,840.00	86.73	86.84	-85.69	2,857.73	3,816.37	3,161.97	2,988.55	173.42	18.233		
13,000.00	9,065.00	12,861.55	8,840.00	88.64	88.74	-85.69	2,858.32	3,916.37	3,161.46	2,984.25	177.22	17.840		
13,100.00	9,065.00	12,961.55	8,840.00	90.55	90.65	-85.69	2,858.91	4,016.37	3,160.96	2,979.93	181.02	17.462		
13,200.00	9,065.00	13,061.54	8,840.00	92.47	92.56	-85.69	2,859.51	4,116.36	3,160.45	2,975.61	184.84	17.098		
13,300.00	9,065.00	13,161.54	8,840.00	94.39	94.48	-85.69	2,860.10	4,216.36	3,159.94	2,971.27	188.68	16.748		
13,400.00	9,065.00	13,261.54	8,840.00	96.32	96.40	-85.69	2,860.69	4,316.36	3,159.44	2,966.92	192.52	16.411		
13,500.00	9,065.00	13,361.54	8,840.00	98.25	98.32	-85.69	2,861.29	4,416.36	3,158.93	2,962.56	196.37	16.087		
13,600.00	9,065.00	13,461.54	8,840.00	100.19	100.26	-85.69	2,861.88	4,516.35	3,158.43	2,958.20	200.23	15.774		
13,700.00	9,065.00	13,561.54	8,840.00	102.13	102.19	-85.69	2,862.47	4,616.35	3,157.92	2,953.82	204.10	15.473		
13,800.00	9,065.00	13,661.54	8,840.00	104.08	104.13	-85.69	2,863.07	4,716.35	3,157.42	2,949.44	207.97	15.182		
13,900.00	9,065.00	13,761.54	8,840.00	106.03	106.08	-85.69	2,863.66	4,816.34	3,156.91	2,945.05	211.86	14.901		
14,000.00	9,065.00	13,861.53	8,840.00	107.98	108.03	-85.69	2,864.25	4,916.34	3,156.40	2,940.65	215.75	14.630		
14,100.00	9,065.00	13,961.53	8,840.00	109.94	109.98	-85.69	2,864.85	5,016.34	3,155.90	2,936.25	219.65	14.368		

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 0-MWD+IFR1													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
14,200.00	9,065.00	14,061.53	8,840.00	111.90	111.93	-85.69	2,865.44	5,116.33	3,155.39	2,931.84	223.56	14.115		
14,300.00	9,065.00	14,161.53	8,840.00	113.86	113.89	-85.68	2,866.03	5,216.33	3,154.89	2,927.42	227.47	13.870		
14,400.00	9,065.00	14,261.53	8,840.00	115.82	115.85	-85.68	2,866.63	5,316.33	3,154.38	2,923.00	231.38	13.633		
14,500.00	9,065.00	14,361.53	8,840.00	117.79	117.82	-85.68	2,867.22	5,416.33	3,153.88	2,918.57	235.31	13.403		
14,600.00	9,065.00	14,461.53	8,840.00	119.76	119.78	-85.68	2,867.81	5,516.32	3,153.37	2,914.13	239.24	13.181		
14,700.00	9,065.00	14,561.53	8,840.00	121.74	121.75	-85.68	2,868.41	5,616.32	3,152.86	2,909.69	243.17	12.966		
14,800.00	9,065.00	14,661.52	8,840.00	123.71	123.73	-85.68	2,869.00	5,716.32	3,152.36	2,905.25	247.11	12.757		
14,900.00	9,065.00	14,761.52	8,840.00	125.69	125.70	-85.68	2,869.59	5,816.31	3,151.85	2,900.80	251.05	12.555		
15,000.00	9,065.00	14,861.52	8,840.00	127.67	127.68	-85.68	2,870.19	5,916.31	3,151.35	2,896.35	255.00	12.358		
15,100.00	9,065.00	14,961.52	8,840.00	129.65	129.66	-85.68	2,870.78	6,016.31	3,150.84	2,891.89	258.95	12.168		
15,200.00	9,065.00	15,061.52	8,840.00	131.63	131.64	-85.68	2,871.37	6,116.30	3,150.34	2,887.43	262.91	11.983		
15,300.00	9,065.00	15,161.52	8,840.00	133.62	133.62	-85.68	2,871.97	6,216.30	3,149.83	2,882.97	266.86	11.803		
15,400.00	9,065.00	15,261.52	8,840.00	135.61	135.60	-85.68	2,872.56	6,316.30	3,149.32	2,878.50	270.83	11.629		
15,500.00	9,065.00	15,361.52	8,840.00	137.60	137.59	-85.68	2,873.15	6,416.29	3,148.82	2,874.02	274.79	11.459		
15,600.00	9,065.00	15,461.51	8,840.00	139.59	139.58	-85.68	2,873.75	6,516.29	3,148.31	2,869.55	278.76	11.294		
15,700.00	9,065.00	15,561.51	8,840.00	141.58	141.57	-85.67	2,874.34	6,616.29	3,147.81	2,865.07	282.74	11.133		
15,800.00	9,065.00	15,661.51	8,840.00	143.57	143.56	-85.67	2,874.94	6,716.29	3,147.30	2,860.59	286.71	10.977		
15,900.00	9,065.00	15,761.51	8,840.00	145.57	145.55	-85.67	2,875.53	6,816.28	3,146.80	2,856.10	290.69	10.825		
16,000.00	9,065.00	15,861.51	8,840.00	147.56	147.55	-85.67	2,876.12	6,916.28	3,146.29	2,851.62	294.67	10.677		
16,100.00	9,065.00	15,961.51	8,840.00	149.56	149.54	-85.67	2,876.72	7,016.28	3,145.78	2,847.13	298.66	10.533		
16,200.00	9,065.00	16,061.51	8,840.00	151.56	151.54	-85.67	2,877.31	7,116.27	3,145.28	2,842.63	302.65	10.393		
16,300.00	9,065.00	16,161.51	8,840.00	153.56	153.54	-85.67	2,877.90	7,216.27	3,144.77	2,838.14	306.63	10.256		
16,400.00	9,065.00	16,261.50	8,840.00	155.56	155.54	-85.67	2,878.50	7,316.27	3,144.27	2,833.64	310.63	10.122		
16,500.00	9,065.00	16,361.50	8,840.00	157.57	157.54	-85.67	2,879.09	7,416.26	3,143.76	2,829.14	314.62	9.992		
16,600.00	9,065.00	16,461.50	8,840.00	159.57	159.54	-85.67	2,879.68	7,516.26	3,143.26	2,824.64	318.62	9.865		
16,700.00	9,065.00	16,561.50	8,840.00	161.57	161.55	-85.67	2,880.28	7,616.26	3,142.75	2,820.13	322.62	9.741		
16,800.00	9,065.00	16,661.50	8,840.00	163.58	163.55	-85.67	2,880.87	7,716.26	3,142.24	2,815.63	326.62	9.621		
16,900.00	9,065.00	16,761.50	8,840.00	165.59	165.56	-85.67	2,881.46	7,816.25	3,141.74	2,811.12	330.62	9.503		
17,000.00	9,065.00	16,861.50	8,840.00	167.60	167.56	-85.67	2,882.06	7,916.25	3,141.23	2,806.61	334.62	9.387		
17,100.00	9,065.00	16,961.49	8,840.00	169.60	169.57	-85.66	2,882.65	8,016.25	3,140.73	2,802.10	338.63	9.275		
17,200.00	9,065.00	17,061.49	8,840.00	171.61	171.58	-85.66	2,883.24	8,116.24	3,140.22	2,797.58	342.64	9.165		
17,300.00	9,065.00	17,161.49	8,840.00	173.62	173.59	-85.66	2,883.84	8,216.24	3,139.72	2,793.07	346.65	9.057		
17,400.00	9,065.00	17,261.49	8,840.00	175.63	175.60	-85.66	2,884.43	8,316.24	3,139.21	2,788.55	350.66	8.952		
17,500.00	9,065.00	17,361.49	8,840.00	177.65	177.61	-85.66	2,885.02	8,416.23	3,138.70	2,784.03	354.67	8.850		
17,600.00	9,065.00	17,461.49	8,840.00	179.66	179.62	-85.66	2,885.62	8,516.23	3,138.20	2,779.51	358.69	8.749		
17,700.00	9,065.00	17,561.49	8,840.00	181.67	181.63	-85.66	2,886.21	8,616.23	3,137.69	2,774.99	362.70	8.651		
17,800.00	9,065.00	17,661.49	8,840.00	183.69	183.65	-85.66	2,886.80	8,716.22	3,137.19	2,770.47	366.72	8.555		
17,900.00	9,065.00	17,761.48	8,840.00	185.70	185.66	-85.66	2,887.40	8,816.22	3,136.68	2,765.94	370.74	8.461		
18,000.00	9,065.00	17,861.48	8,840.00	187.72	187.67	-85.66	2,887.99	8,916.22	3,136.18	2,761.41	374.76	8.368		
18,100.00	9,065.00	17,961.48	8,840.00	189.73	189.69	-85.66	2,888.58	9,016.22	3,135.67	2,756.89	378.78	8.278		
18,200.00	9,065.00	18,061.48	8,840.00	191.75	191.70	-85.66	2,889.18	9,116.21	3,135.17	2,752.36	382.81	8.190		
18,300.00	9,065.00	18,161.48	8,840.00	193.77	193.72	-85.66	2,889.77	9,216.21	3,134.66	2,747.83	386.83	8.103		
18,400.00	9,065.00	18,261.48	8,840.00	195.78	195.74	-85.66	2,890.36	9,316.21	3,134.15	2,743.30	390.86	8.019		
18,500.00	9,065.00	18,361.48	8,840.00	197.80	197.76	-85.66	2,890.96	9,416.20	3,133.65	2,738.76	394.88	7.936		
18,600.00	9,065.00	18,461.48	8,840.00	199.82	199.77	-85.65	2,891.55	9,516.20	3,133.14	2,734.23	398.91	7.854		
18,700.00	9,065.00	18,561.47	8,840.00	201.84	201.79	-85.65	2,892.14	9,616.20	3,132.64	2,729.70	402.94	7.774		
18,800.00	9,065.00	18,661.47	8,840.00	203.86	203.81	-85.65	2,892.74	9,716.19	3,132.13	2,725.16	406.97	7.696		
18,900.00	9,065.00	18,761.47	8,840.00	205.88	205.83	-85.65	2,893.33	9,816.19	3,131.63	2,720.62	411.00	7.620		
19,000.00	9,065.00	18,861.47	8,840.00	207.90	207.85	-85.65	2,893.92	9,916.19	3,131.12	2,716.09	415.03	7.544		
19,100.00	9,065.00	18,961.47	8,840.00	209.92	209.87	-85.65	2,894.52	10,016.19	3,130.61	2,711.55	419.07	7.470		
19,200.00	9,065.00	19,061.47	8,840.00	211.95	211.90	-85.65	2,895.11	10,116.18	3,130.11	2,707.01	423.10	7.398		
19,300.00	9,065.00	19,161.47	8,840.00	213.97	213.92	-85.65	2,895.70	10,216.18	3,129.60	2,702.47	427.13	7.327		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design	Sec 14-T21S-R27E - Lone Tree Draw 14-13 State Com 331H - Wellbore #1 - Permit Plan 1											Offset Site Error:	0.00 ft
Survey Program:	0-MWD+IFR1											Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
19,400.00	9,065.00	19,261.47	8,840.00	215.99	215.94	-85.65	2,896.30	10,316.18	3,129.10	2,697.93	431.17	7.257	
19,456.84	9,065.00	19,318.31	8,840.00	217.14	217.09	-85.65	2,896.63	10,373.02	3,128.81	2,695.35	433.46	7.218 SF	

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design		Sec 14-T21S-R27E - Lone Tree Draw 14-13 State Com 332H - Wellbore #1 - Permit Plan 1											Offset Site Error:		0.00 ft
Survey Program:		0-MWD+IFR1											Offset Well Error:		0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor			
0.00	0.00	11.10	11.10	0.50	0.50	-0.13	1,558.67	-3.41	1,558.68						
100.00	100.00	111.10	111.10	0.52	0.53	-0.13	1,558.67	-3.41	1,558.68	1,557.63	1.05	1,488.369			
200.00	200.00	211.10	211.10	0.70	0.73	-0.13	1,558.67	-3.41	1,558.68	1,557.24	1.43	1,087.937			
300.00	300.00	311.10	311.10	0.99	1.02	-0.13	1,558.67	-3.41	1,558.68	1,556.67	2.01	775.778			
400.00	400.00	411.10	411.10	1.31	1.35	-0.13	1,558.67	-3.41	1,558.68	1,556.02	2.66	587.064			
500.00	500.00	511.10	511.10	1.65	1.68	-0.13	1,558.67	-3.41	1,558.68	1,555.35	3.33	468.053			
600.00	600.00	611.10	611.10	1.99	2.03	-0.13	1,558.67	-3.41	1,558.68	1,554.66	4.02	387.755			
700.00	700.00	711.10	711.10	2.34	2.38	-0.13	1,558.67	-3.41	1,558.68	1,553.96	4.72	330.402			
800.00	800.00	811.10	811.10	2.69	2.73	-0.13	1,558.67	-3.41	1,558.68	1,553.26	5.42	287.563			
900.00	900.00	911.10	911.10	3.04	3.08	-0.13	1,558.67	-3.41	1,558.68	1,552.55	6.13	254.421			
1,000.00	1,000.00	1,011.10	1,011.10	3.40	3.44	-0.13	1,558.67	-3.41	1,558.68	1,551.84	6.83	228.054			
1,100.00	1,100.00	1,111.10	1,111.10	3.75	3.79	-0.13	1,558.67	-3.41	1,558.68	1,551.13	7.54	206.594			
1,200.00	1,200.00	1,211.10	1,211.10	4.11	4.15	-0.13	1,558.67	-3.41	1,558.68	1,550.42	8.26	188.798			
1,300.00	1,300.00	1,311.10	1,311.10	4.46	4.50	-0.13	1,558.67	-3.41	1,558.68	1,549.71	8.97	173.806			
1,400.00	1,400.00	1,411.10	1,411.10	4.82	4.86	-0.13	1,558.67	-3.41	1,558.68	1,549.00	9.68	161.009			
1,500.00	1,500.00	1,511.10	1,511.10	5.18	5.22	-0.13	1,558.67	-3.41	1,558.68	1,548.28	10.39	149.958			
1,600.00	1,600.00	1,611.10	1,611.10	5.53	5.57	-0.13	1,558.67	-3.41	1,558.68	1,547.57	11.11	140.322			
1,700.00	1,700.00	1,711.10	1,711.10	5.89	5.93	-0.13	1,558.67	-3.41	1,558.68	1,546.85	11.82	131.844			
1,800.00	1,800.00	1,811.10	1,811.10	6.25	6.29	-0.13	1,558.67	-3.41	1,558.68	1,546.14	12.54	124.330			
1,900.00	1,900.00	1,911.10	1,911.10	6.61	6.65	-0.13	1,558.67	-3.41	1,558.68	1,545.43	13.25	117.624			
2,000.00	2,000.00	2,011.10	2,011.10	6.96	7.00	-0.13	1,558.67	-3.41	1,558.68	1,544.71	13.97	111.602			
2,100.00	2,100.00	2,111.10	2,111.10	7.32	7.36	-0.13	1,558.67	-3.41	1,558.68	1,544.00	14.68	106.165			
2,200.00	2,200.00	2,211.10	2,211.10	7.68	7.72	-0.13	1,558.67	-3.41	1,558.68	1,543.28	15.40	101.233			
2,300.00	2,300.00	2,311.10	2,311.10	8.04	8.08	-0.13	1,558.67	-3.41	1,558.68	1,542.56	16.11	96.737			
2,400.00	2,400.00	2,411.10	2,411.10	8.39	8.43	-0.13	1,558.67	-3.41	1,558.68	1,541.85	16.83	92.624			
2,500.00	2,500.00	2,511.10	2,511.10	8.75	8.79	-0.13	1,558.67	-3.41	1,558.68	1,541.13	17.54	88.845 CC, ES			
2,600.00	2,599.99	2,611.09	2,611.09	9.09	9.15	145.81	1,558.67	-3.41	1,559.40	1,541.16	18.24	85.479			
2,700.00	2,699.96	2,708.94	2,708.94	9.42	9.50	145.85	1,558.68	-3.41	1,561.57	1,542.65	18.92	82.536			
2,800.00	2,799.86	2,789.66	2,789.66	9.75	9.79	145.89	1,559.28	-3.76	1,565.93	1,546.40	19.54	80.158			
2,900.00	2,899.68	2,870.21	2,870.19	10.08	10.07	145.92	1,560.87	-4.66	1,572.96	1,552.81	20.15	78.066			
2,945.33	2,944.88	2,906.65	2,906.60	10.23	10.20	145.93	1,561.91	-5.25	1,577.02	1,556.59	20.43	77.204			
3,000.00	2,999.39	2,950.53	2,950.45	10.41	10.36	145.96	1,563.44	-6.11	1,582.43	1,561.67	20.76	76.223			
3,100.00	3,099.08	3,030.66	3,030.48	10.75	10.65	146.02	1,566.97	-8.12	1,593.26	1,571.89	21.37	74.558			
3,200.00	3,198.78	3,110.59	3,110.23	11.08	10.93	146.05	1,571.46	-10.67	1,605.29	1,583.32	21.98	73.047			
3,300.00	3,298.48	3,190.27	3,189.67	11.42	11.21	146.06	1,576.90	-13.76	1,618.53	1,595.95	22.58	71.679			
3,400.00	3,398.18	3,273.66	3,272.71	11.76	11.51	146.05	1,583.59	-17.56	1,632.93	1,609.73	23.20	70.386			
3,500.00	3,497.88	3,372.56	3,371.15	12.10	11.86	146.04	1,591.89	-22.27	1,647.71	1,623.82	23.89	68.968			
3,600.00	3,597.58	3,471.46	3,469.59	12.45	12.22	146.02	1,600.19	-26.99	1,662.49	1,637.90	24.58	67.625			
3,700.00	3,697.27	3,570.37	3,568.03	12.79	12.57	146.00	1,608.48	-31.70	1,677.26	1,651.99	25.28	66.351			
3,800.00	3,796.97	3,669.27	3,666.47	13.14	12.93	145.99	1,616.78	-36.41	1,692.04	1,666.07	25.97	65.142			
3,900.00	3,896.67	3,768.17	3,764.91	13.48	13.28	145.97	1,625.08	-41.12	1,706.82	1,680.15	26.67	63.993			
4,000.00	3,996.37	3,867.07	3,863.35	13.83	13.63	145.96	1,633.37	-45.83	1,721.60	1,694.23	27.37	62.899			
4,100.00	4,096.07	3,965.97	3,961.79	14.18	13.99	145.94	1,641.67	-50.54	1,736.38	1,708.31	28.07	61.857			
4,200.00	4,195.76	4,064.87	4,060.22	14.53	14.34	145.93	1,649.97	-55.26	1,751.16	1,722.39	28.77	60.863			
4,300.00	4,295.46	4,163.77	4,158.66	14.88	14.70	145.91	1,658.26	-59.97	1,765.94	1,736.47	29.47	59.915			
4,400.00	4,395.16	4,262.67	4,257.10	15.23	15.06	145.90	1,666.56	-64.68	1,780.72	1,750.54	30.18	59.009			
4,500.00	4,494.86	4,361.57	4,355.54	15.58	15.41	145.89	1,674.86	-69.39	1,795.50	1,764.62	30.88	58.143			
4,600.00	4,594.56	4,460.47	4,453.98	15.93	15.77	145.87	1,683.15	-74.10	1,810.28	1,778.69	31.59	57.313			
4,700.00	4,694.25	4,559.37	4,552.42	16.29	16.13	145.86	1,691.45	-78.81	1,825.06	1,792.77	32.29	56.519			
4,800.00	4,793.95	4,658.27	4,650.86	16.64	16.48	145.85	1,699.75	-83.53	1,839.84	1,806.84	33.00	55.757			
4,900.00	4,893.65	4,757.18	4,749.30	17.00	16.84	145.83	1,708.04	-88.24	1,854.62	1,820.92	33.70	55.026			
5,000.00	4,993.35	4,856.08	4,847.74	17.35	17.20	145.82	1,716.34	-92.95	1,869.40	1,834.99	34.41	54.324			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 0-MWD+IFR1													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
5,100.00	5,093.05	4,954.98	4,946.18	17.71	17.56	145.81	1,724.64	-97.66	1,884.18	1,849.06	35.12	53.649		
5,200.00	5,192.75	5,053.88	5,044.62	18.06	17.91	145.80	1,732.93	-102.37	1,898.96	1,863.13	35.83	53.001		
5,300.00	5,292.44	5,152.78	5,143.06	18.42	18.27	145.78	1,741.23	-107.08	1,913.74	1,877.20	36.54	52.376		
5,400.00	5,392.14	5,251.68	5,241.50	18.77	18.63	145.77	1,749.53	-111.80	1,928.52	1,891.27	37.25	51.775		
5,500.00	5,491.84	5,350.58	5,339.94	19.13	18.99	145.76	1,757.82	-116.51	1,943.30	1,905.34	37.96	51.195		
5,600.00	5,591.54	5,449.48	5,438.38	19.49	19.35	145.75	1,766.12	-121.22	1,958.08	1,919.41	38.67	50.637		
5,700.00	5,691.24	5,548.38	5,536.82	19.85	19.70	145.74	1,774.42	-125.93	1,972.86	1,933.48	39.38	50.097		
5,800.00	5,790.93	5,647.28	5,635.26	20.20	20.06	145.72	1,782.71	-130.64	1,987.65	1,947.55	40.09	49.577		
5,900.00	5,890.63	5,746.18	5,733.70	20.56	20.42	145.71	1,791.01	-135.36	2,002.43	1,961.62	40.80	49.074		
6,000.00	5,990.33	5,845.08	5,832.14	20.92	20.78	145.70	1,799.31	-140.07	2,017.21	1,975.69	41.52	48.588		
6,100.00	6,090.03	5,943.99	5,930.58	21.28	21.14	145.69	1,807.60	-144.78	2,031.99	1,989.76	42.23	48.118		
6,200.00	6,189.73	6,042.89	6,029.02	21.64	21.50	145.68	1,815.90	-149.49	2,046.77	2,003.83	42.94	47.663		
6,300.00	6,289.42	6,141.79	6,127.45	22.00	21.86	145.67	1,824.20	-154.20	2,061.55	2,017.90	43.66	47.223		
6,400.00	6,389.12	6,240.69	6,225.89	22.36	22.22	145.66	1,832.49	-158.91	2,076.33	2,031.96	44.37	46.796		
6,500.00	6,488.82	6,339.59	6,324.33	22.72	22.57	145.65	1,840.79	-163.63	2,091.11	2,046.03	45.08	46.383		
6,600.00	6,588.52	6,438.49	6,422.77	23.08	22.93	145.64	1,849.09	-168.34	2,105.90	2,060.10	45.80	45.982		
6,700.00	6,688.22	6,537.39	6,521.21	23.44	23.29	145.63	1,857.38	-173.05	2,120.68	2,074.16	46.51	45.593		
6,800.00	6,787.91	6,636.29	6,619.65	23.80	23.65	145.62	1,865.68	-177.76	2,135.46	2,088.23	47.23	45.216		
6,900.00	6,887.61	6,735.19	6,718.09	24.16	24.01	145.61	1,873.98	-182.47	2,150.24	2,102.30	47.94	44.850		
7,000.00	6,987.31	6,834.09	6,816.53	24.52	24.37	145.60	1,882.27	-187.18	2,165.02	2,116.36	48.66	44.494		
7,100.00	7,087.01	6,932.99	6,914.97	24.88	24.73	145.59	1,890.57	-191.90	2,179.80	2,130.43	49.37	44.149		
7,200.00	7,186.71	7,031.89	7,013.41	25.24	25.09	145.58	1,898.87	-196.61	2,194.59	2,144.50	50.09	43.813		
7,300.00	7,286.41	7,130.80	7,111.85	25.60	25.45	145.57	1,907.16	-201.32	2,209.37	2,158.56	50.81	43.486		
7,400.00	7,386.10	7,229.70	7,210.29	25.96	25.81	145.56	1,915.46	-206.03	2,224.15	2,172.63	51.52	43.168		
7,500.00	7,485.80	7,328.60	7,308.73	26.33	26.17	145.56	1,923.76	-210.74	2,238.93	2,186.69	52.24	42.859		
7,600.00	7,585.50	7,427.50	7,407.17	26.69	26.53	145.55	1,932.05	-215.45	2,253.71	2,200.76	52.96	42.558		
7,700.00	7,685.20	7,526.40	7,505.61	27.05	26.89	145.54	1,940.35	-220.17	2,268.50	2,214.82	53.67	42.265		
7,800.00	7,784.90	7,631.36	7,610.08	27.41	27.27	145.53	1,949.14	-225.16	2,283.27	2,228.85	54.42	41.956		
7,860.70	7,845.41	7,757.20	7,735.54	27.63	27.73	145.55	1,957.57	-229.94	2,291.22	2,236.05	55.17	41.530		
7,900.00	7,884.61	7,839.15	7,817.39	27.77	28.02	145.62	1,961.12	-231.96	2,295.28	2,239.64	55.64	41.255		
8,000.00	7,984.46	8,017.36	7,995.56	28.13	28.66	145.77	1,963.67	-233.41	2,300.99	2,244.34	56.65	40.621		
8,100.00	8,084.42	8,117.32	8,095.52	28.49	29.01	145.83	1,963.67	-233.41	2,303.32	2,245.96	57.35	40.159		
8,157.59	8,142.00	8,174.90	8,153.10	28.69	29.21	-0.08	1,963.67	-233.41	2,303.68	2,245.92	57.76	39.885		
8,200.00	8,184.41	8,217.31	8,195.51	28.83	29.37	-0.08	1,963.67	-233.41	2,303.68	2,245.62	58.05	39.682		
8,300.00	8,284.41	8,317.31	8,295.51	29.17	29.72	-0.08	1,963.67	-233.41	2,303.68	2,244.93	58.75	39.213		
8,303.26	8,287.67	8,320.57	8,298.77	29.18	29.73	-0.08	1,963.67	-233.41	2,303.68	2,244.91	58.77	39.198		
8,400.00	8,384.41	8,415.46	8,393.43	29.51	30.05	0.04	1,963.70	-228.29	2,303.71	2,244.29	59.42	38.770		
8,507.63	8,492.04	8,515.79	8,491.19	29.87	30.38	0.59	1,963.83	-206.30	2,303.99	2,243.87	60.12	38.325		
8,550.00	8,534.37	8,553.23	8,526.46	30.02	30.51	-88.48	1,963.91	-193.77	2,304.23	2,243.85	60.38	38.162		
8,600.00	8,584.01	8,596.59	8,566.18	30.18	30.64	-88.13	1,964.01	-176.41	2,304.58	2,243.89	60.68	37.977		
8,650.00	8,632.95	8,639.15	8,603.79	30.34	30.78	-87.80	1,964.13	-156.50	2,304.97	2,243.99	60.98	37.799		
8,700.00	8,680.82	8,680.99	8,639.22	30.50	30.91	-87.48	1,964.26	-134.25	2,305.40	2,244.13	61.27	37.628		
8,750.00	8,727.25	8,722.19	8,672.43	30.66	31.04	-87.17	1,964.41	-109.88	2,305.85	2,244.30	61.55	37.464		
8,800.00	8,771.89	8,762.83	8,703.38	30.81	31.17	-86.89	1,964.57	-83.57	2,306.31	2,244.49	61.82	37.305		
8,850.00	8,814.40	8,802.95	8,732.04	30.95	31.29	-86.63	1,964.74	-55.50	2,306.76	2,244.67	62.09	37.149		
8,900.00	8,854.46	8,842.63	8,758.38	31.09	31.42	-86.38	1,964.91	-25.84	2,307.20	2,244.84	62.37	36.994		
8,950.00	8,891.75	8,881.91	8,782.37	31.23	31.56	-86.16	1,965.10	5.26	2,307.61	2,244.96	62.64	36.838		
9,000.00	8,926.01	8,920.85	8,804.00	31.37	31.70	-85.97	1,965.29	37.63	2,307.97	2,245.04	62.93	36.676		
9,050.00	8,956.96	8,959.50	8,823.24	31.53	31.85	-85.80	1,965.49	71.14	2,308.28	2,245.05	63.23	36.508		
9,100.00	8,984.38	8,997.90	8,840.08	31.69	32.00	-85.65	1,965.70	105.64	2,308.53	2,244.98	63.54	36.330		
9,150.00	9,008.05	9,036.09	8,854.50	31.87	32.16	-85.53	1,965.91	140.99	2,308.70	2,244.82	63.89	36.138		
9,200.00	9,027.79	9,074.11	8,866.48	32.07	32.34	-85.44	1,966.12	177.07	2,308.80	2,244.54	64.26	35.931		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 0-MWD+IFR1													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
9,250.00	9,043.45	9,112.00	8,876.02	32.29	32.52	-85.38	1,966.34	213.73	2,308.81	2,244.16	64.65	35.710		
9,300.00	9,054.92	9,150.00	8,883.13	32.53	32.71	-85.35	1,966.56	251.05	2,308.74	2,243.66	65.08	35.474		
9,350.00	9,062.10	9,187.55	8,887.70	32.79	32.91	-85.34	1,966.79	288.31	2,308.58	2,243.04	65.54	35.223		
9,400.00	9,064.95	9,225.28	8,889.84	33.06	33.12	-85.37	1,967.01	325.97	2,308.33	2,242.31	66.03	34.961		
9,407.63	9,065.00	9,231.03	8,889.95	33.10	33.15	-85.37	1,967.05	331.73	2,308.29	2,242.18	66.10	34.920		
9,500.00	9,065.00	9,320.87	8,890.00	33.68	33.71	-85.37	1,967.58	421.56	2,307.82	2,240.58	67.24	34.322		
9,600.00	9,065.00	9,420.87	8,890.00	34.41	34.43	-85.37	1,968.18	521.56	2,307.31	2,238.62	68.69	33.590		
9,700.00	9,065.00	9,520.86	8,890.00	35.24	35.26	-85.37	1,968.78	621.56	2,306.81	2,236.46	70.35	32.791		
9,800.00	9,065.00	9,620.86	8,890.00	36.17	36.18	-85.37	1,969.37	721.55	2,306.31	2,234.11	72.20	31.943		
9,900.00	9,065.00	9,720.86	8,890.00	37.19	37.19	-85.37	1,969.97	821.55	2,305.81	2,231.58	74.23	31.063		
10,000.00	9,065.00	9,820.86	8,890.00	38.30	38.29	-85.37	1,970.57	921.55	2,305.31	2,228.88	76.42	30.165		
10,100.00	9,065.00	9,920.86	8,890.00	39.48	39.46	-85.37	1,971.16	1,021.54	2,304.80	2,226.04	78.77	29.260		
10,200.00	9,065.00	10,020.86	8,890.00	40.72	40.70	-85.37	1,971.76	1,121.54	2,304.30	2,223.05	81.25	28.361		
10,300.00	9,065.00	10,120.86	8,890.00	42.03	42.01	-85.37	1,972.36	1,221.54	2,303.80	2,219.94	83.86	27.473		
10,400.00	9,065.00	10,220.86	8,890.00	43.40	43.37	-85.37	1,972.95	1,321.53	2,303.30	2,216.72	86.58	26.604		
10,500.00	9,065.00	10,320.85	8,890.00	44.82	44.78	-85.36	1,973.55	1,421.53	2,302.80	2,213.39	89.40	25.758		
10,600.00	9,065.00	10,420.85	8,890.00	46.29	46.24	-85.36	1,974.15	1,521.53	2,302.29	2,209.97	92.32	24.938		
10,700.00	9,065.00	10,520.85	8,890.00	47.79	47.74	-85.36	1,974.74	1,621.52	2,301.79	2,206.47	95.33	24.147		
10,800.00	9,065.00	10,620.85	8,890.00	49.34	49.29	-85.36	1,975.34	1,721.52	2,301.29	2,202.88	98.41	23.386		
10,900.00	9,065.00	10,720.85	8,890.00	50.92	50.87	-85.36	1,975.94	1,821.52	2,300.79	2,199.23	101.56	22.655		
11,000.00	9,065.00	10,820.85	8,890.00	52.54	52.48	-85.36	1,976.53	1,921.52	2,300.29	2,195.51	104.77	21.955		
11,100.00	9,065.00	10,920.85	8,890.00	54.18	54.12	-85.36	1,977.13	2,021.51	2,299.78	2,191.73	108.05	21.285		
11,200.00	9,065.00	11,020.84	8,890.00	55.85	55.78	-85.36	1,977.73	2,121.51	2,299.28	2,187.90	111.38	20.644		
11,300.00	9,065.00	11,120.84	8,890.00	57.54	57.48	-85.36	1,978.32	2,221.51	2,298.78	2,184.03	114.75	20.032		
11,400.00	9,065.00	11,220.84	8,890.00	59.26	59.19	-85.36	1,978.92	2,321.50	2,298.28	2,180.10	118.17	19.448		
11,500.00	9,065.00	11,320.84	8,890.00	61.00	60.92	-85.35	1,979.52	2,421.50	2,297.78	2,176.14	121.64	18.891		
11,600.00	9,065.00	11,420.84	8,890.00	62.75	62.68	-85.35	1,980.12	2,521.50	2,297.27	2,172.14	125.13	18.358		
11,700.00	9,065.00	11,520.84	8,890.00	64.52	64.45	-85.35	1,980.71	2,621.49	2,296.77	2,168.10	128.67	17.850		
11,800.00	9,065.00	11,620.84	8,890.00	66.31	66.24	-85.35	1,981.31	2,721.49	2,296.27	2,164.04	132.23	17.365		
11,900.00	9,065.00	11,720.84	8,890.00	68.11	68.04	-85.35	1,981.91	2,821.49	2,295.77	2,159.94	135.83	16.902		
12,000.00	9,065.00	11,820.83	8,890.00	69.93	69.85	-85.35	1,982.50	2,921.49	2,295.27	2,155.82	139.45	16.460		
12,100.00	9,065.00	11,920.83	8,890.00	71.76	71.68	-85.35	1,983.10	3,021.48	2,294.76	2,151.67	143.09	16.037		
12,200.00	9,065.00	12,020.83	8,890.00	73.60	73.52	-85.35	1,983.70	3,121.48	2,294.26	2,147.50	146.76	15.633		
12,300.00	9,065.00	12,120.83	8,890.00	75.45	75.37	-85.35	1,984.29	3,221.48	2,293.76	2,143.31	150.45	15.246		
12,400.00	9,065.00	12,220.83	8,890.00	77.31	77.23	-85.35	1,984.89	3,321.47	2,293.26	2,139.10	154.16	14.876		
12,500.00	9,065.00	12,320.83	8,890.00	79.18	79.09	-85.34	1,985.49	3,421.47	2,292.75	2,134.87	157.89	14.522		
12,600.00	9,065.00	12,420.83	8,890.00	81.05	80.97	-85.34	1,986.08	3,521.47	2,292.25	2,130.62	161.63	14.182		
12,700.00	9,065.00	12,520.83	8,890.00	82.94	82.86	-85.34	1,986.68	3,621.46	2,291.75	2,126.36	165.39	13.856		
12,800.00	9,065.00	12,620.82	8,890.00	84.83	84.75	-85.34	1,987.28	3,721.46	2,291.25	2,122.08	169.17	13.544		
12,900.00	9,065.00	12,720.82	8,890.00	86.73	86.65	-85.34	1,987.87	3,821.46	2,290.75	2,117.79	172.96	13.245		
13,000.00	9,065.00	12,820.82	8,890.00	88.64	88.55	-85.34	1,988.47	3,921.45	2,290.24	2,113.49	176.76	12.957		
13,100.00	9,065.00	12,920.82	8,890.00	90.55	90.47	-85.34	1,989.07	4,021.45	2,289.74	2,109.17	180.57	12.680		
13,200.00	9,065.00	13,020.82	8,890.00	92.47	92.39	-85.34	1,989.66	4,121.45	2,289.24	2,104.84	184.40	12.415		
13,300.00	9,065.00	13,120.82	8,890.00	94.39	94.31	-85.34	1,990.26	4,221.45	2,288.74	2,100.50	188.23	12.159		
13,400.00	9,065.00	13,220.82	8,890.00	96.32	96.24	-85.33	1,990.86	4,321.44	2,288.24	2,096.16	192.08	11.913		
13,500.00	9,065.00	13,320.82	8,890.00	98.25	98.17	-85.33	1,991.45	4,421.44	2,287.73	2,091.80	195.94	11.676		
13,600.00	9,065.00	13,420.81	8,890.00	100.19	100.11	-85.33	1,992.05	4,521.44	2,287.23	2,087.43	199.80	11.447		
13,700.00	9,065.00	13,520.81	8,890.00	102.13	102.05	-85.33	1,992.65	4,621.43	2,286.73	2,083.06	203.68	11.227		
13,800.00	9,065.00	13,620.81	8,890.00	104.08	104.00	-85.33	1,993.25	4,721.43	2,286.23	2,078.67	207.56	11.015		
13,900.00	9,065.00	13,720.81	8,890.00	106.03	105.95	-85.33	1,993.84	4,821.43	2,285.73	2,074.28	211.45	10.810		
14,000.00	9,065.00	13,820.81	8,890.00	107.98	107.90	-85.33	1,994.44	4,921.42	2,285.22	2,069.88	215.34	10.612		
14,100.00	9,065.00	13,920.81	8,890.00	109.94	109.86	-85.33	1,995.04	5,021.42	2,284.72	2,065.48	219.24	10.421		

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 0-MWD+IFR1													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
14,200.00	9,065.00	14,020.81	8,890.00	111.90	111.82	-85.33	1,995.63	5,121.42	2,284.22	2,061.07	223.15	10.236		
14,300.00	9,065.00	14,120.81	8,890.00	113.86	113.78	-85.33	1,996.23	5,221.42	2,283.72	2,056.65	227.07	10.057		
14,400.00	9,065.00	14,220.80	8,890.00	115.82	115.74	-85.32	1,996.83	5,321.41	2,283.22	2,052.23	230.99	9.885		
14,500.00	9,065.00	14,320.80	8,890.00	117.79	117.71	-85.32	1,997.42	5,421.41	2,282.71	2,047.80	234.91	9.717		
14,600.00	9,065.00	14,420.80	8,890.00	119.76	119.68	-85.32	1,998.02	5,521.41	2,282.21	2,043.37	238.84	9.555		
14,700.00	9,065.00	14,520.80	8,890.00	121.74	121.66	-85.32	1,998.62	5,621.40	2,281.71	2,038.93	242.78	9.398		
14,800.00	9,065.00	14,620.80	8,890.00	123.71	123.63	-85.32	1,999.21	5,721.40	2,281.21	2,034.49	246.72	9.246		
14,900.00	9,065.00	14,720.80	8,890.00	125.69	125.61	-85.32	1,999.81	5,821.40	2,280.71	2,030.04	250.67	9.099		
15,000.00	9,065.00	14,820.80	8,890.00	127.67	127.59	-85.32	2,000.41	5,921.39	2,280.20	2,025.59	254.62	8.955		
15,100.00	9,065.00	14,920.80	8,890.00	129.65	129.58	-85.32	2,001.00	6,021.39	2,279.70	2,021.13	258.57	8.817		
15,200.00	9,065.00	15,020.79	8,890.00	131.63	131.56	-85.32	2,001.60	6,121.39	2,279.20	2,016.67	262.53	8.682		
15,300.00	9,065.00	15,120.79	8,890.00	133.62	133.55	-85.32	2,002.20	6,221.38	2,278.70	2,012.21	266.49	8.551		
15,400.00	9,065.00	15,220.79	8,890.00	135.61	135.53	-85.31	2,002.79	6,321.38	2,278.20	2,007.74	270.45	8.424		
15,500.00	9,065.00	15,320.79	8,890.00	137.60	137.52	-85.31	2,003.39	6,421.38	2,277.69	2,003.27	274.42	8.300		
15,600.00	9,065.00	15,420.79	8,890.00	139.59	139.52	-85.31	2,003.99	6,521.38	2,277.19	1,998.80	278.39	8.180		
15,700.00	9,065.00	15,520.79	8,890.00	141.58	141.51	-85.31	2,004.58	6,621.37	2,276.69	1,994.32	282.37	8.063		
15,800.00	9,065.00	15,620.79	8,890.00	143.57	143.50	-85.31	2,005.18	6,721.37	2,276.19	1,989.84	286.34	7.949		
15,900.00	9,065.00	15,720.79	8,890.00	145.57	145.50	-85.31	2,005.78	6,821.37	2,275.69	1,985.36	290.32	7.838		
16,000.00	9,065.00	15,820.78	8,890.00	147.56	147.50	-85.31	2,006.38	6,921.36	2,275.18	1,980.88	294.31	7.731		
16,100.00	9,065.00	15,920.78	8,890.00	149.56	149.50	-85.31	2,006.97	7,021.36	2,274.68	1,976.39	298.29	7.626		
16,200.00	9,065.00	16,020.78	8,890.00	151.56	151.50	-85.31	2,007.57	7,121.36	2,274.18	1,971.90	302.28	7.523		
16,300.00	9,065.00	16,120.78	8,890.00	153.56	153.50	-85.31	2,008.17	7,221.35	2,273.68	1,967.41	306.27	7.424		
16,400.00	9,065.00	16,220.78	8,890.00	155.56	155.50	-85.30	2,008.76	7,321.35	2,273.18	1,962.91	310.26	7.327		
16,500.00	9,065.00	16,320.78	8,890.00	157.57	157.50	-85.30	2,009.36	7,421.35	2,272.67	1,958.41	314.26	7.232		
16,600.00	9,065.00	16,420.78	8,890.00	159.57	159.51	-85.30	2,009.96	7,521.35	2,272.17	1,953.91	318.26	7.139		
16,700.00	9,065.00	16,520.78	8,890.00	161.57	161.51	-85.30	2,010.55	7,621.34	2,271.67	1,949.41	322.26	7.049		
16,800.00	9,065.00	16,620.77	8,890.00	163.58	163.52	-85.30	2,011.15	7,721.34	2,271.17	1,944.91	326.26	6.961		
16,900.00	9,065.00	16,720.77	8,890.00	165.59	165.53	-85.30	2,011.75	7,821.34	2,270.67	1,940.40	330.26	6.875		
17,000.00	9,065.00	16,820.77	8,890.00	167.60	167.53	-85.30	2,012.34	7,921.33	2,270.16	1,935.90	334.27	6.791		
17,100.00	9,065.00	16,920.77	8,890.00	169.60	169.54	-85.30	2,012.94	8,021.33	2,269.66	1,931.39	338.27	6.710		
17,200.00	9,065.00	17,020.77	8,890.00	171.61	171.55	-85.30	2,013.54	8,121.33	2,269.16	1,926.88	342.28	6.630		
17,300.00	9,065.00	17,120.77	8,890.00	173.62	173.57	-85.29	2,014.13	8,221.32	2,268.66	1,922.37	346.29	6.551		
17,400.00	9,065.00	17,220.77	8,890.00	175.63	175.58	-85.29	2,014.73	8,321.32	2,268.16	1,917.85	350.30	6.475		
17,500.00	9,065.00	17,320.77	8,890.00	177.65	177.59	-85.29	2,015.33	8,421.32	2,267.65	1,913.34	354.32	6.400		
17,600.00	9,065.00	17,420.76	8,890.00	179.66	179.60	-85.29	2,015.92	8,521.31	2,267.15	1,908.82	358.33	6.327		
17,700.00	9,065.00	17,520.76	8,890.00	181.67	181.62	-85.29	2,016.52	8,621.31	2,266.65	1,904.30	362.35	6.255		
17,800.00	9,065.00	17,620.76	8,890.00	183.69	183.63	-85.29	2,017.12	8,721.31	2,266.15	1,899.78	366.37	6.185		
17,900.00	9,065.00	17,720.76	8,890.00	185.70	185.65	-85.29	2,017.71	8,821.31	2,265.65	1,895.26	370.39	6.117		
18,000.00	9,065.00	17,820.76	8,890.00	187.72	187.66	-85.29	2,018.31	8,921.30	2,265.14	1,890.74	374.41	6.050		
18,100.00	9,065.00	17,920.76	8,890.00	189.73	189.68	-85.29	2,018.91	9,021.30	2,264.64	1,886.21	378.43	5.984		
18,200.00	9,065.00	18,020.76	8,890.00	191.75	191.70	-85.29	2,019.51	9,121.30	2,264.14	1,881.69	382.45	5.920		
18,300.00	9,065.00	18,120.75	8,890.00	193.77	193.72	-85.28	2,020.10	9,221.29	2,263.64	1,877.16	386.47	5.857		
18,400.00	9,065.00	18,220.75	8,890.00	195.78	195.74	-85.28	2,020.70	9,321.29	2,263.14	1,872.64	390.50	5.795		
18,500.00	9,065.00	18,320.75	8,890.00	197.80	197.76	-85.28	2,021.30	9,421.29	2,262.63	1,868.11	394.53	5.735		
18,600.00	9,065.00	18,420.75	8,890.00	199.82	199.78	-85.28	2,021.89	9,521.28	2,262.13	1,863.58	398.55	5.676		
18,700.00	9,065.00	18,520.75	8,890.00	201.84	201.80	-85.28	2,022.49	9,621.28	2,261.63	1,859.05	402.58	5.618		
18,800.00	9,065.00	18,620.75	8,890.00	203.86	203.82	-85.28	2,023.09	9,721.28	2,261.13	1,854.52	406.61	5.561		
18,900.00	9,065.00	18,720.75	8,890.00	205.88	205.84	-85.28	2,023.68	9,821.28	2,260.63	1,849.98	410.64	5.505		
19,000.00	9,065.00	18,820.75	8,890.00	207.90	207.86	-85.28	2,024.28	9,921.27	2,260.12	1,845.45	414.67	5.450		
19,100.00	9,065.00	18,920.74	8,890.00	209.92	209.88	-85.28	2,024.88	10,021.27	2,259.62	1,840.92	418.71	5.397		
19,200.00	9,065.00	19,020.74	8,890.00	211.95	211.90	-85.27	2,025.47	10,121.27	2,259.12	1,836.38	422.74	5.344		
19,300.00	9,065.00	19,120.74	8,890.00	213.97	213.93	-85.27	2,026.07	10,221.26	2,258.62	1,831.84	426.77	5.292		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design	Sec 14-T21S-R27E - Lone Tree Draw 14-13 State Com 332H - Wellbore #1 - Permit Plan 1											Offset Site Error:	0.00 ft
Survey Program:	0-MWD+IFR1											Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
19,400.00	9,065.00	19,220.74	8,890.00	215.99	215.95	-85.27	2,026.67	10,321.26	2,258.12	1,827.31	430.81	5.242	
19,456.84	9,065.00	19,277.58	8,890.00	217.14	217.10	-85.27	2,027.01	10,378.10	2,257.83	1,824.73	433.10	5.213 SF	

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 0-MWD+IFR1													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0.00	0.00	0.90	0.90	0.50	0.50	-0.11	59.98	-0.11	59.98					
100.00	100.00	100.90	100.90	0.52	0.52	-0.11	59.98	-0.11	59.98	58.94	1.04	57.876		
200.00	200.00	200.90	200.90	0.70	0.70	-0.11	59.98	-0.11	59.98	58.57	1.41	42.646		
300.00	300.00	300.90	300.90	0.99	0.99	-0.11	59.98	-0.11	59.98	58.00	1.98	30.332		
400.00	400.00	400.90	400.90	1.31	1.31	-0.11	59.98	-0.11	59.98	57.36	2.62	22.883		
500.00	500.00	500.90	500.90	1.65	1.65	-0.11	59.98	-0.11	59.98	56.68	3.30	18.202		
600.00	600.00	600.90	600.90	1.99	1.99	-0.11	59.98	-0.11	59.98	56.00	3.98	15.054		
700.00	700.00	700.90	700.90	2.34	2.34	-0.11	59.98	-0.11	59.98	55.30	4.68	12.811		
800.00	800.00	800.90	800.90	2.69	2.69	-0.11	59.98	-0.11	59.98	54.60	5.38	11.140		
900.00	900.00	900.90	900.90	3.04	3.05	-0.11	59.98	-0.11	59.98	53.89	6.09	9.849		
1,000.00	1,000.00	1,000.90	1,000.90	3.40	3.40	-0.11	59.98	-0.11	59.98	53.18	6.80	8.823		
1,100.00	1,100.00	1,100.90	1,100.90	3.75	3.76	-0.11	59.98	-0.11	59.98	52.47	7.51	7.988		
1,200.00	1,200.00	1,200.90	1,200.90	4.11	4.11	-0.11	59.98	-0.11	59.98	51.76	8.22	7.297		
1,300.00	1,300.00	1,300.90	1,300.90	4.46	4.47	-0.11	59.98	-0.11	59.98	51.05	8.93	6.716		
1,400.00	1,400.00	1,400.90	1,400.90	4.82	4.82	-0.11	59.98	-0.11	59.98	50.34	9.64	6.219		
1,500.00	1,500.00	1,500.90	1,500.90	5.18	5.18	-0.11	59.98	-0.11	59.98	49.62	10.36	5.791		
1,600.00	1,600.00	1,600.90	1,600.90	5.53	5.54	-0.11	59.98	-0.11	59.98	48.91	11.07	5.418		
1,700.00	1,700.00	1,700.90	1,700.90	5.89	5.89	-0.11	59.98	-0.11	59.98	48.19	11.79	5.089		
1,800.00	1,800.00	1,800.90	1,800.90	6.25	6.25	-0.11	59.98	-0.11	59.98	47.48	12.50	4.798 Alert		
1,900.00	1,900.00	1,900.90	1,900.90	6.61	6.61	-0.11	59.98	-0.11	59.98	46.77	13.21	4.539 Alert		
2,000.00	2,000.00	2,000.90	2,000.90	6.96	6.97	-0.11	59.98	-0.11	59.98	46.05	13.93	4.306 Alert, CC, ES		
2,100.00	2,100.00	2,099.87	2,099.86	7.32	7.32	-0.28	60.83	-0.30	60.84	46.20	14.64	4.156 Alert		
2,200.00	2,200.00	2,198.79	2,198.75	7.68	7.67	-0.79	63.34	-0.87	63.39	48.04	15.35	4.131 Alert		
2,300.00	2,300.00	2,297.59	2,297.46	8.04	8.03	-1.54	67.52	-1.82	67.63	51.58	16.05	4.215 Alert		
2,400.00	2,400.00	2,396.21	2,395.90	8.39	8.38	-2.45	73.33	-3.14	73.57	56.83	16.74	4.394 Alert		
2,500.00	2,500.00	2,494.60	2,493.99	8.75	8.73	-3.42	80.79	-4.83	81.23	63.79	17.43	4.659 Alert		
2,600.00	2,599.99	2,592.64	2,591.58	9.09	9.08	141.82	89.84	-6.88	91.27	73.17	18.10	5.042		
2,700.00	2,699.96	2,690.13	2,688.46	9.42	9.43	141.70	100.46	-9.29	104.35	85.61	18.75	5.566		
2,800.00	2,799.86	2,786.95	2,784.47	9.75	9.78	141.96	112.60	-12.05	120.46	101.07	19.39	6.213		
2,900.00	2,899.68	2,882.95	2,879.46	10.08	10.12	142.44	126.20	-15.13	139.56	119.53	20.02	6.969		
2,945.33	2,944.88	2,926.16	2,922.13	10.23	10.27	142.71	132.82	-16.63	149.20	128.89	20.31	7.346		
3,000.00	2,999.39	2,978.05	2,973.31	10.41	10.46	143.06	141.19	-18.53	161.44	140.78	20.65	7.817		
3,100.00	3,099.08	3,072.41	3,066.16	10.75	10.80	143.51	157.57	-22.25	185.06	163.78	21.27	8.699		
3,200.00	3,198.78	3,166.01	3,157.98	11.08	11.13	143.78	175.29	-26.26	210.24	188.36	21.89	9.605		
3,300.00	3,298.48	3,261.40	3,251.31	11.42	11.48	143.94	194.48	-30.62	236.62	214.07	22.55	10.495		
3,400.00	3,398.18	3,357.84	3,345.66	11.76	11.83	144.06	213.95	-35.04	263.06	239.84	23.23	11.325		
3,500.00	3,497.88	3,454.27	3,440.01	12.10	12.18	144.16	233.43	-39.45	289.51	265.60	23.91	12.107		
3,600.00	3,597.58	3,550.71	3,534.36	12.45	12.54	144.25	252.90	-43.87	315.96	291.36	24.60	12.844		
3,700.00	3,697.27	3,647.15	3,628.71	12.79	12.89	144.32	272.38	-48.29	342.41	317.12	25.29	13.540		
3,800.00	3,796.97	3,743.59	3,723.05	13.14	13.25	144.38	291.85	-52.70	368.86	342.88	25.98	14.198		
3,900.00	3,896.67	3,840.03	3,817.40	13.48	13.61	144.43	311.33	-57.12	395.31	368.64	26.67	14.821		
4,000.00	3,996.37	3,936.46	3,911.75	13.83	13.97	144.48	330.80	-61.54	421.76	394.39	27.37	15.411		
4,100.00	4,096.07	4,032.90	4,006.10	14.18	14.33	144.52	350.28	-65.96	448.21	420.15	28.06	15.971		
4,200.00	4,195.76	4,129.34	4,100.44	14.53	14.69	144.55	369.75	-70.37	474.66	445.90	28.76	16.503		
4,300.00	4,295.46	4,225.78	4,194.79	14.88	15.05	144.59	389.23	-74.79	501.12	471.65	29.46	17.009		
4,400.00	4,395.16	4,322.22	4,289.14	15.23	15.42	144.62	408.70	-79.21	527.57	497.40	30.16	17.490		
4,500.00	4,494.86	4,418.65	4,383.49	15.58	15.78	144.64	428.17	-83.63	554.02	523.15	30.87	17.949		
4,600.00	4,594.56	4,515.09	4,477.83	15.93	16.14	144.67	447.65	-88.04	580.47	548.90	31.57	18.387		
4,700.00	4,694.25	4,611.53	4,572.18	16.29	16.51	144.69	467.12	-92.46	606.92	574.65	32.27	18.805		
4,800.00	4,793.95	4,707.97	4,666.53	16.64	16.88	144.71	486.60	-96.88	633.37	600.39	32.98	19.205		
4,900.00	4,893.65	4,804.40	4,760.88	17.00	17.24	144.73	506.07	-101.29	659.83	626.14	33.69	19.587		
5,000.00	4,993.35	4,900.84	4,855.23	17.35	17.61	144.74	525.55	-105.71	686.28	651.88	34.39	19.953		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 0-MWD+IFR1													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
5,100.00	5,093.05	4,997.28	4,949.57	17.71	17.98	144.76	545.02	-110.13	712.73	677.63	35.10	20.304		
5,200.00	5,192.75	5,106.28	5,043.92	18.06	18.39	144.77	564.50	-114.55	739.18	703.32	35.86	20.613		
5,300.00	5,292.44	5,209.84	5,138.27	18.42	18.79	144.79	583.97	-118.96	765.63	729.04	36.60	20.920		
5,400.00	5,392.14	5,286.59	5,232.62	18.77	19.08	144.80	603.45	-123.38	792.09	754.85	37.23	21.273		
5,500.00	5,491.84	5,383.03	5,326.96	19.13	19.45	144.81	622.92	-127.80	818.54	780.59	37.95	21.572		
5,600.00	5,591.54	5,479.47	5,421.31	19.49	19.82	144.82	642.40	-132.22	844.99	806.33	38.66	21.858		
5,700.00	5,691.24	5,575.91	5,515.66	19.85	20.19	144.83	661.87	-136.63	871.44	832.07	39.37	22.134		
5,800.00	5,790.93	5,672.34	5,610.01	20.20	20.56	144.84	681.34	-141.05	897.90	857.81	40.08	22.400		
5,900.00	5,890.63	5,768.78	5,704.35	20.56	20.93	144.85	700.82	-145.47	924.35	883.55	40.80	22.656		
6,000.00	5,990.33	5,865.22	5,798.70	20.92	21.31	144.86	720.29	-149.89	950.80	909.29	41.51	22.903		
6,100.00	6,090.03	5,961.66	5,893.05	21.28	21.68	144.87	739.77	-154.30	977.25	935.02	42.23	23.142		
6,200.00	6,189.73	6,058.10	5,987.40	21.64	22.05	144.88	759.24	-158.72	1,003.70	960.76	42.94	23.372		
6,300.00	6,289.42	6,154.53	6,081.75	22.00	22.42	144.89	778.72	-163.14	1,030.16	986.50	43.66	23.594		
6,400.00	6,389.12	6,250.97	6,176.09	22.36	22.79	144.89	798.19	-167.55	1,056.61	1,012.23	44.38	23.809		
6,500.00	6,488.82	6,347.41	6,270.44	22.72	23.17	144.90	817.67	-171.97	1,083.06	1,037.97	45.10	24.017		
6,600.00	6,588.52	6,443.85	6,364.79	23.08	23.54	144.91	837.14	-176.39	1,109.51	1,063.70	45.81	24.218		
6,700.00	6,688.22	6,540.29	6,459.14	23.44	23.91	144.91	856.62	-180.81	1,135.97	1,089.44	46.53	24.413		
6,800.00	6,787.91	6,636.72	6,553.48	23.80	24.28	144.92	876.09	-185.22	1,162.42	1,115.17	47.25	24.601		
6,900.00	6,887.61	6,733.16	6,647.83	24.16	24.66	144.92	895.56	-189.64	1,188.87	1,140.90	47.97	24.784		
7,000.00	6,987.31	6,829.60	6,742.18	24.52	25.03	144.93	915.04	-194.06	1,215.32	1,166.64	48.69	24.961		
7,100.00	7,087.01	6,926.04	6,836.53	24.88	25.41	144.93	934.51	-198.48	1,241.78	1,192.37	49.41	25.133		
7,200.00	7,186.71	7,022.47	6,930.87	25.24	25.78	144.94	953.99	-202.89	1,268.23	1,218.10	50.13	25.299		
7,300.00	7,286.41	7,118.91	7,025.22	25.60	26.15	144.94	973.46	-207.31	1,294.68	1,243.83	50.85	25.461		
7,400.00	7,386.10	7,215.35	7,119.57	25.96	26.53	144.95	992.94	-211.73	1,321.13	1,269.56	51.57	25.618		
7,500.00	7,485.80	7,361.69	7,263.27	26.33	27.09	144.98	1,019.86	-217.83	1,345.83	1,293.14	52.69	25.542		
7,600.00	7,585.50	7,511.43	7,411.30	26.69	27.65	145.06	1,041.84	-222.82	1,366.82	1,313.06	53.76	25.423		
7,700.00	7,685.20	7,663.39	7,562.30	27.05	28.21	145.20	1,058.34	-226.56	1,384.03	1,329.26	54.77	25.268		
7,800.00	7,784.90	7,817.14	7,715.65	27.41	28.76	145.38	1,069.06	-228.99	1,397.39	1,341.67	55.72	25.079		
7,860.70	7,845.41	7,911.14	7,809.57	27.63	29.08	145.52	1,072.64	-229.81	1,403.58	1,347.33	56.26	24.950		
7,900.00	7,884.61	7,972.22	7,870.64	27.77	29.29	145.64	1,073.76	-230.06	1,406.66	1,350.07	56.59	24.858		
8,000.00	7,984.46	8,086.94	7,985.36	28.13	29.68	145.82	1,073.98	-230.11	1,411.29	1,353.97	57.32	24.621		
8,100.00	8,084.42	8,186.89	8,085.32	28.49	30.02	145.91	1,073.98	-230.11	1,413.62	1,355.60	58.02	24.365		
8,157.59	8,142.00	8,244.48	8,142.90	28.69	30.22	0.00	1,073.98	-230.11	1,413.98	1,355.56	58.42	24.206		
8,200.00	8,184.41	8,286.89	8,185.31	28.83	30.36	0.00	1,073.98	-230.11	1,413.98	1,355.27	58.71	24.086		
8,206.90	8,191.31	8,306.21	8,192.21	28.85	30.43	0.00	1,073.98	-230.11	1,413.98	1,355.18	58.80	24.049		
8,300.00	8,284.41	8,386.55	8,284.96	29.17	30.70	0.01	1,073.98	-229.65	1,413.98	1,354.60	59.39	23.810		
8,400.00	8,384.41	8,483.35	8,380.91	29.51	31.02	0.50	1,074.05	-217.64	1,414.12	1,354.07	60.05	23.550		
8,507.63	8,492.04	8,580.26	8,473.56	29.87	31.32	1.63	1,074.22	-189.64	1,414.93	1,354.18	60.75	23.293		
8,550.00	8,534.37	8,615.98	8,506.32	30.02	31.42	-87.14	1,074.31	-175.43	1,415.58	1,354.57	61.01	23.202		
8,600.00	8,584.01	8,657.26	8,543.00	30.18	31.54	-86.47	1,074.42	-156.50	1,416.50	1,355.18	61.32	23.101		
8,650.00	8,632.95	8,697.71	8,577.52	30.34	31.66	-85.81	1,074.54	-135.43	1,417.56	1,355.95	61.61	23.008		
8,700.00	8,680.82	8,737.43	8,609.90	30.50	31.76	-85.18	1,074.68	-112.43	1,418.74	1,356.84	61.90	22.920		
8,750.00	8,727.25	8,776.51	8,640.11	30.66	31.87	-84.58	1,074.83	-87.67	1,419.98	1,357.81	62.17	22.839		
8,800.00	8,771.89	8,815.00	8,668.16	30.81	31.97	-84.01	1,074.99	-61.32	1,421.27	1,358.83	62.44	22.762		
8,850.00	8,814.40	8,853.00	8,694.05	30.95	32.07	-83.48	1,075.15	-33.52	1,422.57	1,359.88	62.70	22.690		
8,900.00	8,854.46	8,890.55	8,717.77	31.09	32.17	-82.99	1,075.33	-4.41	1,423.85	1,360.90	62.95	22.618		
8,950.00	8,891.75	8,927.72	8,739.33	31.23	32.27	-82.54	1,075.51	25.86	1,425.07	1,361.86	63.21	22.546		
9,000.00	8,926.01	8,964.55	8,758.70	31.37	32.38	-82.13	1,075.69	57.17	1,426.21	1,362.75	63.47	22.471		
9,050.00	8,956.96	9,000.00	8,775.42	31.53	32.50	-81.78	1,075.88	88.43	1,427.25	1,363.51	63.73	22.394		
9,100.00	8,984.38	9,037.40	8,790.92	31.69	32.63	-81.46	1,076.08	122.46	1,428.15	1,364.12	64.03	22.304		
9,150.00	9,008.05	9,073.50	8,803.74	31.87	32.77	-81.20	1,076.28	156.19	1,428.90	1,364.55	64.35	22.206		
9,200.00	9,027.79	9,109.44	8,814.38	32.07	32.92	-80.99	1,076.49	190.51	1,429.48	1,364.79	64.69	22.098		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 0-MWD+IFR1													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
9,250.00	9,043.45	9,145.24	8,822.81	32.29	33.07	-80.83	1,076.69	225.31	1,429.88	1,364.82	65.06	21.978		
9,300.00	9,054.92	9,180.96	8,829.05	32.53	33.25	-80.73	1,076.90	260.47	1,430.08	1,364.62	65.47	21.845		
9,350.00	9,062.10	9,216.62	8,833.07	32.79	33.42	-80.69	1,077.11	295.89	1,430.09	1,364.18	65.90	21.700		
9,400.00	9,064.95	9,252.25	8,834.89	33.06	33.61	-80.70	1,077.33	331.47	1,429.89	1,363.52	66.37	21.545		
9,407.63	9,065.00	9,257.69	8,834.97	33.10	33.64	-80.71	1,077.36	336.91	1,429.84	1,363.40	66.44	21.520		
9,500.00	9,065.00	9,347.67	8,835.00	33.68	34.19	-80.70	1,077.90	426.88	1,429.37	1,361.79	67.58	21.150		
9,600.00	9,065.00	9,447.67	8,835.00	34.41	34.90	-80.70	1,078.49	526.88	1,428.87	1,359.85	69.03	20.700		
9,700.00	9,065.00	9,547.66	8,835.00	35.24	35.71	-80.70	1,079.09	626.88	1,428.38	1,357.70	70.68	20.210		
9,800.00	9,065.00	9,647.66	8,835.00	36.17	36.63	-80.69	1,079.68	726.88	1,427.88	1,355.37	72.51	19.692		
9,900.00	9,065.00	9,747.66	8,835.00	37.19	37.63	-80.69	1,080.28	826.87	1,427.38	1,352.86	74.52	19.154		
10,000.00	9,065.00	9,847.66	8,835.00	38.30	38.72	-80.69	1,080.87	926.87	1,426.88	1,350.19	76.69	18.605		
10,100.00	9,065.00	9,947.66	8,835.00	39.48	39.88	-80.68	1,081.47	1,026.87	1,426.38	1,347.37	79.01	18.052		
10,200.00	9,065.00	10,047.66	8,835.00	40.72	41.11	-80.68	1,082.07	1,126.86	1,425.89	1,344.42	81.47	17.502		
10,300.00	9,065.00	10,147.66	8,835.00	42.03	42.41	-80.68	1,082.66	1,226.86	1,425.39	1,341.34	84.05	16.960		
10,400.00	9,065.00	10,247.66	8,835.00	43.40	43.76	-80.67	1,083.26	1,326.86	1,424.89	1,338.15	86.74	16.428		
10,500.00	9,065.00	10,347.65	8,835.00	44.82	45.17	-80.67	1,083.85	1,426.85	1,424.39	1,334.86	89.53	15.910		
10,600.00	9,065.00	10,447.65	8,835.00	46.29	46.62	-80.67	1,084.45	1,526.85	1,423.89	1,331.48	92.41	15.408		
10,700.00	9,065.00	10,547.65	8,835.00	47.79	48.12	-80.66	1,085.05	1,626.85	1,423.40	1,328.01	95.38	14.923		
10,800.00	9,065.00	10,647.65	8,835.00	49.34	49.65	-80.66	1,085.64	1,726.84	1,422.90	1,324.47	98.43	14.456		
10,900.00	9,065.00	10,747.65	8,835.00	50.92	51.22	-80.66	1,086.24	1,826.84	1,422.40	1,320.85	101.55	14.007		
11,000.00	9,065.00	10,847.65	8,835.00	52.54	52.83	-80.65	1,086.83	1,926.84	1,421.90	1,317.18	104.73	13.577		
11,100.00	9,065.00	10,947.65	8,835.00	54.18	54.46	-80.65	1,087.43	2,026.84	1,421.40	1,313.44	107.96	13.166		
11,200.00	9,065.00	11,047.64	8,835.00	55.85	56.12	-80.65	1,088.03	2,126.83	1,420.91	1,309.65	111.26	12.772		
11,300.00	9,065.00	11,147.64	8,835.00	57.54	57.81	-80.64	1,088.62	2,226.83	1,420.41	1,305.81	114.59	12.395		
11,400.00	9,065.00	11,247.64	8,835.00	59.26	59.51	-80.64	1,089.22	2,326.83	1,419.91	1,301.93	117.98	12.035		
11,500.00	9,065.00	11,347.64	8,835.00	61.00	61.24	-80.64	1,089.81	2,426.82	1,419.41	1,298.01	121.40	11.692		
11,600.00	9,065.00	11,447.64	8,835.00	62.75	62.99	-80.63	1,090.41	2,526.82	1,418.91	1,294.05	124.86	11.364		
11,700.00	9,065.00	11,547.64	8,835.00	64.52	64.76	-80.63	1,091.01	2,626.82	1,418.42	1,290.06	128.36	11.051		
11,800.00	9,065.00	11,647.64	8,835.00	66.31	66.54	-80.63	1,091.60	2,726.81	1,417.92	1,286.03	131.88	10.751		
11,900.00	9,065.00	11,747.64	8,835.00	68.11	68.33	-80.62	1,092.20	2,826.81	1,417.42	1,281.98	135.44	10.465		
12,000.00	9,065.00	11,847.63	8,835.00	69.93	70.14	-80.62	1,092.79	2,926.81	1,416.92	1,277.90	139.02	10.192		
12,100.00	9,065.00	11,947.63	8,835.00	71.76	71.97	-80.62	1,093.39	3,026.81	1,416.43	1,273.80	142.63	9.931		
12,200.00	9,065.00	12,047.63	8,835.00	73.60	73.80	-80.61	1,093.98	3,126.80	1,415.93	1,269.67	146.26	9.681		
12,300.00	9,065.00	12,147.63	8,835.00	75.45	75.65	-80.61	1,094.58	3,226.80	1,415.43	1,265.52	149.91	9.442		
12,400.00	9,065.00	12,247.63	8,835.00	77.31	77.50	-80.61	1,095.18	3,326.80	1,414.93	1,261.35	153.58	9.213		
12,500.00	9,065.00	12,347.63	8,835.00	79.18	79.37	-80.60	1,095.77	3,426.79	1,414.43	1,257.16	157.27	8.994		
12,600.00	9,065.00	12,447.63	8,835.00	81.05	81.24	-80.60	1,096.37	3,526.79	1,413.94	1,252.96	160.98	8.783		
12,700.00	9,065.00	12,547.63	8,835.00	82.94	83.12	-80.60	1,096.96	3,626.79	1,413.44	1,248.74	164.70	8.582		
12,800.00	9,065.00	12,647.62	8,835.00	84.83	85.01	-80.59	1,097.56	3,726.78	1,412.94	1,244.50	168.44	8.389		
12,900.00	9,065.00	12,747.62	8,835.00	86.73	86.91	-80.59	1,098.16	3,826.78	1,412.44	1,240.26	172.19	8.203		
13,000.00	9,065.00	12,847.62	8,835.00	88.64	88.81	-80.59	1,098.75	3,926.78	1,411.94	1,235.99	175.95	8.025		
13,100.00	9,065.00	12,947.62	8,835.00	90.55	90.72	-80.58	1,099.35	4,026.77	1,411.45	1,231.72	179.73	7.853		
13,200.00	9,065.00	13,047.62	8,835.00	92.47	92.63	-80.58	1,099.94	4,126.77	1,410.95	1,227.43	183.51	7.689		
13,300.00	9,065.00	13,147.62	8,835.00	94.39	94.55	-80.58	1,100.54	4,226.77	1,410.45	1,223.14	187.31	7.530		
13,400.00	9,065.00	13,247.62	8,835.00	96.32	96.48	-80.57	1,101.14	4,326.77	1,409.95	1,218.83	191.12	7.377		
13,500.00	9,065.00	13,347.62	8,835.00	98.25	98.41	-80.57	1,101.73	4,426.76	1,409.46	1,214.52	194.94	7.230		
13,600.00	9,065.00	13,447.61	8,835.00	100.19	100.34	-80.57	1,102.33	4,526.76	1,408.96	1,210.19	198.76	7.089		
13,700.00	9,065.00	13,547.61	8,835.00	102.13	102.28	-80.56	1,102.92	4,626.76	1,408.46	1,205.86	202.60	6.952		
13,800.00	9,065.00	13,647.61	8,835.00	104.08	104.23	-80.56	1,103.52	4,726.75	1,407.96	1,201.52	206.44	6.820		
13,900.00	9,065.00	13,747.61	8,835.00	106.03	106.17	-80.56	1,104.12	4,826.75	1,407.46	1,197.17	210.29	6.693		
14,000.00	9,065.00	13,847.61	8,835.00	107.98	108.13	-80.55	1,104.71	4,926.75	1,406.97	1,192.82	214.15	6.570		
14,100.00	9,065.00	13,947.61	8,835.00	109.94	110.08	-80.55	1,105.31	5,026.74	1,406.47	1,188.45	218.01	6.451		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 0-MWD+IFR1													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
14,200.00	9,065.00	14,047.61	8,835.00	111.90	112.04	-80.55	1,105.90	5,126.74	1,405.97	1,184.09	221.89	6.336		
14,300.00	9,065.00	14,147.61	8,835.00	113.86	114.00	-80.54	1,106.50	5,226.74	1,405.47	1,179.71	225.76	6.225		
14,400.00	9,065.00	14,247.60	8,835.00	115.82	115.96	-80.54	1,107.09	5,326.74	1,404.98	1,175.33	229.64	6.118		
14,500.00	9,065.00	14,347.60	8,835.00	117.79	117.93	-80.54	1,107.69	5,426.73	1,404.48	1,170.95	233.53	6.014		
14,600.00	9,065.00	14,447.60	8,835.00	119.76	119.90	-80.53	1,108.29	5,526.73	1,403.98	1,166.55	237.42	5.913		
14,700.00	9,065.00	14,547.60	8,835.00	121.74	121.87	-80.53	1,108.88	5,626.73	1,403.48	1,162.16	241.32	5.816		
14,800.00	9,065.00	14,647.60	8,835.00	123.71	123.84	-80.53	1,109.48	5,726.72	1,402.98	1,157.76	245.23	5.721		
14,900.00	9,065.00	14,747.60	8,835.00	125.69	125.82	-80.52	1,110.07	5,826.72	1,402.49	1,153.35	249.13	5.629		
15,000.00	9,065.00	14,847.60	8,835.00	127.67	127.80	-80.52	1,110.67	5,926.72	1,401.99	1,148.95	253.04	5.541		
15,100.00	9,065.00	14,947.60	8,835.00	129.65	129.78	-80.52	1,111.27	6,026.71	1,401.49	1,144.53	256.96	5.454		
15,200.00	9,065.00	15,047.59	8,835.00	131.63	131.76	-80.51	1,111.86	6,126.71	1,400.99	1,140.12	260.88	5.370		
15,300.00	9,065.00	15,147.59	8,835.00	133.62	133.75	-80.51	1,112.46	6,226.71	1,400.50	1,135.70	264.80	5.289		
15,400.00	9,065.00	15,247.59	8,835.00	135.61	135.73	-80.51	1,113.05	6,326.70	1,400.00	1,131.27	268.73	5.210		
15,500.00	9,065.00	15,347.59	8,835.00	137.60	137.72	-80.50	1,113.65	6,426.70	1,399.50	1,126.84	272.66	5.133		
15,600.00	9,065.00	15,447.59	8,835.00	139.59	139.71	-80.50	1,114.25	6,526.70	1,399.00	1,122.41	276.59	5.058		
15,700.00	9,065.00	15,547.59	8,835.00	141.58	141.70	-80.50	1,114.84	6,626.70	1,398.50	1,117.98	280.52	4.985 Alert		
15,800.00	9,065.00	15,647.59	8,835.00	143.57	143.70	-80.49	1,115.44	6,726.69	1,398.01	1,113.54	284.46	4.915 Alert		
15,900.00	9,065.00	15,747.59	8,835.00	145.57	145.69	-80.49	1,116.03	6,826.69	1,397.51	1,109.10	288.41	4.846 Alert		
16,000.00	9,065.00	15,847.58	8,835.00	147.56	147.69	-80.49	1,116.63	6,926.69	1,397.01	1,104.66	292.35	4.779 Alert		
16,100.00	9,065.00	15,947.58	8,835.00	149.56	149.68	-80.48	1,117.23	7,026.68	1,396.51	1,100.22	296.30	4.713 Alert		
16,200.00	9,065.00	16,047.58	8,835.00	151.56	151.68	-80.48	1,117.82	7,126.68	1,396.02	1,095.77	300.25	4.650 Alert		
16,300.00	9,065.00	16,147.58	8,835.00	153.56	153.68	-80.48	1,118.42	7,226.68	1,395.52	1,091.32	304.20	4.588 Alert		
16,400.00	9,065.00	16,247.58	8,835.00	155.56	155.68	-80.47	1,119.01	7,326.67	1,395.02	1,086.87	308.15	4.527 Alert		
16,500.00	9,065.00	16,347.58	8,835.00	157.57	157.69	-80.47	1,119.61	7,426.67	1,394.52	1,082.42	312.11	4.468 Alert		
16,600.00	9,065.00	16,447.58	8,835.00	159.57	159.69	-80.47	1,120.20	7,526.67	1,394.03	1,077.96	316.07	4.411 Alert		
16,700.00	9,065.00	16,547.58	8,835.00	161.57	161.69	-80.46	1,120.80	7,626.66	1,393.53	1,073.50	320.03	4.354 Alert		
16,800.00	9,065.00	16,647.57	8,835.00	163.58	163.70	-80.46	1,121.40	7,726.66	1,393.03	1,069.04	323.99	4.300 Alert		
16,900.00	9,065.00	16,747.57	8,835.00	165.59	165.71	-80.46	1,121.99	7,826.66	1,392.53	1,064.58	327.95	4.246 Alert		
17,000.00	9,065.00	16,847.57	8,835.00	167.60	167.71	-80.45	1,122.59	7,926.66	1,392.04	1,060.12	331.92	4.194 Alert		
17,100.00	9,065.00	16,947.57	8,835.00	169.60	169.72	-80.45	1,123.18	8,026.65	1,391.54	1,055.65	335.89	4.143 Alert		
17,200.00	9,065.00	17,047.57	8,835.00	171.61	171.73	-80.45	1,123.78	8,126.65	1,391.04	1,051.18	339.86	4.093 Alert		
17,300.00	9,065.00	17,147.57	8,835.00	173.62	173.74	-80.44	1,124.38	8,226.65	1,390.54	1,046.71	343.83	4.044 Alert		
17,400.00	9,065.00	17,247.57	8,835.00	175.63	175.75	-80.44	1,124.97	8,326.64	1,390.04	1,042.24	347.80	3.997 Alert		
17,500.00	9,065.00	17,347.56	8,835.00	177.65	177.76	-80.43	1,125.57	8,426.64	1,389.55	1,037.77	351.78	3.950 Alert		
17,600.00	9,065.00	17,447.56	8,835.00	179.66	179.78	-80.43	1,126.16	8,526.64	1,389.05	1,033.30	355.75	3.905 Alert		
17,700.00	9,065.00	17,547.56	8,835.00	181.67	181.79	-80.43	1,126.76	8,626.63	1,388.55	1,028.82	359.73	3.860 Alert		
17,800.00	9,065.00	17,647.56	8,835.00	183.69	183.80	-80.42	1,127.36	8,726.63	1,388.05	1,024.35	363.71	3.816 Alert		
17,900.00	9,065.00	17,747.56	8,835.00	185.70	185.82	-80.42	1,127.95	8,826.63	1,387.56	1,019.87	367.69	3.774 Alert		
18,000.00	9,065.00	17,847.56	8,835.00	187.72	187.83	-80.42	1,128.55	8,926.63	1,387.06	1,015.39	371.67	3.732 Alert		
18,100.00	9,065.00	17,947.56	8,835.00	189.73	189.85	-80.41	1,129.14	9,026.62	1,386.56	1,010.91	375.65	3.691 Alert		
18,200.00	9,065.00	18,047.56	8,835.00	191.75	191.87	-80.41	1,129.74	9,126.62	1,386.06	1,006.43	379.63	3.651 Alert		
18,300.00	9,065.00	18,147.55	8,835.00	193.77	193.88	-80.41	1,130.34	9,226.62	1,385.57	1,001.95	383.62	3.612 Alert		
18,400.00	9,065.00	18,247.55	8,835.00	195.78	195.90	-80.40	1,130.93	9,326.61	1,385.07	997.47	387.60	3.573 Alert		
18,500.00	9,065.00	18,347.55	8,835.00	197.80	197.92	-80.40	1,131.53	9,426.61	1,384.57	992.98	391.59	3.536 Alert		
18,600.00	9,065.00	18,447.55	8,835.00	199.82	199.94	-80.40	1,132.12	9,526.61	1,384.07	988.50	395.58	3.499 Alert		
18,700.00	9,065.00	18,547.55	8,835.00	201.84	201.96	-80.39	1,132.72	9,626.60	1,383.58	984.01	399.57	3.463 Alert		
18,800.00	9,065.00	18,647.55	8,835.00	203.86	203.98	-80.39	1,133.31	9,726.60	1,383.08	979.52	403.56	3.427 Alert		
18,900.00	9,065.00	18,747.55	8,835.00	205.88	206.00	-80.39	1,133.91	9,826.60	1,382.58	975.03	407.55	3.392 Alert		
19,000.00	9,065.00	18,847.55	8,835.00	207.90	208.02	-80.38	1,134.51	9,926.59	1,382.08	970.54	411.54	3.358 Alert		
19,100.00	9,065.00	18,947.54	8,835.00	209.92	210.04	-80.38	1,135.10	10,026.59	1,381.59	966.05	415.53	3.325 Alert		
19,200.00	9,065.00	19,047.54	8,835.00	211.95	212.06	-80.38	1,135.70	10,126.59	1,381.09	961.56	419.52	3.292 Alert		
19,300.00	9,065.00	19,147.54	8,835.00	213.97	214.09	-80.37	1,136.29	10,226.59	1,380.59	957.07	423.52	3.260 Alert		

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design		Sec 14-T21S-R27E - Lone Tree Draw 14-13 State Com 333H - Wellbore #1 - Permit Plan 1										Offset Site Error:		0.00 ft
Survey Program:		0-MWD+IFR1										Offset Well Error:		0.50 ft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre	Between Centres	Between Ellipses	Minimum Separation	Separation Factor			
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)			
19,400.00	9,065.00	19,247.54	8,835.00	215.99	216.11	-80.37	1,136.89	10,326.58	1,380.09	952.58	427.51	3.228	Alert	
19,456.84	9,065.00	19,304.38	8,835.00	217.14	217.26	-80.37	1,137.23	10,383.42	1,379.81	950.03	429.79	3.210	Alert, SF	

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design		Sec 14-T21S-R27E - Lone Tree Draw 14-13 State Com 334H - Wellbore #1 - Permit Plan 1												Offset Site Error:		0.00 ft
Survey Program:		0-MWD+IFR1												Offset Well Error:		0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor				
0.00	0.00	0.60	0.60	0.50	0.50	-0.10	30.01	-0.05	30.01							
100.00	100.00	100.60	100.60	0.52	0.52	-0.10	30.01	-0.05	30.01	28.97	1.04	28.965				
200.00	200.00	200.60	200.60	0.70	0.70	-0.10	30.01	-0.05	30.01	28.60	1.41	21.349				
300.00	300.00	300.60	300.60	0.99	0.99	-0.10	30.01	-0.05	30.01	28.03	1.98	15.183				
400.00	400.00	400.60	400.60	1.31	1.31	-0.10	30.01	-0.05	30.01	27.39	2.62	11.454				
500.00	500.00	500.60	500.60	1.65	1.65	-0.10	30.01	-0.05	30.01	26.72	3.29	9.110				
600.00	600.00	600.60	600.60	1.99	1.99	-0.10	30.01	-0.05	30.01	26.03	3.98	7.534				
700.00	700.00	700.60	700.60	2.34	2.34	-0.10	30.01	-0.05	30.01	25.33	4.68	6.411				
800.00	800.00	800.60	800.60	2.69	2.69	-0.10	30.01	-0.05	30.01	24.63	5.38	5.575				
900.00	900.00	900.60	900.60	3.04	3.05	-0.10	30.01	-0.05	30.01	23.92	6.09	4.928 Alert				
1,000.00	1,000.00	1,000.60	1,000.60	3.40	3.40	-0.10	30.01	-0.05	30.01	23.21	6.80	4.415 Alert				
1,100.00	1,100.00	1,100.60	1,100.60	3.75	3.75	-0.10	30.01	-0.05	30.01	22.50	7.51	3.997 Alert				
1,200.00	1,200.00	1,200.60	1,200.60	4.11	4.11	-0.10	30.01	-0.05	30.01	21.79	8.22	3.652 Alert				
1,300.00	1,300.00	1,300.60	1,300.60	4.46	4.47	-0.10	30.01	-0.05	30.01	21.08	8.93	3.360 Alert				
1,400.00	1,400.00	1,400.60	1,400.60	4.82	4.82	-0.10	30.01	-0.05	30.01	20.37	9.64	3.112 Alert				
1,500.00	1,500.00	1,500.60	1,500.60	5.18	5.18	-0.10	30.01	-0.05	30.01	19.65	10.36	2.898 Alert				
1,600.00	1,600.00	1,600.60	1,600.60	5.53	5.54	-0.10	30.01	-0.05	30.01	18.94	11.07	2.711 Alert				
1,700.00	1,700.00	1,700.60	1,700.60	5.89	5.89	-0.10	30.01	-0.05	30.01	18.23	11.78	2.547 Alert				
1,800.00	1,800.00	1,800.60	1,800.60	6.25	6.25	-0.10	30.01	-0.05	30.01	17.51	12.50	2.401 Minor Risk				
1,900.00	1,900.00	1,900.60	1,900.60	6.61	6.61	-0.10	30.01	-0.05	30.01	16.80	13.21	2.271 Minor Risk				
2,000.00	2,000.00	2,000.60	2,000.60	6.96	6.97	-0.10	30.01	-0.05	30.01	16.08	13.93	2.155 Minor Risk				
2,100.00	2,100.00	2,100.60	2,100.60	7.32	7.32	-0.10	30.01	-0.05	30.01	15.37	14.64	2.049 Minor Risk				
2,200.00	2,200.00	2,200.60	2,200.60	7.68	7.68	-0.10	30.01	-0.05	30.01	14.65	15.36	1.954 Minor Risk				
2,300.00	2,300.00	2,300.60	2,300.60	8.04	8.04	-0.10	30.01	-0.05	30.01	13.94	16.07	1.867 Minor Risk				
2,400.00	2,400.00	2,400.60	2,400.60	8.39	8.40	-0.10	30.01	-0.05	30.01	13.22	16.79	1.787 Minor Risk				
2,500.00	2,500.00	2,500.60	2,500.60	8.75	8.75	-0.10	30.01	-0.05	30.01	12.50	17.51	1.714 Minor Risk, CC, ES				
2,600.00	2,599.99	2,600.59	2,600.59	9.09	9.11	146.74	30.01	-0.05	30.74	12.53	18.21	1.688 Minor Risk				
2,700.00	2,699.96	2,700.56	2,700.56	9.42	9.47	149.22	30.01	-0.05	32.96	14.07	18.89	1.745 Minor Risk				
2,800.00	2,799.86	2,800.46	2,800.46	9.75	9.83	152.68	30.01	-0.05	36.77	17.20	19.58	1.878 Minor Risk				
2,900.00	2,899.68	2,900.28	2,900.28	10.08	10.18	156.46	30.01	-0.05	42.29	22.03	20.26	2.087 Minor Risk				
2,945.33	2,944.88	2,945.48	2,945.48	10.23	10.35	158.13	30.01	-0.05	45.37	24.80	20.58	2.205 Minor Risk				
3,000.00	2,999.39	3,000.01	2,999.99	10.41	10.54	159.97	30.01	-0.05	49.34	28.39	20.95	2.355 Minor Risk				
3,100.00	3,099.08	3,100.32	3,099.68	10.75	10.90	162.66	30.01	-0.05	56.70	35.05	21.65	2.619 Alert				
3,200.00	3,198.78	3,200.62	3,199.38	11.08	11.26	164.72	30.01	-0.05	64.15	41.81	22.34	2.872 Alert				
3,300.00	3,298.48	3,300.92	3,299.08	11.42	11.62	166.36	30.01	-0.05	71.68	48.64	23.04	3.111 Alert				
3,400.00	3,398.18	3,401.22	3,398.78	11.76	11.98	167.68	30.01	-0.05	79.24	55.51	23.74	3.339 Alert				
3,500.00	3,497.88	3,501.52	3,498.48	12.10	12.34	168.78	30.01	-0.05	86.85	62.41	24.43	3.554 Alert				
3,600.00	3,597.58	3,601.82	3,598.18	12.45	12.70	169.69	30.01	-0.05	94.47	69.34	25.13	3.759 Alert				
3,700.00	3,697.27	3,702.13	3,697.87	12.79	13.06	170.47	30.01	-0.05	102.12	76.29	25.84	3.953 Alert				
3,800.00	3,796.97	3,802.43	3,797.57	13.14	13.42	171.14	30.01	-0.05	109.79	83.25	26.54	4.137 Alert				
3,900.00	3,896.67	3,902.73	3,897.27	13.48	13.78	171.73	30.01	-0.05	117.47	90.23	27.24	4.312 Alert				
4,000.00	3,996.37	3,996.97	3,996.97	13.83	14.11	172.24	30.01	-0.05	125.16	97.23	27.92	4.482 Alert				
4,100.00	4,096.07	4,096.55	4,096.55	14.18	14.47	172.34	30.41	-0.76	132.90	104.27	28.62	4.643 Alert				
4,200.00	4,195.76	4,196.10	4,196.06	14.53	14.81	171.72	31.66	-2.97	140.74	111.42	29.32	4.801 Alert				
4,300.00	4,295.46	4,295.54	4,295.41	14.88	15.16	170.51	33.76	-6.68	148.73	118.71	30.01	4.956 Alert				
4,400.00	4,395.16	4,394.83	4,394.52	15.23	15.51	168.79	36.70	-11.89	156.96	126.26	30.71	5.112				
4,500.00	4,494.86	4,505.75	4,493.68	15.58	15.90	166.84	40.22	-18.12	165.50	134.05	31.45	5.263				
4,600.00	4,594.56	4,606.27	4,592.90	15.93	16.26	165.07	43.77	-24.39	174.22	142.07	32.15	5.419				
4,700.00	4,694.25	4,706.79	4,692.12	16.29	16.61	163.46	47.31	-30.66	183.08	150.23	32.85	5.573				
4,800.00	4,793.95	4,807.30	4,791.34	16.64	16.96	162.01	50.85	-36.92	192.08	158.52	33.56	5.724				
4,900.00	4,893.65	4,907.82	4,890.56	17.00	17.32	160.69	54.39	-43.19	201.18	166.92	34.26	5.872				
5,000.00	4,993.35	5,008.34	4,989.79	17.35	17.68	159.48	57.94	-49.46	210.38	175.42	34.97	6.016				

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 0-MWD+IFR1													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
5,100.00	5,093.05	5,108.86	5,089.01	17.71	18.03	158.37	61.48	-55.73	219.67	184.00	35.68	6.157		
5,200.00	5,192.75	5,209.38	5,188.23	18.06	18.39	157.36	65.02	-62.00	229.04	192.65	36.39	6.295		
5,300.00	5,292.44	5,309.89	5,287.45	18.42	18.75	156.42	68.57	-68.26	238.47	201.37	37.09	6.429		
5,400.00	5,392.14	5,389.59	5,386.67	18.77	19.03	155.56	72.11	-74.53	247.95	210.22	37.73	6.572		
5,500.00	5,491.84	5,489.07	5,485.89	19.13	19.38	154.76	75.65	-80.80	257.49	219.05	38.44	6.699		
5,600.00	5,591.54	5,588.55	5,585.11	19.49	19.74	154.01	79.19	-87.07	267.08	227.93	39.14	6.823		
5,700.00	5,691.24	5,688.03	5,684.33	19.85	20.09	153.32	82.74	-93.33	276.70	236.85	39.85	6.943		
5,800.00	5,790.93	5,787.51	5,783.55	20.20	20.45	152.67	86.28	-99.60	286.37	245.81	40.56	7.060		
5,900.00	5,890.63	5,887.00	5,882.77	20.56	20.80	152.07	89.82	-105.87	296.07	254.80	41.27	7.174		
6,000.00	5,990.33	5,986.48	5,981.99	20.92	21.16	151.51	93.36	-112.14	305.80	263.82	41.98	7.284		
6,100.00	6,090.03	6,085.96	6,081.21	21.28	21.51	150.98	96.91	-118.41	315.55	272.86	42.69	7.391		
6,200.00	6,189.73	6,185.44	6,180.44	21.64	21.87	150.48	100.45	-124.67	325.33	281.93	43.40	7.496		
6,300.00	6,289.42	6,284.92	6,279.66	22.00	22.22	150.01	103.99	-130.94	335.14	291.03	44.11	7.597		
6,400.00	6,389.12	6,384.40	6,378.88	22.36	22.58	149.56	107.53	-137.21	344.97	300.14	44.83	7.696		
6,500.00	6,488.82	6,483.89	6,478.10	22.72	22.93	149.15	111.08	-143.48	354.81	309.27	45.54	7.792		
6,600.00	6,588.52	6,583.37	6,577.32	23.08	23.29	148.75	114.62	-149.74	364.67	318.42	46.25	7.885		
6,700.00	6,688.22	6,682.85	6,676.54	23.44	23.65	148.38	118.16	-156.01	374.55	327.59	46.96	7.975		
6,800.00	6,787.91	6,782.33	6,775.76	23.80	24.00	148.02	121.70	-162.28	384.45	336.77	47.68	8.064		
6,900.00	6,887.61	6,881.81	6,874.98	24.16	24.36	147.68	125.25	-168.55	394.35	345.96	48.39	8.149		
7,000.00	6,987.31	6,981.30	6,974.20	24.52	24.72	147.36	128.79	-174.81	404.27	355.17	49.10	8.233		
7,100.00	7,087.01	7,080.78	7,073.42	24.88	25.07	147.06	132.33	-181.08	414.21	364.39	49.82	8.314		
7,200.00	7,186.71	7,180.26	7,172.64	25.24	25.43	146.77	135.88	-187.35	424.15	373.62	50.53	8.394		
7,300.00	7,286.41	7,279.74	7,271.87	25.60	25.79	146.49	139.42	-193.62	434.11	382.86	51.25	8.471		
7,400.00	7,386.10	7,379.22	7,371.09	25.96	26.15	146.22	142.96	-199.89	444.07	392.11	51.96	8.546		
7,500.00	7,485.80	7,478.70	7,470.31	26.33	26.50	145.97	146.50	-206.15	454.04	401.36	52.68	8.619		
7,600.00	7,585.50	7,578.19	7,569.53	26.69	26.86	145.72	150.05	-212.42	464.02	410.63	53.39	8.690		
7,700.00	7,685.20	7,677.67	7,668.75	27.05	27.22	145.49	153.59	-218.69	474.01	419.90	54.11	8.760		
7,800.00	7,784.90	7,781.04	7,771.88	27.41	27.59	145.31	157.03	-224.77	483.78	428.92	54.86	8.819		
7,860.70	7,845.41	7,845.62	7,836.38	27.63	27.82	145.33	158.55	-227.46	489.11	433.79	55.32	8.842		
7,900.00	7,884.61	7,887.48	7,878.22	27.77	27.97	145.42	159.25	-228.70	492.12	436.50	55.61	8.849		
8,000.00	7,984.46	7,994.19	7,984.92	28.13	28.35	145.68	160.01	-230.05	497.32	440.96	56.36	8.824		
8,100.00	8,084.42	8,105.71	8,085.02	28.49	28.75	145.89	160.01	-230.05	499.65	442.54	57.11	8.748		
8,157.59	8,142.00	8,151.87	8,142.60	28.69	28.91	-0.01	160.01	-230.05	500.01	442.53	57.48	8.699		
8,200.00	8,184.41	8,205.72	8,185.01	28.83	29.10	-0.01	160.01	-230.05	500.01	442.20	57.81	8.649		
8,300.00	8,284.41	8,294.28	8,285.01	29.17	29.42	-0.01	160.01	-230.05	500.01	441.54	58.47	8.552		
8,302.89	8,287.30	8,302.83	8,287.90	29.18	29.45	-0.01	160.01	-230.05	500.01	441.50	58.51	8.546		
8,400.00	8,384.41	8,393.72	8,384.40	29.51	29.76	0.22	160.03	-228.09	500.04	440.89	59.15	8.454		
8,507.63	8,492.04	8,496.88	8,485.88	29.87	30.10	2.25	160.23	-210.38	500.66	440.81	59.84	8.366		
8,550.00	8,534.37	8,535.70	8,523.00	30.02	30.23	-85.92	160.35	-199.03	501.34	441.24	60.10	8.342		
8,600.00	8,584.01	8,580.72	8,564.97	30.18	30.38	-84.53	160.53	-182.77	502.41	442.04	60.37	8.322		
8,650.00	8,632.95	8,624.98	8,604.85	30.34	30.52	-83.19	160.74	-163.61	503.74	443.11	60.63	8.309		
8,700.00	8,680.82	8,668.52	8,642.54	30.50	30.66	-81.91	160.98	-141.82	505.27	444.42	60.85	8.304		
8,750.00	8,727.25	8,711.44	8,677.95	30.66	30.79	-80.69	161.25	-117.60	506.96	445.93	61.03	8.306		
8,800.00	8,771.89	8,753.78	8,711.02	30.81	30.93	-79.54	161.54	-91.17	508.77	447.58	61.19	8.315		
8,850.00	8,814.40	8,795.61	8,741.69	30.95	31.06	-78.47	161.85	-62.74	510.64	449.32	61.32	8.328		
8,900.00	8,854.46	8,836.99	8,769.90	31.09	31.20	-77.48	162.18	-32.48	512.53	451.11	61.42	8.344		
8,950.00	8,891.75	8,877.97	8,795.62	31.23	31.34	-76.57	162.53	-0.60	514.38	452.87	61.51	8.362		
9,000.00	8,926.01	8,918.59	8,818.80	31.37	31.49	-75.75	162.90	32.75	516.16	454.56	61.60	8.379		
9,050.00	8,956.96	8,958.90	8,839.41	31.53	31.64	-75.02	163.28	67.38	517.82	456.12	61.70	8.393		
9,100.00	8,984.38	8,998.95	8,857.43	31.69	31.81	-74.39	163.67	103.14	519.33	457.51	61.82	8.401		
9,150.00	9,008.05	9,038.79	8,872.83	31.87	31.98	-73.86	164.08	139.87	520.65	458.67	61.98	8.401		
9,200.00	9,027.79	9,078.44	8,885.58	32.07	32.16	-73.43	164.49	177.40	521.75	459.57	62.18	8.391		

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 0-MWD+IFR1													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
9,250.00	9,043.45	9,117.95	8,895.68	32.29	32.36	-73.09	164.91	215.59	522.62	460.18	62.44	8.370		
9,300.00	9,054.92	9,157.36	8,903.11	32.53	32.56	-72.86	165.34	254.29	523.24	460.47	62.76	8.337		
9,350.00	9,062.10	9,196.71	8,907.85	32.79	32.77	-72.73	165.77	293.34	523.58	460.43	63.15	8.290		
9,400.00	9,064.95	9,236.03	8,909.91	33.06	32.99	-72.71	166.20	332.59	523.65	460.04	63.61	8.232		
9,407.63	9,065.00	9,242.03	8,909.98	33.10	33.03	-72.71	166.26	338.59	523.63	459.95	63.69	8.222		
9,440.52	9,065.00	9,273.75	8,910.00	33.31	33.22	-72.71	166.61	370.31	523.63	459.56	64.07	8.173		
9,500.00	9,065.00	9,333.23	8,910.00	33.68	33.61	-72.71	167.27	429.79	523.63	458.83	64.80	8.081		
9,600.00	9,065.00	9,433.23	8,910.00	34.41	34.34	-72.71	168.37	529.79	523.63	457.43	66.19	7.910		
9,700.00	9,065.00	9,533.23	8,910.00	35.24	35.18	-72.71	169.47	629.78	523.63	455.83	67.79	7.724		
9,800.00	9,065.00	9,633.23	8,910.00	36.17	36.11	-72.71	170.57	729.77	523.63	454.05	69.58	7.526		
9,900.00	9,065.00	9,733.23	8,910.00	37.19	37.13	-72.71	171.67	829.77	523.63	452.09	71.53	7.320		
10,000.00	9,065.00	9,833.23	8,910.00	38.30	38.23	-72.71	172.77	929.76	523.62	449.97	73.65	7.110		
10,100.00	9,065.00	9,933.23	8,910.00	39.48	39.41	-72.71	173.87	1,029.76	523.62	447.71	75.91	6.898		
10,200.00	9,065.00	10,033.23	8,910.00	40.72	40.66	-72.71	174.97	1,129.75	523.62	445.32	78.30	6.687		
10,300.00	9,065.00	10,133.23	8,910.00	42.03	41.97	-72.71	176.07	1,229.74	523.62	442.80	80.82	6.479		
10,400.00	9,065.00	10,233.23	8,910.00	43.40	43.34	-72.71	177.16	1,329.74	523.62	440.18	83.44	6.275		
10,500.00	9,065.00	10,333.23	8,910.00	44.82	44.76	-72.71	178.26	1,429.73	523.62	437.45	86.17	6.077		
10,600.00	9,065.00	10,433.23	8,910.00	46.29	46.22	-72.71	179.36	1,529.73	523.62	434.64	88.98	5.884		
10,700.00	9,065.00	10,533.23	8,910.00	47.79	47.73	-72.71	180.46	1,629.72	523.62	431.74	91.88	5.699		
10,800.00	9,065.00	10,633.23	8,910.00	49.34	49.28	-72.71	181.56	1,729.71	523.62	428.76	94.85	5.520		
10,900.00	9,065.00	10,733.23	8,910.00	50.92	50.86	-72.71	182.66	1,829.71	523.62	425.72	97.90	5.349		
11,000.00	9,065.00	10,833.23	8,910.00	52.54	52.48	-72.71	183.76	1,929.70	523.62	422.62	101.00	5.184		
11,100.00	9,065.00	10,933.23	8,910.00	54.18	54.12	-72.71	184.86	2,029.70	523.62	419.46	104.16	5.027		
11,200.00	9,065.00	11,033.23	8,910.00	55.85	55.79	-72.71	185.96	2,129.69	523.62	416.25	107.37	4.877	Alert	
11,300.00	9,065.00	11,133.23	8,910.00	57.54	57.49	-72.71	187.06	2,229.68	523.61	412.99	110.63	4.733	Alert	
11,400.00	9,065.00	11,233.23	8,910.00	59.26	59.20	-72.71	188.16	2,329.68	523.61	409.69	113.93	4.596	Alert	
11,500.00	9,065.00	11,333.23	8,910.00	61.00	60.94	-72.71	189.26	2,429.67	523.61	406.35	117.27	4.465	Alert	
11,600.00	9,065.00	11,433.23	8,910.00	62.75	62.70	-72.71	190.36	2,529.66	523.61	402.97	120.64	4.340	Alert	
11,700.00	9,065.00	11,533.23	8,910.00	64.52	64.47	-72.71	191.46	2,629.66	523.61	399.56	124.05	4.221	Alert	
11,800.00	9,065.00	11,633.23	8,910.00	66.31	66.26	-72.71	192.56	2,729.65	523.61	396.12	127.49	4.107	Alert	
11,900.00	9,065.00	11,733.23	8,910.00	68.11	68.06	-72.71	193.66	2,829.65	523.61	392.65	130.96	3.998	Alert	
12,000.00	9,065.00	11,833.23	8,910.00	69.93	69.88	-72.71	194.76	2,929.64	523.61	389.16	134.45	3.894	Alert	
12,100.00	9,065.00	11,933.23	8,910.00	71.76	71.71	-72.71	195.86	3,029.63	523.61	385.64	137.97	3.795	Alert	
12,200.00	9,065.00	12,033.23	8,910.00	73.60	73.55	-72.71	196.96	3,129.63	523.61	382.10	141.51	3.700	Alert	
12,300.00	9,065.00	12,133.23	8,910.00	75.45	75.40	-72.71	198.06	3,229.62	523.61	378.54	145.07	3.609	Alert	
12,400.00	9,065.00	12,233.23	8,910.00	77.31	77.26	-72.71	199.16	3,329.62	523.61	374.96	148.64	3.523	Alert	
12,500.00	9,065.00	12,333.24	8,910.00	79.18	79.13	-72.71	200.26	3,429.61	523.61	371.37	152.24	3.439	Alert	
12,600.00	9,065.00	12,433.24	8,910.00	81.05	81.01	-72.71	201.36	3,529.60	523.61	367.75	155.85	3.360	Alert	
12,700.00	9,065.00	12,533.24	8,910.00	82.94	82.89	-72.71	202.46	3,629.60	523.60	364.12	159.48	3.283	Alert	
12,800.00	9,065.00	12,633.24	8,910.00	84.83	84.78	-72.71	203.56	3,729.59	523.60	360.48	163.12	3.210	Alert	
12,900.00	9,065.00	12,733.24	8,910.00	86.73	86.68	-72.71	204.66	3,829.59	523.60	356.82	166.78	3.139	Alert	
13,000.00	9,065.00	12,833.24	8,910.00	88.64	88.59	-72.71	205.76	3,929.58	523.60	353.15	170.45	3.072	Alert	
13,100.00	9,065.00	12,933.24	8,910.00	90.55	90.50	-72.71	206.86	4,029.57	523.60	349.47	174.13	3.007	Alert	
13,200.00	9,065.00	13,033.24	8,910.00	92.47	92.42	-72.71	207.96	4,129.57	523.60	345.78	177.82	2.945	Alert	
13,300.00	9,065.00	13,133.24	8,910.00	94.39	94.35	-72.71	209.06	4,229.56	523.60	342.08	181.52	2.885	Alert	
13,400.00	9,065.00	13,233.24	8,910.00	96.32	96.28	-72.71	210.16	4,329.56	523.60	338.37	185.23	2.827	Alert	
13,500.00	9,065.00	13,333.24	8,910.00	98.25	98.21	-72.71	211.26	4,429.55	523.60	334.65	188.95	2.771	Alert	
13,600.00	9,065.00	13,433.24	8,910.00	100.19	100.15	-72.71	212.36	4,529.54	523.60	330.92	192.68	2.717	Alert	
13,700.00	9,065.00	13,533.24	8,910.00	102.13	102.09	-72.71	213.46	4,629.54	523.60	327.18	196.42	2.666	Alert	
13,800.00	9,065.00	13,633.24	8,910.00	104.08	104.03	-72.71	214.56	4,729.53	523.60	323.43	200.16	2.616	Alert	
13,900.00	9,065.00	13,733.24	8,910.00	106.03	105.98	-72.71	215.66	4,829.53	523.60	319.68	203.91	2.568	Alert	
14,000.00	9,065.00	13,833.24	8,910.00	107.98	107.94	-72.71	216.76	4,929.52	523.59	315.92	207.67	2.521	Alert	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 0-MWD+IFR1													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
14,100.00	9,065.00	13,933.24	8,910.00	109.94	109.89	-72.71	217.86	5,029.51	523.59	312.16	211.44	2.476	Minor Risk	
14,200.00	9,065.00	14,033.24	8,910.00	111.90	111.85	-72.71	218.95	5,129.51	523.59	308.39	215.21	2.433	Minor Risk	
14,300.00	9,065.00	14,133.24	8,910.00	113.86	113.82	-72.71	220.05	5,229.50	523.59	304.61	218.99	2.391	Minor Risk	
14,400.00	9,065.00	14,233.24	8,910.00	115.82	115.78	-72.71	221.15	5,329.50	523.59	300.82	222.77	2.350	Minor Risk	
14,500.00	9,065.00	14,333.24	8,910.00	117.79	117.75	-72.71	222.25	5,429.49	523.59	297.04	226.56	2.311	Minor Risk	
14,600.00	9,065.00	14,433.24	8,910.00	119.76	119.72	-72.71	223.35	5,529.48	523.59	293.24	230.35	2.273	Minor Risk	
14,700.00	9,065.00	14,533.24	8,910.00	121.74	121.70	-72.71	224.45	5,629.48	523.59	289.44	234.15	2.236	Minor Risk	
14,800.00	9,065.00	14,633.24	8,910.00	123.71	123.67	-72.71	225.55	5,729.47	523.59	285.64	237.95	2.200	Minor Risk	
14,900.00	9,065.00	14,733.24	8,910.00	125.69	125.65	-72.71	226.65	5,829.47	523.59	281.83	241.75	2.166	Minor Risk	
15,000.00	9,065.00	14,833.24	8,910.00	127.67	127.63	-72.71	227.75	5,929.46	523.59	278.02	245.57	2.132	Minor Risk	
15,100.00	9,065.00	14,933.24	8,910.00	129.65	129.61	-72.71	228.85	6,029.45	523.59	274.21	249.38	2.100	Minor Risk	
15,200.00	9,065.00	15,033.24	8,910.00	131.63	131.60	-72.71	229.95	6,129.45	523.59	270.39	253.20	2.068	Minor Risk	
15,300.00	9,065.00	15,133.24	8,910.00	133.62	133.58	-72.71	231.05	6,229.44	523.58	266.57	257.02	2.037	Minor Risk	
15,400.00	9,065.00	15,233.24	8,910.00	135.61	135.57	-72.71	232.15	6,329.44	523.58	262.74	260.84	2.007	Minor Risk	
15,500.00	9,065.00	15,333.24	8,910.00	137.60	137.56	-72.71	233.25	6,429.43	523.58	258.91	264.67	1.978	Minor Risk	
15,600.00	9,065.00	15,433.24	8,910.00	139.59	139.55	-72.71	234.35	6,529.42	523.58	255.08	268.50	1.950	Minor Risk	
15,700.00	9,065.00	15,533.24	8,910.00	141.58	141.54	-72.71	235.45	6,629.42	523.58	251.24	272.34	1.923	Minor Risk	
15,800.00	9,065.00	15,633.24	8,910.00	143.57	143.54	-72.71	236.55	6,729.41	523.58	247.40	276.18	1.896	Minor Risk	
15,900.00	9,065.00	15,733.24	8,910.00	145.57	145.53	-72.71	237.65	6,829.40	523.58	243.56	280.02	1.870	Minor Risk	
16,000.00	9,065.00	15,833.24	8,910.00	147.56	147.53	-72.71	238.75	6,929.40	523.58	239.72	283.86	1.845	Minor Risk	
16,100.00	9,065.00	15,933.24	8,910.00	149.56	149.53	-72.71	239.85	7,029.39	523.58	235.87	287.70	1.820	Minor Risk	
16,200.00	9,065.00	16,033.24	8,910.00	151.56	151.53	-72.71	240.95	7,129.39	523.58	232.03	291.55	1.796	Minor Risk	
16,300.00	9,065.00	16,133.24	8,910.00	153.56	153.53	-72.71	242.05	7,229.38	523.58	228.17	295.40	1.772	Minor Risk	
16,400.00	9,065.00	16,233.24	8,910.00	155.56	155.53	-72.71	243.15	7,329.37	523.58	224.32	299.26	1.750	Minor Risk	
16,500.00	9,065.00	16,333.24	8,910.00	157.57	157.53	-72.71	244.25	7,429.37	523.58	220.47	303.11	1.727	Minor Risk	
16,600.00	9,065.00	16,433.24	8,910.00	159.57	159.53	-72.71	245.35	7,529.36	523.58	216.61	306.97	1.706	Minor Risk	
16,700.00	9,065.00	16,533.24	8,910.00	161.57	161.54	-72.71	246.45	7,629.36	523.57	212.75	310.82	1.684	Minor Risk	
16,800.00	9,065.00	16,633.24	8,910.00	163.58	163.55	-72.71	247.55	7,729.35	523.57	208.89	314.69	1.664	Minor Risk	
16,900.00	9,065.00	16,733.24	8,910.00	165.59	165.55	-72.71	248.65	7,829.34	523.57	205.03	318.55	1.644	Minor Risk	
17,000.00	9,065.00	16,833.24	8,910.00	167.60	167.56	-72.71	249.75	7,929.34	523.57	201.16	322.41	1.624	Minor Risk	
17,100.00	9,065.00	16,933.24	8,910.00	169.60	169.57	-72.71	250.85	8,029.33	523.57	197.29	326.28	1.605	Minor Risk	
17,200.00	9,065.00	17,033.24	8,910.00	171.61	171.58	-72.71	251.95	8,129.33	523.57	193.43	330.15	1.586	Minor Risk	
17,300.00	9,065.00	17,133.24	8,910.00	173.62	173.59	-72.71	253.05	8,229.32	523.57	189.56	334.01	1.568	Minor Risk	
17,400.00	9,065.00	17,233.24	8,910.00	175.63	175.60	-72.71	254.15	8,329.31	523.57	185.68	337.89	1.550	Minor Risk	
17,500.00	9,065.00	17,333.24	8,910.00	177.65	177.61	-72.71	255.25	8,429.31	523.57	181.81	341.76	1.532	Minor Risk	
17,600.00	9,065.00	17,433.24	8,910.00	179.66	179.63	-72.71	256.35	8,529.30	523.57	177.94	345.63	1.515	Minor Risk	
17,700.00	9,065.00	17,533.24	8,910.00	181.67	181.64	-72.71	257.45	8,629.30	523.57	174.06	349.51	1.498	Major Risk	
17,800.00	9,065.00	17,633.24	8,910.00	183.69	183.65	-72.71	258.55	8,729.29	523.57	170.18	353.38	1.482	Major Risk	
17,900.00	9,065.00	17,733.24	8,910.00	185.70	185.67	-72.71	259.65	8,829.28	523.57	166.30	357.26	1.465	Major Risk	
18,000.00	9,065.00	17,833.24	8,910.00	187.72	187.68	-72.71	260.75	8,929.28	523.56	162.42	361.14	1.450	Major Risk	
18,100.00	9,065.00	17,933.24	8,910.00	189.73	189.70	-72.71	261.84	9,029.27	523.56	158.54	365.02	1.434	Major Risk	
18,200.00	9,065.00	18,033.24	8,910.00	191.75	191.72	-72.71	262.94	9,129.27	523.56	154.66	368.90	1.419	Major Risk	
18,300.00	9,065.00	18,133.24	8,910.00	193.77	193.73	-72.71	264.04	9,229.26	523.56	150.78	372.78	1.404	Major Risk	
18,400.00	9,065.00	18,233.24	8,910.00	195.78	195.75	-72.71	265.14	9,329.25	523.56	146.89	376.67	1.390	Major Risk	
18,500.00	9,065.00	18,333.24	8,910.00	197.80	197.77	-72.71	266.24	9,429.25	523.56	143.01	380.55	1.376	Major Risk	
18,600.00	9,065.00	18,433.24	8,910.00	199.82	199.79	-72.71	267.34	9,529.24	523.56	139.12	384.44	1.362	Major Risk	
18,700.00	9,065.00	18,533.24	8,910.00	201.84	201.81	-72.71	268.44	9,629.24	523.56	135.23	388.33	1.348	Major Risk	
18,800.00	9,065.00	18,633.24	8,910.00	203.86	203.83	-72.71	269.54	9,729.23	523.56	131.34	392.21	1.335	Major Risk	
18,900.00	9,065.00	18,733.24	8,910.00	205.88	205.85	-72.71	270.64	9,829.22	523.56	127.46	396.10	1.322	Major Risk	
19,000.00	9,065.00	18,833.24	8,910.00	207.90	207.87	-72.71	271.74	9,929.22	523.56	123.56	399.99	1.309	Major Risk	
19,100.00	9,065.00	18,933.24	8,910.00	209.92	209.89	-72.71	272.84	10,029.21	523.56	119.67	403.88	1.296	Major Risk	
19,200.00	9,065.00	19,033.24	8,910.00	211.95	211.91	-72.71	273.94	10,129.21	523.56	115.78	407.78	1.284	Major Risk	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Sec 14-T21S-R27E - Lone Tree Draw 14-13 State Com 334H - Wellbore #1 - Permit Plan 1		Offset Site Error:		0.00 ft
Survey Program: 0-MWD+IFR1															Offset Well Error:		0.50 ft
Reference		Offset		Semi Major Axis			Distance										
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor	Warning				
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)						
19,300.00	9,065.00	19,133.24	8,910.00	213.97	213.94	-72.71	275.04	10,229.20	523.56	111.89	411.67	1.272	Major Risk				
19,400.00	9,065.00	19,233.24	8,910.00	215.99	215.96	-72.71	276.14	10,329.19	523.55	107.99	415.56	1.260	Major Risk				
19,456.84	9,065.00	19,290.08	8,910.00	217.14	217.11	-72.71	276.77	10,386.03	523.55	105.78	417.77	1.253	Major Risk, SF				

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 431-MWD+HDGM													Offset Well Error:	0.50 ft
Reference														
		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0.00	0.00	16.11	16.11	0.50	0.50	-177.08	-1,644.23	-83.74	1,646.37					
100.00	100.00	114.38	114.38	0.52	0.54	-177.09	-1,644.31	-83.60	1,646.44	1,645.38	1.05	1,562.369		
200.00	200.00	212.64	212.64	0.70	0.62	-177.10	-1,644.50	-83.25	1,646.61	1,645.29	1.32	1,249.515		
300.00	300.00	310.89	310.89	0.99	0.73	-177.12	-1,644.81	-82.69	1,646.89	1,645.18	1.71	961.667		
400.00	400.00	409.15	409.14	1.31	0.85	-177.15	-1,645.23	-81.93	1,647.28	1,645.12	2.16	761.840		
500.00	500.00	503.07	503.06	1.65	1.11	-177.18	-1,645.83	-81.09	1,647.88	1,645.12	2.75	598.801		
600.00	600.00	606.45	606.43	1.99	1.45	-177.21	-1,646.66	-80.31	1,648.65	1,645.21	3.44	479.758		
700.00	700.00	706.81	706.78	2.34	1.79	-177.24	-1,647.29	-79.56	1,649.24	1,645.11	4.13	399.617		
800.00	800.00	807.86	807.83	2.69	2.14	-177.26	-1,647.83	-78.99	1,649.75	1,644.92	4.83	341.696		
900.00	900.00	903.65	903.62	3.04	2.47	-177.27	-1,648.57	-78.62	1,650.50	1,644.98	5.51	299.289		
1,000.00	1,000.00	1,017.48	1,017.44	3.40	2.87	-177.30	-1,648.95	-77.79	1,650.79	1,644.52	6.27	263.464		
1,100.00	1,100.00	1,120.47	1,120.43	3.75	3.23	-177.32	-1,648.75	-77.14	1,650.56	1,643.58	6.98	236.526		
1,200.00	1,200.00	1,222.40	1,222.35	4.11	3.58	-177.35	-1,648.52	-76.22	1,650.30	1,642.61	7.69	214.600		
1,300.00	1,300.00	1,330.06	1,330.00	4.46	3.96	-177.40	-1,647.98	-74.77	1,649.73	1,641.31	8.42	195.878		
1,400.00	1,400.00	1,431.44	1,431.37	4.82	4.31	-177.44	-1,647.14	-73.57	1,648.85	1,639.71	9.13	180.551		
1,500.00	1,500.00	1,525.82	1,525.74	5.18	4.65	-177.49	-1,646.50	-72.26	1,648.11	1,638.29	9.82	167.805		
1,600.00	1,600.00	1,630.98	1,630.89	5.53	5.02	-177.53	-1,645.80	-71.03	1,647.39	1,636.84	10.55	156.169		
1,700.00	1,700.00	1,726.73	1,726.63	5.89	5.35	-177.56	-1,645.18	-69.98	1,646.70	1,635.46	11.24	146.452		
1,800.00	1,800.00	1,830.34	1,830.24	6.25	5.72	-177.61	-1,644.45	-68.58	1,645.94	1,633.97	11.97	137.525		
1,900.00	1,900.00	1,929.01	1,928.89	6.61	6.07	-177.66	-1,643.73	-67.20	1,645.15	1,632.47	12.68	129.786		
2,000.00	2,000.00	2,033.44	2,033.31	6.96	6.44	-177.71	-1,642.94	-65.83	1,644.35	1,630.95	13.40	122.689		
2,100.00	2,100.00	2,145.25	2,145.11	7.32	6.83	-177.72	-1,641.35	-65.25	1,642.90	1,628.75	14.15	116.121		
2,200.00	2,200.00	2,245.68	2,245.52	7.68	7.18	-177.72	-1,639.49	-65.28	1,641.05	1,626.20	14.85	110.501		
2,300.00	2,300.00	2,344.16	2,343.98	8.04	7.51	-177.71	-1,637.82	-65.57	1,639.36	1,623.81	15.55	105.448		
2,400.00	2,400.00	2,444.27	2,444.08	8.39	7.86	-177.69	-1,636.10	-65.92	1,637.66	1,621.42	16.25	100.788		
2,500.00	2,500.00	2,542.29	2,542.09	8.75	8.20	-177.68	-1,634.48	-66.14	1,636.02	1,619.07	16.95	96.545		
2,600.00	2,599.99	2,636.93	2,636.72	9.09	8.53	-31.79	-1,633.12	-66.11	1,633.84	1,616.23	17.62	92.736		
2,700.00	2,699.96	2,736.12	2,735.90	9.42	8.87	-31.87	-1,631.98	-65.68	1,630.46	1,612.16	18.29	89.131		
2,800.00	2,799.86	2,836.06	2,835.84	9.75	9.22	-31.96	-1,630.76	-65.95	1,625.54	1,606.57	18.97	85.689		
2,900.00	2,899.68	2,944.42	2,944.18	10.08	9.60	-32.11	-1,629.40	-66.15	1,619.14	1,599.46	19.68	82.284		
2,945.33	2,944.88	3,022.65	3,022.38	10.23	9.87	-32.23	-1,627.23	-66.55	1,615.06	1,594.97	20.09	80.379		
3,000.00	2,999.39	3,083.52	3,083.20	10.41	10.09	-32.30	-1,624.82	-66.87	1,609.33	1,588.84	20.49	78.560		
3,100.00	3,099.08	3,185.91	3,185.49	10.75	10.45	-32.44	-1,620.34	-67.14	1,598.40	1,577.22	21.18	75.479		
3,200.00	3,198.78	3,287.27	3,286.75	11.08	10.80	-32.58	-1,615.84	-67.49	1,587.43	1,565.56	21.87	72.594		
3,300.00	3,298.48	3,380.39	3,379.78	11.42	11.13	-32.70	-1,611.78	-67.77	1,576.55	1,554.02	22.54	69.960		
3,400.00	3,398.18	3,581.61	3,580.42	11.76	11.84	-32.89	-1,597.48	-70.89	1,563.28	1,539.79	23.49	66.555		
3,500.00	3,497.88	3,745.73	3,743.19	12.10	12.43	-32.99	-1,576.87	-74.51	1,544.47	1,520.17	24.30	63.568		
3,600.00	3,597.58	3,937.19	3,931.25	12.45	13.14	-33.08	-1,541.54	-79.44	1,519.18	1,494.10	25.08	60.565		
3,700.00	3,697.27	4,046.78	4,038.12	12.79	13.55	-33.02	-1,517.96	-85.02	1,491.44	1,465.67	25.77	57.884		
3,800.00	3,796.97	4,121.91	4,111.41	13.14	13.83	-32.97	-1,501.94	-89.27	1,463.93	1,437.50	26.43	55.385		
3,900.00	3,896.67	4,223.95	4,211.17	13.48	14.23	-32.89	-1,481.25	-94.87	1,437.45	1,410.34	27.12	53.010		
4,000.00	3,996.37	4,328.58	4,313.30	13.83	14.63	-32.86	-1,458.99	-99.51	1,409.94	1,382.14	27.80	50.711		
4,100.00	4,096.07	4,411.19	4,393.98	14.18	14.96	-32.83	-1,441.59	-103.07	1,382.65	1,354.17	28.49	48.539		
4,200.00	4,195.76	4,515.41	4,495.89	14.53	15.37	-32.81	-1,420.25	-107.45	1,355.95	1,326.78	29.18	46.476		
4,300.00	4,295.46	4,617.57	4,595.65	14.88	15.78	-32.83	-1,398.46	-110.70	1,328.36	1,298.50	29.87	44.478		
4,400.00	4,395.16	4,703.36	4,679.47	15.23	16.12	-32.86	-1,380.33	-113.00	1,300.97	1,270.41	30.56	42.574		
4,500.00	4,494.86	4,789.49	4,763.77	15.58	16.47	-32.90	-1,362.88	-115.40	1,274.41	1,243.16	31.25	40.778		
4,600.00	4,594.56	4,898.96	4,870.96	15.93	16.91	-32.95	-1,340.84	-118.26	1,248.03	1,216.08	31.95	39.068		
4,700.00	4,694.25	4,990.41	4,960.39	16.29	17.28	-33.07	-1,321.78	-119.36	1,220.88	1,188.24	32.64	37.401		
4,800.00	4,793.95	5,070.68	5,039.05	16.64	17.61	-33.18	-1,305.80	-120.10	1,194.66	1,161.32	33.35	35.826		
4,900.00	4,893.65	5,153.38	5,120.32	17.00	17.94	-33.28	-1,290.49	-121.23	1,169.81	1,135.76	34.05	34.355		
5,000.00	4,993.35	5,242.60	5,208.13	17.35	18.30	-33.39	-1,274.78	-122.62	1,145.86	1,111.11	34.75	32.971		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Sec 14-T21S-R27E - Lone Tree Draw 14-13 State Com 335H - Wellbore #1 - Wellbore #1													Offset Well Error:	0.50 ft
Survey Program: 431-MWD+HDGM														
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
5,100.00	5,093.05	5,341.13	5,305.16	17.71	18.70	-33.49	-1,257.76	-124.63	1,122.26	1,086.80	35.46	31.651		
5,200.00	5,192.75	5,432.72	5,395.32	18.06	19.07	-33.61	-1,241.70	-126.22	1,098.42	1,062.25	36.16	30.373		
5,300.00	5,292.44	5,519.16	5,480.59	18.42	19.41	-33.72	-1,227.64	-127.62	1,075.78	1,038.91	36.87	29.176		
5,400.00	5,392.14	5,639.52	5,599.29	18.77	19.90	-33.98	-1,207.74	-128.01	1,053.04	1,015.47	37.57	28.032		
5,500.00	5,491.84	5,740.91	5,698.85	19.13	20.31	-34.28	-1,188.60	-127.05	1,027.82	989.55	38.27	26.860		
5,600.00	5,591.54	5,838.75	5,795.02	19.49	20.71	-34.55	-1,170.61	-126.69	1,003.16	964.19	38.97	25.741		
5,700.00	5,691.24	5,954.64	5,908.69	19.85	21.19	-34.80	-1,148.04	-127.78	977.45	937.81	39.64	24.657		
5,800.00	5,790.93	6,034.30	5,986.72	20.20	21.53	-34.87	-1,132.23	-130.23	951.38	911.00	40.38	23.559		
5,900.00	5,890.63	6,127.45	6,078.20	20.56	21.91	-34.90	-1,115.12	-134.12	926.72	885.62	41.10	22.548		
6,000.00	5,990.33	6,238.31	6,186.93	20.92	22.38	-34.92	-1,093.98	-138.94	901.40	859.63	41.78	21.576		
6,100.00	6,090.03	6,349.71	6,295.77	21.28	22.85	-34.92	-1,070.82	-143.95	874.36	831.92	42.44	20.602		
6,200.00	6,189.73	6,441.45	6,385.29	21.64	23.25	-34.90	-1,051.30	-148.56	846.83	803.66	43.17	19.618		
6,300.00	6,289.42	6,541.27	6,482.72	22.00	23.68	-34.93	-1,029.99	-152.74	819.25	775.39	43.86	18.678		
6,400.00	6,389.12	6,610.73	6,550.78	22.36	23.97	-35.01	-1,016.30	-154.86	793.22	748.55	44.67	17.756		
6,500.00	6,488.82	6,696.69	6,635.41	22.72	24.32	-35.19	-1,001.36	-156.51	769.56	724.14	45.42	16.943		
6,600.00	6,588.52	6,801.99	6,739.15	23.08	24.76	-35.55	-983.27	-156.98	746.16	700.06	46.11	16.184		
6,700.00	6,688.22	6,922.82	6,857.64	23.44	25.27	-35.97	-959.68	-157.73	720.48	673.78	46.71	15.426		
6,800.00	6,787.91	7,003.59	6,936.79	23.80	25.61	-36.29	-943.60	-158.20	694.39	646.89	47.50	14.619		
6,900.00	6,887.61	7,098.36	7,029.86	24.16	26.01	-36.66	-925.72	-158.90	669.39	621.17	48.22	13.881		
7,000.00	6,987.31	7,204.19	7,133.66	24.52	26.46	-37.03	-905.20	-160.59	643.87	594.98	48.88	13.171		
7,100.00	7,087.01	7,297.12	7,224.74	24.88	26.86	-37.38	-886.77	-162.14	617.94	568.32	49.62	12.453		
7,200.00	7,186.71	7,374.44	7,300.78	25.24	27.18	-37.71	-872.86	-163.18	593.84	543.39	50.45	11.771		
7,300.00	7,286.41	7,473.92	7,398.94	25.60	27.59	-38.19	-856.72	-164.22	571.55	520.40	51.15	11.173		
7,400.00	7,386.10	7,561.84	7,485.70	25.96	27.95	-38.62	-842.52	-165.26	549.38	497.46	51.92	10.581		
7,500.00	7,485.80	7,641.76	7,564.86	26.33	28.27	-39.00	-831.67	-166.55	529.76	477.05	52.70	10.052		
7,600.00	7,585.50	7,733.97	7,656.54	26.69	28.62	-39.38	-822.01	-168.44	513.12	459.69	53.43	9.603		
7,700.00	7,685.20	7,828.42	7,750.46	27.05	28.98	-39.97	-812.00	-169.00	496.59	442.43	54.16	9.169		
7,800.00	7,784.90	7,915.16	7,836.84	27.41	29.30	-40.73	-804.25	-167.76	481.97	427.09	54.88	8.782		
7,860.70	7,845.41	7,967.29	7,888.82	27.63	29.49	-41.29	-800.66	-166.14	474.47	419.17	55.31	8.579		
7,900.00	7,884.61	8,005.06	7,926.51	27.77	29.62	-41.63	-798.42	-165.12	470.16	414.57	55.59	8.458		
8,000.00	7,984.46	8,104.07	8,025.37	28.13	29.97	-42.08	-793.18	-164.98	460.89	404.59	56.30	8.187		
8,100.00	8,084.42	8,200.94	8,122.11	28.49	30.32	-42.16	-788.19	-166.32	453.51	396.51	57.00	7.956		
8,157.59	8,142.00	8,254.37	8,175.49	28.69	30.50	171.95	-786.01	-166.90	450.77	393.38	57.39	7.854		
8,200.00	8,184.41	8,296.97	8,218.06	28.83	30.65	171.99	-784.44	-167.42	449.15	391.47	57.69	7.786		
8,300.00	8,284.41	8,393.67	8,314.67	29.17	30.98	171.86	-780.85	-166.97	445.54	387.18	58.36	7.634		
8,400.00	8,384.41	8,487.22	8,407.43	29.51	31.30	170.45	-776.94	-166.46	443.13	384.10	59.03	7.507		
8,428.62	8,413.04	8,509.89	8,429.44	29.60	31.37	169.74	-775.83	-151.12	442.91	383.72	59.19	7.483		
8,507.63	8,492.04	8,570.35	8,486.41	29.87	31.55	167.15	-773.14	-131.23	444.80	385.25	59.55	7.470		
8,550.00	8,534.37	8,599.70	8,512.97	30.02	31.63	76.08	-771.94	-118.81	447.25	387.61	59.64	7.499		
8,600.00	8,584.01	8,630.00	8,539.42	30.18	31.72	74.23	-770.93	-104.07	451.14	391.56	59.59	7.571		
8,650.00	8,632.95	8,660.53	8,564.93	30.34	31.79	72.35	-770.36	-87.32	456.23	396.81	59.42	7.679		
8,700.00	8,680.82	8,690.09	8,588.45	30.50	31.85	70.53	-770.39	-69.43	462.50	403.39	59.11	7.824		
8,750.00	8,727.25	8,725.00	8,614.96	30.66	31.92	68.61	-771.00	-46.72	469.50	410.63	58.87	7.976		
8,800.00	8,771.89	8,758.41	8,638.89	30.81	31.97	66.87	-771.70	-23.43	476.68	418.15	58.53	8.144		
8,850.00	8,814.40	8,798.59	8,665.66	30.95	32.04	65.03	-772.10	6.52	483.49	425.13	58.36	8.284		
8,900.00	8,854.46	8,843.13	8,693.35	31.09	32.10	63.30	-771.87	41.40	489.36	431.06	58.30	8.393		
8,950.00	8,891.75	8,885.21	8,718.00	31.23	32.16	61.91	-770.93	75.50	493.83	435.62	58.21	8.483		
9,000.00	8,926.01	8,921.49	8,737.84	31.37	32.22	60.92	-770.16	105.86	497.54	439.56	57.98	8.582		
9,050.00	8,956.96	8,959.35	8,756.82	31.53	32.28	60.10	-769.27	138.58	500.45	442.61	57.84	8.653		
9,100.00	8,984.38	8,999.77	8,775.23	31.69	32.36	59.46	-768.07	174.55	502.30	444.46	57.84	8.684		
9,150.00	9,008.05	9,045.99	8,794.58	31.87	32.52	59.09	-766.36	216.49	502.69	444.58	58.11	8.650		
9,200.00	9,027.79	9,086.13	8,810.22	32.07	32.75	59.09	-764.52	253.41	501.33	443.00	58.33	8.594		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Sec 14-T21S-R27E - Lone Tree Draw 14-13 State Com 335H - Wellbore #1 - Wellbore #1													Offset Well Error:	0.50 ft
Survey Program: 431-MWD+HDGM														
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
9,250.00	9,043.45	9,122.57	8,822.91	32.29	33.02	59.35	-762.96	287.53	498.99	440.41	58.59	8.517		
9,300.00	9,054.92	9,158.46	8,833.77	32.53	33.34	59.84	-761.57	321.70	495.84	436.87	58.97	8.409		
9,350.00	9,062.10	9,195.84	8,843.43	32.79	33.72	60.57	-760.23	357.78	491.83	432.28	59.55	8.259		
9,400.00	9,064.95	9,239.87	8,853.10	33.06	34.20	61.71	-758.63	400.70	486.70	426.23	60.47	8.049		
9,407.63	9,065.00	9,246.80	8,854.51	33.10	34.28	61.92	-758.35	407.49	485.77	425.15	60.63	8.012		
9,500.00	9,065.00	9,328.21	8,868.20	33.68	35.29	63.22	-754.59	487.63	475.61	413.06	62.55	7.604		
9,600.00	9,065.00	9,427.34	8,878.14	34.41	36.69	63.98	-747.34	585.98	465.55	400.78	64.78	7.187		
9,700.00	9,065.00	9,520.11	8,885.10	35.24	38.12	64.42	-740.08	678.21	456.24	389.25	66.99	6.811		
9,800.00	9,065.00	9,610.04	8,890.42	36.17	39.63	64.77	-734.38	767.79	448.95	379.63	69.32	6.477		
9,900.00	9,065.00	9,699.48	8,894.08	37.19	41.22	65.01	-729.89	857.05	443.68	371.92	71.76	6.183		
10,000.00	9,065.00	9,784.72	8,895.64	38.30	42.82	65.13	-727.76	942.24	441.61	367.41	74.20	5.951		
10,100.00	9,065.00	9,883.45	8,896.59	39.48	44.77	65.24	-726.69	1,040.96	441.23	364.12	77.11	5.722		
10,200.00	9,065.00	9,983.70	8,898.08	40.72	46.84	65.42	-725.74	1,141.19	440.74	360.49	80.25	5.492		
10,223.54	9,065.00	10,005.71	8,898.37	41.03	47.31	65.46	-725.59	1,163.20	440.70	359.72	80.97	5.442		
10,300.00	9,065.00	10,080.07	8,898.84	42.03	48.90	65.55	-725.38	1,237.55	441.07	357.67	83.39	5.289		
10,400.00	9,065.00	10,186.84	8,899.01	43.40	51.26	65.55	-723.81	1,344.32	440.66	353.80	86.86	5.073		
10,500.00	9,065.00	10,290.98	8,899.43	44.82	53.63	65.52	-721.15	1,448.42	439.17	348.82	90.35	4.861 Alert		
10,600.00	9,065.00	10,395.10	8,900.36	46.29	56.06	65.49	-717.54	1,552.47	436.64	342.71	93.93	4.649 Alert		
10,700.00	9,065.00	10,493.75	8,902.71	47.79	58.41	65.65	-714.24	1,651.04	433.62	336.05	97.57	4.444 Alert		
10,800.00	9,065.00	10,595.26	8,904.89	49.34	60.87	65.82	-711.31	1,752.48	431.11	329.74	101.37	4.253 Alert		
10,900.00	9,065.00	10,699.82	8,909.26	50.92	63.44	66.23	-707.99	1,856.89	427.51	322.01	105.50	4.052 Alert		
11,000.00	9,065.00	10,800.75	8,913.77	52.54	65.96	66.65	-704.16	1,957.65	423.25	313.65	109.60	3.862 Alert		
11,100.00	9,065.00	10,900.59	8,917.67	54.18	68.47	66.97	-700.08	2,057.33	418.96	305.27	113.69	3.685 Alert		
11,200.00	9,065.00	10,996.97	8,920.49	55.85	70.92	67.17	-696.12	2,153.59	415.05	297.40	117.66	3.528 Alert		
11,300.00	9,065.00	11,096.55	8,923.49	57.54	73.48	67.43	-692.70	2,253.06	411.74	289.94	121.80	3.380 Alert		
11,400.00	9,065.00	11,183.44	8,926.43	59.26	75.73	67.78	-691.17	2,339.89	409.86	284.18	125.68	3.261 Alert		
11,403.70	9,065.00	11,186.61	8,926.52	59.32	75.81	67.80	-691.17	2,343.05	409.86	284.03	125.82	3.257 Alert		
11,500.00	9,065.00	11,281.57	8,929.30	61.00	78.29	68.24	-691.70	2,437.98	410.28	280.24	130.03	3.155 Alert		
11,600.00	9,065.00	11,390.05	8,933.78	62.75	81.13	68.88	-691.60	2,546.36	409.71	274.78	134.93	3.036 Alert		
11,644.86	9,065.00	11,427.96	8,935.49	63.55	82.13	69.12	-691.48	2,584.22	409.32	272.56	136.75	2.993 Alert		
11,700.00	9,065.00	11,474.29	8,937.11	64.52	83.36	69.39	-692.12	2,630.53	409.91	270.99	138.93	2.951 Alert		
11,800.00	9,065.00	11,572.84	8,939.17	66.31	85.97	69.82	-694.52	2,729.03	412.50	269.09	143.41	2.876 Alert		
11,900.00	9,065.00	11,669.04	8,939.84	68.11	88.53	70.07	-696.70	2,825.20	415.42	267.75	147.67	2.813 Alert		
12,000.00	9,065.00	11,775.41	8,940.02	69.93	91.37	70.24	-698.72	2,931.55	418.19	265.85	152.34	2.745 Alert		
12,100.00	9,065.00	11,880.53	8,939.49	71.76	94.20	70.23	-698.81	3,036.66	419.48	262.67	156.81	2.675 Alert		
12,200.00	9,065.00	11,985.68	8,937.16	73.60	97.03	69.89	-696.87	3,141.76	419.54	258.56	160.98	2.606 Alert		
12,255.97	9,065.00	12,039.35	8,936.25	74.63	98.48	69.76	-695.94	3,195.42	419.53	256.33	163.19	2.571 Alert		
12,300.00	9,065.00	12,082.49	8,935.74	75.45	99.65	69.69	-695.32	3,238.55	419.57	254.58	164.99	2.543 Alert		
12,400.00	9,065.00	12,180.70	8,934.54	77.31	102.32	69.54	-694.31	3,336.75	420.06	250.96	169.09	2.484 Minor Risk		
12,500.00	9,065.00	12,283.91	8,932.81	79.18	105.13	69.31	-693.09	3,439.93	420.58	247.26	173.31	2.427 Minor Risk		
12,600.00	9,065.00	12,389.48	8,932.65	81.05	108.01	69.23	-690.69	3,545.47	419.52	241.77	177.75	2.360 Minor Risk		
12,700.00	9,065.00	12,488.63	8,934.18	82.94	110.72	69.38	-688.67	3,644.59	418.10	235.86	182.24	2.294 Minor Risk		
12,800.00	9,065.00	12,585.57	8,936.79	84.83	113.38	69.72	-687.62	3,741.49	417.18	230.31	186.87	2.232 Minor Risk		
12,886.38	9,065.00	12,669.87	8,938.67	86.47	115.70	69.98	-687.22	3,825.77	417.02	226.15	190.88	2.185 Minor Risk		
12,900.00	9,065.00	12,683.36	8,938.96	86.73	116.07	70.03	-687.18	3,839.26	417.02	225.51	191.52	2.177 Minor Risk		
13,000.00	9,065.00	12,790.16	8,941.73	88.64	119.01	70.41	-686.51	3,946.02	416.61	220.04	196.57	2.119 Minor Risk		
13,100.00	9,065.00	12,894.49	8,945.84	90.55	121.89	70.89	-684.25	4,050.24	414.29	212.65	201.64	2.055 Minor Risk		
13,200.00	9,065.00	12,998.05	8,950.72	92.47	124.75	71.46	-681.48	4,153.65	411.28	204.49	206.79	1.989 Minor Risk		
13,300.00	9,065.00	13,093.64	8,954.65	94.39	127.39	71.91	-678.68	4,249.11	408.25	196.62	211.64	1.929 Minor Risk		
13,400.00	9,065.00	13,185.96	8,956.51	96.32	129.95	72.12	-676.83	4,341.39	406.77	190.65	216.12	1.882 Minor Risk		
13,500.00	9,065.00	13,287.21	8,956.54	98.25	132.76	72.10	-675.17	4,442.63	406.25	185.61	220.65	1.841 Minor Risk		
13,600.00	9,065.00	13,387.71	8,956.02	100.19	135.55	71.98	-672.95	4,543.11	405.36	180.32	225.04	1.801 Minor Risk		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Sec 14-T21S-R27E - Lone Tree Draw 14-13 State Com 335H - Wellbore #1 - Wellbore #1													Offset Well Error:	0.50 ft
Survey Program: 431-MWD+HDGM														
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
13,700.00	9,065.00	13,490.79	8,957.05	102.13	138.42	72.07	-670.72	4,646.15	404.04	174.29	229.75	1.759	Minor Risk	
13,800.00	9,065.00	13,590.59	8,959.59	104.08	141.20	72.37	-668.66	4,745.90	402.33	167.71	234.62	1.715	Minor Risk	
13,900.00	9,065.00	13,688.61	8,961.66	106.03	143.93	72.63	-666.92	4,843.88	401.06	161.66	239.40	1.675	Minor Risk	
14,000.00	9,065.00	13,792.70	8,964.80	107.98	146.83	73.02	-664.81	4,947.90	399.28	154.76	244.52	1.633	Minor Risk	
14,100.00	9,065.00	13,890.23	8,968.51	109.94	149.56	73.49	-662.71	5,045.34	397.18	147.62	249.56	1.592	Minor Risk	
14,166.28	9,065.00	13,950.41	8,970.46	111.23	151.24	73.76	-662.14	5,105.48	396.67	143.96	252.71	1.570	Minor Risk	
14,200.00	9,065.00	13,983.64	8,971.38	111.90	152.17	73.90	-662.10	5,138.70	396.72	142.32	254.40	1.559	Minor Risk	
14,300.00	9,065.00	14,084.60	8,974.17	113.86	155.00	74.32	-661.73	5,239.62	396.68	137.17	259.51	1.529	Minor Risk	
14,400.00	9,065.00	14,186.02	8,976.43	115.82	157.84	74.65	-661.11	5,341.01	396.55	132.00	264.56	1.499	Major Risk	
14,500.00	9,065.00	14,288.62	8,979.08	117.79	160.71	75.01	-659.70	5,443.57	395.60	125.93	269.67	1.467	Major Risk	
14,600.00	9,065.00	14,390.28	8,981.31	119.76	163.57	75.30	-657.94	5,545.19	394.43	119.75	274.68	1.436	Major Risk	
14,700.00	9,065.00	14,489.98	8,983.56	121.74	166.36	75.57	-655.65	5,644.84	392.71	113.09	279.62	1.404	Major Risk	
14,800.00	9,065.00	14,591.03	8,985.77	123.71	169.20	75.86	-653.71	5,745.85	391.38	106.75	284.62	1.375	Major Risk	
14,900.00	9,065.00	14,690.08	8,988.31	125.69	171.98	76.17	-651.40	5,844.83	389.57	99.96	289.61	1.345	Major Risk	
14,968.28	9,065.00	14,752.67	8,989.79	127.04	173.74	76.38	-650.47	5,907.40	388.94	96.11	292.83	1.328	Major Risk	
15,000.00	9,065.00	14,780.47	8,990.49	127.67	174.52	76.49	-650.48	5,935.18	389.10	94.83	294.27	1.322	Major Risk	
15,100.00	9,065.00	14,877.11	8,993.00	129.65	177.25	76.93	-651.91	6,031.79	391.00	91.73	299.27	1.307	Major Risk	
15,200.00	9,065.00	14,978.65	8,994.98	131.63	180.11	77.28	-652.96	6,133.30	392.65	88.21	304.43	1.290	Major Risk	
15,300.00	9,065.00	15,077.43	8,996.79	133.62	182.89	77.60	-653.87	6,232.06	394.22	84.80	309.42	1.274	Major Risk	
15,400.00	9,065.00	15,180.34	8,999.03	135.61	185.80	77.99	-654.89	6,334.94	395.80	81.12	314.69	1.258	Major Risk	
15,500.00	9,065.00	15,284.14	9,001.77	137.60	188.72	78.41	-654.94	6,438.70	396.40	76.38	320.02	1.239	Major Risk	
15,600.00	9,065.00	15,387.31	9,004.98	139.59	191.64	78.88	-654.17	6,541.82	396.12	70.78	325.34	1.218	Major Risk	
15,700.00	9,065.00	15,488.96	9,008.08	141.58	194.50	79.31	-652.76	6,643.41	395.26	64.70	330.56	1.196	Major Risk	
15,800.00	9,065.00	15,588.08	9,010.54	143.57	197.30	79.65	-651.16	6,742.48	394.31	58.70	335.61	1.175	Major Risk	
15,900.00	9,065.00	15,688.23	9,012.70	145.57	200.13	79.95	-649.86	6,842.61	393.73	53.07	340.66	1.156	Major Risk	
16,000.00	9,065.00	15,797.67	9,017.77	147.56	203.21	80.64	-646.78	6,951.87	391.22	44.96	346.26	1.130	Major Risk	
16,100.00	9,065.00	15,892.64	9,021.92	149.56	205.89	81.19	-643.57	7,046.70	388.30	36.87	351.43	1.105	Major Risk	
16,164.46	9,065.00	15,949.53	9,023.09	150.85	207.50	81.35	-642.57	7,103.56	387.67	33.26	354.41	1.094	Major Risk, CC	
16,200.00	9,065.00	15,983.58	9,023.38	151.56	208.46	81.39	-642.32	7,137.62	387.75	31.67	356.08	1.089	Major Risk	
16,300.00	9,065.00	16,080.19	9,023.80	153.56	211.19	81.47	-642.10	7,234.22	388.56	27.78	360.77	1.077	Major Risk	
16,400.00	9,065.00	16,179.24	9,023.85	155.56	214.00	81.52	-642.64	7,333.27	390.16	24.62	365.54	1.067	Major Risk	
16,500.00	9,065.00	16,280.12	9,023.36	157.57	216.86	81.47	-642.62	7,434.15	391.31	20.97	370.34	1.057	Major Risk	
16,600.00	9,065.00	16,381.00	9,022.55	159.57	219.71	81.38	-642.88	7,535.03	392.78	17.69	375.09	1.047	Major Risk	
16,700.00	9,065.00	16,485.29	9,021.31	161.57	222.67	81.21	-641.96	7,639.31	393.17	13.26	379.91	1.035	Major Risk	
16,772.00	9,065.00	16,557.12	9,020.66	163.02	224.70	81.11	-640.96	7,711.13	393.05	9.80	383.25	1.026	Major Risk	
16,800.00	9,065.00	16,584.23	9,020.56	163.58	225.47	81.10	-640.67	7,738.23	393.08	8.54	384.54	1.022	Major Risk	
16,900.00	9,065.00	16,683.35	9,021.16	165.59	228.28	81.19	-640.11	7,837.35	393.52	4.14	389.39	1.011	Major Risk	
17,000.00	9,065.00	16,783.98	9,023.35	167.60	231.13	81.53	-639.73	7,937.95	393.91	-0.61	394.52	0.998	Collision	
17,100.00	9,065.00	16,883.65	9,025.63	169.60	233.96	81.87	-639.28	8,037.59	394.22	-5.40	399.62	0.986	Collision	
17,200.00	9,065.00	16,984.46	9,027.43	171.61	236.82	82.14	-638.75	8,138.39	394.54	-10.16	404.71	0.975	Collision	
17,300.00	9,065.00	17,084.87	9,029.79	173.62	239.66	82.49	-638.09	8,238.77	394.67	-15.17	409.84	0.963	Collision	
17,400.00	9,065.00	17,184.32	9,032.92	175.63	242.49	82.95	-637.56	8,338.17	394.83	-20.19	415.02	0.951	Collision	
17,500.00	9,065.00	17,284.41	9,035.86	177.65	245.33	83.38	-637.05	8,438.21	395.07	-25.12	420.19	0.940	Collision	
17,600.00	9,065.00	17,385.10	9,038.62	179.66	248.18	83.79	-636.41	8,538.87	395.22	-30.13	425.35	0.929	Collision	
17,700.00	9,065.00	17,486.28	9,041.05	181.67	251.06	84.14	-635.46	8,640.01	395.13	-35.36	430.49	0.918	Collision	
17,800.00	9,065.00	17,587.08	9,043.07	183.69	253.92	84.43	-634.28	8,740.78	394.85	-40.70	435.55	0.907	Collision	
17,900.00	9,065.00	17,687.75	9,044.47	185.70	256.77	84.62	-632.58	8,841.43	394.13	-46.40	440.54	0.895	Collision	
17,940.82	9,065.00	17,726.24	9,044.54	186.52	257.87	84.63	-632.05	8,879.91	394.01	-48.42	442.43	0.891	Collision	
18,000.00	9,065.00	17,782.53	9,044.03	187.72	259.47	84.56	-631.61	8,936.20	394.25	-50.87	445.12	0.886	Collision	
18,100.00	9,065.00	17,881.10	9,043.04	189.73	262.27	84.43	-631.56	9,034.76	395.39	-54.40	449.80	0.879	Collision	
18,200.00	9,065.00	17,984.23	9,044.80	191.75	265.20	84.70	-631.13	9,137.87	395.91	-59.06	454.97	0.870	Collision	
18,300.00	9,065.00	18,085.11	9,048.08	193.77	268.06	85.18	-630.67	9,238.69	396.26	-63.90	460.16	0.861	Collision	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design Sec 14-T21S-R27E - Lone Tree Draw 14-13 State Com 335H - Wellbore #1 - Wellbore #1												Offset Site Error:	0.00 ft
Survey Program: 431-MWD+HDGM												Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance					Warning	
Measured Depth Depth (ft)	Vertical Depth Depth (ft)	Measured Depth Depth (ft)	Vertical Depth Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)		Separation Factor
18,392.80	9,065.00	18,178.36	9,051.00	195.64	270.71	85.60	-629.73	9,331.90	396.11	-68.82	464.94	0.852	Collision
18,400.00	9,065.00	18,185.31	9,051.19	195.78	270.91	85.63	-629.67	9,338.85	396.12	-69.18	465.29	0.851	Collision
18,500.00	9,065.00	18,282.90	9,053.52	197.80	273.69	85.97	-629.20	9,436.41	396.55	-73.68	470.23	0.843	Collision
18,600.00	9,065.00	18,383.74	9,055.38	199.82	276.55	86.24	-628.93	9,537.23	397.26	-78.01	475.27	0.836	Collision
18,700.00	9,065.00	18,482.21	9,056.28	201.84	279.35	86.38	-628.35	9,635.69	397.72	-82.40	480.12	0.828	Collision
18,800.00	9,065.00	18,583.91	9,055.88	203.86	282.25	86.33	-628.15	9,737.39	398.64	-86.39	485.03	0.822	Collision
18,900.00	9,065.00	18,683.39	9,055.27	205.88	285.08	86.24	-627.30	9,836.86	398.93	-90.89	489.82	0.814	Collision
19,000.00	9,065.00	18,786.76	9,056.14	207.90	288.02	86.37	-626.56	9,940.23	399.27	-95.61	494.88	0.807	Collision
19,100.00	9,065.00	18,890.91	9,058.03	209.92	290.98	86.64	-624.67	10,044.34	398.44	-101.55	499.99	0.797	Collision
19,200.00	9,065.00	18,988.90	9,059.52	211.95	293.76	86.84	-622.57	10,142.30	397.32	-107.57	504.89	0.787	Collision
19,300.00	9,065.00	19,091.13	9,061.01	213.97	296.67	87.05	-620.44	10,244.50	396.26	-113.65	509.91	0.777	Collision
19,373.50	9,065.00	19,164.57	9,062.04	215.45	298.75	87.19	-618.68	10,317.90	395.26	-118.28	513.54	0.770	Collision, ES, SF
19,400.00	9,065.00	19,158.00	9,061.95	215.99	298.57	87.18	-618.84	10,311.34	396.28	-116.03	512.32	0.774	Collision
19,456.84	9,065.00	19,158.00	9,061.95	217.14	298.57	87.18	-618.84	10,311.34	404.25	-98.67	502.92	0.804	Collision

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 438-MWD+HDGM, 9290-MWD+HDGM													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)						
0.00	0.00	14.70	14.70	0.50	0.50	-176.33	-1,663.40	-106.75	1,666.82					
100.00	100.00	111.43	111.43	0.52	0.53	-176.33	-1,663.53	-106.62	1,666.95	1,665.89	1.05	1,584.344		
200.00	200.00	208.16	208.16	0.70	0.61	-176.34	-1,663.86	-106.30	1,667.27	1,665.96	1.31	1,269.136		
300.00	300.00	304.89	304.89	0.99	0.72	-176.36	-1,664.40	-105.79	1,667.79	1,666.08	1.71	977.772		
400.00	400.00	401.61	401.60	1.31	0.84	-176.39	-1,665.14	-105.09	1,668.51	1,666.35	2.15	775.103		
500.00	500.00	497.70	497.68	1.65	1.08	-176.42	-1,666.08	-104.23	1,669.43	1,666.71	2.72	612.830		
600.00	600.00	597.47	597.44	1.99	1.41	-176.45	-1,667.23	-103.34	1,670.53	1,667.13	3.40	491.988		
700.00	700.00	695.00	694.96	2.34	1.74	-176.48	-1,668.36	-102.72	1,671.64	1,667.56	4.07	410.228		
800.00	800.00	793.91	793.86	2.69	2.08	-176.49	-1,669.63	-102.28	1,672.89	1,668.12	4.77	350.896		
900.00	900.00	895.91	895.85	3.04	2.44	-176.52	-1,670.91	-101.61	1,674.11	1,668.64	5.48	305.672		
1,000.00	1,000.00	992.05	991.98	3.40	2.78	-176.55	-1,672.26	-100.68	1,675.45	1,669.28	6.17	271.579		
1,100.00	1,100.00	1,113.87	1,113.78	3.75	3.20	-176.61	-1,673.33	-99.25	1,676.27	1,669.32	6.95	241.303		
1,200.00	1,200.00	1,232.39	1,232.30	4.11	3.59	-176.58	-1,672.59	-100.01	1,675.66	1,667.97	7.69	217.797		
1,300.00	1,300.00	1,343.41	1,343.28	4.46	3.95	-176.49	-1,670.95	-102.38	1,674.31	1,665.90	8.41	199.031		
1,400.00	1,400.00	1,444.47	1,444.28	4.82	4.29	-176.39	-1,669.04	-105.23	1,672.61	1,663.50	9.11	183.677		
1,500.00	1,500.00	1,532.31	1,532.08	5.18	4.59	-176.31	-1,667.73	-107.62	1,671.29	1,661.53	9.76	171.214		
1,600.00	1,600.00	1,630.54	1,630.26	5.53	4.92	-176.21	-1,666.63	-110.30	1,670.34	1,659.89	10.45	159.777		
1,700.00	1,700.00	1,732.97	1,732.65	5.89	5.28	-176.11	-1,665.46	-113.11	1,669.39	1,658.23	11.16	149.535		
1,800.00	1,800.00	1,837.76	1,837.39	6.25	5.64	-176.01	-1,664.00	-116.04	1,668.18	1,656.30	11.88	140.377		
1,900.00	1,900.00	1,936.35	1,935.93	6.61	5.98	-175.92	-1,662.46	-118.59	1,666.82	1,654.23	12.58	132.456		
2,000.00	2,000.00	2,029.43	2,028.98	6.96	6.30	-175.84	-1,661.37	-120.86	1,665.82	1,652.55	13.27	125.562		
2,100.00	2,100.00	2,126.44	2,125.95	7.32	6.64	-175.75	-1,660.48	-123.32	1,665.09	1,651.12	13.96	119.235		
2,200.00	2,200.00	2,225.92	2,225.39	7.68	6.99	-175.65	-1,659.67	-126.11	1,664.49	1,649.82	14.67	113.442		
2,300.00	2,300.00	2,328.05	2,327.48	8.04	7.35	-175.55	-1,658.76	-129.01	1,663.81	1,648.42	15.39	108.106		
2,400.00	2,400.00	2,431.42	2,430.80	8.39	7.72	-175.45	-1,657.68	-131.93	1,662.99	1,646.88	16.11	103.206		
2,500.00	2,500.00	2,533.45	2,532.78	8.75	8.08	-175.34	-1,656.38	-135.03	1,661.96	1,645.13	16.83	98.737		
2,600.00	2,599.99	2,630.55	2,629.82	9.09	8.43	-29.33	-1,655.16	-137.98	1,660.20	1,642.68	17.52	94.769		
2,700.00	2,699.96	2,726.59	2,725.82	9.42	8.77	-29.29	-1,654.20	-140.87	1,657.18	1,638.99	18.19	91.122		
2,800.00	2,799.86	2,831.78	2,830.96	9.75	9.14	-29.28	-1,653.10	-143.83	1,652.57	1,633.68	18.89	87.488		
2,900.00	2,899.68	2,930.55	2,929.68	10.08	9.49	-29.31	-1,651.94	-146.79	1,646.32	1,626.75	19.57	84.118		
2,945.33	2,944.88	2,962.85	2,961.96	10.23	9.61	-29.33	-1,651.72	-147.74	1,643.20	1,623.37	19.84	82.832		
3,000.00	2,999.39	3,004.01	3,003.10	10.41	9.75	-29.35	-1,651.76	-148.75	1,639.66	1,619.50	20.17	81.310		
3,100.00	3,099.08	3,091.99	3,091.07	10.75	10.07	-29.41	-1,652.61	-150.57	1,634.02	1,613.21	20.81	78.518		
3,200.00	3,198.78	3,189.93	3,188.97	11.08	10.41	-29.47	-1,653.94	-152.63	1,628.77	1,607.28	21.49	75.779		
3,300.00	3,298.48	3,277.14	3,276.16	11.42	10.72	-29.55	-1,655.47	-153.79	1,623.87	1,601.74	22.13	73.363		
3,400.00	3,398.18	3,364.24	3,363.23	11.76	11.02	-29.70	-1,657.89	-153.26	1,619.84	1,597.07	22.77	71.136		
3,500.00	3,497.88	3,505.78	3,504.70	12.10	11.50	-29.98	-1,661.16	-151.13	1,615.44	1,591.84	23.60	68.446		
3,600.00	3,597.58	3,608.64	3,607.55	12.45	11.85	-30.17	-1,661.77	-149.80	1,609.22	1,584.93	24.29	66.240		
3,700.00	3,697.27	3,704.78	3,703.68	12.79	12.18	-30.35	-1,662.30	-148.38	1,602.96	1,578.00	24.97	64.208		
3,800.00	3,796.97	3,802.79	3,801.68	13.14	12.52	-30.54	-1,662.99	-146.95	1,596.86	1,571.22	25.65	62.268		
3,900.00	3,896.67	3,901.87	3,900.75	13.48	12.86	-30.73	-1,663.76	-145.65	1,590.88	1,564.55	26.33	60.419		
4,000.00	3,996.37	4,001.75	4,000.62	13.83	13.20	-30.91	-1,664.49	-144.68	1,584.88	1,557.86	27.02	58.653		
4,100.00	4,096.07	4,104.40	4,103.27	14.18	13.56	-31.10	-1,665.23	-143.69	1,578.88	1,551.16	27.72	56.953		
4,200.00	4,195.76	4,202.73	4,201.59	14.53	13.90	-31.27	-1,665.70	-142.97	1,572.68	1,544.26	28.41	55.354		
4,300.00	4,295.46	4,298.59	4,297.44	14.88	14.23	-31.44	-1,666.46	-142.37	1,566.81	1,537.71	29.09	53.854		
4,400.00	4,395.16	4,400.99	4,399.84	15.23	14.59	-31.60	-1,667.31	-142.05	1,560.99	1,531.19	29.80	52.381		
4,500.00	4,494.86	4,501.59	4,500.44	15.58	14.94	-31.76	-1,667.93	-141.81	1,554.98	1,524.48	30.50	50.979		
4,600.00	4,594.56	4,601.60	4,600.44	15.93	15.29	-31.92	-1,668.56	-141.60	1,549.00	1,517.80	31.20	49.642		
4,700.00	4,694.25	4,700.02	4,698.86	16.29	15.64	-32.07	-1,669.18	-141.62	1,543.04	1,511.14	31.90	48.370		
4,800.00	4,793.95	4,799.64	4,798.48	16.64	15.99	-32.23	-1,669.87	-141.66	1,537.16	1,504.56	32.60	47.147		
4,900.00	4,893.65	4,902.29	4,901.13	17.00	16.35	-32.38	-1,670.50	-141.80	1,531.20	1,497.88	33.32	45.959		
5,000.00	4,993.35	4,986.66	4,985.49	17.35	16.65	-32.49	-1,671.29	-142.35	1,525.60	1,491.64	33.97	44.912		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 438-MWD+HDGM, 9290-MWD+HDGM													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)						
5,100.00	5,093.05	5,084.28	5,083.08	17.71	16.99	-32.58	-1,672.89	-144.14	1,520.74	1,486.07	34.67	43.867		
5,200.00	5,192.75	5,183.32	5,182.09	18.06	17.34	-32.66	-1,674.48	-146.27	1,515.86	1,480.49	35.37	42.857		
5,300.00	5,292.44	5,282.08	5,280.81	18.42	17.69	-32.74	-1,676.15	-148.45	1,511.06	1,474.99	36.07	41.888		
5,400.00	5,392.14	5,379.00	5,377.69	18.77	18.04	-32.81	-1,677.91	-150.71	1,506.39	1,469.62	36.77	40.967		
5,500.00	5,491.84	5,479.30	5,477.91	19.13	18.39	-32.84	-1,679.80	-154.11	1,501.82	1,464.34	37.48	40.069		
5,600.00	5,591.54	5,574.54	5,573.01	19.49	18.73	-32.82	-1,681.68	-158.74	1,497.38	1,459.21	38.17	39.226		
5,700.00	5,691.24	5,666.05	5,664.38	19.85	19.06	-32.79	-1,683.90	-163.28	1,493.38	1,454.53	38.85	38.437		
5,800.00	5,790.93	5,767.29	5,765.49	20.20	19.42	-32.78	-1,686.62	-167.86	1,489.64	1,450.07	39.57	37.647		
5,900.00	5,890.63	5,867.66	5,865.73	20.56	19.78	-32.78	-1,689.24	-172.24	1,485.82	1,445.54	40.28	36.886		
6,000.00	5,990.33	5,968.39	5,966.35	20.92	20.14	-32.79	-1,691.84	-176.29	1,481.96	1,440.97	41.00	36.149		
6,100.00	6,090.03	6,073.08	6,070.94	21.28	20.51	-32.81	-1,694.40	-180.09	1,477.96	1,436.24	41.73	35.421		
6,200.00	6,189.73	6,180.75	6,178.51	21.64	20.90	-32.84	-1,696.41	-184.06	1,473.36	1,430.90	42.47	34.695		
6,300.00	6,289.42	6,276.36	6,274.05	22.00	21.24	-32.87	-1,698.16	-187.41	1,468.75	1,425.59	43.16	34.027		
6,400.00	6,389.12	6,368.65	6,366.26	22.36	21.57	-32.90	-1,700.22	-190.51	1,464.52	1,420.68	43.85	33.399		
6,500.00	6,488.82	6,460.22	6,457.75	22.72	21.90	-32.94	-1,702.86	-193.36	1,460.95	1,416.42	44.53	32.807		
6,600.00	6,588.52	6,558.67	6,556.10	23.08	22.25	-32.99	-1,705.96	-196.33	1,457.63	1,412.39	45.24	32.220		
6,700.00	6,688.22	6,656.96	6,654.28	23.44	22.60	-33.01	-1,709.19	-199.92	1,454.46	1,408.52	45.95	31.654		
6,800.00	6,787.91	6,766.63	6,763.80	23.80	23.00	-33.02	-1,712.62	-204.47	1,451.18	1,404.48	46.70	31.074		
6,900.00	6,887.61	6,879.48	6,876.59	24.16	23.40	-33.11	-1,714.97	-207.04	1,446.77	1,399.31	47.46	30.483		
7,000.00	6,987.31	6,984.78	6,981.86	24.52	23.78	-33.22	-1,716.65	-208.69	1,441.88	1,393.69	48.19	29.918		
7,100.00	7,087.01	7,086.71	7,083.78	24.88	24.14	-33.35	-1,717.93	-209.80	1,436.65	1,387.74	48.91	29.371		
7,200.00	7,186.71	7,212.28	7,209.32	25.24	24.58	-33.64	-1,718.39	-208.01	1,430.52	1,380.82	49.69	28.787		
7,300.00	7,286.41	7,300.49	7,297.48	25.60	24.87	-33.92	-1,718.32	-204.80	1,423.95	1,373.59	50.36	28.276		
7,400.00	7,386.10	7,390.23	7,387.18	25.96	25.18	-34.18	-1,718.91	-202.32	1,418.16	1,367.13	51.03	27.791		
7,500.00	7,485.80	7,489.78	7,486.70	26.33	25.52	-34.43	-1,719.91	-200.59	1,412.75	1,361.02	51.73	27.309		
7,600.00	7,585.50	7,590.04	7,586.96	26.69	25.87	-34.65	-1,720.90	-199.51	1,407.34	1,354.90	52.44	26.838		
7,700.00	7,685.20	7,689.76	7,686.67	27.05	26.22	-34.84	-1,721.86	-199.21	1,401.92	1,348.77	53.15	26.378		
7,800.00	7,784.90	7,784.87	7,781.78	27.41	26.56	-35.02	-1,722.86	-199.00	1,396.61	1,342.77	53.84	25.938		
7,860.70	7,845.41	7,835.84	7,832.74	27.63	26.74	-35.12	-1,723.71	-198.83	1,393.76	1,339.51	54.24	25.694		
7,900.00	7,884.61	7,871.83	7,868.72	27.77	26.86	-35.18	-1,724.50	-198.68	1,392.29	1,337.78	54.51	25.541		
8,000.00	7,984.46	7,990.18	7,987.04	28.13	27.27	-35.38	-1,725.93	-196.93	1,389.03	1,333.76	55.28	25.129		
8,090.06	8,074.48	8,072.85	8,069.70	28.45	27.56	-35.48	-1,726.96	-195.56	1,388.02	1,332.13	55.89	24.837 CC		
8,100.00	8,084.42	8,083.63	8,080.47	28.49	27.60	-35.49	-1,727.11	-195.36	1,388.03	1,332.07	55.96	24.805		
8,157.59	8,142.00	8,146.05	8,142.87	28.69	27.81	178.51	-1,727.82	-193.82	1,388.37	1,332.00	56.37	24.629		
8,200.00	8,184.41	8,191.01	8,187.82	28.83	27.97	178.46	-1,728.21	-192.59	1,388.77	1,332.10	56.67	24.506		
8,300.00	8,284.41	8,285.25	8,282.04	29.17	28.30	178.40	-1,728.96	-191.09	1,389.62	1,332.28	57.34	24.235		
8,400.00	8,384.41	8,374.19	8,370.96	29.51	28.61	178.39	-1,730.57	-190.88	1,391.41	1,333.42	58.00	23.992		
8,507.63	8,492.04	8,479.66	8,476.41	29.87	28.98	178.41	-1,732.82	-191.38	1,393.70	1,334.96	58.74	23.728		
8,550.00	8,534.37	8,520.78	8,517.51	30.02	29.13	89.03	-1,733.76	-191.80	1,394.63	1,335.60	59.03	23.627		
8,600.00	8,584.01	8,567.20	8,563.91	30.18	29.30	89.16	-1,734.89	-192.31	1,395.74	1,336.39	59.36	23.515		
8,650.00	8,632.95	8,612.68	8,609.37	30.34	29.46	89.43	-1,736.10	-192.61	1,396.97	1,337.29	59.68	23.408		
8,700.00	8,680.82	8,654.26	8,650.94	30.50	29.61	89.78	-1,737.34	-192.80	1,398.43	1,338.44	59.98	23.313		
8,750.00	8,727.25	8,693.66	8,690.32	30.66	29.75	90.20	-1,738.71	-193.04	1,400.30	1,340.02	60.28	23.231		
8,800.00	8,771.89	8,731.20	8,727.82	30.81	29.88	90.66	-1,740.19	-193.32	1,402.72	1,342.16	60.56	23.164		
8,850.00	8,814.40	8,766.45	8,763.04	30.95	30.01	91.12	-1,741.76	-193.65	1,405.84	1,345.02	60.82	23.114		
8,900.00	8,854.46	8,799.54	8,796.08	31.09	30.13	91.53	-1,743.39	-194.00	1,409.82	1,348.74	61.08	23.082		
8,950.00	8,891.75	8,833.03	8,829.53	31.23	30.25	91.95	-1,745.17	-194.40	1,414.78	1,353.44	61.34	23.065		
9,000.00	8,926.01	8,865.46	8,861.91	31.37	30.36	92.32	-1,746.93	-194.80	1,420.80	1,359.20	61.60	23.065		
9,050.00	8,956.96	8,894.66	8,891.06	31.53	30.47	92.52	-1,748.54	-195.18	1,428.03	1,366.17	61.86	23.087		
9,100.00	8,984.38	8,920.03	8,916.39	31.69	30.56	92.52	-1,749.96	-195.51	1,436.60	1,374.49	62.10	23.132		
9,150.00	9,008.05	8,941.38	8,937.70	31.87	30.64	92.26	-1,751.17	-195.82	1,446.63	1,384.28	62.35	23.203		
9,200.00	9,027.79	9,614.46	9,283.16	32.07	33.16	98.98	-1,763.44	152.64	1,447.63	1,383.32	64.31	22.512		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design		Sec 14-T21S-R27E - Lone Tree Draw 14-13 State Com 336H - ST01 - ST01											Offset Site Error:		0.00 ft
Survey Program:		438-MWD+HDGM, 9290-MWD+HDGM											Offset Well Error:		0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor			
9,250.00	9,043.45	9,665.04	9,286.36	32.29	33.59	98.73	-1,762.41	203.11	1,445.14	1,380.12	65.02	22.226			
9,300.00	9,054.92	9,720.18	9,289.87	32.53	34.15	98.56	-1,761.13	258.13	1,443.26	1,377.39	65.86	21.912			
9,350.00	9,062.10	9,779.20	9,293.25	32.79	34.79	98.51	-1,759.54	317.03	1,441.83	1,375.05	66.78	21.591			
9,400.00	9,064.95	9,850.23	9,295.65	33.06	35.66	98.59	-1,757.08	387.97	1,440.48	1,372.57	67.92	21.210			
9,407.63	9,065.00	9,861.06	9,295.81	33.10	35.79	98.61	-1,756.64	398.80	1,440.27	1,372.18	68.09	21.153			
9,500.00	9,065.00	9,968.24	9,298.08	33.68	37.29	98.73	-1,751.53	505.83	1,437.22	1,367.10	70.12	20.497			
9,600.00	9,065.00	10,063.82	9,301.25	34.41	38.81	98.88	-1,746.35	601.22	1,433.46	1,361.15	72.31	19.823			
9,700.00	9,065.00	10,136.78	9,303.30	35.24	40.04	98.97	-1,743.33	674.08	1,430.89	1,356.56	74.33	19.250			
9,800.00	9,065.00	10,225.84	9,305.04	36.17	41.64	99.05	-1,741.04	763.09	1,429.72	1,352.91	76.82	18.612			
9,864.33	9,065.00	10,277.90	9,306.32	36.83	42.62	99.10	-1,739.99	815.13	1,429.41	1,350.98	78.42	18.227			
9,900.00	9,065.00	10,305.30	9,307.47	37.19	43.15	99.15	-1,739.59	842.50	1,429.51	1,350.22	79.29	18.029			
10,000.00	9,065.00	10,393.63	9,313.02	38.30	44.90	99.37	-1,738.77	930.65	1,430.68	1,348.62	82.05	17.436			
10,100.00	9,065.00	10,499.54	9,320.62	39.48	47.08	99.67	-1,737.76	1,036.28	1,432.01	1,346.71	85.31	16.786			
10,200.00	9,065.00	10,606.04	9,326.56	40.72	49.37	99.90	-1,736.37	1,142.61	1,432.76	1,344.02	88.74	16.145			
10,300.00	9,065.00	10,688.73	9,329.18	42.03	51.21	100.00	-1,735.86	1,225.25	1,433.80	1,341.99	91.81	15.617			
10,400.00	9,065.00	10,774.66	9,330.93	43.40	53.16	100.06	-1,736.69	1,311.16	1,436.18	1,341.12	95.06	15.109			
10,500.00	9,065.00	10,880.92	9,333.24	44.82	55.64	100.13	-1,738.09	1,417.38	1,438.95	1,340.07	98.88	14.552			
10,600.00	9,065.00	10,979.06	9,335.38	46.29	57.97	100.20	-1,738.83	1,515.50	1,441.17	1,338.56	102.60	14.046			
10,700.00	9,065.00	11,097.73	9,338.02	47.79	60.84	100.29	-1,739.49	1,634.13	1,443.23	1,336.32	106.91	13.499			
10,800.00	9,065.00	11,199.55	9,340.48	49.34	63.35	100.38	-1,739.05	1,735.92	1,444.32	1,333.44	110.88	13.026			
10,900.00	9,065.00	11,303.08	9,343.26	50.92	65.94	100.49	-1,738.32	1,839.41	1,445.20	1,330.25	114.96	12.572			
11,000.00	9,065.00	11,399.65	9,346.17	52.54	68.38	100.60	-1,737.61	1,935.94	1,446.11	1,327.20	118.91	12.162			
11,100.00	9,065.00	11,495.30	9,347.73	54.18	70.82	100.65	-1,737.40	2,031.57	1,447.28	1,324.37	122.91	11.776			
11,200.00	9,065.00	11,588.75	9,348.55	55.85	73.22	100.68	-1,737.70	2,125.01	1,448.84	1,321.93	126.90	11.417			
11,300.00	9,065.00	11,683.81	9,349.45	57.54	75.69	100.70	-1,738.42	2,220.07	1,450.83	1,319.85	130.99	11.076			
11,400.00	9,065.00	11,788.91	9,350.51	59.26	78.44	100.72	-1,739.16	2,325.17	1,452.79	1,317.41	135.38	10.731			
11,500.00	9,065.00	11,897.30	9,351.64	61.00	81.29	100.76	-1,739.42	2,433.55	1,454.31	1,314.42	139.89	10.396			
11,600.00	9,065.00	12,004.08	9,353.15	62.75	84.12	100.81	-1,738.92	2,540.31	1,455.19	1,310.80	144.39	10.078			
11,700.00	9,065.00	12,104.42	9,355.26	64.52	86.79	100.89	-1,738.12	2,640.62	1,455.88	1,307.16	148.72	9.789			
11,800.00	9,065.00	12,210.30	9,358.38	66.31	89.62	101.01	-1,736.99	2,746.45	1,456.48	1,303.27	153.21	9.506			
11,900.00	9,065.00	12,338.48	9,362.00	68.11	93.06	101.16	-1,734.18	2,874.55	1,455.99	1,297.71	158.27	9.199			
12,000.00	9,065.00	12,462.58	9,365.26	69.93	96.39	101.32	-1,728.90	2,998.49	1,453.38	1,290.17	163.21	8.905			
12,100.00	9,065.00	12,556.64	9,367.38	71.76	98.93	101.43	-1,724.20	3,092.41	1,450.01	1,282.55	167.46	8.659			
12,200.00	9,065.00	12,633.93	9,368.13	73.60	101.02	101.47	-1,721.67	3,169.65	1,448.04	1,276.70	171.34	8.451			
12,300.00	9,065.00	12,734.79	9,368.29	75.45	103.77	101.49	-1,718.91	3,270.47	1,446.46	1,270.62	175.84	8.226			
12,371.01	9,065.00	12,786.05	9,368.22	76.77	105.16	101.49	-1,718.00	3,321.72	1,445.98	1,267.45	178.53	8.099			
12,400.00	9,065.00	12,812.00	9,368.17	77.31	105.87	101.49	-1,717.82	3,347.68	1,446.07	1,266.32	179.76	8.045			
12,500.00	9,065.00	12,895.65	9,368.11	79.18	108.16	101.48	-1,717.77	3,431.33	1,447.05	1,263.21	183.83	7.871			
12,600.00	9,065.00	12,981.40	9,368.90	81.05	110.52	101.50	-1,718.25	3,517.07	1,448.86	1,260.91	187.95	7.709			
12,700.00	9,065.00	13,079.64	9,371.29	82.94	113.22	101.57	-1,719.19	3,615.28	1,451.35	1,258.95	192.41	7.543			
12,800.00	9,065.00	13,199.62	9,374.11	84.83	116.53	101.67	-1,719.54	3,735.22	1,453.21	1,255.71	197.49	7.358			
12,900.00	9,065.00	13,300.48	9,376.28	86.73	119.31	101.75	-1,718.98	3,836.06	1,454.18	1,252.14	202.04	7.197			
13,000.00	9,065.00	13,384.73	9,378.07	88.64	121.65	101.81	-1,719.04	3,920.28	1,455.76	1,249.63	206.13	7.062			
13,100.00	9,065.00	13,495.53	9,381.17	90.55	124.72	101.92	-1,718.93	4,031.04	1,457.30	1,246.33	210.97	6.908			
13,200.00	9,065.00	13,585.79	9,383.81	92.47	127.22	102.01	-1,719.07	4,121.26	1,459.12	1,243.90	215.22	6.780			
13,300.00	9,065.00	13,709.51	9,387.36	94.39	130.66	102.14	-1,718.45	4,244.92	1,460.29	1,239.88	220.41	6.625			
13,400.00	9,065.00	13,807.66	9,389.47	96.32	133.39	102.23	-1,717.03	4,343.05	1,460.42	1,235.50	224.92	6.493			
13,500.00	9,065.00	13,896.65	9,389.75	98.25	135.87	102.23	-1,717.00	4,432.03	1,461.51	1,232.28	229.23	6.376			
13,600.00	9,065.00	13,989.38	9,387.96	100.19	138.45	102.15	-1,717.62	4,524.74	1,462.84	1,229.12	233.71	6.259			
13,700.00	9,065.00	14,077.03	9,387.97	102.13	140.90	102.13	-1,718.83	4,612.37	1,465.24	1,227.24	238.00	6.157			
13,800.00	9,065.00	14,182.72	9,389.83	104.08	143.86	102.18	-1,719.80	4,718.05	1,467.58	1,224.80	242.78	6.045			
13,900.00	9,065.00	14,308.30	9,394.35	106.03	147.37	102.34	-1,719.70	4,843.54	1,469.45	1,221.41	248.04	5.924			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Sec 14-T21S-R27E - Lone Tree Draw 14-13 State Com 336H - ST01 - ST01													Offset Well Error:	0.50 ft
Survey Program: 438-MWD+HDGM, 9290-MWD+HDGM														
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
14,000.00	9,065.00	14,422.34	9,400.37	107.98	150.55	102.59	-1,716.90	4,957.38	1,469.23	1,216.38	252.86	5.811		
14,100.00	9,065.00	14,529.97	9,406.14	109.94	153.56	102.82	-1,713.65	5,064.81	1,468.54	1,211.05	257.49	5.703		
14,200.00	9,065.00	14,636.83	9,410.94	111.90	156.54	103.03	-1,710.04	5,171.50	1,467.31	1,205.19	262.12	5.598		
14,300.00	9,065.00	14,734.40	9,415.06	113.86	159.27	103.21	-1,706.62	5,268.92	1,465.93	1,199.39	266.54	5.500		
14,400.00	9,065.00	14,824.86	9,417.80	115.82	161.80	103.32	-1,704.12	5,359.31	1,465.00	1,194.17	270.83	5.409		
14,472.70	9,065.00	14,888.94	9,418.09	117.25	163.60	103.34	-1,703.15	5,423.38	1,464.79	1,190.81	273.98	5.346		
14,500.00	9,065.00	14,913.64	9,417.79	117.79	164.30	103.32	-1,702.98	5,448.07	1,464.82	1,189.62	275.19	5.323		
14,600.00	9,065.00	15,009.57	9,417.90	119.76	167.00	103.33	-1,702.26	5,543.99	1,465.18	1,185.43	279.75	5.237		
14,700.00	9,065.00	15,119.84	9,419.19	121.74	170.10	103.38	-1,700.85	5,654.25	1,465.28	1,180.62	284.65	5.148		
14,800.00	9,065.00	15,234.58	9,421.64	123.71	173.33	103.48	-1,698.24	5,768.93	1,464.65	1,175.05	289.60	5.058		
14,900.00	9,065.00	15,345.03	9,425.68	125.69	176.43	103.66	-1,694.04	5,879.23	1,462.86	1,168.54	294.32	4.970 Alert		
15,000.00	9,065.00	15,451.52	9,429.72	127.67	179.42	103.85	-1,689.56	5,985.55	1,460.74	1,161.81	298.93	4.887 Alert		
15,100.00	9,065.00	15,533.53	9,432.36	129.65	181.72	103.97	-1,686.31	6,067.45	1,458.78	1,155.75	303.02	4.814 Alert		
15,200.00	9,065.00	15,621.10	9,433.91	131.63	184.19	104.04	-1,684.51	6,154.98	1,458.25	1,150.95	307.30	4.745 Alert		
15,300.00	9,065.00	15,733.86	9,435.54	133.62	187.37	104.11	-1,682.21	6,267.71	1,457.71	1,145.49	312.22	4.669 Alert		
15,400.00	9,065.00	15,828.86	9,436.42	135.61	190.05	104.16	-1,679.74	6,362.67	1,456.50	1,139.78	316.72	4.599 Alert		
15,500.00	9,065.00	15,931.47	9,435.79	137.60	192.95	104.14	-1,677.94	6,465.26	1,455.72	1,134.23	321.49	4.528 Alert		
15,583.57	9,065.00	16,000.24	9,435.47	139.26	194.89	104.13	-1,676.78	6,534.02	1,455.17	1,130.14	325.03	4.477 Alert		
15,600.00	9,065.00	16,012.65	9,435.48	139.59	195.24	104.13	-1,676.65	6,546.43	1,455.19	1,129.51	325.69	4.468 Alert		
15,700.00	9,065.00	16,105.19	9,436.07	141.58	197.86	104.15	-1,676.26	6,638.97	1,455.98	1,125.84	330.14	4.410 Alert		
15,800.00	9,065.00	16,216.02	9,436.83	143.57	201.00	104.17	-1,675.38	6,749.79	1,456.45	1,121.34	335.11	4.346 Alert		
15,900.00	9,065.00	16,294.72	9,437.85	145.57	203.22	104.21	-1,674.68	6,828.48	1,457.03	1,117.89	339.14	4.296 Alert		
16,000.00	9,065.00	16,373.91	9,440.00	147.56	205.47	104.28	-1,675.20	6,907.64	1,459.37	1,116.31	343.06	4.254 Alert		
16,100.00	9,065.00	16,471.85	9,443.99	149.56	208.24	104.41	-1,676.39	7,005.49	1,462.62	1,115.10	347.51	4.209 Alert		
16,200.00	9,065.00	16,574.14	9,449.21	151.56	211.14	104.59	-1,676.91	7,107.65	1,465.45	1,113.42	352.03	4.163 Alert		
16,300.00	9,065.00	16,674.51	9,455.01	153.56	213.98	104.79	-1,677.40	7,207.85	1,468.45	1,112.01	356.44	4.120 Alert		
16,400.00	9,065.00	16,778.16	9,461.30	155.56	216.91	105.02	-1,677.55	7,311.30	1,471.22	1,110.30	360.92	4.076 Alert		
16,500.00	9,065.00	16,885.60	9,467.39	157.57	219.95	105.24	-1,677.45	7,418.57	1,473.67	1,108.16	365.52	4.032 Alert		
16,600.00	9,065.00	17,003.21	9,471.95	159.57	223.29	105.40	-1,676.85	7,536.09	1,475.28	1,104.78	370.50	3.982 Alert		
16,700.00	9,065.00	17,105.07	9,473.09	161.57	226.18	105.43	-1,676.52	7,637.93	1,476.33	1,101.14	375.19	3.935 Alert		
16,800.00	9,065.00	17,207.29	9,471.03	163.58	229.08	105.35	-1,676.44	7,740.13	1,476.77	1,096.68	380.09	3.885 Alert		
16,900.00	9,065.00	17,281.73	9,470.20	165.59	231.20	105.30	-1,677.09	7,814.56	1,478.37	1,094.31	384.06	3.849 Alert		
17,000.00	9,065.00	17,376.62	9,472.14	167.60	233.89	105.35	-1,678.11	7,909.42	1,481.00	1,092.50	388.50	3.812 Alert		
17,100.00	9,065.00	17,488.69	9,476.30	169.60	237.08	105.49	-1,678.30	8,021.41	1,483.20	1,089.83	393.36	3.771 Alert		
17,200.00	9,065.00	17,580.54	9,479.32	171.61	239.69	105.59	-1,678.67	8,113.21	1,485.51	1,087.89	397.62	3.736 Alert		
17,300.00	9,065.00	17,692.01	9,481.81	173.62	242.86	105.66	-1,679.35	8,224.65	1,487.78	1,085.21	402.57	3.696 Alert		
17,400.00	9,065.00	17,802.99	9,483.62	175.63	246.01	105.72	-1,678.94	8,335.61	1,488.90	1,081.40	407.50	3.654 Alert		
17,500.00	9,065.00	17,849.00	9,484.32	177.65	247.32	105.74	-1,678.74	8,381.62	1,490.91	1,080.63	410.28	3.634 Alert		
17,600.00	9,065.00	17,908.28	9,491.55	179.66	248.92	106.01	-1,678.60	8,440.34	1,495.85	1,083.21	412.64	3.625 Alert		
17,700.00	9,065.00	18,102.64	9,518.70	181.67	254.25	106.98	-1,678.76	8,631.18	1,501.77	1,082.88	418.90	3.585 Alert		
17,800.00	9,065.00	18,243.21	9,519.49	183.69	258.25	107.01	-1,677.31	8,771.74	1,502.12	1,077.52	424.60	3.538 Alert		
17,900.00	9,065.00	18,350.53	9,520.83	185.70	261.29	107.08	-1,674.00	8,879.00	1,500.60	1,071.32	429.28	3.496 Alert		
18,000.00	9,065.00	18,456.47	9,521.94	187.72	264.30	107.15	-1,670.10	8,984.86	1,498.43	1,064.51	433.92	3.453 Alert		
18,100.00	9,065.00	18,549.23	9,522.94	189.73	266.93	107.21	-1,666.64	9,077.55	1,496.25	1,057.95	438.30	3.414 Alert		
18,200.00	9,065.00	18,637.48	9,525.82	191.75	269.43	107.34	-1,663.58	9,165.70	1,494.95	1,052.53	442.42	3.379 Alert		
18,300.00	9,065.00	18,733.66	9,530.29	193.77	272.15	107.53	-1,660.16	9,261.71	1,493.99	1,047.42	446.57	3.346 Alert		
18,400.00	9,065.00	18,835.34	9,535.73	195.78	275.03	107.76	-1,656.74	9,363.19	1,493.46	1,042.70	450.76	3.313 Alert		
18,500.00	9,065.00	18,946.63	9,542.21	197.80	278.18	108.04	-1,651.69	9,474.18	1,491.94	1,036.91	455.03	3.279 Alert		
18,600.00	9,065.00	19,049.92	9,548.99	199.82	281.10	108.34	-1,646.61	9,577.12	1,490.36	1,031.31	459.05	3.247 Alert		
18,700.00	9,065.00	19,154.20	9,556.52	201.84	284.04	108.67	-1,640.74	9,680.96	1,488.35	1,025.37	462.97	3.215 Alert		
18,748.45	9,065.00	19,172.00	9,557.83	202.82	284.54	108.73	-1,639.72	9,698.68	1,487.67	1,023.33	464.34	3.204 Alert, ES		
18,800.00	9,065.00	19,172.00	9,557.83	203.86	284.54	108.73	-1,639.72	9,698.68	1,488.56	1,023.51	465.05	3.201 Alert, SF		

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Sec 14-T21S-R27E - Lone Tree Draw 14-13 State Com 336H - ST01 - ST01		Offset Site Error:		0.00 ft	
Survey Program:													438-MWD+HDGM, 9290-MWD+HDGM		Offset Well Error:		0.50 ft	
Reference		Offset		Semi Major Axis			Distance							Warning				
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor						
18,900.00	9,065.00	19,172.00	9,557.83	205.88	284.54	108.73	-1,639.72	9,698.68	1,495.37	1,030.48	464.89	3.217	Alert					
19,000.00	9,065.00	19,172.00	9,557.83	207.90	284.54	108.73	-1,639.72	9,698.68	1,508.79	1,046.04	462.74	3.261	Alert					
19,100.00	9,065.00	19,172.00	9,557.83	209.92	284.54	108.73	-1,639.72	9,698.68	1,528.64	1,069.89	458.75	3.332	Alert					
19,200.00	9,065.00	19,172.00	9,557.83	211.95	284.54	108.73	-1,639.72	9,698.68	1,554.69	1,101.59	453.10	3.431	Alert					
19,300.00	9,065.00	19,172.00	9,557.83	213.97	284.54	108.73	-1,639.72	9,698.68	1,586.62	1,140.59	446.03	3.557	Alert					
19,400.00	9,065.00	19,172.00	9,557.83	215.99	284.54	108.73	-1,639.72	9,698.68	1,624.09	1,186.31	437.79	3.710	Alert					
19,456.84	9,065.00	19,172.00	9,557.83	217.14	284.54	108.73	-1,639.72	9,698.68	1,647.72	1,215.04	432.68	3.808	Alert					

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 438-MWD+HDGM													Offset Well Error:	0.50 ft
Reference														
		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0.00	0.00	14.70	14.70	0.50	0.50	-176.33	-1,663.40	-106.75	1,666.82					
100.00	100.00	111.43	111.43	0.52	0.53	-176.33	-1,663.53	-106.62	1,666.95	1,665.89	1.05	1,584.345		
200.00	200.00	208.16	208.16	0.70	0.61	-176.34	-1,663.86	-106.30	1,667.27	1,665.96	1.31	1,269.137		
300.00	300.00	304.89	304.89	0.99	0.72	-176.36	-1,664.40	-105.79	1,667.79	1,666.08	1.71	977.772		
400.00	400.00	401.61	401.60	1.31	0.84	-176.39	-1,665.14	-105.09	1,668.51	1,666.35	2.15	775.104		
500.00	500.00	497.70	497.68	1.65	1.08	-176.42	-1,666.08	-104.23	1,669.43	1,666.71	2.72	612.830		
600.00	600.00	597.47	597.44	1.99	1.41	-176.45	-1,667.23	-103.34	1,670.53	1,667.13	3.40	491.988		
700.00	700.00	695.00	694.96	2.34	1.74	-176.48	-1,668.36	-102.72	1,671.64	1,667.56	4.07	410.228		
800.00	800.00	793.91	793.86	2.69	2.08	-176.49	-1,669.63	-102.28	1,672.89	1,668.12	4.77	350.896		
900.00	900.00	895.91	895.85	3.04	2.44	-176.52	-1,670.91	-101.61	1,674.11	1,668.64	5.48	305.673		
1,000.00	1,000.00	992.05	991.98	3.40	2.78	-176.55	-1,672.26	-100.68	1,675.45	1,669.28	6.17	271.579		
1,100.00	1,100.00	1,113.87	1,113.78	3.75	3.20	-176.61	-1,673.33	-99.25	1,676.27	1,669.32	6.95	241.303		
1,200.00	1,200.00	1,232.39	1,232.30	4.11	3.59	-176.58	-1,672.59	-100.01	1,675.66	1,667.97	7.69	217.797		
1,300.00	1,300.00	1,343.41	1,343.28	4.46	3.95	-176.49	-1,670.95	-102.38	1,674.31	1,665.90	8.41	199.031		
1,400.00	1,400.00	1,444.47	1,444.28	4.82	4.29	-176.39	-1,669.04	-105.23	1,672.61	1,663.50	9.11	183.677		
1,500.00	1,500.00	1,532.31	1,532.08	5.18	4.59	-176.31	-1,667.73	-107.62	1,671.29	1,661.53	9.76	171.214		
1,600.00	1,600.00	1,630.54	1,630.26	5.53	4.92	-176.21	-1,666.63	-110.30	1,670.34	1,659.89	10.45	159.777		
1,700.00	1,700.00	1,732.97	1,732.65	5.89	5.28	-176.11	-1,665.46	-113.11	1,669.39	1,658.23	11.16	149.535		
1,800.00	1,800.00	1,837.76	1,837.39	6.25	5.64	-176.01	-1,664.00	-116.04	1,668.18	1,656.30	11.88	140.377		
1,900.00	1,900.00	1,936.35	1,935.93	6.61	5.98	-175.92	-1,662.46	-118.59	1,666.82	1,654.23	12.58	132.456		
2,000.00	2,000.00	2,029.43	2,028.98	6.96	6.30	-175.84	-1,661.37	-120.86	1,665.82	1,652.55	13.27	125.562		
2,100.00	2,100.00	2,126.44	2,125.95	7.32	6.64	-175.75	-1,660.48	-123.32	1,665.09	1,651.12	13.96	119.235		
2,200.00	2,200.00	2,225.92	2,225.39	7.68	6.99	-175.65	-1,659.67	-126.11	1,664.49	1,649.82	14.67	113.442		
2,300.00	2,300.00	2,328.05	2,327.48	8.04	7.35	-175.55	-1,658.76	-129.01	1,663.81	1,648.42	15.39	108.106		
2,400.00	2,400.00	2,431.42	2,430.80	8.39	7.72	-175.45	-1,657.68	-131.93	1,662.99	1,646.88	16.11	103.206		
2,500.00	2,500.00	2,533.45	2,532.78	8.75	8.08	-175.34	-1,656.38	-135.03	1,661.96	1,645.13	16.83	98.737		
2,600.00	2,599.99	2,630.55	2,629.82	9.09	8.43	-29.33	-1,655.16	-137.98	1,660.20	1,642.68	17.52	94.769		
2,700.00	2,699.96	2,726.59	2,725.82	9.42	8.77	-29.29	-1,654.20	-140.87	1,657.18	1,638.99	18.19	91.122		
2,800.00	2,799.86	2,831.78	2,830.96	9.75	9.14	-29.28	-1,653.10	-143.83	1,652.57	1,633.68	18.89	87.488		
2,900.00	2,899.68	2,930.55	2,929.68	10.08	9.49	-29.31	-1,651.94	-146.79	1,646.32	1,626.75	19.57	84.118		
2,945.33	2,944.88	2,962.85	2,961.96	10.23	9.61	-29.33	-1,651.72	-147.74	1,643.20	1,623.37	19.84	82.833		
3,000.00	2,999.39	3,004.01	3,003.10	10.41	9.75	-29.35	-1,651.76	-148.75	1,639.66	1,619.50	20.17	81.310		
3,100.00	3,099.08	3,091.99	3,091.07	10.75	10.07	-29.41	-1,652.61	-150.57	1,634.02	1,613.21	20.81	78.518		
3,200.00	3,198.78	3,189.93	3,188.97	11.08	10.41	-29.47	-1,653.94	-152.63	1,628.77	1,607.28	21.49	75.779		
3,300.00	3,298.48	3,277.14	3,276.16	11.42	10.72	-29.55	-1,655.47	-153.79	1,623.87	1,601.74	22.13	73.363		
3,400.00	3,398.18	3,364.24	3,363.23	11.76	11.02	-29.70	-1,657.89	-153.26	1,619.84	1,597.07	22.77	71.136		
3,500.00	3,497.88	3,505.78	3,504.70	12.10	11.50	-29.98	-1,661.16	-151.13	1,615.44	1,591.84	23.60	68.446		
3,600.00	3,597.58	3,608.64	3,607.55	12.45	11.85	-30.17	-1,661.77	-149.80	1,609.22	1,584.93	24.29	66.240		
3,700.00	3,697.27	3,704.78	3,703.68	12.79	12.18	-30.35	-1,662.30	-148.38	1,602.96	1,578.00	24.97	64.208		
3,800.00	3,796.97	3,802.79	3,801.68	13.14	12.52	-30.54	-1,662.99	-146.95	1,596.86	1,571.22	25.65	62.268		
3,900.00	3,896.67	3,901.87	3,900.75	13.48	12.86	-30.73	-1,663.76	-145.65	1,590.88	1,564.55	26.33	60.419		
4,000.00	3,996.37	4,001.75	4,000.62	13.83	13.20	-30.91	-1,664.49	-144.68	1,584.88	1,557.86	27.02	58.653		
4,100.00	4,096.07	4,104.40	4,103.27	14.18	13.56	-31.10	-1,665.23	-143.69	1,578.88	1,551.16	27.72	56.953		
4,200.00	4,195.76	4,202.73	4,201.59	14.53	13.90	-31.27	-1,665.70	-142.97	1,572.68	1,544.26	28.41	55.354		
4,300.00	4,295.46	4,298.59	4,297.44	14.88	14.23	-31.44	-1,666.46	-142.37	1,566.81	1,537.71	29.09	53.854		
4,400.00	4,395.16	4,400.99	4,399.84	15.23	14.59	-31.60	-1,667.31	-142.05	1,560.99	1,531.19	29.80	52.381		
4,500.00	4,494.86	4,501.59	4,500.44	15.58	14.94	-31.76	-1,667.93	-141.81	1,554.98	1,524.48	30.50	50.979		
4,600.00	4,594.56	4,601.60	4,600.44	15.93	15.29	-31.92	-1,668.56	-141.60	1,549.00	1,517.80	31.20	49.642		
4,700.00	4,694.25	4,700.02	4,698.86	16.29	15.64	-32.07	-1,669.18	-141.62	1,543.04	1,511.14	31.90	48.370		
4,800.00	4,793.95	4,799.64	4,798.48	16.64	15.99	-32.23	-1,669.87	-141.66	1,537.16	1,504.56	32.60	47.147		
4,900.00	4,893.65	4,902.29	4,901.13	17.00	16.35	-32.38	-1,670.50	-141.80	1,531.20	1,497.88	33.32	45.959		
5,000.00	4,993.35	4,986.66	4,985.49	17.35	16.65	-32.49	-1,671.29	-142.35	1,525.60	1,491.64	33.97	44.912		

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 438-MWD+HDGM													Offset Well Error:	0.50 ft
Reference														
		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
5,100.00	5,093.05	5,084.28	5,083.08	17.71	16.99	-32.58	-1,672.89	-144.14	1,520.74	1,486.07	34.67	43.868		
5,200.00	5,192.75	5,183.32	5,182.09	18.06	17.34	-32.66	-1,674.48	-146.27	1,515.86	1,480.49	35.37	42.857		
5,300.00	5,292.44	5,282.08	5,280.81	18.42	17.69	-32.74	-1,676.15	-148.45	1,511.06	1,474.99	36.07	41.888		
5,400.00	5,392.14	5,379.00	5,377.69	18.77	18.04	-32.81	-1,677.91	-150.71	1,506.39	1,469.62	36.77	40.967		
5,500.00	5,491.84	5,479.30	5,477.91	19.13	18.39	-32.84	-1,679.80	-154.11	1,501.82	1,464.34	37.48	40.069		
5,600.00	5,591.54	5,574.54	5,573.01	19.49	18.73	-32.82	-1,681.68	-158.74	1,497.38	1,459.21	38.17	39.226		
5,700.00	5,691.24	5,666.05	5,664.38	19.85	19.06	-32.79	-1,683.90	-163.28	1,493.38	1,454.53	38.85	38.437		
5,800.00	5,790.93	5,767.29	5,765.49	20.20	19.42	-32.78	-1,686.62	-167.86	1,489.64	1,450.07	39.57	37.647		
5,900.00	5,890.63	5,867.66	5,865.73	20.56	19.78	-32.78	-1,689.24	-172.24	1,485.82	1,445.54	40.28	36.886		
6,000.00	5,990.33	5,968.39	5,966.35	20.92	20.14	-32.79	-1,691.84	-176.29	1,481.96	1,440.97	41.00	36.149		
6,100.00	6,090.03	6,073.08	6,070.94	21.28	20.51	-32.81	-1,694.40	-180.09	1,477.96	1,436.24	41.73	35.421		
6,200.00	6,189.73	6,180.75	6,178.51	21.64	20.90	-32.84	-1,696.41	-184.06	1,473.36	1,430.90	42.47	34.695		
6,300.00	6,289.42	6,276.36	6,274.05	22.00	21.24	-32.87	-1,698.16	-187.41	1,468.75	1,425.59	43.16	34.027		
6,400.00	6,389.12	6,368.65	6,366.26	22.36	21.57	-32.90	-1,700.22	-190.51	1,464.52	1,420.68	43.85	33.399		
6,500.00	6,488.82	6,460.22	6,457.75	22.72	21.90	-32.94	-1,702.86	-193.36	1,460.95	1,416.42	44.53	32.807		
6,600.00	6,588.52	6,558.67	6,556.10	23.08	22.25	-32.99	-1,705.96	-196.33	1,457.63	1,412.39	45.24	32.220		
6,700.00	6,688.22	6,656.96	6,654.28	23.44	22.60	-33.01	-1,709.19	-199.92	1,454.46	1,408.52	45.95	31.654		
6,800.00	6,787.91	6,766.63	6,763.80	23.80	23.00	-33.02	-1,712.62	-204.47	1,451.18	1,404.48	46.70	31.074		
6,900.00	6,887.61	6,879.48	6,876.59	24.16	23.40	-33.11	-1,714.97	-207.04	1,446.77	1,399.31	47.46	30.483		
7,000.00	6,987.31	6,984.78	6,981.86	24.52	23.78	-33.22	-1,716.65	-208.69	1,441.88	1,393.69	48.19	29.918		
7,100.00	7,087.01	7,086.71	7,083.78	24.88	24.14	-33.35	-1,717.93	-209.80	1,436.65	1,387.74	48.91	29.371		
7,200.00	7,186.71	7,212.28	7,209.32	25.24	24.58	-33.64	-1,718.39	-208.01	1,430.52	1,380.82	49.69	28.787		
7,300.00	7,286.41	7,300.49	7,297.48	25.60	24.87	-33.92	-1,718.32	-204.80	1,423.95	1,373.59	50.36	28.276		
7,400.00	7,386.10	7,390.23	7,387.18	25.96	25.18	-34.18	-1,718.91	-202.32	1,418.16	1,367.13	51.03	27.791		
7,500.00	7,485.80	7,489.78	7,486.70	26.33	25.52	-34.43	-1,719.91	-200.59	1,412.75	1,361.02	51.73	27.310		
7,600.00	7,585.50	7,590.04	7,586.96	26.69	25.87	-34.65	-1,720.90	-199.51	1,407.34	1,354.90	52.44	26.838		
7,700.00	7,685.20	7,689.76	7,686.67	27.05	26.22	-34.84	-1,721.86	-199.21	1,401.92	1,348.77	53.15	26.378		
7,800.00	7,784.90	7,784.87	7,781.78	27.41	26.56	-35.02	-1,722.86	-199.00	1,396.61	1,342.77	53.84	25.938		
7,860.70	7,845.41	7,835.84	7,832.74	27.63	26.74	-35.12	-1,723.71	-198.83	1,393.76	1,339.51	54.24	25.694		
7,900.00	7,884.61	7,871.83	7,868.72	27.77	26.86	-35.18	-1,724.50	-198.68	1,392.29	1,337.78	54.51	25.541		
8,000.00	7,984.46	7,990.18	7,987.04	28.13	27.27	-35.38	-1,725.93	-196.93	1,389.03	1,333.76	55.28	25.129		
8,090.06	8,074.48	8,072.85	8,069.70	28.45	27.56	-35.48	-1,726.96	-195.56	1,388.02	1,332.13	55.89	24.837 CC		
8,100.00	8,084.42	8,083.63	8,080.47	28.49	27.60	-35.49	-1,727.11	-195.36	1,388.03	1,332.07	55.96	24.805		
8,157.59	8,142.00	8,146.05	8,142.87	28.69	27.81	178.51	-1,727.82	-193.82	1,388.37	1,332.00	56.37	24.629 ES		
8,200.00	8,184.41	8,191.01	8,187.82	28.83	27.97	178.46	-1,728.21	-192.59	1,388.77	1,332.10	56.67	24.506		
8,300.00	8,284.41	8,285.25	8,282.04	29.17	28.30	178.40	-1,728.96	-191.09	1,389.62	1,332.28	57.34	24.235		
8,400.00	8,384.41	8,374.19	8,370.96	29.51	28.61	178.39	-1,730.57	-190.88	1,391.41	1,333.42	58.00	23.992		
8,507.63	8,492.04	8,479.66	8,476.41	29.87	28.98	178.41	-1,732.82	-191.38	1,393.70	1,334.96	58.74	23.728		
8,550.00	8,534.37	8,520.78	8,517.51	30.02	29.13	89.03	-1,733.76	-191.80	1,394.63	1,335.60	59.03	23.627		
8,600.00	8,584.01	8,567.20	8,563.91	30.18	29.30	89.16	-1,734.89	-192.31	1,395.74	1,336.39	59.36	23.515		
8,650.00	8,632.95	8,612.68	8,609.37	30.34	29.46	89.43	-1,736.10	-192.61	1,396.97	1,337.29	59.68	23.408		
8,700.00	8,680.82	8,654.26	8,650.94	30.50	29.61	89.78	-1,737.34	-192.80	1,398.43	1,338.44	59.98	23.313		
8,750.00	8,727.25	8,693.66	8,690.32	30.66	29.75	90.20	-1,738.71	-193.04	1,400.30	1,340.02	60.28	23.231		
8,800.00	8,771.89	8,731.20	8,727.82	30.81	29.88	90.66	-1,740.19	-193.32	1,402.72	1,342.16	60.56	23.164		
8,850.00	8,814.40	8,766.45	8,763.04	30.95	30.01	91.12	-1,741.76	-193.65	1,405.84	1,345.02	60.82	23.114		
8,900.00	8,854.46	8,799.54	8,796.08	31.09	30.13	91.53	-1,743.39	-194.00	1,409.82	1,348.74	61.08	23.082		
8,950.00	8,891.75	8,833.03	8,829.53	31.23	30.25	91.95	-1,745.17	-194.40	1,414.78	1,353.44	61.34	23.065 SF		
9,000.00	8,926.01	8,865.46	8,861.91	31.37	30.36	92.32	-1,746.93	-194.80	1,420.80	1,359.20	61.60	23.065		
9,050.00	8,956.96	8,894.66	8,891.06	31.53	30.47	92.52	-1,748.54	-195.18	1,428.03	1,366.17	61.86	23.087		
9,100.00	8,984.38	8,920.03	8,916.39	31.69	30.56	92.52	-1,749.96	-195.51	1,436.60	1,374.49	62.10	23.132		
9,150.00	9,008.05	8,941.38	8,937.70	31.87	30.64	92.26	-1,751.17	-195.82	1,446.63	1,384.28	62.35	23.203		
9,200.00	9,027.79	8,958.96	8,955.24	32.07	30.70	91.73	-1,752.18	-196.10	1,458.19	1,395.60	62.59	23.298		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design		Sec 14-T21S-R27E - Lone Tree Draw 14-13 State Com 336H - Wellbore #1 - Wellbore #1											Offset Site Error:		0.00 ft
Survey Program:		438-MWD+HDGM											Offset Well Error:		0.50 ft
Reference		Offset		Semi Major Axis			Distance						Separation Factor	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)				
9,250.00	9,043.45	8,972.64	8,968.90	32.29	30.75	90.89	-1,752.98	-196.33	1,471.30	1,408.47	62.83	23.419			
9,300.00	9,054.92	8,982.37	8,978.61	32.53	30.78	89.75	-1,753.55	-196.51	1,485.94	1,422.88	63.06	23.564			
9,350.00	9,062.10	8,988.10	8,984.33	32.79	30.81	88.28	-1,753.89	-196.61	1,502.04	1,438.75	63.29	23.733			
9,400.00	9,064.95	8,989.83	8,986.06	33.06	30.81	86.49	-1,753.99	-196.64	1,519.48	1,455.97	63.51	23.926			
9,407.63	9,065.00	8,989.74	8,985.97	33.10	30.81	86.19	-1,753.98	-196.64	1,522.24	1,458.71	63.54	23.958			
9,500.00	9,065.00	8,988.13	8,984.36	33.68	30.81	86.12	-1,753.89	-196.61	1,558.31	1,494.36	63.95	24.367			
9,600.00	9,065.00	8,986.40	8,982.64	34.41	30.80	86.05	-1,753.79	-196.58	1,602.44	1,538.01	64.43	24.869			
9,700.00	9,065.00	8,984.70	8,980.94	35.24	30.79	85.98	-1,753.69	-196.55	1,651.46	1,586.52	64.94	25.432			
9,800.00	9,065.00	8,983.01	8,979.26	36.17	30.79	85.92	-1,753.59	-196.52	1,704.93	1,639.49	65.44	26.053			
9,900.00	9,065.00	8,981.35	8,977.60	37.19	30.78	85.85	-1,753.49	-196.49	1,762.46	1,696.53	65.94	26.730			
10,000.00	9,065.00	8,979.71	8,975.96	38.30	30.78	85.78	-1,753.39	-196.46	1,823.66	1,757.24	66.42	27.458			
10,100.00	9,065.00	8,978.08	8,974.34	39.48	30.77	85.72	-1,753.30	-196.43	1,888.18	1,821.30	66.88	28.234			
10,200.00	9,065.00	8,976.48	8,972.74	40.72	30.76	85.65	-1,753.20	-196.40	1,955.68	1,888.36	67.31	29.054			
10,300.00	9,065.00	8,974.89	8,971.15	42.03	30.76	85.59	-1,753.11	-196.37	2,025.86	1,958.14	67.72	29.915			
10,400.00	9,065.00	8,973.33	8,969.59	43.40	30.75	85.52	-1,753.02	-196.34	2,098.47	2,030.37	68.10	30.813			
10,500.00	9,065.00	8,971.78	8,968.04	44.82	30.75	85.46	-1,752.93	-196.32	2,173.25	2,104.79	68.46	31.745			
10,600.00	9,065.00	8,970.25	8,966.51	46.29	30.74	85.40	-1,752.84	-196.29	2,249.99	2,181.20	68.79	32.708			
10,700.00	9,065.00	8,968.73	8,965.00	47.79	30.74	85.34	-1,752.75	-196.27	2,328.49	2,259.40	69.10	33.699			
10,800.00	9,065.00	8,967.24	8,963.51	49.34	30.73	85.28	-1,752.66	-196.24	2,408.59	2,339.21	69.38	34.715			
10,900.00	9,065.00	8,965.76	8,962.03	50.92	30.73	85.22	-1,752.58	-196.21	2,490.13	2,420.48	69.65	35.754			
11,000.00	9,065.00	8,964.29	8,960.57	52.54	30.72	85.16	-1,752.49	-196.19	2,572.96	2,503.07	69.89	36.814			
11,100.00	9,065.00	8,962.85	8,959.13	54.18	30.71	85.10	-1,752.41	-196.17	2,656.98	2,586.87	70.12	37.893			
11,200.00	9,065.00	8,961.42	8,957.70	55.85	30.71	85.04	-1,752.32	-196.14	2,742.07	2,671.74	70.33	38.989			
11,300.00	9,065.00	8,960.00	8,956.29	57.54	30.70	84.99	-1,752.24	-196.12	2,828.14	2,757.61	70.53	40.100			
11,400.00	9,065.00	8,958.60	8,954.89	59.26	30.70	84.93	-1,752.16	-196.10	2,915.09	2,844.38	70.71	41.226			
11,500.00	9,065.00	8,957.22	8,953.51	61.00	30.69	84.87	-1,752.08	-196.07	3,002.86	2,931.97	70.88	42.364			
11,600.00	9,065.00	8,955.85	8,952.15	62.75	30.69	84.82	-1,752.00	-196.05	3,091.37	3,020.32	71.04	43.513			
11,700.00	9,065.00	8,954.50	8,950.79	64.52	30.68	84.76	-1,751.92	-196.03	3,180.55	3,109.36	71.20	44.674			
11,800.00	9,065.00	8,953.16	8,949.46	66.31	30.68	84.71	-1,751.85	-196.01	3,270.37	3,199.03	71.34	45.843			
11,900.00	9,065.00	8,951.83	8,948.13	68.11	30.67	84.66	-1,751.77	-195.99	3,360.75	3,289.28	71.47	47.022			
12,000.00	9,065.00	8,950.52	8,946.83	69.93	30.67	84.60	-1,751.69	-195.96	3,451.67	3,380.07	71.60	48.208			
12,100.00	9,065.00	8,949.23	8,945.53	71.76	30.67	84.55	-1,751.62	-195.94	3,543.08	3,471.36	71.72	49.402			
12,200.00	9,065.00	8,947.94	8,944.25	73.60	30.66	84.50	-1,751.54	-195.92	3,634.94	3,563.10	71.83	50.602			
12,300.00	9,065.00	8,946.67	8,942.98	75.45	30.66	84.45	-1,751.47	-195.90	3,727.21	3,655.27	71.94	51.808			
12,400.00	9,065.00	8,945.42	8,941.73	77.31	30.65	84.40	-1,751.40	-195.88	3,819.88	3,747.83	72.05	53.019			
12,500.00	9,065.00	8,944.17	8,940.49	79.18	30.65	84.35	-1,751.33	-195.86	3,912.90	3,840.76	72.15	54.236			
12,600.00	9,065.00	8,942.94	8,939.26	81.05	30.64	84.30	-1,751.26	-195.85	4,006.27	3,934.02	72.24	55.456			
12,700.00	9,065.00	8,941.72	8,938.04	82.94	30.64	84.25	-1,751.19	-195.83	4,099.94	4,027.61	72.33	56.681			
12,800.00	9,065.00	8,940.52	8,936.84	84.83	30.63	84.20	-1,751.12	-195.81	4,193.91	4,121.48	72.42	57.909			
12,900.00	9,065.00	8,939.32	8,935.65	86.73	30.63	84.15	-1,751.05	-195.79	4,288.14	4,215.64	72.51	59.141			
13,000.00	9,065.00	8,938.14	8,934.47	88.64	30.63	84.10	-1,750.98	-195.77	4,382.64	4,310.05	72.59	60.375			
13,100.00	9,065.00	8,936.97	8,933.30	90.55	30.62	84.06	-1,750.92	-195.75	4,477.37	4,404.70	72.67	61.612			
13,200.00	9,065.00	8,935.82	8,932.15	92.47	30.62	84.01	-1,750.85	-195.74	4,572.32	4,499.58	72.75	62.851			
13,300.00	9,065.00	8,934.67	8,931.00	94.39	30.61	83.96	-1,750.79	-195.72	4,667.49	4,594.67	72.82	64.093			
13,400.00	9,065.00	8,933.54	8,929.87	96.32	30.61	83.92	-1,750.72	-195.70	4,762.85	4,689.96	72.90	65.336			
13,500.00	9,065.00	8,932.41	8,928.75	98.25	30.61	83.87	-1,750.66	-195.69	4,858.40	4,785.43	72.97	66.580			
13,600.00	9,065.00	8,931.30	8,927.64	100.19	30.60	83.83	-1,750.59	-195.67	4,954.13	4,881.09	73.04	67.826			
13,700.00	9,065.00	8,930.20	8,926.54	102.13	30.60	83.78	-1,750.53	-195.65	5,050.02	4,976.91	73.11	69.073			
13,800.00	9,065.00	8,929.11	8,925.45	104.08	30.59	83.74	-1,750.47	-195.64	5,146.07	5,072.89	73.18	70.321			
13,900.00	9,065.00	8,928.03	8,924.37	106.03	30.59	83.70	-1,750.41	-195.62	5,242.26	5,169.01	73.25	71.570			
14,000.00	9,065.00	8,926.96	8,923.30	107.98	30.59	83.65	-1,750.35	-195.61	5,338.59	5,265.28	73.31	72.820			
14,100.00	9,065.00	8,925.90	8,922.24	109.94	30.58	83.61	-1,750.29	-195.59	5,435.06	5,361.68	73.38	74.069			

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Sec 14-T21S-R27E - Lone Tree Draw 14-13 State Com 336H - Wellbore #1 - Wellbore #1													Offset Well Error:	0.50 ft
Survey Program: 438-MWD+HDGM														
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
14,200.00	9,065.00	8,924.85	8,921.19	111.90	30.58	83.57	-1,750.23	-195.58	5,531.65	5,458.21	73.44	75.319		
14,300.00	9,065.00	8,923.81	8,920.16	113.86	30.57	83.53	-1,750.17	-195.56	5,628.36	5,554.86	73.51	76.570		
14,400.00	9,065.00	8,922.78	8,919.13	115.82	30.57	83.48	-1,750.11	-195.55	5,725.18	5,651.61	73.57	77.820		
14,500.00	9,065.00	8,921.76	8,918.11	117.79	30.57	83.44	-1,750.05	-195.53	5,822.11	5,748.48	73.63	79.070		
14,600.00	9,065.00	8,920.75	8,917.10	119.76	30.56	83.40	-1,750.00	-195.52	5,919.15	5,845.45	73.70	80.319		
14,700.00	9,065.00	8,919.74	8,916.10	121.74	30.56	83.36	-1,749.94	-195.51	6,016.28	5,942.52	73.76	81.569		
14,800.00	9,065.00	8,918.75	8,915.11	123.71	30.56	83.32	-1,749.88	-195.49	6,113.50	6,039.68	73.82	82.818		
14,900.00	9,065.00	8,917.77	8,914.13	125.69	30.55	83.28	-1,749.83	-195.48	6,210.81	6,136.93	73.88	84.066		
15,000.00	9,065.00	8,916.80	8,913.16	127.67	30.55	83.24	-1,749.77	-195.47	6,308.20	6,234.26	73.94	85.314		
15,100.00	9,065.00	8,908.00	8,904.38	129.65	30.52	82.89	-1,749.28	-195.35	6,405.68	6,331.70	73.97	86.593		
15,200.00	9,065.00	8,908.00	8,904.38	131.63	30.52	82.89	-1,749.28	-195.35	6,503.23	6,429.19	74.04	87.836		
15,300.00	9,065.00	8,908.00	8,904.38	133.62	30.52	82.89	-1,749.28	-195.35	6,600.85	6,526.75	74.10	89.077		
15,400.00	9,065.00	8,908.00	8,904.38	135.61	30.52	82.89	-1,749.28	-195.35	6,698.54	6,624.37	74.17	90.317		
15,500.00	9,065.00	8,908.00	8,904.38	137.60	30.52	82.89	-1,749.28	-195.35	6,796.30	6,722.07	74.23	91.556		
15,600.00	9,065.00	8,908.00	8,904.38	139.59	30.52	82.89	-1,749.28	-195.35	6,894.12	6,819.83	74.30	92.793		
15,700.00	9,065.00	8,911.02	8,907.39	141.58	30.53	83.01	-1,749.45	-195.39	6,992.01	6,917.64	74.37	94.016		
15,800.00	9,065.00	8,909.79	8,906.17	143.57	30.52	82.96	-1,749.38	-195.37	7,089.95	7,015.52	74.43	95.256		
15,900.00	9,065.00	8,908.57	8,904.95	145.57	30.52	82.91	-1,749.31	-195.36	7,187.95	7,113.46	74.49	96.495		
16,000.00	9,065.00	8,907.35	8,903.73	147.56	30.51	82.86	-1,749.24	-195.34	7,286.00	7,211.45	74.55	97.733		
16,100.00	9,065.00	8,906.14	8,902.52	149.56	30.51	82.81	-1,749.18	-195.32	7,384.11	7,309.50	74.61	98.969		
16,200.00	9,065.00	8,904.92	8,901.30	151.56	30.51	82.77	-1,749.11	-195.31	7,482.27	7,407.60	74.67	100.203		
16,300.00	9,065.00	8,903.71	8,900.09	153.56	30.50	82.72	-1,749.04	-195.29	7,580.47	7,505.74	74.73	101.436		
16,400.00	9,065.00	8,902.50	8,898.89	155.56	30.50	82.67	-1,748.97	-195.28	7,678.72	7,603.93	74.79	102.668		
16,500.00	9,065.00	8,901.29	8,897.68	157.57	30.49	82.62	-1,748.91	-195.26	7,777.02	7,702.16	74.85	103.897		
16,600.00	9,065.00	8,900.09	8,896.48	159.57	30.49	82.57	-1,748.84	-195.25	7,875.36	7,800.44	74.91	105.125		
16,700.00	9,065.00	8,898.89	8,895.28	161.57	30.48	82.52	-1,748.77	-195.23	7,973.73	7,898.76	74.98	106.350		
16,800.00	9,065.00	8,897.69	8,894.08	163.58	30.48	82.48	-1,748.71	-195.21	8,072.15	7,997.11	75.04	107.574		
16,900.00	9,065.00	8,896.49	8,892.89	165.59	30.48	82.43	-1,748.64	-195.20	8,170.61	8,095.51	75.10	108.796		
17,000.00	9,065.00	8,895.30	8,891.69	167.60	30.47	82.38	-1,748.57	-195.18	8,269.10	8,193.94	75.16	110.017		
17,100.00	9,065.00	8,894.11	8,890.50	169.60	30.47	82.33	-1,748.51	-195.17	8,367.63	8,292.41	75.23	111.235		
17,200.00	9,065.00	8,892.92	8,889.32	171.61	30.46	82.28	-1,748.44	-195.15	8,466.20	8,390.91	75.29	112.451		
17,300.00	9,065.00	8,891.73	8,888.13	173.62	30.46	82.24	-1,748.37	-195.14	8,564.79	8,489.44	75.35	113.664		
17,400.00	9,065.00	8,890.54	8,886.95	175.63	30.45	82.19	-1,748.31	-195.12	8,663.42	8,588.00	75.42	114.876		
17,500.00	9,065.00	8,889.36	8,885.77	177.65	30.45	82.14	-1,748.24	-195.11	8,762.08	8,686.60	75.48	116.086		
17,600.00	9,065.00	8,888.18	8,884.59	179.66	30.45	82.09	-1,748.18	-195.09	8,860.77	8,785.23	75.54	117.293		
17,700.00	9,065.00	8,887.00	8,883.42	181.67	30.44	82.05	-1,748.11	-195.08	8,959.49	8,883.88	75.61	118.498		
17,800.00	9,065.00	8,885.83	8,882.24	183.69	30.44	82.00	-1,748.05	-195.06	9,058.23	8,982.56	75.67	119.701		
17,900.00	9,065.00	8,884.66	8,881.07	185.70	30.43	81.95	-1,747.98	-195.05	9,157.01	9,081.27	75.74	120.901		
18,000.00	9,065.00	8,883.49	8,879.90	187.72	30.43	81.90	-1,747.92	-195.03	9,255.81	9,180.00	75.81	122.099		
18,100.00	9,065.00	8,882.32	8,878.74	189.73	30.43	81.86	-1,747.85	-195.02	9,354.63	9,278.76	75.87	123.295		
18,200.00	9,065.00	8,881.15	8,877.57	191.75	30.42	81.81	-1,747.79	-195.00	9,453.48	9,377.54	75.94	124.488		
18,300.00	9,065.00	8,879.99	8,876.41	193.77	30.42	81.76	-1,747.73	-194.99	9,552.35	9,476.35	76.01	125.679		
18,400.00	9,065.00	8,878.83	8,875.25	195.78	30.41	81.72	-1,747.66	-194.97	9,651.25	9,575.17	76.07	126.867		
18,500.00	9,065.00	8,877.67	8,874.10	197.80	30.41	81.67	-1,747.60	-194.96	9,750.17	9,674.03	76.14	128.053		
18,600.00	9,065.00	8,876.52	8,872.94	199.82	30.40	81.63	-1,747.53	-194.94	9,849.11	9,772.90	76.21	129.236		
18,700.00	9,065.00	8,875.36	8,871.79	201.84	30.40	81.58	-1,747.47	-194.93	9,948.07	9,871.79	76.28	130.417		

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 0-MWD+IFR1													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0.00	0.00	11.70	11.70	0.50	0.50	-0.13	1,588.66	-3.49	1,588.67					
100.00	100.00	111.70	111.70	0.52	0.53	-0.13	1,588.66	-3.49	1,588.67	1,587.62	1.05	1,515.977		
200.00	200.00	211.70	211.70	0.70	0.73	-0.13	1,588.66	-3.49	1,588.67	1,587.23	1.43	1,107.656		
300.00	300.00	311.70	311.70	0.99	1.02	-0.13	1,588.66	-3.49	1,588.67	1,586.66	2.01	789.966		
400.00	400.00	411.70	411.70	1.31	1.35	-0.13	1,588.66	-3.49	1,588.67	1,586.01	2.66	597.909		
500.00	500.00	511.70	511.70	1.65	1.69	-0.13	1,588.66	-3.49	1,588.67	1,585.33	3.33	476.765		
600.00	600.00	611.70	611.70	1.99	2.03	-0.13	1,588.66	-3.49	1,588.67	1,584.65	4.02	395.011		
700.00	700.00	711.70	711.70	2.34	2.38	-0.13	1,588.66	-3.49	1,588.67	1,583.95	4.72	336.609		
800.00	800.00	811.70	811.70	2.69	2.73	-0.13	1,588.66	-3.49	1,588.67	1,583.24	5.42	292.982		
900.00	900.00	911.70	911.70	3.04	3.08	-0.13	1,588.66	-3.49	1,588.67	1,582.54	6.13	259.227		
1,000.00	1,000.00	1,011.70	1,011.70	3.40	3.44	-0.13	1,588.66	-3.49	1,588.67	1,581.83	6.84	232.369		
1,100.00	1,100.00	1,111.70	1,111.70	3.75	3.79	-0.13	1,588.66	-3.49	1,588.67	1,581.12	7.55	210.509		
1,200.00	1,200.00	1,211.70	1,211.70	4.11	4.15	-0.13	1,588.66	-3.49	1,588.67	1,580.41	8.26	192.381		
1,300.00	1,300.00	1,311.70	1,311.70	4.46	4.51	-0.13	1,588.66	-3.49	1,588.67	1,579.70	8.97	177.108		
1,400.00	1,400.00	1,411.70	1,411.70	4.82	4.86	-0.13	1,588.66	-3.49	1,588.67	1,578.98	9.68	164.070		
1,500.00	1,500.00	1,511.70	1,511.70	5.18	5.22	-0.13	1,588.66	-3.49	1,588.67	1,578.27	10.40	152.812		
1,600.00	1,600.00	1,611.70	1,611.70	5.53	5.58	-0.13	1,588.66	-3.49	1,588.67	1,577.56	11.11	142.994		
1,700.00	1,700.00	1,711.70	1,711.70	5.89	5.93	-0.13	1,588.66	-3.49	1,588.67	1,576.84	11.82	134.357		
1,800.00	1,800.00	1,811.70	1,811.70	6.25	6.29	-0.13	1,588.66	-3.49	1,588.67	1,576.13	12.54	126.700		
1,900.00	1,900.00	1,911.70	1,911.70	6.61	6.65	-0.13	1,588.66	-3.49	1,588.67	1,575.41	13.25	119.867		
2,000.00	2,000.00	2,011.70	2,011.70	6.96	7.01	-0.13	1,588.66	-3.49	1,588.67	1,574.70	13.97	113.732		
2,100.00	2,100.00	2,111.70	2,111.70	7.32	7.36	-0.13	1,588.66	-3.49	1,588.67	1,573.98	14.68	108.192		
2,200.00	2,200.00	2,211.70	2,211.70	7.68	7.72	-0.13	1,588.66	-3.49	1,588.67	1,573.27	15.40	103.166		
2,300.00	2,300.00	2,311.70	2,311.70	8.04	8.08	-0.13	1,588.66	-3.49	1,588.67	1,572.55	16.11	98.586		
2,302.97	2,302.97	2,314.67	2,314.67	8.05	8.09	-0.13	1,588.66	-3.49	1,588.67	1,572.53	16.14	98.456 CC		
2,400.00	2,400.00	2,398.64	2,398.64	8.39	8.39	-0.13	1,588.86	-3.54	1,588.92	1,572.14	16.78	94.675 ES		
2,500.00	2,500.00	2,477.45	2,477.44	8.75	8.67	-0.14	1,590.04	-3.85	1,590.41	1,572.99	17.42	91.301		
2,600.00	2,599.99	2,556.20	2,556.15	9.09	8.95	145.76	1,592.25	-4.42	1,593.95	1,575.91	18.04	88.373		
2,700.00	2,699.96	2,634.78	2,634.66	9.42	9.23	145.73	1,595.51	-5.27	1,600.26	1,581.62	18.64	85.871		
2,800.00	2,799.86	2,713.12	2,712.87	9.75	9.51	145.71	1,599.80	-6.38	1,609.33	1,590.10	19.23	83.677		
2,900.00	2,899.68	2,791.11	2,790.68	10.08	9.79	145.69	1,605.09	-7.76	1,621.15	1,601.32	19.83	81.765		
2,945.33	2,944.88	2,826.33	2,825.78	10.23	9.92	145.68	1,607.82	-8.47	1,627.41	1,607.31	20.10	80.984		
3,000.00	2,999.39	2,868.71	2,868.00	10.41	10.07	145.72	1,611.37	-9.39	1,635.49	1,615.07	20.42	80.102		
3,100.00	3,099.08	2,945.99	2,944.92	10.75	10.34	145.77	1,618.64	-11.28	1,651.27	1,630.27	21.00	78.616		
3,200.00	3,198.78	3,022.95	3,021.40	11.08	10.62	145.81	1,626.87	-13.42	1,668.34	1,646.75	21.59	77.283		
3,300.00	3,298.48	3,100.00	3,097.86	11.42	10.89	145.84	1,636.10	-15.82	1,686.68	1,664.52	22.17	76.082		
3,400.00	3,398.18	3,175.79	3,172.93	11.76	11.17	145.87	1,646.16	-18.43	1,706.30	1,683.55	22.74	75.027		
3,500.00	3,497.88	3,251.62	3,247.90	12.10	11.44	145.88	1,657.18	-21.30	1,727.16	1,703.85	23.31	74.084		
3,600.00	3,597.58	3,327.03	3,322.30	12.45	11.71	145.88	1,669.09	-24.39	1,749.28	1,725.40	23.88	73.251		
3,700.00	3,697.27	3,411.50	3,394.87	12.79	12.01	145.88	1,681.65	-27.66	1,772.63	1,748.15	24.47	72.428		
3,800.00	3,796.97	3,502.18	3,490.30	13.14	12.33	145.87	1,698.87	-32.13	1,796.66	1,771.52	25.14	71.472		
3,900.00	3,896.67	3,605.11	3,585.72	13.48	12.70	145.86	1,716.09	-36.61	1,820.69	1,794.84	25.85	70.438		
4,000.00	3,896.37	3,708.04	3,681.15	13.83	13.08	145.85	1,733.31	-41.08	1,844.72	1,818.16	26.56	69.454		
4,100.00	4,096.07	3,789.03	3,776.57	14.18	13.37	145.84	1,750.53	-45.56	1,868.75	1,841.56	27.19	68.718		
4,200.00	4,195.76	3,886.10	3,872.00	14.53	13.72	145.83	1,767.75	-50.03	1,892.79	1,864.90	27.89	67.868		
4,300.00	4,295.46	3,983.17	3,967.42	14.88	14.08	145.82	1,784.97	-54.51	1,916.82	1,888.23	28.59	67.056		
4,400.00	4,395.16	4,080.23	4,062.84	15.23	14.44	145.81	1,802.19	-58.98	1,940.85	1,911.57	29.28	66.280		
4,500.00	4,494.86	4,177.30	4,158.27	15.58	14.79	145.80	1,819.41	-63.46	1,964.88	1,934.90	29.98	65.536		
4,600.00	4,494.56	4,274.37	4,253.69	15.93	15.15	145.79	1,836.63	-67.93	1,988.92	1,958.23	30.68	64.824		
4,700.00	4,494.25	4,371.44	4,349.12	16.29	15.51	145.79	1,853.84	-72.41	2,012.95	1,981.56	31.38	64.141		
4,800.00	4,793.95	4,468.51	4,444.54	16.64	15.87	145.78	1,871.06	-76.88	2,036.98	2,004.89	32.09	63.485		
4,900.00	4,893.65	4,565.58	4,539.97	17.00	16.23	145.77	1,888.28	-81.36	2,061.01	2,028.22	32.79	62.855		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 0-MWD+IFR1													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
5,000.00	4,993.35	4,662.65	4,635.39	17.35	16.59	145.76	1,905.50	-85.83	2,085.04	2,051.55	33.49	62.251		
5,100.00	5,093.05	4,759.72	4,730.82	17.71	16.95	145.75	1,922.72	-90.31	2,109.08	2,074.88	34.20	61.669		
5,200.00	5,192.75	4,856.79	4,826.24	18.06	17.31	145.75	1,939.94	-94.78	2,133.11	2,098.20	34.91	61.109		
5,300.00	5,292.44	4,953.85	4,921.66	18.42	17.67	145.74	1,957.16	-99.26	2,157.14	2,121.53	35.61	60.570		
5,400.00	5,392.14	5,050.92	5,017.09	18.77	18.04	145.73	1,974.38	-103.73	2,181.17	2,144.85	36.32	60.051		
5,500.00	5,491.84	5,147.99	5,112.51	19.13	18.40	145.72	1,991.60	-108.21	2,205.21	2,168.18	37.03	59.550		
5,600.00	5,591.54	5,245.06	5,207.94	19.49	18.76	145.72	2,008.82	-112.68	2,229.24	2,191.50	37.74	59.067		
5,700.00	5,691.24	5,342.13	5,303.36	19.85	19.13	145.71	2,026.04	-117.16	2,253.27	2,214.82	38.45	58.601		
5,800.00	5,790.93	5,439.20	5,398.79	20.20	19.49	145.70	2,043.26	-121.63	2,277.30	2,238.14	39.16	58.150		
5,900.00	5,890.63	5,536.27	5,494.21	20.56	19.86	145.70	2,060.48	-126.11	2,301.34	2,261.46	39.87	57.715		
6,000.00	5,990.33	5,633.34	5,589.64	20.92	20.22	145.69	2,077.70	-130.58	2,325.37	2,284.78	40.59	57.294		
6,100.00	6,090.03	5,730.41	5,685.06	21.28	20.59	145.68	2,094.92	-135.06	2,349.40	2,308.10	41.30	56.887		
6,200.00	6,189.73	5,827.47	5,780.48	21.64	20.95	145.68	2,112.14	-139.53	2,373.44	2,331.42	42.01	56.493		
6,300.00	6,289.42	5,924.54	5,875.91	22.00	21.32	145.67	2,129.36	-144.01	2,397.47	2,354.74	42.73	56.112		
6,400.00	6,389.12	6,021.61	5,971.33	22.36	21.69	145.67	2,146.57	-148.48	2,421.50	2,378.06	43.44	55.742		
6,500.00	6,488.82	6,118.68	6,066.76	22.72	22.05	145.66	2,163.79	-152.96	2,445.53	2,401.38	44.16	55.384		
6,600.00	6,588.52	6,215.75	6,162.18	23.08	22.42	145.65	2,181.01	-157.43	2,469.57	2,424.70	44.87	55.037		
6,700.00	6,688.22	6,312.82	6,257.61	23.44	22.79	145.65	2,198.23	-161.91	2,493.60	2,448.01	45.59	54.700		
6,800.00	6,787.91	6,409.89	6,353.03	23.80	23.15	145.64	2,215.45	-166.38	2,517.63	2,471.33	46.30	54.373		
6,900.00	6,887.61	6,506.96	6,448.46	24.16	23.52	145.64	2,232.67	-170.86	2,541.67	2,494.65	47.02	54.055		
7,000.00	6,987.31	6,604.03	6,543.88	24.52	23.89	145.63	2,249.89	-175.33	2,565.70	2,517.96	47.74	53.746		
7,100.00	7,087.01	6,701.09	6,639.31	24.88	24.26	145.63	2,267.11	-179.81	2,589.73	2,541.28	48.45	53.447		
7,200.00	7,186.71	6,801.84	6,734.73	25.24	24.64	145.62	2,284.33	-184.28	2,613.76	2,564.58	49.19	53.140		
7,300.00	7,286.41	6,904.77	6,830.15	25.60	25.03	145.62	2,301.55	-188.76	2,637.80	2,587.87	49.93	52.834		
7,400.00	7,386.10	7,007.70	6,925.58	25.96	25.42	145.61	2,318.77	-193.23	2,661.83	2,611.16	50.67	52.535		
7,500.00	7,485.80	7,089.37	7,021.00	26.33	25.73	145.61	2,335.99	-197.71	2,685.86	2,634.54	51.33	52.327		
7,600.00	7,585.50	7,186.44	7,116.43	26.69	26.10	145.60	2,353.21	-202.19	2,709.90	2,657.85	52.05	52.066		
7,700.00	7,685.20	7,283.51	7,211.85	27.05	26.47	145.60	2,370.43	-206.66	2,733.93	2,681.16	52.77	51.811		
7,800.00	7,784.90	7,380.58	7,307.28	27.41	26.84	145.59	2,387.65	-211.14	2,757.96	2,704.48	53.49	51.563		
7,860.70	7,845.41	7,439.50	7,365.20	27.63	27.06	145.59	2,398.10	-213.85	2,772.55	2,718.63	53.92	51.416		
7,900.00	7,884.61	7,477.68	7,402.74	27.77	27.21	145.67	2,404.87	-215.61	2,781.83	2,727.63	54.21	51.319		
8,000.00	7,984.46	8,000.00	7,595.28	28.13	29.17	145.80	2,436.04	-223.71	2,802.18	2,745.48	56.70	49.420		
8,100.00	8,084.42	8,074.08	7,994.60	28.49	29.40	145.84	2,471.09	-232.82	2,812.57	2,755.03	57.54	48.878		
8,157.59	8,142.00	8,233.21	8,153.70	28.69	29.95	-0.07	2,473.66	-233.49	2,813.67	2,755.40	58.27	48.287		
8,200.00	8,184.41	8,275.63	8,196.11	28.83	30.10	-0.07	2,473.66	-233.49	2,813.67	2,755.10	58.56	48.047		
8,300.00	8,284.41	8,375.63	8,296.11	29.17	30.44	-0.07	2,473.66	-233.49	2,813.67	2,754.42	59.25	47.489		
8,400.00	8,384.41	8,475.63	8,396.11	29.51	30.79	-0.07	2,473.66	-233.49	2,813.67	2,753.73	59.94	46.944		
8,411.42	8,395.83	8,487.04	8,407.53	29.55	30.83	-0.07	2,473.66	-233.49	2,813.67	2,753.65	60.01	46.883		
8,507.63	8,492.04	8,582.87	8,503.36	29.87	31.16	-0.07	2,473.66	-233.26	2,813.67	2,752.99	60.67	46.373		
8,550.00	8,534.37	8,624.21	8,544.60	30.02	31.30	-89.41	2,473.68	-230.59	2,813.66	2,752.71	60.96	46.159		
8,600.00	8,584.01	8,672.89	8,592.77	30.18	31.45	-89.39	2,473.72	-223.65	2,813.64	2,752.36	61.28	45.914		
8,650.00	8,632.95	8,721.48	8,640.08	30.34	31.61	-89.37	2,473.79	-212.67	2,813.60	2,751.99	61.60	45.673		
8,700.00	8,680.82	8,769.97	8,686.21	30.50	31.76	-89.36	2,473.88	-197.76	2,813.53	2,751.61	61.92	45.439		
8,750.00	8,727.25	8,818.39	8,730.85	30.66	31.91	-89.35	2,473.99	-179.03	2,813.44	2,751.21	62.23	45.211		
8,800.00	8,771.89	8,866.74	8,773.68	30.81	32.05	-89.34	2,474.12	-156.63	2,813.34	2,750.80	62.53	44.989		
8,850.00	8,814.40	8,915.05	8,814.44	30.95	32.19	-89.35	2,474.28	-130.74	2,813.21	2,750.37	62.84	44.771		
8,900.00	8,854.46	8,963.30	8,852.83	31.09	32.33	-89.35	2,474.45	-101.53	2,813.06	2,749.92	63.14	44.555		
8,950.00	8,891.75	9,011.53	8,888.62	31.23	32.46	-89.36	2,474.64	-69.21	2,812.89	2,749.45	63.44	44.339		
9,000.00	8,926.01	9,059.74	8,921.54	31.37	32.60	-89.38	2,474.85	-34.02	2,812.71	2,748.96	63.75	44.118		
9,050.00	8,956.96	9,107.95	8,951.39	31.53	32.74	-89.40	2,475.08	3.82	2,812.51	2,748.43	64.08	43.889		
9,100.00	8,984.38	9,156.16	8,977.96	31.69	32.89	-89.42	2,475.32	44.03	2,812.30	2,747.87	64.43	43.648		
9,150.00	9,008.05	9,204.39	9,001.06	31.87	33.06	-89.45	2,475.57	86.35	2,812.08	2,747.27	64.81	43.393		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 0-MWD+IFR1													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
9,200.00	9,027.79	9,252.65	9,020.53	32.07	33.24	-89.48	2,475.83	130.49	2,811.84	2,746.63	65.21	43.119		
9,250.00	9,043.45	9,300.96	9,036.23	32.29	33.44	-89.52	2,476.10	176.16	2,811.60	2,745.95	65.65	42.827		
9,300.00	9,054.92	9,349.31	9,048.05	32.53	33.65	-89.56	2,476.38	223.04	2,811.35	2,745.22	66.12	42.517		
9,350.00	9,062.10	9,397.74	9,055.87	32.79	33.89	-89.60	2,476.67	270.81	2,811.09	2,744.46	66.63	42.189		
9,400.00	9,064.95	9,446.24	9,059.64	33.06	34.14	-89.65	2,476.96	319.15	2,810.83	2,743.66	67.17	41.848		
9,407.63	9,065.00	9,453.65	9,059.85	33.10	34.18	-89.66	2,477.00	326.55	2,810.79	2,743.54	67.25	41.795		
9,500.00	9,065.00	9,545.64	9,060.00	33.68	34.73	-89.66	2,477.55	418.54	2,810.33	2,741.93	68.39	41.091		
9,600.00	9,065.00	9,645.64	9,060.00	34.41	35.42	-89.66	2,478.14	518.54	2,809.82	2,740.00	69.83	40.240		
9,700.00	9,065.00	9,745.64	9,060.00	35.24	36.22	-89.66	2,478.74	618.54	2,809.32	2,737.85	71.47	39.310		
9,800.00	9,065.00	9,845.64	9,060.00	36.17	37.12	-89.66	2,479.34	718.54	2,808.81	2,735.51	73.30	38.321		
9,900.00	9,065.00	9,945.64	9,060.00	37.19	38.10	-89.66	2,479.93	818.53	2,808.31	2,733.00	75.31	37.292		
10,000.00	9,065.00	10,045.64	9,060.00	38.30	39.17	-89.66	2,480.53	918.53	2,807.80	2,730.32	77.48	36.239		
10,100.00	9,065.00	10,145.63	9,060.00	39.48	40.32	-89.66	2,481.12	1,018.53	2,807.30	2,727.49	79.80	35.177		
10,200.00	9,065.00	10,245.63	9,060.00	40.72	41.53	-89.66	2,481.72	1,118.52	2,806.79	2,724.53	82.27	34.118		
10,300.00	9,065.00	10,345.63	9,060.00	42.03	42.81	-89.66	2,482.32	1,218.52	2,806.29	2,721.43	84.85	33.072		
10,400.00	9,065.00	10,445.63	9,060.00	43.40	44.14	-89.66	2,482.91	1,318.52	2,805.78	2,718.23	87.56	32.045		
10,500.00	9,065.00	10,545.63	9,060.00	44.82	45.53	-89.66	2,483.51	1,418.51	2,805.28	2,714.91	90.36	31.044		
10,600.00	9,065.00	10,645.63	9,060.00	46.29	46.97	-89.66	2,484.10	1,518.51	2,804.78	2,711.51	93.27	30.072		
10,700.00	9,065.00	10,745.63	9,060.00	47.79	48.45	-89.66	2,484.70	1,618.51	2,804.27	2,708.01	96.26	29.133		
10,800.00	9,065.00	10,845.63	9,060.00	49.34	49.97	-89.66	2,485.30	1,718.50	2,803.77	2,704.44	99.32	28.229		
10,900.00	9,065.00	10,945.62	9,060.00	50.92	51.53	-89.66	2,485.89	1,818.50	2,803.26	2,700.80	102.46	27.359		
11,000.00	9,065.00	11,045.62	9,060.00	52.54	53.12	-89.66	2,486.49	1,918.50	2,802.76	2,697.09	105.67	26.525		
11,100.00	9,065.00	11,145.62	9,060.00	54.18	54.74	-89.66	2,487.08	2,018.50	2,802.25	2,693.32	108.93	25.725		
11,200.00	9,065.00	11,245.62	9,060.00	55.85	56.39	-89.66	2,487.68	2,118.49	2,801.75	2,689.50	112.25	24.960		
11,300.00	9,065.00	11,345.62	9,060.00	57.54	58.06	-89.66	2,488.27	2,218.49	2,801.24	2,685.63	115.62	24.229		
11,400.00	9,065.00	11,445.62	9,060.00	59.26	59.76	-89.66	2,488.87	2,318.49	2,800.74	2,681.71	119.03	23.530		
11,500.00	9,065.00	11,545.62	9,060.00	61.00	61.48	-89.66	2,489.47	2,418.48	2,800.23	2,677.75	122.48	22.862		
11,600.00	9,065.00	11,645.62	9,060.00	62.75	63.21	-89.66	2,490.06	2,518.48	2,799.73	2,673.75	125.98	22.224		
11,700.00	9,065.00	11,745.61	9,060.00	64.52	64.97	-89.66	2,490.66	2,618.48	2,799.22	2,669.72	129.50	21.615		
11,800.00	9,065.00	11,845.61	9,060.00	66.31	66.74	-89.66	2,491.25	2,718.47	2,798.72	2,665.66	133.06	21.033		
11,900.00	9,065.00	11,945.61	9,060.00	68.11	68.53	-89.66	2,491.85	2,818.47	2,798.21	2,661.56	136.65	20.477		
12,000.00	9,065.00	12,045.61	9,060.00	69.93	70.33	-89.66	2,492.45	2,918.47	2,797.71	2,657.44	140.27	19.945		
12,100.00	9,065.00	12,145.61	9,060.00	71.76	72.15	-89.66	2,493.04	3,018.46	2,797.21	2,653.29	143.91	19.437		
12,200.00	9,065.00	12,245.61	9,060.00	73.60	73.97	-89.66	2,493.64	3,118.46	2,796.70	2,649.12	147.58	18.951		
12,300.00	9,065.00	12,345.61	9,060.00	75.45	75.81	-89.66	2,494.23	3,218.46	2,796.20	2,644.93	151.27	18.485		
12,400.00	9,065.00	12,445.61	9,060.00	77.31	77.66	-89.66	2,494.83	3,318.46	2,795.69	2,640.72	154.98	18.040		
12,500.00	9,065.00	12,545.60	9,060.00	79.18	79.52	-89.66	2,495.43	3,418.45	2,795.19	2,636.48	158.70	17.613		
12,600.00	9,065.00	12,645.60	9,060.00	81.05	81.38	-89.66	2,496.02	3,518.45	2,794.68	2,632.24	162.45	17.204		
12,700.00	9,065.00	12,745.60	9,060.00	82.94	83.26	-89.66	2,496.62	3,618.45	2,794.18	2,627.97	166.21	16.811		
12,800.00	9,065.00	12,845.60	9,060.00	84.83	85.14	-89.66	2,497.21	3,718.44	2,793.67	2,623.69	169.98	16.435		
12,900.00	9,065.00	12,945.60	9,060.00	86.73	87.03	-89.66	2,497.81	3,818.44	2,793.17	2,619.39	173.77	16.073		
13,000.00	9,065.00	13,045.60	9,060.00	88.64	88.93	-89.66	2,498.40	3,918.44	2,792.66	2,615.08	177.58	15.726		
13,100.00	9,065.00	13,145.60	9,060.00	90.55	90.84	-89.66	2,499.00	4,018.43	2,792.16	2,610.76	181.40	15.393		
13,200.00	9,065.00	13,245.60	9,060.00	92.47	92.75	-89.66	2,499.60	4,118.43	2,791.65	2,606.43	185.22	15.072		
13,300.00	9,065.00	13,345.59	9,060.00	94.39	94.66	-89.66	2,500.19	4,218.43	2,791.15	2,602.09	189.06	14.763		
13,400.00	9,065.00	13,445.59	9,060.00	96.32	96.58	-89.66	2,500.79	4,318.43	2,790.64	2,597.73	192.91	14.466		
13,500.00	9,065.00	13,545.59	9,060.00	98.25	98.51	-89.66	2,501.38	4,418.42	2,790.14	2,593.37	196.77	14.180		
13,600.00	9,065.00	13,645.59	9,060.00	100.19	100.44	-89.66	2,501.98	4,518.42	2,789.64	2,589.00	200.64	13.904		
13,700.00	9,065.00	13,745.59	9,060.00	102.13	102.38	-89.66	2,502.58	4,618.42	2,789.13	2,584.61	204.52	13.638		
13,800.00	9,065.00	13,845.59	9,060.00	104.08	104.32	-89.66	2,503.17	4,718.41	2,788.63	2,580.22	208.40	13.381		
13,900.00	9,065.00	13,945.59	9,060.00	106.03	106.26	-89.66	2,503.77	4,818.41	2,788.12	2,575.83	212.30	13.133		
14,000.00	9,065.00	14,045.59	9,060.00	107.98	108.21	-89.66	2,504.36	4,918.41	2,787.62	2,571.42	216.20	12.894		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 0-MWD+IFR1													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
14,100.00	9,065.00	14,145.58	9,060.00	109.94	110.16	-89.66	2,504.96	5,018.40	2,787.11	2,567.01	220.10	12.663		
14,200.00	9,065.00	14,245.58	9,060.00	111.90	112.11	-89.66	2,505.56	5,118.40	2,786.61	2,562.59	224.02	12.439		
14,300.00	9,065.00	14,345.58	9,060.00	113.86	114.07	-89.66	2,506.15	5,218.40	2,786.10	2,558.17	227.94	12.223		
14,400.00	9,065.00	14,445.58	9,060.00	115.82	116.03	-89.66	2,506.75	5,318.39	2,785.60	2,553.73	231.86	12.014		
14,500.00	9,065.00	14,545.58	9,060.00	117.79	117.99	-89.66	2,507.34	5,418.39	2,785.09	2,549.30	235.80	11.811		
14,600.00	9,065.00	14,645.58	9,060.00	119.76	119.96	-89.66	2,507.94	5,518.39	2,784.59	2,544.86	239.73	11.615		
14,700.00	9,065.00	14,745.58	9,060.00	121.74	121.93	-89.66	2,508.53	5,618.39	2,784.08	2,540.41	243.67	11.425		
14,800.00	9,065.00	14,845.57	9,060.00	123.71	123.90	-89.66	2,509.13	5,718.38	2,783.58	2,535.96	247.62	11.241		
14,900.00	9,065.00	14,945.57	9,060.00	125.69	125.87	-89.66	2,509.73	5,818.38	2,783.08	2,531.50	251.57	11.063		
15,000.00	9,065.00	15,045.57	9,060.00	127.67	127.85	-89.66	2,510.32	5,918.38	2,782.57	2,527.04	255.53	10.889		
15,100.00	9,065.00	15,145.57	9,060.00	129.65	129.83	-89.66	2,510.92	6,018.37	2,782.07	2,522.58	259.49	10.721		
15,200.00	9,065.00	15,245.57	9,060.00	131.63	131.81	-89.66	2,511.51	6,118.37	2,781.56	2,518.11	263.45	10.558		
15,300.00	9,065.00	15,345.57	9,060.00	133.62	133.79	-89.66	2,512.11	6,218.37	2,781.06	2,513.63	267.42	10.400		
15,400.00	9,065.00	15,445.57	9,060.00	135.61	135.78	-89.66	2,512.71	6,318.36	2,780.55	2,509.16	271.39	10.245		
15,500.00	9,065.00	15,545.57	9,060.00	137.60	137.76	-89.66	2,513.30	6,418.36	2,780.05	2,504.68	275.37	10.096		
15,600.00	9,065.00	15,645.56	9,060.00	139.59	139.75	-89.66	2,513.90	6,518.36	2,779.54	2,500.20	279.35	9.950		
15,700.00	9,065.00	15,745.56	9,060.00	141.58	141.74	-89.66	2,514.49	6,618.36	2,779.04	2,495.71	283.33	9.809		
15,800.00	9,065.00	15,845.56	9,060.00	143.57	143.73	-89.66	2,515.09	6,718.35	2,778.53	2,491.22	287.31	9.671		
15,900.00	9,065.00	15,945.56	9,060.00	145.57	145.72	-89.66	2,515.69	6,818.35	2,778.03	2,486.73	291.30	9.537		
16,000.00	9,065.00	16,045.56	9,060.00	147.56	147.72	-89.66	2,516.28	6,918.35	2,777.52	2,482.23	295.29	9.406		
16,100.00	9,065.00	16,145.56	9,060.00	149.56	149.71	-89.66	2,516.88	7,018.34	2,777.02	2,477.73	299.29	9.279		
16,200.00	9,065.00	16,245.56	9,060.00	151.56	151.71	-89.66	2,517.47	7,118.34	2,776.51	2,473.23	303.28	9.155		
16,300.00	9,065.00	16,345.56	9,060.00	153.56	153.71	-89.66	2,518.07	7,218.34	2,776.01	2,468.73	307.28	9.034		
16,400.00	9,065.00	16,445.55	9,060.00	155.56	155.71	-89.66	2,518.66	7,318.33	2,775.51	2,464.22	311.28	8.916		
16,500.00	9,065.00	16,545.55	9,060.00	157.57	157.71	-89.66	2,519.26	7,418.33	2,775.00	2,459.72	315.28	8.802		
16,600.00	9,065.00	16,645.55	9,060.00	159.57	159.71	-89.66	2,519.86	7,518.33	2,774.50	2,455.21	319.29	8.690		
16,700.00	9,065.00	16,745.55	9,060.00	161.57	161.71	-89.66	2,520.45	7,618.32	2,773.99	2,450.69	323.30	8.580		
16,800.00	9,065.00	16,845.55	9,060.00	163.58	163.72	-89.66	2,521.05	7,718.32	2,773.49	2,446.18	327.31	8.474		
16,900.00	9,065.00	16,945.55	9,060.00	165.59	165.72	-89.65	2,521.64	7,818.32	2,772.98	2,441.66	331.32	8.370		
17,000.00	9,065.00	17,045.55	9,060.00	167.60	167.73	-89.65	2,522.24	7,918.32	2,772.48	2,437.14	335.33	8.268		
17,100.00	9,065.00	17,145.55	9,060.00	169.60	169.74	-89.65	2,522.84	8,018.31	2,771.97	2,432.62	339.35	8.169		
17,200.00	9,065.00	17,245.54	9,060.00	171.61	171.74	-89.65	2,523.43	8,118.31	2,771.47	2,428.10	343.37	8.071		
17,300.00	9,065.00	17,345.54	9,060.00	173.62	173.75	-89.65	2,524.03	8,218.31	2,770.96	2,423.58	347.39	7.977		
17,400.00	9,065.00	17,445.54	9,060.00	175.63	175.76	-89.65	2,524.62	8,318.30	2,770.46	2,419.05	351.41	7.884		
17,500.00	9,065.00	17,545.54	9,060.00	177.65	177.77	-89.65	2,525.22	8,418.30	2,769.95	2,414.53	355.43	7.793		
17,600.00	9,065.00	17,645.54	9,060.00	179.66	179.78	-89.65	2,525.81	8,518.30	2,769.45	2,410.00	359.45	7.705		
17,700.00	9,065.00	17,745.54	9,060.00	181.67	181.80	-89.65	2,526.41	8,618.29	2,768.95	2,405.47	363.48	7.618		
17,800.00	9,065.00	17,845.54	9,060.00	183.69	183.81	-89.65	2,527.01	8,718.29	2,768.44	2,400.94	367.50	7.533		
17,900.00	9,065.00	17,945.54	9,060.00	185.70	185.82	-89.65	2,527.60	8,818.29	2,767.94	2,396.40	371.53	7.450		
18,000.00	9,065.00	18,045.53	9,060.00	187.72	187.84	-89.65	2,528.20	8,918.29	2,767.43	2,391.87	375.56	7.369		
18,100.00	9,065.00	18,145.53	9,060.00	189.73	189.85	-89.65	2,528.79	9,018.28	2,766.93	2,387.33	379.59	7.289		
18,200.00	9,065.00	18,245.53	9,060.00	191.75	191.87	-89.65	2,529.39	9,118.28	2,766.42	2,382.80	383.63	7.211		
18,300.00	9,065.00	18,345.53	9,060.00	193.77	193.88	-89.65	2,529.99	9,218.28	2,765.92	2,378.26	387.66	7.135		
18,400.00	9,065.00	18,445.53	9,060.00	195.78	195.90	-89.65	2,530.58	9,318.27	2,765.41	2,373.72	391.69	7.060		
18,500.00	9,065.00	18,545.53	9,060.00	197.80	197.92	-89.65	2,531.18	9,418.27	2,764.91	2,369.18	395.73	6.987		
18,600.00	9,065.00	18,645.53	9,060.00	199.82	199.94	-89.65	2,531.77	9,518.27	2,764.40	2,364.64	399.77	6.915		
18,700.00	9,065.00	18,745.53	9,060.00	201.84	201.95	-89.65	2,532.37	9,618.26	2,763.90	2,360.09	403.80	6.845		
18,800.00	9,065.00	18,845.52	9,060.00	203.86	203.97	-89.65	2,532.97	9,718.26	2,763.39	2,355.55	407.84	6.776		
18,900.00	9,065.00	18,945.52	9,060.00	205.88	205.99	-89.65	2,533.56	9,818.26	2,762.89	2,351.01	411.88	6.708		
19,000.00	9,065.00	19,045.52	9,060.00	207.90	208.01	-89.65	2,534.16	9,918.25	2,762.38	2,346.46	415.92	6.642		
19,100.00	9,065.00	19,145.52	9,060.00	209.92	210.03	-89.65	2,534.75	10,018.25	2,761.88	2,341.91	419.97	6.576		
19,200.00	9,065.00	19,245.52	9,060.00	211.95	212.06	-89.65	2,535.35	10,118.25	2,761.38	2,337.37	424.01	6.513		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Sec 14-T21S-R27E - Lone Tree Draw 14-13 State Com 621H - Wellbore #1 - Permit Plan 1		Offset Site Error:		0.00 ft	
Survey Program: 0-MWD+IFR1													Offset Well Error:		0.50 ft			
Reference		Offset		Semi Major Axis			Distance							Warning				
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor						
Depth (ft)	Depth (ft)	Depth (ft)	Depth (ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)							
19,300.00	9,065.00	19,345.52	9,060.00	213.97	214.08	-89.65	2,535.94	10,218.25	2,760.87	2,332.82	428.05	6.450						
19,400.00	9,065.00	19,445.52	9,060.00	215.99	216.10	-89.65	2,536.54	10,318.24	2,760.37	2,328.27	432.10	6.388						
19,456.84	9,065.00	19,502.36	9,060.00	217.14	217.25	-89.65	2,536.88	10,375.08	2,760.08	2,325.68	434.40	6.354 SF						

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 10-INC-ONLY													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0.00	0.00	0.00	0.00	0.50	0.50	113.77	-1,351.10	3,068.29	3,352.95					
100.00	100.00	51.10	51.10	0.52	0.79	113.77	-1,351.10	3,068.29	3,352.59	3,351.28	1.31	2,557.741		
200.00	200.00	151.10	151.10	0.70	2.17	113.77	-1,351.10	3,068.29	3,352.59	3,349.72	2.87	1,166.697		
300.00	300.00	251.10	251.10	0.99	3.65	113.77	-1,351.10	3,068.29	3,352.59	3,347.96	4.63	723.708		
400.00	400.00	351.10	351.10	1.31	5.13	113.77	-1,351.10	3,068.29	3,352.59	3,346.15	6.44	520.440		
500.00	500.00	451.10	451.10	1.65	6.63	113.77	-1,351.10	3,068.29	3,352.59	3,344.32	8.27	405.346		
600.00	600.00	551.10	551.10	1.99	8.12	113.77	-1,351.10	3,068.29	3,352.59	3,342.48	10.11	331.626		
700.00	700.00	651.10	651.10	2.34	9.61	113.77	-1,351.10	3,068.29	3,352.59	3,340.64	11.95	280.470		
800.00	800.00	751.10	751.10	2.69	11.11	113.77	-1,351.10	3,068.29	3,352.59	3,338.79	13.80	242.930		
900.00	900.00	851.10	851.10	3.04	12.61	113.77	-1,351.10	3,068.29	3,352.59	3,336.94	15.65	214.225		
1,000.00	1,000.00	951.10	951.10	3.40	14.10	113.77	-1,351.10	3,068.29	3,352.59	3,335.09	17.50	191.571		
1,100.00	1,100.00	1,051.10	1,051.10	3.75	15.60	113.77	-1,351.10	3,068.29	3,352.59	3,333.24	19.35	173.241		
1,200.00	1,200.00	1,151.10	1,151.10	4.11	17.10	113.77	-1,351.10	3,068.29	3,352.59	3,331.39	21.20	158.106		
1,300.00	1,300.00	1,251.10	1,251.10	4.46	18.59	113.77	-1,351.10	3,068.29	3,352.59	3,329.53	23.06	145.400		
1,400.00	1,400.00	1,351.10	1,351.10	4.82	20.09	113.77	-1,351.10	3,068.29	3,352.59	3,327.68	24.91	134.582		
1,500.00	1,500.00	1,451.10	1,451.10	5.18	21.59	113.77	-1,351.10	3,068.29	3,352.59	3,325.83	26.77	125.260		
1,600.00	1,600.00	1,551.10	1,551.10	5.53	23.09	113.77	-1,351.10	3,068.29	3,352.59	3,323.97	28.62	117.145		
1,700.00	1,700.00	1,651.10	1,651.10	5.89	24.58	113.77	-1,351.10	3,068.29	3,352.59	3,322.12	30.47	110.016		
1,800.00	1,800.00	1,751.10	1,751.10	6.25	26.08	113.77	-1,351.10	3,068.29	3,352.59	3,320.26	32.33	103.705		
1,900.00	1,900.00	1,851.10	1,851.10	6.61	27.58	113.77	-1,351.10	3,068.29	3,352.59	3,318.41	34.18	98.078		
2,000.00	2,000.00	1,951.10	1,951.10	6.96	29.08	113.77	-1,351.10	3,068.29	3,352.59	3,316.55	36.04	93.030		
2,100.00	2,100.00	2,051.10	2,051.10	7.32	30.57	113.77	-1,351.10	3,068.29	3,352.59	3,314.70	37.89	88.476		
2,200.00	2,200.00	2,151.10	2,151.10	7.68	32.07	113.77	-1,351.10	3,068.29	3,352.59	3,312.84	39.75	84.347		
2,300.00	2,300.00	2,251.10	2,251.10	8.04	33.57	113.77	-1,351.10	3,068.29	3,352.59	3,310.99	41.60	80.585		
2,400.00	2,400.00	2,351.10	2,351.10	8.39	35.07	113.77	-1,351.10	3,068.29	3,352.59	3,309.13	43.46	77.145		
2,500.00	2,500.00	2,451.10	2,451.10	8.75	36.56	113.77	-1,351.10	3,068.29	3,352.59	3,307.28	45.31	73.987		
2,600.00	2,599.99	2,551.09	2,551.09	9.09	38.06	-100.32	-1,351.10	3,068.29	3,352.75	3,305.60	47.15	71.105		
2,700.00	2,699.96	2,651.06	2,651.06	9.42	39.56	-100.36	-1,351.10	3,068.29	3,353.22	3,304.24	48.98	68.468		
2,800.00	2,799.86	2,750.96	2,750.96	9.75	41.05	-100.43	-1,351.10	3,068.29	3,354.01	3,303.21	50.80	66.025		
2,900.00	2,899.68	2,850.78	2,850.78	10.08	42.55	-100.52	-1,351.10	3,068.29	3,355.12	3,302.49	52.62	63.757		
2,945.33	2,944.88	2,895.98	2,895.98	10.23	43.22	-100.57	-1,351.10	3,068.29	3,355.73	3,302.28	53.45	62.782		
3,000.00	2,999.39	2,950.49	2,950.49	10.41	44.04	-100.64	-1,351.10	3,068.29	3,356.51	3,302.07	54.45	61.645		
3,100.00	3,099.08	3,050.18	3,050.18	10.75	45.53	-100.77	-1,351.10	3,068.29	3,357.96	3,301.69	56.28	59.669		
3,200.00	3,198.78	3,149.88	3,149.88	11.08	47.03	-100.90	-1,351.10	3,068.29	3,359.43	3,301.32	58.11	57.816		
3,300.00	3,298.48	3,249.58	3,249.58	11.42	48.52	-101.03	-1,351.10	3,068.29	3,360.91	3,300.97	59.94	56.074		
3,400.00	3,398.18	3,349.28	3,349.28	11.76	50.01	-101.16	-1,351.10	3,068.29	3,362.41	3,300.64	61.77	54.435		
3,500.00	3,497.88	3,448.98	3,448.98	12.10	51.51	-101.29	-1,351.10	3,068.29	3,363.92	3,300.32	63.60	52.889		
3,600.00	3,597.58	3,548.68	3,548.68	12.45	53.00	-101.42	-1,351.10	3,068.29	3,365.45	3,300.01	65.44	51.428		
3,700.00	3,697.27	3,648.37	3,648.37	12.79	54.49	-101.55	-1,351.10	3,068.29	3,367.00	3,299.73	67.28	50.047		
3,800.00	3,796.97	3,748.07	3,748.07	13.14	55.99	-101.68	-1,351.10	3,068.29	3,368.57	3,299.46	69.12	48.739		
3,900.00	3,896.67	3,847.77	3,847.77	13.48	57.48	-101.81	-1,351.10	3,068.29	3,370.16	3,299.20	70.95	47.497		
4,000.00	3,996.37	3,947.47	3,947.47	13.83	58.97	-101.93	-1,351.10	3,068.29	3,371.76	3,298.96	72.80	46.318		
4,100.00	4,096.07	4,047.17	4,047.17	14.18	60.46	-102.06	-1,351.10	3,068.29	3,373.38	3,298.74	74.64	45.197		
4,200.00	4,195.76	4,146.86	4,146.86	14.53	61.96	-102.19	-1,351.10	3,068.29	3,375.01	3,298.53	76.48	44.130		
4,300.00	4,295.46	4,246.56	4,246.56	14.88	63.45	-102.32	-1,351.10	3,068.29	3,376.67	3,298.34	78.32	43.112		
4,400.00	4,395.16	4,346.26	4,346.26	15.23	64.94	-102.45	-1,351.10	3,068.29	3,378.34	3,298.17	80.17	42.142		
4,500.00	4,494.86	4,445.96	4,445.96	15.58	66.44	-102.58	-1,351.10	3,068.29	3,380.02	3,298.01	82.01	41.214		
4,600.00	4,594.56	4,545.66	4,545.66	15.93	67.93	-102.70	-1,351.10	3,068.29	3,381.73	3,297.87	83.86	40.328		
4,700.00	4,694.25	4,645.35	4,645.35	16.29	69.42	-102.83	-1,351.10	3,068.29	3,383.45	3,297.75	85.70	39.479		
4,800.00	4,793.95	4,745.05	4,745.05	16.64	70.92	-102.96	-1,351.10	3,068.29	3,385.19	3,297.64	87.55	38.666		
4,900.00	4,893.65	4,844.75	4,844.75	17.00	72.41	-103.09	-1,351.10	3,068.29	3,386.94	3,297.55	89.40	37.887		
5,000.00	4,993.35	4,944.45	4,944.45	17.35	73.90	-103.22	-1,351.10	3,068.29	3,388.71	3,297.47	91.24	37.139		

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 10-INC-ONLY													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
5,100.00	5,093.05	5,044.15	5,044.15	17.71	75.40	-103.34	-1,351.10	3,068.29	3,390.50	3,297.41	93.09	36.421		
5,200.00	5,192.75	5,143.85	5,143.85	18.06	76.89	-103.47	-1,351.10	3,068.29	3,392.31	3,297.37	94.94	35.731		
5,300.00	5,292.44	5,243.54	5,243.54	18.42	78.38	-103.60	-1,351.10	3,068.29	3,394.13	3,297.34	96.79	35.067		
5,400.00	5,392.14	5,343.24	5,343.24	18.77	79.87	-103.72	-1,351.10	3,068.29	3,395.97	3,297.33	98.64	34.428		
5,500.00	5,491.84	5,442.94	5,442.94	19.13	81.37	-103.85	-1,351.10	3,068.29	3,397.82	3,297.34	100.49	33.813		
5,600.00	5,591.54	5,542.64	5,542.64	19.49	82.86	-103.98	-1,351.10	3,068.29	3,399.70	3,297.36	102.34	33.220		
5,700.00	5,691.24	5,642.34	5,642.34	19.85	84.35	-104.10	-1,351.10	3,068.29	3,401.59	3,297.40	104.19	32.648		
5,800.00	5,790.93	5,742.03	5,742.03	20.20	85.85	-104.23	-1,351.10	3,068.29	3,403.49	3,297.45	106.04	32.096		
5,900.00	5,890.63	5,841.73	5,841.73	20.56	87.34	-104.36	-1,351.10	3,068.29	3,405.41	3,297.52	107.89	31.563		
6,000.00	5,990.33	5,941.43	5,941.43	20.92	88.83	-104.48	-1,351.10	3,068.29	3,407.35	3,297.61	109.74	31.049		
6,100.00	6,090.03	6,041.13	6,041.13	21.28	90.33	-104.61	-1,351.10	3,068.29	3,409.31	3,297.71	111.59	30.551		
6,200.00	6,189.73	6,140.83	6,140.83	21.64	91.82	-104.73	-1,351.10	3,068.29	3,411.28	3,297.84	113.45	30.070		
6,300.00	6,289.42	6,240.52	6,240.52	22.00	93.31	-104.86	-1,351.10	3,068.29	3,413.27	3,297.97	115.30	29.604		
6,400.00	6,389.12	6,340.22	6,340.22	22.36	94.81	-104.99	-1,351.10	3,068.29	3,415.28	3,298.12	117.15	29.153		
6,500.00	6,488.82	6,439.92	6,439.92	22.72	96.30	-105.11	-1,351.10	3,068.29	3,417.30	3,298.29	119.00	28.716		
6,600.00	6,588.52	6,539.62	6,539.62	23.08	97.79	-105.24	-1,351.10	3,068.29	3,419.34	3,298.48	120.86	28.292		
6,700.00	6,688.22	6,639.32	6,639.32	23.44	99.29	-105.36	-1,351.10	3,068.29	3,421.39	3,298.68	122.71	27.882		
6,800.00	6,787.91	6,739.01	6,739.01	23.80	100.78	-105.49	-1,351.10	3,068.29	3,423.46	3,298.90	124.56	27.484		
6,900.00	6,887.61	6,838.71	6,838.71	24.16	102.27	-105.61	-1,351.10	3,068.29	3,425.55	3,299.13	126.42	27.097		
7,000.00	6,987.31	6,938.41	6,938.41	24.52	103.76	-105.74	-1,351.10	3,068.29	3,427.65	3,299.38	128.27	26.722		
7,100.00	7,087.01	7,038.11	7,038.11	24.88	105.26	-105.86	-1,351.10	3,068.29	3,429.77	3,299.65	130.12	26.358		
7,200.00	7,186.71	7,137.81	7,137.81	25.24	106.75	-105.99	-1,351.10	3,068.29	3,431.91	3,299.93	131.98	26.004		
7,300.00	7,286.41	7,237.51	7,237.51	25.60	108.24	-106.11	-1,351.10	3,068.29	3,434.06	3,300.23	133.83	25.659		
7,400.00	7,386.10	7,337.20	7,337.20	25.96	109.74	-106.23	-1,351.10	3,068.29	3,436.23	3,300.54	135.69	25.325		
7,500.00	7,485.80	7,436.90	7,436.90	26.33	111.23	-106.36	-1,351.10	3,068.29	3,438.41	3,300.87	137.54	24.999		
7,600.00	7,585.50	7,536.60	7,536.60	26.69	112.72	-106.48	-1,351.10	3,068.29	3,440.61	3,301.22	139.40	24.682		
7,700.00	7,685.20	7,636.30	7,636.30	27.05	114.22	-106.60	-1,351.10	3,068.29	3,442.83	3,301.58	141.25	24.374		
7,800.00	7,784.90	7,736.00	7,736.00	27.41	115.71	-106.73	-1,351.10	3,068.29	3,445.06	3,301.96	143.10	24.074		
7,860.70	7,845.41	7,796.51	7,796.51	27.63	116.62	-106.80	-1,351.10	3,068.29	3,446.43	3,302.20	144.23	23.895		
7,900.00	7,884.61	7,835.71	7,835.71	27.77	117.20	-106.86	-1,351.10	3,068.29	3,447.26	3,302.30	144.96	23.781		
8,000.00	7,984.46	7,935.56	7,935.56	28.13	118.70	-106.97	-1,351.10	3,068.29	3,448.84	3,302.02	146.81	23.491		
8,100.00	8,084.42	8,035.52	8,035.52	28.49	120.20	-107.03	-1,351.10	3,068.29	3,449.66	3,300.99	148.67	23.204		
8,157.59	8,142.00	8,093.10	8,093.10	28.69	121.06	107.04	-1,351.10	3,068.29	3,449.79	3,300.06	149.73	23.040		
8,200.00	8,184.41	8,135.51	8,135.51	28.83	121.69	107.04	-1,351.10	3,068.29	3,449.79	3,299.28	150.51	22.921		
8,300.00	8,284.41	8,235.51	8,235.51	29.17	123.19	107.04	-1,351.10	3,068.29	3,449.79	3,297.45	152.34	22.645		
8,400.00	8,384.41	8,335.51	8,335.51	29.51	124.69	107.04	-1,351.10	3,068.29	3,449.79	3,295.61	154.18	22.375		
8,507.63	8,492.04	8,443.14	8,443.14	29.87	126.30	107.04	-1,351.10	3,068.29	3,449.79	3,293.63	156.15	22.092		
8,550.00	8,534.37	8,485.47	8,485.47	30.02	126.93	17.73	-1,351.10	3,068.29	3,448.30	3,291.37	156.93	21.973		
8,600.00	8,584.01	8,535.11	8,535.11	30.18	127.68	17.93	-1,351.10	3,068.29	3,442.71	3,284.87	157.84	21.811		
8,650.00	8,632.95	8,584.05	8,584.05	30.34	128.41	18.29	-1,351.10	3,068.29	3,433.03	3,274.29	158.73	21.628		
8,700.00	8,680.82	8,631.92	8,631.92	30.50	129.13	18.82	-1,351.10	3,068.29	3,419.32	3,259.71	159.61	21.423		
8,750.00	8,727.25	8,678.35	8,678.35	30.66	129.82	19.54	-1,351.10	3,068.29	3,401.70	3,241.25	160.45	21.201		
8,800.00	8,771.89	8,722.99	8,722.99	30.81	130.49	20.48	-1,351.10	3,068.29	3,380.31	3,219.06	161.26	20.962		
8,850.00	8,814.40	8,765.50	8,765.50	30.95	131.13	21.67	-1,351.10	3,068.29	3,355.32	3,193.30	162.02	20.709		
8,900.00	8,854.46	8,805.56	8,805.56	31.09	131.73	23.18	-1,351.10	3,068.29	3,326.93	3,164.19	162.74	20.443		
8,950.00	8,891.75	8,842.85	8,842.85	31.23	132.29	25.07	-1,351.10	3,068.29	3,295.37	3,131.96	163.41	20.167		
9,000.00	8,926.01	8,877.11	8,877.11	31.37	132.80	27.45	-1,351.10	3,068.29	3,260.88	3,096.86	164.01	19.882		
9,050.00	8,956.96	8,908.06	8,908.06	31.53	133.26	30.45	-1,351.10	3,068.29	3,223.73	3,059.17	164.56	19.590		
9,100.00	8,984.38	8,935.48	8,935.48	31.69	133.67	34.25	-1,351.10	3,068.29	3,184.23	3,019.19	165.05	19.293		
9,150.00	9,008.05	8,959.15	8,959.15	31.87	134.03	39.12	-1,351.10	3,068.29	3,142.69	2,977.22	165.47	18.993		
9,200.00	9,027.79	8,978.89	8,978.89	32.07	134.32	45.36	-1,351.10	3,068.29	3,099.43	2,933.61	165.82	18.691		
9,250.00	9,043.45	8,994.55	8,994.55	32.29	134.56	53.34	-1,351.10	3,068.29	3,054.80	2,888.69	166.11	18.390		

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 10-INC-ONLY													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
9,300.00	9,054.92	9,006.02	9,006.02	32.53	134.73	63.30	-1,351.10	3,068.29	3,009.15	2,842.81	166.33	18.091		
9,350.00	9,062.10	9,013.20	9,013.20	32.79	134.84	75.12	-1,351.10	3,068.29	2,962.82	2,796.34	166.48	17.796		
9,400.00	9,064.95	9,016.05	9,016.05	33.06	134.88	88.02	-1,351.10	3,068.29	2,916.20	2,749.62	166.57	17.507		
9,407.63	9,065.00	9,016.10	9,016.10	33.10	134.88	90.00	-1,351.10	3,068.29	2,909.08	2,742.50	166.58	17.464		
9,500.00	9,065.00	9,016.10	9,016.10	33.68	134.88	90.00	-1,351.10	3,068.29	2,823.10	2,656.42	166.68	16.938		
9,600.00	9,065.00	9,016.10	9,016.10	34.41	134.88	90.00	-1,351.10	3,068.29	2,730.48	2,563.67	166.81	16.369		
9,700.00	9,065.00	9,016.10	9,016.10	35.24	134.88	90.00	-1,351.10	3,068.29	2,638.41	2,471.42	166.99	15.800		
9,800.00	9,065.00	9,016.10	9,016.10	36.17	134.88	90.00	-1,351.10	3,068.29	2,546.94	2,379.73	167.21	15.232		
9,900.00	9,065.00	9,016.10	9,016.10	37.19	134.88	90.00	-1,351.10	3,068.29	2,456.13	2,288.65	167.48	14.665		
10,000.00	9,065.00	9,016.10	9,016.10	38.30	134.88	90.00	-1,351.10	3,068.29	2,366.06	2,198.24	167.82	14.099		
10,100.00	9,065.00	9,016.10	9,016.10	39.48	134.88	90.00	-1,351.10	3,068.29	2,276.82	2,108.60	168.22	13.535		
10,200.00	9,065.00	9,016.10	9,016.10	40.72	134.88	90.00	-1,351.10	3,068.29	2,188.51	2,019.80	168.71	12.972		
10,300.00	9,065.00	9,016.10	9,016.10	42.03	134.88	90.00	-1,351.10	3,068.29	2,101.25	1,931.95	169.30	12.412		
10,400.00	9,065.00	9,016.10	9,016.10	43.40	134.88	90.00	-1,351.10	3,068.29	2,015.17	1,845.18	169.99	11.854		
10,500.00	9,065.00	9,016.10	9,016.10	44.82	134.88	90.00	-1,351.10	3,068.29	1,930.44	1,759.62	170.82	11.301		
10,600.00	9,065.00	9,016.10	9,016.10	46.29	134.88	90.00	-1,351.10	3,068.29	1,847.23	1,675.45	171.78	10.753		
10,700.00	9,065.00	9,016.10	9,016.10	47.79	134.88	90.00	-1,351.10	3,068.29	1,765.77	1,592.86	172.91	10.212		
10,800.00	9,065.00	9,016.10	9,016.10	49.34	134.88	90.00	-1,351.10	3,068.29	1,686.30	1,512.08	174.23	9.679		
10,900.00	9,065.00	9,016.10	9,016.10	50.92	134.88	90.00	-1,351.10	3,068.29	1,609.13	1,433.38	175.74	9.156		
11,000.00	9,065.00	9,016.10	9,016.10	52.54	134.88	90.00	-1,351.10	3,068.29	1,534.59	1,357.11	177.48	8.646		
11,100.00	9,065.00	9,016.10	9,016.10	54.18	134.88	90.00	-1,351.10	3,068.29	1,463.09	1,283.64	179.45	8.153		
11,200.00	9,065.00	9,016.10	9,016.10	55.85	134.88	90.00	-1,351.10	3,068.29	1,395.10	1,213.43	181.67	7.679		
11,300.00	9,065.00	9,016.10	9,016.10	57.54	134.88	90.00	-1,351.10	3,068.29	1,331.16	1,147.03	184.13	7.229		
11,400.00	9,065.00	9,016.10	9,016.10	59.26	134.88	90.00	-1,351.10	3,068.29	1,271.87	1,085.05	186.82	6.808		
11,500.00	9,065.00	9,016.10	9,016.10	61.00	134.88	90.00	-1,351.10	3,068.29	1,217.92	1,028.21	189.71	6.420		
11,600.00	9,065.00	9,016.10	9,016.10	62.75	134.88	90.00	-1,351.10	3,068.29	1,170.05	977.30	192.75	6.070		
11,700.00	9,065.00	9,016.10	9,016.10	64.52	134.88	90.00	-1,351.10	3,068.29	1,129.02	933.17	195.85	5.765		
11,800.00	9,065.00	9,016.10	9,016.10	66.31	134.88	90.00	-1,351.10	3,068.29	1,095.61	896.70	198.91	5.508		
11,900.00	9,065.00	9,016.10	9,016.10	68.11	134.88	90.00	-1,351.10	3,068.29	1,070.53	868.72	201.81	5.305		
12,000.00	9,065.00	9,016.10	9,016.10	69.93	134.88	90.00	-1,351.10	3,068.29	1,054.37	849.95	204.42	5.158		
12,100.00	9,065.00	9,016.10	9,016.10	71.76	134.88	90.00	-1,351.10	3,068.29	1,047.56	840.93	206.62	5.070		
12,121.63	9,065.00	9,016.10	9,016.10	72.15	134.88	90.00	-1,351.10	3,068.29	1,047.33	840.30	207.04	5.059 CC, ES		
12,200.00	9,065.00	9,016.10	9,016.10	73.60	134.88	90.00	-1,351.10	3,068.29	1,050.26	841.94	208.32	5.041 SF		
12,300.00	9,065.00	9,016.10	9,016.10	75.45	134.88	90.00	-1,351.10	3,068.29	1,062.41	852.93	209.48	5.072		
12,400.00	9,065.00	9,016.10	9,016.10	77.31	134.88	90.00	-1,351.10	3,068.29	1,083.69	873.60	210.09	5.158		
12,500.00	9,065.00	9,016.10	9,016.10	79.18	134.88	90.00	-1,351.10	3,068.29	1,113.58	903.38	210.20	5.298		
12,600.00	9,065.00	9,016.10	9,016.10	81.05	134.88	90.00	-1,351.10	3,068.29	1,151.41	941.53	209.88	5.486		
12,700.00	9,065.00	9,016.10	9,016.10	82.94	134.88	90.00	-1,351.10	3,068.29	1,196.42	987.20	209.22	5.719		
12,800.00	9,065.00	9,016.10	9,016.10	84.83	134.88	90.00	-1,351.10	3,068.29	1,247.83	1,039.53	208.30	5.991		
12,900.00	9,065.00	9,016.10	9,016.10	86.73	134.88	90.00	-1,351.10	3,068.29	1,304.90	1,097.69	207.21	6.298		
13,000.00	9,065.00	9,016.10	9,016.10	88.64	134.88	90.00	-1,351.10	3,068.29	1,366.91	1,160.90	206.01	6.635		
13,100.00	9,065.00	9,016.10	9,016.10	90.55	134.88	90.00	-1,351.10	3,068.29	1,433.22	1,228.46	204.75	7.000		
13,200.00	9,065.00	9,016.10	9,016.10	92.47	134.88	90.00	-1,351.10	3,068.29	1,503.26	1,299.77	203.49	7.388		
13,300.00	9,065.00	9,016.10	9,016.10	94.39	134.88	90.00	-1,351.10	3,068.29	1,576.53	1,374.30	202.23	7.796		
13,400.00	9,065.00	9,016.10	9,016.10	96.32	134.88	90.00	-1,351.10	3,068.29	1,652.61	1,451.59	201.02	8.221		
13,500.00	9,065.00	9,016.10	9,016.10	98.25	134.88	90.00	-1,351.10	3,068.29	1,731.13	1,531.28	199.85	8.662		
13,600.00	9,065.00	9,016.10	9,016.10	100.19	134.88	90.00	-1,351.10	3,068.29	1,811.76	1,613.02	198.74	9.116		
13,700.00	9,065.00	9,016.10	9,016.10	102.13	134.88	90.00	-1,351.10	3,068.29	1,894.24	1,696.56	197.68	9.582		
13,800.00	9,065.00	9,016.10	9,016.10	104.08	134.88	90.00	-1,351.10	3,068.29	1,978.34	1,781.65	196.69	10.058		
13,900.00	9,065.00	9,016.10	9,016.10	106.03	134.88	90.00	-1,351.10	3,068.29	2,063.85	1,868.10	195.76	10.543		
14,000.00	9,065.00	9,016.10	9,016.10	107.98	134.88	90.00	-1,351.10	3,068.29	2,150.62	1,955.74	194.88	11.035		
14,100.00	9,065.00	9,016.10	9,016.10	109.94	134.88	90.00	-1,351.10	3,068.29	2,238.49	2,044.42	194.07	11.535		

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 10-INC-ONLY													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
14,200.00	9,065.00	9,016.10	9,016.10	111.90	134.88	90.00	-1,351.10	3,068.29	2,327.34	2,134.04	193.30	12.040		
14,300.00	9,065.00	9,016.10	9,016.10	113.86	134.88	90.00	-1,351.10	3,068.29	2,417.06	2,224.48	192.59	12.551		
14,400.00	9,065.00	9,016.10	9,016.10	115.82	134.88	90.00	-1,351.10	3,068.29	2,507.56	2,315.64	191.92	13.066		
14,500.00	9,065.00	9,016.10	9,016.10	117.79	134.88	90.00	-1,351.10	3,068.29	2,598.76	2,407.46	191.29	13.585		
14,600.00	9,065.00	9,016.10	9,016.10	119.76	134.88	90.00	-1,351.10	3,068.29	2,690.58	2,499.87	190.71	14.108		
14,700.00	9,065.00	9,016.10	9,016.10	121.74	134.88	90.00	-1,351.10	3,068.29	2,782.96	2,592.80	190.16	14.635		
14,800.00	9,065.00	9,016.10	9,016.10	123.71	134.88	90.00	-1,351.10	3,068.29	2,875.86	2,686.20	189.65	15.164		
14,900.00	9,065.00	9,016.10	9,016.10	125.69	134.88	90.00	-1,351.10	3,068.29	2,969.21	2,780.04	189.18	15.696		
15,000.00	9,065.00	9,016.10	9,016.10	127.67	134.88	90.00	-1,351.10	3,068.29	3,062.99	2,874.26	188.73	16.230		
15,100.00	9,065.00	9,016.10	9,016.10	129.65	134.88	90.00	-1,351.10	3,068.29	3,157.15	2,968.84	188.31	16.766		
15,200.00	9,065.00	9,016.10	9,016.10	131.63	134.88	90.00	-1,351.10	3,068.29	3,251.65	3,063.74	187.92	17.304		
15,300.00	9,065.00	9,016.10	9,016.10	133.62	134.88	90.00	-1,351.10	3,068.29	3,346.48	3,158.93	187.55	17.843		
15,400.00	9,065.00	9,016.10	9,016.10	135.61	134.88	90.00	-1,351.10	3,068.29	3,441.60	3,254.39	187.20	18.384		
15,500.00	9,065.00	9,016.10	9,016.10	137.60	134.88	90.00	-1,351.10	3,068.29	3,536.99	3,350.11	186.88	18.927		
15,600.00	9,065.00	9,016.10	9,016.10	139.59	134.88	90.00	-1,351.10	3,068.29	3,632.62	3,446.05	186.58	19.470		
15,700.00	9,065.00	9,016.10	9,016.10	141.58	134.88	90.00	-1,351.10	3,068.29	3,728.49	3,542.20	186.29	20.014		
15,800.00	9,065.00	9,016.10	9,016.10	143.57	134.88	90.00	-1,351.10	3,068.29	3,824.56	3,638.54	186.02	20.560		
15,900.00	9,065.00	9,016.10	9,016.10	145.57	134.88	90.00	-1,351.10	3,068.29	3,920.84	3,735.07	185.77	21.106		
16,000.00	9,065.00	9,016.10	9,016.10	147.56	134.88	90.00	-1,351.10	3,068.29	4,017.29	3,831.76	185.53	21.653		
16,100.00	9,065.00	9,016.10	9,016.10	149.56	134.88	90.00	-1,351.10	3,068.29	4,113.92	3,928.61	185.31	22.200		
16,200.00	9,065.00	9,016.10	9,016.10	151.56	134.88	90.00	-1,351.10	3,068.29	4,210.70	4,025.60	185.10	22.748		
16,300.00	9,065.00	9,016.10	9,016.10	153.56	134.88	90.00	-1,351.10	3,068.29	4,307.63	4,122.72	184.90	23.297		
16,400.00	9,065.00	9,016.10	9,016.10	155.56	134.88	90.00	-1,351.10	3,068.29	4,404.69	4,219.97	184.72	23.845		
16,500.00	9,065.00	9,016.10	9,016.10	157.57	134.88	90.00	-1,351.10	3,068.29	4,501.89	4,317.34	184.55	24.394		
16,600.00	9,065.00	9,016.10	9,016.10	159.57	134.88	90.00	-1,351.10	3,068.29	4,599.20	4,414.82	184.38	24.944		
16,700.00	9,065.00	9,016.10	9,016.10	161.57	134.88	90.00	-1,351.10	3,068.29	4,696.63	4,512.40	184.23	25.493		
16,800.00	9,065.00	9,016.10	9,016.10	163.58	134.88	90.00	-1,351.10	3,068.29	4,794.17	4,610.08	184.09	26.043		
16,900.00	9,065.00	9,016.10	9,016.10	165.59	134.88	90.00	-1,351.10	3,068.29	4,891.80	4,707.85	183.95	26.593		
17,000.00	9,065.00	9,016.10	9,016.10	167.60	134.88	90.00	-1,351.10	3,068.29	4,989.53	4,805.70	183.82	27.143		
17,100.00	9,065.00	9,016.10	9,016.10	169.60	134.88	90.00	-1,351.10	3,068.29	5,087.34	4,903.63	183.71	27.693		
17,200.00	9,065.00	9,016.10	9,016.10	171.61	134.88	90.00	-1,351.10	3,068.29	5,185.24	5,001.64	183.60	28.243		
17,300.00	9,065.00	9,016.10	9,016.10	173.62	134.88	90.00	-1,351.10	3,068.29	5,283.22	5,099.73	183.49	28.793		
17,400.00	9,065.00	9,016.10	9,016.10	175.63	134.88	90.00	-1,351.10	3,068.29	5,381.27	5,197.87	183.40	29.342		
17,500.00	9,065.00	9,016.10	9,016.10	177.65	134.88	90.00	-1,351.10	3,068.29	5,479.39	5,296.09	183.31	29.892		
17,600.00	9,065.00	9,016.10	9,016.10	179.66	134.88	90.00	-1,351.10	3,068.29	5,577.58	5,394.36	183.22	30.442		
17,700.00	9,065.00	9,016.10	9,016.10	181.67	134.88	90.00	-1,351.10	3,068.29	5,675.83	5,492.69	183.14	30.991		
17,800.00	9,065.00	9,016.10	9,016.10	183.69	134.88	90.00	-1,351.10	3,068.29	5,774.15	5,591.07	183.07	31.541		
17,900.00	9,065.00	9,016.10	9,016.10	185.70	134.88	90.00	-1,351.10	3,068.29	5,872.51	5,689.51	183.00	32.090		
18,000.00	9,065.00	9,016.10	9,016.10	187.72	134.88	90.00	-1,351.10	3,068.29	5,970.94	5,788.00	182.94	32.638		
18,100.00	9,065.00	9,016.10	9,016.10	189.73	134.88	90.00	-1,351.10	3,068.29	6,069.41	5,886.53	182.89	33.187		
18,200.00	9,065.00	9,016.10	9,016.10	191.75	134.88	90.00	-1,351.10	3,068.29	6,167.94	5,985.10	182.83	33.735		
18,300.00	9,065.00	9,016.10	9,016.10	193.77	134.88	90.00	-1,351.10	3,068.29	6,266.51	6,083.72	182.79	34.283		
18,400.00	9,065.00	9,016.10	9,016.10	195.78	134.88	90.00	-1,351.10	3,068.29	6,365.12	6,182.38	182.74	34.831		
18,500.00	9,065.00	9,016.10	9,016.10	197.80	134.88	90.00	-1,351.10	3,068.29	6,463.78	6,281.08	182.70	35.378		
18,600.00	9,065.00	9,016.10	9,016.10	199.82	134.88	90.00	-1,351.10	3,068.29	6,562.48	6,379.81	182.67	35.926		
18,700.00	9,065.00	9,016.10	9,016.10	201.84	134.88	90.00	-1,351.10	3,068.29	6,661.22	6,478.58	182.64	36.472		
18,800.00	9,065.00	9,016.10	9,016.10	203.86	134.88	90.00	-1,351.10	3,068.29	6,759.99	6,577.38	182.61	37.019		
18,900.00	9,065.00	9,016.10	9,016.10	205.88	134.88	90.00	-1,351.10	3,068.29	6,858.80	6,676.21	182.59	37.565		
19,000.00	9,065.00	9,016.10	9,016.10	207.90	134.88	90.00	-1,351.10	3,068.29	6,957.65	6,775.08	182.57	38.110		
19,100.00	9,065.00	9,016.10	9,016.10	209.92	134.88	90.00	-1,351.10	3,068.29	7,056.52	6,873.97	182.55	38.655		
19,200.00	9,065.00	9,016.10	9,016.10	211.95	134.88	90.00	-1,351.10	3,068.29	7,155.43	6,972.89	182.54	39.200		
19,300.00	9,065.00	9,016.10	9,016.10	213.97	134.88	90.00	-1,351.10	3,068.29	7,254.37	7,071.84	182.53	39.744		

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design	Sec 14-T21S-R27E - Lonetree 14 State Com #001 - Wellbore #1 - Wellbore #1											Offset Site Error:	0.00 ft
Survey Program:	10-INC-ONLY											Offset Well Error:	0.50 ft
Reference	Offset		Semi Major Axis		Distance								
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor	Warning
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)		
19,400.00	9,065.00	9,016.10	9,016.10	215.99	134.88	90.00	-1,351.10	3,068.29	7,353.33	7,170.82	182.52	40.288	
19,456.84	9,065.00	9,016.10	9,016.10	217.14	134.88	90.00	-1,351.10	3,068.29	7,409.60	7,227.09	182.52	40.597	

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design Sec 14-T21S-R27E - Magnolia State 2 (P&A) - Wellbore #1 - Wellbore #1													Offset Site Error:	0.00 ft
Survey Program: 5-INC-ONLY													Offset Well Error:	150.00 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0.00	0.00	0.00	0.00	0.50	150.00	30.68	2,294.61	1,361.46	2,668.20					
100.00	100.00	78.10	78.10	0.52	150.00	30.68	2,294.61	1,361.46	2,668.11	2,517.59	150.52	17.726		
200.00	200.00	178.10	178.10	0.70	150.02	30.68	2,294.61	1,361.46	2,668.11	2,517.38	150.72	17.702		
300.00	300.00	278.10	278.10	0.99	150.05	30.68	2,294.61	1,361.46	2,668.11	2,517.07	151.04	17.665		
400.00	400.00	378.10	378.10	1.31	150.10	30.68	2,294.61	1,361.46	2,668.11	2,516.70	151.41	17.622		
500.00	500.00	478.10	478.10	1.65	150.16	30.68	2,294.61	1,361.46	2,668.11	2,516.30	151.81	17.575		
600.00	600.00	578.10	578.10	1.99	150.24	30.68	2,294.61	1,361.46	2,668.11	2,515.88	152.23	17.527 CC, ES		
700.00	700.00	563.00	562.89	2.34	150.23	30.68	2,294.61	1,361.46	2,670.59	2,518.17	152.43	17.521 SF		
800.00	800.00	563.00	562.89	2.69	150.23	30.68	2,294.61	1,361.46	2,676.77	2,524.34	152.43	17.561		
900.00	900.00	563.00	562.89	3.04	150.23	30.68	2,294.61	1,361.46	2,686.66	2,534.44	152.23	17.649		
1,000.00	1,000.00	563.00	562.89	3.40	150.23	30.68	2,294.61	1,361.46	2,700.22	2,548.40	151.82	17.786		
1,100.00	1,100.00	563.00	562.89	3.75	150.23	30.68	2,294.61	1,361.46	2,717.40	2,566.18	151.22	17.970		
1,200.00	1,200.00	563.00	562.89	4.11	150.23	30.68	2,294.61	1,361.46	2,738.12	2,587.68	150.43	18.201		
1,300.00	1,300.00	563.00	562.89	4.46	150.23	30.68	2,294.61	1,361.46	2,762.30	2,612.83	149.48	18.480		
1,400.00	1,400.00	563.00	562.89	4.82	150.23	30.68	2,294.61	1,361.46	2,789.87	2,641.51	148.35	18.805		
1,500.00	1,500.00	563.00	562.89	5.18	150.23	30.68	2,294.61	1,361.46	2,820.71	2,673.62	147.09	19.177		
1,600.00	1,600.00	563.00	562.89	5.53	150.23	30.68	2,294.61	1,361.46	2,854.72	2,709.04	145.69	19.595		
1,700.00	1,700.00	563.00	562.89	5.89	150.23	30.68	2,294.61	1,361.46	2,891.80	2,747.63	144.17	20.058		
1,800.00	1,800.00	563.00	562.89	6.25	150.23	30.68	2,294.61	1,361.46	2,931.81	2,789.27	142.55	20.567		
1,900.00	1,900.00	563.00	562.89	6.61	150.23	30.68	2,294.61	1,361.46	2,974.66	2,833.82	140.84	21.121		
2,000.00	2,000.00	563.00	562.89	6.96	150.23	30.68	2,294.61	1,361.46	3,020.20	2,881.14	139.06	21.719		
2,100.00	2,100.00	563.00	562.89	7.32	150.23	30.68	2,294.61	1,361.46	3,068.33	2,931.12	137.22	22.361		
2,200.00	2,200.00	563.00	562.89	7.68	150.23	30.68	2,294.61	1,361.46	3,118.93	2,983.60	135.33	23.047		
2,300.00	2,300.00	563.00	562.89	8.04	150.23	30.68	2,294.61	1,361.46	3,171.87	3,038.47	133.40	23.777		
2,400.00	2,400.00	563.00	562.89	8.39	150.23	30.68	2,294.61	1,361.46	3,227.04	3,095.59	131.45	24.549		
2,500.00	2,500.00	563.00	562.89	8.75	150.23	30.68	2,294.61	1,361.46	3,284.33	3,154.84	129.49	25.364		
2,600.00	2,599.99	563.00	562.89	9.09	150.23	176.56	2,294.61	1,361.46	3,344.32	3,216.80	127.52	26.225		
2,700.00	2,699.96	563.00	562.89	9.42	150.23	176.51	2,294.61	1,361.46	3,407.54	3,281.96	125.58	27.135		
2,800.00	2,799.86	563.00	562.89	9.75	150.23	176.46	2,294.61	1,361.46	3,473.79	3,350.11	123.68	28.087		
2,900.00	2,899.68	563.00	562.89	10.08	150.23	176.40	2,294.61	1,361.46	3,542.89	3,421.05	121.84	29.079		
2,945.33	2,944.88	563.00	562.89	10.23	150.23	176.37	2,294.61	1,361.46	3,575.09	3,454.07	121.02	29.540		
3,000.00	2,999.39	563.00	562.89	10.41	150.23	176.37	2,294.61	1,361.46	3,614.46	3,494.41	120.05	30.108		
3,100.00	3,099.08	563.00	562.89	10.75	150.23	176.37	2,294.61	1,361.46	3,687.47	3,569.18	118.29	31.173		
3,200.00	3,198.78	563.00	562.89	11.08	150.23	176.37	2,294.61	1,361.46	3,761.73	3,645.16	116.57	32.270		
3,300.00	3,298.48	563.00	562.89	11.42	150.23	176.37	2,294.61	1,361.46	3,837.16	3,722.27	114.88	33.400		
3,400.00	3,398.18	563.00	562.89	11.76	150.23	176.37	2,294.61	1,361.46	3,913.69	3,800.45	113.24	34.562		
3,500.00	3,497.88	563.00	562.89	12.10	150.23	176.37	2,294.61	1,361.46	3,991.25	3,879.62	111.63	35.754		
3,600.00	3,597.58	563.00	562.89	12.45	150.23	176.37	2,294.61	1,361.46	4,069.80	3,959.74	110.06	36.977		
3,700.00	3,697.27	563.00	562.89	12.79	150.23	176.37	2,294.61	1,361.46	4,149.27	4,040.73	108.54	38.230		
3,800.00	3,796.97	563.00	562.89	13.14	150.23	176.37	2,294.61	1,361.46	4,229.61	4,122.56	107.05	39.511		
3,900.00	3,896.67	563.00	562.89	13.48	150.23	176.37	2,294.61	1,361.46	4,310.77	4,205.16	105.61	40.820		
4,000.00	3,996.37	563.00	562.89	13.83	150.23	176.37	2,294.61	1,361.46	4,392.71	4,288.51	104.20	42.156		
4,100.00	4,096.07	563.00	562.89	14.18	150.23	176.37	2,294.61	1,361.46	4,475.38	4,372.54	102.84	43.519		
4,200.00	4,195.76	563.00	562.89	14.53	150.23	176.37	2,294.61	1,361.46	4,558.75	4,457.24	101.51	44.908		
4,300.00	4,295.46	563.00	562.89	14.88	150.23	176.37	2,294.61	1,361.46	4,642.77	4,542.55	100.23	46.322		
4,400.00	4,395.16	563.00	562.89	15.23	150.23	176.37	2,294.61	1,361.46	4,727.42	4,628.44	98.98	47.760		
4,500.00	4,494.86	563.00	562.89	15.58	150.23	176.37	2,294.61	1,361.46	4,812.66	4,714.88	97.78	49.222		
4,600.00	4,594.56	563.00	562.89	15.93	150.23	176.37	2,294.61	1,361.46	4,898.45	4,801.85	96.60	50.706		
4,700.00	4,694.25	563.00	562.89	16.29	150.23	176.37	2,294.61	1,361.46	4,984.77	4,889.30	95.47	52.213		
4,800.00	4,793.95	563.00	562.89	16.64	150.23	176.37	2,294.61	1,361.46	5,071.60	4,977.23	94.37	53.741		
4,900.00	4,893.65	563.00	562.89	17.00	150.23	176.37	2,294.61	1,361.46	5,158.90	5,065.60	93.31	55.289		
5,000.00	4,993.35	563.00	562.89	17.35	150.23	176.37	2,294.61	1,361.46	5,246.66	5,154.38	92.28	56.857		

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design		Sec 14-T21S-R27E - Magnolia State 2 (P&A) - Wellbore #1 - Wellbore #1											Offset Site Error:		0.00 ft
Survey Program:		5-INC-ONLY											Offset Well Error:		150.00 ft
Reference		Offset		Semi Major Axis			Distance					Separation Factor	Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)				
5,100.00	5,093.05	563.00	562.89	17.71	150.23	176.37	2,294.61	1,361.46	5,334.85	5,243.57	91.28	58.444			
5,200.00	5,192.75	563.00	562.89	18.06	150.23	176.37	2,294.61	1,361.46	5,423.45	5,333.13	90.32	60.049			
5,300.00	5,292.44	563.00	562.89	18.42	150.23	176.37	2,294.61	1,361.46	5,512.43	5,423.05	89.38	61.671			
5,400.00	5,392.14	563.00	562.89	18.77	150.23	176.37	2,294.61	1,361.46	5,601.79	5,513.31	88.48	63.309			
5,500.00	5,491.84	563.00	562.89	19.13	150.23	176.37	2,294.61	1,361.46	5,691.51	5,603.90	87.61	64.964			
5,600.00	5,591.54	563.00	562.89	19.49	150.23	176.37	2,294.61	1,361.46	5,781.56	5,694.79	86.77	66.633			
5,700.00	5,691.24	563.00	562.89	19.85	150.23	176.37	2,294.61	1,361.46	5,871.93	5,785.98	85.95	68.316			
5,800.00	5,790.93	563.00	562.89	20.20	150.23	176.37	2,294.61	1,361.46	5,962.61	5,877.44	85.17	70.012			
5,900.00	5,890.63	563.00	562.89	20.56	150.23	176.37	2,294.61	1,361.46	6,053.58	5,969.18	84.40	71.721			
6,000.00	5,990.33	563.00	562.89	20.92	150.23	176.37	2,294.61	1,361.46	6,144.84	6,061.17	83.67	73.441			
6,100.00	6,090.03	563.00	562.89	21.28	150.23	176.37	2,294.61	1,361.46	6,236.36	6,153.40	82.96	75.172			
6,200.00	6,189.73	563.00	562.89	21.64	150.23	176.37	2,294.61	1,361.46	6,328.14	6,245.86	82.28	76.912			
6,300.00	6,289.42	563.00	562.89	22.00	150.23	176.37	2,294.61	1,361.46	6,420.16	6,338.55	81.62	78.662			
6,400.00	6,389.12	563.00	562.89	22.36	150.23	176.37	2,294.61	1,361.46	6,512.42	6,431.44	80.98	80.420			
6,500.00	6,488.82	563.00	562.89	22.72	150.23	176.37	2,294.61	1,361.46	6,604.91	6,524.54	80.37	82.186			
6,600.00	6,588.52	563.00	562.89	23.08	150.23	176.37	2,294.61	1,361.46	6,697.61	6,617.84	79.77	83.958			
6,700.00	6,688.22	563.00	562.89	23.44	150.23	176.37	2,294.61	1,361.46	6,790.52	6,711.31	79.20	85.735			
6,800.00	6,787.91	563.00	562.89	23.80	150.23	176.37	2,294.61	1,361.46	6,883.62	6,804.97	78.65	87.518			
6,900.00	6,887.61	563.00	562.89	24.16	150.23	176.37	2,294.61	1,361.46	6,976.92	6,898.80	78.13	89.305			
7,000.00	6,987.31	563.00	562.89	24.52	150.23	176.37	2,294.61	1,361.46	7,070.40	6,992.79	77.62	91.095			
7,100.00	7,087.01	563.00	562.89	24.88	150.23	176.37	2,294.61	1,361.46	7,164.06	7,086.93	77.13	92.887			
7,200.00	7,186.71	563.00	562.89	25.24	150.23	176.37	2,294.61	1,361.46	7,257.89	7,181.23	76.66	94.681			
7,300.00	7,286.41	563.00	562.89	25.60	150.23	176.37	2,294.61	1,361.46	7,351.88	7,275.67	76.20	96.476			
7,400.00	7,386.10	563.00	562.89	25.96	150.23	176.37	2,294.61	1,361.46	7,446.02	7,370.25	75.77	98.271			
7,500.00	7,485.80	563.00	562.89	26.33	150.23	176.37	2,294.61	1,361.46	7,540.32	7,464.96	75.35	100.066			
7,600.00	7,585.50	563.00	562.89	26.69	150.23	176.37	2,294.61	1,361.46	7,634.76	7,559.80	74.95	101.859			
7,700.00	7,685.20	563.00	562.89	27.05	150.23	176.37	2,294.61	1,361.46	7,729.34	7,654.77	74.57	103.650			
7,800.00	7,784.90	563.00	562.89	27.41	150.23	176.37	2,294.61	1,361.46	7,824.06	7,749.85	74.21	105.438			
7,860.70	7,845.41	563.00	562.89	27.63	150.23	176.37	2,294.61	1,361.46	7,881.61	7,807.62	73.99	106.521			
7,900.00	7,884.61	563.00	562.89	27.77	150.23	176.48	2,294.61	1,361.46	7,918.84	7,844.99	73.85	107.227			
8,000.00	7,984.46	563.00	562.89	28.13	150.23	176.73	2,294.61	1,361.46	8,013.06	7,939.58	73.48	109.056			
8,100.00	8,084.42	563.00	562.89	28.49	150.23	176.94	2,294.61	1,361.46	8,106.52	8,033.45	73.07	110.936			
8,157.59	8,142.00	563.00	562.89	28.69	150.23	31.13	2,294.61	1,361.46	8,159.99	8,087.16	72.83	112.044			
8,200.00	8,184.41	563.00	562.89	28.83	150.23	31.13	2,294.61	1,361.46	8,199.28	8,126.64	72.65	112.865			
8,300.00	8,284.41	563.00	562.89	29.17	150.23	31.13	2,294.61	1,361.46	8,292.05	8,219.82	72.23	114.797			
8,400.00	8,384.41	563.00	562.89	29.51	150.23	31.13	2,294.61	1,361.46	8,384.99	8,313.16	71.83	116.727			
8,507.63	8,492.04	563.00	562.89	29.87	150.23	31.13	2,294.61	1,361.46	8,485.20	8,413.77	71.42	118.801			
8,550.00	8,534.37	563.00	562.89	30.02	150.23	-49.92	2,294.61	1,361.46	8,524.36	8,453.11	71.25	119.638			
8,600.00	8,584.01	563.00	562.89	30.18	150.23	-42.30	2,294.61	1,361.46	8,569.57	8,498.55	71.02	120.672			
8,650.00	8,632.95	563.00	562.89	30.34	150.23	-36.53	2,294.61	1,361.46	8,613.37	8,542.62	70.75	121.747			
8,700.00	8,680.82	563.00	562.89	30.50	150.23	-32.13	2,294.61	1,361.46	8,655.46	8,585.01	70.45	122.857			
8,750.00	8,727.25	563.00	562.89	30.66	150.23	-28.73	2,294.61	1,361.46	8,695.54	8,625.41	70.13	123.993			
8,800.00	8,771.89	563.00	562.89	30.81	150.23	-26.07	2,294.61	1,361.46	8,733.35	8,663.56	69.78	125.149			
8,850.00	8,814.40	563.00	562.89	30.95	150.23	-23.96	2,294.61	1,361.46	8,768.61	8,699.19	69.42	126.313			
8,900.00	8,854.46	563.00	562.89	31.09	150.23	-22.28	2,294.61	1,361.46	8,801.10	8,732.06	69.04	127.476			
8,950.00	8,891.75	563.00	562.89	31.23	150.23	-20.94	2,294.61	1,361.46	8,830.60	8,761.95	68.65	128.627			
9,000.00	8,926.01	563.00	562.89	31.37	150.23	-19.86	2,294.61	1,361.46	8,856.92	8,788.66	68.26	129.751			
9,050.00	8,956.96	563.00	562.89	31.53	150.23	-19.00	2,294.61	1,361.46	8,879.88	8,812.01	67.87	130.835			
9,100.00	8,984.38	563.00	562.89	31.69	150.23	-18.32	2,294.61	1,361.46	8,899.34	8,831.86	67.49	131.865			
9,150.00	9,008.05	563.00	562.89	31.87	150.23	-17.80	2,294.61	1,361.46	8,915.18	8,848.06	67.12	132.827			
9,200.00	9,027.79	563.00	562.89	32.07	150.23	-17.42	2,294.61	1,361.46	8,927.28	8,860.52	66.77	133.705			
9,250.00	9,043.45	563.00	562.89	32.29	150.23	-17.17	2,294.61	1,361.46	8,935.59	8,869.14	66.44	134.485			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 5-INC-ONLY													Offset Well Error:	150.00 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
9,300.00	9,054.92	563.00	562.89	32.53	150.23	-17.04	2,294.61	1,361.46	8,940.03	8,873.88	66.15	135.155		
9,350.00	9,062.10	563.00	562.89	32.79	150.23	-17.03	2,294.61	1,361.46	8,940.59	8,874.70	65.88	135.704		
9,400.00	9,064.95	563.00	562.89	33.06	150.23	-17.12	2,294.61	1,361.46	8,937.26	8,871.60	65.66	136.124		
9,407.63	9,065.00	563.00	562.89	33.10	150.23	-17.15	2,294.61	1,361.46	8,936.41	8,870.78	65.63	136.173		
9,500.00	9,065.00	563.00	562.89	33.68	150.23	-17.15	2,294.61	1,361.46	8,926.05	8,860.76	65.29	136.714		
9,600.00	9,065.00	563.00	562.89	34.41	150.23	-17.15	2,294.61	1,361.46	8,915.91	8,850.88	65.02	137.115		
9,700.00	9,065.00	563.00	562.89	35.24	150.23	-17.15	2,294.61	1,361.46	8,906.87	8,842.01	64.86	137.319		
9,800.00	9,065.00	563.00	562.89	36.17	150.23	-17.15	2,294.61	1,361.46	8,898.95	8,834.15	64.80	137.324		
9,900.00	9,065.00	563.00	562.89	37.19	150.23	-17.15	2,294.61	1,361.46	8,892.15	8,827.31	64.84	137.130		
10,000.00	9,065.00	563.00	562.89	38.30	150.23	-17.15	2,294.61	1,361.46	8,886.47	8,821.49	64.99	136.743		
10,100.00	9,065.00	563.00	562.89	39.48	150.23	-17.15	2,294.61	1,361.46	8,881.91	8,816.69	65.23	136.167		
10,200.00	9,065.00	563.00	562.89	40.72	150.23	-17.15	2,294.61	1,361.46	8,878.48	8,812.91	65.57	135.412		
10,300.00	9,065.00	563.00	562.89	42.03	150.23	-17.15	2,294.61	1,361.46	8,876.17	8,810.17	66.00	134.488		
10,400.00	9,065.00	563.00	562.89	43.40	150.23	-17.15	2,294.61	1,361.46	8,874.99	8,808.46	66.53	133.407		
10,455.03	9,065.00	563.00	562.89	44.18	150.23	-17.15	2,294.61	1,361.46	8,874.81	8,807.96	66.86	132.744		
10,500.00	9,065.00	563.00	562.89	44.82	150.23	-17.15	2,294.61	1,361.46	8,874.93	8,807.79	67.14	132.183		
10,600.00	9,065.00	563.00	562.89	46.29	150.23	-17.15	2,294.61	1,361.46	8,876.00	8,808.16	67.84	130.830		
10,700.00	9,065.00	563.00	562.89	47.79	150.23	-17.15	2,294.61	1,361.46	8,878.20	8,809.57	68.63	129.363		
10,800.00	9,065.00	563.00	562.89	49.34	150.23	-17.15	2,294.61	1,361.46	8,881.52	8,812.02	69.50	127.797		
10,900.00	9,065.00	563.00	562.89	50.92	150.23	-17.15	2,294.61	1,361.46	8,885.96	8,815.52	70.44	126.147		
11,000.00	9,065.00	563.00	562.89	52.54	150.23	-17.15	2,294.61	1,361.46	8,891.53	8,820.07	71.46	124.428		
11,100.00	9,065.00	563.00	562.89	54.18	150.23	-17.15	2,294.61	1,361.46	8,898.22	8,825.67	72.55	122.654		
11,200.00	9,065.00	563.00	562.89	55.85	150.23	-17.15	2,294.61	1,361.46	8,906.03	8,832.32	73.70	120.838		
11,300.00	9,065.00	563.00	562.89	57.54	150.23	-17.15	2,294.61	1,361.46	8,914.95	8,840.03	74.92	118.993		
11,400.00	9,065.00	563.00	562.89	59.26	150.23	-17.15	2,294.61	1,361.46	8,924.98	8,848.79	76.20	117.131		
11,500.00	9,065.00	563.00	562.89	61.00	150.23	-17.15	2,294.61	1,361.46	8,936.12	8,858.59	77.53	115.262		
11,600.00	9,065.00	563.00	562.89	62.75	150.23	-17.15	2,294.61	1,361.46	8,948.37	8,869.46	78.91	113.396		
11,700.00	9,065.00	563.00	562.89	64.52	150.23	-17.15	2,294.61	1,361.46	8,961.71	8,881.37	80.34	111.542		
11,800.00	9,065.00	563.00	562.89	66.31	150.23	-17.15	2,294.61	1,361.46	8,976.15	8,894.33	81.82	109.708		
11,900.00	9,065.00	563.00	562.89	68.11	150.23	-17.15	2,294.61	1,361.46	8,991.68	8,908.34	83.33	107.899		
12,000.00	9,065.00	563.00	562.89	69.93	150.23	-17.15	2,294.61	1,361.46	9,008.29	8,923.40	84.89	106.121		
12,100.00	9,065.00	563.00	562.89	71.76	150.23	-17.15	2,294.61	1,361.46	9,025.98	8,939.50	86.47	104.379		
12,200.00	9,065.00	563.00	562.89	73.60	150.23	-17.15	2,294.61	1,361.46	9,044.74	8,956.65	88.09	102.677		
12,300.00	9,065.00	563.00	562.89	75.45	150.23	-17.15	2,294.61	1,361.46	9,064.56	8,974.83	89.73	101.018		
12,400.00	9,065.00	563.00	562.89	77.31	150.23	-17.15	2,294.61	1,361.46	9,085.44	8,994.04	91.40	99.404		
12,500.00	9,065.00	563.00	562.89	79.18	150.23	-17.15	2,294.61	1,361.46	9,107.37	9,014.29	93.09	97.838		
12,600.00	9,065.00	563.00	562.89	81.05	150.23	-17.15	2,294.61	1,361.46	9,130.35	9,035.55	94.79	96.319		
12,700.00	9,065.00	563.00	562.89	82.94	150.23	-17.15	2,294.61	1,361.46	9,154.36	9,057.84	96.51	94.851		
12,800.00	9,065.00	563.00	562.89	84.83	150.23	-17.15	2,294.61	1,361.46	9,179.39	9,081.14	98.25	93.432		
12,900.00	9,065.00	563.00	562.89	86.73	150.23	-17.15	2,294.61	1,361.46	9,205.45	9,105.45	99.99	92.063		
13,000.00	9,065.00	563.00	562.89	88.64	150.23	-17.15	2,294.61	1,361.46	9,232.51	9,130.77	101.74	90.743		
13,100.00	9,065.00	563.00	562.89	90.55	150.23	-17.15	2,294.61	1,361.46	9,260.57	9,157.07	103.50	89.473		
13,200.00	9,065.00	563.00	562.89	92.47	150.23	-17.15	2,294.61	1,361.46	9,289.63	9,184.37	105.26	88.251		
13,300.00	9,065.00	563.00	562.89	94.39	150.23	-17.15	2,294.61	1,361.46	9,319.67	9,212.64	107.03	87.077		
13,400.00	9,065.00	563.00	562.89	96.32	150.23	-17.15	2,294.61	1,361.46	9,350.68	9,241.89	108.79	85.951		
13,500.00	9,065.00	563.00	562.89	98.25	150.23	-17.15	2,294.61	1,361.46	9,382.65	9,272.10	110.55	84.870		
13,600.00	9,065.00	563.00	562.89	100.19	150.23	-17.15	2,294.61	1,361.46	9,415.58	9,303.27	112.31	83.833		
13,700.00	9,065.00	563.00	562.89	102.13	150.23	-17.15	2,294.61	1,361.46	9,449.45	9,335.39	114.07	82.840		
13,800.00	9,065.00	563.00	562.89	104.08	150.23	-17.15	2,294.61	1,361.46	9,484.26	9,368.44	115.82	81.890		
13,900.00	9,065.00	563.00	562.89	106.03	150.23	-17.15	2,294.61	1,361.46	9,519.99	9,402.43	117.56	80.980		
14,000.00	9,065.00	563.00	562.89	107.98	150.23	-17.15	2,294.61	1,361.46	9,556.63	9,437.34	119.29	80.111		
14,100.00	9,065.00	563.00	562.89	109.94	150.23	-17.15	2,294.61	1,361.46	9,594.17	9,473.16	121.02	79.280		

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

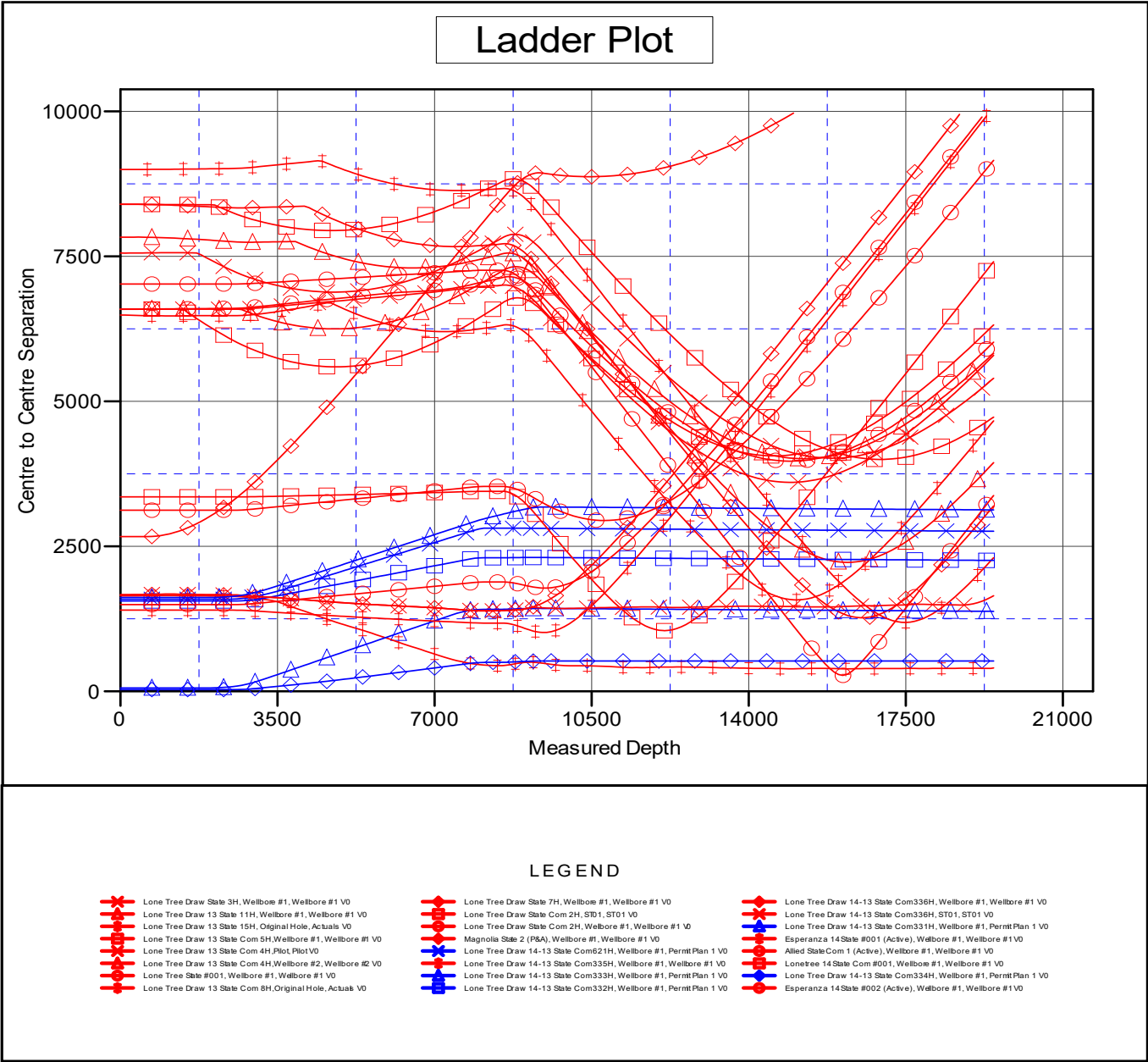
Offset Design													Sec 14-T21S-R27E - Magnolia State 2 (P&A) - Wellbore #1 - Wellbore #1		Offset Site Error:		0.00 ft	
Survey Program:													5-INC-ONLY		Offset Well Error:		150.00 ft	
Reference		Offset		Semi Major Axis			Distance							Warning				
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor						
14,200.00	9,065.00	563.00	562.89	111.90	150.23	-17.15	2,294.61	1,361.46	9,632.61	9,509.88	122.73	78.486						
14,300.00	9,065.00	563.00	562.89	113.86	150.23	-17.15	2,294.61	1,361.46	9,671.93	9,547.49	124.43	77.728						
14,400.00	9,065.00	563.00	562.89	115.82	150.23	-17.15	2,294.61	1,361.46	9,712.11	9,585.99	126.12	77.006						
14,500.00	9,065.00	563.00	562.89	117.79	150.23	-17.15	2,294.61	1,361.46	9,753.16	9,625.36	127.80	76.316						
14,600.00	9,065.00	563.00	562.89	119.76	150.23	-17.15	2,294.61	1,361.46	9,795.06	9,665.59	129.46	75.660						
14,700.00	9,065.00	563.00	562.89	121.74	150.23	-17.15	2,294.61	1,361.46	9,837.79	9,706.68	131.11	75.034						
14,800.00	9,065.00	563.00	562.89	123.71	150.23	-17.15	2,294.61	1,361.46	9,881.35	9,748.61	132.74	74.439						
14,900.00	9,065.00	563.00	562.89	125.69	150.23	-17.15	2,294.61	1,361.46	9,925.73	9,791.37	134.36	73.872						
15,000.00	9,065.00	563.00	562.89	127.67	150.23	-17.15	2,294.61	1,361.46	9,970.91	9,834.95	135.97	73.334						

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Reference Depths are relative to RKB @ 3268.90ft
Offset Depths are relative to Offset Datum
Central Meridian is -104.333334

Coordinates are relative to: Lone Tree Draw 14-13 State Com 623H
Coordinate System is US State Plane 1983, New Mexico Eastern Zone
Grid Convergence at Surface is: 0.09°



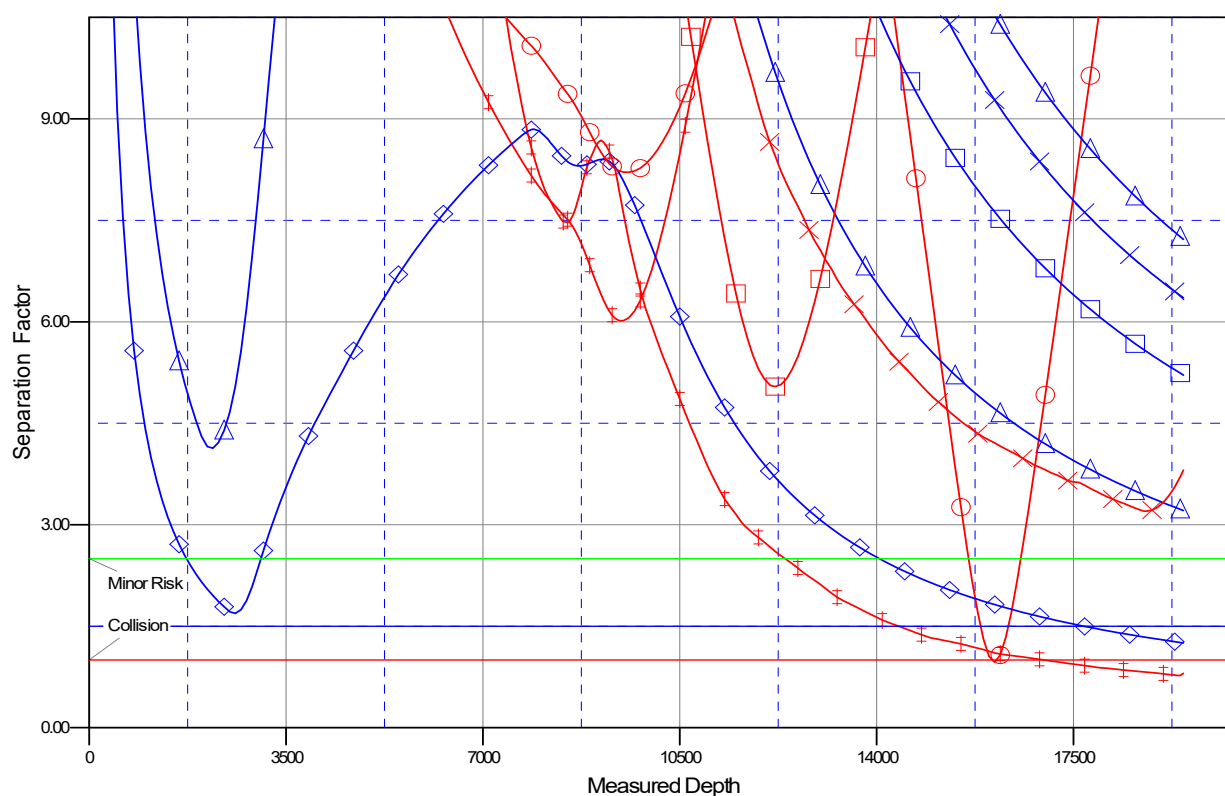
Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Reference Depths are relative to RKB @ 3268.90ft
Offset Depths are relative to Offset Datum
Central Meridian is -104.333334

Coordinates are relative to: Lone Tree Draw 14-13 State Com 623H
Coordinate System is US State Plane 1983, New Mexico Eastern Zone
Grid Convergence at Surface is: 0.09°

Separation Factor Plot



LEGEND

- Lone Tree Draw State 3H, Wellbore #1, Wellbore #1 V0 - Lone Tree Draw 13 State 11H, Wellbore #1, Wellbore #1 V0 - Lone Tree Draw 13 State 15H, Original Hole, Actuals V0 - Lone Tree Draw 13 State Com 5H, Wellbore #1, Wellbore #1 V0 - Lone Tree Draw 13 State Com 4H, Pilot Plot V0 - Lone Tree Draw 13 State Com 4H, Wellbore #2, Wellbore #2 V0 - Lone Tree State #001, Wellbore #1, Wellbore #1 V0 - Lone Tree Draw 13 State Com 8H, Original Hole, Actuals V0	- Lone Tree Draw State 7H, Wellbore #1, Wellbore #1 V0 - Lone Tree Draw State Com 2H, ST01, ST01 V0 - Lone Tree Draw State Com 2H, Wellbore #1, Wellbore #1 V0 - Magnolia State 2 (P&A), Wellbore #1, Wellbore #1 V0 - Lone Tree Draw 14-13 State Com 621H, Wellbore #1, Permit Plan 1 V0 - Lone Tree Draw 14-13 State Com 335H, Wellbore #1, Wellbore #1 V0 - Lone Tree Draw 14-13 State Com 333H, Wellbore #1, Permit Plan 1 V0 - Lone Tree Draw 14-13 State Com 332H, Wellbore #1, Permit Plan 1 V0	- Lone Tree Draw 14-13 State Com 336H, Wellbore #1, Wellbore #1 V0 - Lone Tree Draw 14-13 State Com 336H, ST01, ST01 V0 - Lone Tree Draw 14-13 State Com 331H, Wellbore #1, Permit Plan 1 V0 - Esperanza 14 State #001 (Active), Wellbore #1, Wellbore #1 V0 - Allied State Com 1 (Active), Wellbore #1, Wellbore #1 V0 - Lone Tree 14 State Com #001, Wellbore #1, Wellbore #1 V0 - Lone Tree Draw 14-13 State Com 334H, Wellbore #1, Permit Plan 1 V0 - Esperanza 14 State #002 (Active), Wellbore #1, Wellbore #1 V0

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

WCDSC Permian NM

Eddy County (NAD 83 NM Eastern)

Sec 14-T21S-R27E

Lone Tree Draw 14-13 State Com 623H

Wellbore #1

Permit Plan 1

Anticollision Report

07 October, 2019

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Reference	Permit Plan 1
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria
Interpolation Method:	Stations
Depth Range:	Unlimited
Results Limited by:	Maximum center-center distance of 10,000.00 ft
Warning Levels Evaluated at:	2.00 Sigma
Error Model:	ISCWSA
Scan Method:	Closest Approach 3D
Error Surface:	Pedal Curve
Casing Method:	Not applied

Survey Tool Program	Date	10/4/2019
From (ft)	To (ft)	Survey (Wellbore)
0.00	19,456.84	Permit Plan 1 (Wellbore #1)
		Tool Name
		MWD+IFR1
		Description
		OWSG MWD + IFR1

Summary							
Site Name		Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design							
Sec 13-T21S-R27E							
Lone Tree Draw 13 State 11H - Wellbore #1 - Wellbore #		16,199.10	9,793.78	2,223.93	2,137.85	25.835	CC
Lone Tree Draw 13 State 11H - Wellbore #1 - Wellbore #		16,200.00	9,793.80	2,223.94	2,137.84	25.833	ES
Lone Tree Draw 13 State 11H - Wellbore #1 - Wellbore #		16,900.00	9,813.32	2,331.69	2,237.96	24.878	SF
Lone Tree Draw 13 State 15H - Original Hole - Actuals		15,067.09	10,513.23	1,577.38	1,498.34	19.959	CC, ES
Lone Tree Draw 13 State 15H - Original Hole - Actuals		15,600.00	10,525.69	1,664.92	1,577.81	19.113	SF
Lone Tree Draw 13 State Com 4H - Pilot - Pilot		14,920.92	7,876.00	3,603.45	3,456.25	24.479	CC
Lone Tree Draw 13 State Com 4H - Pilot - Pilot		15,000.00	7,876.00	3,604.32	3,455.64	24.242	ES
Lone Tree Draw 13 State Com 4H - Pilot - Pilot		15,800.00	7,876.00	3,709.13	3,548.78	23.132	SF
Lone Tree Draw 13 State Com 4H - Wellbore #2 - Wellbo		15,226.38	8,204.00	4,011.30	3,932.22	50.724	CC, ES
Lone Tree Draw 13 State Com 4H - Wellbore #2 - Wellbo		17,000.00	8,161.83	4,385.34	4,290.05	46.023	SF
Lone Tree Draw 13 State Com 5H - Wellbore #1 - Wellbo		16,934.09	8,407.96	3,999.45	3,906.24	42.906	CC
Lone Tree Draw 13 State Com 5H - Wellbore #1 - Wellbo		17,400.00	17,400.00	4,026.42	3,859.55	24.130	ES
Lone Tree Draw 13 State Com 5H - Wellbore #1 - Wellbo		17,600.00	17,600.00	4,054.44	3,883.03	23.654	SF
Lone Tree Draw 13 State Com 8H - Original Hole - Actua		17,483.22	11,016.90	1,188.71	1,091.89	12.278	CC
Lone Tree Draw 13 State Com 8H - Original Hole - Actua		17,500.00	11,016.78	1,188.83	1,091.83	12.256	ES
Lone Tree Draw 13 State Com 8H - Original Hole - Actua		17,900.00	11,014.10	1,259.65	1,153.99	11.921	SF
Lone Tree Draw State 3H - Wellbore #1 - Wellbore #1		15,853.32	8,192.80	4,019.73	3,935.84	47.913	CC
Lone Tree Draw State 3H - Wellbore #1 - Wellbore #1		15,900.00	8,192.02	4,020.00	3,935.72	47.699	ES
Lone Tree Draw State 3H - Wellbore #1 - Wellbore #1		17,400.00	8,157.44	4,306.94	4,209.39	44.150	SF
Lone Tree Draw State 7H - Wellbore #1 - Wellbore #1		16,522.49	11,222.42	1,269.40	1,176.76	13.703	CC, ES
Lone Tree Draw State 7H - Wellbore #1 - Wellbore #1		16,800.00	11,215.70	1,299.35	1,203.10	13.499	SF
Lone Tree Draw State Com 2H - ST01 - ST01		14,571.87	8,196.56	4,060.31	3,985.72	54.430	CC
Lone Tree Draw State Com 2H - ST01 - ST01		14,600.00	8,194.29	4,060.41	3,985.61	54.282	ES
Lone Tree Draw State Com 2H - ST01 - ST01		16,300.00	7,982.30	4,407.15	4,318.51	49.719	SF
Lone Tree Draw State Com 2H - Wellbore #1 - Wellbore		14,930.29	6,978.42	3,969.40	3,836.54	29.875	CC
Lone Tree Draw State Com 2H - Wellbore #1 - Wellbore		15,000.00	6,978.42	3,970.02	3,835.94	29.610	ES
Lone Tree Draw State Com 2H - Wellbore #1 - Wellbore		16,000.00	6,978.42	4,111.02	3,963.26	27.823	SF
Lone Tree State #001 - Wellbore #1 - Wellbore #1		16,091.41	8,984.10	275.81	-7.96	0.972	Collision, CC, ES, SF

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Summary

Site Name Offset Well - Wellbore - Design	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Between Ellipses (ft)	Separation Factor	Warning
Sec 14-T21S-R27E						
Allied State Com 1 (Active) - Wellbore #1 - Wellbore #1	10,787.48	9,046.10	2,945.49	2,713.25	12.683	CC
Allied State Com 1 (Active) - Wellbore #1 - Wellbore #1	10,800.00	9,046.10	2,945.52	2,713.08	12.672	ES
Allied State Com 1 (Active) - Wellbore #1 - Wellbore #1	11,300.00	9,046.10	2,989.75	2,749.72	12.456	SF
Esperanza 14 State #001 (Active) - Wellbore #1 - Wellbo	9,430.26	9,055.10	1,015.07	846.37	6.017	CC, ES
Esperanza 14 State #001 (Active) - Wellbore #1 - Wellbo	9,500.00	9,055.10	1,017.46	848.35	6.017	SF
Esperanza 14 State #002 (Active) - Wellbore #1 - Wellbo	2,500.00	2,487.10	1,495.02	1,435.17	24.976	CC
Esperanza 14 State #002 (Active) - Wellbore #1 - Wellbo	2,600.00	2,587.09	1,495.85	1,433.66	24.054	ES
Esperanza 14 State #002 (Active) - Wellbore #1 - Wellbo	9,600.00	9,052.10	1,786.93	1,569.30	8.211	SF
Lone Tree Draw 14-13 State Com 331H - Wellbore #1 - P	1,911.95	1,924.35	1,618.69	1,605.35	121.327	CC
Lone Tree Draw 14-13 State Com 331H - Wellbore #1 - P	2,000.00	2,009.71	1,618.70	1,604.74	115.941	ES
Lone Tree Draw 14-13 State Com 331H - Wellbore #1 - P	19,456.84	19,318.31	3,128.81	2,695.35	7.218	SF
Lone Tree Draw 14-13 State Com 332H - Wellbore #1 - P	2,500.00	2,511.10	1,558.68	1,541.13	88.845	CC, ES
Lone Tree Draw 14-13 State Com 332H - Wellbore #1 - P	19,456.84	19,277.58	2,257.83	1,824.73	5.213	SF
Lone Tree Draw 14-13 State Com 333H - Wellbore #1 - P	2,000.00	2,000.90	59.98	46.05	4.306	Alert, CC, ES
Lone Tree Draw 14-13 State Com 333H - Wellbore #1 - P	19,456.84	19,304.38	1,379.81	950.03	3.210	Alert, SF
Lone Tree Draw 14-13 State Com 334H - Wellbore #1 - P	2,500.00	2,500.60	30.01	12.50	1.714	Minor Risk, CC, ES
Lone Tree Draw 14-13 State Com 334H - Wellbore #1 - P	19,456.84	19,290.08	523.55	105.78	1.253	Major Risk, SF
Lone Tree Draw 14-13 State Com 335H - Wellbore #1 - W	16,164.46	15,949.53	387.67	33.26	1.094	Major Risk, CC
Lone Tree Draw 14-13 State Com 335H - Wellbore #1 - W	19,373.50	19,164.57	395.26	-118.28	0.770	Collision, ES, SF
Lone Tree Draw 14-13 State Com 336H - ST01 - ST01	8,090.06	8,072.85	1,388.02	1,332.13	24.837	CC
Lone Tree Draw 14-13 State Com 336H - ST01 - ST01	18,748.45	19,172.00	1,487.67	1,023.33	3.204	Alert, ES
Lone Tree Draw 14-13 State Com 336H - ST01 - ST01	18,800.00	19,172.00	1,488.56	1,023.51	3.201	Alert, SF
Lone Tree Draw 14-13 State Com 336H - Wellbore #1 - W	8,090.06	8,072.85	1,388.02	1,332.13	24.837	CC
Lone Tree Draw 14-13 State Com 336H - Wellbore #1 - W	8,157.59	8,146.05	1,388.37	1,332.00	24.629	ES
Lone Tree Draw 14-13 State Com 336H - Wellbore #1 - W	8,950.00	8,833.03	1,414.78	1,353.44	23.065	SF
Lone Tree Draw 14-13 State Com 621H - Wellbore #1 - P	2,302.97	2,314.67	1,588.67	1,572.53	98.456	CC
Lone Tree Draw 14-13 State Com 621H - Wellbore #1 - P	2,400.00	2,398.64	1,588.92	1,572.14	94.675	ES
Lone Tree Draw 14-13 State Com 621H - Wellbore #1 - P	19,456.84	19,502.36	2,760.08	2,325.68	6.354	SF
Lonetree 14 State Com #001 - Wellbore #1 - Wellbore #1	12,121.63	9,016.10	1,047.33	840.30	5.059	CC, ES
Lonetree 14 State Com #001 - Wellbore #1 - Wellbore #1	12,200.00	9,016.10	1,050.26	841.94	5.041	SF
Magnolia State 2 (P&A) - Wellbore #1 - Wellbore #1	600.00	578.10	2,668.11	2,515.88	17.527	CC, ES
Magnolia State 2 (P&A) - Wellbore #1 - Wellbore #1	700.00	563.00	2,670.59	2,518.17	17.521	SF

Offset Design Sec 13-T21S-R27E - Lone Tree Draw 13 State 11H - Wellbore #1 - Wellbore #1												Offset Site Error:	5.00 ft
Survey Program: 111-GYRO-NS-CT, 6243-MWD+HDMG												Offset Well Error:	0.50 ft
Reference Measured Depth (ft)	Vertical Depth (ft)	Offset Measured Depth (ft)	Vertical Depth (ft)	Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (ft)	Separation Factor	Warning
				Reference (ft)	Offset (ft)		+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)			
0.00	0.00	0.00	0.00	0.50	5.02	66.15	3,166.53	7,162.61	7,831.55				
100.00	100.00	28.67	28.67	0.52	5.03	66.15	3,166.53	7,162.64	7,831.38	7,825.84	5.54	1,412.879	
200.00	200.00	95.20	95.20	0.70	5.03	66.15	3,166.52	7,162.94	7,831.78	7,826.05	5.73	1,367.103	
300.00	300.00	222.11	222.11	0.99	5.05	66.15	3,166.50	7,163.53	7,832.20	7,826.16	6.04	1,296.446	
400.00	400.00	283.13	283.13	1.31	5.08	66.16	3,166.12	7,164.04	7,832.72	7,826.33	6.39	1,225.690	
500.00	500.00	596.71	596.61	1.65	5.36	66.20	3,159.29	7,164.09	7,831.28	7,824.27	7.01	1,117.904	
600.00	600.00	672.12	672.00	1.99	5.46	66.21	3,157.51	7,163.39	7,829.47	7,822.03	7.45	1,051.264	
700.00	700.00	794.71	794.55	2.34	5.64	66.23	3,154.63	7,162.24	7,827.66	7,819.68	7.98	981.145	
800.00	800.00	890.81	890.62	2.69	5.81	66.24	3,152.48	7,161.20	7,825.77	7,817.28	8.49	921.742	
900.00	900.00	996.24	996.02	3.04	6.00	66.25	3,150.32	7,159.93	7,823.85	7,814.81	9.04	865.842	
1,000.00	1,000.00	1,139.59	1,139.32	3.40	6.30	66.26	3,147.45	7,157.86	7,821.75	7,812.08	9.68	808.278	
1,100.00	1,100.00	1,307.90	1,307.55	3.75	6.67	66.28	3,143.46	7,154.10	7,818.72	7,808.32	10.40	751.752	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Sec 13-T21S-R27E - Lone Tree Draw 13 State 11H - Wellbore #1 - Wellbore #1													Offset Well Error:	0.50 ft
Survey Program: 111-GYRO-NS-CT, 6243-MWD+HDGM														
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
1,200.00	1,200.00	1,455.55	1,455.09	4.11	7.03	66.28	3,140.65	7,149.36	7,815.01	7,803.91	11.10	703.876		
1,300.00	1,300.00	1,562.11	1,561.56	4.46	7.31	66.29	3,138.10	7,145.78	7,810.97	7,799.25	11.72	666.310		
1,400.00	1,400.00	1,655.00	1,654.37	4.82	7.55	66.30	3,135.93	7,142.60	7,806.90	7,794.58	12.32	633.818		
1,500.00	1,500.00	1,735.10	1,734.41	5.18	7.77	66.30	3,134.22	7,139.99	7,803.05	7,790.17	12.88	605.596		
1,600.00	1,600.00	1,830.03	1,829.28	5.53	8.04	66.31	3,132.15	7,137.04	7,799.34	7,785.84	13.50	577.859		
1,700.00	1,700.00	1,994.47	1,993.58	5.89	8.51	66.32	3,128.08	7,132.04	7,795.75	7,781.44	14.31	544.915		
1,800.00	1,800.00	2,145.10	2,144.00	6.25	8.96	66.34	3,122.36	7,126.56	7,790.88	7,775.78	15.09	516.195		
1,900.00	1,900.00	2,254.35	2,253.08	6.61	9.30	66.36	3,118.03	7,122.18	7,785.60	7,769.83	15.77	493.702		
2,000.00	2,000.00	2,355.85	2,354.42	6.96	9.63	66.37	3,114.14	7,118.06	7,780.34	7,763.92	16.43	473.580		
2,100.00	2,100.00	2,474.46	2,472.84	7.32	10.01	66.39	3,109.76	7,113.00	7,774.96	7,757.82	17.14	453.574		
2,200.00	2,200.00	2,561.06	2,559.30	7.68	10.29	66.39	3,106.68	7,109.20	7,769.51	7,751.75	17.76	437.391		
2,300.00	2,300.00	2,637.45	2,635.58	8.04	10.54	66.41	3,103.62	7,106.19	7,764.30	7,745.94	18.36	422.941		
2,400.00	2,400.00	2,771.30	2,769.21	8.39	10.98	66.43	3,098.11	7,101.04	7,759.16	7,740.03	19.13	405.618		
2,500.00	2,500.00	2,880.62	2,878.35	8.75	11.34	66.44	3,093.98	7,096.18	7,753.58	7,733.75	19.83	391.039		
2,600.00	2,599.99	2,965.19	2,962.78	9.09	11.63	-147.65	3,090.93	7,092.42	7,748.79	7,728.36	20.44	379.161		
2,700.00	2,699.96	3,046.69	3,044.14	9.42	11.90	-147.67	3,087.80	7,089.08	7,745.71	7,724.69	21.02	368.443		
2,800.00	2,799.86	3,153.45	3,150.74	9.75	12.26	-147.68	3,083.88	7,084.71	7,744.18	7,722.49	21.69	357.024		
2,862.94	2,862.70	3,222.92	3,220.11	9.96	12.50	-147.69	3,081.59	7,081.69	7,743.91	7,721.79	22.12	350.087		
2,900.00	2,899.68	3,257.94	3,255.08	10.08	12.62	-147.70	3,080.47	7,080.13	7,744.02	7,721.66	22.35	346.413		
2,945.33	2,944.88	3,298.72	3,295.80	10.23	12.76	-147.70	3,079.13	7,078.37	7,744.44	7,721.80	22.64	342.122		
3,000.00	2,999.39	3,354.21	3,351.21	10.41	12.95	-147.71	3,077.25	7,076.01	7,745.16	7,722.16	23.00	336.794		
3,100.00	3,099.08	3,461.17	3,458.00	10.75	13.32	-147.74	3,073.81	7,071.26	7,746.37	7,722.70	23.68	327.189		
3,200.00	3,198.78	3,557.59	3,554.28	11.08	13.65	-147.76	3,070.96	7,066.89	7,747.60	7,723.28	24.32	318.517		
3,300.00	3,298.48	3,654.29	3,650.84	11.42	13.98	-147.78	3,068.19	7,062.50	7,748.86	7,723.89	24.98	310.252		
3,400.00	3,398.18	3,745.37	3,741.80	11.76	14.30	-147.81	3,065.86	7,058.32	7,750.20	7,724.59	25.61	302.593		
3,500.00	3,497.88	3,835.71	3,832.02	12.10	14.61	-147.83	3,063.59	7,054.28	7,751.68	7,725.43	26.25	295.314		
3,600.00	3,597.58	3,929.21	3,925.41	12.45	14.93	-147.86	3,061.68	7,050.01	7,753.26	7,726.36	26.90	288.255		
3,700.00	3,697.27	4,023.20	4,019.28	12.79	15.25	-147.89	3,059.73	7,045.81	7,754.91	7,727.36	27.55	281.493		
3,800.00	3,796.97	4,110.82	4,106.80	13.14	15.56	-147.91	3,057.77	7,042.05	7,756.66	7,728.48	28.18	275.228		
3,900.00	3,896.67	4,445.73	4,441.24	13.48	15.86	-127.66	201.05	7,114.41	7,755.76	7,697.22	58.53	132.500		
4,000.00	3,996.37	4,450.79	4,446.18	13.83	16.13	-127.62	195.99	7,114.63	7,722.60	7,663.46	59.14	130.585		
4,100.00	4,096.07	4,455.67	4,451.11	14.18	16.40	-127.58	191.12	7,114.84	7,690.59	7,630.86	59.74	128.735		
4,200.00	4,195.76	4,460.37	4,456.05	14.53	16.66	-127.54	186.42	7,115.05	7,659.76	7,599.42	60.34	126.949		
4,300.00	4,295.46	4,464.91	4,460.98	14.88	16.92	-127.51	181.90	7,115.25	7,630.11	7,569.18	60.93	125.226		
4,400.00	4,395.16	4,469.28	4,465.31	15.23	17.17	-127.47	177.53	7,115.45	7,601.65	7,540.13	61.52	123.563		
4,500.00	4,394.86	4,473.50	4,469.84	15.58	17.43	-127.44	173.31	7,115.64	7,574.41	7,512.31	62.11	121.961		
4,600.00	4,594.56	4,477.58	4,473.77	15.93	17.69	-127.41	169.23	7,115.82	7,548.39	7,485.71	62.68	120.418		
4,700.00	4,694.25	4,481.53	4,477.70	16.29	17.94	-127.38	165.29	7,116.01	7,523.61	7,460.35	63.26	118.933		
4,800.00	4,793.95	4,485.35	4,481.53	16.64	18.19	-127.35	161.48	7,116.18	7,500.08	7,436.25	63.83	117.504		
4,900.00	4,893.65	4,489.04	4,485.19	17.00	18.44	-127.32	157.79	7,116.35	7,477.80	7,413.41	64.39	116.132		
5,000.00	4,893.35	4,492.62	4,488.75	17.35	18.69	-127.29	154.22	7,116.52	7,456.80	7,391.86	64.95	114.814		
5,100.00	5,093.05	4,496.00	4,492.15	17.71	18.94	-127.27	150.84	7,116.68	7,437.09	7,371.59	65.50	113.551		
5,200.00	5,192.75	4,496.00	4,492.15	18.06	19.19	-127.27	150.84	7,116.68	7,418.67	7,352.67	65.99	112.414		
5,300.00	5,292.44	4,496.00	4,492.15	18.42	19.44	-127.27	150.84	7,116.68	7,401.55	7,335.06	66.49	111.323		
5,400.00	5,392.14	4,496.00	4,492.15	18.77	19.69	-127.27	150.84	7,116.68	7,385.75	7,318.78	66.97	110.280		
5,500.00	5,491.84	4,496.00	4,492.15	19.13	19.94	-127.27	150.84	7,116.68	7,371.27	7,303.82	67.45	109.283		
5,600.00	5,591.54	4,496.00	4,492.15	19.49	20.19	-127.27	150.84	7,116.68	7,358.12	7,290.20	67.92	108.331		
5,700.00	5,691.24	4,496.00	4,492.15	19.85	20.44	-127.27	150.84	7,116.68	7,346.31	7,277.93	68.39	107.425		
5,800.00	5,790.93	4,496.00	4,492.15	20.20	20.69	-127.27	150.84	7,116.68	7,335.85	7,267.00	68.84	106.562		
5,900.00	5,890.63	4,496.00	4,492.15	20.56	20.94	-127.27	150.84	7,116.68	7,326.73	7,257.44	69.29	105.744		
6,000.00	5,990.33	4,496.00	4,492.15	20.92	21.19	-127.27	150.84	7,116.68	7,318.97	7,249.24	69.73	104.969		
6,100.00	6,090.03	4,496.00	4,492.15	21.28	21.44	-127.27	150.84	7,116.68	7,312.57	7,242.41	70.15	104.236		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Sec 13-T21S-R27E - Lone Tree Draw 13 State 11H - Wellbore #1 - Wellbore #1													Offset Well Error:	0.50 ft
Survey Program: 111-GYRO-NS-CT, 6243-MWD+HDGM														
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
6,200.00	6,189.73	9,496.00	6,793.42	21.64	49.13	-127.27	150.84	7,116.68	7,307.53	7,236.96	70.57	103.545		
6,300.00	6,289.42	9,518.74	6,792.99	22.00	49.43	-127.09	128.13	7,117.79	7,303.78	7,232.49	71.29	102.457		
6,400.00	6,389.12	9,520.85	6,792.96	22.36	49.46	-127.07	126.02	7,117.90	7,301.46	7,229.74	71.72	101.812		
6,500.00	6,488.82	9,523.01	6,792.93	22.72	49.49	-127.05	123.87	7,118.00	7,300.51	7,228.37	72.13	101.207		
6,519.52	6,508.28	9,523.43	6,792.92	22.79	49.49	-127.05	123.45	7,118.03	7,300.48	7,228.27	72.22	101.094		
6,600.00	6,588.52	9,525.20	6,792.89	23.08	49.52	-127.04	121.68	7,118.12	7,300.93	7,228.38	72.54	100.641		
6,700.00	6,688.22	9,527.43	6,792.86	23.44	49.55	-127.02	119.45	7,118.23	7,302.71	7,229.77	72.94	100.114		
6,800.00	6,787.91	9,529.70	6,792.83	23.80	49.58	-127.00	117.18	7,118.35	7,305.86	7,232.53	73.33	99.625		
6,900.00	6,887.61	9,532.02	6,792.80	24.16	49.61	-126.98	114.87	7,118.47	7,310.38	7,236.67	73.71	99.173		
7,000.00	6,987.31	9,534.38	6,792.76	24.52	49.64	-126.96	112.52	7,118.59	7,316.26	7,242.18	74.08	98.757		
7,100.00	7,087.01	9,536.78	6,792.73	24.88	49.67	-126.95	110.11	7,118.72	7,323.50	7,249.06	74.44	98.378		
7,200.00	7,186.71	9,539.24	6,792.70	25.24	49.70	-126.93	107.66	7,118.85	7,332.09	7,257.30	74.79	98.033		
7,300.00	7,286.41	9,541.74	6,792.67	25.60	49.74	-126.91	105.17	7,118.99	7,342.04	7,266.91	75.13	97.723		
7,400.00	7,386.10	9,544.28	6,792.64	25.96	49.77	-126.89	102.62	7,119.12	7,353.33	7,277.87	75.46	97.446		
7,500.00	7,485.80	9,546.89	6,792.61	26.33	49.81	-126.87	100.03	7,119.27	7,365.96	7,290.18	75.78	97.203		
7,600.00	7,585.50	9,549.54	6,792.59	26.69	49.84	-126.85	97.38	7,119.41	7,379.92	7,303.83	76.09	96.992		
7,700.00	7,685.20	9,552.24	6,792.56	27.05	49.88	-126.82	94.68	7,119.56	7,395.20	7,318.81	76.39	96.813		
7,800.00	7,784.90	9,555.01	6,792.53	27.41	49.91	-126.80	91.92	7,119.71	7,411.80	7,335.12	76.68	96.665		
7,860.70	7,845.41	9,556.71	6,792.52	27.63	49.94	-126.79	90.21	7,119.81	7,422.51	7,345.67	76.85	96.590		
7,900.00	7,884.61	9,557.74	6,792.51	27.77	49.95	-126.87	89.19	7,119.87	7,429.59	7,352.64	76.95	96.547		
8,000.00	7,984.46	9,559.62	6,792.50	28.13	49.98	-127.07	87.31	7,119.97	7,447.42	7,370.21	77.21	96.461		
8,100.00	8,084.42	9,560.40	6,792.49	28.49	49.99	-127.28	86.53	7,120.02	7,464.99	7,387.56	77.43	96.406		
8,157.59	8,142.00	9,560.34	6,792.49	28.69	49.99	86.68	86.59	7,120.01	7,474.99	7,397.45	77.55	96.395		
8,200.00	8,184.41	9,560.15	6,792.49	28.83	49.98	86.68	86.78	7,120.00	7,482.44	7,404.82	77.62	96.396		
8,300.00	8,284.41	9,559.71	6,792.49	29.17	49.98	86.67	87.23	7,119.98	7,500.93	7,423.14	77.79	96.420		
8,400.00	8,384.41	9,559.25	6,792.50	29.51	49.97	86.67	87.68	7,119.95	7,520.70	7,442.75	77.96	96.472		
8,507.63	8,492.04	9,558.75	6,792.50	29.87	49.96	86.67	88.18	7,119.92	7,543.41	7,465.28	78.12	96.558		
8,550.00	8,534.37	9,558.59	6,792.50	30.02	49.96	-2.67	88.34	7,119.91	7,551.21	7,473.03	78.18	96.583		
8,600.00	8,584.01	9,558.51	6,792.50	30.18	49.96	-2.64	88.43	7,119.91	7,556.74	7,478.49	78.25	96.573		
8,650.00	8,632.95	9,558.54	6,792.50	30.34	49.96	-2.64	88.39	7,119.91	7,558.26	7,479.95	78.31	96.517		
8,700.00	8,680.82	9,558.69	6,792.50	30.50	49.96	-2.65	88.25	7,119.92	7,555.74	7,477.38	78.36	96.418		
8,750.00	8,727.25	9,558.95	6,792.50	30.66	49.97	-2.67	87.98	7,119.94	7,549.22	7,470.81	78.41	96.277		
8,800.00	8,771.89	9,559.34	6,792.50	30.81	49.97	-2.72	87.59	7,119.96	7,538.73	7,460.28	78.45	96.096		
8,850.00	8,814.40	9,559.85	6,792.49	30.95	49.98	-2.79	87.08	7,119.99	7,524.32	7,445.84	78.48	95.876		
8,900.00	8,854.46	9,560.48	6,792.49	31.09	49.99	-2.88	86.46	7,120.02	7,506.10	7,427.60	78.50	95.617		
8,950.00	8,891.75	9,561.22	6,792.48	31.23	50.00	-3.00	85.72	7,120.06	7,484.17	7,405.66	78.51	95.322		
9,000.00	8,926.01	9,562.07	6,792.48	31.37	50.01	-3.15	84.86	7,120.11	7,458.66	7,380.15	78.52	94.992		
9,050.00	8,956.96	9,563.04	6,792.47	31.53	50.02	-3.34	83.90	7,120.17	7,429.74	7,351.23	78.52	94.627		
9,100.00	8,984.38	9,564.10	6,792.46	31.69	50.04	-3.59	82.83	7,120.23	7,397.59	7,319.08	78.51	94.230		
9,150.00	9,008.05	9,565.27	6,792.45	31.87	50.05	-3.90	81.67	7,120.29	7,362.40	7,283.91	78.49	93.801		
9,200.00	9,027.79	9,566.52	6,792.44	32.07	50.07	-4.30	80.42	7,120.37	7,324.41	7,245.94	78.47	93.342		
9,250.00	9,043.45	9,567.85	6,792.44	32.29	50.09	-4.84	79.09	7,120.44	7,283.86	7,205.42	78.44	92.853		
9,300.00	9,054.92	9,569.25	6,792.43	32.53	50.11	-5.57	77.69	7,120.52	7,241.02	7,162.60	78.42	92.338		
9,350.00	9,062.10	9,570.71	6,792.42	32.79	50.12	-6.62	76.24	7,120.61	7,196.19	7,117.79	78.39	91.796		
9,400.00	9,064.95	9,572.22	6,792.41	33.06	50.14	-8.24	74.74	7,120.70	7,149.66	7,071.29	78.37	91.230		
9,407.63	9,065.00	9,572.45	6,792.41	33.10	50.15	-8.56	74.50	7,120.71	7,142.43	7,064.06	78.37	91.139		
9,500.00	9,065.00	9,575.30	6,792.39	33.68	50.19	-8.49	71.66	7,120.88	7,054.78	6,976.46	78.32	90.076		
9,600.00	9,065.00	9,578.43	6,792.38	34.41	50.23	-8.41	68.53	7,121.06	6,960.03	6,881.76	78.27	88.925		
9,700.00	9,065.00	9,591.00	6,792.34	35.24	50.40	-8.09	55.99	7,121.82	6,865.43	6,787.09	78.34	87.638		
9,800.00	9,065.00	9,591.00	6,792.34	36.17	50.40	-8.09	55.99	7,121.82	6,770.97	6,692.72	78.25	86.535		
9,900.00	9,065.00	9,591.00	6,792.34	37.19	50.40	-8.09	55.99	7,121.82	6,676.67	6,598.52	78.15	85.431		
10,000.00	9,065.00	9,591.00	6,792.34	38.30	50.40	-8.09	55.99	7,121.82	6,582.54	6,504.48	78.06	84.327		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Sec 13-T21S-R27E - Lone Tree Draw 13 State 11H - Wellbore #1 - Wellbore #1													Offset Well Error:	0.50 ft
Survey Program: 111-GYRO-NS-CT, 6243-MWD+HDGM														
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
10,100.00	9,065.00	9,591.00	6,792.34	39.48	50.40	-8.09	55.99	7,121.82	6,488.59	6,410.62	77.97	83.223		
10,200.00	9,065.00	9,598.89	6,792.32	40.72	50.50	-7.89	48.11	7,122.30	6,394.81	6,316.84	77.98	82.010		
10,300.00	9,065.00	9,602.50	6,792.31	42.03	50.55	-7.80	44.51	7,122.52	6,301.23	6,223.30	77.93	80.858		
10,400.00	9,065.00	9,606.10	6,792.29	43.40	50.60	-7.71	40.92	7,122.74	6,207.84	6,129.95	77.88	79.708		
10,500.00	9,065.00	9,609.68	6,792.27	44.82	50.65	-7.62	37.34	7,122.95	6,114.65	6,036.82	77.84	78.558		
10,600.00	9,065.00	9,613.26	6,792.25	46.29	50.70	-7.53	33.77	7,123.17	6,021.69	5,943.90	77.79	77.410		
10,700.00	9,065.00	9,616.83	6,792.22	47.79	50.74	-7.44	30.21	7,123.39	5,928.95	5,851.20	77.74	76.264		
10,800.00	9,065.00	9,620.39	6,792.19	49.34	50.79	-7.35	26.66	7,123.60	5,836.44	5,758.74	77.70	75.119		
10,900.00	9,065.00	9,623.93	6,792.16	50.92	50.84	-7.26	23.11	7,123.82	5,744.18	5,666.53	77.65	73.976		
11,000.00	9,065.00	9,627.47	6,792.13	52.54	50.89	-7.17	19.58	7,124.03	5,652.19	5,574.58	77.60	72.834		
11,100.00	9,065.00	9,631.00	6,792.09	54.18	50.93	-7.08	16.06	7,124.24	5,560.46	5,482.91	77.56	71.694		
11,200.00	9,065.00	9,634.52	6,792.05	55.85	50.98	-6.99	12.55	7,124.46	5,469.03	5,391.51	77.51	70.556		
11,300.00	9,065.00	9,638.03	6,792.01	57.54	51.03	-6.90	9.04	7,124.67	5,377.89	5,300.42	77.47	69.420		
11,400.00	9,065.00	9,641.53	6,791.97	59.26	51.08	-6.81	5.55	7,124.88	5,287.08	5,209.65	77.43	68.285		
11,500.00	9,065.00	9,645.03	6,791.92	61.00	51.12	-6.72	2.06	7,125.09	5,196.59	5,119.21	77.38	67.153		
11,600.00	9,065.00	9,648.51	6,791.87	62.75	51.17	-6.63	-1.41	7,125.30	5,106.46	5,029.12	77.34	66.023		
11,700.00	9,065.00	9,651.98	6,791.82	64.52	51.22	-6.54	-4.88	7,125.50	5,016.70	4,939.39	77.31	64.895		
11,800.00	9,065.00	9,655.45	6,791.77	66.31	51.26	-6.45	-8.34	7,125.71	4,927.33	4,850.06	77.27	63.769		
11,900.00	9,065.00	9,658.90	6,791.71	68.11	51.31	-6.37	-11.79	7,125.92	4,838.37	4,761.14	77.23	62.646		
12,000.00	9,065.00	9,662.35	6,791.65	69.93	51.36	-6.28	-15.23	7,126.12	4,749.85	4,672.65	77.20	61.525		
12,100.00	9,065.00	9,665.79	6,791.59	71.76	51.40	-6.19	-18.66	7,126.33	4,661.79	4,584.62	77.17	60.407		
12,200.00	9,065.00	9,669.21	6,791.52	73.60	51.45	-6.10	-22.08	7,126.53	4,574.21	4,497.07	77.15	59.291		
12,300.00	9,065.00	9,672.63	6,791.46	75.45	51.50	-6.01	-25.49	7,126.74	4,487.16	4,410.03	77.13	58.179		
12,400.00	9,065.00	9,676.04	6,791.39	77.31	51.54	-5.93	-28.89	7,126.94	4,400.64	4,323.54	77.11	57.071		
12,500.00	9,065.00	9,685.00	6,791.19	79.18	51.66	-5.70	-37.83	7,127.47	4,314.72	4,237.56	77.15	55.923		
12,600.00	9,065.00	9,685.00	6,791.19	81.05	51.66	-5.70	-37.83	7,127.47	4,229.39	4,152.28	77.11	54.848		
12,700.00	9,065.00	9,686.84	6,791.15	82.94	51.69	-5.65	-39.67	7,127.58	4,144.73	4,067.63	77.09	53.762		
12,800.00	9,065.00	9,691.81	6,791.03	84.83	51.75	-5.52	-44.63	7,127.87	4,060.75	3,983.64	77.11	52.659		
12,900.00	9,065.00	9,696.57	6,790.91	86.73	51.82	-5.40	-49.38	7,128.14	3,977.52	3,900.38	77.14	51.563		
13,000.00	9,065.00	9,701.14	6,790.79	88.64	51.88	-5.28	-53.94	7,128.40	3,895.06	3,817.89	77.17	50.474		
13,100.00	9,065.00	9,705.53	6,790.67	90.55	51.94	-5.17	-58.32	7,128.65	3,813.44	3,736.23	77.21	49.393		
13,200.00	9,065.00	9,709.75	6,790.54	92.47	52.00	-5.06	-62.54	7,128.88	3,732.71	3,655.46	77.25	48.320		
13,300.00	9,065.00	9,713.81	6,790.42	94.39	52.05	-4.96	-66.59	7,129.10	3,652.92	3,575.62	77.30	47.256		
13,400.00	9,065.00	9,717.72	6,790.29	96.32	52.10	-4.86	-70.49	7,129.30	3,574.15	3,496.79	77.36	46.201		
13,500.00	9,065.00	9,721.49	6,790.17	98.25	52.15	-4.76	-74.25	7,129.50	3,496.46	3,419.03	77.43	45.157		
13,600.00	9,065.00	9,725.12	6,790.05	100.19	52.20	-4.67	-77.88	7,129.69	3,419.93	3,342.42	77.51	44.123		
13,700.00	9,065.00	9,728.62	6,789.92	102.13	52.25	-4.58	-81.37	7,129.87	3,344.63	3,267.03	77.60	43.101		
13,800.00	9,065.00	9,732.01	6,789.80	104.08	52.30	-4.49	-84.75	7,130.04	3,270.65	3,192.95	77.70	42.092		
13,900.00	9,065.00	9,735.27	6,789.68	106.03	52.34	-4.41	-88.01	7,130.20	3,198.08	3,120.26	77.82	41.098		
14,000.00	9,065.00	9,738.43	6,789.56	107.98	52.38	-4.33	-91.16	7,130.35	3,127.02	3,049.08	77.94	40.119		
14,100.00	9,065.00	9,741.49	6,789.44	109.94	52.42	-4.25	-94.21	7,130.50	3,057.58	2,979.50	78.08	39.158		
14,200.00	9,065.00	9,744.44	6,789.33	111.90	52.46	-4.17	-97.16	7,130.64	2,989.87	2,911.63	78.24	38.216		
14,300.00	9,065.00	9,747.30	6,789.21	113.86	52.50	-4.10	-100.02	7,130.77	2,924.00	2,845.60	78.40	37.295		
14,400.00	9,065.00	9,750.07	6,789.09	115.82	52.54	-4.03	-102.78	7,130.90	2,860.11	2,781.53	78.58	36.397		
14,500.00	9,065.00	9,752.76	6,788.98	117.79	52.57	-3.96	-105.46	7,131.03	2,798.34	2,719.56	78.78	35.523		
14,600.00	9,065.00	9,755.36	6,788.87	119.76	52.61	-3.89	-108.06	7,131.14	2,738.81	2,659.83	78.98	34.676		
14,700.00	9,065.00	9,757.89	6,788.76	121.74	52.64	-3.83	-110.58	7,131.26	2,681.70	2,602.50	79.20	33.859		
14,800.00	9,065.00	9,760.34	6,788.65	123.71	52.68	-3.76	-113.03	7,131.37	2,627.15	2,547.71	79.44	33.072		
14,900.00	9,065.00	9,762.72	6,788.54	125.69	52.71	-3.70	-115.40	7,131.47	2,575.32	2,495.64	79.69	32.318		
15,000.00	9,065.00	9,765.03	6,788.44	127.67	52.74	-3.64	-117.71	7,131.57	2,526.39	2,446.44	79.95	31.599		
15,100.00	9,065.00	9,767.27	6,788.33	129.65	52.77	-3.58	-119.95	7,131.67	2,480.52	2,400.29	80.23	30.917		
15,200.00	9,065.00	9,769.46	6,788.23	131.63	52.80	-3.53	-122.13	7,131.76	2,437.89	2,357.36	80.54	30.271		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Sec 13-T21S-R27E - Lone Tree Draw 13 State 11H - Wellbore #1 - Wellbore #1													Offset Well Error:	0.50 ft
Survey Program: 111-GYRO-NS-CT, 6243-MWD+HDGM														
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
15,300.00	9,065.00	9,780.00	6,787.71	133.62	52.94	-3.26	-132.65	7,132.19	2,398.69	2,317.82	80.88	29.658		
15,400.00	9,065.00	9,780.00	6,787.71	135.61	52.94	-3.26	-132.65	7,132.19	2,363.05	2,281.82	81.23	29.091		
15,500.00	9,065.00	9,780.00	6,787.71	137.60	52.94	-3.26	-132.65	7,132.19	2,331.15	2,249.53	81.62	28.562		
15,600.00	9,065.00	9,780.00	6,787.71	139.59	52.94	-3.26	-132.65	7,132.19	2,303.15	2,221.10	82.05	28.070		
15,700.00	9,065.00	9,780.00	6,787.71	141.58	52.94	-3.26	-132.65	7,132.19	2,279.21	2,196.67	82.54	27.614		
15,800.00	9,065.00	9,782.20	6,787.60	143.57	52.97	-3.20	-134.84	7,132.28	2,259.43	2,176.34	83.09	27.192		
15,900.00	9,065.00	9,785.13	6,787.45	145.57	53.01	-3.12	-137.77	7,132.40	2,243.94	2,160.22	83.72	26.804		
16,000.00	9,065.00	9,788.04	6,787.30	147.56	53.05	-3.05	-140.68	7,132.51	2,232.82	2,148.40	84.42	26.448		
16,100.00	9,065.00	9,790.93	6,787.16	149.56	53.09	-2.97	-143.56	7,132.63	2,226.14	2,140.93	85.21	26.124		
16,199.10	9,065.00	9,793.78	6,787.01	151.54	53.13	-2.90	-146.40	7,132.74	2,223.93	2,137.85	86.08	25.835 CC		
16,200.00	9,065.00	9,793.80	6,787.01	151.56	53.13	-2.90	-146.42	7,132.74	2,223.94	2,137.84	86.09	25.833 ES		
16,300.00	9,065.00	9,796.65	6,786.87	153.56	53.17	-2.83	-149.27	7,132.86	2,226.22	2,139.17	87.05	25.575		
16,400.00	9,065.00	9,799.48	6,786.73	155.56	53.20	-2.75	-152.09	7,132.97	2,232.98	2,144.91	88.08	25.353		
16,500.00	9,065.00	9,802.29	6,786.58	157.57	53.24	-2.68	-154.89	7,133.08	2,244.18	2,155.02	89.16	25.170		
16,600.00	9,065.00	9,805.08	6,786.44	159.57	53.28	-2.61	-157.67	7,133.19	2,259.75	2,169.46	90.29	25.028		
16,700.00	9,065.00	9,807.84	6,786.30	161.57	53.32	-2.54	-160.43	7,133.29	2,279.60	2,188.17	91.44	24.931		
16,800.00	9,065.00	9,810.59	6,786.16	163.58	53.35	-2.47	-163.17	7,133.40	2,303.62	2,211.04	92.59	24.880		
16,900.00	9,065.00	9,813.32	6,786.03	165.59	53.39	-2.40	-165.90	7,133.51	2,331.69	2,237.96	93.72	24.878 SF		
17,000.00	9,065.00	9,816.03	6,785.89	167.60	53.43	-2.33	-168.60	7,133.61	2,363.65	2,268.82	94.83	24.925		
17,100.00	9,065.00	9,818.71	6,785.75	169.60	53.46	-2.26	-171.28	7,133.72	2,399.35	2,303.46	95.89	25.021		
17,200.00	9,065.00	9,821.38	6,785.62	171.61	53.50	-2.19	-173.95	7,133.82	2,438.63	2,341.73	96.90	25.166		
17,300.00	9,065.00	9,824.03	6,785.48	173.62	53.53	-2.12	-176.59	7,133.92	2,481.31	2,383.47	97.85	25.358		
17,400.00	9,065.00	9,826.67	6,785.35	175.63	53.57	-2.05	-179.22	7,134.02	2,527.24	2,428.50	98.73	25.597		
17,500.00	9,065.00	9,829.28	6,785.22	177.65	53.60	-1.99	-181.83	7,134.12	2,576.22	2,476.67	99.55	25.879		
17,600.00	9,065.00	9,831.88	6,785.09	179.66	53.64	-1.92	-184.42	7,134.22	2,628.10	2,527.80	100.30	26.202		
17,700.00	9,065.00	9,834.45	6,784.96	181.67	53.67	-1.85	-186.99	7,134.32	2,682.70	2,581.71	100.98	26.566		
17,800.00	9,065.00	9,837.01	6,784.83	183.69	53.71	-1.79	-189.55	7,134.42	2,739.85	2,638.25	101.60	26.967		
17,900.00	9,065.00	9,839.56	6,784.70	185.70	53.74	-1.72	-192.08	7,134.52	2,799.42	2,697.26	102.16	27.402		
18,000.00	9,065.00	9,842.08	6,784.57	187.72	53.78	-1.66	-194.60	7,134.61	2,861.23	2,758.57	102.66	27.871		
18,100.00	9,065.00	9,844.59	6,784.44	189.73	53.81	-1.59	-197.11	7,134.71	2,925.16	2,822.05	103.11	28.370		
18,200.00	9,065.00	9,847.08	6,784.32	191.75	53.84	-1.53	-199.59	7,134.80	2,991.06	2,887.55	103.51	28.897		
18,300.00	9,065.00	9,849.55	6,784.19	193.77	53.88	-1.47	-202.06	7,134.89	3,058.81	2,954.95	103.86	29.451		
18,400.00	9,065.00	9,852.01	6,784.07	195.78	53.91	-1.40	-204.51	7,134.98	3,128.29	3,024.12	104.17	30.029		
18,500.00	9,065.00	9,854.45	6,783.95	197.80	53.94	-1.34	-206.95	7,135.08	3,199.38	3,094.93	104.45	30.631		
18,600.00	9,065.00	9,856.87	6,783.82	199.82	53.97	-1.28	-209.36	7,135.17	3,271.99	3,167.29	104.69	31.253		
18,700.00	9,065.00	9,859.28	6,783.70	201.84	54.01	-1.21	-211.77	7,135.26	3,346.00	3,241.10	104.91	31.896		
18,800.00	9,065.00	9,861.67	6,783.58	203.86	54.04	-1.15	-214.15	7,135.34	3,421.34	3,316.25	105.09	32.556		
18,900.00	9,065.00	9,864.04	6,783.46	205.88	54.07	-1.09	-216.52	7,135.43	3,497.91	3,392.65	105.25	33.233		
19,000.00	9,065.00	9,866.40	6,783.34	207.90	54.10	-1.03	-218.88	7,135.52	3,575.63	3,470.24	105.39	33.926		
19,100.00	9,065.00	9,868.75	6,783.22	209.92	54.13	-0.97	-221.22	7,135.61	3,654.44	3,548.92	105.52	34.634		
19,200.00	9,065.00	9,871.07	6,783.10	211.95	54.17	-0.91	-223.54	7,135.69	3,734.26	3,628.63	105.62	35.355		
19,300.00	9,065.00	9,873.39	6,782.99	213.97	54.20	-0.85	-225.85	7,135.78	3,815.03	3,709.31	105.71	36.088		
19,400.00	9,065.00	9,876.92	6,782.81	215.99	54.24	-0.76	-229.37	7,135.91	3,896.69	3,790.88	105.81	36.828		
19,456.84	9,065.00	9,880.53	6,782.63	217.14	54.29	-0.67	-232.98	7,136.04	3,943.48	3,837.61	105.88	37.246		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Survey Program: 106-MWD+IGRF, 2746-MWD+IGRF													Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)						
0.00	0.00	0.00	0.00	0.50	5.00	65.32	2,709.18	5,894.96	6,487.93					
100.00	100.00	51.78	51.78	0.52	5.00	65.32	2,709.01	5,895.01	6,487.67	6,482.16	5.52	1,175.673		
200.00	200.00	324.22	324.14	0.70	5.08	65.31	2,708.04	5,890.36	6,485.51	6,479.73	5.79	1,120.994		
300.00	300.00	390.29	390.18	0.99	5.13	65.30	2,708.82	5,888.17	6,483.00	6,476.88	6.12	1,059.800		
400.00	400.00	456.97	456.83	1.31	5.19	65.29	2,709.31	5,886.52	6,481.05	6,474.55	6.50	997.540		
500.00	500.00	538.67	538.52	1.65	5.28	65.28	2,709.66	5,884.95	6,479.47	6,472.56	6.92	936.432		
600.00	600.00	608.29	608.12	1.99	5.36	65.27	2,710.14	5,883.77	6,478.24	6,470.89	7.35	881.630		
700.00	700.00	687.70	687.53	2.34	5.47	65.26	2,710.90	5,882.77	6,477.48	6,469.67	7.80	829.944		
800.00	800.00	791.42	791.23	2.69	5.63	65.25	2,711.94	5,881.56	6,476.84	6,468.52	8.32	778.904		
900.00	900.00	935.75	935.54	3.04	5.88	65.23	2,712.73	5,879.52	6,475.79	6,466.86	8.92	725.790		
1,000.00	1,000.00	1,017.00	1,016.78	3.40	6.04	65.22	2,713.10	5,878.24	6,474.55	6,465.11	9.43	686.235		
1,100.00	1,100.00	1,071.00	1,070.77	3.75	6.15	65.22	2,713.43	5,877.65	6,473.80	6,463.90	9.90	653.957		
1,165.68	1,165.68	1,111.00	1,110.78	3.99	6.24	65.22	2,713.69	5,877.46	6,473.69	6,463.48	10.22	633.654		
1,200.00	1,200.00	1,127.87	1,127.65	4.11	6.27	65.22	2,713.82	5,877.44	6,473.75	6,463.38	10.37	624.059		
1,300.00	1,300.00	1,189.39	1,189.16	4.46	6.40	65.21	2,714.42	5,877.55	6,474.32	6,463.46	10.86	596.146		
1,400.00	1,400.00	1,259.43	1,259.20	4.82	6.55	65.21	2,715.24	5,878.03	6,475.43	6,464.06	11.37	569.598		
1,500.00	1,500.00	1,391.65	1,391.41	5.18	6.85	65.20	2,716.30	5,879.40	6,476.77	6,464.74	12.03	538.576		
1,600.00	1,600.00	1,477.54	1,477.29	5.53	7.06	65.20	2,716.60	5,880.13	6,477.69	6,465.10	12.59	514.692		
1,700.00	1,700.00	1,595.12	1,594.86	5.89	7.34	65.21	2,716.60	5,881.35	6,478.63	6,465.40	13.23	489.699		
1,800.00	1,800.00	1,716.62	1,716.36	6.25	7.65	65.21	2,716.24	5,882.38	6,479.29	6,465.39	13.90	466.225		
1,900.00	1,900.00	1,841.82	1,841.56	6.61	7.99	65.21	2,716.32	5,882.64	6,479.50	6,464.91	14.59	444.156		
2,000.00	2,000.00	1,927.98	1,927.72	6.96	8.22	65.22	2,716.13	5,882.83	6,479.61	6,464.43	15.18	426.833		
2,100.00	2,100.00	2,022.75	2,022.48	7.32	8.49	65.21	2,716.48	5,883.04	6,479.97	6,464.17	15.80	410.034		
2,200.00	2,200.00	2,178.16	2,177.89	7.68	8.93	65.21	2,716.97	5,882.76	6,479.95	6,463.35	16.61	390.155		
2,300.00	2,300.00	2,281.16	2,280.90	8.04	9.23	65.21	2,717.06	5,881.98	6,479.30	6,462.04	17.27	375.231		
2,400.00	2,400.00	2,357.26	2,356.99	8.39	9.46	65.21	2,716.87	5,881.78	6,478.95	6,461.11	17.85	363.006		
2,500.00	2,500.00	2,461.38	2,461.11	8.75	9.76	65.21	2,716.79	5,881.70	6,478.86	6,460.34	18.51	349.962		
2,538.47	2,538.47	2,538.47	2,506.79	8.88	10.00	-148.87	2,716.84	5,881.42	6,478.75	6,459.88	18.88	343.228		
2,600.00	2,599.99	2,564.14	2,563.87	9.09	10.08	-148.87	2,716.93	5,881.08	6,479.11	6,459.94	19.16	338.076		
2,700.00	2,699.96	2,626.10	2,625.83	9.42	10.26	-148.87	2,717.11	5,881.01	6,481.36	6,461.68	19.68	329.331		
2,800.00	2,799.86	2,748.02	2,747.75	9.75	10.46	-148.88	2,717.20	5,881.15	6,485.23	6,465.03	20.20	321.047		
2,900.00	2,899.68	2,809.50	2,809.23	10.08	10.46	-148.87	2,717.31	5,881.14	6,490.60	6,470.07	20.53	316.081		
2,945.33	2,944.88	2,828.49	2,828.22	10.23	10.46	-148.86	2,717.54	5,881.20	6,493.80	6,473.11	20.69	313.905		
3,000.00	2,999.39	2,872.00	2,871.72	10.41	10.47	-148.88	2,718.47	5,881.44	6,498.17	6,477.29	20.88	311.287		
3,100.00	3,099.08	2,872.00	2,871.72	10.75	10.47	-148.88	2,718.47	5,881.44	6,506.70	6,485.50	21.20	306.896		
3,200.00	3,198.78	2,935.97	2,935.64	11.08	10.49	-148.92	2,720.84	5,882.13	6,516.02	6,494.47	21.55	302.359		
3,300.00	3,298.48	2,966.00	2,965.63	11.42	10.50	-148.94	2,722.35	5,882.58	6,526.33	6,504.45	21.89	298.190		
3,400.00	3,398.18	3,028.49	3,027.99	11.76	10.52	-148.99	2,726.18	5,883.77	6,537.38	6,515.14	22.24	293.897		
3,500.00	3,497.88	3,090.26	3,089.57	12.10	10.55	-149.04	2,730.73	5,885.19	6,549.20	6,526.60	22.60	289.724		
3,600.00	3,597.58	3,181.47	3,180.48	12.45	10.60	-149.12	2,737.89	5,887.33	6,561.33	6,538.34	23.00	285.328		
3,700.00	3,697.27	3,287.88	3,286.52	12.79	10.68	-149.22	2,746.44	5,889.74	6,573.47	6,550.06	23.41	280.756		
3,800.00	3,796.97	3,405.48	3,403.74	13.14	10.78	-149.32	2,755.53	5,892.29	6,585.42	6,561.56	23.86	276.019		
3,900.00	3,896.67	3,468.74	3,466.79	13.48	10.84	-149.38	2,760.38	5,893.64	6,597.39	6,573.13	24.26	271.996		
4,000.00	3,996.37	3,531.00	3,528.76	13.83	10.91	-149.44	2,766.20	5,895.20	6,610.23	6,585.58	24.66	268.105		
4,100.00	4,096.07	3,531.00	3,528.76	14.18	10.91	-149.44	2,766.20	5,895.20	6,623.89	6,598.91	24.97	265.231		
4,200.00	4,195.76	3,592.16	3,589.53	14.53	10.98	-149.50	2,772.83	5,897.16	6,638.32	6,612.94	25.38	261.556		
4,300.00	4,295.46	3,645.03	3,641.98	14.88	11.05	-149.56	2,779.08	5,899.30	6,653.71	6,627.94	25.77	258.147		
4,400.00	4,395.16	3,769.13	3,765.08	15.23	11.23	-149.70	2,794.12	5,904.14	6,669.21	6,642.91	26.30	253.606		
4,500.00	4,494.86	3,929.63	3,924.32	15.58	11.49	-149.89	2,813.55	5,908.93	6,683.62	6,656.91	26.91	248.380		
4,600.00	4,594.56	3,974.42	3,968.73	15.93	11.57	-149.95	2,819.20	5,910.18	6,698.63	6,671.32	27.31	245.238		
4,700.00	4,694.25	4,700.00	7,435.19	16.29	43.53	-126.21	-66.99	5,997.57	6,695.56	6,640.50	55.06	121.613		
4,800.00	4,793.95	10,352.10	7,434.74	16.64	58.99	-126.05	-85.10	5,997.89	6,658.53	6,588.09	70.45	94.516		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Sec 13-T21S-R27E - Lone Tree Draw 13 State 15H - Original Hole - Actuals													Offset Well Error:	0.00 ft
Survey Program: 106-MWD+IGRF, 2746-MWD+IGRF														
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
4,900.00	4,893.65	10,354.26	7,434.69	17.00	59.03	-126.03	-87.27	5,997.92	6,622.85	6,551.70	71.15	93.077		
5,000.00	4,993.35	10,356.48	7,434.65	17.35	59.07	-126.01	-89.49	5,997.96	6,588.49	6,516.63	71.86	91.688		
5,100.00	5,093.05	10,358.76	7,434.60	17.71	59.11	-125.99	-91.77	5,998.00	6,555.48	6,482.92	72.56	90.347		
5,200.00	5,192.75	10,361.10	7,434.55	18.06	59.16	-125.96	-94.11	5,998.05	6,523.82	6,450.57	73.26	89.056		
5,300.00	5,292.44	10,363.51	7,434.50	18.42	59.20	-125.94	-96.51	5,998.09	6,493.56	6,419.61	73.95	87.812		
5,400.00	5,392.14	10,365.98	7,434.46	18.77	59.24	-125.92	-98.98	5,998.14	6,464.69	6,390.06	74.64	86.617		
5,500.00	5,491.84	10,368.51	7,434.41	19.13	59.29	-125.90	-101.51	5,998.18	6,437.25	6,361.93	75.32	85.468		
5,600.00	5,591.54	10,371.12	7,434.36	19.49	59.34	-125.87	-104.12	5,998.23	6,411.25	6,335.26	75.99	84.366		
5,700.00	5,691.24	10,373.80	7,434.32	19.85	59.39	-125.85	-106.80	5,998.28	6,386.71	6,310.05	76.66	83.311		
5,800.00	5,790.93	10,376.57	7,434.27	20.20	59.44	-125.82	-109.56	5,998.33	6,363.64	6,286.32	77.32	82.300		
5,900.00	5,890.63	10,379.41	7,434.23	20.56	59.49	-125.80	-112.41	5,998.39	6,342.07	6,264.09	77.97	81.335		
6,000.00	5,990.33	10,382.33	7,434.18	20.92	59.54	-125.77	-115.33	5,998.44	6,322.00	6,243.38	78.62	80.414		
6,100.00	6,090.03	10,385.35	7,434.14	21.28	59.60	-125.74	-118.34	5,998.50	6,303.45	6,224.19	79.25	79.536		
6,200.00	6,189.73	10,388.45	7,434.10	21.64	59.65	-125.71	-121.45	5,998.56	6,286.43	6,206.55	79.88	78.702		
6,300.00	6,289.42	10,391.66	7,434.06	22.00	59.71	-125.68	-124.65	5,998.62	6,270.96	6,190.47	80.49	77.910		
6,400.00	6,389.12	10,394.96	7,434.02	22.36	59.77	-125.65	-127.96	5,998.69	6,257.05	6,175.96	81.09	77.160		
6,500.00	6,488.82	10,398.37	7,433.98	22.72	59.83	-125.62	-131.37	5,998.76	6,244.70	6,163.02	81.68	76.451		
6,600.00	6,588.52	10,401.89	7,433.94	23.08	59.90	-125.59	-134.89	5,998.83	6,233.94	6,151.68	82.26	75.783		
6,700.00	6,688.22	10,405.53	7,433.91	23.44	59.96	-125.55	-138.52	5,998.90	6,224.75	6,141.93	82.83	75.155		
6,800.00	6,787.91	10,409.29	7,433.88	23.80	60.03	-125.52	-142.29	5,998.98	6,217.16	6,133.78	83.38	74.566		
6,900.00	6,887.61	10,413.19	7,433.85	24.16	60.10	-125.48	-146.18	5,999.05	6,211.17	6,127.25	83.92	74.015		
7,000.00	6,987.31	10,417.21	7,433.82	24.52	60.17	-125.45	-150.20	5,999.14	6,206.78	6,122.34	84.44	73.503		
7,100.00	7,087.01	10,421.00	7,433.77	24.88	60.35	-125.36	-159.99	5,999.34	6,204.00	6,118.94	85.06	72.941		
7,200.00	7,186.71	10,427.00	7,433.77	25.24	60.35	-125.36	-159.99	5,999.34	6,202.81	6,117.34	85.47	72.569		
7,223.34	7,209.98	10,427.00	7,433.77	25.33	60.35	-125.36	-159.99	5,999.34	6,202.77	6,117.20	85.57	72.488		
7,300.00	7,286.41	10,427.00	7,433.77	25.60	60.35	-125.36	-159.99	5,999.34	6,203.24	6,117.37	85.88	72.235		
7,400.00	7,386.10	10,427.00	7,433.77	25.96	60.35	-125.36	-159.99	5,999.34	6,205.28	6,119.02	86.26	71.937		
7,500.00	7,485.80	10,427.00	7,433.77	26.33	60.35	-125.36	-159.99	5,999.34	6,208.94	6,122.31	86.63	71.675		
7,600.00	7,585.50	10,427.00	7,433.77	26.69	60.35	-125.36	-159.99	5,999.34	6,214.19	6,127.22	86.98	71.448		
7,700.00	7,685.20	10,427.00	7,433.77	27.05	60.35	-125.36	-159.99	5,999.34	6,221.06	6,133.75	87.31	71.256		
7,800.00	7,784.90	10,427.00	7,433.77	27.41	60.35	-125.36	-159.99	5,999.34	6,229.52	6,141.90	87.62	71.098		
7,860.70	7,845.41	10,427.00	7,433.77	27.63	60.35	-125.36	-159.99	5,999.34	6,235.43	6,147.63	87.80	71.019		
7,900.00	7,884.61	10,427.00	7,433.77	27.77	60.35	-125.41	-159.99	5,999.34	6,239.45	6,151.54	87.91	70.973		
8,000.00	7,984.46	10,448.16	7,433.66	28.13	60.74	-125.34	-181.14	5,999.83	6,249.67	6,161.09	88.57	70.559		
8,100.00	8,084.42	10,448.94	7,433.66	28.49	60.75	-125.46	-181.92	5,999.84	6,260.02	6,171.18	88.84	70.463		
8,157.59	8,142.00	10,448.92	7,433.66	28.69	60.75	88.55	-181.90	5,999.84	6,266.01	6,177.04	88.97	70.426		
8,200.00	8,184.41	10,448.78	7,433.66	28.83	60.75	88.55	-181.76	5,999.84	6,270.58	6,181.52	89.06	70.408		
8,300.00	8,284.41	10,448.46	7,433.66	29.17	60.74	88.54	-181.45	5,999.83	6,282.46	6,193.21	89.26	70.387		
8,400.00	8,384.41	10,448.15	7,433.66	29.51	60.74	88.54	-181.13	5,999.82	6,295.91	6,206.48	89.43	70.397		
8,507.63	8,492.04	10,447.81	7,433.67	29.87	60.73	88.54	-180.80	5,999.82	6,312.13	6,222.52	89.61	70.442		
8,550.00	8,534.37	10,427.00	7,433.77	30.02	60.35	-1.02	-159.99	5,999.34	6,317.52	6,228.23	89.30	70.749		
8,600.00	8,584.01	10,427.00	7,433.77	30.18	60.35	-1.01	-159.99	5,999.34	6,320.15	6,230.79	89.36	70.725		
8,650.00	8,632.95	10,427.00	7,433.77	30.34	60.35	-1.01	-159.99	5,999.34	6,318.82	6,229.40	89.42	70.664		
8,700.00	8,680.82	10,427.00	7,433.77	30.50	60.35	-1.02	-159.99	5,999.34	6,313.53	6,224.06	89.47	70.566		
8,750.00	8,727.25	10,427.00	7,433.77	30.66	60.35	-1.04	-159.99	5,999.34	6,304.31	6,214.80	89.51	70.432		
8,800.00	8,771.89	10,427.00	7,433.77	30.81	60.35	-1.06	-159.99	5,999.34	6,291.22	6,201.68	89.54	70.264		
8,850.00	8,814.40	10,427.00	7,433.77	30.95	60.35	-1.10	-159.99	5,999.34	6,274.33	6,184.78	89.55	70.063		
8,900.00	8,854.46	10,427.00	7,433.77	31.09	60.35	-1.14	-159.99	5,999.34	6,253.74	6,164.18	89.56	69.829		
8,950.00	8,891.75	10,427.00	7,433.77	31.23	60.35	-1.20	-159.99	5,999.34	6,229.57	6,140.02	89.55	69.564		
9,000.00	8,926.01	10,427.00	7,433.77	31.37	60.35	-1.27	-159.99	5,999.34	6,201.97	6,112.44	89.53	69.269		
9,050.00	8,956.96	10,427.00	7,433.77	31.53	60.35	-1.36	-159.99	5,999.34	6,171.10	6,081.59	89.51	68.944		
9,100.00	8,984.38	10,427.00	7,433.77	31.69	60.35	-1.47	-159.99	5,999.34	6,137.14	6,047.67	89.47	68.591		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Sec 13-T21S-R27E - Lone Tree Draw 13 State 15H - Original Hole - Actuals													Offset Well Error:	0.00 ft
Survey Program: 106-MWD+IGRF, 2746-MWD+IGRF														
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
9,150.00	9,008.05	10,448.25	7,433.66	31.87	60.74	-1.31	-181.23	5,999.83	6,100.23	6,010.42	89.81	67.923		
9,200.00	9,027.79	10,448.47	7,433.66	32.07	60.74	-1.47	-181.45	5,999.83	6,060.76	5,970.99	89.77	67.515		
9,250.00	9,043.45	10,448.72	7,433.66	32.29	60.75	-1.67	-181.70	5,999.84	6,018.89	5,929.17	89.72	67.083		
9,300.00	9,054.92	10,448.99	7,433.66	32.53	60.75	-1.96	-181.97	5,999.85	5,974.91	5,885.23	89.68	66.627		
9,350.00	9,062.10	10,449.28	7,433.66	32.79	60.76	-2.39	-182.27	5,999.85	5,929.10	5,839.47	89.63	66.150		
9,400.00	9,064.95	10,449.60	7,433.65	33.06	60.76	-3.08	-182.58	5,999.86	5,881.77	5,792.18	89.59	65.652		
9,407.63	9,065.00	10,449.64	7,433.65	33.10	60.77	-3.22	-182.62	5,999.86	5,874.43	5,784.85	89.59	65.573		
9,500.00	9,065.00	10,450.24	7,433.65	33.68	60.78	-3.20	-183.22	5,999.88	5,785.51	5,696.00	89.51	64.636		
9,600.00	9,065.00	10,450.90	7,433.64	34.41	60.79	-3.18	-183.88	5,999.89	5,689.37	5,599.95	89.42	63.624		
9,700.00	9,065.00	10,451.57	7,433.64	35.24	60.80	-3.15	-184.55	5,999.91	5,593.37	5,504.04	89.33	62.612		
9,800.00	9,065.00	10,452.25	7,433.64	36.17	60.81	-3.13	-185.23	5,999.93	5,497.51	5,408.27	89.24	61.602		
9,900.00	9,065.00	10,452.94	7,433.63	37.19	60.83	-3.10	-185.91	5,999.94	5,401.80	5,312.65	89.15	60.593		
10,000.00	9,065.00	10,453.64	7,433.62	38.30	60.84	-3.08	-186.61	5,999.96	5,306.24	5,217.19	89.05	59.585		
10,100.00	9,065.00	10,454.35	7,433.62	39.48	60.85	-3.05	-187.32	5,999.98	5,210.86	5,121.90	88.96	58.578		
10,200.00	9,065.00	10,455.07	7,433.61	40.72	60.86	-3.03	-188.05	6,000.00	5,115.65	5,026.79	88.85	57.573		
10,300.00	9,065.00	10,455.80	7,433.61	42.03	60.88	-3.00	-188.78	6,000.02	5,020.62	4,931.87	88.75	56.570		
10,400.00	9,065.00	10,456.55	7,433.60	43.40	60.89	-2.97	-189.53	6,000.04	4,925.80	4,837.15	88.64	55.569		
10,500.00	9,065.00	10,457.31	7,433.60	44.82	60.91	-2.95	-190.28	6,000.06	4,831.18	4,742.64	88.53	54.569		
10,600.00	9,065.00	10,458.08	7,433.59	46.29	60.92	-2.92	-191.05	6,000.08	4,736.78	4,648.36	88.42	53.572		
10,700.00	9,065.00	10,458.86	7,433.58	47.79	60.93	-2.89	-191.84	6,000.10	4,642.61	4,554.31	88.30	52.577		
10,800.00	9,065.00	10,459.66	7,433.58	49.34	60.95	-2.86	-192.63	6,000.12	4,548.70	4,460.52	88.18	51.584		
10,900.00	9,065.00	10,460.47	7,433.57	50.92	60.96	-2.83	-193.45	6,000.14	4,455.05	4,366.99	88.05	50.594		
11,000.00	9,065.00	10,461.29	7,433.56	52.54	60.98	-2.80	-194.27	6,000.16	4,361.68	4,273.75	87.92	49.607		
11,100.00	9,065.00	10,462.13	7,433.56	54.18	60.99	-2.77	-195.11	6,000.18	4,268.61	4,180.82	87.79	48.623		
11,200.00	9,065.00	10,462.99	7,433.55	55.85	61.01	-2.74	-195.96	6,000.21	4,175.86	4,088.21	87.65	47.642		
11,300.00	9,065.00	10,463.85	7,433.54	57.54	61.03	-2.71	-196.83	6,000.23	4,083.45	3,995.95	87.51	46.665		
11,400.00	9,065.00	10,464.74	7,433.53	59.26	61.04	-2.68	-197.71	6,000.25	3,991.41	3,904.06	87.36	45.692		
11,500.00	9,065.00	10,465.64	7,433.52	61.00	61.06	-2.64	-198.61	6,000.28	3,899.76	3,812.56	87.20	44.722		
11,600.00	9,065.00	10,466.55	7,433.52	62.75	61.07	-2.61	-199.53	6,000.30	3,808.53	3,721.49	87.04	43.757		
11,700.00	9,065.00	10,467.49	7,433.51	64.52	61.09	-2.58	-200.46	6,000.33	3,717.75	3,630.88	86.87	42.796		
11,800.00	9,065.00	10,468.44	7,433.50	66.31	61.11	-2.54	-201.41	6,000.36	3,627.46	3,540.76	86.70	41.841		
11,900.00	9,065.00	10,469.40	7,433.49	68.11	61.13	-2.51	-202.38	6,000.38	3,537.69	3,451.17	86.52	40.890		
12,000.00	9,065.00	10,470.39	7,433.48	69.93	61.14	-2.47	-203.36	6,000.41	3,448.48	3,362.15	86.33	39.946		
12,100.00	9,065.00	10,471.39	7,433.47	71.76	61.16	-2.44	-204.36	6,000.44	3,359.87	3,273.74	86.13	39.008		
12,200.00	9,065.00	10,472.42	7,433.46	73.60	61.18	-2.40	-205.39	6,000.47	3,271.92	3,185.99	85.93	38.076		
12,300.00	9,065.00	10,473.46	7,433.45	75.45	61.20	-2.36	-206.43	6,000.50	3,184.69	3,098.97	85.72	37.152		
12,400.00	9,065.00	10,474.52	7,433.44	77.31	61.22	-2.32	-207.49	6,000.53	3,098.22	3,012.72	85.50	36.236		
12,500.00	9,065.00	10,475.61	7,433.43	79.18	61.24	-2.28	-208.58	6,000.56	3,012.60	2,927.32	85.27	35.329		
12,600.00	9,065.00	10,476.71	7,433.41	81.05	61.26	-2.24	-209.68	6,000.59	2,927.88	2,842.84	85.04	34.431		
12,700.00	9,065.00	10,477.84	7,433.40	82.94	61.28	-2.20	-210.81	6,000.62	2,844.15	2,759.36	84.79	33.543		
12,800.00	9,065.00	10,478.99	7,433.39	84.83	61.30	-2.16	-211.96	6,000.66	2,761.51	2,676.98	84.53	32.667		
12,900.00	9,065.00	10,480.17	7,433.38	86.73	61.32	-2.12	-213.14	6,000.69	2,680.05	2,595.78	84.27	31.804		
13,000.00	9,065.00	10,481.37	7,433.36	88.64	61.34	-2.07	-214.33	6,000.73	2,599.88	2,515.89	83.99	30.954		
13,100.00	9,065.00	10,482.59	7,433.35	90.55	61.37	-2.03	-215.56	6,000.77	2,521.13	2,437.43	83.70	30.120		
13,200.00	9,065.00	10,483.84	7,433.33	92.47	61.39	-1.98	-216.81	6,000.80	2,443.93	2,360.53	83.40	29.303		
13,300.00	9,065.00	10,485.12	7,433.32	94.39	61.41	-1.94	-218.08	6,000.84	2,368.44	2,285.35	83.09	28.505		
13,400.00	9,065.00	10,486.42	7,433.30	96.32	61.44	-1.89	-219.39	6,000.88	2,294.82	2,212.07	82.76	27.729		
13,500.00	9,065.00	10,487.76	7,433.29	98.25	61.46	-1.84	-220.72	6,000.92	2,223.27	2,140.85	82.42	26.976		
13,600.00	9,065.00	10,489.12	7,433.27	100.19	61.49	-1.79	-222.08	6,000.97	2,153.98	2,071.92	82.06	26.250		
13,700.00	9,065.00	10,490.51	7,433.25	102.13	61.51	-1.74	-223.47	6,001.01	2,087.17	2,005.50	81.68	25.553		
13,800.00	9,065.00	10,491.94	7,433.23	104.08	61.54	-1.69	-224.90	6,001.05	2,023.11	1,941.83	81.28	24.890		
13,900.00	9,065.00	10,493.39	7,433.21	106.03	61.56	-1.64	-226.35	6,001.10	1,962.05	1,881.18	80.87	24.262		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design		Sec 13-T21S-R27E - Lone Tree Draw 13 State 15H - Original Hole - Actuals											Offset Site Error:		5.00 ft
Survey Program:		106-MWD+IGRF, 2746-MWD+IGRF											Offset Well Error:		0.00 ft
Reference		Offset		Semi Major Axis			Distance					Warning			
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)		Separation Factor		
14,000.00	9,065.00	10,494.88	7,433.19	107.98	61.59	-1.58	-227.84	6,001.15	1,904.29	1,823.85	80.44	23.675			
14,100.00	9,065.00	10,496.41	7,433.17	109.94	61.62	-1.53	-229.37	6,001.20	1,850.13	1,770.14	79.99	23.130			
14,200.00	9,065.00	10,497.97	7,433.15	111.90	61.65	-1.47	-230.93	6,001.25	1,799.90	1,720.37	79.53	22.632			
14,300.00	9,065.00	10,499.57	7,433.13	113.86	61.68	-1.41	-232.52	6,001.30	1,753.93	1,674.86	79.07	22.181			
14,400.00	9,065.00	10,501.20	7,433.11	115.82	61.71	-1.35	-234.16	6,001.35	1,712.58	1,633.94	78.64	21.779			
14,500.00	9,065.00	10,502.88	7,433.08	117.79	61.74	-1.29	-235.84	6,001.41	1,676.17	1,597.93	78.24	21.423			
14,600.00	9,065.00	10,504.60	7,433.06	119.76	61.77	-1.23	-237.55	6,001.47	1,645.05	1,567.12	77.93	21.109			
14,700.00	9,065.00	10,506.36	7,433.03	121.74	61.80	-1.17	-239.32	6,001.53	1,619.51	1,541.76	77.75	20.831			
14,800.00	9,065.00	10,508.17	7,433.00	123.71	61.83	-1.10	-241.12	6,001.59	1,599.82	1,522.07	77.74	20.578			
14,900.00	9,065.00	10,510.02	7,432.98	125.69	61.87	-1.03	-242.97	6,001.65	1,586.20	1,508.22	77.98	20.341			
15,000.00	9,065.00	10,511.93	7,432.95	127.67	61.90	-0.96	-244.87	6,001.72	1,578.80	1,500.30	78.50	20.111			
15,067.09	9,065.00	10,513.23	7,432.93	129.00	61.93	-0.92	-246.18	6,001.76	1,577.38	1,498.34	79.03	19.959 CC, ES			
15,100.00	9,065.00	10,513.88	7,432.92	129.65	61.94	-0.89	-246.83	6,001.79	1,577.72	1,498.38	79.34	19.885			
15,200.00	9,065.00	10,515.88	7,432.88	131.63	61.98	-0.82	-248.83	6,001.86	1,582.96	1,502.48	80.49	19.667			
15,300.00	9,065.00	10,517.94	7,432.85	133.62	62.01	-0.75	-250.89	6,001.93	1,594.47	1,512.57	81.90	19.467			
15,400.00	9,065.00	10,520.06	7,432.81	135.61	62.05	-0.67	-253.00	6,002.01	1,612.11	1,528.58	83.53	19.300			
15,500.00	9,065.00	10,522.72	7,432.77	137.60	62.10	-0.57	-255.66	6,002.10	1,635.67	1,550.39	85.29	19.178			
15,600.00	9,065.00	10,525.69	7,432.72	139.59	62.15	-0.46	-258.63	6,002.21	1,664.92	1,577.81	87.11	19.113 SF			
15,700.00	9,065.00	10,528.57	7,432.67	141.58	62.21	-0.36	-261.51	6,002.31	1,699.55	1,610.63	88.92	19.114			
15,800.00	9,065.00	10,531.37	7,432.63	143.57	62.26	-0.26	-264.30	6,002.41	1,739.25	1,648.58	90.67	19.182			
15,900.00	9,065.00	10,534.08	7,432.59	145.57	62.31	-0.16	-267.01	6,002.50	1,783.66	1,691.34	92.33	19.319			
16,000.00	9,065.00	10,536.71	7,432.55	147.56	62.36	-0.06	-269.64	6,002.59	1,832.47	1,738.60	93.87	19.522			
16,100.00	9,065.00	10,539.27	7,432.51	149.56	62.40	0.03	-272.20	6,002.68	1,885.31	1,790.03	95.28	19.788			
16,200.00	9,065.00	10,541.76	7,432.47	151.56	62.45	0.12	-274.69	6,002.77	1,941.87	1,845.31	96.56	20.111			
16,300.00	9,065.00	10,544.18	7,432.44	153.56	62.49	0.21	-277.10	6,002.85	2,001.82	1,904.11	97.71	20.488			
16,400.00	9,065.00	10,546.53	7,432.41	155.56	62.54	0.29	-279.45	6,002.92	2,064.88	1,966.14	98.74	20.913			
16,500.00	9,065.00	10,548.82	7,432.38	157.57	62.58	0.38	-281.74	6,003.00	2,130.76	2,031.11	99.65	21.382			
16,600.00	9,065.00	10,551.04	7,432.35	159.57	62.62	0.46	-283.96	6,003.07	2,199.21	2,098.75	100.46	21.891			
16,700.00	9,065.00	10,553.21	7,432.32	161.57	62.66	0.53	-286.13	6,003.14	2,270.01	2,168.83	101.18	22.436			
16,800.00	9,065.00	10,555.32	7,432.29	163.58	62.70	0.61	-288.24	6,003.21	2,342.93	2,241.12	101.81	23.013			
16,900.00	9,065.00	10,557.38	7,432.27	165.59	62.74	0.69	-290.30	6,003.27	2,417.79	2,315.42	102.37	23.619			
17,000.00	9,065.00	10,559.39	7,432.25	167.60	62.77	0.76	-292.30	6,003.34	2,494.41	2,391.55	102.86	24.251			
17,100.00	9,065.00	10,561.34	7,432.22	169.60	62.81	0.83	-294.26	6,003.40	2,572.63	2,469.34	103.30	24.906			
17,200.00	9,065.00	10,563.25	7,432.20	171.61	62.84	0.90	-296.16	6,003.46	2,652.32	2,548.64	103.68	25.582			
17,300.00	9,065.00	10,565.11	7,432.18	173.62	62.88	0.97	-298.02	6,003.51	2,733.34	2,629.32	104.02	26.277			
17,400.00	9,065.00	10,566.92	7,432.16	175.63	62.91	1.03	-299.84	6,003.57	2,815.58	2,711.26	104.32	26.989			
17,500.00	9,065.00	10,568.70	7,432.14	177.65	62.94	1.10	-301.61	6,003.62	2,898.94	2,794.35	104.59	27.717			
17,600.00	9,065.00	10,570.43	7,432.13	179.66	62.97	1.16	-303.34	6,003.68	2,983.31	2,878.48	104.83	28.458			
17,700.00	9,065.00	10,572.12	7,432.11	181.67	63.01	1.22	-305.03	6,003.73	3,068.63	2,963.58	105.05	29.212			
17,800.00	9,065.00	10,573.77	7,432.09	183.69	63.04	1.28	-306.68	6,003.77	3,154.81	3,049.57	105.24	29.978			
17,900.00	9,065.00	10,575.38	7,432.08	185.70	63.07	1.34	-308.29	6,003.82	3,241.78	3,136.36	105.41	30.753			
18,000.00	9,065.00	10,576.96	7,432.06	187.72	63.09	1.40	-309.87	6,003.87	3,329.48	3,223.91	105.57	31.538			
18,100.00	9,065.00	10,578.50	7,432.05	189.73	63.12	1.45	-311.41	6,003.91	3,417.85	3,312.14	105.72	32.331			
18,200.00	9,065.00	10,580.01	7,432.04	191.75	63.15	1.51	-312.92	6,003.96	3,506.85	3,401.00	105.85	33.131			
18,300.00	9,065.00	10,581.49	7,432.02	193.77	63.18	1.56	-314.39	6,004.00	3,596.43	3,490.46	105.97	33.939			
18,400.00	9,065.00	10,582.93	7,432.01	195.78	63.20	1.61	-315.83	6,004.04	3,686.54	3,580.46	106.08	34.752			
18,500.00	9,065.00	10,584.34	7,432.00	197.80	63.23	1.66	-317.25	6,004.08	3,777.15	3,670.96	106.19	35.571			
18,600.00	9,065.00	10,585.73	7,431.99	199.82	63.26	1.71	-318.63	6,004.12	3,868.22	3,761.94	106.28	36.395			
18,700.00	9,065.00	10,587.08	7,431.98	201.84	63.28	1.76	-319.98	6,004.15	3,959.72	3,853.35	106.38	37.224			
18,800.00	9,065.00	10,588.41	7,431.97	203.86	63.30	1.81	-321.31	6,004.19	4,051.63	3,945.16	106.46	38.057			
18,900.00	9,065.00	10,589.71	7,431.96	205.88	63.33	1.86	-322.61	6,004.23	4,143.90	4,037.36	106.55	38.893			
19,000.00	9,065.00	10,590.98	7,431.95	207.90	63.35	1.91	-323.88	6,004.26	4,236.53	4,129.90	106.63	39.733			

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Sec 13-T21S-R27E - Lone Tree Draw 13 State 15H - Original Hole - Actuals													Offset Well Error:	0.00 ft
Survey Program: 106-MWD+IGRF, 2746-MWD+IGRF														
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
19,100.00	9,065.00	10,592.23	7,431.94	209.92	63.37	1.95	-325.13	6,004.30	4,329.48	4,222.78	106.70	40.575		
19,200.00	9,065.00	10,593.45	7,431.93	211.95	63.40	1.99	-326.35	6,004.33	4,422.75	4,315.97	106.78	41.420		
19,300.00	9,065.00	10,594.65	7,431.93	213.97	63.42	2.04	-327.55	6,004.36	4,516.30	4,409.45	106.85	42.268		
19,400.00	9,065.00	10,595.83	7,431.92	215.99	63.44	2.08	-328.73	6,004.39	4,610.12	4,503.20	106.92	43.117		
19,456.84	9,065.00	10,596.49	7,431.91	217.14	63.45	2.10	-329.38	6,004.41	4,663.56	4,556.60	106.96	43.601		

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Survey Program: 18-GYRO-NS-CT													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0.00	0.00	0.00	0.00	0.50	5.02	61.36	3,158.45	5,782.98	6,589.59					
100.00	100.00	9.85	9.85	0.52	5.02	61.36	3,158.46	5,782.99	6,589.36	6,583.81	5.54	1,188.828		
200.00	200.00	84.17	84.17	0.70	5.03	61.36	3,158.86	5,783.40	6,590.05	6,584.32	5.73	1,150.464		
300.00	300.00	190.22	190.21	0.99	5.04	61.36	3,159.06	5,784.22	6,590.82	6,584.79	6.03	1,093.001		
400.00	400.00	289.89	289.88	1.31	5.08	61.36	3,158.97	5,785.05	6,591.51	6,585.12	6.39	1,031.055		
500.00	500.00	387.78	387.76	1.65	5.15	61.37	3,158.98	5,785.84	6,592.23	6,585.43	6.79	970.412		
600.00	600.00	492.73	492.72	1.99	5.24	61.37	3,158.96	5,786.69	6,592.93	6,585.70	7.23	911.917		
700.00	700.00	597.10	597.08	2.34	5.35	61.37	3,158.76	5,787.52	6,593.53	6,585.84	7.69	857.035		
800.00	800.00	743.25	743.23	2.69	5.55	61.37	3,159.48	5,787.92	6,594.12	6,585.88	8.24	800.088		
900.00	900.00	884.50	884.48	3.04	5.78	61.37	3,159.32	5,786.96	6,593.37	6,584.55	8.82	747.536		
1,000.00	1,000.00	953.30	953.27	3.40	5.90	61.37	3,158.68	5,787.05	6,592.98	6,583.69	9.30	709.201		
1,017.17	1,017.17	953.30	953.27	3.46	5.90	61.37	3,158.68	5,787.05	6,592.96	6,583.60	9.36	704.581		
1,100.00	1,100.00	1,030.43	1,030.39	3.75	6.04	61.38	3,157.98	5,787.49	6,593.02	6,583.22	9.80	672.961		
1,200.00	1,200.00	1,131.02	1,130.98	4.11	6.25	61.39	3,157.44	5,787.88	6,593.10	6,582.75	10.35	636.725		
1,300.00	1,300.00	1,226.36	1,226.32	4.46	6.45	61.39	3,157.17	5,788.14	6,593.21	6,582.30	10.91	604.102		
1,400.00	1,400.00	1,322.59	1,322.55	4.82	6.67	61.39	3,156.98	5,788.44	6,593.39	6,581.90	11.49	574.017		
1,500.00	1,500.00	1,421.70	1,421.66	5.18	6.90	61.40	3,156.76	5,788.81	6,593.60	6,581.53	12.08	546.026		
1,600.00	1,600.00	1,528.46	1,528.42	5.53	7.16	61.40	3,156.30	5,789.27	6,593.78	6,581.09	12.69	519.470		
1,700.00	1,700.00	1,646.93	1,646.89	5.89	7.46	61.41	3,155.65	5,789.58	6,593.75	6,580.40	13.35	493.895		
1,800.00	1,800.00	1,762.85	1,762.80	6.25	7.77	61.41	3,155.06	5,789.54	6,593.47	6,579.46	14.01	470.599		
1,900.00	1,900.00	1,862.52	1,862.47	6.61	8.03	61.41	3,154.82	5,789.17	6,593.03	6,578.39	14.64	450.474		
2,000.00	2,000.00	1,962.60	1,962.55	6.96	8.31	61.41	3,154.87	5,788.70	6,592.65	6,577.38	15.27	431.793		
2,100.00	2,100.00	2,067.36	2,067.31	7.32	8.60	61.41	3,154.97	5,788.13	6,592.21	6,576.29	15.92	414.103		
2,200.00	2,200.00	2,173.74	2,173.69	7.68	8.91	61.40	3,155.10	5,787.43	6,591.69	6,575.11	16.58	397.554		
2,300.00	2,300.00	2,274.12	2,274.06	8.04	9.20	61.40	3,155.31	5,786.65	6,591.11	6,573.88	17.23	382.542		
2,400.00	2,400.00	2,367.14	2,367.08	8.39	9.47	61.39	3,155.56	5,785.95	6,590.58	6,572.72	17.86	368.987		
2,500.00	2,500.00	2,457.27	2,457.21	8.75	9.74	61.39	3,155.86	5,785.40	6,590.20	6,571.71	18.49	356.467		
2,522.73	2,522.73	2,482.13	2,482.07	8.83	9.81	-152.69	3,155.94	5,785.26	6,590.16	6,571.52	18.64	353.559		
2,600.00	2,599.99	2,565.02	2,564.96	9.09	10.06	-152.70	3,156.09	5,784.80	6,590.59	6,571.43	19.15	344.106		
2,700.00	2,699.96	2,667.42	2,667.36	9.42	10.37	-152.70	3,156.09	5,784.27	6,592.46	6,572.67	19.79	333.118		
2,800.00	2,799.86	2,767.00	2,766.94	9.75	10.68	-152.70	3,156.21	5,783.64	6,595.84	6,575.42	20.42	322.946		
2,900.00	2,899.68	2,880.22	2,880.15	10.08	11.03	-152.72	3,156.64	5,782.78	6,600.80	6,579.69	21.10	312.768		
2,945.33	2,944.88	2,947.12	2,947.05	10.23	11.24	-152.73	3,156.79	5,782.06	6,603.39	6,581.93	21.46	307.665		
3,000.00	2,999.39	3,028.83	3,028.75	10.41	11.50	-152.76	3,156.68	5,781.00	6,606.51	6,584.61	21.90	301.671		
3,100.00	3,099.08	3,106.26	3,106.18	10.75	11.74	-152.78	3,156.41	5,780.12	6,612.24	6,589.76	22.48	294.171		
3,200.00	3,198.78	3,187.66	3,187.57	11.08	12.00	-152.81	3,156.04	5,779.46	6,618.21	6,595.14	23.07	286.868		
3,300.00	3,298.48	3,264.13	3,264.04	11.42	12.24	-152.83	3,155.94	5,778.96	6,624.50	6,600.85	23.65	280.097		
3,400.00	3,398.18	3,324.58	3,324.49	11.76	12.43	-152.86	3,156.30	5,778.61	6,631.22	6,607.04	24.18	274.229		
3,500.00	3,497.88	3,385.60	3,385.50	12.10	12.63	-152.88	3,156.83	5,778.72	6,638.66	6,613.95	24.71	268.612		
3,600.00	3,597.58	3,489.54	3,489.44	12.45	12.96	-152.91	3,157.64	5,779.28	6,646.42	6,621.03	25.39	261.786		
3,700.00	3,697.27	3,610.34	3,610.24	12.79	13.35	-152.95	3,158.09	5,779.66	6,653.79	6,627.67	26.12	254.731		
3,800.00	3,796.97	3,712.63	3,712.53	13.14	13.68	-152.98	3,158.33	5,779.92	6,661.04	6,634.25	26.80	248.591		
3,900.00	3,896.67	3,816.40	3,816.30	13.48	14.02	-153.02	3,158.53	5,780.14	6,668.25	6,640.77	27.48	242.685		
4,000.00	3,996.37	3,925.64	3,925.53	13.83	14.38	-153.05	3,158.84	5,780.20	6,675.36	6,647.18	28.18	236.890		
4,100.00	4,096.07	4,029.45	4,029.35	14.18	14.72	-153.09	3,159.16	5,780.10	6,682.35	6,653.48	28.87	231.498		
4,200.00	4,195.76	4,134.28	4,134.17	14.53	15.06	-153.12	3,159.54	5,779.89	6,689.28	6,659.72	29.56	226.314		
4,300.00	4,295.46	4,240.22	4,240.11	14.88	15.41	-153.16	3,159.92	5,779.59	6,696.13	6,665.88	30.25	221.324		
4,400.00	4,395.16	4,354.85	4,354.75	15.23	15.79	-153.20	3,160.24	5,779.13	6,702.86	6,671.88	30.98	216.339		
4,500.00	4,494.86	4,485.28	4,485.17	15.58	16.22	-153.24	3,160.26	5,778.25	6,709.21	6,677.45	31.77	211.209		
4,600.00	4,594.56	4,591.82	4,591.71	15.93	16.58	-153.27	3,160.01	5,777.30	6,715.26	6,682.79	32.47	206.813		
4,700.00	4,694.25	4,685.42	4,685.30	16.29	16.89	-153.31	3,160.09	5,776.33	6,721.34	6,688.20	33.13	202.861		
4,800.00	4,793.95	4,774.60	4,774.47	16.64	17.19	-153.34	3,160.39	5,775.40	6,727.54	6,693.76	33.78	199.148		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Sec 13-T21S-R27E - Lone Tree Draw 13 State Com 4H - Pilot - Pilot													Offset Well Error:	0.50 ft
Survey Program: 18-GYRO-NS-CT														
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
4,900.00	4,893.65	4,863.26	4,863.13	17.00	17.48	-153.37	3,160.78	5,774.59	6,733.90	6,699.48	34.43	195.585		
5,000.00	4,993.35	4,929.69	4,929.56	17.35	17.70	-153.39	3,161.13	5,774.16	6,740.57	6,705.56	35.00	192.576		
5,100.00	5,093.05	5,000.42	5,000.29	17.71	17.94	-153.42	3,161.56	5,774.16	6,747.79	6,712.20	35.59	189.603		
5,200.00	5,192.75	5,098.74	5,098.60	18.06	18.27	-153.45	3,161.77	5,774.50	6,755.14	6,718.87	36.27	186.240		
5,300.00	5,292.44	5,185.92	5,185.78	18.42	18.56	-153.47	3,161.72	5,775.08	6,762.64	6,725.72	36.92	183.191		
5,400.00	5,392.14	5,278.48	5,278.33	18.77	18.88	-153.49	3,161.46	5,775.95	6,770.27	6,732.69	37.58	180.157		
5,500.00	5,491.84	5,378.76	5,378.61	19.13	19.21	-153.52	3,161.60	5,776.79	6,778.01	6,739.74	38.27	177.104		
5,600.00	5,591.54	5,509.82	5,509.67	19.49	19.66	-153.56	3,162.23	5,777.14	6,785.44	6,746.36	39.07	173.670		
5,700.00	5,691.24	5,638.94	5,638.79	19.85	20.09	-153.60	3,162.84	5,776.88	6,792.45	6,752.59	39.86	170.389		
5,800.00	5,790.93	5,724.10	5,723.95	20.20	20.38	-153.63	3,163.17	5,776.66	6,799.37	6,758.86	40.51	167.860		
5,900.00	5,890.63	5,816.54	5,816.39	20.56	20.69	-153.66	3,163.50	5,776.57	6,806.43	6,765.26	41.17	165.310		
6,000.00	5,990.33	5,911.67	5,911.52	20.92	21.02	-153.69	3,163.69	5,776.67	6,813.58	6,771.73	41.85	162.806		
6,100.00	6,090.03	6,029.22	6,029.06	21.28	21.41	-153.72	3,163.61	5,776.82	6,820.62	6,778.02	42.61	160.081		
6,200.00	6,189.73	6,148.94	6,148.78	21.64	21.82	-153.75	3,162.82	5,777.05	6,827.44	6,784.07	43.37	157.416		
6,300.00	6,289.42	6,249.14	6,248.97	22.00	22.16	-153.77	3,161.56	5,777.29	6,833.99	6,789.92	44.07	155.074		
6,400.00	6,389.12	6,334.54	6,334.37	22.36	22.45	-153.79	3,160.51	5,777.66	6,840.72	6,796.01	44.72	152.983		
6,500.00	6,488.82	6,412.41	6,412.23	22.72	22.72	-153.80	3,159.65	5,778.14	6,847.69	6,802.35	45.34	151.044		
6,600.00	6,588.52	6,472.75	6,472.57	23.08	22.92	-153.81	3,159.00	5,778.78	6,855.08	6,809.18	45.89	149.370		
6,700.00	6,688.22	6,543.72	6,543.52	23.44	23.16	-153.82	3,158.35	5,779.87	6,862.95	6,816.46	46.49	147.629		
6,800.00	6,787.91	6,642.28	6,642.06	23.80	23.50	-153.84	3,157.62	5,781.74	6,871.20	6,824.02	47.18	145.632		
6,900.00	6,887.61	6,766.35	6,766.11	24.16	23.93	-153.85	3,156.44	5,783.88	6,879.19	6,831.22	47.97	143.412		
7,000.00	6,987.31	6,837.16	6,836.91	24.52	24.17	-153.87	3,156.00	5,785.03	6,887.25	6,838.69	48.56	141.821		
7,100.00	7,087.01	6,931.22	6,930.96	24.88	24.49	-153.89	3,156.00	5,786.45	6,895.54	6,846.29	49.24	140.036		
7,200.00	7,186.71	6,998.10	6,997.83	25.24	24.72	-153.90	3,156.28	5,787.49	6,904.06	6,854.24	49.82	138.579		
7,300.00	7,286.41	7,062.77	7,062.48	25.60	24.94	-153.92	3,156.59	5,788.85	6,913.10	6,862.71	50.39	137.189		
7,400.00	7,386.10	7,127.60	7,127.29	25.96	25.17	-153.93	3,156.87	5,790.60	6,922.63	6,871.67	50.96	135.841		
7,500.00	7,485.80	7,205.80	7,205.44	26.33	25.44	-153.94	3,156.92	5,793.24	6,932.56	6,880.98	51.58	134.401		
7,600.00	7,585.50	7,302.85	7,302.41	26.69	25.77	-153.95	3,156.13	5,797.25	6,942.70	6,890.43	52.27	132.817		
7,700.00	7,685.20	7,390.01	7,389.46	27.05	26.08	-153.95	3,154.82	5,801.26	6,952.90	6,899.97	52.93	131.365		
7,800.00	7,784.90	7,470.53	7,469.89	27.41	26.36	-153.95	3,153.77	5,805.08	6,963.33	6,909.77	53.56	130.013		
7,860.70	7,845.41	7,599.12	7,598.34	27.63	26.81	-153.95	3,152.41	5,810.75	6,969.68	6,915.44	54.24	128.491		
7,900.00	7,884.61	7,900.00	7,666.91	27.77	27.85	-153.98	3,151.71	5,812.88	6,973.03	6,917.60	55.43	125.796		
8,000.00	7,984.46	7,803.28	7,802.41	28.13	27.51	-154.03	3,150.42	5,816.42	6,979.65	6,924.18	55.46	125.844		
8,100.00	8,084.42	7,876.00	7,875.11	28.49	27.77	-154.05	3,149.79	5,818.21	6,983.92	6,927.86	56.06	124.575		
8,157.59	8,142.00	7,876.00	7,875.11	28.69	27.77	60.02	3,149.79	5,818.21	6,985.75	6,929.50	56.25	124.202		
8,200.00	8,184.41	7,876.00	7,875.11	28.83	27.77	60.02	3,149.79	5,818.21	6,987.11	6,930.73	56.37	123.941		
8,300.00	8,284.41	7,876.00	7,875.11	29.17	27.77	60.02	3,149.79	5,818.21	6,991.33	6,934.66	56.67	123.360		
8,400.00	8,384.41	7,876.00	7,875.11	29.51	27.77	60.02	3,149.79	5,818.21	6,996.99	6,940.02	56.97	122.829		
8,507.63	8,492.04	7,876.00	7,875.11	29.87	27.77	60.02	3,149.79	5,818.21	7,004.66	6,947.39	57.27	122.311		
8,550.00	8,534.37	7,876.00	7,875.11	30.02	27.77	-29.25	3,149.79	5,818.21	7,006.77	6,949.39	57.38	122.103		
8,600.00	8,584.01	7,876.00	7,875.11	30.18	27.77	-29.28	3,149.79	5,818.21	7,006.08	6,948.56	57.51	121.817		
8,650.00	8,632.95	7,876.00	7,875.11	30.34	27.77	-29.49	3,149.79	5,818.21	7,001.94	6,944.30	57.64	121.487		
8,700.00	8,680.82	7,876.00	7,875.11	30.50	27.77	-29.87	3,149.79	5,818.21	6,994.38	6,936.63	57.75	121.118		
8,750.00	8,727.25	7,876.00	7,875.11	30.66	27.77	-30.43	3,149.79	5,818.21	6,983.45	6,925.60	57.85	120.711		
8,800.00	8,771.89	7,876.00	7,875.11	30.81	27.77	-31.19	3,149.79	5,818.21	6,969.22	6,911.27	57.95	120.269		
8,850.00	8,814.40	7,876.00	7,875.11	30.95	27.77	-32.17	3,149.79	5,818.21	6,951.77	6,893.74	58.03	119.793		
8,900.00	8,854.46	7,876.00	7,875.11	31.09	27.77	-33.39	3,149.79	5,818.21	6,931.21	6,873.11	58.11	119.284		
8,950.00	8,891.75	7,876.00	7,875.11	31.23	27.77	-34.89	3,149.79	5,818.21	6,907.68	6,849.51	58.17	118.742		
9,000.00	8,926.01	7,876.00	7,875.11	31.37	27.77	-36.70	3,149.79	5,818.21	6,881.32	6,823.09	58.23	118.167		
9,050.00	8,956.96	7,876.00	7,875.11	31.53	27.77	-38.89	3,149.79	5,818.21	6,852.30	6,794.01	58.29	117.559		
9,100.00	8,984.38	7,876.00	7,875.11	31.69	27.77	-41.51	3,149.79	5,818.21	6,820.82	6,762.48	58.34	116.916		
9,150.00	9,008.05	7,876.00	7,875.11	31.87	27.77	-44.63	3,149.79	5,818.21	6,787.06	6,728.68	58.39	116.239		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Survey Program: 18-GYRO-NS-CT													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
9,200.00	9,027.79	7,876.00	7,875.11	32.07	27.77	-48.35	3,149.79	5,818.21	6,751.28	6,692.84	58.44	115.525		
9,250.00	9,043.45	7,876.00	7,875.11	32.29	27.77	-52.75	3,149.79	5,818.21	6,713.69	6,655.20	58.49	114.777		
9,300.00	9,054.92	7,876.00	7,875.11	32.53	27.77	-57.92	3,149.79	5,818.21	6,674.57	6,616.02	58.55	113.993		
9,350.00	9,062.10	7,876.00	7,875.11	32.79	27.77	-63.90	3,149.79	5,818.21	6,634.19	6,575.57	58.62	113.177		
9,400.00	9,064.95	7,876.00	7,875.11	33.06	27.77	-70.69	3,149.79	5,818.21	6,592.82	6,534.13	58.69	112.329		
9,407.63	9,065.00	7,876.00	7,875.11	33.10	27.77	-71.79	3,149.79	5,818.21	6,586.44	6,527.74	58.71	112.195		
9,500.00	9,065.00	7,876.00	7,875.11	33.68	27.77	-71.79	3,149.79	5,818.21	6,509.32	6,450.45	58.87	110.573		
9,600.00	9,065.00	7,876.00	7,875.11	34.41	27.77	-71.79	3,149.79	5,818.21	6,426.28	6,367.19	59.09	108.753		
9,700.00	9,065.00	7,876.00	7,875.11	35.24	27.77	-71.79	3,149.79	5,818.21	6,343.73	6,284.36	59.36	106.866		
9,800.00	9,065.00	7,876.00	7,875.11	36.17	27.77	-71.79	3,149.79	5,818.21	6,261.68	6,202.00	59.68	104.914		
9,900.00	9,065.00	7,876.00	7,875.11	37.19	27.77	-71.79	3,149.79	5,818.21	6,180.17	6,120.11	60.06	102.900		
10,000.00	9,065.00	7,876.00	7,875.11	38.30	27.77	-71.79	3,149.79	5,818.21	6,099.21	6,038.71	60.49	100.827		
10,100.00	9,065.00	7,876.00	7,875.11	39.48	27.77	-71.79	3,149.79	5,818.21	6,018.81	5,957.83	60.98	98.700		
10,200.00	9,065.00	7,876.00	7,875.11	40.72	27.77	-71.79	3,149.79	5,818.21	5,939.02	5,877.49	61.53	96.523		
10,300.00	9,065.00	7,876.00	7,875.11	42.03	27.77	-71.79	3,149.79	5,818.21	5,859.84	5,797.70	62.14	94.302		
10,400.00	9,065.00	7,876.00	7,875.11	43.40	27.77	-71.79	3,149.79	5,818.21	5,781.31	5,718.50	62.81	92.042		
10,500.00	9,065.00	7,876.00	7,875.11	44.82	27.77	-71.79	3,149.79	5,818.21	5,703.45	5,639.91	63.55	89.752		
10,600.00	9,065.00	7,876.00	7,875.11	46.29	27.77	-71.79	3,149.79	5,818.21	5,626.30	5,561.95	64.35	87.437		
10,700.00	9,065.00	7,876.00	7,875.11	47.79	27.77	-71.79	3,149.79	5,818.21	5,549.87	5,484.65	65.21	85.104		
10,800.00	9,065.00	7,876.00	7,875.11	49.34	27.77	-71.79	3,149.79	5,818.21	5,474.20	5,408.05	66.14	82.761		
10,900.00	9,065.00	7,876.00	7,875.11	50.92	27.77	-71.79	3,149.79	5,818.21	5,399.32	5,332.18	67.14	80.414		
11,000.00	9,065.00	7,876.00	7,875.11	52.54	27.77	-71.79	3,149.79	5,818.21	5,325.27	5,257.06	68.21	78.072		
11,100.00	9,065.00	7,876.00	7,875.11	54.18	27.77	-71.79	3,149.79	5,818.21	5,252.07	5,182.73	69.34	75.740		
11,200.00	9,065.00	7,876.00	7,875.11	55.85	27.77	-71.79	3,149.79	5,818.21	5,179.78	5,109.23	70.55	73.425		
11,300.00	9,065.00	7,876.00	7,875.11	57.54	27.77	-71.79	3,149.79	5,818.21	5,108.42	5,036.60	71.81	71.134		
11,400.00	9,065.00	7,876.00	7,875.11	59.26	27.77	-71.79	3,149.79	5,818.21	5,038.03	4,964.88	73.15	68.871		
11,500.00	9,065.00	7,876.00	7,875.11	61.00	27.77	-71.79	3,149.79	5,818.21	4,968.66	4,894.10	74.56	66.644		
11,600.00	9,065.00	7,876.00	7,875.11	62.75	27.77	-71.79	3,149.79	5,818.21	4,900.34	4,824.32	76.03	64.456		
11,700.00	9,065.00	7,876.00	7,875.11	64.52	27.77	-71.79	3,149.79	5,818.21	4,833.13	4,755.57	77.56	62.311		
11,800.00	9,065.00	7,876.00	7,875.11	66.31	27.77	-71.79	3,149.79	5,818.21	4,767.07	4,687.91	79.17	60.215		
11,900.00	9,065.00	7,876.00	7,875.11	68.11	27.77	-71.79	3,149.79	5,818.21	4,702.21	4,621.38	80.84	58.170		
12,000.00	9,065.00	7,876.00	7,875.11	69.93	27.77	-71.79	3,149.79	5,818.21	4,638.60	4,556.03	82.57	56.179		
12,100.00	9,065.00	7,876.00	7,875.11	71.76	27.77	-71.79	3,149.79	5,818.21	4,576.29	4,491.93	84.36	54.244		
12,200.00	9,065.00	7,876.00	7,875.11	73.60	27.77	-71.79	3,149.79	5,818.21	4,515.34	4,429.12	86.22	52.369		
12,300.00	9,065.00	7,876.00	7,875.11	75.45	27.77	-71.79	3,149.79	5,818.21	4,455.79	4,367.65	88.14	50.554		
12,400.00	9,065.00	7,876.00	7,875.11	77.31	27.77	-71.79	3,149.79	5,818.21	4,397.72	4,307.60	90.11	48.801		
12,500.00	9,065.00	7,876.00	7,875.11	79.18	27.77	-71.79	3,149.79	5,818.21	4,341.17	4,249.02	92.15	47.112		
12,600.00	9,065.00	7,876.00	7,875.11	81.05	27.77	-71.79	3,149.79	5,818.21	4,286.20	4,191.97	94.23	45.486		
12,700.00	9,065.00	7,876.00	7,875.11	82.94	27.77	-71.79	3,149.79	5,818.21	4,232.89	4,136.52	96.37	43.924		
12,800.00	9,065.00	7,876.00	7,875.11	84.83	27.77	-71.79	3,149.79	5,818.21	4,181.29	4,082.73	98.55	42.426		
12,900.00	9,065.00	7,876.00	7,875.11	86.73	27.77	-71.79	3,149.79	5,818.21	4,131.46	4,030.68	100.79	40.993		
13,000.00	9,065.00	7,876.00	7,875.11	88.64	27.77	-71.79	3,149.79	5,818.21	4,083.48	3,980.42	103.06	39.623		
13,100.00	9,065.00	7,876.00	7,875.11	90.55	27.77	-71.79	3,149.79	5,818.21	4,037.40	3,932.03	105.37	38.318		
13,200.00	9,065.00	7,876.00	7,875.11	92.47	27.77	-71.79	3,149.79	5,818.21	3,993.30	3,885.59	107.71	37.075		
13,300.00	9,065.00	7,876.00	7,875.11	94.39	27.77	-71.79	3,149.79	5,818.21	3,951.23	3,841.15	110.08	35.894		
13,400.00	9,065.00	7,876.00	7,875.11	96.32	27.77	-71.79	3,149.79	5,818.21	3,911.27	3,798.80	112.48	34.775		
13,500.00	9,065.00	7,876.00	7,875.11	98.25	27.77	-71.79	3,149.79	5,818.21	3,873.48	3,758.60	114.89	33.716		
13,600.00	9,065.00	7,876.00	7,875.11	100.19	27.77	-71.79	3,149.79	5,818.21	3,837.93	3,720.62	117.31	32.716		
13,700.00	9,065.00	7,876.00	7,875.11	102.13	27.77	-71.79	3,149.79	5,818.21	3,804.67	3,684.93	119.74	31.774		
13,800.00	9,065.00	7,876.00	7,875.11	104.08	27.77	-71.79	3,149.79	5,818.21	3,773.77	3,651.60	122.17	30.890		
13,900.00	9,065.00	7,876.00	7,875.11	106.03	27.77	-71.79	3,149.79	5,818.21	3,745.28	3,620.69	124.59	30.061		
14,000.00	9,065.00	7,876.00	7,875.11	107.98	27.77	-71.79	3,149.79	5,818.21	3,719.27	3,592.27	126.99	29.287		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Sec 13-T21S-R27E - Lone Tree Draw 13 State Com 4H - Pilot - Pilot													Offset Well Error:	0.50 ft
Survey Program: 18-GYRO-NS-CT														
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
14,100.00	9,065.00	7,876.00	7,875.11	109.94	27.77	-71.79	3,149.79	5,818.21	3,695.78	3,566.40	129.38	28.566		
14,200.00	9,065.00	7,876.00	7,875.11	111.90	27.77	-71.79	3,149.79	5,818.21	3,674.86	3,543.13	131.73	27.896		
14,300.00	9,065.00	7,876.00	7,875.11	113.86	27.77	-71.79	3,149.79	5,818.21	3,656.56	3,522.50	134.05	27.277		
14,400.00	9,065.00	7,876.00	7,875.11	115.82	27.77	-71.79	3,149.79	5,818.21	3,640.91	3,504.58	136.33	26.707		
14,500.00	9,065.00	7,876.00	7,875.11	117.79	27.77	-71.79	3,149.79	5,818.21	3,627.95	3,489.40	138.55	26.185		
14,600.00	9,065.00	7,876.00	7,875.11	119.76	27.77	-71.79	3,149.79	5,818.21	3,617.71	3,477.00	140.72	25.709		
14,700.00	9,065.00	7,876.00	7,875.11	121.74	27.77	-71.79	3,149.79	5,818.21	3,610.22	3,467.40	142.82	25.278		
14,800.00	9,065.00	7,876.00	7,875.11	123.71	27.77	-71.79	3,149.79	5,818.21	3,605.48	3,460.63	144.85	24.891		
14,900.00	9,065.00	7,876.00	7,875.11	125.69	27.77	-71.79	3,149.79	5,818.21	3,603.51	3,456.71	146.80	24.546		
14,920.92	9,065.00	7,876.00	7,875.11	126.10	27.77	-71.79	3,149.79	5,818.21	3,603.45	3,456.25	147.20	24.479 CC		
15,000.00	9,065.00	7,876.00	7,875.11	127.67	27.77	-71.79	3,149.79	5,818.21	3,604.32	3,455.64	148.68	24.242 ES		
15,100.00	9,065.00	7,876.00	7,875.11	129.65	27.77	-71.79	3,149.79	5,818.21	3,607.90	3,457.43	150.47	23.978		
15,200.00	9,065.00	7,876.00	7,875.11	131.63	27.77	-71.79	3,149.79	5,818.21	3,614.24	3,462.08	152.17	23.752		
15,300.00	9,065.00	7,876.00	7,875.11	133.62	27.77	-71.79	3,149.79	5,818.21	3,623.34	3,469.56	153.77	23.563		
15,400.00	9,065.00	7,876.00	7,875.11	135.61	27.77	-71.79	3,149.79	5,818.21	3,635.16	3,479.88	155.28	23.410		
15,500.00	9,065.00	7,876.00	7,875.11	137.60	27.77	-71.79	3,149.79	5,818.21	3,649.68	3,492.99	156.70	23.291		
15,600.00	9,065.00	7,876.00	7,875.11	139.59	27.77	-71.79	3,149.79	5,818.21	3,666.88	3,508.87	158.01	23.206		
15,700.00	9,065.00	7,876.00	7,875.11	141.58	27.77	-71.79	3,149.79	5,818.21	3,686.71	3,527.48	159.23	23.154		
15,800.00	9,065.00	7,876.00	7,875.11	143.57	27.77	-71.79	3,149.79	5,818.21	3,709.13	3,548.78	160.35	23.132 SF		
15,900.00	9,065.00	7,876.00	7,875.11	145.57	27.77	-71.79	3,149.79	5,818.21	3,734.09	3,572.73	161.37	23.141		
16,000.00	9,065.00	7,876.00	7,875.11	147.56	27.77	-71.79	3,149.79	5,818.21	3,761.55	3,599.26	162.29	23.178		
16,100.00	9,065.00	7,876.00	7,875.11	149.56	27.77	-71.79	3,149.79	5,818.21	3,791.45	3,628.33	163.12	23.243		
16,200.00	9,065.00	7,876.00	7,875.11	151.56	27.77	-71.79	3,149.79	5,818.21	3,823.73	3,659.87	163.86	23.335		
16,300.00	9,065.00	7,876.00	7,875.11	153.56	27.77	-71.79	3,149.79	5,818.21	3,858.33	3,693.82	164.51	23.454		
16,400.00	9,065.00	7,876.00	7,875.11	155.56	27.77	-71.79	3,149.79	5,818.21	3,895.20	3,730.12	165.07	23.597		
16,500.00	9,065.00	7,876.00	7,875.11	157.57	27.77	-71.79	3,149.79	5,818.21	3,934.25	3,768.70	165.56	23.764		
16,600.00	9,065.00	7,876.00	7,875.11	159.57	27.77	-71.79	3,149.79	5,818.21	3,975.45	3,809.49	165.96	23.954		
16,700.00	9,065.00	7,876.00	7,875.11	161.57	27.77	-71.79	3,149.79	5,818.21	4,018.71	3,852.42	166.29	24.167		
16,800.00	9,065.00	7,876.00	7,875.11	163.58	27.77	-71.79	3,149.79	5,818.21	4,063.96	3,897.42	166.55	24.401		
16,900.00	9,065.00	7,876.00	7,875.11	165.59	27.77	-71.79	3,149.79	5,818.21	4,111.16	3,944.42	166.74	24.656		
17,000.00	9,065.00	7,876.00	7,875.11	167.60	27.77	-71.79	3,149.79	5,818.21	4,160.22	3,993.35	166.87	24.931		
17,100.00	9,065.00	7,876.00	7,875.11	169.60	27.77	-71.79	3,149.79	5,818.21	4,211.09	4,044.15	166.94	25.225		
17,200.00	9,065.00	7,876.00	7,875.11	171.61	27.77	-71.79	3,149.79	5,818.21	4,263.69	4,096.74	166.96	25.538		
17,300.00	9,065.00	7,876.00	7,875.11	173.62	27.77	-71.79	3,149.79	5,818.21	4,317.97	4,151.05	166.92	25.868		
17,400.00	9,065.00	7,876.00	7,875.11	175.63	27.77	-71.79	3,149.79	5,818.21	4,373.87	4,207.02	166.84	26.215		
17,500.00	9,065.00	7,876.00	7,875.11	177.65	27.77	-71.79	3,149.79	5,818.21	4,431.31	4,264.59	166.72	26.579		
17,600.00	9,065.00	7,876.00	7,875.11	179.66	27.77	-71.79	3,149.79	5,818.21	4,490.25	4,323.69	166.56	26.959		
17,700.00	9,065.00	7,876.00	7,875.11	181.67	27.77	-71.79	3,149.79	5,818.21	4,550.62	4,384.26	166.36	27.354		
17,800.00	9,065.00	7,876.00	7,875.11	183.69	27.77	-71.79	3,149.79	5,818.21	4,612.37	4,446.24	166.13	27.764		
17,900.00	9,065.00	7,876.00	7,875.11	185.70	27.77	-71.79	3,149.79	5,818.21	4,675.45	4,509.58	165.87	28.188		
18,000.00	9,065.00	7,876.00	7,875.11	187.72	27.77	-71.79	3,149.79	5,818.21	4,739.79	4,574.21	165.58	28.625		
18,100.00	9,065.00	7,876.00	7,875.11	189.73	27.77	-71.79	3,149.79	5,818.21	4,805.35	4,640.08	165.27	29.076		
18,200.00	9,065.00	7,876.00	7,875.11	191.75	27.77	-71.79	3,149.79	5,818.21	4,872.09	4,707.15	164.94	29.539		
18,300.00	9,065.00	7,876.00	7,875.11	193.77	27.77	-71.79	3,149.79	5,818.21	4,939.94	4,775.36	164.58	30.015		
18,400.00	9,065.00	7,876.00	7,875.11	195.78	27.77	-71.79	3,149.79	5,818.21	5,008.88	4,844.66	164.21	30.502		
18,500.00	9,065.00	7,876.00	7,875.11	197.80	27.77	-71.79	3,149.79	5,818.21	5,078.85	4,915.02	163.83	31.001		
18,600.00	9,065.00	7,876.00	7,875.11	199.82	27.77	-71.79	3,149.79	5,818.21	5,149.81	4,986.37	163.43	31.510		
18,700.00	9,065.00	7,876.00	7,875.11	201.84	27.77	-71.79	3,149.79	5,818.21	5,221.72	5,058.69	163.02	32.030		
18,800.00	9,065.00	7,876.00	7,875.11	203.86	27.77	-71.79	3,149.79	5,818.21	5,294.54	5,131.93	162.61	32.560		
18,900.00	9,065.00	7,876.00	7,875.11	205.88	27.77	-71.79	3,149.79	5,818.21	5,368.24	5,206.05	162.18	33.100		
19,000.00	9,065.00	7,876.00	7,875.11	207.90	27.77	-71.79	3,149.79	5,818.21	5,442.77	5,281.02	161.75	33.650		
19,100.00	9,065.00	7,876.00	7,875.11	209.92	27.77	-71.79	3,149.79	5,818.21	5,518.11	5,356.80	161.31	34.208		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design	Sec 13-T21S-R27E - Lone Tree Draw 13 State Com 4H - Pilot - Pilot											Offset Site Error:	5.00 ft
Survey Program:	18-GYRO-NS-CT											Offset Well Error:	0.50 ft
Reference	Offset		Semi Major Axis		Distance								
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor	Warning
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)		
19,200.00	9,065.00	7,876.00	7,875.11	211.95	27.77	-71.79	3,149.79	5,818.21	5,594.23	5,433.36	160.87	34.775	
19,300.00	9,065.00	7,876.00	7,875.11	213.97	27.77	-71.79	3,149.79	5,818.21	5,671.09	5,510.66	160.42	35.351	
19,400.00	9,065.00	7,876.00	7,875.11	215.99	27.77	-71.79	3,149.79	5,818.21	5,748.65	5,588.68	159.98	35.935	
19,456.84	9,065.00	7,876.00	7,875.11	217.14	27.77	-71.79	3,149.79	5,818.21	5,793.05	5,633.33	159.72	36.270	

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Survey Program: 18-GYRO-NS-CT, 4369-MWD+HDGM													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)						
0.00	0.00	0.00	0.00	0.50	5.02	61.36	3,158.45	5,782.98	6,589.59					
100.00	100.00	9.85	9.85	0.52	5.02	61.36	3,158.46	5,782.99	6,589.36	6,583.81	5.54	1,188.828		
200.00	200.00	84.17	84.17	0.70	5.03	61.36	3,158.86	5,783.40	6,590.05	6,584.32	5.73	1,150.464		
300.00	300.00	190.22	190.21	0.99	5.04	61.36	3,159.06	5,784.22	6,590.82	6,584.79	6.03	1,093.001		
400.00	400.00	289.89	289.88	1.31	5.08	61.36	3,158.97	5,785.05	6,591.51	6,585.12	6.39	1,031.055		
500.00	500.00	387.78	387.76	1.65	5.15	61.37	3,158.98	5,785.84	6,592.23	6,585.43	6.79	970.412		
600.00	600.00	492.73	492.72	1.99	5.24	61.37	3,158.96	5,786.69	6,592.93	6,585.70	7.23	911.917		
700.00	700.00	597.10	597.08	2.34	5.35	61.37	3,158.76	5,787.52	6,593.53	6,585.84	7.69	857.035		
800.00	800.00	743.25	743.23	2.69	5.55	61.37	3,159.48	5,787.92	6,594.12	6,585.88	8.24	800.088		
900.00	900.00	884.50	884.48	3.04	5.78	61.37	3,159.32	5,786.96	6,593.37	6,584.55	8.82	747.536		
1,000.00	1,000.00	953.30	953.27	3.40	5.90	61.37	3,158.68	5,787.05	6,592.98	6,583.69	9.30	709.201		
1,017.17	1,017.17	953.30	953.27	3.46	5.90	61.37	3,158.68	5,787.05	6,592.96	6,583.60	9.36	704.581		
1,100.00	1,100.00	1,030.43	1,030.39	3.75	6.04	61.38	3,157.98	5,787.49	6,593.02	6,583.22	9.80	672.961		
1,200.00	1,200.00	1,131.02	1,130.98	4.11	6.25	61.39	3,157.44	5,787.88	6,593.10	6,582.75	10.35	636.725		
1,300.00	1,300.00	1,226.36	1,226.32	4.46	6.45	61.39	3,157.17	5,788.14	6,593.21	6,582.30	10.91	604.102		
1,400.00	1,400.00	1,322.59	1,322.55	4.82	6.67	61.39	3,156.98	5,788.44	6,593.39	6,581.90	11.49	574.017		
1,500.00	1,500.00	1,421.70	1,421.66	5.18	6.90	61.40	3,156.76	5,788.81	6,593.60	6,581.53	12.08	546.026		
1,600.00	1,600.00	1,528.46	1,528.42	5.53	7.16	61.40	3,156.30	5,789.27	6,593.78	6,581.09	12.69	519.470		
1,700.00	1,700.00	1,646.93	1,646.89	5.89	7.46	61.41	3,155.65	5,789.58	6,593.75	6,580.40	13.35	493.895		
1,800.00	1,800.00	1,762.85	1,762.80	6.25	7.77	61.41	3,155.06	5,789.54	6,593.47	6,579.46	14.01	470.599		
1,900.00	1,900.00	1,862.52	1,862.47	6.61	8.03	61.41	3,154.82	5,789.17	6,593.03	6,578.39	14.64	450.474		
2,000.00	2,000.00	1,962.60	1,962.55	6.96	8.31	61.41	3,154.87	5,788.70	6,592.65	6,577.38	15.27	431.793		
2,100.00	2,100.00	2,067.36	2,067.31	7.32	8.60	61.41	3,154.97	5,788.13	6,592.21	6,576.29	15.92	414.103		
2,200.00	2,200.00	2,173.74	2,173.69	7.68	8.91	61.40	3,155.10	5,787.43	6,591.69	6,575.11	16.58	397.554		
2,300.00	2,300.00	2,274.12	2,274.06	8.04	9.20	61.40	3,155.31	5,786.65	6,591.11	6,573.88	17.23	382.542		
2,400.00	2,400.00	2,367.14	2,367.08	8.39	9.47	61.39	3,155.56	5,785.95	6,590.58	6,572.72	17.86	368.987		
2,500.00	2,500.00	2,457.27	2,457.21	8.75	9.74	61.39	3,155.86	5,785.40	6,590.20	6,571.71	18.49	356.467		
2,522.73	2,522.73	2,482.13	2,482.07	8.83	9.81	-152.69	3,155.94	5,785.26	6,590.16	6,571.52	18.64	353.559		
2,600.00	2,599.99	2,565.02	2,564.96	9.09	10.06	-152.70	3,156.09	5,784.80	6,590.59	6,571.43	19.15	344.106		
2,700.00	2,699.96	2,730.00	4,982.67	9.42	48.56	-126.59	203.09	6,146.58	6,584.33	6,529.52	54.82	120.119		
2,800.00	2,799.86	7,730.00	4,982.67	9.75	48.56	-126.87	203.09	6,146.58	6,551.80	6,496.45	55.35	118.365		
2,900.00	2,899.68	7,730.00	4,982.67	10.08	48.56	-127.12	203.09	6,146.58	6,521.64	6,465.75	55.89	116.686		
2,945.33	2,944.88	7,730.00	4,982.67	10.23	48.56	-127.23	203.09	6,146.58	6,508.76	6,452.63	56.13	115.950		
3,000.00	2,999.39	7,730.00	4,982.67	10.41	48.56	-127.23	203.09	6,146.58	6,493.74	6,437.31	56.43	115.079		
3,100.00	3,099.08	7,730.00	4,982.67	10.75	48.56	-127.23	203.09	6,146.58	6,467.37	6,410.41	56.97	113.531		
3,200.00	3,198.78	7,730.00	4,982.67	11.08	48.56	-127.23	203.09	6,146.58	6,442.45	6,384.95	57.50	112.045		
3,300.00	3,298.48	7,730.00	4,982.67	11.42	48.56	-127.23	203.09	6,146.58	6,418.99	6,360.96	58.03	110.618		
3,400.00	3,398.18	7,730.00	4,982.67	11.76	48.56	-127.23	203.09	6,146.58	6,397.00	6,338.45	58.55	109.253		
3,500.00	3,497.88	7,730.00	4,982.67	12.10	48.56	-127.23	203.09	6,146.58	6,376.51	6,317.44	59.07	107.946		
3,600.00	3,597.58	7,761.15	4,983.35	12.45	49.00	-126.94	171.96	6,147.41	6,357.29	6,297.30	59.99	105.974		
3,700.00	3,697.27	7,763.88	4,983.41	12.79	49.04	-126.92	169.24	6,147.49	6,339.78	6,279.25	60.53	104.736		
3,800.00	3,796.97	7,766.58	4,983.46	13.14	49.07	-126.89	166.54	6,147.58	6,323.80	6,262.73	61.07	103.557		
3,900.00	3,896.67	7,769.26	4,983.51	13.48	49.11	-126.87	163.86	6,147.68	6,309.36	6,247.77	61.59	102.437		
4,000.00	3,996.37	7,771.92	4,983.57	13.83	49.15	-126.84	161.20	6,147.77	6,296.47	6,234.36	62.11	101.377		
4,100.00	4,096.07	7,774.56	4,983.62	14.18	49.18	-126.82	158.56	6,147.87	6,285.15	6,222.53	62.62	100.373		
4,200.00	4,195.76	7,777.18	4,983.66	14.53	49.22	-126.80	155.95	6,147.97	6,275.39	6,212.27	63.12	99.427		
4,300.00	4,295.46	7,779.77	4,983.71	14.88	49.26	-126.77	153.35	6,148.07	6,267.21	6,203.61	63.60	98.536		
4,400.00	4,395.16	7,782.35	4,983.76	15.23	49.29	-126.75	150.78	6,148.17	6,260.62	6,196.54	64.08	97.700		
4,500.00	4,494.86	7,784.90	4,983.80	15.58	49.33	-126.73	148.23	6,148.27	6,255.61	6,191.06	64.54	96.919		
4,600.00	4,594.56	7,787.43	4,983.85	15.93	49.36	-126.70	145.70	6,148.37	6,252.19	6,187.20	65.00	96.190		
4,700.00	4,694.25	7,789.94	4,983.89	16.29	49.40	-126.68	143.19	6,148.48	6,250.37	6,184.94	65.44	95.514		
4,763.97	4,758.03	7,791.54	4,983.92	16.51	49.42	-126.67	141.60	6,148.55	6,250.05	6,184.33	65.71	95.109		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Sec 13-T21S-R27E - Lone Tree Draw 13 State Com 4H - Wellbore #2 - Wellbore #2													Offset Well Error:	0.50 ft
Survey Program: 18-GYRO-NS-CT, 4369-MWD+HDGM														
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
4,800.00	4,793.95	7,792.44	4,983.93	16.64	49.43	-126.66	140.70	6,148.58	6,250.15	6,184.28	65.87	94.890		
4,900.00	4,893.65	7,794.91	4,983.97	17.00	49.47	-126.63	138.23	6,148.69	6,251.52	6,185.24	66.28	94.316		
5,000.00	4,993.35	7,825.00	4,984.42	17.35	49.88	-126.36	108.18	6,150.18	6,254.69	6,187.64	67.05	93.277		
5,100.00	5,093.05	7,825.00	4,984.42	17.71	49.88	-126.36	108.18	6,150.18	6,259.22	6,191.81	67.41	92.851		
5,200.00	5,192.75	7,825.00	4,984.42	18.06	49.88	-126.36	108.18	6,150.18	6,265.34	6,197.59	67.75	92.471		
5,300.00	5,292.44	7,825.00	4,984.42	18.42	49.88	-126.36	108.18	6,150.18	6,273.05	6,204.97	68.08	92.136		
5,400.00	5,392.14	7,825.00	4,984.42	18.77	49.88	-126.36	108.18	6,150.18	6,282.35	6,213.95	68.40	91.846		
5,500.00	5,491.84	7,825.00	4,984.42	19.13	49.88	-126.36	108.18	6,150.18	6,293.22	6,224.52	68.70	91.600		
5,600.00	5,591.54	8,393.00	4,988.07	19.49	57.65	-121.17	-459.14	6,151.26	6,305.55	6,229.25	76.30	82.643		
5,700.00	5,691.24	8,393.00	4,988.07	19.85	57.65	-121.17	-459.14	6,151.26	6,318.91	6,242.34	76.57	82.520		
5,800.00	5,790.93	8,424.58	4,987.95	20.20	58.07	-120.88	-490.67	6,149.60	6,333.57	6,256.35	77.22	82.018		
5,900.00	5,890.63	8,426.70	4,987.96	20.56	58.10	-120.86	-492.79	6,149.50	6,349.99	6,272.50	77.49	81.942		
6,000.00	5,990.33	8,428.86	4,987.96	20.92	58.13	-120.84	-494.95	6,149.40	6,367.94	6,290.19	77.75	81.902		
6,100.00	6,090.03	8,431.07	4,987.97	21.28	58.16	-120.82	-497.15	6,149.31	6,387.40	6,309.40	77.99	81.895		
6,200.00	6,189.73	8,433.31	4,987.98	21.64	58.19	-120.80	-499.39	6,149.21	6,408.35	6,330.13	78.22	81.923		
6,300.00	6,289.42	8,435.60	4,987.99	22.00	58.22	-120.78	-501.68	6,149.11	6,430.80	6,352.36	78.44	81.983		
6,400.00	6,389.12	8,437.93	4,988.00	22.36	58.25	-120.76	-504.01	6,149.01	6,454.71	6,376.06	78.64	82.076		
6,500.00	6,488.82	8,440.30	4,988.01	22.72	58.28	-120.74	-506.38	6,148.92	6,480.07	6,401.24	78.83	82.200		
6,600.00	6,588.52	8,442.72	4,988.03	23.08	58.31	-120.72	-508.80	6,148.82	6,506.87	6,427.86	79.01	82.355		
6,700.00	6,688.22	8,445.19	4,988.05	23.44	58.34	-120.70	-511.26	6,148.72	6,535.09	6,455.91	79.18	82.539		
6,800.00	6,787.91	8,447.71	4,988.07	23.80	58.38	-120.67	-513.78	6,148.63	6,564.70	6,485.38	79.33	82.753		
6,900.00	6,887.61	8,450.28	4,988.09	24.16	58.41	-120.65	-516.35	6,148.53	6,595.70	6,516.23	79.47	82.996		
7,000.00	6,987.31	8,452.90	4,988.11	24.52	58.45	-120.63	-518.96	6,148.44	6,628.06	6,548.46	79.60	83.266		
7,100.00	7,087.01	8,455.57	4,988.14	24.88	58.48	-120.60	-521.64	6,148.35	6,661.76	6,582.04	79.72	83.563		
7,200.00	7,186.71	8,458.30	4,988.17	25.24	58.52	-120.58	-524.36	6,148.25	6,696.78	6,616.95	79.83	83.886		
7,300.00	7,286.41	8,488.00	4,988.65	25.60	58.92	-120.30	-554.05	6,147.44	6,733.25	6,652.99	80.26	83.896		
7,400.00	7,386.10	8,488.00	4,988.65	25.96	58.92	-120.30	-554.05	6,147.44	6,770.81	6,690.50	80.31	84.305		
7,500.00	7,485.80	8,488.00	4,988.65	26.33	58.92	-120.30	-554.05	6,147.44	6,809.64	6,729.28	80.36	84.738		
7,600.00	7,585.50	8,488.00	4,988.65	26.69	58.92	-120.30	-554.05	6,147.44	6,849.71	6,769.31	80.40	85.196		
7,700.00	7,685.20	8,488.00	4,988.65	27.05	58.92	-120.30	-554.05	6,147.44	6,891.00	6,810.57	80.43	85.677		
7,800.00	7,784.90	8,488.00	4,988.65	27.41	58.92	-120.30	-554.05	6,147.44	6,933.48	6,853.03	80.45	86.181		
7,860.70	7,845.41	8,488.00	4,988.65	27.63	58.92	-120.30	-554.05	6,147.44	6,959.84	6,879.38	80.46	86.498		
7,900.00	7,884.61	8,488.00	4,988.65	27.77	58.92	-120.55	-554.05	6,147.44	6,977.04	6,896.58	80.47	86.707		
8,000.00	7,984.46	8,488.00	4,988.65	28.13	58.92	-121.18	-554.05	6,147.44	7,020.79	6,940.32	80.47	87.248		
8,100.00	8,084.42	8,488.00	4,988.65	28.49	58.92	-121.80	-554.05	6,147.44	7,064.47	6,984.01	80.46	87.801		
8,157.59	8,142.00	8,488.00	4,988.65	28.69	58.92	91.92	-554.05	6,147.44	7,089.58	7,009.14	80.44	88.130		
8,200.00	8,184.41	8,488.00	4,988.65	28.83	58.92	91.92	-554.05	6,147.44	7,108.17	7,027.74	80.43	88.378		
8,300.00	8,284.41	8,488.00	4,988.65	29.17	58.92	91.92	-554.05	6,147.44	7,152.79	7,072.40	80.39	88.976		
8,400.00	8,384.41	8,488.00	4,988.65	29.51	58.92	91.92	-554.05	6,147.44	7,198.53	7,118.18	80.35	89.594		
8,507.63	8,492.04	8,488.00	4,988.65	29.87	58.92	91.92	-554.05	6,147.44	7,248.97	7,168.68	80.29	90.280		
8,550.00	8,534.37	8,488.00	4,988.65	30.02	58.92	2.46	-554.05	6,147.44	7,267.78	7,187.51	80.27	90.545		
8,600.00	8,584.01	8,488.00	4,988.65	30.18	58.92	2.38	-554.05	6,147.44	7,286.57	7,206.34	80.22	90.828		
8,650.00	8,632.95	8,488.00	4,988.65	30.34	58.92	2.31	-554.05	6,147.44	7,301.55	7,221.38	80.17	91.074		
8,700.00	8,680.82	8,488.00	4,988.65	30.50	58.92	2.27	-554.05	6,147.44	7,312.66	7,232.55	80.11	91.283		
8,750.00	8,727.25	8,488.00	4,988.65	30.66	58.92	2.24	-554.05	6,147.44	7,319.80	7,239.77	80.04	91.454		
8,800.00	8,771.89	8,488.00	4,988.65	30.81	58.92	2.22	-554.05	6,147.44	7,322.96	7,243.00	79.96	91.588		
8,850.00	8,814.40	8,488.00	4,988.65	30.95	58.92	2.23	-554.05	6,147.44	7,322.09	7,242.23	79.86	91.684		
8,900.00	8,854.46	8,488.00	4,988.65	31.09	58.92	2.25	-554.05	6,147.44	7,317.22	7,237.46	79.76	91.742		
8,950.00	8,891.75	8,488.00	4,988.65	31.23	58.92	2.28	-554.05	6,147.44	7,308.36	7,228.71	79.65	91.761		
9,000.00	8,926.01	8,488.00	4,988.65	31.37	58.92	2.34	-554.05	6,147.44	7,295.57	7,216.05	79.52	91.742		
9,050.00	8,956.96	8,488.00	4,988.65	31.53	58.92	2.41	-554.05	6,147.44	7,278.94	7,199.54	79.39	91.682		
9,100.00	8,984.38	8,488.00	4,988.65	31.69	58.92	2.51	-554.05	6,147.44	7,258.55	7,179.29	79.26	91.583		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	5.00 ft
Sec 13-T21S-R27E - Lone Tree Draw 13 State Com 4H - Wellbore #2 - Wellbore #2												Offset Well Error:	0.50 ft
Survey Program: 18-GYRO-NS-CT, 4369-MWD+HDGM													
Reference		Offset		Semi Major Axis		Distance							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
9,150.00	9,008.05	8,488.00	4,988.65	31.87	58.92	2.63	-554.05	6,147.44	7,234.54	7,155.42	79.11	91.444	
9,200.00	9,027.79	8,488.00	4,988.65	32.07	58.92	2.78	-554.05	6,147.44	7,207.04	7,128.08	78.97	91.265	
9,250.00	9,043.45	8,488.00	4,988.65	32.29	58.92	2.98	-554.05	6,147.44	7,176.24	7,097.42	78.82	91.045	
9,300.00	9,054.92	8,488.00	4,988.65	32.53	58.92	3.23	-554.05	6,147.44	7,142.33	7,063.65	78.67	90.784	
9,350.00	9,062.10	8,488.00	4,988.65	32.79	58.92	3.55	-554.05	6,147.44	7,105.51	7,026.98	78.53	90.484	
9,400.00	9,064.95	8,488.00	4,988.65	33.06	58.92	3.98	-554.05	6,147.44	7,066.03	6,987.64	78.39	90.144	
9,407.63	9,065.00	8,488.00	4,988.65	33.10	58.92	4.05	-554.05	6,147.44	7,059.79	6,981.42	78.37	90.084	
9,500.00	9,065.00	8,488.00	4,988.65	33.68	58.92	4.05	-554.05	6,147.44	6,984.08	6,905.98	78.10	89.426	
9,600.00	9,065.00	8,488.00	4,988.65	34.41	58.92	4.05	-554.05	6,147.44	6,902.57	6,824.76	77.81	88.714	
9,700.00	9,065.00	8,488.00	4,988.65	35.24	58.92	4.05	-554.05	6,147.44	6,821.55	6,744.04	77.52	88.003	
9,800.00	9,065.00	8,488.00	4,988.65	36.17	58.92	4.05	-554.05	6,147.44	6,741.05	6,663.82	77.22	87.291	
9,900.00	9,065.00	8,488.00	4,988.65	37.19	58.92	4.05	-554.05	6,147.44	6,661.07	6,584.13	76.94	86.580	
10,000.00	9,065.00	8,471.38	4,988.35	38.30	58.70	3.82	-537.44	6,147.85	6,581.60	6,505.14	76.46	86.074	
10,100.00	9,065.00	8,469.14	4,988.32	39.48	58.67	3.78	-535.20	6,147.92	6,502.73	6,426.57	76.16	85.388	
10,200.00	9,065.00	8,466.80	4,988.28	40.72	58.63	3.75	-532.86	6,147.99	6,424.44	6,348.59	75.85	84.701	
10,300.00	9,065.00	8,464.35	4,988.25	42.03	58.60	3.72	-530.41	6,148.06	6,346.76	6,271.22	75.54	84.014	
10,400.00	9,065.00	8,461.79	4,988.22	43.40	58.57	3.68	-527.85	6,148.14	6,269.72	6,194.47	75.24	83.327	
10,500.00	9,065.00	8,459.10	4,988.18	44.82	58.53	3.64	-525.16	6,148.23	6,193.32	6,118.38	74.94	82.639	
10,600.00	9,065.00	8,456.27	4,988.15	46.29	58.49	3.60	-522.34	6,148.32	6,117.61	6,042.96	74.65	81.949	
10,700.00	9,065.00	8,453.30	4,988.12	47.79	58.45	3.56	-519.37	6,148.43	6,042.60	5,968.24	74.36	81.258	
10,800.00	9,065.00	8,450.18	4,988.09	49.34	58.41	3.51	-516.25	6,148.54	5,968.32	5,894.24	74.08	80.566	
10,900.00	9,065.00	8,446.89	4,988.06	50.92	58.37	3.47	-512.96	6,148.66	5,894.80	5,821.00	73.80	79.872	
11,000.00	9,065.00	8,443.42	4,988.03	52.54	58.32	3.42	-509.49	6,148.79	5,822.07	5,748.53	73.53	79.176	
11,100.00	9,065.00	8,439.75	4,988.01	54.18	58.27	3.37	-505.83	6,148.94	5,750.15	5,676.88	73.27	78.479	
11,200.00	9,065.00	8,435.86	4,987.99	55.85	58.22	3.31	-501.95	6,149.10	5,679.07	5,606.06	73.02	77.779	
11,300.00	9,065.00	8,431.75	4,987.97	57.54	58.16	3.25	-497.83	6,149.28	5,608.88	5,536.11	72.77	77.077	
11,400.00	9,065.00	8,427.37	4,987.96	59.26	58.11	3.19	-493.46	6,149.47	5,539.60	5,467.07	72.53	76.373	
11,500.00	9,065.00	8,422.72	4,987.95	61.00	58.04	3.12	-488.82	6,149.69	5,471.26	5,398.96	72.31	75.668	
11,600.00	9,065.00	8,417.76	4,987.95	62.75	57.98	3.05	-483.86	6,149.92	5,403.91	5,331.82	72.09	74.960	
11,700.00	9,065.00	8,412.46	4,987.96	64.52	57.91	2.98	-478.57	6,150.19	5,337.57	5,265.69	71.88	74.252	
11,800.00	9,065.00	8,406.79	4,987.98	66.31	57.83	2.90	-472.90	6,150.48	5,272.29	5,200.60	71.69	73.542	
11,900.00	9,065.00	8,401.70	4,987.99	68.11	57.76	2.83	-467.82	6,150.75	5,208.10	5,136.58	71.52	72.822	
12,000.00	9,065.00	8,394.25	4,988.06	69.93	57.66	2.72	-460.38	6,151.18	5,145.05	5,073.71	71.34	72.120	
12,100.00	9,065.00	8,386.80	4,988.12	71.76	57.56	2.61	-452.95	6,151.62	5,083.18	5,012.00	71.18	71.414	
12,200.00	9,065.00	8,379.35	4,988.18	73.60	57.47	2.51	-445.51	6,152.06	5,022.52	4,951.48	71.04	70.704	
12,300.00	9,065.00	8,371.91	4,988.25	75.45	57.37	2.40	-438.08	6,152.49	4,963.12	4,892.21	70.91	69.989	
12,400.00	9,065.00	8,364.46	4,988.31	77.31	57.27	2.30	-430.64	6,152.93	4,905.04	4,834.23	70.81	69.272	
12,500.00	9,065.00	8,357.01	4,988.38	79.18	57.17	2.19	-423.21	6,153.37	4,848.31	4,777.59	70.72	68.552	
12,600.00	9,065.00	8,349.56	4,988.44	81.05	57.08	2.08	-415.77	6,153.80	4,792.99	4,722.33	70.66	67.831	
12,700.00	9,065.00	8,342.11	4,988.51	82.94	56.98	1.98	-408.34	6,154.24	4,739.12	4,668.50	70.62	67.108	
12,800.00	9,065.00	8,334.67	4,988.58	84.83	56.88	1.87	-400.90	6,154.68	4,686.75	4,616.15	70.60	66.386	
12,900.00	9,065.00	8,327.22	4,988.65	86.73	56.78	1.77	-393.47	6,155.11	4,635.94	4,565.34	70.60	65.664	
13,000.00	9,065.00	8,319.77	4,988.72	88.64	56.68	1.66	-386.04	6,155.55	4,586.73	4,516.10	70.63	64.944	
13,100.00	9,065.00	8,312.32	4,988.79	90.55	56.59	1.55	-378.60	6,155.98	4,539.18	4,468.51	70.67	64.227	
13,200.00	9,065.00	8,309.24	4,988.82	92.47	56.55	1.51	-375.53	6,156.15	4,493.34	4,422.55	70.79	63.476	
13,300.00	9,065.00	8,297.64	4,988.94	94.39	56.39	1.35	-363.94	6,156.85	4,449.27	4,378.43	70.85	62.803	
13,400.00	9,065.00	8,286.86	4,989.05	96.32	56.25	1.19	-353.18	6,157.47	4,407.01	4,336.08	70.94	62.127	
13,500.00	9,065.00	8,276.82	4,989.14	98.25	56.12	1.05	-343.16	6,158.02	4,366.62	4,295.56	71.06	61.449	
13,600.00	9,065.00	8,267.45	4,989.23	100.19	55.99	0.92	-333.80	6,158.51	4,328.15	4,256.93	71.22	60.773	
13,700.00	9,065.00	8,258.68	4,989.31	102.13	55.88	0.79	-325.04	6,158.96	4,291.65	4,220.24	71.41	60.099	
13,800.00	9,065.00	8,250.46	4,989.39	104.08	55.77	0.67	-316.83	6,159.36	4,257.17	4,185.54	71.63	59.430	
13,900.00	9,065.00	8,242.73	4,989.46	106.03	55.67	0.56	-309.11	6,159.72	4,224.77	4,152.88	71.89	58.765	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Sec 13-T21S-R27E - Lone Tree Draw 13 State Com 4H - Wellbore #2 - Wellbore #2													Offset Well Error:	0.50 ft
Survey Program: 18-GYRO-NS-CT, 4369-MWD+HDGM														
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
14,000.00	9,065.00	8,235.46	4,989.53	107.98	55.57	0.46	-301.85	6,160.05	4,194.49	4,122.31	72.19	58.108		
14,100.00	9,065.00	8,228.60	4,989.59	109.94	55.48	0.36	-295.00	6,160.35	4,166.39	4,093.88	72.51	57.457		
14,200.00	9,065.00	8,222.13	4,989.64	111.90	55.40	0.27	-288.53	6,160.62	4,140.50	4,067.62	72.88	56.816		
14,300.00	9,065.00	8,216.00	4,989.70	113.86	55.32	0.18	-282.41	6,160.87	4,116.87	4,043.59	73.28	56.183		
14,400.00	9,065.00	8,210.19	4,989.75	115.82	55.24	0.10	-276.61	6,161.10	4,095.54	4,021.82	73.71	55.560		
14,500.00	9,065.00	8,204.69	4,989.79	117.79	55.17	0.02	-271.11	6,161.31	4,076.54	4,002.35	74.19	54.948		
14,600.00	9,065.00	8,204.00	4,989.80	119.76	55.16	0.01	-270.42	6,161.34	4,059.91	3,985.17	74.74	54.321		
14,700.00	9,065.00	8,204.00	4,989.80	121.74	55.16	0.01	-270.42	6,161.34	4,045.69	3,970.36	75.33	53.704		
14,800.00	9,065.00	8,204.00	4,989.80	123.71	55.16	0.01	-270.42	6,161.34	4,033.90	3,957.94	75.96	53.102		
14,900.00	9,065.00	8,204.00	4,989.80	125.69	55.16	0.01	-270.42	6,161.34	4,024.56	3,947.92	76.63	52.517		
15,000.00	9,065.00	8,204.00	4,989.80	127.67	55.16	0.01	-270.42	6,161.34	4,017.68	3,940.34	77.34	51.947		
15,100.00	9,065.00	8,204.00	4,989.80	129.65	55.16	0.01	-270.42	6,161.34	4,013.29	3,935.21	78.09	51.395		
15,200.00	9,065.00	8,204.00	4,989.80	131.63	55.16	0.01	-270.42	6,161.34	4,011.39	3,932.52	78.87	50.861		
15,226.38	9,065.00	8,204.00	4,989.80	132.16	55.16	0.01	-270.42	6,161.34	4,011.30	3,932.22	79.08	50.724 CC, ES		
15,300.00	9,065.00	8,204.00	4,989.80	133.62	55.16	0.01	-270.42	6,161.34	4,011.98	3,932.29	79.69	50.347		
15,400.00	9,065.00	8,204.00	4,989.80	135.61	55.16	0.01	-270.42	6,161.34	4,015.06	3,934.52	80.54	49.854		
15,500.00	9,065.00	8,204.00	4,989.80	137.60	55.16	0.01	-270.42	6,161.34	4,020.62	3,939.21	81.42	49.384		
15,600.00	9,065.00	8,180.78	4,989.92	139.59	54.84	-0.32	-247.21	6,162.09	4,028.51	3,946.39	82.12	49.054		
15,700.00	9,065.00	8,179.10	4,989.92	141.58	54.82	-0.34	-245.53	6,162.13	4,038.99	3,955.95	83.04	48.640		
15,800.00	9,065.00	8,177.49	4,989.92	143.57	54.80	-0.37	-243.92	6,162.17	4,051.91	3,967.93	83.97	48.252		
15,900.00	9,065.00	8,175.93	4,989.92	145.57	54.78	-0.39	-242.36	6,162.21	4,067.24	3,982.31	84.92	47.893		
16,000.00	9,065.00	8,174.43	4,989.93	147.56	54.76	-0.41	-240.86	6,162.25	4,084.96	3,999.08	85.89	47.563		
16,100.00	9,065.00	8,172.97	4,989.93	149.56	54.74	-0.43	-239.41	6,162.29	4,105.04	4,018.19	86.86	47.263		
16,200.00	9,065.00	8,171.57	4,989.93	151.56	54.72	-0.45	-238.00	6,162.32	4,127.45	4,039.62	87.83	46.995		
16,300.00	9,065.00	8,170.21	4,989.92	153.56	54.70	-0.47	-236.65	6,162.35	4,152.14	4,063.34	88.80	46.759		
16,400.00	9,065.00	8,168.90	4,989.92	155.56	54.68	-0.49	-235.33	6,162.38	4,179.08	4,089.32	89.77	46.555		
16,500.00	9,065.00	8,167.63	4,989.92	157.57	54.67	-0.51	-234.06	6,162.41	4,208.23	4,117.50	90.73	46.384		
16,600.00	9,065.00	8,166.39	4,989.92	159.57	54.65	-0.53	-232.83	6,162.44	4,239.53	4,147.85	91.67	46.247		
16,700.00	9,065.00	8,165.20	4,989.92	161.57	54.63	-0.54	-231.63	6,162.46	4,272.94	4,180.33	92.60	46.142		
16,800.00	9,065.00	8,164.04	4,989.91	163.58	54.62	-0.56	-230.48	6,162.49	4,308.41	4,214.89	93.52	46.070		
16,900.00	9,065.00	8,162.92	4,989.91	165.59	54.60	-0.58	-229.35	6,162.51	4,345.90	4,251.48	94.41	46.030		
17,000.00	9,065.00	8,161.83	4,989.91	167.60	54.59	-0.59	-228.26	6,162.53	4,385.34	4,290.05	95.29	46.023 SF		
17,100.00	9,065.00	8,160.77	4,989.90	169.60	54.57	-0.61	-227.20	6,162.55	4,426.69	4,330.56	96.14	46.046		
17,200.00	9,065.00	8,159.74	4,989.90	171.61	54.56	-0.62	-226.18	6,162.57	4,469.90	4,372.94	96.96	46.100		
17,300.00	9,065.00	8,158.74	4,989.90	173.62	54.55	-0.64	-225.18	6,162.59	4,514.90	4,417.14	97.76	46.184		
17,400.00	9,065.00	8,157.77	4,989.89	175.63	54.53	-0.65	-224.21	6,162.61	4,561.66	4,463.13	98.53	46.297		
17,500.00	9,065.00	8,156.82	4,989.89	177.65	54.52	-0.66	-223.26	6,162.62	4,610.11	4,510.83	99.28	46.437		
17,600.00	9,065.00	8,155.91	4,989.88	179.66	54.51	-0.68	-222.34	6,162.64	4,660.20	4,560.21	99.99	46.605		
17,700.00	9,065.00	8,155.01	4,989.88	181.67	54.50	-0.69	-221.45	6,162.65	4,711.88	4,611.20	100.68	46.799		
17,800.00	9,065.00	8,154.14	4,989.87	183.69	54.48	-0.70	-220.58	6,162.67	4,765.10	4,663.75	101.34	47.019		
17,900.00	9,065.00	8,153.29	4,989.87	185.70	54.47	-0.71	-219.73	6,162.68	4,819.80	4,717.82	101.98	47.262		
18,000.00	9,065.00	8,152.47	4,989.87	187.72	54.46	-0.72	-218.90	6,162.70	4,875.94	4,773.36	102.59	47.529		
18,100.00	9,065.00	8,151.66	4,989.86	189.73	54.45	-0.74	-218.10	6,162.71	4,933.47	4,830.30	103.17	47.819		
18,200.00	9,065.00	8,150.87	4,989.86	191.75	54.44	-0.75	-217.31	6,162.72	4,992.34	4,888.62	103.73	48.130		
18,300.00	9,065.00	8,150.11	4,989.85	193.77	54.43	-0.76	-216.55	6,162.73	5,052.51	4,948.25	104.26	48.462		
18,400.00	9,065.00	8,149.36	4,989.85	195.78	54.42	-0.77	-215.80	6,162.74	5,113.92	5,009.15	104.76	48.814		
18,500.00	9,065.00	8,148.63	4,989.84	197.80	54.41	-0.78	-215.07	6,162.75	5,176.53	5,071.29	105.25	49.185		
18,600.00	9,065.00	8,147.92	4,989.84	199.82	54.40	-0.79	-214.36	6,162.76	5,240.30	5,134.60	105.71	49.574		
18,700.00	9,065.00	8,147.23	4,989.83	201.84	54.39	-0.80	-213.66	6,162.77	5,305.20	5,199.05	106.14	49.981		
18,800.00	9,065.00	8,146.55	4,989.83	203.86	54.38	-0.81	-212.98	6,162.78	5,371.16	5,264.60	106.56	50.405		
18,900.00	9,065.00	8,145.88	4,989.82	205.88	54.37	-0.82	-212.32	6,162.79	5,438.17	5,331.22	106.96	50.844		
19,000.00	9,065.00	8,145.24	4,989.82	207.90	54.36	-0.83	-211.67	6,162.80	5,506.18	5,398.85	107.33	51.299		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design Sec 13-T21S-R27E - Lone Tree Draw 13 State Com 4H - Wellbore #2 - Wellbore #2													Offset Site Error: 5.00 ft	
Survey Program: 18-GYRO-NS-CT, 4369-MWD+HDGM													Offset Well Error: 0.50 ft	
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre	Between Centres	Between Ellipses	Minimum Separation	Separation Factor			
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)			
19,100.00	9,065.00	8,144.60	4,989.81	209.92	54.36	-0.84	-211.04	6,162.81	5,575.15	5,467.46	107.69	51.769		
19,200.00	9,065.00	8,143.98	4,989.81	211.95	54.35	-0.85	-210.42	6,162.81	5,645.05	5,537.02	108.03	52.253		
19,300.00	9,065.00	8,143.38	4,989.80	213.97	54.34	-0.85	-209.82	6,162.82	5,715.85	5,607.49	108.36	52.750		
19,400.00	9,065.00	8,142.78	4,989.80	215.99	54.33	-0.86	-209.22	6,162.83	5,787.50	5,678.84	108.67	53.260		
19,456.84	9,065.00	8,142.45	4,989.79	217.14	54.33	-0.87	-208.89	6,162.83	5,828.61	5,719.77	108.83	53.555		

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design		Sec 13-T21S-R27E - Lone Tree Draw 13 State Com 5H - Wellbore #1 - Wellbore #1											Offset Site Error:		5.00 ft
Survey Program:		233-GYRO-NS-CT, 4541-MWD+HDGM											Offset Well Error:		0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor			
0.00	0.00	0.00	0.00	0.50	5.02	66.72	3,319.90	7,715.44	8,399.74						
100.00	100.00	26.84	26.84	0.52	5.03	66.72	3,319.90	7,715.43	8,399.38	8,393.84	5.54	1,515.349			
200.00	200.00	143.02	143.02	0.70	5.03	66.72	3,320.12	7,715.15	8,399.24	8,393.51	5.73	1,465.338			
300.00	300.00	271.76	271.75	0.99	5.05	66.71	3,320.63	7,714.42	8,398.89	8,392.85	6.04	1,391.281			
400.00	400.00	382.31	382.30	1.31	5.10	66.71	3,320.49	7,713.59	8,398.13	8,391.72	6.41	1,309.951			
500.00	500.00	468.86	468.86	1.65	5.16	66.71	3,320.11	7,713.17	8,397.52	8,390.71	6.81	1,233.285			
600.00	600.00	570.61	570.60	1.99	5.26	66.71	3,319.62	7,712.81	8,397.00	8,389.75	7.25	1,158.717			
700.00	700.00	685.20	685.18	2.34	5.39	66.72	3,318.89	7,712.31	8,396.35	8,388.62	7.73	1,086.644			
800.00	800.00	783.63	783.61	2.69	5.52	66.72	3,318.07	7,711.88	8,395.61	8,387.40	8.21	1,022.373			
900.00	900.00	853.75	853.73	3.04	5.63	66.72	3,317.60	7,711.67	8,395.07	8,386.40	8.67	968.168			
1,000.00	1,000.00	964.90	964.87	3.40	5.81	66.73	3,317.07	7,711.45	8,394.71	8,385.50	9.21	911.414			
1,100.00	1,100.00	1,051.06	1,051.03	3.75	5.97	66.73	3,316.67	7,711.23	8,394.29	8,384.57	9.72	863.345			
1,200.00	1,200.00	1,174.71	1,174.68	4.11	6.22	66.72	3,316.69	7,710.46	8,393.71	8,383.38	10.32	813.113			
1,300.00	1,300.00	1,240.90	1,240.87	4.46	6.35	66.72	3,316.90	7,710.08	8,393.30	8,382.48	10.82	775.865			
1,400.00	1,400.00	1,332.76	1,332.73	4.82	6.55	66.72	3,317.20	7,709.79	8,393.14	8,381.76	11.38	737.825			
1,500.00	1,500.00	1,432.49	1,432.46	5.18	6.78	66.72	3,317.46	7,709.57	8,393.04	8,381.08	11.96	701.705			
1,600.00	1,600.00	1,576.73	1,576.69	5.53	7.13	66.71	3,318.06	7,708.71	8,392.65	8,379.98	12.67	662.602			
1,700.00	1,700.00	1,662.86	1,662.82	5.89	7.35	66.71	3,318.22	7,708.04	8,392.02	8,378.78	13.24	633.818			
1,800.00	1,800.00	1,742.58	1,742.54	6.25	7.56	66.71	3,318.06	7,707.83	8,391.70	8,377.89	13.80	607.932			
1,900.00	1,900.00	1,831.45	1,831.41	6.61	7.79	66.71	3,317.62	7,707.86	8,391.53	8,377.14	14.40	582.922			
1,987.41	1,987.41	1,910.54	1,910.50	6.92	8.00	66.71	3,317.21	7,708.00	8,391.49	8,376.57	14.92	562.397			
2,000.00	2,000.00	1,922.24	1,922.20	6.96	8.03	66.72	3,317.13	7,708.04	8,391.49	8,376.50	15.00	559.516			
2,100.00	2,100.00	7,758.00	4,988.81	7.32	46.55	87.37	359.76	7,837.12	8,387.21	8,335.97	51.24	163.670			
2,200.00	2,200.00	7,758.00	4,988.81	7.68	46.55	87.37	359.76	7,837.12	8,352.37	8,300.64	51.74	161.437			
2,300.00	2,300.00	7,758.00	4,988.81	8.04	46.55	87.37	359.76	7,837.12	8,318.59	8,266.36	52.23	159.268			
2,400.00	2,400.00	7,758.00	4,988.81	8.39	46.55	87.37	359.76	7,837.12	8,285.88	8,233.16	52.72	157.162			
2,500.00	2,500.00	7,758.00	4,988.81	8.75	46.55	87.37	359.76	7,837.12	8,254.26	8,201.04	53.21	155.118			
2,600.00	2,599.99	7,758.00	4,988.81	9.09	46.55	-126.96	359.76	7,837.12	8,224.22	8,170.53	53.69	153.191			
2,700.00	2,699.96	7,758.00	4,988.81	9.42	46.55	-127.19	359.76	7,837.12	8,196.30	8,142.16	54.14	151.380			
2,800.00	2,799.86	7,758.00	4,988.81	9.75	46.55	-127.40	359.76	7,837.12	8,170.53	8,115.93	54.60	149.637			
2,900.00	2,899.68	7,758.00	4,988.81	10.08	46.55	-127.59	359.76	7,837.12	8,146.94	8,091.88	55.06	147.963			
2,945.33	2,944.88	7,758.00	4,988.81	10.23	46.55	-127.68	359.76	7,837.12	8,136.97	8,081.70	55.27	147.228			
3,000.00	2,999.39	7,758.00	4,988.81	10.41	46.55	-127.68	359.76	7,837.12	8,125.40	8,069.88	55.52	146.354			
3,100.00	3,099.08	7,758.00	4,988.81	10.75	46.55	-127.68	359.76	7,837.12	8,105.13	8,049.16	55.98	144.796			
3,200.00	3,198.78	7,758.00	4,988.81	11.08	46.55	-127.68	359.76	7,837.12	8,086.06	8,029.63	56.43	143.289			
3,300.00	3,298.48	7,758.00	4,988.81	11.42	46.55	-127.68	359.76	7,837.12	8,068.18	8,011.29	56.88	141.833			
3,400.00	3,398.18	7,758.00	4,988.81	11.76	46.55	-127.68	359.76	7,837.12	8,051.50	7,994.16	57.34	140.429			
3,500.00	3,497.88	7,758.00	4,988.81	12.10	46.55	-127.68	359.76	7,837.12	8,036.03	7,978.25	57.78	139.075			
3,600.00	3,597.58	7,758.00	4,988.81	12.45	46.55	-127.68	359.76	7,837.12	8,021.77	7,963.55	58.22	137.772			
3,700.00	3,697.27	7,758.00	4,988.81	12.79	46.55	-127.68	359.76	7,837.12	8,008.75	7,950.08	58.66	136.519			
3,800.00	3,796.97	7,758.00	4,988.81	13.14	46.55	-127.68	359.76	7,837.12	7,996.95	7,937.85	59.10	135.315			
3,900.00	3,896.67	7,758.00	4,988.81	13.48	46.55	-127.68	359.76	7,837.12	7,986.38	7,926.85	59.53	134.161			
4,000.00	3,896.37	7,758.00	4,988.81	13.83	46.55	-127.68	359.76	7,837.12	7,977.06	7,917.10	59.95	133.055			
4,100.00	4,096.07	7,761.59	4,988.83	14.18	46.60	-127.65	356.17	7,837.32	7,968.97	7,908.55	60.42	131.887			
4,200.00	4,195.76	7,821.71	4,988.76	14.53	47.44	-127.22	296.14	7,840.50	7,962.11	7,900.43	61.68	129.090			
4,300.00	4,295.46	7,867.91	4,988.35	14.88	48.09	-126.88	250.00	7,842.71	7,956.47	7,893.73	62.73	126.827			
4,400.00	4,395.16	4,400.00	4,988.63	15.23	15.53	-127.24	299.24	7,840.25	7,952.00	7,931.93	20.07	396.183			
4,500.00	4,494.86	4,500.00	4,988.61	15.58	15.57	-127.20	293.36	7,840.55	7,948.88	7,928.30	20.58	386.273			
4,600.00	4,594.56	4,600.00	4,988.59	15.93	15.61	-127.15	287.47	7,840.86	7,947.01	7,925.77	21.24	374.125			
4,698.93	4,693.19	4,698.93	4,988.58	16.28	15.65	-127.11	281.65	7,841.16	7,946.40	7,924.18	22.21	357.729			
4,700.00	4,694.25	4,700.00	4,988.58	16.29	15.65	-127.11	281.59	7,841.16	7,946.40	7,924.17	22.23	357.537			
4,800.00	4,793.95	4,800.00	4,988.56	16.64	15.69	-127.07	275.70	7,841.46	7,947.04	7,923.60	23.44	339.000			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Sec 13-T21S-R27E - Lone Tree Draw 13 State Com 5H - Wellbore #1 - Wellbore #1													Offset Well Error:	0.50 ft
Survey Program: 233-GYRO-NS-CT, 4541-MWD+HDGM														
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
4,900.00	4,893.65	4,900.00	4,988.54	17.00	15.73	-127.03	269.82	7,841.77	7,948.93	7,924.12	24.82	320.313		
5,000.00	4,993.35	5,000.00	4,988.52	17.35	15.77	-126.98	263.93	7,842.07	7,952.08	7,925.79	26.29	302.456		
5,100.00	5,093.05	5,100.00	4,988.50	17.71	15.81	-126.94	258.05	7,842.38	7,956.48	7,928.64	27.83	285.851		
5,200.00	5,192.75	7,852.00	4,988.53	18.06	47.86	-127.00	265.89	7,841.97	7,962.14	7,896.25	65.88	120.852		
5,300.00	5,292.44	7,876.32	4,988.34	18.42	48.21	-126.82	241.60	7,843.16	7,968.96	7,902.40	66.56	119.718		
5,400.00	5,392.14	7,878.89	4,988.33	18.77	48.24	-126.81	239.03	7,843.30	7,977.10	7,910.17	66.93	119.187		
5,500.00	5,491.84	7,881.50	4,988.32	19.13	48.28	-126.79	236.42	7,843.43	7,986.48	7,919.19	67.29	118.693		
5,600.00	5,591.54	7,884.15	4,988.31	19.49	48.32	-126.77	233.77	7,843.57	7,997.09	7,929.46	67.64	118.236		
5,700.00	5,691.24	7,886.86	4,988.30	19.85	48.36	-126.75	231.07	7,843.71	8,008.94	7,940.96	67.98	117.815		
5,800.00	5,790.93	7,889.60	4,988.29	20.20	48.39	-126.73	228.33	7,843.86	8,022.02	7,953.70	68.31	117.430		
5,900.00	5,890.63	7,892.40	4,988.28	20.56	48.43	-126.71	225.54	7,844.01	8,036.32	7,967.68	68.64	117.079		
6,000.00	5,990.33	7,895.24	4,988.28	20.92	48.47	-126.69	222.70	7,844.16	8,051.83	7,982.87	68.96	116.762		
6,100.00	6,090.03	7,898.14	4,988.27	21.28	48.51	-126.67	219.81	7,844.32	8,068.55	7,999.28	69.27	116.478		
6,200.00	6,189.73	7,901.09	4,988.27	21.64	48.56	-126.65	216.86	7,844.48	8,086.47	8,016.89	69.57	116.227		
6,300.00	6,289.42	7,904.09	4,988.27	22.00	48.60	-126.62	213.87	7,844.64	8,105.58	8,035.71	69.87	116.008		
6,400.00	6,389.12	7,907.14	4,988.27	22.36	48.64	-126.60	210.82	7,844.81	8,125.87	8,055.71	70.16	115.819		
6,500.00	6,488.82	7,910.25	4,988.28	22.72	48.69	-126.58	207.71	7,844.99	8,147.34	8,076.90	70.44	115.661		
6,600.00	6,588.52	7,913.42	4,988.28	23.08	48.73	-126.56	204.55	7,845.17	8,169.98	8,099.26	70.72	115.533		
6,700.00	6,688.22	7,916.65	4,988.29	23.44	48.78	-126.53	201.32	7,845.35	8,193.77	8,122.78	70.98	115.433		
6,800.00	6,787.91	7,919.94	4,988.30	23.80	48.82	-126.51	198.04	7,845.54	8,218.70	8,147.46	71.24	115.362		
6,900.00	6,887.61	7,923.30	4,988.31	24.16	48.87	-126.49	194.69	7,845.74	8,244.77	8,173.28	71.50	115.318		
7,000.00	6,987.31	7,926.71	4,988.32	24.52	48.92	-126.46	191.28	7,845.94	8,271.97	8,200.22	71.74	115.301		
7,100.00	7,087.01	7,947.00	4,988.45	24.88	49.20	-126.32	171.03	7,847.17	8,300.31	8,228.09	72.22	114.936		
7,200.00	7,186.71	7,947.00	4,988.45	25.24	49.20	-126.32	171.03	7,847.17	8,329.70	8,257.30	72.40	115.051		
7,300.00	7,286.41	7,947.00	4,988.45	25.60	49.20	-126.32	171.03	7,847.17	8,360.19	8,287.62	72.58	115.190		
7,400.00	7,386.10	7,947.00	4,988.45	25.96	49.20	-126.32	171.03	7,847.17	8,391.76	8,319.02	72.75	115.355		
7,500.00	7,485.80	7,947.00	4,988.45	26.33	49.20	-126.32	171.03	7,847.17	8,424.40	8,351.49	72.91	115.545		
7,600.00	7,585.50	7,954.79	4,988.52	26.69	49.31	-126.26	163.25	7,847.65	8,458.10	8,384.92	73.18	115.587		
7,700.00	7,685.20	7,972.28	4,988.64	27.05	49.56	-126.13	145.80	7,848.71	8,492.82	8,419.26	73.57	115.443		
7,800.00	7,784.90	7,989.25	4,988.75	27.41	49.80	-126.01	128.86	7,849.71	8,528.57	8,454.62	73.95	115.336		
7,860.70	7,845.41	7,999.31	4,988.80	27.63	49.94	-125.94	118.82	7,850.29	8,550.75	8,476.59	74.17	115.289		
7,900.00	7,884.61	8,005.33	4,988.83	27.77	50.03	-126.08	112.80	7,850.64	8,565.21	8,490.90	74.30	115.273		
8,000.00	7,984.46	8,016.86	4,988.88	28.13	50.19	-126.48	101.29	7,851.28	8,601.67	8,527.08	74.59	115.319		
8,100.00	8,084.42	8,023.11	4,988.90	28.49	50.28	-126.90	95.06	7,851.63	8,637.70	8,562.90	74.80	115.484		
8,157.59	8,142.00	8,024.39	4,988.91	28.69	50.30	86.93	93.77	7,851.70	8,658.23	8,583.36	74.87	115.637		
8,200.00	8,184.41	8,024.73	4,988.91	28.83	50.30	86.93	93.43	7,851.72	8,673.39	8,598.47	74.92	115.769		
8,300.00	8,284.41	8,025.51	4,988.91	29.17	50.31	86.94	92.66	7,851.76	8,709.85	8,634.82	75.02	116.094		
8,400.00	8,384.41	8,026.27	4,988.91	29.51	50.33	86.94	91.90	7,851.80	8,747.30	8,672.17	75.12	116.439		
8,507.63	8,492.04	8,027.06	4,988.92	29.87	50.34	86.95	91.11	7,851.85	8,788.69	8,713.47	75.23	116.831		
8,550.00	8,534.37	8,027.51	4,988.92	30.02	50.34	-2.35	90.66	7,851.87	8,803.84	8,728.58	75.26	116.976		
8,600.00	8,584.01	8,028.42	4,988.92	30.18	50.36	-2.29	89.75	7,851.92	8,818.15	8,742.84	75.30	117.102		
8,650.00	8,632.95	8,029.73	4,988.93	30.34	50.37	-2.24	88.45	7,851.99	8,828.49	8,753.15	75.34	117.178		
8,700.00	8,680.82	8,031.39	4,988.93	30.50	50.40	-2.20	86.78	7,852.08	8,834.82	8,759.44	75.38	117.204		
8,750.00	8,727.25	8,033.40	4,988.94	30.66	50.43	-2.18	84.78	7,852.19	8,837.08	8,761.66	75.41	117.182		
8,800.00	8,771.89	8,035.72	4,988.94	30.81	50.46	-2.17	82.46	7,852.32	8,835.27	8,759.82	75.44	117.114		
8,850.00	8,814.40	8,038.31	4,988.95	30.95	50.50	-2.18	79.87	7,852.46	8,829.39	8,753.92	75.46	117.001		
8,900.00	8,854.46	8,041.16	4,988.96	31.09	50.54	-2.19	77.03	7,852.61	8,819.48	8,744.00	75.48	116.845		
8,950.00	8,891.75	8,044.22	4,988.96	31.23	50.58	-2.23	73.98	7,852.77	8,805.61	8,730.12	75.49	116.647		
9,000.00	8,926.01	8,047.46	4,988.97	31.37	50.63	-2.28	70.74	7,852.94	8,787.86	8,712.37	75.49	116.408		
9,050.00	8,956.96	8,050.85	4,988.98	31.53	50.67	-2.35	67.35	7,853.12	8,766.35	8,690.86	75.49	116.129		
9,100.00	8,984.38	8,054.36	4,988.98	31.69	50.72	-2.45	63.84	7,853.30	8,741.20	8,665.72	75.48	115.811		
9,150.00	9,008.05	8,057.97	4,988.99	31.87	50.77	-2.57	60.25	7,853.49	8,712.59	8,637.12	75.46	115.456		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Survey Program: 233-GYRO-NS-CT, 4541-MWD+HDGM													Offset Well Error:	0.50 ft
Reference														
Semi Major Axis														
Distance														
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
9,200.00	9,027.79	8,061.63	4,988.99	32.07	50.83	-2.73	56.59	7,853.68	8,680.68	8,605.24	75.44	115.064		
9,250.00	9,043.45	8,052.81	4,988.90	32.29	67.68	-3.27	86.67	7,852.05	8,645.72	8,554.82	90.89	95.118		
9,300.00	9,054.92	8,052.81	4,988.91	32.53	68.39	-3.59	84.34	7,852.18	8,607.90	8,516.45	91.45	94.124		
9,350.00	9,062.10	8,054.21	4,988.98	32.79	50.70	-3.82	65.39	7,853.23	8,567.48	8,492.38	75.10	114.078		
9,400.00	9,064.95	8,054.42	4,988.98	33.06	50.72	-4.39	64.00	7,853.30	8,524.74	8,449.70	75.05	113.595		
9,407.63	9,065.00	8,054.42	4,988.98	33.10	50.72	-4.50	63.79	7,853.31	8,518.03	8,442.99	75.04	113.513		
9,500.00	9,065.00	8,056.99	4,988.98	33.68	50.76	-4.46	61.22	7,853.45	8,436.66	8,361.73	74.93	112.600		
9,600.00	9,065.00	8,059.78	4,988.98	34.41	50.80	-4.42	58.43	7,853.60	8,348.82	8,274.02	74.80	111.610		
9,700.00	9,065.00	8,062.57	4,988.98	35.24	50.84	-4.39	55.65	7,853.75	8,261.26	8,186.57	74.68	110.618		
9,800.00	9,065.00	8,065.36	4,988.98	36.17	50.88	-4.35	52.87	7,853.90	8,173.98	8,099.41	74.56	109.623		
9,900.00	9,065.00	8,068.14	4,988.97	37.19	50.92	-4.31	50.08	7,854.04	8,086.99	8,012.54	74.45	108.627		
10,000.00	9,065.00	8,070.93	4,988.97	38.30	50.96	-4.27	47.30	7,854.19	8,000.30	7,925.97	74.33	107.627		
10,100.00	9,065.00	8,073.72	4,988.97	39.48	51.00	-4.23	44.52	7,854.34	7,913.93	7,839.71	74.22	106.625		
10,200.00	9,065.00	8,076.51	4,988.96	40.72	51.04	-4.19	41.73	7,854.49	7,827.88	7,753.77	74.11	105.620		
10,300.00	9,065.00	8,079.30	4,988.95	42.03	51.08	-4.15	38.95	7,854.64	7,742.17	7,668.16	74.01	104.611		
10,400.00	9,065.00	8,082.08	4,988.95	43.40	51.12	-4.11	36.16	7,854.78	7,656.80	7,582.89	73.91	103.600		
10,500.00	9,065.00	8,084.87	4,988.94	44.82	51.16	-4.07	33.38	7,854.93	7,571.79	7,497.98	73.81	102.585		
10,600.00	9,065.00	8,087.66	4,988.93	46.29	51.20	-4.03	30.60	7,855.08	7,487.14	7,413.43	73.72	101.567		
10,700.00	9,065.00	8,090.45	4,988.92	47.79	51.23	-3.99	27.81	7,855.23	7,402.88	7,329.25	73.63	100.545		
10,800.00	9,065.00	8,093.23	4,988.91	49.34	51.27	-3.95	25.03	7,855.38	7,319.01	7,245.47	73.54	99.519		
10,900.00	9,065.00	8,096.02	4,988.89	50.92	51.31	-3.91	22.25	7,855.53	7,235.55	7,162.08	73.47	98.489		
11,000.00	9,065.00	8,098.81	4,988.88	52.54	51.35	-3.87	19.46	7,855.67	7,152.51	7,079.12	73.39	97.455		
11,100.00	9,065.00	8,101.60	4,988.87	54.18	51.39	-3.83	16.68	7,855.82	7,069.91	6,996.59	73.33	96.417		
11,200.00	9,065.00	8,104.38	4,988.85	55.85	51.43	-3.79	13.89	7,855.97	6,987.77	6,914.50	73.27	95.375		
11,300.00	9,065.00	8,107.17	4,988.83	57.54	51.47	-3.75	11.11	7,856.12	6,906.09	6,832.87	73.21	94.328		
11,400.00	9,065.00	8,109.96	4,988.82	59.26	51.51	-3.71	8.33	7,856.27	6,824.90	6,751.73	73.17	93.277		
11,500.00	9,065.00	8,112.75	4,988.80	61.00	51.55	-3.67	5.54	7,856.42	6,744.21	6,671.08	73.13	92.222		
11,600.00	9,065.00	8,115.54	4,988.79	62.75	51.59	-3.63	2.75	7,856.57	6,664.02	6,591.49	73.09	91.167		
11,700.00	9,065.00	8,118.33	4,988.78	64.52	51.63	-3.59	-0.04	7,856.72	6,584.36	6,512.52	73.05	90.112		
11,800.00	9,065.00	8,121.12	4,988.77	66.31	51.67	-3.55	-2.83	7,856.87	6,505.27	6,433.87	73.01	89.057		
11,900.00	9,065.00	8,123.91	4,988.76	68.11	51.71	-3.51	-5.62	7,857.02	6,426.75	6,355.80	72.97	88.002		
12,000.00	9,065.00	8,126.70	4,988.75	69.93	51.75	-3.47	-8.41	7,857.17	6,348.84	6,279.18	72.93	86.947		
12,100.00	9,065.00	8,129.49	4,988.74	71.76	51.79	-3.43	-11.20	7,857.32	6,271.55	6,203.25	72.89	85.892		
12,200.00	9,065.00	8,132.28	4,988.73	73.60	51.83	-3.39	-14.00	7,857.47	6,194.90	6,127.92	72.85	84.837		
12,300.00	9,065.00	8,135.07	4,988.72	75.45	51.87	-3.35	-16.80	7,857.62	6,118.93	6,053.45	72.81	83.782		
12,400.00	9,065.00	8,137.86	4,988.71	77.31	51.91	-3.31	-19.60	7,857.77	6,043.66	5,979.25	72.77	82.727		
12,500.00	9,065.00	8,140.65	4,988.70	79.18	51.95	-3.27	-22.40	7,857.92	5,969.11	5,905.48	72.73	81.672		
12,600.00	9,065.00	8,143.44	4,988.69	81.05	51.99	-3.23	-25.20	7,858.07	5,895.32	5,832.41	72.69	80.617		
12,700.00	9,065.00	8,146.23	4,988.68	82.94	52.03	-3.19	-28.00	7,858.22	5,822.27	5,760.00	72.65	79.562		
12,800.00	9,065.00	8,149.02	4,988.67	84.83	52.07	-3.15	-30.80	7,858.37	5,750.04	5,688.49	72.61	78.507		
12,900.00	9,065.00	8,151.81	4,988.66	86.73	52.11	-3.11	-33.60	7,858.52	5,678.64	5,617.50	72.57	77.452		
13,000.00	9,065.00	8,154.60	4,988.65	88.64	52.15	-3.07	-36.40	7,858.67	5,608.12	5,547.51	72.53	76.397		
13,100.00	9,065.00	8,157.39	4,988.64	90.55	52.19	-3.03	-39.20	7,858.82	5,538.51	5,478.52	72.49	75.342		
13,200.00	9,065.00	8,160.18	4,988.63	92.47	52.23	-3.00	-42.00	7,858.97	5,469.84	5,409.53	72.45	74.287		
13,300.00	9,065.00	8,162.97	4,988.62	94.39	52.27	-2.96	-44.80	7,859.12	5,402.14	5,341.54	72.41	73.232		
13,400.00	9,065.00	8,165.76	4,988.61	96.32	52.31	-2.92	-47.60	7,859.27	5,335.46	5,274.55	72.37	72.177		
13,500.00	9,065.00	8,168.55	4,988.60	98.25	52.35	-2.88	-50.40	7,859.42	5,269.83	5,208.56	72.33	71.122		
13,600.00	9,065.00	8,171.34	4,988.59	100.19	52.39	-2.84	-53.20	7,859.57	5,205.29	5,144.57	72.29	70.067		
13,700.00	9,065.00	8,174.13	4,988.58	102.13	52.43	-2.80	-56.00	7,859.72	5,141.89	5,081.58	72.25	69.012		
13,800.00	9,065.00	8,176.92	4,988.57	104.08	52.47	-2.76	-58.80	7,859.87	5,079.66	5,020.59	72.21	67.957		
13,900.00	9,065.00	8,179.71	4,988.56	106.03	52.51	-2.72	-61.60	7,859.99	5,018.66	4,961.59	72.17	66.902		
14,000.00	9,065.00	8,182.50	4,988.55	107.98	52.55	-2.68	-64.40	7,860.14	4,958.91	4,902.60	72.13	65.847		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Sec 13-T21S-R27E - Lone Tree Draw 13 State Com 5H - Wellbore #1 - Wellbore #1													Offset Well Error:	0.50 ft
Survey Program: 233-GYRO-NS-CT, 4541-MWD+HDGM														
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)						
14,100.00	9,065.00	8,288.10	4,988.56	109.94	54.04	-1.16	-169.62	7,864.46	4,900.48	4,823.18	77.30	63.394		
14,200.00	9,065.00	8,290.35	4,988.56	111.90	54.07	-1.13	-171.87	7,864.55	4,843.41	4,765.80	77.61	62.410		
14,300.00	9,065.00	8,292.60	4,988.56	113.86	54.10	-1.10	-174.12	7,864.64	4,787.75	4,709.82	77.93	61.439		
14,400.00	9,065.00	8,294.86	4,988.56	115.82	54.13	-1.07	-176.37	7,864.73	4,733.54	4,655.27	78.26	60.482		
14,500.00	9,065.00	8,297.11	4,988.56	117.79	54.16	-1.04	-178.63	7,864.83	4,680.84	4,602.22	78.62	59.541		
14,600.00	9,065.00	8,299.37	4,988.56	119.76	54.20	-1.00	-180.88	7,864.92	4,629.69	4,550.71	78.98	58.616		
14,700.00	9,065.00	8,301.62	4,988.56	121.74	54.23	-0.97	-183.13	7,865.01	4,580.16	4,500.80	79.37	57.709		
14,800.00	9,065.00	8,303.88	4,988.56	123.71	54.26	-0.94	-185.38	7,865.10	4,532.29	4,452.53	79.77	56.820		
14,900.00	9,065.00	8,306.13	4,988.56	125.69	54.29	-0.91	-187.63	7,865.19	4,486.14	4,405.96	80.18	55.951		
15,000.00	9,065.00	8,308.38	4,988.56	127.67	54.32	-0.87	-189.89	7,865.29	4,441.76	4,361.15	80.61	55.101		
15,100.00	9,065.00	8,310.64	4,988.55	129.65	54.36	-0.84	-192.14	7,865.38	4,399.21	4,318.15	81.06	54.273		
15,200.00	9,065.00	8,312.89	4,988.55	131.63	54.39	-0.81	-194.39	7,865.47	4,358.53	4,277.01	81.52	53.466		
15,300.00	9,065.00	8,315.15	4,988.55	133.62	54.42	-0.78	-196.64	7,865.56	4,319.79	4,237.79	82.00	52.681		
15,400.00	9,065.00	8,317.40	4,988.55	135.61	54.45	-0.74	-198.90	7,865.65	4,283.02	4,200.53	82.50	51.918		
15,500.00	9,065.00	8,319.66	4,988.54	137.60	54.48	-0.71	-201.15	7,865.75	4,248.29	4,165.28	83.01	51.178		
15,600.00	9,065.00	8,326.00	4,988.53	139.59	54.57	-0.62	-207.49	7,866.01	4,215.65	4,132.08	83.57	50.442		
15,700.00	9,065.00	8,326.00	4,988.53	141.58	54.57	-0.62	-207.49	7,866.01	4,185.14	4,101.03	84.11	49.760		
15,800.00	9,065.00	8,327.32	4,988.53	143.57	54.59	-0.60	-208.81	7,866.06	4,156.81	4,072.14	84.67	49.095		
15,900.00	9,065.00	8,334.43	4,988.52	145.57	54.69	-0.50	-215.91	7,866.35	4,130.70	4,045.40	85.30	48.426		
16,000.00	9,065.00	8,341.54	4,988.51	147.56	54.79	-0.40	-223.02	7,866.64	4,106.86	4,020.91	85.95	47.782		
16,100.00	9,065.00	8,348.65	4,988.52	149.56	54.89	-0.30	-230.12	7,866.93	4,085.32	3,998.70	86.62	47.163		
16,200.00	9,065.00	8,355.76	4,988.53	151.56	55.00	-0.20	-237.23	7,867.22	4,066.12	3,978.81	87.32	46.567		
16,300.00	9,065.00	8,362.87	4,988.54	153.56	55.10	-0.09	-244.33	7,867.51	4,049.30	3,961.26	88.04	45.994		
16,400.00	9,065.00	8,369.98	4,988.57	155.56	55.20	0.01	-251.44	7,867.80	4,034.88	3,946.10	88.79	45.445		
16,500.00	9,065.00	8,377.09	4,988.60	157.57	55.30	0.11	-258.54	7,868.09	4,022.89	3,933.33	89.56	44.920		
16,600.00	9,065.00	8,384.21	4,988.64	159.57	55.40	0.21	-265.64	7,868.38	4,013.35	3,923.00	90.36	44.417		
16,700.00	9,065.00	8,391.32	4,988.69	161.57	55.50	0.31	-272.75	7,868.67	4,006.28	3,915.10	91.18	43.938		
16,800.00	9,065.00	8,398.43	4,988.75	163.58	55.60	0.42	-279.85	7,868.96	4,001.70	3,909.66	92.03	43.481		
16,900.00	9,065.00	8,405.54	4,988.81	165.59	55.70	0.52	-286.96	7,869.25	3,999.60	3,906.69	92.91	43.048		
16,934.09	9,065.00	8,407.96	4,988.83	166.27	55.74	0.55	-289.38	7,869.35	3,999.45	3,906.24	93.21	42.906 CC		
17,000.00	9,065.00	8,412.65	4,988.88	167.60	55.80	0.62	-294.06	7,869.54	4,000.00	3,906.19	93.81	42.639		
17,100.00	9,065.00	8,419.76	4,988.95	169.60	55.90	0.72	-301.17	7,869.83	4,002.89	3,908.15	94.73	42.254		
17,200.00	9,065.00	8,426.87	4,989.04	171.61	56.01	0.82	-308.27	7,870.12	4,008.26	3,912.59	95.68	41.894		
17,300.00	9,065.00	8,433.98	4,989.13	173.62	56.11	0.92	-315.37	7,870.41	4,016.12	3,919.48	96.64	41.558		
17,400.00	9,065.00	17,400.00	4,988.88	175.63	183.85	0.46	-283.28	7,869.10	4,026.42	3,859.55	166.86	24.130 ES		
17,500.00	9,065.00	17,500.00	4,988.89	177.65	185.27	0.51	-286.26	7,869.22	4,039.21	3,870.14	169.08	23.889		
17,600.00	9,065.00	17,600.00	4,988.91	179.66	186.70	0.55	-289.24	7,869.35	4,054.44	3,883.03	171.40	23.654 SF		
17,700.00	9,065.00	8,433.22	4,989.10	181.67	56.10	0.91	-314.62	7,870.37	4,072.04	3,971.74	100.30	40.599		
17,800.00	9,065.00	8,435.19	4,989.12	183.69	56.12	0.94	-316.59	7,870.45	4,092.01	3,990.77	101.24	40.418		
17,900.00	9,065.00	8,437.12	4,989.14	185.70	56.15	0.97	-318.52	7,870.53	4,114.31	4,012.13	102.18	40.265		
18,000.00	9,065.00	8,439.03	4,989.16	187.72	56.18	1.00	-320.42	7,870.60	4,138.91	4,035.80	103.11	40.141		
18,100.00	9,065.00	8,440.89	4,989.18	189.73	56.20	1.02	-322.28	7,870.67	4,165.76	4,061.73	104.03	40.045		
18,200.00	9,065.00	8,442.73	4,989.20	191.75	56.23	1.05	-324.12	7,870.74	4,194.82	4,089.89	104.93	39.977		
18,300.00	9,065.00	8,444.53	4,989.22	193.77	56.26	1.08	-325.92	7,870.81	4,226.05	4,120.24	105.82	39.938		
18,400.00	9,065.00	8,446.30	4,989.23	195.78	56.28	1.10	-327.69	7,870.88	4,259.40	4,152.72	106.68	39.926		
18,500.00	9,065.00	8,448.05	4,989.25	197.80	56.31	1.13	-329.43	7,870.94	4,294.82	4,187.29	107.53	39.942		
18,600.00	9,065.00	8,449.76	4,989.27	199.82	56.33	1.15	-331.15	7,871.01	4,332.25	4,223.91	108.34	39.986		
18,700.00	9,065.00	8,451.45	4,989.28	201.84	56.35	1.17	-332.83	7,871.07	4,371.65	4,262.51	109.14	40.056		
18,800.00	9,065.00	8,453.10	4,989.30	203.86	56.38	1.20	-334.49	7,871.13	4,412.97	4,303.06	109.90	40.153		
18,900.00	9,065.00	8,454.74	4,989.31	205.88	56.40	1.22	-336.12	7,871.19	4,456.14	4,345.50	110.64	40.275		
19,000.00	9,065.00	8,456.34	4,989.33	207.90	56.42	1.24	-337.72	7,871.25	4,501.12	4,389.77	111.35	40.422		
19,100.00	9,065.00	8,457.92	4,989.34	209.92	56.45	1.27	-339.30	7,871.30	4,547.86	4,435.82	112.04	40.593		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design		Sec 13-T21S-R27E - Lone Tree Draw 13 State Com 5H - Wellbore #1 - Wellbore #1										Offset Site Error:	5.00 ft
Survey Program:		233-GYRO-NS-CT, 4541-MWD+HDGM										Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis		Distance							
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre	Offset Wellbore Centre	Between Centres	Between Ellipses	Minimum Separation	Separation Factor	Warning
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)		
19,200.00	9,065.00	8,459.47	4,989.35	211.95	56.47	1.29	-340.85	7,871.36	4,596.29	4,483.60	112.69	40.787	
19,300.00	9,065.00	8,461.00	4,989.37	213.97	56.49	1.31	-342.38	7,871.41	4,646.37	4,533.06	113.31	41.005	
19,400.00	9,065.00	8,462.51	4,989.38	215.99	56.51	1.33	-343.88	7,871.47	4,698.05	4,584.14	113.91	41.244	
19,456.84	9,065.00	8,463.35	4,989.38	217.14	56.52	1.34	-344.73	7,871.50	4,728.12	4,613.88	114.23	41.389	

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Sec 13-T21S-R27E - Lone Tree Draw 13 State Com 8H - Original Hole - Actuals													Offset Well Error:	0.00 ft
Survey Program: 81-GYRO-NS, 7138-MWD+IGRF														
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
0.00	0.00	0.00	0.00	0.50	5.00	69.35	3,174.32	8,420.97	8,999.68					
100.00	100.00	34.43	34.43	0.52	5.00	69.35	3,174.27	8,420.97	8,999.38	8,993.86	5.52	1,630.933		
200.00	200.00	141.50	141.49	0.70	5.01	69.35	3,173.66	8,421.03	8,999.23	8,993.52	5.71	1,575.567		
283.82	283.82	211.52	211.52	0.94	5.03	69.35	3,173.37	8,421.06	8,999.14	8,993.17	5.97	1,507.776		
300.00	300.00	223.54	223.53	0.99	5.04	69.35	3,173.36	8,421.07	8,999.15	8,993.12	6.02	1,494.173		
400.00	400.00	303.94	303.93	1.31	5.08	69.35	3,173.63	8,421.12	8,999.32	8,992.93	6.39	1,409.347		
500.00	500.00	397.94	397.94	1.65	5.14	69.35	3,174.26	8,421.20	8,999.64	8,992.85	6.79	1,325.546		
600.00	600.00	497.17	497.16	1.99	5.24	69.34	3,175.01	8,421.26	8,999.96	8,992.73	7.23	1,245.489		
700.00	700.00	590.09	590.08	2.34	5.34	69.34	3,175.80	8,421.34	9,000.33	8,992.65	7.68	1,171.904		
800.00	800.00	681.44	681.42	2.69	5.46	69.33	3,176.67	8,421.46	9,000.80	8,992.65	8.15	1,104.144		
900.00	900.00	778.19	778.16	3.04	5.61	69.33	3,177.75	8,421.62	9,001.35	8,992.70	8.65	1,040.678		
1,000.00	1,000.00	886.39	886.36	3.40	5.79	69.32	3,179.19	8,421.68	9,001.87	8,992.68	9.18	980.085		
1,100.00	1,100.00	974.50	974.46	3.75	5.95	69.31	3,180.46	8,421.65	9,002.35	8,992.65	9.70	927.980		
1,200.00	1,200.00	1,056.99	1,056.93	4.11	6.11	69.30	3,181.89	8,421.73	9,003.05	8,992.84	10.22	881.115		
1,300.00	1,300.00	1,137.36	1,137.29	4.46	6.28	69.30	3,183.20	8,421.99	9,003.93	8,993.19	10.74	838.390		
1,400.00	1,400.00	1,224.80	1,224.72	4.82	6.47	69.29	3,184.38	8,422.59	9,005.05	8,993.77	11.29	797.947		
1,500.00	1,500.00	1,391.86	1,391.76	5.18	6.85	69.28	3,186.82	8,423.14	9,005.91	8,993.88	12.03	748.763		
1,600.00	1,600.00	1,472.00	1,471.90	5.53	7.05	69.27	3,188.10	8,423.09	9,006.42	8,993.84	12.58	715.981		
1,700.00	1,700.00	1,542.98	1,542.87	5.89	7.23	69.26	3,189.27	8,423.25	9,007.20	8,994.09	13.11	686.884		
1,800.00	1,800.00	1,617.31	1,617.18	6.25	7.42	69.26	3,190.45	8,423.67	9,008.29	8,994.63	13.66	659.469		
1,900.00	1,900.00	1,733.13	1,732.99	6.61	7.72	69.25	3,192.24	8,424.54	9,009.56	8,995.24	14.32	629.094		
2,000.00	2,000.00	1,852.86	1,852.70	6.96	8.04	69.24	3,194.35	8,424.90	9,010.47	8,995.46	15.00	600.585		
2,100.00	2,100.00	1,934.54	1,934.36	7.32	8.27	69.23	3,195.79	8,425.18	9,011.40	8,995.82	15.59	578.176		
2,200.00	2,200.00	2,042.77	2,042.57	7.68	8.58	69.22	3,197.96	8,425.52	9,012.41	8,996.16	16.25	554.665		
2,300.00	2,300.00	2,102.59	2,102.38	8.04	8.75	69.21	3,199.11	8,425.84	9,013.59	8,996.82	16.78	537.278		
2,400.00	2,400.00	2,251.52	2,251.28	8.39	9.18	69.19	3,202.02	8,426.51	9,014.70	8,997.14	17.57	513.154		
2,500.00	2,500.00	2,320.50	2,320.24	8.75	9.39	69.19	3,203.56	8,426.78	9,015.82	8,997.69	18.13	497.340		
2,600.00	2,599.99	2,378.70	2,378.43	9.09	9.56	-144.89	3,204.86	8,427.26	9,018.03	8,999.39	18.64	483.764		
2,700.00	2,699.96	2,552.42	2,552.10	9.42	10.08	-144.91	3,208.81	8,427.89	9,021.26	9,001.77	19.49	462.819		
2,800.00	2,799.86	2,615.51	2,615.17	9.75	10.28	-144.90	3,210.41	8,428.00	9,025.88	9,005.87	20.41	451.027		
2,900.00	2,899.68	2,697.00	2,696.63	10.08	10.53	-144.89	3,212.53	8,428.37	9,032.23	9,011.64	20.59	438.643		
2,945.33	2,944.88	2,746.09	2,745.70	10.23	10.68	-144.89	3,213.83	8,428.63	9,035.62	9,014.72	20.89	432.469		
3,000.00	2,999.39	2,807.12	2,806.70	10.41	10.87	-144.92	3,215.51	8,428.88	9,039.84	9,018.58	21.26	425.129		
3,100.00	3,099.08	2,886.00	2,885.56	10.75	11.11	-144.96	3,217.68	8,429.23	9,047.61	9,025.77	21.84	414.230		
3,200.00	3,198.78	2,948.33	2,947.86	11.08	11.31	-144.98	3,219.30	8,429.75	9,055.71	9,033.33	22.37	404.804		
3,300.00	3,298.48	3,111.62	3,111.10	11.42	11.83	-145.05	3,223.42	8,431.05	9,063.73	9,040.51	23.22	390.262		
3,400.00	3,398.18	3,191.01	3,190.46	11.76	12.08	-145.08	3,225.47	8,431.44	9,071.49	9,047.68	23.81	380.922		
3,500.00	3,497.88	3,276.83	3,276.25	12.10	12.35	-145.12	3,227.72	8,432.02	9,079.44	9,055.01	24.43	371.686		
3,600.00	3,597.58	3,371.85	3,371.23	12.45	12.66	-145.16	3,230.24	8,432.75	9,087.49	9,062.42	25.07	362.437		
3,700.00	3,697.27	3,700.00	3,611.98	12.79	13.72	-145.26	3,235.94	8,433.60	9,095.43	9,068.95	26.48	343.475		
3,800.00	3,796.97	3,691.11	3,690.40	13.14	13.69	-145.29	3,236.87	8,433.06	9,101.72	9,074.92	26.79	339.683		
3,900.00	3,896.67	3,731.50	3,730.79	13.48	13.83	-145.30	3,236.65	8,433.55	9,108.90	9,081.63	27.27	334.042		
4,000.00	3,996.37	4,000.00	3,820.92	13.83	14.70	-145.32	3,237.18	8,434.44	9,116.41	9,087.92	28.49	319.971		
4,100.00	4,096.07	3,889.56	3,888.82	14.18	14.34	-145.35	3,238.61	8,434.70	9,123.99	9,095.52	28.47	320.425		
4,200.00	4,195.76	3,955.85	3,955.09	14.53	14.56	-145.37	3,239.91	8,435.42	9,132.09	9,103.05	29.04	314.495		
4,300.00	4,295.46	4,054.24	4,053.46	14.88	14.88	-145.41	3,241.54	8,436.80	9,140.38	9,110.68	29.71	307.665		
4,400.00	4,395.16	4,217.33	4,216.53	15.23	15.42	-145.45	3,242.46	8,439.04	9,148.25	9,117.65	30.60	298.966		
4,500.00	4,494.86	10,619.00	7,792.46	15.58	65.29	-126.90	107.70	8,416.86	9,140.94	9,064.87	76.07	120.167		
4,600.00	4,594.56	4,600.00	7,794.24	15.93	42.02	-126.60	61.60	8,417.16	9,108.76	9,053.84	54.91	165.875		
4,700.00	4,694.25	4,700.00	7,797.42	16.29	40.53	-125.92	-41.87	8,417.55	9,077.54	9,023.48	54.06	167.914		
4,800.00	4,793.95	4,800.00	7,797.63	16.64	38.73	-125.86	-50.66	8,417.56	9,047.30	8,994.46	52.84	171.220		
4,900.00	4,893.65	4,900.00	7,797.84	17.00	36.92	-125.80	-59.46	8,417.57	9,018.05	8,966.44	51.61	174.745		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Sec 13-T21S-R27E - Lone Tree Draw 13 State Com 8H - Original Hole - Actuals													Offset Well Error:	0.00 ft
Survey Program: 81-GYRO-NS, 7138-MWD+IGRF														
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
5,000.00	4,993.35	5,000.00	7,798.05	17.35	35.11	-125.74	-68.26	8,417.58	8,989.81	8,939.45	50.36	178.509		
5,100.00	5,093.05	5,100.00	7,798.26	17.71	33.31	-125.69	-77.05	8,417.59	8,962.60	8,913.49	49.10	182.532		
5,200.00	5,192.75	5,192.75	7,798.78	18.06	69.04	-125.52	-102.61	8,417.57	8,936.35	8,852.58	83.77	106.682		
5,300.00	5,292.44	5,292.44	7,798.87	18.42	69.11	-125.49	-106.54	8,417.57	8,911.18	8,826.77	84.41	105.567		
5,400.00	5,392.14	5,392.14	7,798.96	18.77	69.18	-125.46	-110.53	8,417.57	8,887.07	8,802.01	85.06	104.485		
5,500.00	5,491.84	5,491.84	7,799.05	19.13	69.25	-125.44	-114.56	8,417.58	8,864.01	8,778.31	85.69	103.437		
5,600.00	5,591.54	5,591.54	7,799.15	19.49	69.33	-125.41	-118.65	8,417.58	8,842.02	8,755.69	86.33	102.423		
5,700.00	5,691.24	5,691.24	7,799.24	19.85	69.40	-125.38	-122.79	8,417.59	8,821.10	8,734.14	86.96	101.441		
5,800.00	5,790.93	5,790.93	7,799.35	20.20	69.48	-125.36	-126.98	8,417.60	8,801.27	8,713.68	87.58	100.492		
5,900.00	5,890.63	5,890.63	7,799.45	20.56	69.55	-125.33	-131.23	8,417.61	8,782.52	8,694.32	88.20	99.574		
6,000.00	5,990.33	5,990.33	7,799.57	20.92	69.63	-125.30	-135.54	8,417.62	8,764.87	8,676.06	88.81	98.688		
6,100.00	6,090.03	6,090.03	7,799.68	21.28	69.71	-125.27	-139.90	8,417.63	8,748.33	8,658.91	89.42	97.833		
6,200.00	6,189.73	6,189.73	7,799.80	21.64	69.79	-125.24	-144.33	8,417.65	8,732.89	8,642.87	90.02	97.009		
6,300.00	6,289.42	6,289.42	7,799.92	22.00	69.87	-125.21	-148.81	8,417.67	8,718.57	8,627.95	90.62	96.215		
6,400.00	6,389.12	6,389.12	7,800.05	22.36	69.95	-125.18	-153.35	8,417.69	8,705.37	8,614.17	91.20	95.451		
6,500.00	6,488.82	6,488.82	7,800.71	22.72	70.34	-125.04	-175.17	8,417.81	8,693.33	8,601.24	92.09	94.402		
6,600.00	6,588.52	6,588.52	7,800.71	23.08	70.34	-125.04	-175.17	8,417.81	8,682.37	8,589.79	92.58	93.784		
6,700.00	6,688.22	6,688.22	7,800.71	23.44	70.34	-125.04	-175.17	8,417.81	8,672.55	8,579.49	93.06	93.194		
6,800.00	6,787.91	6,787.91	7,800.71	23.80	70.34	-125.04	-175.17	8,417.81	8,663.87	8,570.34	93.53	92.632		
6,900.00	6,887.61	6,887.61	7,800.83	24.16	70.40	-125.01	-178.76	8,417.84	8,656.33	8,562.28	94.06	92.033		
7,000.00	6,987.31	6,987.31	7,801.14	24.52	70.58	-124.95	-188.30	8,417.90	8,649.94	8,555.26	94.68	91.359		
7,100.00	7,087.01	7,087.01	7,801.46	24.88	70.75	-124.89	-197.99	8,417.97	8,644.69	8,549.39	95.30	90.713		
7,200.00	7,186.71	7,186.71	7,801.79	25.24	70.93	-124.82	-207.82	8,418.03	8,640.59	8,544.68	95.91	90.093		
7,300.00	7,286.41	7,286.41	7,802.14	25.60	71.11	-124.76	-217.82	8,418.10	8,637.62	8,541.11	96.51	89.500		
7,400.00	7,386.10	7,386.10	7,802.50	25.96	71.29	-124.69	-227.97	8,418.16	8,635.81	8,538.70	97.11	88.932		
7,500.00	7,485.80	7,485.80	7,802.87	26.33	71.48	-124.62	-238.29	8,418.23	8,635.13	8,537.44	97.69	88.390		
7,508.57	7,494.34	7,494.34	7,802.91	26.36	71.49	-124.61	-239.18	8,418.24	8,635.13	8,537.39	97.74	88.345		
7,600.00	7,585.50	7,585.50	7,803.26	26.69	71.67	-124.55	-248.77	8,418.30	8,635.61	8,537.33	98.27	87.873		
7,700.00	7,685.20	7,685.20	7,803.67	27.05	71.86	-124.48	-259.43	8,418.36	8,637.23	8,538.38	98.85	87.380		
7,800.00	7,784.90	7,784.90	7,805.94	27.41	25.06	-124.07	-320.86	8,418.43	8,639.84	8,597.52	42.31	204.181		
7,860.70	7,845.41	7,860.70	7,806.16	27.63	25.07	-124.03	-326.98	8,418.44	8,642.04	8,598.47	43.57	198.352		
7,900.00	7,884.61	7,884.61	7,809.49	27.77	74.76	-123.44	-420.31	8,418.00	8,643.58	8,541.09	102.48	84.341		
8,000.00	7,984.46	7,984.46	7,810.41	28.13	75.23	-123.31	-446.00	8,417.71	8,647.17	8,543.88	103.29	83.716		
8,100.00	8,084.42	8,084.42	7,811.12	28.49	75.57	-123.23	-465.15	8,417.46	8,650.47	8,546.50	103.97	83.202		
8,157.59	8,142.00	8,142.00	7,811.41	28.69	75.72	90.88	-473.15	8,417.35	8,652.23	8,547.94	104.29	82.961		
8,200.00	8,184.41	8,200.00	7,809.91	28.83	25.17	90.61	-431.46	8,417.81	8,653.57	8,602.99	50.58	171.083		
8,300.00	8,284.41	8,300.00	7,810.04	29.17	25.21	90.63	-435.00	8,417.77	8,657.64	8,604.98	52.66	164.419		
8,400.00	8,384.41	8,400.00	7,810.16	29.51	25.52	90.65	-438.54	8,417.74	8,662.86	8,608.13	54.73	158.283		
8,507.63	8,492.04	8,507.63	7,810.30	29.87	27.31	90.68	-442.35	8,417.71	8,669.76	8,612.80	56.96	152.210		
8,550.00	8,534.37	8,550.00	7,810.35	30.02	28.06	1.31	-443.82	8,417.69	8,671.28	8,613.44	57.83	149.934		
8,600.00	8,584.01	8,584.01	7,811.33	30.18	75.67	1.50	-470.65	8,417.40	8,669.30	8,563.84	105.46	82.202		
8,650.00	8,632.95	8,632.95	7,811.37	30.34	75.69	1.52	-471.67	8,417.39	8,663.26	8,557.67	105.60	82.042		
8,700.00	8,680.82	8,680.82	7,811.41	30.50	75.71	1.55	-472.62	8,417.38	8,653.20	8,547.49	105.72	81.851		
8,750.00	8,727.25	8,727.25	7,811.44	30.66	75.72	1.60	-473.49	8,417.37	8,639.19	8,533.36	105.83	81.632		
8,800.00	8,771.89	8,771.89	7,811.47	30.81	75.74	1.66	-474.27	8,417.36	8,621.30	8,515.37	105.93	81.387		
8,850.00	8,814.40	8,814.40	7,811.50	30.95	75.75	1.74	-474.95	8,417.35	8,599.65	8,493.64	106.02	81.116		
8,900.00	8,854.46	8,854.46	7,811.52	31.09	75.76	1.83	-475.52	8,417.34	8,574.38	8,468.30	106.09	80.823		
8,950.00	8,891.75	8,891.75	7,811.54	31.23	75.77	1.95	-475.98	8,417.34	8,545.66	8,439.51	106.15	80.507		
9,000.00	8,926.01	8,926.01	7,811.55	31.37	75.77	2.10	-476.33	8,417.33	8,513.65	8,407.46	106.19	80.171		
9,050.00	8,956.96	8,956.96	7,811.56	31.53	75.78	2.29	-476.55	8,417.33	8,478.58	8,372.35	106.23	79.817		
9,100.00	8,984.38	8,984.38	7,811.57	31.69	75.78	2.54	-476.65	8,417.33	8,440.67	8,334.42	106.25	79.445		
9,150.00	9,008.05	9,008.05	7,811.57	31.87	75.78	2.87	-476.62	8,417.33	8,400.17	8,293.92	106.25	79.057		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Sec 13-T21S-R27E - Lone Tree Draw 13 State Com 8H - Original Hole - Actuals													Offset Well Error:	0.00 ft
Survey Program: 81-GYRO-NS, 7138-MWD+IGRF														
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
9,200.00	9,027.79	11,203.50	7,811.56	32.07	75.78	3.31	-476.46	8,417.33	8,357.36	8,251.11	106.25	78.655		
9,250.00	9,043.45	11,203.21	7,811.55	32.29	75.77	3.95	-476.17	8,417.34	8,312.53	8,206.29	106.24	78.241		
9,300.00	9,054.92	11,202.79	7,811.53	32.53	75.76	4.93	-475.75	8,417.34	8,266.00	8,159.77	106.23	77.815		
9,350.00	9,062.10	11,202.24	7,811.51	32.79	75.75	6.61	-475.20	8,417.35	8,218.08	8,111.88	106.20	77.379		
9,400.00	9,064.95	11,201.56	7,811.48	33.06	75.74	10.11	-474.53	8,417.35	8,169.13	8,062.95	106.18	76.936		
9,407.63	9,065.00	11,201.45	7,811.48	33.10	75.74	11.00	-474.41	8,417.36	8,161.59	8,055.41	106.18	76.867		
9,500.00	9,065.00	11,200.05	7,811.42	33.68	75.71	10.93	-473.02	8,417.37	8,070.24	7,964.11	106.13	76.042		
9,600.00	9,065.00	11,198.52	7,811.36	34.41	75.69	10.86	-471.49	8,417.39	7,971.37	7,865.30	106.07	75.149		
9,700.00	9,065.00	11,196.97	7,811.30	35.24	75.66	10.79	-469.94	8,417.41	7,872.53	7,766.51	106.02	74.256		
9,800.00	9,065.00	9,800.00	7,810.32	36.17	50.47	9.52	-443.02	8,417.70	7,773.71	7,692.67	81.04	95.921		
9,900.00	9,065.00	9,900.00	7,810.25	37.19	52.27	9.42	-440.99	8,417.72	7,674.92	7,592.12	82.81	92.685		
10,000.00	9,065.00	10,000.00	7,810.18	38.30	54.07	9.32	-438.96	8,417.74	7,576.17	7,491.60	84.57	89.585		
10,100.00	9,065.00	10,100.00	7,810.11	39.48	55.87	9.23	-436.93	8,417.76	7,477.44	7,391.11	86.33	86.611		
10,200.00	9,065.00	11,199.35	7,811.38	40.72	75.70	10.90	-472.32	8,417.36	7,378.78	7,272.85	105.94	69.653		
10,300.00	9,065.00	11,193.09	7,811.15	42.03	75.59	10.60	-466.06	8,417.45	7,280.14	7,174.34	105.80	68.810		
10,400.00	9,065.00	11,187.06	7,810.93	43.40	75.48	10.32	-460.04	8,417.53	7,181.53	7,075.86	105.67	67.962		
10,500.00	9,065.00	11,181.27	7,810.72	44.82	75.37	10.05	-454.25	8,417.61	7,082.96	6,977.41	105.54	67.110		
10,600.00	9,065.00	11,175.69	7,810.51	46.29	75.27	9.78	-448.67	8,417.68	6,984.42	6,879.00	105.42	66.253		
10,700.00	9,065.00	11,170.31	7,810.32	47.79	75.18	9.53	-443.30	8,417.74	6,885.93	6,780.63	105.30	65.392		
10,800.00	9,065.00	11,165.12	7,810.13	49.34	75.08	9.28	-438.12	8,417.80	6,787.48	6,682.29	105.19	64.528		
10,900.00	9,065.00	11,160.12	7,809.95	50.92	74.99	9.04	-433.12	8,417.86	6,689.07	6,584.00	105.08	63.660		
11,000.00	9,065.00	11,155.29	7,809.77	52.54	74.91	8.82	-428.29	8,417.91	6,590.71	6,485.74	104.97	62.788		
11,100.00	9,065.00	11,150.62	7,809.61	54.18	74.82	8.59	-423.62	8,417.96	6,492.40	6,387.54	104.86	61.914		
11,200.00	9,065.00	11,146.11	7,809.45	55.85	74.74	8.38	-419.11	8,418.01	6,394.14	6,289.38	104.76	61.036		
11,300.00	9,065.00	11,141.74	7,809.29	57.54	74.66	8.17	-414.75	8,418.05	6,295.93	6,191.27	104.66	60.156		
11,400.00	9,065.00	11,137.52	7,809.14	59.26	74.58	7.97	-410.53	8,418.09	6,197.78	6,093.21	104.56	59.273		
11,500.00	9,065.00	11,133.43	7,809.00	61.00	74.51	7.77	-406.44	8,418.13	6,099.68	5,995.21	104.47	58.387		
11,600.00	9,065.00	11,129.47	7,808.86	62.75	74.44	7.59	-402.49	8,418.16	6,001.65	5,897.27	104.38	57.499		
11,700.00	9,065.00	11,125.63	7,808.72	64.52	74.37	7.40	-398.65	8,418.20	5,903.68	5,799.39	104.29	56.609		
11,800.00	9,065.00	11,121.90	7,808.59	66.31	74.30	7.22	-394.93	8,418.23	5,805.78	5,701.58	104.20	55.717		
11,900.00	9,065.00	11,118.29	7,808.46	68.11	74.24	7.05	-391.32	8,418.26	5,707.96	5,603.84	104.12	54.822		
12,000.00	9,065.00	11,114.79	7,808.34	69.93	74.17	6.88	-387.81	8,418.28	5,610.21	5,506.17	104.03	53.927		
12,100.00	9,065.00	12,100.00	7,806.87	71.76	91.95	4.88	-346.14	8,418.44	5,512.53	5,391.10	121.43	45.398		
12,200.00	9,065.00	12,200.00	7,806.83	73.60	93.75	4.83	-345.07	8,418.44	5,414.93	5,291.77	123.16	43.966		
12,300.00	9,065.00	12,300.00	7,806.79	75.45	95.56	4.78	-344.00	8,418.44	5,317.42	5,192.53	124.89	42.575		
12,400.00	9,065.00	11,105.52	7,808.01	77.31	74.01	6.44	-378.55	8,418.34	5,220.03	5,116.24	103.79	50.294		
12,500.00	9,065.00	11,101.33	7,807.87	79.18	73.93	6.24	-374.37	8,418.37	5,122.73	5,019.03	103.69	49.402		
12,600.00	9,065.00	11,097.37	7,807.74	81.05	73.86	6.05	-370.41	8,418.40	5,025.53	4,921.92	103.60	48.507		
12,700.00	9,065.00	11,093.63	7,807.61	82.94	73.79	5.87	-366.67	8,418.42	4,928.43	4,824.92	103.52	47.610		
12,800.00	9,065.00	11,090.08	7,807.49	84.83	73.73	5.70	-363.12	8,418.45	4,831.46	4,728.03	103.43	46.711		
12,900.00	9,065.00	11,086.70	7,807.37	86.73	73.67	5.54	-359.75	8,418.46	4,734.61	4,631.26	103.35	45.811		
13,000.00	9,065.00	11,083.50	7,807.26	88.64	73.61	5.38	-356.54	8,418.48	4,637.89	4,534.62	103.27	44.908		
13,100.00	9,065.00	11,080.44	7,807.16	90.55	73.55	5.24	-353.49	8,418.49	4,541.32	4,438.11	103.20	44.005		
13,200.00	9,065.00	11,077.54	7,807.06	92.47	73.50	5.10	-350.59	8,418.51	4,444.89	4,341.76	103.13	43.100		
13,300.00	9,065.00	11,074.76	7,806.96	94.39	73.45	4.96	-347.81	8,418.52	4,348.62	4,245.56	103.06	42.195		
13,400.00	9,065.00	11,072.11	7,806.87	96.32	73.40	4.84	-345.16	8,418.53	4,252.53	4,149.54	102.99	41.289		
13,500.00	9,065.00	11,069.58	7,806.78	98.25	73.36	4.71	-342.63	8,418.53	4,156.62	4,053.69	102.93	40.383		
13,600.00	9,065.00	11,067.15	7,806.69	100.19	73.31	4.60	-340.21	8,418.54	4,060.91	3,958.04	102.87	39.476		
13,700.00	9,065.00	11,064.83	7,806.61	102.13	73.27	4.49	-337.89	8,418.55	3,965.40	3,862.59	102.81	38.570		
13,800.00	9,065.00	11,062.60	7,806.53	104.08	73.23	4.38	-335.66	8,418.55	3,870.12	3,767.37	102.75	37.664		
13,900.00	9,065.00	11,060.46	7,806.45	106.03	73.19	4.28	-333.52	8,418.56	3,775.09	3,672.39	102.70	36.758		
14,000.00	9,065.00	11,058.41	7,806.38	107.98	73.16	4.18	-331.47	8,418.56	3,680.32	3,577.67	102.65	35.853		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Sec 13-T21S-R27E - Lone Tree Draw 13 State Com 8H - Original Hole - Actuals													Offset Well Error:	0.00 ft
Survey Program: 81-GYRO-NS, 7138-MWD+IGRF														
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (ft)	Separation Factor	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)				
14,100.00	9,065.00	11,056.44	7,806.31	109.94	73.12	4.08	-329.50	8,418.56	3,585.83	3,483.23	102.60	34.949		
14,200.00	9,065.00	11,054.54	7,806.24	111.90	73.09	3.99	-327.60	8,418.57	3,491.65	3,389.09	102.56	34.046		
14,300.00	9,065.00	11,052.71	7,806.18	113.86	73.05	3.90	-325.78	8,418.57	3,397.80	3,295.29	102.51	33.145		
14,400.00	9,065.00	11,050.95	7,806.11	115.82	73.02	3.82	-324.02	8,418.57	3,304.31	3,201.84	102.48	32.245		
14,500.00	9,065.00	11,049.25	7,806.05	117.79	72.99	3.74	-322.32	8,418.57	3,211.21	3,108.77	102.44	31.347		
14,600.00	9,065.00	11,047.61	7,805.99	119.76	72.96	3.66	-320.68	8,418.57	3,118.54	3,016.14	102.41	30.452		
14,700.00	9,065.00	11,046.03	7,805.93	121.74	72.93	3.58	-319.10	8,418.57	3,026.34	2,923.96	102.38	29.560		
14,800.00	9,065.00	11,044.51	7,805.88	123.71	72.91	3.51	-317.58	8,418.57	2,934.64	2,832.29	102.36	28.671		
14,900.00	9,065.00	11,043.03	7,805.82	125.69	72.88	3.44	-316.10	8,418.57	2,843.51	2,741.17	102.34	27.786		
15,000.00	9,065.00	11,041.61	7,805.77	127.67	72.85	3.37	-314.68	8,418.57	2,752.99	2,650.67	102.32	26.906		
15,100.00	9,065.00	11,040.23	7,805.72	129.65	72.83	3.30	-313.30	8,418.57	2,663.15	2,560.84	102.31	26.030		
15,200.00	9,065.00	11,038.89	7,805.67	131.63	72.81	3.24	-311.96	8,418.57	2,574.05	2,471.75	102.30	25.161		
15,300.00	9,065.00	11,037.60	7,805.62	133.62	72.78	3.18	-310.67	8,418.57	2,485.79	2,383.49	102.30	24.299		
15,400.00	9,065.00	11,036.34	7,805.58	135.61	72.76	3.11	-309.42	8,418.57	2,398.44	2,296.14	102.30	23.445		
15,500.00	9,065.00	11,035.13	7,805.53	137.60	72.74	3.06	-308.20	8,418.57	2,312.12	2,209.82	102.31	22.600		
15,600.00	9,065.00	11,033.95	7,805.49	139.59	72.72	3.00	-307.03	8,418.56	2,226.95	2,124.64	102.31	21.766		
15,700.00	9,065.00	11,032.80	7,805.45	141.58	72.70	2.94	-305.88	8,418.56	2,143.05	2,040.74	102.32	20.945		
15,800.00	9,065.00	11,031.69	7,805.40	143.57	72.68	2.89	-304.77	8,418.56	2,060.60	1,958.28	102.32	20.139		
15,900.00	9,065.00	11,030.61	7,805.36	145.57	72.66	2.84	-303.69	8,418.56	1,979.76	1,877.45	102.31	19.350		
16,000.00	9,065.00	11,029.57	7,805.32	147.56	72.64	2.79	-302.65	8,418.56	1,900.74	1,798.45	102.29	18.582		
16,100.00	9,065.00	11,028.55	7,805.29	149.56	72.62	2.74	-301.63	8,418.55	1,823.79	1,721.54	102.24	17.837		
16,200.00	9,065.00	11,027.56	7,805.25	151.56	72.60	2.69	-300.64	8,418.55	1,749.16	1,647.00	102.17	17.121		
16,300.00	9,065.00	11,026.59	7,805.21	153.56	72.58	2.64	-299.68	8,418.55	1,677.19	1,575.14	102.04	16.436		
16,400.00	9,065.00	11,025.65	7,805.18	155.56	72.57	2.60	-298.74	8,418.55	1,608.20	1,506.35	101.85	15.789		
16,500.00	9,065.00	11,024.74	7,805.14	157.57	72.55	2.56	-297.83	8,418.55	1,542.62	1,441.04	101.58	15.186		
16,600.00	9,065.00	11,023.85	7,805.11	159.57	72.53	2.51	-296.94	8,418.54	1,480.90	1,379.69	101.21	14.632		
16,700.00	9,065.00	11,022.98	7,805.08	161.57	72.52	2.47	-296.07	8,418.54	1,423.53	1,322.81	100.72	14.134		
16,800.00	9,065.00	11,022.14	7,805.05	163.58	72.50	2.43	-295.23	8,418.54	1,371.05	1,270.96	100.09	13.698		
16,900.00	9,065.00	11,021.32	7,805.02	165.59	72.49	2.39	-294.40	8,418.54	1,324.07	1,224.73	99.33	13.330		
17,000.00	9,065.00	11,020.51	7,804.98	167.60	72.47	2.35	-293.60	8,418.53	1,283.17	1,184.70	98.47	13.031		
17,100.00	9,065.00	11,019.73	7,804.96	169.60	72.46	2.31	-292.82	8,418.53	1,248.95	1,151.39	97.57	12.801		
17,200.00	9,065.00	11,018.97	7,804.93	171.61	72.45	2.28	-292.06	8,418.53	1,221.98	1,125.22	96.76	12.629		
17,300.00	9,065.00	11,018.22	7,804.90	173.62	72.43	2.24	-291.31	8,418.53	1,202.75	1,106.50	96.24	12.497		
17,400.00	9,065.00	11,017.49	7,804.87	175.63	72.42	2.21	-290.58	8,418.52	1,191.62	1,095.36	96.26	12.380		
17,483.22	9,065.00	11,016.90	7,804.85	177.31	72.41	2.18	-289.99	8,418.52	1,188.71	1,091.89	96.82	12.278 CC		
17,500.00	9,065.00	11,016.78	7,804.84	177.65	72.41	2.17	-289.87	8,418.52	1,188.83	1,091.83	97.00	12.256 ES		
17,600.00	9,065.00	11,016.09	7,804.82	179.66	72.39	2.14	-289.18	8,418.52	1,194.43	1,095.93	98.51	12.126		
17,700.00	9,065.00	11,015.41	7,804.79	181.67	72.38	2.11	-288.50	8,418.52	1,208.31	1,107.68	100.63	12.008		
17,800.00	9,065.00	11,014.74	7,804.77	183.69	72.37	2.07	-287.84	8,418.51	1,230.19	1,127.09	103.10	11.931		
17,900.00	9,065.00	11,014.10	7,804.74	185.70	72.36	2.04	-287.19	8,418.51	1,259.65	1,153.99	105.66	11.921 SF		
18,000.00	9,065.00	11,013.46	7,804.72	187.72	72.35	2.01	-286.55	8,418.51	1,296.18	1,188.07	108.11	11.989		
18,100.00	9,065.00	11,012.84	7,804.69	189.73	72.34	1.98	-285.93	8,418.51	1,339.19	1,228.87	110.32	12.139		
18,200.00	9,065.00	11,012.23	7,804.67	191.75	72.32	1.95	-285.33	8,418.50	1,388.09	1,275.85	112.24	12.368		
18,300.00	9,065.00	11,011.64	7,804.65	193.77	72.31	1.92	-284.73	8,418.50	1,442.27	1,328.42	113.85	12.668		
18,400.00	9,065.00	11,011.06	7,804.62	195.78	72.30	1.90	-284.15	8,418.50	1,501.16	1,385.99	115.17	13.034		
18,500.00	9,065.00	11,010.49	7,804.60	197.80	72.29	1.87	-283.58	8,418.50	1,564.23	1,448.00	116.24	13.457		
18,600.00	9,065.00	11,009.93	7,804.58	199.82	72.28	1.84	-283.03	8,418.49	1,631.00	1,513.93	117.07	13.931		
18,700.00	9,065.00	11,009.39	7,804.56	201.84	72.27	1.82	-282.48	8,418.49	1,701.04	1,583.31	117.72	14.450		
18,800.00	9,065.00	11,008.85	7,804.54	203.86	72.26	1.79	-281.95	8,418.49	1,773.94	1,655.73	118.21	15.006		
18,900.00	9,065.00	11,008.33	7,804.52	205.88	72.25	1.76	-281.42	8,418.49	1,849.38	1,730.81	118.57	15.597		
19,000.00	9,065.00	11,007.81	7,804.50	207.90	72.24	1.74	-280.91	8,418.48	1,927.06	1,808.23	118.83	16.217		
19,100.00	9,065.00	11,007.31	7,804.48	209.92	72.24	1.72	-280.41	8,418.48	2,006.71	1,887.71	119.00	16.863		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Sec 13-T21S-R27E - Lone Tree Draw 13 State Com 8H - Original Hole - Actuals		Offset Site Error:		5.00 ft	
Survey Program:													81-GYRO-NS, 7138-MWD+IGRF		Offset Well Error:		0.00 ft	
Reference		Offset		Semi Major Axis			Distance							Warning				
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor						
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)							
19,200.00	9,065.00	11,006.81	7,804.46	211.95	72.23	1.69	-279.91	8,418.48	2,088.12	1,969.01	119.11	17.531						
19,300.00	9,065.00	11,006.33	7,804.44	213.97	72.22	1.67	-279.43	8,418.48	2,171.08	2,051.91	119.17	18.218						
19,400.00	9,065.00	11,009.90	7,804.59	215.99	72.28	1.84	-283.00	8,418.51	2,255.41	2,136.14	119.27	18.910						
19,456.84	9,065.00	11,009.59	7,804.58	217.14	72.28	1.83	-282.69	8,418.50	2,303.91	2,184.64	119.27	19.317						

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Sec 13-T21S-R27E - Lone Tree Draw State 3H - Wellbore #1 - Wellbore #1													Offset Well Error:	0.50 ft
Survey Program: 100-GYRO-NS-CT, 4452-MWD+HDGM														
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)						
0.00	0.00	0.00	0.00	0.50	5.02	65.24	3,164.82	6,862.71	7,557.53					
100.00	100.00	26.80	26.80	0.52	5.03	65.24	3,164.85	6,862.73	7,557.35	7,551.81	5.54	1,363.446		
200.00	200.00	100.00	100.00	0.70	5.03	65.24	3,165.28	6,862.92	7,557.80	7,552.07	5.73	1,319.261		
300.00	300.00	214.52	214.52	0.99	5.05	65.24	3,166.10	6,863.24	7,558.38	7,552.34	6.04	1,251.274		
400.00	400.00	278.79	278.78	1.31	5.08	65.23	3,166.82	6,863.40	7,559.03	7,552.64	6.39	1,182.739		
500.00	500.00	392.87	392.85	1.65	5.16	65.22	3,168.70	6,863.56	7,559.86	7,553.05	6.80	1,111.125		
600.00	600.00	507.43	507.39	1.99	5.26	65.21	3,170.29	6,863.51	7,560.41	7,553.15	7.25	1,042.277		
700.00	700.00	576.28	576.24	2.34	5.34	65.20	3,171.21	6,863.61	7,561.09	7,553.41	7.68	984.629		
800.00	800.00	675.47	675.41	2.69	5.47	65.19	3,172.92	6,863.85	7,562.03	7,553.87	8.16	926.895		
900.00	900.00	788.16	788.09	3.04	5.64	65.18	3,175.04	6,863.86	7,562.83	7,554.15	8.68	871.310		
1,000.00	1,000.00	858.77	858.68	3.40	5.75	65.17	3,176.19	6,864.00	7,563.71	7,554.56	9.15	826.591		
1,100.00	1,100.00	1,100.00	974.72	3.75	6.21	65.15	3,178.47	6,864.24	7,564.73	7,554.76	9.96	759.218		
1,200.00	1,200.00	1,193.64	1,193.49	4.11	6.41	65.12	3,182.07	6,862.45	7,564.49	7,553.97	10.52	719.236		
1,300.00	1,300.00	1,316.11	1,315.93	4.46	6.68	65.11	3,183.47	6,860.63	7,563.61	7,552.46	11.15	678.513		
1,400.00	1,400.00	1,401.53	1,401.35	4.82	6.88	65.10	3,184.09	6,859.51	7,562.73	7,551.03	11.70	646.181		
1,500.00	1,500.00	1,526.56	1,526.36	5.18	7.19	65.09	3,185.18	6,857.66	7,561.75	7,549.38	12.37	611.518		
1,600.00	1,600.00	1,627.23	1,627.01	5.53	7.45	65.07	3,186.40	6,855.83	7,560.61	7,547.63	12.98	582.527		
1,700.00	1,700.00	1,700.00	1,764.98	5.89	7.64	65.05	3,187.97	6,853.07	7,559.29	7,545.76	13.53	558.876		
1,800.00	1,800.00	8,057.99	4,987.40	6.25	51.13	91.19	-141.46	6,789.92	7,526.95	7,473.66	53.29	141.253		
1,900.00	1,900.00	8,057.78	4,987.40	6.61	51.13	91.19	-141.25	6,789.92	7,484.38	7,430.56	53.82	139.063		
2,000.00	2,000.00	8,057.57	4,987.40	6.96	51.12	91.19	-141.04	6,789.92	7,442.90	7,388.55	54.35	136.933		
2,100.00	2,100.00	8,057.36	4,987.40	7.32	51.12	91.19	-140.83	6,789.93	7,402.55	7,347.66	54.89	134.863		
2,200.00	2,200.00	8,057.15	4,987.40	7.68	51.12	91.19	-140.62	6,789.93	7,363.34	7,307.91	55.43	132.852		
2,300.00	2,300.00	8,056.93	4,987.40	8.04	51.11	91.18	-140.40	6,789.94	7,325.27	7,269.31	55.96	130.900		
2,400.00	2,400.00	8,056.72	4,987.40	8.39	51.11	91.18	-140.19	6,789.94	7,288.39	7,231.89	56.50	129.007		
2,500.00	2,500.00	8,056.50	4,987.41	8.75	51.11	91.18	-139.97	6,789.94	7,252.69	7,195.66	57.03	127.173		
2,600.00	2,599.99	8,056.76	4,987.40	9.09	51.11	-123.20	-140.23	6,789.94	7,218.65	7,161.10	57.55	125.426		
2,700.00	2,699.96	8,057.97	4,987.40	9.42	51.13	-123.47	-141.44	6,789.92	7,186.75	7,128.67	58.07	123.753		
2,800.00	2,799.86	8,060.14	4,987.39	9.75	51.16	-123.71	-143.61	6,789.87	7,157.02	7,098.41	58.61	122.119		
2,900.00	2,899.68	8,063.27	4,987.38	10.08	51.20	-123.92	-146.74	6,789.82	7,129.50	7,070.35	59.15	120.526		
2,945.33	2,944.88	8,065.01	4,987.38	10.23	51.22	-124.01	-148.48	6,789.78	7,117.76	7,058.36	59.40	119.819		
3,000.00	2,999.39	8,067.23	4,987.37	10.41	51.25	-123.99	-150.70	6,789.74	7,104.08	7,044.37	59.71	118.977		
3,100.00	3,099.08	8,080.00	4,987.34	10.75	51.43	-123.88	-163.47	6,789.51	7,080.08	7,019.70	60.38	117.255		
3,200.00	3,198.78	8,080.00	4,987.34	11.08	51.43	-123.88	-163.47	6,789.51	7,057.40	6,996.52	60.88	115.919		
3,300.00	3,298.48	8,080.00	4,987.34	11.42	51.43	-123.88	-163.47	6,789.51	7,036.07	6,974.69	61.38	114.634		
3,400.00	3,398.18	8,080.00	4,987.34	11.76	51.43	-123.88	-163.47	6,789.51	7,016.10	6,954.23	61.87	113.399		
3,500.00	3,497.88	8,080.00	4,987.34	12.10	51.43	-123.88	-163.47	6,789.51	6,997.50	6,935.15	62.36	112.215		
3,600.00	3,597.58	8,080.00	4,987.34	12.45	51.43	-123.88	-163.47	6,789.51	6,980.29	6,917.45	62.84	111.081		
3,700.00	3,697.27	8,080.00	4,987.34	12.79	51.43	-123.88	-163.47	6,789.51	6,964.47	6,901.15	63.32	109.997		
3,800.00	3,796.97	8,080.00	4,987.34	13.14	51.43	-123.88	-163.47	6,789.51	6,950.05	6,886.26	63.78	108.962		
3,900.00	3,896.67	8,080.00	4,987.34	13.48	51.43	-123.88	-163.47	6,789.51	6,937.04	6,872.80	64.25	107.975		
4,000.00	3,996.37	8,101.59	4,987.30	13.83	51.73	-123.70	-185.05	6,789.16	6,925.39	6,860.39	65.00	106.551		
4,100.00	4,096.07	8,104.78	4,987.29	14.18	51.77	-123.68	-188.25	6,789.11	6,915.21	6,849.72	65.49	105.596		
4,200.00	4,195.76	8,107.99	4,987.29	14.53	51.82	-123.65	-191.45	6,789.06	6,906.45	6,840.48	65.97	104.690		
4,300.00	4,295.46	8,111.21	4,987.29	14.88	51.86	-123.62	-194.67	6,789.02	6,899.14	6,832.69	66.45	103.832		
4,400.00	4,395.16	8,114.45	4,987.28	15.23	51.91	-123.60	-197.91	6,788.98	6,893.26	6,826.35	66.91	103.020		
4,500.00	4,494.86	8,117.70	4,987.28	15.58	51.95	-123.57	-201.16	6,788.94	6,888.83	6,821.46	67.37	102.256		
4,600.00	4,594.56	8,120.97	4,987.28	15.93	52.00	-123.54	-204.43	6,788.89	6,885.84	6,818.03	67.82	101.537		
4,700.00	4,694.25	8,124.25	4,987.28	16.29	52.04	-123.52	-207.71	6,788.86	6,884.31	6,816.05	68.25	100.863		
4,756.07	4,750.15	8,126.10	4,987.28	16.49	52.07	-123.50	-209.56	6,788.83	6,884.08	6,815.58	68.50	100.504		
4,800.00	4,793.95	8,127.55	4,987.28	16.64	52.09	-123.49	-211.01	6,788.82	6,884.22	6,815.54	68.68	100.233		
4,900.00	4,893.65	8,130.86	4,987.28	17.00	52.13	-123.46	-214.32	6,788.78	6,885.58	6,816.48	69.10	99.647		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Sec 13-T21S-R27E - Lone Tree Draw State 3H - Wellbore #1 - Wellbore #1													Offset Well Error:	0.50 ft
Survey Program: 100-GYRO-NS-CT, 4452-MWD+HDGM														
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
5,000.00	4,993.35	8,134.19	4,987.28	17.35	52.18	-123.43	-217.65	6,788.75	6,888.39	6,818.88	69.51	99.104		
5,100.00	5,093.05	8,137.53	4,987.28	17.71	52.23	-123.41	-220.99	6,788.71	6,892.65	6,822.74	69.90	98.603		
5,200.00	5,192.75	8,140.89	4,987.28	18.06	52.27	-123.38	-224.35	6,788.68	6,898.35	6,828.06	70.29	98.143		
5,300.00	5,292.44	8,144.26	4,987.29	18.42	52.32	-123.35	-227.72	6,788.65	6,905.49	6,834.83	70.66	97.724		
5,400.00	5,392.14	8,147.65	4,987.29	18.77	52.37	-123.32	-231.11	6,788.62	6,914.07	6,843.04	71.03	97.344		
5,500.00	5,491.84	8,151.06	4,987.29	19.13	52.41	-123.29	-234.52	6,788.59	6,924.07	6,852.69	71.38	97.004		
5,600.00	5,591.54	8,154.48	4,987.30	19.49	52.46	-123.26	-237.94	6,788.56	6,935.50	6,863.78	71.72	96.702		
5,700.00	5,691.24	8,175.00	4,987.34	19.85	52.74	-123.09	-258.46	6,788.44	6,948.39	6,876.11	72.29	96.124		
5,800.00	5,790.93	8,175.00	4,987.34	20.20	52.74	-123.09	-258.46	6,788.44	6,962.64	6,890.08	72.56	95.962		
5,900.00	5,890.63	8,175.00	4,987.34	20.56	52.74	-123.09	-258.46	6,788.44	6,978.28	6,905.47	72.82	95.835		
6,000.00	5,990.33	8,175.00	4,987.34	20.92	52.74	-123.09	-258.46	6,788.44	6,995.33	6,922.26	73.06	95.743		
6,100.00	6,090.03	8,175.00	4,987.34	21.28	52.74	-123.09	-258.46	6,788.44	7,013.75	6,940.45	73.30	95.686		
6,200.00	6,189.73	8,175.00	4,987.34	21.64	52.74	-123.09	-258.46	6,788.44	7,033.55	6,960.03	73.53	95.662		
6,300.00	6,289.42	8,180.66	4,987.35	22.00	52.82	-123.05	-264.12	6,788.41	7,054.71	6,980.90	73.82	95.569		
6,400.00	6,389.12	8,185.81	4,987.36	22.36	52.89	-123.00	-269.27	6,788.39	7,077.22	7,003.13	74.09	95.519		
6,500.00	6,488.82	8,190.97	4,987.38	22.72	52.97	-122.96	-274.43	6,788.37	7,101.05	7,026.70	74.36	95.501		
6,600.00	6,588.52	8,196.13	4,987.39	23.08	53.04	-122.92	-279.59	6,788.35	7,126.21	7,051.60	74.61	95.515		
6,700.00	6,688.22	8,201.31	4,987.41	23.44	53.11	-122.88	-284.76	6,788.33	7,152.67	7,077.82	74.85	95.559		
6,800.00	6,787.91	8,206.49	4,987.42	23.80	53.18	-122.83	-289.95	6,788.31	7,180.42	7,105.34	75.08	95.632		
6,900.00	6,887.61	8,211.68	4,987.44	24.16	53.25	-122.79	-295.14	6,788.30	7,209.45	7,134.14	75.31	95.735		
7,000.00	6,987.31	8,216.88	4,987.45	24.52	53.33	-122.75	-300.34	6,788.28	7,239.73	7,164.22	75.52	95.866		
7,100.00	7,087.01	8,222.09	4,987.47	24.88	53.40	-122.70	-305.54	6,788.27	7,271.27	7,195.54	75.72	96.025		
7,200.00	7,186.71	8,227.30	4,987.48	25.24	53.47	-122.66	-310.76	6,788.26	7,304.02	7,228.11	75.92	96.210		
7,300.00	7,286.41	8,232.53	4,987.50	25.60	53.54	-122.62	-315.99	6,788.24	7,338.00	7,261.89	76.10	96.422		
7,400.00	7,386.10	8,237.76	4,987.52	25.96	53.62	-122.57	-321.22	6,788.23	7,373.16	7,296.88	76.28	96.659		
7,500.00	7,485.80	8,243.01	4,987.53	26.33	53.69	-122.53	-326.46	6,788.22	7,409.51	7,333.06	76.45	96.921		
7,600.00	7,585.50	8,248.26	4,987.55	26.69	53.76	-122.49	-331.72	6,788.22	7,447.01	7,370.40	76.61	97.206		
7,700.00	7,685.20	8,253.52	4,987.57	27.05	53.83	-122.44	-336.98	6,788.21	7,485.66	7,408.89	76.76	97.515		
7,800.00	7,784.90	8,258.79	4,987.59	27.41	53.91	-122.40	-342.25	6,788.21	7,525.43	7,448.52	76.91	97.846		
7,860.70	7,845.41	8,261.99	4,987.60	27.63	53.95	-122.37	-345.45	6,788.20	7,550.12	7,473.12	77.00	98.058		
7,900.00	7,884.61	8,263.94	4,987.61	27.77	53.98	-122.58	-347.39	6,788.20	7,566.22	7,489.17	77.05	98.201		
8,000.00	7,984.46	8,270.00	4,987.63	28.13	54.06	-123.09	-353.46	6,788.20	7,607.04	7,529.86	77.19	98.552		
8,100.00	8,084.42	8,270.00	4,987.63	28.49	54.06	-123.65	-353.46	6,788.20	7,647.66	7,570.42	77.24	99.014		
8,157.59	8,142.00	8,270.43	4,987.63	28.69	54.07	90.11	-353.89	6,788.20	7,670.95	7,593.68	77.26	99.281		
8,200.00	8,184.41	8,270.63	4,987.63	28.83	54.07	90.11	-354.08	6,788.20	7,688.17	7,610.89	77.28	99.487		
8,300.00	8,284.41	8,271.09	4,987.63	29.17	54.08	90.12	-354.55	6,788.20	7,729.53	7,652.22	77.31	99.984		
8,400.00	8,384.41	8,271.55	4,987.63	29.51	54.09	90.12	-355.01	6,788.20	7,771.97	7,694.63	77.33	100.500		
8,507.63	8,492.04	8,272.05	4,987.64	29.87	54.09	90.13	-355.50	6,788.20	7,818.81	7,741.45	77.35	101.077		
8,550.00	8,534.37	8,272.22	4,987.64	30.02	54.09	0.73	-355.68	6,788.20	7,836.16	7,758.80	77.36	101.298		
8,600.00	8,584.01	8,272.36	4,987.64	30.18	54.10	0.71	-355.82	6,788.20	7,853.15	7,775.80	77.35	101.527		
8,650.00	8,632.95	8,272.44	4,987.64	30.34	54.10	0.70	-355.90	6,788.20	7,866.27	7,788.94	77.33	101.718		
8,700.00	8,680.82	8,272.45	4,987.64	30.50	54.10	0.68	-355.91	6,788.20	7,875.44	7,798.14	77.31	101.869		
8,750.00	8,727.25	8,272.40	4,987.64	30.66	54.10	0.68	-355.86	6,788.20	7,880.61	7,803.34	77.27	101.982		
8,800.00	8,771.89	8,272.28	4,987.64	30.81	54.10	0.68	-355.74	6,788.20	7,881.75	7,804.52	77.23	102.056		
8,850.00	8,814.40	8,272.10	4,987.64	30.95	54.09	0.68	-355.56	6,788.20	7,878.84	7,801.66	77.17	102.092		
8,900.00	8,854.46	8,271.86	4,987.63	31.09	54.09	0.68	-355.32	6,788.20	7,871.90	7,794.79	77.11	102.091		
8,950.00	8,891.75	8,271.55	4,987.63	31.23	54.09	0.70	-355.01	6,788.20	7,860.98	7,783.95	77.03	102.051		
9,000.00	8,926.01	8,271.19	4,987.63	31.37	54.08	0.71	-354.65	6,788.20	7,846.14	7,769.20	76.94	101.972		
9,050.00	8,956.96	8,270.78	4,987.63	31.53	54.07	0.73	-354.24	6,788.20	7,827.48	7,750.63	76.85	101.855		
9,100.00	8,984.38	8,270.31	4,987.63	31.69	54.07	0.76	-353.77	6,788.20	7,805.11	7,728.36	76.75	101.700		
9,150.00	9,008.05	8,270.00	4,987.63	31.87	54.06	0.80	-353.46	6,788.20	7,779.17	7,702.53	76.64	101.503		
9,200.00	9,027.79	8,270.00	4,987.63	32.07	54.06	0.85	-353.46	6,788.20	7,749.81	7,673.28	76.53	101.261		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Sec 13-T21S-R27E - Lone Tree Draw State 3H - Wellbore #1 - Wellbore #1													Offset Well Error:	0.50 ft
Survey Program: 100-GYRO-NS-CT, 4452-MWD+HDGM														
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (ft)	Separation Factor	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)				
9,250.00	9,043.45	8,270.00	4,987.63	32.29	54.06	0.92	-353.46	6,788.20	7,717.24	7,640.82	76.42	100.981		
9,300.00	9,054.92	8,270.00	4,987.63	32.53	54.06	1.01	-353.46	6,788.20	7,681.65	7,605.34	76.31	100.661		
9,350.00	9,062.10	8,270.00	4,987.63	32.79	54.06	1.12	-353.46	6,788.20	7,643.28	7,567.08	76.20	100.304		
9,400.00	9,064.95	8,267.83	4,987.62	33.06	54.03	1.24	-351.29	6,788.20	7,602.37	7,526.31	76.07	99.945		
9,407.63	9,065.00	8,267.76	4,987.62	33.10	54.03	1.26	-351.22	6,788.20	7,595.93	7,519.87	76.05	99.878		
9,500.00	9,065.00	8,266.91	4,987.62	33.68	54.02	1.25	-350.37	6,788.20	7,517.71	7,441.88	75.83	99.136		
9,600.00	9,065.00	8,265.98	4,987.61	34.41	54.01	1.24	-349.44	6,788.20	7,433.41	7,357.81	75.60	98.331		
9,700.00	9,065.00	8,265.04	4,987.61	35.24	53.99	1.22	-348.50	6,788.20	7,349.49	7,274.14	75.36	97.526		
9,800.00	9,065.00	8,264.10	4,987.61	36.17	53.98	1.21	-347.56	6,788.20	7,265.99	7,190.86	75.13	96.719		
9,900.00	9,065.00	8,263.15	4,987.60	37.19	53.97	1.19	-346.61	6,788.20	7,182.91	7,108.01	74.89	95.910		
10,000.00	9,065.00	8,262.19	4,987.60	38.30	53.95	1.18	-345.65	6,788.20	7,100.26	7,025.60	74.66	95.099		
10,100.00	9,065.00	8,261.22	4,987.60	39.48	53.94	1.17	-344.68	6,788.20	7,018.06	6,943.63	74.43	94.285		
10,200.00	9,065.00	8,260.25	4,987.59	40.72	53.93	1.15	-343.71	6,788.20	6,936.33	6,862.12	74.21	93.470		
10,300.00	9,065.00	8,259.27	4,987.59	42.03	53.91	1.14	-342.73	6,788.20	6,855.09	6,781.10	73.99	92.651		
10,400.00	9,065.00	8,258.28	4,987.59	43.40	53.90	1.13	-341.74	6,788.21	6,774.34	6,700.57	73.77	91.829		
10,500.00	9,065.00	8,257.28	4,987.58	44.82	53.89	1.11	-340.74	6,788.21	6,694.12	6,620.56	73.56	91.004		
10,600.00	9,065.00	8,256.28	4,987.58	46.29	53.87	1.10	-339.74	6,788.21	6,614.44	6,541.08	73.35	90.176		
10,700.00	9,065.00	8,255.27	4,987.58	47.79	53.86	1.08	-338.73	6,788.21	6,535.31	6,462.16	73.15	89.343		
10,800.00	9,065.00	8,254.25	4,987.57	49.34	53.84	1.07	-337.71	6,788.21	6,456.76	6,383.81	72.95	88.507		
10,900.00	9,065.00	8,253.22	4,987.57	50.92	53.83	1.05	-336.68	6,788.21	6,378.81	6,306.05	72.76	87.666		
11,000.00	9,065.00	8,252.19	4,987.56	52.54	53.82	1.04	-335.65	6,788.21	6,301.49	6,228.91	72.58	86.820		
11,100.00	9,065.00	8,251.14	4,987.56	54.18	53.80	1.02	-334.60	6,788.21	6,224.81	6,152.40	72.41	85.970		
11,200.00	9,065.00	8,250.09	4,987.56	55.85	53.79	1.01	-333.55	6,788.21	6,148.80	6,076.56	72.24	85.114		
11,300.00	9,065.00	8,249.03	4,987.55	57.54	53.77	0.99	-332.49	6,788.22	6,073.49	6,001.40	72.09	84.254		
11,400.00	9,065.00	8,247.96	4,987.55	59.26	53.76	0.98	-331.42	6,788.22	5,998.90	5,926.96	71.94	83.388		
11,500.00	9,065.00	8,246.89	4,987.55	61.00	53.74	0.96	-330.35	6,788.22	5,925.05	5,853.25	71.80	82.516		
11,600.00	9,065.00	8,245.80	4,987.54	62.75	53.73	0.95	-329.26	6,788.22	5,851.98	5,780.30	71.68	81.640		
11,700.00	9,065.00	8,244.71	4,987.54	64.52	53.71	0.93	-328.17	6,788.22	5,779.72	5,708.15	71.57	80.757		
11,800.00	9,065.00	8,243.60	4,987.54	66.31	53.70	0.92	-327.06	6,788.22	5,708.30	5,636.83	71.47	79.870		
11,900.00	9,065.00	8,242.49	4,987.53	68.11	53.68	0.90	-325.95	6,788.23	5,637.74	5,566.36	71.38	78.977		
12,000.00	9,065.00	8,241.37	4,987.53	69.93	53.67	0.88	-324.83	6,788.23	5,568.09	5,496.78	71.31	78.079		
12,100.00	9,065.00	8,240.24	4,987.52	71.76	53.65	0.87	-323.70	6,788.23	5,499.37	5,428.12	71.26	77.177		
12,200.00	9,065.00	8,239.10	4,987.52	73.60	53.63	0.85	-322.56	6,788.23	5,431.63	5,360.41	71.22	76.270		
12,300.00	9,065.00	8,237.95	4,987.52	75.45	53.62	0.84	-321.41	6,788.23	5,364.89	5,293.70	71.19	75.360		
12,400.00	9,065.00	8,236.79	4,987.51	77.31	53.60	0.82	-320.25	6,788.24	5,299.20	5,228.02	71.18	74.447		
12,500.00	9,065.00	8,235.62	4,987.51	79.18	53.59	0.80	-319.08	6,788.24	5,234.59	5,163.40	71.19	73.531		
12,600.00	9,065.00	8,234.45	4,987.51	81.05	53.57	0.79	-317.90	6,788.24	5,171.11	5,099.90	71.21	72.613		
12,700.00	9,065.00	8,233.26	4,987.50	82.94	53.55	0.77	-316.72	6,788.24	5,108.80	5,037.54	71.26	71.694		
12,800.00	9,065.00	8,232.06	4,987.50	84.83	53.54	0.75	-315.52	6,788.24	5,047.70	4,976.38	71.32	70.775		
12,900.00	9,065.00	8,230.85	4,987.49	86.73	53.52	0.73	-314.31	6,788.25	4,987.86	4,916.46	71.40	69.857		
13,000.00	9,065.00	8,229.63	4,987.49	88.64	53.50	0.72	-313.09	6,788.25	4,929.32	4,857.82	71.50	68.941		
13,100.00	9,065.00	8,228.40	4,987.49	90.55	53.49	0.70	-311.86	6,788.25	4,872.13	4,800.51	71.62	68.028		
13,200.00	9,065.00	8,227.16	4,987.48	92.47	53.47	0.68	-310.62	6,788.26	4,816.33	4,744.58	71.76	67.119		
13,300.00	9,065.00	8,225.91	4,987.48	94.39	53.45	0.66	-309.37	6,788.26	4,761.99	4,690.07	71.92	66.215		
13,400.00	9,065.00	8,224.65	4,987.47	96.32	53.43	0.65	-308.11	6,788.26	4,709.13	4,637.04	72.10	65.318		
13,500.00	9,065.00	8,223.38	4,987.47	98.25	53.42	0.63	-306.84	6,788.26	4,657.83	4,585.53	72.29	64.429		
13,600.00	9,065.00	8,222.10	4,987.47	100.19	53.40	0.61	-305.56	6,788.27	4,608.12	4,535.61	72.51	63.548		
13,700.00	9,065.00	8,220.80	4,987.46	102.13	53.38	0.59	-304.26	6,788.27	4,560.07	4,487.31	72.75	62.678		
13,800.00	9,065.00	8,219.50	4,987.46	104.08	53.36	0.57	-302.96	6,788.27	4,513.72	4,440.70	73.02	61.819		
13,900.00	9,065.00	8,218.18	4,987.46	106.03	53.34	0.55	-301.64	6,788.28	4,469.12	4,395.82	73.30	60.972		
14,000.00	9,065.00	8,216.85	4,987.45	107.98	53.32	0.54	-300.31	6,788.28	4,426.34	4,352.73	73.60	60.138		
14,100.00	9,065.00	8,215.51	4,987.45	109.94	53.31	0.52	-298.97	6,788.29	4,385.41	4,311.48	73.93	59.319		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Survey Program: 100-GYRO-NS-CT, 4452-MWD+HDGM													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Minimum Separation (ft)	Separation Factor	Warning			
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Between Centres (ft)	Between Ellipses (ft)				Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	
14,200.00	9,065.00	8,214.16	4,987.44	111.90	53.29	0.50	-297.62	6,788.29	4,346.41	4,272.13	74.28	58.515		
14,300.00	9,065.00	8,212.79	4,987.44	113.86	53.27	0.48	-296.25	6,788.29	4,309.37	4,234.72	74.65	57.727		
14,400.00	9,065.00	8,211.42	4,987.44	115.82	53.25	0.46	-294.87	6,788.30	4,274.35	4,199.30	75.05	56.956		
14,500.00	9,065.00	8,210.03	4,987.43	117.79	53.23	0.44	-293.48	6,788.30	4,241.40	4,165.93	75.47	56.202		
14,600.00	9,065.00	8,208.62	4,987.43	119.76	53.21	0.42	-292.08	6,788.31	4,210.56	4,134.65	75.91	55.467		
14,700.00	9,065.00	8,207.21	4,987.42	121.74	53.19	0.40	-290.67	6,788.31	4,181.89	4,105.51	76.38	54.750		
14,800.00	9,065.00	8,205.78	4,987.42	123.71	53.17	0.38	-289.24	6,788.32	4,155.43	4,078.55	76.88	54.051		
14,900.00	9,065.00	8,204.34	4,987.41	125.69	53.15	0.36	-287.80	6,788.32	4,131.22	4,053.81	77.40	53.372		
15,000.00	9,065.00	8,202.88	4,987.41	127.67	53.13	0.34	-286.34	6,788.33	4,109.30	4,031.34	77.96	52.713		
15,100.00	9,065.00	8,201.41	4,987.41	129.65	53.11	0.32	-284.87	6,788.33	4,089.71	4,011.17	78.54	52.073		
15,200.00	9,065.00	8,199.93	4,987.40	131.63	53.09	0.29	-283.39	6,788.34	4,072.48	3,993.33	79.15	51.453		
15,300.00	9,065.00	8,198.43	4,987.40	133.62	53.07	0.27	-281.89	6,788.34	4,057.64	3,977.85	79.79	50.854		
15,400.00	9,065.00	8,196.92	4,987.39	135.61	53.05	0.25	-280.38	6,788.35	4,045.22	3,964.75	80.46	50.275		
15,500.00	9,065.00	8,195.40	4,987.39	137.60	53.03	0.23	-278.86	6,788.35	4,035.23	3,954.07	81.16	49.718		
15,600.00	9,065.00	8,193.86	4,987.39	139.59	53.01	0.21	-277.32	6,788.36	4,027.71	3,945.82	81.89	49.183		
15,700.00	9,065.00	8,192.30	4,987.38	141.58	52.98	0.19	-275.76	6,788.36	4,022.66	3,940.01	82.65	48.669		
15,800.00	9,065.00	8,193.69	4,987.39	143.57	53.00	0.21	-277.14	6,788.37	4,020.09	3,936.62	83.47	48.164		
15,853.32	9,065.00	8,192.80	4,987.39	144.64	52.99	0.19	-276.26	6,788.38	4,019.73	3,935.84	83.90	47.913 CC		
15,900.00	9,065.00	8,192.02	4,987.39	145.57	52.98	0.18	-275.47	6,788.38	4,020.00	3,935.72	84.28	47.699 ES		
16,000.00	9,065.00	8,190.29	4,987.38	147.56	52.95	0.16	-273.74	6,788.38	4,022.41	3,937.29	85.12	47.258		
16,100.00	9,065.00	8,188.49	4,987.38	149.56	52.93	0.13	-271.95	6,788.39	4,027.29	3,941.32	85.97	46.843		
16,200.00	9,065.00	8,186.63	4,987.37	151.56	52.90	0.10	-270.09	6,788.39	4,034.65	3,947.80	86.85	46.455		
16,300.00	9,065.00	8,184.70	4,987.36	153.56	52.88	0.08	-268.16	6,788.40	4,044.47	3,956.72	87.74	46.094		
16,400.00	9,065.00	8,182.70	4,987.36	155.56	52.85	0.05	-266.16	6,788.41	4,056.73	3,968.08	88.65	45.762		
16,500.00	9,065.00	8,180.62	4,987.35	157.57	52.82	0.02	-264.08	6,788.41	4,071.40	3,981.84	89.56	45.460		
16,600.00	9,065.00	8,178.46	4,987.35	159.57	52.79	-0.01	-261.92	6,788.42	4,088.48	3,998.00	90.48	45.188		
16,700.00	9,065.00	8,176.20	4,987.34	161.57	52.76	-0.04	-259.66	6,788.43	4,107.91	4,016.51	91.40	44.946		
16,800.00	9,065.00	8,173.86	4,987.33	163.58	52.73	-0.08	-257.32	6,788.44	4,129.67	4,037.36	92.31	44.737		
16,900.00	9,065.00	8,171.41	4,987.33	165.59	52.69	-0.11	-254.87	6,788.46	4,153.73	4,060.51	93.22	44.559		
17,000.00	9,065.00	8,168.86	4,987.32	167.60	52.66	-0.15	-252.32	6,788.47	4,180.04	4,085.92	94.12	44.413		
17,100.00	9,065.00	8,166.19	4,987.32	169.60	52.62	-0.19	-249.65	6,788.49	4,208.56	4,113.56	95.00	44.299		
17,200.00	9,065.00	8,163.41	4,987.31	171.61	52.58	-0.23	-246.87	6,788.50	4,239.25	4,143.38	95.87	44.217		
17,300.00	9,065.00	8,160.49	4,987.31	173.62	52.54	-0.27	-243.95	6,788.52	4,272.06	4,175.34	96.72	44.168		
17,400.00	9,065.00	8,157.44	4,987.30	175.63	52.50	-0.31	-240.90	6,788.54	4,306.94	4,209.39	97.55	44.150 SF		
17,500.00	9,065.00	8,154.24	4,987.30	177.65	52.46	-0.36	-237.70	6,788.57	4,343.84	4,245.48	98.36	44.163		
17,600.00	9,065.00	8,150.88	4,987.29	179.66	52.41	-0.41	-234.34	6,788.59	4,382.71	4,283.57	99.14	44.207		
17,700.00	9,065.00	8,147.34	4,987.29	181.67	52.36	-0.46	-230.80	6,788.62	4,423.50	4,323.61	99.90	44.281		
17,800.00	9,065.00	8,143.62	4,987.29	183.69	52.31	-0.51	-227.08	6,788.65	4,466.15	4,365.53	100.62	44.386		
17,900.00	9,065.00	8,139.70	4,987.28	185.70	52.26	-0.56	-223.16	6,788.69	4,510.62	4,409.30	101.32	44.519		
18,000.00	9,065.00	8,135.57	4,987.28	187.72	52.20	-0.62	-219.03	6,788.73	4,556.85	4,454.86	101.99	44.680		
18,100.00	9,065.00	8,131.19	4,987.28	189.73	52.14	-0.69	-214.65	6,788.78	4,604.78	4,502.15	102.63	44.869		
18,200.00	9,065.00	8,126.57	4,987.28	191.75	52.07	-0.75	-210.03	6,788.83	4,654.36	4,551.13	103.24	45.085		
18,300.00	9,065.00	8,121.66	4,987.28	193.77	52.01	-0.82	-205.12	6,788.89	4,705.55	4,601.73	103.81	45.326		
18,400.00	9,065.00	8,116.44	4,987.28	195.78	51.93	-0.90	-199.91	6,788.95	4,758.28	4,653.92	104.36	45.594		
18,500.00	9,065.00	8,110.89	4,987.29	197.80	51.86	-0.97	-194.36	6,789.02	4,812.51	4,707.63	104.88	45.886		
18,600.00	9,065.00	8,104.98	4,987.29	199.82	51.78	-1.06	-188.44	6,789.11	4,868.19	4,762.82	105.37	46.202		
18,700.00	9,065.00	8,098.65	4,987.30	201.84	51.69	-1.15	-182.12	6,789.20	4,925.27	4,819.44	105.83	46.541		
18,800.00	9,065.00	8,091.88	4,987.31	203.86	51.59	-1.25	-175.34	6,789.31	4,983.69	4,877.44	106.26	46.903		
18,900.00	9,065.00	8,084.61	4,987.33	205.88	51.49	-1.35	-168.07	6,789.43	5,043.42	4,936.77	106.66	47.287		
19,000.00	9,065.00	8,078.18	4,987.34	207.90	51.41	-1.44	-161.65	6,789.54	5,104.41	4,997.37	107.04	47.687		
19,100.00	9,065.00	8,073.59	4,987.35	209.92	51.34	-1.51	-157.06	6,789.62	5,166.61	5,059.19	107.42	48.099		
19,200.00	9,065.00	8,068.90	4,987.37	211.95	51.28	-1.57	-152.37	6,789.71	5,229.97	5,122.20	107.77	48.529		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design	Sec 13-T21S-R27E - Lone Tree Draw State 3H - Wellbore #1 - Wellbore #1												Offset Site Error:	5.00 ft
Survey Program:	100-GYRO-NS-CT, 4452-MWD+HDGM												Offset Well Error:	0.50 ft
Reference	Offset	Semi Major Axis		Distance										
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre	Between Centres	Between Ellipses	Minimum Separation	Separation Factor	Warning		
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)			
19,300.00	9,065.00	8,064.12	4,987.38	213.97	51.21	-1.64	-147.58	6,789.80	5,294.47	5,186.37	108.10	48.977		
19,400.00	9,065.00	8,059.22	4,987.40	215.99	51.14	-1.71	-142.69	6,789.89	5,360.05	5,251.64	108.41	49.441		
19,456.84	9,065.00	8,056.40	4,987.41	217.14	51.11	-1.75	-139.87	6,789.95	5,397.80	5,289.22	108.58	49.713		

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Sec 13-T21S-R27E - Lone Tree Draw State 7H - Wellbore #1 - Wellbore #1													Offset Well Error:	0.50 ft
Survey Program: 100-GYRO-NS-CT, 2922-MWD+HDGM														
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (ft)	Separation Factor	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)				
0.00	0.00	0.00	0.00	0.50	5.02	66.72	3,319.90	7,715.44	8,399.58					
100.00	100.00	39.11	39.11	0.52	5.03	66.72	3,319.90	7,715.44	8,399.39	8,393.85	5.54	1,515.327		
200.00	200.00	139.31	139.31	0.70	5.03	66.72	3,319.98	7,715.50	8,399.48	8,393.74	5.73	1,464.796		
300.00	300.00	262.92	262.92	0.99	5.07	66.71	3,320.39	7,715.21	8,399.40	8,393.34	6.06	1,385.841		
400.00	400.00	400.00	400.00	1.31	5.16	66.71	3,319.75	7,713.55	8,398.53	8,392.06	6.47	1,298.021		
500.00	500.00	626.05	626.00	1.65	5.40	66.72	3,317.34	7,711.04	8,396.33	8,389.29	7.04	1,192.165		
600.00	600.00	700.00	699.93	1.99	5.50	66.73	3,316.39	7,709.93	8,394.40	8,386.92	7.49	1,121.131		
700.00	700.00	764.79	764.71	2.34	5.60	66.73	3,315.87	7,709.07	8,392.83	8,384.90	7.93	1,058.065		
800.00	800.00	876.22	876.13	2.69	5.78	66.73	3,315.29	7,707.56	8,391.38	8,382.92	8.47	991.262		
900.00	900.00	1,005.03	1,004.92	3.04	6.02	66.72	3,314.93	7,705.25	8,389.62	8,380.57	9.05	926.708		
1,000.00	1,000.00	1,070.73	1,070.61	3.40	6.15	66.72	3,314.89	7,704.05	8,387.91	8,378.38	9.54	879.517		
1,100.00	1,100.00	1,362.68	1,362.45	3.75	6.80	66.72	3,311.66	7,697.31	8,385.56	8,375.03	10.53	796.517		
1,200.00	1,200.00	1,441.87	1,441.57	4.11	7.00	66.73	3,309.35	7,695.12	8,381.87	8,370.79	11.07	756.919		
1,300.00	1,300.00	1,517.18	1,516.82	4.46	7.19	66.74	3,307.11	7,693.28	8,378.45	8,366.83	11.62	721.253		
1,400.00	1,400.00	1,591.17	1,590.77	4.82	7.38	66.75	3,304.95	7,691.70	8,375.34	8,363.18	12.16	688.686		
1,500.00	1,500.00	1,718.54	1,718.06	5.18	7.72	66.76	3,301.31	7,688.89	8,372.17	8,359.32	12.85	651.515		
1,600.00	1,600.00	1,790.71	1,790.18	5.53	7.92	66.77	3,299.31	7,687.30	8,369.05	8,355.65	13.40	624.471		
1,700.00	1,700.00	1,924.34	1,923.73	5.89	8.29	66.79	3,295.50	7,684.40	8,365.95	8,351.82	14.13	592.255		
1,800.00	1,800.00	2,098.27	2,097.50	6.25	8.80	66.81	3,290.11	7,679.64	8,362.25	8,347.28	14.97	558.480		
1,900.00	1,900.00	2,179.38	2,178.53	6.61	9.05	66.82	3,287.76	7,677.00	8,358.12	8,342.55	15.57	536.939		
2,000.00	2,000.00	2,247.14	2,246.24	6.96	9.25	66.82	3,285.85	7,674.98	8,354.28	8,338.16	16.12	518.139		
2,100.00	2,100.00	2,320.13	2,319.18	7.32	9.47	66.83	3,283.72	7,673.19	8,350.86	8,334.16	16.70	500.102		
2,200.00	2,200.00	2,424.39	2,423.36	7.68	9.79	66.84	3,280.57	7,670.69	8,347.47	8,330.10	17.37	480.618		
2,300.00	2,300.00	2,500.00	2,498.92	8.04	10.03	66.85	3,278.38	7,669.01	8,344.27	8,326.32	17.96	464.713		
2,400.00	2,400.00	2,599.56	2,598.42	8.39	10.34	66.87	3,275.61	7,666.90	8,341.23	8,322.61	18.62	448.028		
2,500.00	2,500.00	2,695.14	2,693.94	8.75	10.64	66.88	3,273.03	7,664.84	8,338.19	8,318.92	19.27	432.699		
2,600.00	2,599.99	2,775.00	2,773.76	9.09	10.89	-147.21	3,271.00	7,663.21	8,336.05	8,316.19	19.86	419.746		
2,668.38	2,668.35	2,818.61	2,817.35	9.32	10.96	-147.21	3,270.05	7,662.38	8,335.61	8,315.46	20.15	413.630		
2,700.00	2,699.96	2,839.60	2,838.33	9.42	10.99	-147.21	3,269.68	7,661.99	8,335.70	8,315.41	20.29	410.850		
2,800.00	2,799.86	2,905.94	2,904.65	9.75	11.10	-147.21	3,268.88	7,660.79	8,337.23	8,316.51	20.72	402.321		
2,900.00	2,899.68	2,994.03	2,992.73	10.08	11.14	-147.21	3,268.45	7,659.22	8,340.53	8,319.44	21.09	395.501		
2,945.33	2,944.88	3,275.19	3,273.47	10.23	11.23	-147.35	3,274.16	7,646.74	8,341.68	8,320.36	21.32	391.238		
3,000.00	2,999.39	3,336.94	3,334.99	10.41	11.26	-147.40	3,277.06	7,642.35	8,342.69	8,321.16	21.54	387.389		
3,100.00	3,099.08	3,438.29	3,435.97	10.75	11.33	-147.48	3,281.85	7,635.09	8,344.53	8,322.60	21.93	380.446		
3,200.00	3,198.78	3,537.64	3,534.96	11.08	11.40	-147.56	3,286.53	7,627.97	8,346.36	8,324.02	22.34	373.537		
3,300.00	3,298.48	3,635.05	3,632.01	11.42	11.48	-147.63	3,291.13	7,621.00	8,348.23	8,325.47	22.77	366.693		
3,400.00	3,398.18	3,733.30	3,729.90	11.76	11.57	-147.71	3,295.82	7,613.97	8,350.13	8,326.93	23.20	359.895		
3,500.00	3,497.88	3,832.46	3,828.67	12.10	11.68	-147.79	3,300.69	7,606.82	8,352.06	8,328.41	23.65	353.149		
3,600.00	3,597.58	3,928.47	3,924.32	12.45	11.79	-147.86	3,305.39	7,599.92	8,354.01	8,329.90	24.11	346.538		
3,700.00	3,697.27	3,990.34	3,985.96	12.79	11.86	-147.91	3,308.40	7,595.58	8,356.16	8,331.63	24.53	340.630		
3,800.00	3,796.97	4,056.00	4,051.41	13.14	11.95	-147.96	3,311.82	7,591.45	8,359.00	8,334.04	24.96	334.835		
3,900.00	3,896.67	4,260.56	4,255.42	13.48	12.24	-148.10	3,318.95	7,578.32	8,361.01	8,335.41	25.60	326.581		
4,000.00	3,996.37	4,280.97	4,275.78	13.83	12.27	-148.12	3,319.58	7,577.11	8,363.18	8,337.20	25.99	321.832		
4,100.00	4,096.07	4,340.00	4,334.69	14.18	12.36	-148.15	3,321.65	7,574.10	8,366.32	8,339.89	26.43	316.569		
4,200.00	4,195.76	11,175.18	7,738.39	14.53	55.69	-124.86	-211.50	7,458.31	8,340.23	8,274.44	65.78	126.780		
4,300.00	4,295.46	11,181.44	7,738.44	14.88	55.78	-124.81	-217.76	7,458.18	8,301.54	8,235.13	66.41	124.996		
4,400.00	4,395.16	11,187.68	7,738.49	15.23	55.86	-124.77	-224.00	7,458.06	8,263.88	8,196.83	67.04	123.261		
4,500.00	4,494.86	11,193.90	7,738.55	15.58	55.94	-124.72	-230.23	7,457.94	8,227.25	8,159.58	67.67	121.573		
4,600.00	4,494.25	11,259.34	7,738.66	15.93	56.82	-124.23	-295.64	7,456.64	8,191.66	8,122.59	69.06	118.613		
4,700.00	4,494.25	4,700.00	7,738.47	16.29	31.67	-124.30	-286.75	7,456.79	8,156.99	8,111.80	45.19	180.514		
4,800.00	4,793.95	4,800.00	7,738.46	16.64	30.30	-124.25	-293.12	7,456.66	8,123.52	8,079.15	44.38	183.063		
4,900.00	4,893.65	4,900.00	7,738.45	17.00	28.93	-124.20	-299.48	7,456.53	8,091.15	8,047.60	43.55	185.778		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Sec 13-T21S-R27E - Lone Tree Draw State 7H - Wellbore #1 - Wellbore #1													Offset Well Error:	0.50 ft
Survey Program: 100-GYRO-NS-CT, 2922-MWD+HDGM														
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
5,000.00	4,993.35	5,000.00	7,738.44	17.35	27.56	-124.16	-305.84	7,456.40	8,059.89	8,017.17	42.72	188.671		
5,100.00	5,093.05	5,100.00	7,738.43	17.71	26.18	-124.11	-312.20	7,456.27	8,029.74	7,987.87	41.87	191.758		
5,200.00	5,192.75	5,200.00	7,738.42	18.06	24.80	-124.06	-318.56	7,456.13	8,000.72	7,959.71	41.02	195.057		
5,300.00	5,292.44	5,300.00	7,738.41	18.42	23.42	-124.01	-324.92	7,456.00	7,972.85	7,932.70	40.15	198.586		
5,400.00	5,392.14	5,400.00	7,738.40	18.77	22.04	-123.97	-331.28	7,455.87	7,946.14	7,906.87	39.27	202.367		
5,500.00	5,491.84	11,290.00	7,738.41	19.13	57.24	-124.00	-326.30	7,455.98	7,920.60	7,846.25	74.34	106.545		
5,600.00	5,591.54	11,314.00	7,738.18	19.49	57.56	-123.82	-350.29	7,455.48	7,896.16	7,820.98	75.18	105.025		
5,700.00	5,691.24	11,316.76	7,738.17	19.85	57.60	-123.80	-353.06	7,455.42	7,872.98	7,797.24	75.74	103.946		
5,800.00	5,790.93	11,319.58	7,738.15	20.20	57.64	-123.78	-355.87	7,455.37	7,851.00	7,774.70	76.29	102.905		
5,900.00	5,890.63	11,322.44	7,738.13	20.56	57.68	-123.76	-358.73	7,455.31	7,830.23	7,753.39	76.84	101.901		
6,000.00	5,990.33	11,325.36	7,738.12	20.92	57.71	-123.74	-361.65	7,455.26	7,810.69	7,733.31	77.38	100.934		
6,100.00	6,090.03	11,328.33	7,738.10	21.28	57.76	-123.72	-364.61	7,455.20	7,792.38	7,714.46	77.92	100.003		
6,200.00	6,189.73	11,331.35	7,738.09	21.64	57.80	-123.70	-367.64	7,455.15	7,775.31	7,696.86	78.45	99.109		
6,300.00	6,289.42	11,334.42	7,738.08	22.00	57.84	-123.67	-370.71	7,455.09	7,759.49	7,680.51	78.98	98.250		
6,400.00	6,389.12	11,337.56	7,738.07	22.36	57.88	-123.65	-373.85	7,455.04	7,744.93	7,665.43	79.50	97.426		
6,500.00	6,488.82	11,340.75	7,738.06	22.72	57.92	-123.63	-377.04	7,454.98	7,731.63	7,651.62	80.01	96.637		
6,600.00	6,588.52	11,344.00	7,738.06	23.08	57.97	-123.60	-380.29	7,454.92	7,719.60	7,639.08	80.51	95.882		
6,700.00	6,688.22	11,347.32	7,738.05	23.44	58.01	-123.58	-383.60	7,454.87	7,708.84	7,627.83	81.01	95.162		
6,800.00	6,787.91	11,350.69	7,738.05	23.80	58.06	-123.55	-386.98	7,454.81	7,699.37	7,617.87	81.50	94.474		
6,900.00	6,887.61	11,354.14	7,738.05	24.16	58.10	-123.53	-390.42	7,454.76	7,691.18	7,609.20	81.98	93.820		
7,000.00	6,987.31	11,357.65	7,738.06	24.52	58.15	-123.50	-393.93	7,454.70	7,684.28	7,601.83	82.45	93.198		
7,100.00	7,087.01	11,361.23	7,738.06	24.88	58.20	-123.47	-397.51	7,454.65	7,678.68	7,595.76	82.92	92.608		
7,200.00	7,186.71	11,364.88	7,738.07	25.24	58.25	-123.45	-401.16	7,454.59	7,674.37	7,590.99	83.37	92.050		
7,300.00	7,286.41	11,368.60	7,738.08	25.60	58.30	-123.42	-404.89	7,454.54	7,671.36	7,587.54	83.82	91.523		
7,400.00	7,386.10	11,372.40	7,738.09	25.96	58.35	-123.39	-408.69	7,454.48	7,669.64	7,585.39	84.26	91.027		
7,482.59	7,468.45	11,389.00	7,738.18	26.26	58.58	-123.27	-425.28	7,454.26	7,669.23	7,584.44	84.80	90.444		
7,500.00	7,485.80	11,389.00	7,738.18	26.33	58.58	-123.27	-425.28	7,454.26	7,669.25	7,584.39	84.86	90.375		
7,600.00	7,585.50	11,389.00	7,738.18	26.69	58.58	-123.27	-425.28	7,454.26	7,670.13	7,584.90	85.23	89.997		
7,700.00	7,685.20	11,389.00	7,738.18	27.05	58.58	-123.27	-425.28	7,454.26	7,672.31	7,586.73	85.58	89.649		
7,800.00	7,784.90	11,389.00	7,738.18	27.41	58.58	-123.27	-425.28	7,454.26	7,675.80	7,589.87	85.93	89.329		
7,860.70	7,845.41	11,393.44	7,738.21	27.63	58.64	-123.23	-429.72	7,454.20	7,678.55	7,592.35	86.19	89.086		
7,900.00	7,884.61	11,396.90	7,738.23	27.77	58.68	-123.23	-433.18	7,454.16	7,680.47	7,594.10	86.37	88.925		
8,000.00	7,984.46	11,403.52	7,738.27	28.13	58.77	-123.24	-439.80	7,454.07	7,685.26	7,598.48	86.78	88.557		
8,100.00	8,084.42	11,407.12	7,738.28	28.49	58.82	-123.27	-443.40	7,454.02	7,689.92	7,602.78	87.14	88.247		
8,157.59	8,142.00	11,407.89	7,738.29	28.69	58.83	90.78	-444.17	7,454.01	7,692.54	7,605.22	87.32	88.097		
8,200.00	8,184.41	11,408.11	7,738.29	28.83	58.84	90.78	-444.39	7,454.01	7,694.57	7,607.13	87.44	87.999		
8,300.00	8,284.41	11,408.62	7,738.29	29.17	58.84	90.78	-444.90	7,454.00	7,700.27	7,612.56	87.72	87.787		
8,400.00	8,384.41	11,409.11	7,738.29	29.51	58.85	90.79	-445.39	7,453.99	7,707.27	7,619.29	87.98	87.601		
8,507.63	8,492.04	11,409.62	7,738.29	29.87	58.86	90.79	-445.90	7,453.99	7,716.25	7,627.99	88.26	87.430		
8,550.00	8,534.37	11,409.77	7,738.30	30.02	58.86	1.42	-446.05	7,453.99	7,718.63	7,630.27	88.36	87.356		
8,600.00	8,584.01	11,409.83	7,738.30	30.18	58.86	1.42	-446.11	7,453.98	7,717.71	7,629.24	88.47	87.234		
8,650.00	8,632.95	11,409.77	7,738.30	30.34	58.86	1.43	-446.05	7,453.99	7,712.76	7,624.18	88.58	87.074		
8,700.00	8,680.82	11,409.58	7,738.29	30.50	58.86	1.45	-445.86	7,453.99	7,703.81	7,615.14	88.67	86.880		
8,750.00	8,727.25	11,409.28	7,738.29	30.66	58.85	1.48	-445.56	7,453.99	7,690.91	7,602.16	88.76	86.652		
8,800.00	8,771.89	11,408.86	7,738.29	30.81	58.85	1.53	-445.14	7,454.00	7,674.15	7,585.32	88.83	86.393		
8,850.00	8,814.40	11,408.34	7,738.29	30.95	58.84	1.58	-444.62	7,454.00	7,653.63	7,564.74	88.89	86.104		
8,900.00	8,854.46	11,407.72	7,738.29	31.09	58.83	1.66	-444.00	7,454.01	7,629.46	7,540.53	88.94	85.786		
8,950.00	8,891.75	11,407.00	7,738.28	31.23	58.82	1.75	-443.28	7,454.02	7,601.81	7,512.84	88.97	85.442		
9,000.00	8,926.01	11,406.20	7,738.28	31.37	58.81	1.87	-442.48	7,454.03	7,570.85	7,481.86	88.99	85.072		
9,050.00	8,956.96	11,405.32	7,738.28	31.53	58.80	2.01	-441.60	7,454.04	7,536.77	7,447.76	89.00	84.679		
9,100.00	8,984.38	11,404.36	7,738.27	31.69	58.78	2.21	-440.64	7,454.06	7,499.79	7,410.78	89.00	84.263		
9,150.00	9,008.05	11,403.34	7,738.27	31.87	58.77	2.46	-439.62	7,454.07	7,460.15	7,371.15	89.00	83.826		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Sec 13-T21S-R27E - Lone Tree Draw State 7H - Wellbore #1 - Wellbore #1													Offset Well Error:	0.50 ft
Survey Program: 100-GYRO-NS-CT, 2922-MWD+HDGM														
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)						
9,200.00	9,027.79	11,402.26	7,738.26	32.07	58.76	2.80	-438.54	7,454.09	7,418.11	7,329.13	88.98	83.370		
9,250.00	9,043.45	11,401.12	7,738.26	32.29	58.74	3.28	-437.40	7,454.10	7,373.96	7,285.00	88.95	82.897		
9,300.00	9,054.92	11,399.94	7,738.25	32.53	58.72	4.00	-436.23	7,454.12	7,327.99	7,239.07	88.92	82.407		
9,350.00	9,062.10	11,398.73	7,738.24	32.79	58.71	5.18	-435.01	7,454.13	7,280.53	7,191.64	88.89	81.903		
9,400.00	9,064.95	11,397.48	7,738.24	33.06	58.69	7.45	-433.76	7,454.15	7,231.91	7,143.05	88.86	81.386		
9,407.63	9,065.00	11,397.29	7,738.23	33.10	58.69	7.99	-433.57	7,454.15	7,224.41	7,135.55	88.86	81.305		
9,500.00	9,065.00	11,394.97	7,738.22	33.68	58.66	7.88	-431.25	7,454.18	7,133.52	7,044.73	88.79	80.340		
9,600.00	9,065.00	11,392.47	7,738.21	34.41	58.62	7.77	-428.75	7,454.21	7,035.17	6,946.45	88.72	79.295		
9,700.00	9,065.00	11,389.98	7,738.19	35.24	58.59	7.66	-426.27	7,454.24	6,936.87	6,848.22	88.65	78.248		
9,800.00	9,065.00	11,389.00	7,738.18	36.17	58.58	7.62	-425.28	7,454.26	6,838.61	6,750.01	88.60	77.182		
9,900.00	9,065.00	11,389.00	7,738.18	37.19	58.58	7.62	-425.28	7,454.26	6,740.41	6,651.84	88.57	76.103		
10,000.00	9,065.00	11,389.00	7,738.18	38.30	58.58	7.62	-425.28	7,454.26	6,642.26	6,553.73	88.53	75.024		
10,100.00	9,065.00	11,382.72	7,738.14	39.48	58.49	7.34	-419.01	7,454.34	6,544.16	6,455.75	88.41	74.017		
10,200.00	9,065.00	11,380.93	7,738.13	40.72	58.47	7.26	-417.21	7,454.36	6,446.13	6,357.77	88.36	72.956		
10,300.00	9,065.00	11,379.10	7,738.12	42.03	58.44	7.18	-415.39	7,454.39	6,348.15	6,259.85	88.30	71.895		
10,400.00	9,065.00	11,377.25	7,738.11	43.40	58.42	7.10	-413.54	7,454.41	6,250.23	6,162.00	88.24	70.833		
10,500.00	9,065.00	11,375.38	7,738.10	44.82	58.39	7.01	-411.66	7,454.44	6,152.39	6,064.21	88.18	69.771		
10,600.00	9,065.00	11,373.48	7,738.10	46.29	58.37	6.93	-409.76	7,454.47	6,054.61	5,966.49	88.12	68.709		
10,700.00	9,065.00	11,371.55	7,738.09	47.79	58.34	6.84	-407.83	7,454.49	5,956.90	5,868.84	88.06	67.646		
10,800.00	9,065.00	11,369.59	7,738.08	49.34	58.31	6.76	-405.88	7,454.52	5,859.28	5,771.27	88.00	66.582		
10,900.00	9,065.00	11,367.61	7,738.08	50.92	58.29	6.67	-403.89	7,454.55	5,761.73	5,673.79	87.94	65.518		
11,000.00	9,065.00	11,365.60	7,738.07	52.54	58.26	6.58	-401.88	7,454.58	5,664.26	5,576.38	87.88	64.454		
11,100.00	9,065.00	11,363.55	7,738.07	54.18	58.23	6.49	-399.84	7,454.61	5,566.89	5,479.07	87.82	63.390		
11,200.00	9,065.00	11,361.48	7,738.06	55.85	58.20	6.39	-397.76	7,454.64	5,469.61	5,381.85	87.76	62.326		
11,300.00	9,065.00	11,359.37	7,738.06	57.54	58.18	6.30	-395.66	7,454.68	5,372.43	5,284.73	87.70	61.261		
11,400.00	9,065.00	11,357.24	7,738.05	59.26	58.15	6.21	-393.52	7,454.71	5,275.35	5,187.71	87.64	60.197		
11,500.00	9,065.00	11,355.07	7,738.05	61.00	58.12	6.11	-391.36	7,454.74	5,178.38	5,090.81	87.57	59.132		
11,600.00	9,065.00	11,352.87	7,738.05	62.75	58.09	6.01	-389.15	7,454.78	5,081.53	4,994.02	87.51	58.067		
11,700.00	9,065.00	11,350.63	7,738.05	64.52	58.06	5.91	-386.92	7,454.81	4,984.80	4,897.36	87.45	57.003		
11,800.00	9,065.00	11,348.36	7,738.05	66.31	58.03	5.81	-384.65	7,454.85	4,888.21	4,800.82	87.39	55.938		
11,900.00	9,065.00	11,346.06	7,738.05	68.11	57.99	5.71	-382.34	7,454.89	4,791.75	4,704.43	87.32	54.874		
12,000.00	9,065.00	11,343.71	7,738.06	69.93	57.96	5.60	-380.00	7,454.93	4,695.44	4,608.18	87.26	53.810		
12,100.00	9,065.00	11,341.34	7,738.06	71.76	57.93	5.50	-377.62	7,454.97	4,599.28	4,512.08	87.20	52.747		
12,200.00	9,065.00	11,338.92	7,738.07	73.60	57.90	5.39	-375.20	7,455.01	4,503.29	4,416.16	87.13	51.684		
12,300.00	9,065.00	11,336.46	7,738.07	75.45	57.87	5.28	-372.75	7,455.06	4,407.48	4,320.41	87.07	50.621		
12,400.00	9,065.00	11,333.96	7,738.08	77.31	57.83	5.17	-370.25	7,455.10	4,311.85	4,224.85	87.00	49.559		
12,500.00	9,065.00	11,331.43	7,738.09	79.18	57.80	5.05	-367.72	7,455.15	4,216.43	4,129.49	86.94	48.498		
12,600.00	9,065.00	11,328.85	7,738.10	81.05	57.76	4.94	-365.14	7,455.19	4,121.22	4,034.34	86.88	47.438		
12,700.00	9,065.00	11,326.23	7,738.11	82.94	57.73	4.82	-362.51	7,455.24	4,026.24	3,939.43	86.81	46.378		
12,800.00	9,065.00	11,323.56	7,738.13	84.83	57.69	4.70	-359.85	7,455.29	3,931.51	3,844.76	86.75	45.320		
12,900.00	9,065.00	11,320.85	7,738.14	86.73	57.65	4.58	-357.14	7,455.34	3,837.04	3,750.35	86.69	44.262		
13,000.00	9,065.00	11,318.09	7,738.16	88.64	57.62	4.46	-354.38	7,455.40	3,742.86	3,656.23	86.63	43.206		
13,100.00	9,065.00	11,315.28	7,738.18	90.55	57.58	4.33	-351.57	7,455.45	3,648.99	3,562.42	86.57	42.152		
13,200.00	9,065.00	11,312.43	7,738.20	92.47	57.54	4.20	-348.72	7,455.51	3,555.45	3,468.94	86.51	41.099		
13,300.00	9,065.00	11,309.52	7,738.22	94.39	57.50	4.07	-345.82	7,455.56	3,462.26	3,375.81	86.45	40.047		
13,400.00	9,065.00	11,306.57	7,738.24	96.32	57.46	3.94	-342.86	7,455.62	3,369.47	3,283.07	86.40	38.998		
13,500.00	9,065.00	11,303.56	7,738.27	98.25	57.42	3.80	-339.85	7,455.69	3,277.09	3,190.74	86.35	37.951		
13,600.00	9,065.00	11,300.50	7,738.30	100.19	57.38	3.67	-336.79	7,455.75	3,185.18	3,098.88	86.30	36.907		
13,700.00	9,065.00	11,297.38	7,738.33	102.13	57.34	3.53	-333.67	7,455.82	3,093.76	3,007.50	86.26	35.865		
13,800.00	9,065.00	11,294.20	7,738.36	104.08	57.29	3.38	-330.50	7,455.88	3,002.89	2,916.66	86.22	34.827		
13,900.00	9,065.00	11,290.97	7,738.40	106.03	57.25	3.24	-327.26	7,455.95	2,912.61	2,826.41	86.19	33.792		
14,000.00	9,065.00	11,288.04	7,738.43	107.98	57.21	3.11	-324.34	7,456.02	2,822.98	2,736.81	86.17	32.760		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design		Sec 13-T21S-R27E - Lone Tree Draw State 7H - Wellbore #1 - Wellbore #1											Offset Site Error:		5.00 ft
Survey Program:		100-GYRO-NS-CT, 2922-MWD+HDGM											Offset Well Error:		0.50 ft
Reference		Offset		Semi Major Axis			Distance						Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor			
14,100.00	9,065.00	11,285.27	7,738.46	109.94	57.17	2.98	-321.57	7,456.08	2,734.07	2,647.90	86.17	31.730			
14,200.00	9,065.00	11,282.52	7,738.49	111.90	57.14	2.86	-318.82	7,456.14	2,645.94	2,559.77	86.17	30.707			
14,300.00	9,065.00	11,279.79	7,738.51	113.86	57.10	2.74	-316.09	7,456.20	2,558.69	2,472.50	86.18	29.689			
14,400.00	9,065.00	11,277.06	7,738.54	115.82	57.06	2.61	-313.36	7,456.26	2,472.40	2,386.18	86.21	28.678			
14,500.00	9,065.00	11,274.35	7,738.56	117.79	57.03	2.49	-310.66	7,456.32	2,387.17	2,300.92	86.26	27.676			
14,600.00	9,065.00	11,271.66	7,738.58	119.76	56.99	2.37	-307.96	7,456.37	2,303.13	2,216.82	86.31	26.683			
14,700.00	9,065.00	11,268.98	7,738.60	121.74	56.95	2.25	-305.28	7,456.43	2,220.41	2,134.02	86.39	25.702			
14,800.00	9,065.00	11,266.31	7,738.62	123.71	56.92	2.13	-302.61	7,456.49	2,139.16	2,052.67	86.49	24.734			
14,900.00	9,065.00	11,263.66	7,738.64	125.69	56.88	2.01	-299.96	7,456.54	2,059.56	1,972.95	86.60	23.782			
15,000.00	9,065.00	11,261.01	7,738.65	127.67	56.85	1.89	-297.32	7,456.60	1,981.80	1,895.06	86.74	22.848			
15,100.00	9,065.00	11,258.39	7,738.67	129.65	56.81	1.77	-294.69	7,456.66	1,906.11	1,819.21	86.90	21.935			
15,200.00	9,065.00	11,255.77	7,738.68	131.63	56.78	1.66	-292.08	7,456.71	1,832.75	1,745.68	87.08	21.048			
15,300.00	9,065.00	11,253.17	7,738.69	133.62	56.74	1.54	-289.48	7,456.76	1,762.01	1,674.74	87.27	20.190			
15,400.00	9,065.00	11,250.59	7,738.70	135.61	56.71	1.42	-286.90	7,456.82	1,694.22	1,606.73	87.49	19.365			
15,500.00	9,065.00	11,248.01	7,738.71	137.60	56.67	1.31	-284.32	7,456.87	1,629.74	1,542.02	87.72	18.579			
15,600.00	9,065.00	11,245.45	7,738.71	139.59	56.64	1.19	-281.76	7,456.92	1,568.98	1,481.01	87.97	17.836			
15,700.00	9,065.00	11,242.90	7,738.72	141.58	56.60	1.07	-279.21	7,456.98	1,512.39	1,424.17	88.22	17.143			
15,800.00	9,065.00	11,240.37	7,738.72	143.57	56.57	0.96	-276.68	7,457.03	1,460.46	1,371.97	88.50	16.503			
15,900.00	9,065.00	11,237.85	7,738.72	145.57	56.53	0.85	-274.16	7,457.08	1,413.71	1,324.92	88.79	15.922			
16,000.00	9,065.00	11,235.34	7,738.72	147.56	56.50	0.73	-271.65	7,457.13	1,372.64	1,283.53	89.12	15.403			
16,100.00	9,065.00	11,232.84	7,738.72	149.56	56.47	0.62	-269.15	7,457.18	1,337.81	1,248.30	89.51	14.947			
16,200.00	9,065.00	11,230.35	7,738.72	151.56	56.43	0.51	-266.67	7,457.23	1,309.69	1,219.70	89.99	14.554			
16,300.00	9,065.00	11,227.88	7,738.72	153.56	56.40	0.40	-264.20	7,457.28	1,288.73	1,198.12	90.61	14.223			
16,400.00	9,065.00	11,225.42	7,738.71	155.56	56.37	0.29	-261.74	7,457.33	1,275.29	1,183.89	91.40	13.953			
16,500.00	9,065.00	11,222.97	7,738.71	157.57	56.33	0.18	-259.29	7,457.38	1,269.60	1,177.21	92.39	13.742			
16,522.49	9,065.00	11,222.42	7,738.71	158.02	56.33	0.15	-258.74	7,457.39	1,269.40	1,176.76	92.64	13.703 CC, ES			
16,600.00	9,065.00	11,220.54	7,738.70	159.57	56.30	0.07	-256.85	7,457.43	1,271.76	1,178.20	93.56	13.593			
16,700.00	9,065.00	11,218.11	7,738.69	161.57	56.27	-0.04	-254.43	7,457.48	1,281.74	1,186.87	94.87	13.510			
16,800.00	9,065.00	11,215.70	7,738.68	163.58	56.24	-0.15	-252.02	7,457.52	1,299.35	1,203.10	96.26	13.499 SF			
16,900.00	9,065.00	11,213.30	7,738.67	165.59	56.20	-0.26	-249.62	7,457.57	1,324.30	1,226.67	97.63	13.564			
17,000.00	9,065.00	11,210.91	7,738.66	167.60	56.17	-0.37	-247.23	7,457.62	1,356.18	1,257.25	98.93	13.708			
17,100.00	9,065.00	11,208.53	7,738.65	169.60	56.14	-0.48	-244.85	7,457.66	1,394.50	1,294.40	100.10	13.931			
17,200.00	9,065.00	11,206.17	7,738.64	171.61	56.11	-0.58	-242.49	7,457.71	1,438.77	1,337.65	101.11	14.229			
17,300.00	9,065.00	11,203.81	7,738.62	173.62	56.08	-0.69	-240.13	7,457.76	1,488.44	1,386.48	101.96	14.599			
17,400.00	9,065.00	11,203.42	7,738.63	175.63	56.07	-0.71	-239.74	7,457.76	1,542.99	1,440.34	102.64	15.032			
17,500.00	9,065.00	11,200.42	7,738.60	177.65	56.03	-0.84	-236.74	7,457.82	1,601.93	1,498.77	103.16	15.528			
17,600.00	9,065.00	11,197.39	7,738.58	179.66	55.99	-0.98	-233.71	7,457.88	1,664.80	1,561.26	103.54	16.079			
17,700.00	9,065.00	11,194.35	7,738.55	181.67	55.95	-1.12	-230.67	7,457.94	1,731.15	1,627.35	103.80	16.678			
17,800.00	9,065.00	11,191.29	7,738.52	183.69	55.91	-1.25	-227.61	7,457.99	1,800.61	1,696.65	103.96	17.320			
17,900.00	9,065.00	11,188.21	7,738.50	185.70	55.87	-1.39	-224.53	7,458.05	1,872.84	1,768.79	104.04	18.001			
18,000.00	9,065.00	11,185.10	7,738.47	187.72	55.83	-1.53	-221.43	7,458.11	1,947.51	1,843.45	104.06	18.716			
18,100.00	9,065.00	11,181.98	7,738.45	189.73	55.78	-1.67	-218.30	7,458.17	2,024.37	1,920.35	104.02	19.462			
18,200.00	9,065.00	11,178.84	7,738.42	191.75	55.74	-1.81	-215.16	7,458.24	2,103.17	1,999.22	103.94	20.234			
18,300.00	9,065.00	11,175.67	7,738.39	193.77	55.70	-1.96	-212.00	7,458.30	2,183.70	2,079.86	103.84	21.030			
18,400.00	9,065.00	11,172.49	7,738.36	195.78	55.66	-2.10	-208.81	7,458.36	2,265.78	2,162.07	103.71	21.848			
18,500.00	9,065.00	11,169.28	7,738.34	197.80	55.61	-2.24	-205.61	7,458.42	2,349.24	2,245.68	103.56	22.685			
18,600.00	9,065.00	11,166.06	7,738.31	199.82	55.57	-2.39	-202.38	7,458.49	2,433.95	2,330.54	103.41	23.538			
18,700.00	9,065.00	11,162.81	7,738.28	201.84	55.53	-2.54	-199.14	7,458.55	2,519.77	2,416.53	103.24	24.406			
18,800.00	9,065.00	11,159.54	7,738.25	203.86	55.48	-2.68	-195.87	7,458.62	2,606.60	2,503.53	103.08	25.288			
18,900.00	9,065.00	11,156.25	7,738.22	205.88	55.44	-2.83	-192.58	7,458.68	2,694.34	2,591.43	102.91	26.182			
19,000.00	9,065.00	11,152.94	7,738.19	207.90	55.39	-2.98	-189.26	7,458.75	2,782.91	2,680.16	102.74	27.086			
19,100.00	9,065.00	11,149.60	7,738.16	209.92	55.35	-3.13	-185.93	7,458.82	2,872.22	2,769.64	102.58	28.000			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design Sec 13-T21S-R27E - Lone Tree Draw State 7H - Wellbore #1 - Wellbore #1													Offset Site Error:	5.00 ft
Survey Program: 100-GYRO-NS-CT, 2922-MWD+HDGM													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis		Distance							Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
19,200.00	9,065.00	11,146.24	7,738.13	211.95	55.30	-3.28	-182.57	7,458.89	2,962.21	2,859.79	102.42	28.922		
19,300.00	9,065.00	11,142.86	7,738.10	213.97	55.26	-3.43	-179.19	7,458.96	3,052.82	2,950.56	102.26	29.852		
19,400.00	9,065.00	11,139.46	7,738.06	215.99	55.21	-3.59	-175.79	7,459.03	3,144.00	3,041.88	102.11	30.789		
19,456.84	9,065.00	11,137.51	7,738.05	217.14	55.19	-3.67	-173.85	7,459.07	3,196.06	3,094.03	102.03	31.324		

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Sec 13-T21S-R27E - Lone Tree Draw State Com 2H - ST01 - ST01													Offset Well Error:	0.50 ft
Survey Program: 80-GYRO-NS-CT, 4361-MWD+HDGM														
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (ft)	Separation Factor	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)				
0.00	0.00	0.00	0.00	0.50	5.02	61.36	3,158.45	5,782.98	6,589.48					
100.00	100.00	45.00	45.00	0.52	5.03	61.36	3,158.44	5,783.00	6,589.30	6,583.76	5.54	1,188.766		
200.00	200.00	140.67	140.67	0.70	5.03	61.36	3,158.37	5,783.16	6,589.41	6,583.67	5.74	1,148.701		
300.00	300.00	236.04	236.04	0.99	5.07	61.36	3,158.26	5,783.38	6,589.56	6,583.51	6.05	1,088.660		
400.00	400.00	333.23	333.23	1.31	5.12	61.36	3,158.12	5,783.72	6,589.79	6,583.36	6.43	1,025.049		
500.00	500.00	426.72	426.72	1.65	5.19	61.37	3,157.92	5,784.12	6,590.07	6,583.23	6.84	963.698		
600.00	600.00	520.68	520.68	1.99	5.29	61.37	3,157.65	5,784.69	6,590.46	6,583.19	7.28	905.878		
700.00	700.00	611.59	611.58	2.34	5.39	61.38	3,157.28	5,785.40	6,590.95	6,583.22	7.73	852.536		
800.00	800.00	711.04	711.02	2.69	5.53	61.39	3,156.74	5,786.38	6,591.56	6,583.34	8.22	802.063		
900.00	900.00	806.58	806.56	3.04	5.68	61.40	3,155.88	5,787.48	6,592.14	6,583.42	8.72	756.048		
1,000.00	1,000.00	895.06	895.02	3.40	5.83	61.41	3,154.95	5,788.72	6,592.87	6,583.64	9.22	714.708		
1,100.00	1,100.00	985.91	985.85	3.75	6.00	61.42	3,153.85	5,790.26	6,593.77	6,584.02	9.75	676.414		
1,200.00	1,200.00	1,089.98	1,089.90	4.11	6.20	61.44	3,152.38	5,792.20	6,594.73	6,584.42	10.31	639.528		
1,300.00	1,300.00	1,201.91	1,201.78	4.46	6.45	61.47	3,150.30	5,794.35	6,595.54	6,584.63	10.91	604.600		
1,400.00	1,400.00	8,329.00	4,956.38	4.82	54.40	95.07	-487.01	5,492.56	6,589.22	6,536.85	52.37	125.822		
1,500.00	1,500.00	8,329.00	4,956.38	5.18	54.40	95.07	-487.01	5,492.56	6,535.01	6,482.06	52.95	123.425		
1,600.00	1,600.00	8,329.00	4,956.38	5.53	54.40	95.07	-487.01	5,492.56	6,481.89	6,428.36	53.53	121.085		
1,700.00	1,700.00	8,329.00	4,956.38	5.89	54.40	95.07	-487.01	5,492.56	6,429.89	6,375.77	54.12	118.803		
1,800.00	1,800.00	8,329.00	4,956.38	6.25	54.40	95.07	-487.01	5,492.56	6,379.03	6,324.31	54.72	116.580		
1,900.00	1,900.00	8,329.00	4,956.38	6.61	54.40	95.07	-487.01	5,492.56	6,329.34	6,274.02	55.32	114.417		
2,000.00	2,000.00	8,329.00	4,956.38	6.96	54.40	95.07	-487.01	5,492.56	6,280.85	6,224.93	55.92	112.314		
2,100.00	2,100.00	8,329.00	4,956.38	7.32	54.40	95.07	-487.01	5,492.56	6,233.59	6,177.06	56.53	110.272		
2,200.00	2,200.00	8,329.00	4,956.38	7.68	54.40	95.07	-487.01	5,492.56	6,187.58	6,130.44	57.14	108.291		
2,300.00	2,300.00	8,329.00	4,956.38	8.04	54.40	95.07	-487.01	5,492.56	6,142.86	6,085.11	57.75	106.371		
2,400.00	2,400.00	8,329.00	4,956.38	8.39	54.40	95.07	-487.01	5,492.56	6,099.45	6,041.09	58.36	104.511		
2,500.00	2,500.00	8,329.00	4,956.38	8.75	54.40	95.07	-487.01	5,492.56	6,057.38	5,998.40	58.97	102.713		
2,600.00	2,599.99	8,329.00	4,956.38	9.09	54.40	-119.39	-487.01	5,492.56	6,017.06	5,957.49	59.57	101.007		
2,700.00	2,699.96	8,329.00	4,956.38	9.42	54.40	-119.75	-487.01	5,492.56	5,978.94	5,918.79	60.15	99.395		
2,800.00	2,799.86	8,329.00	4,956.38	9.75	54.40	-120.09	-487.01	5,492.56	5,943.07	5,882.34	60.74	97.850		
2,900.00	2,899.68	8,329.00	4,956.38	10.08	54.40	-120.39	-487.01	5,492.56	5,909.50	5,848.18	61.32	96.371		
2,945.33	2,944.88	8,329.00	4,956.38	10.23	54.40	-120.53	-487.01	5,492.56	5,895.05	5,833.47	61.58	95.724		
3,000.00	2,999.39	8,356.23	4,956.66	10.41	54.77	-120.25	-514.13	5,490.07	5,878.14	5,815.89	62.26	94.415		
3,100.00	3,099.08	8,402.58	4,956.65	10.75	55.40	-119.77	-560.27	5,485.74	5,848.36	5,784.91	63.45	92.175		
3,200.00	3,198.78	8,435.34	4,956.29	11.08	55.85	-119.44	-592.88	5,482.61	5,820.10	5,755.64	64.46	90.290		
3,300.00	3,298.48	3,300.00	4,956.44	11.42	14.08	-119.86	-551.79	5,486.49	5,793.35	5,768.59	24.77	233.932		
3,400.00	3,398.18	3,400.00	4,956.44	11.76	14.13	-119.79	-558.65	5,485.85	5,768.32	5,744.57	23.75	242.893		
3,500.00	3,497.88	3,500.00	4,956.45	12.10	14.19	-119.72	-565.52	5,485.20	5,744.91	5,722.21	22.70	253.091		
3,600.00	3,597.58	3,600.00	4,956.45	12.45	14.24	-119.65	-572.39	5,484.56	5,723.14	5,701.53	21.61	264.891		
3,700.00	3,697.27	3,700.00	4,956.46	12.79	14.30	-119.58	-579.25	5,483.92	5,703.03	5,682.58	20.45	278.895		
3,800.00	3,796.97	8,441.39	4,956.23	13.14	55.93	-119.38	-598.91	5,482.06	5,684.55	5,616.67	67.88	83.740		
3,900.00	3,896.67	8,444.19	4,956.19	13.48	55.97	-119.35	-601.69	5,481.80	5,667.81	5,599.37	68.45	82.808		
4,000.00	3,996.37	8,446.97	4,956.15	13.83	56.01	-119.32	-604.46	5,481.55	5,652.79	5,583.79	69.00	81.929		
4,100.00	4,096.07	8,449.73	4,956.11	14.18	56.05	-119.29	-607.22	5,481.30	5,639.50	5,569.97	69.53	81.104		
4,200.00	4,195.76	8,452.48	4,956.08	14.53	56.08	-119.26	-609.95	5,481.05	5,627.95	5,557.89	70.06	80.332		
4,300.00	4,295.46	8,455.21	4,956.04	14.88	56.12	-119.24	-612.67	5,480.80	5,618.16	5,547.59	70.57	79.612		
4,400.00	4,395.16	8,457.92	4,956.00	15.23	56.16	-119.21	-615.37	5,480.56	5,610.13	5,539.06	71.07	78.943		
4,500.00	4,494.86	8,460.62	4,955.96	15.58	56.20	-119.18	-618.06	5,480.32	5,603.87	5,532.32	71.55	78.324		
4,600.00	4,594.56	8,463.30	4,955.92	15.93	56.23	-119.15	-620.73	5,480.08	5,599.38	5,527.37	72.01	77.756		
4,700.00	4,694.25	8,465.96	4,955.89	16.29	56.27	-119.13	-623.38	5,479.84	5,596.68	5,524.22	72.46	77.237		
4,800.00	4,793.95	8,468.61	4,955.85	16.64	56.31	-119.10	-626.02	5,479.61	5,595.76	5,522.87	72.89	76.766		
4,801.50	4,795.44	8,468.65	4,955.85	16.65	56.31	-119.10	-626.06	5,479.61	5,595.76	5,522.86	72.90	76.759		
4,900.00	4,893.65	8,471.24	4,955.81	17.00	56.34	-119.07	-628.64	5,479.38	5,596.63	5,523.32	73.31	76.343		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design		Sec 13-T21S-R27E - Lone Tree Draw State Com 2H - ST01 - ST01											Offset Site Error:		5.00 ft
Survey Program:		80-GYRO-NS-CT, 4361-MWD+HDGM											Offset Well Error:		0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor			
5,000.00	4,993.35	8,473.85	4,955.77	17.35	56.38	-119.05	-631.24	5,479.16	5,599.28	5,525.57	73.71	75.967			
5,100.00	5,093.05	8,476.45	4,955.73	17.71	56.41	-119.02	-633.83	5,478.93	5,603.71	5,529.62	74.09	75.637			
5,200.00	5,192.75	8,479.04	4,955.69	18.06	56.45	-118.99	-636.40	5,478.71	5,609.92	5,535.47	74.45	75.352			
5,300.00	5,292.44	8,481.60	4,955.65	18.42	56.48	-118.97	-638.96	5,478.49	5,617.89	5,543.10	74.79	75.112			
5,400.00	5,392.14	8,484.15	4,955.61	18.77	56.52	-118.94	-641.50	5,478.27	5,627.64	5,552.52	75.12	74.916			
5,500.00	5,491.84	8,486.69	4,955.57	19.13	56.55	-118.91	-644.03	5,478.06	5,639.13	5,563.70	75.43	74.763			
5,600.00	5,591.54	8,489.21	4,955.53	19.49	56.59	-118.89	-646.54	5,477.85	5,652.37	5,576.65	75.72	74.651			
5,700.00	5,691.24	8,491.72	4,955.49	19.85	56.62	-118.86	-649.04	5,477.64	5,667.34	5,591.35	75.99	74.582			
5,800.00	5,790.93	8,494.21	4,955.45	20.20	56.66	-118.84	-651.52	5,477.43	5,684.03	5,607.79	76.24	74.552			
5,900.00	5,890.63	8,496.68	4,955.41	20.56	56.69	-118.81	-653.99	5,477.23	5,702.42	5,625.95	76.48	74.563			
6,000.00	5,990.33	8,518.00	4,955.05	20.92	56.98	-118.59	-675.23	5,475.51	5,722.57	5,645.61	76.96	74.362			
6,100.00	6,090.03	8,518.00	4,955.05	21.28	56.98	-118.59	-675.23	5,475.51	5,744.30	5,667.18	77.12	74.483			
6,200.00	6,189.73	8,518.00	4,955.05	21.64	56.98	-118.59	-675.23	5,475.51	5,767.68	5,690.41	77.27	74.639			
6,300.00	6,289.42	8,518.00	4,955.05	22.00	56.98	-118.59	-675.23	5,475.51	5,792.70	5,715.29	77.41	74.832			
6,400.00	6,389.12	8,518.00	4,955.05	22.36	56.98	-118.59	-675.23	5,475.51	5,819.32	5,741.80	77.53	75.060			
6,500.00	6,488.82	8,518.00	4,955.05	22.72	56.98	-118.59	-675.23	5,475.51	5,847.54	5,769.91	77.63	75.323			
6,600.00	6,588.52	8,527.33	4,955.21	23.08	57.11	-118.69	-665.93	5,476.25	5,877.32	5,799.47	77.85	75.499			
6,700.00	6,688.22	8,522.32	4,955.13	23.44	57.04	-118.64	-670.92	5,475.85	5,908.65	5,830.79	77.86	75.892			
6,800.00	6,787.91	8,518.69	4,955.04	23.80	56.99	-118.59	-675.92	5,475.46	5,941.49	5,863.62	77.87	76.299			
6,900.00	6,887.61	8,523.71	4,954.95	24.16	57.06	-118.54	-680.92	5,475.07	5,975.82	5,897.83	77.99	76.624			
7,000.00	6,987.31	8,528.72	4,954.86	24.52	57.13	-118.49	-685.91	5,474.67	6,011.62	5,933.53	78.09	76.980			
7,100.00	7,087.01	8,533.73	4,954.78	24.88	57.20	-118.43	-690.91	5,474.28	6,048.85	5,970.67	78.19	77.365			
7,200.00	7,186.71	8,538.74	4,954.69	25.24	57.27	-118.38	-695.90	5,473.89	6,087.50	6,009.23	78.27	77.778			
7,300.00	7,286.41	8,543.75	4,954.60	25.60	57.34	-118.33	-700.90	5,473.49	6,127.53	6,049.19	78.34	78.219			
7,400.00	7,386.10	8,548.76	4,954.51	25.96	57.40	-118.28	-705.89	5,473.10	6,168.91	6,090.52	78.40	78.686			
7,500.00	7,485.80	8,553.78	4,954.43	26.33	57.47	-118.23	-710.89	5,472.71	6,211.63	6,133.18	78.45	79.179			
7,600.00	7,585.50	8,558.79	4,954.34	26.69	57.54	-118.18	-715.88	5,472.31	6,255.65	6,177.16	78.49	79.697			
7,700.00	7,685.20	8,563.80	4,954.25	27.05	57.61	-118.13	-720.88	5,471.92	6,300.95	6,222.42	78.53	80.239			
7,800.00	7,784.90	8,568.81	4,954.16	27.41	57.68	-118.08	-725.88	5,471.53	6,347.49	6,268.94	78.55	80.804			
7,860.70	7,845.41	8,571.85	4,954.11	27.63	57.72	-118.04	-728.91	5,471.29	6,376.34	6,297.77	78.57	81.157			
7,900.00	7,884.61	8,573.65	4,954.08	27.77	57.75	-118.31	-730.70	5,471.15	6,395.17	6,316.60	78.57	81.393			
8,000.00	7,984.46	8,576.63	4,954.03	28.13	57.79	-119.00	-733.67	5,470.91	6,443.16	6,364.61	78.56	82.020			
8,100.00	8,084.42	8,577.33	4,954.02	28.49	57.80	-119.71	-734.37	5,470.86	6,491.24	6,412.74	78.50	82.690			
8,157.59	8,142.00	8,576.71	4,954.03	28.69	57.79	93.95	-733.74	5,470.91	6,518.94	6,440.49	78.45	83.099			
8,200.00	8,184.41	8,575.96	4,954.04	28.83	57.78	93.94	-733.01	5,470.97	6,539.46	6,461.06	78.40	83.409			
8,300.00	8,284.41	8,574.22	4,954.07	29.17	57.75	93.93	-731.27	5,471.10	6,588.66	6,510.37	78.29	84.155			
8,400.00	8,384.41	8,572.47	4,954.10	29.51	57.73	93.91	-729.53	5,471.24	6,639.00	6,560.82	78.18	84.921			
8,507.63	8,492.04	8,570.60	4,954.13	29.87	57.70	93.89	-727.65	5,471.39	6,694.42	6,616.37	78.05	85.766			
8,550.00	8,534.37	8,569.72	4,954.15	30.02	57.69	4.33	-726.78	5,471.46	6,715.24	6,637.25	78.00	86.097			
8,600.00	8,584.01	8,568.33	4,954.17	30.18	57.67	4.14	-725.39	5,471.57	6,736.51	6,658.60	77.91	86.463			
8,650.00	8,632.95	8,566.56	4,954.20	30.34	57.65	3.99	-723.64	5,471.70	6,754.09	6,676.27	77.81	86.799			
8,700.00	8,680.82	8,564.44	4,954.24	30.50	57.62	3.87	-721.52	5,471.87	6,767.86	6,690.16	77.70	87.104			
8,750.00	8,727.25	8,561.98	4,954.28	30.66	57.59	3.79	-719.06	5,472.06	6,777.76	6,700.19	77.57	87.376			
8,800.00	8,771.89	8,559.19	4,954.33	30.81	57.55	3.72	-716.28	5,472.28	6,783.72	6,706.29	77.43	87.615			
8,850.00	8,814.40	8,556.09	4,954.39	30.95	57.50	3.68	-713.20	5,472.53	6,785.71	6,708.44	77.27	87.821			
8,900.00	8,854.46	8,552.72	4,954.45	31.09	57.46	3.67	-709.84	5,472.79	6,783.71	6,706.61	77.10	87.991			
8,950.00	8,891.75	8,549.09	4,954.51	31.23	57.41	3.68	-706.22	5,473.07	6,777.73	6,700.82	76.91	88.124			
9,000.00	8,926.01	8,545.24	4,954.58	31.37	57.36	3.71	-702.38	5,473.38	6,767.82	6,691.10	76.71	88.221			
9,050.00	8,956.96	8,541.19	4,954.65	31.53	57.30	3.77	-698.35	5,473.69	6,754.02	6,677.51	76.51	88.278			
9,100.00	8,984.38	8,536.98	4,954.72	31.69	57.24	3.85	-694.14	5,474.03	6,736.43	6,660.13	76.29	88.296			
9,150.00	9,008.05	8,532.63	4,954.80	31.87	57.18	3.97	-689.81	5,474.37	6,715.14	6,639.06	76.07	88.272			
9,200.00	9,027.79	8,528.18	4,954.87	32.07	57.12	4.13	-685.37	5,474.72	6,690.28	6,614.43	75.85	88.206			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design		Sec 13-T21S-R27E - Lone Tree Draw State Com 2H - ST01 - ST01												Offset Site Error:		5.00 ft	
Survey Program:		80-GYRO-NS-CT, 4361-MWD+HDGM												Offset Well Error:		0.50 ft	
Reference		Offset		Semi Major Axis			Distance										
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor	Warning				
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)						
9,250.00	9,043.45	8,523.66	4,954.95	32.29	57.06	4.34	-680.87	5,475.07	6,662.00	6,586.38	75.62	88.097					
9,300.00	9,054.92	8,519.11	4,955.03	32.53	57.00	4.60	-676.34	5,475.43	6,630.47	6,555.08	75.39	87.944					
9,350.00	9,062.10	8,521.44	4,955.11	32.79	57.03	4.95	-671.80	5,475.78	6,595.90	6,520.65	75.25	87.652					
9,400.00	9,064.95	8,525.95	4,955.19	33.06	57.09	5.40	-667.30	5,476.14	6,558.49	6,483.35	75.14	87.286					
9,407.63	9,065.00	8,526.63	4,955.20	33.10	57.10	5.48	-666.62	5,476.19	6,552.55	6,477.43	75.13	87.222					
9,500.00	9,065.00	8,518.00	4,955.05	33.68	56.98	5.60	-675.23	5,475.51	6,480.51	6,405.80	74.72	86.736					
9,600.00	9,065.00	8,518.00	4,955.05	34.41	56.98	5.60	-675.23	5,475.51	6,403.11	6,328.73	74.38	86.088					
9,700.00	9,065.00	8,518.00	4,955.05	35.24	56.98	5.60	-675.23	5,475.51	6,326.34	6,252.30	74.04	85.441					
9,800.00	9,065.00	8,497.15	4,955.40	36.17	56.70	5.31	-654.45	5,477.19	6,250.16	6,176.70	73.46	85.081					
9,900.00	9,065.00	8,492.67	4,955.48	37.19	56.63	5.25	-649.98	5,477.56	6,174.69	6,101.61	73.08	84.494					
10,000.00	9,065.00	8,488.10	4,955.55	38.30	56.57	5.18	-645.43	5,477.94	6,099.92	6,027.22	72.70	83.906					
10,100.00	9,065.00	8,483.45	4,955.62	39.48	56.51	5.12	-640.80	5,478.33	6,025.88	5,953.56	72.32	83.318					
10,200.00	9,065.00	8,478.72	4,955.69	40.72	56.44	5.05	-636.09	5,478.74	5,952.59	5,880.64	71.95	82.729					
10,300.00	9,065.00	8,473.90	4,955.77	42.03	56.38	4.99	-631.29	5,479.15	5,880.08	5,808.49	71.59	82.138					
10,400.00	9,065.00	8,469.00	4,955.84	43.40	56.31	4.92	-626.40	5,479.58	5,808.38	5,737.15	71.23	81.545					
10,500.00	9,065.00	8,464.00	4,955.91	44.82	56.24	4.85	-621.43	5,480.02	5,737.51	5,666.63	70.88	80.949					
10,600.00	9,065.00	8,458.91	4,955.99	46.29	56.17	4.78	-616.36	5,480.47	5,667.51	5,596.98	70.54	80.350					
10,700.00	9,065.00	8,453.72	4,956.06	47.79	56.10	4.71	-611.19	5,480.93	5,598.42	5,528.22	70.20	79.747					
10,800.00	9,065.00	8,448.44	4,956.13	49.34	56.03	4.63	-605.93	5,481.41	5,530.26	5,460.38	69.88	79.140					
10,900.00	9,065.00	8,443.05	4,956.20	50.92	55.96	4.56	-600.56	5,481.91	5,463.08	5,393.51	69.57	78.529					
11,000.00	9,065.00	8,423.00	4,956.46	52.54	55.68	4.28	-580.60	5,483.79	5,396.93	5,327.83	69.10	78.108					
11,100.00	9,065.00	8,423.00	4,956.46	54.18	55.68	4.28	-580.60	5,483.79	5,331.77	5,262.89	68.88	77.410					
11,200.00	9,065.00	8,423.00	4,956.46	55.85	55.68	4.28	-580.60	5,483.79	5,267.70	5,199.03	68.67	76.705					
11,300.00	9,065.00	8,423.00	4,956.46	57.54	55.68	4.28	-580.60	5,483.79	5,204.77	5,136.28	68.49	75.994					
11,400.00	9,065.00	8,423.00	4,956.46	59.26	55.68	4.28	-580.60	5,483.79	5,143.00	5,074.68	68.32	75.276					
11,500.00	9,065.00	8,423.00	4,956.46	61.00	55.68	4.28	-580.60	5,483.79	5,082.46	5,014.29	68.17	74.552					
11,600.00	9,065.00	8,404.30	4,956.64	62.75	55.43	4.02	-561.99	5,485.57	5,023.11	4,955.29	67.82	74.062					
11,700.00	9,065.00	8,398.93	4,956.67	64.52	55.35	3.94	-556.65	5,486.08	4,965.08	4,897.43	67.65	73.391					
11,800.00	9,065.00	8,393.60	4,956.70	66.31	55.28	3.87	-551.33	5,486.59	4,908.40	4,840.90	67.50	72.713					
11,900.00	9,065.00	8,388.29	4,956.72	68.11	55.21	3.79	-546.05	5,487.09	4,853.11	4,785.73	67.38	72.027					
12,000.00	9,065.00	8,383.01	4,956.73	69.93	55.13	3.72	-540.80	5,487.58	4,799.24	4,731.97	67.28	71.335					
12,100.00	9,065.00	8,377.77	4,956.73	71.76	55.06	3.65	-535.57	5,488.07	4,746.87	4,679.67	67.20	70.636					
12,200.00	9,065.00	8,372.55	4,956.72	73.60	54.99	3.57	-530.38	5,488.56	4,696.03	4,628.87	67.15	69.932					
12,300.00	9,065.00	8,367.36	4,956.71	75.45	54.92	3.50	-525.21	5,489.04	4,646.77	4,579.64	67.13	69.223					
12,400.00	9,065.00	8,362.20	4,956.69	77.31	54.85	3.43	-520.07	5,489.52	4,599.14	4,532.01	67.13	68.510					
12,500.00	9,065.00	8,357.06	4,956.66	79.18	54.78	3.36	-514.96	5,489.99	4,553.21	4,486.05	67.16	67.795					
12,600.00	9,065.00	8,351.96	4,956.63	81.05	54.71	3.28	-509.88	5,490.46	4,509.01	4,441.79	67.22	67.077					
12,700.00	9,065.00	8,329.00	4,956.38	82.94	54.40	2.96	-487.01	5,492.56	4,466.67	4,399.57	67.10	66.566					
12,800.00	9,065.00	8,329.00	4,956.38	84.83	54.40	2.96	-487.01	5,492.56	4,426.07	4,358.79	67.28	65.787					
12,900.00	9,065.00	8,329.00	4,956.38	86.73	54.40	2.96	-487.01	5,492.56	4,387.38	4,319.89	67.49	65.010					
13,000.00	9,065.00	8,329.00	4,956.38	88.64	54.40	2.96	-487.01	5,492.56	4,350.64	4,282.91	67.73	64.239					
13,100.00	9,065.00	8,329.00	4,956.38	90.55	54.40	2.96	-487.01	5,492.56	4,315.90	4,247.90	68.00	63.473					
13,200.00	9,065.00	8,318.99	4,956.24	92.47	54.26	2.82	-477.05	5,493.48	4,283.20	4,215.01	68.18	62.819					
13,300.00	9,065.00	8,311.54	4,956.14	94.39	54.16	2.72	-469.64	5,494.20	4,252.58	4,184.15	68.43	62.142					
13,400.00	9,065.00	8,303.68	4,956.03	96.32	54.05	2.61	-461.82	5,494.97	4,224.09	4,155.38	68.71	61.474					
13,500.00	9,065.00	8,295.37	4,955.92	98.25	53.94	2.49	-453.55	5,495.82	4,197.77	4,128.74	69.02	60.817					
13,600.00	9,065.00	8,286.57	4,955.80	100.19	53.82	2.37	-444.80	5,496.75	4,173.65	4,104.29	69.36	60.170					
13,700.00	9,065.00	8,277.24	4,955.68	102.13	53.69	2.24	-435.52	5,497.76	4,151.78	4,082.04	69.74	59.535					
13,800.00	9,065.00	8,267.32	4,955.55	104.08	53.56	2.10	-425.67	5,498.88	4,132.18	4,062.04	70.14	58.913					
13,900.00	9,065.00	8,256.76	4,955.42	106.03	53.41	1.95	-415.18	5,500.10	4,114.90	4,044.32	70.58	58.304					
14,000.00	9,065.00	8,245.50	4,955.28	107.98	53.26	1.79	-404.00	5,501.46	4,099.94	4,028.90	71.04	57.711					
14,100.00	9,065.00	8,234.00	4,955.14	109.94	53.10	1.63	-392.59	5,502.90	4,087.34	4,015.79	71.55	57.128					

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design		Sec 13-T21S-R27E - Lone Tree Draw State Com 2H - ST01 - ST01											Offset Site Error:		5.00 ft
Survey Program:		80-GYRO-NS-CT, 4361-MWD+HDM											Offset Well Error:		0.50 ft
Reference		Offset		Semi Major Axis			Distance								
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor	Warning		
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)				
14,200.00	9,065.00	8,234.00	4,955.14	111.90	53.10	1.63	-392.59	5,502.90	4,077.13	4,004.92	72.21	56.465			
14,300.00	9,065.00	8,218.16	4,954.92	113.86	52.89	1.41	-376.88	5,504.92	4,069.30	3,996.56	72.74	55.942			
14,400.00	9,065.00	8,210.29	4,954.79	115.82	52.78	1.30	-369.08	5,505.94	4,063.91	3,990.51	73.39	55.371			
14,500.00	9,065.00	8,202.33	4,954.66	117.79	52.67	1.19	-361.19	5,506.97	4,060.94	3,986.86	74.08	54.817			
14,571.87	9,065.00	8,196.56	4,954.55	119.21	52.60	1.11	-355.47	5,507.72	4,060.31	3,985.72	74.60	54.430 CC			
14,600.00	9,065.00	8,194.29	4,954.50	119.76	52.56	1.08	-353.22	5,508.01	4,060.41	3,985.61	74.80	54.282 ES			
14,700.00	9,065.00	8,186.17	4,954.34	121.74	52.45	0.96	-345.17	5,509.08	4,062.31	3,986.76	75.55	53.768			
14,800.00	9,065.00	8,177.96	4,954.16	123.71	52.34	0.85	-337.04	5,510.16	4,066.64	3,990.31	76.33	53.276			
14,900.00	9,065.00	8,169.67	4,953.97	125.69	52.23	0.73	-328.82	5,511.26	4,073.40	3,996.26	77.14	52.808			
15,000.00	9,065.00	8,161.28	4,953.76	127.67	52.12	0.62	-320.51	5,512.38	4,082.56	4,004.60	77.96	52.366			
15,100.00	9,065.00	8,140.00	4,953.17	129.65	51.83	0.32	-299.43	5,515.25	4,094.15	4,015.46	78.69	52.028			
15,200.00	9,065.00	8,148.71	4,953.43	131.63	51.95	0.44	-308.05	5,514.07	4,108.04	4,028.34	79.71	51.540			
15,300.00	9,065.00	8,130.97	4,952.90	133.62	51.71	0.19	-290.49	5,516.47	4,124.32	4,043.82	80.50	51.236			
15,400.00	9,065.00	8,113.08	4,952.38	135.61	51.46	-0.06	-272.78	5,518.91	4,142.88	4,061.59	81.30	50.961			
15,500.00	9,065.00	8,095.04	4,951.87	137.60	51.22	-0.31	-254.90	5,521.38	4,163.70	4,081.60	82.10	50.714			
15,600.00	9,065.00	8,076.83	4,951.37	139.59	50.98	-0.56	-236.87	5,523.89	4,186.74	4,103.83	82.91	50.497			
15,700.00	9,065.00	8,058.45	4,950.87	141.58	50.73	-0.82	-218.68	5,526.43	4,211.97	4,128.25	83.72	50.310			
15,800.00	9,065.00	8,041.60	4,950.42	143.57	50.50	-1.05	-202.00	5,528.77	4,239.34	4,154.80	84.54	50.148			
15,900.00	9,065.00	8,029.32	4,950.10	145.57	50.33	-1.22	-189.84	5,530.47	4,268.83	4,183.44	85.38	49.997			
16,000.00	9,065.00	8,017.25	4,949.78	147.56	50.17	-1.39	-177.89	5,532.12	4,300.40	4,214.18	86.22	49.878			
16,100.00	9,065.00	8,005.40	4,949.46	149.56	50.01	-1.56	-166.15	5,533.72	4,334.00	4,246.96	87.04	49.793			
16,200.00	9,065.00	7,993.75	4,949.15	151.56	49.85	-1.72	-154.61	5,535.28	4,369.60	4,281.75	87.85	49.740			
16,300.00	9,065.00	7,982.30	4,948.84	153.56	49.70	-1.88	-143.28	5,536.81	4,407.15	4,318.51	88.64	49.719 SF			
16,400.00	9,065.00	7,971.06	4,948.53	155.56	49.55	-2.03	-132.13	5,538.29	4,446.58	4,357.17	89.41	49.731			
16,500.00	9,065.00	7,964.51	4,948.35	157.57	49.46	-2.12	-125.65	5,539.15	4,487.86	4,397.67	90.20	49.757			
16,600.00	9,065.00	7,948.72	4,947.91	159.57	49.25	-2.34	-109.99	5,541.19	4,530.95	4,440.06	90.89	49.849			
16,700.00	9,065.00	7,933.00	4,947.47	161.57	49.04	-2.56	-94.40	5,543.21	4,575.77	4,484.20	91.57	49.969			
16,800.00	9,065.00	7,917.33	4,947.05	163.58	48.83	-2.78	-78.88	5,545.22	4,622.28	4,530.05	92.23	50.119			
16,900.00	9,065.00	7,901.74	4,946.64	165.59	48.62	-3.00	-63.41	5,547.21	4,670.41	4,577.55	92.86	50.296			
17,000.00	9,065.00	7,886.20	4,946.24	167.60	48.41	-3.21	-48.01	5,549.20	4,720.13	4,626.66	93.47	50.500			
17,100.00	9,065.00	7,870.73	4,945.85	169.60	48.20	-3.43	-32.67	5,551.17	4,771.38	4,677.33	94.05	50.731			
17,200.00	9,065.00	7,856.00	4,945.48	171.61	48.00	-3.63	-18.06	5,553.04	4,824.11	4,729.49	94.62	50.985			
17,300.00	9,065.00	7,846.37	4,945.25	173.62	47.87	-3.77	-8.51	5,554.26	4,878.29	4,783.11	95.19	51.250			
17,400.00	9,065.00	7,837.30	4,945.02	175.63	47.75	-3.89	0.48	5,555.40	4,933.88	4,838.15	95.73	51.538			
17,500.00	9,065.00	7,828.39	4,944.80	177.65	47.63	-4.01	9.32	5,556.50	4,990.83	4,894.57	96.25	51.850			
17,600.00	9,065.00	7,819.63	4,944.57	179.66	47.51	-4.14	18.01	5,557.58	5,049.09	4,952.34	96.75	52.185			
17,700.00	9,065.00	7,811.01	4,944.35	181.67	47.40	-4.26	26.57	5,558.63	5,108.62	5,011.39	97.23	52.542			
17,800.00	9,065.00	7,802.53	4,944.12	183.69	47.28	-4.37	34.98	5,559.65	5,169.38	5,071.70	97.68	52.920			
17,900.00	9,065.00	7,794.19	4,943.90	185.70	47.17	-4.49	43.26	5,560.65	5,231.33	5,133.21	98.12	53.318			
18,000.00	9,065.00	7,785.98	4,943.68	187.72	47.06	-4.60	51.40	5,561.62	5,294.42	5,195.89	98.53	53.736			
18,100.00	9,065.00	7,777.90	4,943.46	189.73	46.95	-4.71	59.42	5,562.57	5,358.61	5,259.69	98.92	54.172			
18,200.00	9,065.00	7,761.00	4,943.00	191.75	46.73	-4.95	76.21	5,564.53	5,423.88	5,324.63	99.25	54.648			
18,300.00	9,065.00	7,763.02	4,943.05	193.77	46.75	-4.92	74.20	5,564.30	5,490.15	5,390.51	99.65	55.096			
18,400.00	9,065.00	7,749.24	4,942.67	195.78	46.57	-5.11	87.88	5,565.88	5,557.42	5,457.47	99.96	55.598			
18,500.00	9,065.00	7,735.57	4,942.30	197.80	46.39	-5.30	101.46	5,567.44	5,625.64	5,525.39	100.25	56.116			
18,600.00	9,065.00	7,722.01	4,941.95	199.82	46.21	-5.49	114.93	5,568.99	5,694.76	5,594.23	100.53	56.648			
18,700.00	9,065.00	7,708.55	4,941.61	201.84	46.03	-5.67	128.29	5,570.51	5,764.76	5,663.97	100.79	57.195			
18,800.00	9,065.00	7,695.21	4,941.28	203.86	45.85	-5.86	141.55	5,572.01	5,835.61	5,734.57	101.04	57.755			
18,900.00	9,065.00	7,681.96	4,940.96	205.88	45.67	-6.04	154.71	5,573.50	5,907.27	5,805.99	101.28	58.328			
19,000.00	9,065.00	7,668.82	4,940.66	207.90	45.50	-6.22	167.76	5,574.97	5,979.72	5,878.22	101.50	58.913			
19,100.00	9,065.00	7,658.65	4,940.43	209.92	45.36	-6.36	177.87	5,576.10	6,052.93	5,951.20	101.72	59.505			
19,200.00	9,065.00	7,649.08	4,940.22	211.95	45.23	-6.49	187.38	5,577.15	6,126.87	6,024.94	101.93	60.107			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design Sec 13-T21S-R27E - Lone Tree Draw State Com 2H - ST01 - ST01													Offset Site Error:	5.00 ft
Survey Program: 80-GYRO-NS-CT, 4361-MWD+HDGM													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
19,300.00	9,065.00	7,639.65	4,940.01	213.97	45.11	-6.62	196.75	5,578.19	6,201.53	6,099.40	102.13	60.720		
19,400.00	9,065.00	7,630.34	4,939.81	215.99	44.98	-6.75	206.00	5,579.20	6,276.88	6,174.56	102.32	61.345		
19,456.84	9,065.00	7,352.55	4,940.70	217.14	41.31	-10.54	481.88	5,611.19	6,319.91	6,217.80	102.11	61.892		

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Survey Program: 80-GYRO-NS-CT													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0.00	0.00	0.00	0.00	0.50	5.02	61.36	3,158.45	5,782.98	6,589.48					
100.00	100.00	45.00	45.00	0.52	5.03	61.36	3,158.44	5,783.00	6,589.30	6,583.76	5.54	1,188.766		
200.00	200.00	140.67	140.67	0.70	5.03	61.36	3,158.37	5,783.16	6,589.41	6,583.67	5.74	1,148.701		
300.00	300.00	236.04	236.04	0.99	5.07	61.36	3,158.26	5,783.38	6,589.56	6,583.51	6.05	1,088.660		
400.00	400.00	333.23	333.23	1.31	5.12	61.36	3,158.12	5,783.72	6,589.79	6,583.36	6.43	1,025.049		
500.00	500.00	426.72	426.72	1.65	5.19	61.37	3,157.92	5,784.12	6,590.07	6,583.23	6.84	963.698		
600.00	600.00	520.68	520.68	1.99	5.29	61.37	3,157.65	5,784.69	6,590.46	6,583.19	7.28	905.878		
700.00	700.00	611.59	611.58	2.34	5.39	61.38	3,157.28	5,785.40	6,590.95	6,583.22	7.73	852.536		
800.00	800.00	711.04	711.02	2.69	5.53	61.39	3,156.74	5,786.38	6,591.56	6,583.34	8.22	802.063		
900.00	900.00	806.58	806.56	3.04	5.68	61.40	3,155.88	5,787.48	6,592.14	6,583.42	8.72	756.048		
1,000.00	1,000.00	895.06	895.02	3.40	5.83	61.41	3,154.95	5,788.72	6,592.87	6,583.64	9.22	714.708		
1,100.00	1,100.00	985.91	985.85	3.75	6.00	61.42	3,153.85	5,790.26	6,593.77	6,584.02	9.75	676.414		
1,200.00	1,200.00	1,089.98	1,089.90	4.11	6.20	61.44	3,152.38	5,792.20	6,594.73	6,584.42	10.31	639.528		
1,300.00	1,300.00	1,201.91	1,201.78	4.46	6.45	61.47	3,150.30	5,794.35	6,595.54	6,584.63	10.91	604.600		
1,400.00	1,400.00	1,311.70	1,311.52	4.82	6.70	61.50	3,147.49	5,796.68	6,596.18	6,584.66	11.52	572.677		
1,500.00	1,500.00	1,417.07	1,416.81	5.18	6.95	61.53	3,144.32	5,799.04	6,596.71	6,584.58	12.13	543.780		
1,600.00	1,600.00	1,522.50	1,522.17	5.53	7.22	61.56	3,141.29	5,801.21	6,597.15	6,584.40	12.75	517.243		
1,700.00	1,700.00	1,612.96	1,612.59	5.89	7.46	61.59	3,139.16	5,802.80	6,597.58	6,584.24	13.35	494.341		
1,800.00	1,800.00	1,686.42	1,686.03	6.25	7.65	61.60	3,137.78	5,804.22	6,598.38	6,584.48	13.90	474.785		
1,900.00	1,900.00	1,775.44	1,775.02	6.61	7.89	61.62	3,136.46	5,806.03	6,599.46	6,584.97	14.49	455.303		
2,000.00	2,000.00	1,896.30	1,895.85	6.96	8.22	61.64	3,135.23	5,808.01	6,600.41	6,585.23	15.18	434.694		
2,100.00	2,100.00	1,999.85	1,999.39	7.32	8.51	61.65	3,134.46	5,809.34	6,601.19	6,585.36	15.83	416.974		
2,200.00	2,200.00	2,099.06	2,098.59	7.68	8.79	61.66	3,133.80	5,810.52	6,601.93	6,585.46	16.47	400.816		
2,300.00	2,300.00	2,190.76	2,190.28	8.04	9.06	61.67	3,132.99	5,811.83	6,602.76	6,585.67	17.09	386.253		
2,400.00	2,400.00	2,286.45	2,285.95	8.39	9.34	61.69	3,132.11	5,813.32	6,603.69	6,585.96	17.73	372.388		
2,500.00	2,500.00	2,385.94	2,385.43	8.75	9.64	61.70	3,131.22	5,814.89	6,604.66	6,586.27	18.39	359.197		
2,600.00	2,599.99	2,488.72	2,488.19	9.09	9.95	-152.36	3,130.44	5,816.41	6,606.38	6,587.34	19.04	347.018		
2,700.00	2,699.96	2,593.89	2,593.36	9.42	10.27	-152.35	3,129.79	5,817.82	6,609.58	6,589.90	19.68	335.797		
2,800.00	2,799.86	2,696.92	2,696.38	9.75	10.58	-152.33	3,129.07	5,819.16	6,614.26	6,593.93	20.33	325.387		
2,900.00	2,899.68	2,796.87	2,796.31	10.08	10.89	-152.32	3,128.36	5,820.44	6,620.46	6,599.49	20.97	315.763		
2,945.33	2,944.88	2,840.24	2,839.67	10.23	11.03	-152.31	3,128.00	5,821.02	6,623.78	6,602.53	21.25	311.682		
3,000.00	2,999.39	2,890.43	2,889.85	10.41	11.18	-152.32	3,127.57	5,821.74	6,628.00	6,606.41	21.59	306.996		
3,100.00	3,099.08	2,990.43	2,989.84	10.75	11.50	-152.34	3,126.73	5,823.22	6,635.78	6,613.54	22.24	298.409		
3,200.00	3,198.78	3,088.23	3,087.64	11.08	11.81	-152.36	3,126.08	5,824.55	6,643.55	6,620.67	22.88	290.352		
3,300.00	3,298.48	3,173.53	3,172.92	11.42	12.08	-152.38	3,125.63	5,825.76	6,651.43	6,627.94	23.49	283.186		
3,400.00	3,398.18	3,253.56	3,252.94	11.76	12.34	-152.39	3,125.33	5,827.07	6,659.57	6,635.49	24.08	276.558		
3,500.00	3,497.88	3,341.40	3,340.77	12.10	12.62	-152.41	3,125.18	5,828.70	6,668.00	6,643.30	24.70	269.957		
3,600.00	3,597.58	3,456.96	3,456.31	12.45	12.99	-152.44	3,125.31	5,830.63	6,676.42	6,651.01	25.41	262.718		
3,700.00	3,697.27	3,563.35	3,562.70	12.79	13.33	-152.47	3,125.65	5,831.99	6,684.57	6,658.47	26.10	256.134		
3,800.00	3,796.97	3,666.16	3,665.50	13.14	13.66	-152.50	3,126.15	5,833.15	6,692.69	6,665.92	26.77	249.973		
3,900.00	3,896.67	3,759.35	3,758.67	13.48	13.96	-152.53	3,126.88	5,834.08	6,700.83	6,673.41	27.42	244.381		
4,000.00	3,996.37	3,860.92	3,860.24	13.83	14.29	-152.57	3,127.93	5,835.00	6,709.01	6,680.91	28.10	238.794		
4,100.00	4,096.07	3,965.29	3,964.60	14.18	14.63	-152.60	3,128.99	5,835.90	6,717.15	6,688.37	28.78	233.374		
4,200.00	4,195.76	4,082.08	4,081.38	14.53	15.02	-152.65	3,130.05	5,836.71	6,725.08	6,695.57	29.51	227.863		
4,300.00	4,295.46	4,187.11	4,186.40	14.88	15.36	-152.68	3,130.95	5,837.32	6,732.90	6,702.70	30.21	222.890		
4,400.00	4,395.16	4,293.08	4,292.37	15.23	15.71	-152.72	3,131.83	5,837.81	6,740.61	6,709.70	30.91	218.102		
4,500.00	4,494.86	4,395.68	4,394.97	15.58	16.05	-152.75	3,132.67	5,838.22	6,748.26	6,716.67	31.59	213.589		
4,600.00	4,594.56	4,494.61	4,493.89	15.93	16.38	-152.79	3,133.43	5,838.62	6,755.89	6,723.62	32.27	209.339		
4,700.00	4,694.25	4,596.78	4,596.06	16.29	16.72	-152.82	3,134.22	5,839.03	6,763.53	6,730.57	32.96	205.187		
4,800.00	4,793.95	4,705.07	4,704.34	16.64	17.08	-152.86	3,135.05	5,839.37	6,771.08	6,737.41	33.67	201.072		
4,900.00	4,893.65	4,814.52	4,813.79	17.00	17.44	-152.90	3,135.86	5,839.54	6,778.49	6,744.10	34.39	197.092		
5,000.00	4,993.35	4,909.26	4,908.53	17.35	17.76	-152.93	3,136.67	5,839.60	6,785.87	6,750.81	35.06	193.544		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Sec 13-T21S-R27E - Lone Tree Draw State Com 2H - Wellbore #1 - Wellbore #1													Offset Well Error:	0.50 ft
Survey Program: 80-GYRO-NS-CT														
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
5,100.00	5,093.05	4,992.45	4,991.71	17.71	18.04	-152.96	3,137.59	5,839.68	6,793.41	6,757.72	35.69	190.338		
5,200.00	5,192.75	5,061.67	5,060.93	18.06	18.27	-152.99	3,138.56	5,839.90	6,801.29	6,765.02	36.27	187.500		
5,300.00	5,292.44	5,138.65	5,137.89	18.42	18.53	-153.02	3,139.85	5,840.41	6,809.59	6,772.71	36.88	184.627		
5,400.00	5,392.14	5,222.87	5,222.09	18.77	18.81	-153.05	3,141.44	5,841.11	6,818.16	6,780.64	37.52	181.730		
5,500.00	5,491.84	5,328.96	5,328.16	19.13	19.17	-153.10	3,143.58	5,842.08	6,826.87	6,788.64	38.23	178.571		
5,600.00	5,591.54	5,440.43	5,439.61	19.49	19.55	-153.14	3,145.73	5,842.81	6,835.30	6,796.34	38.96	175.430		
5,700.00	5,691.24	5,539.13	5,538.28	19.85	19.88	-153.19	3,147.71	5,843.38	6,843.71	6,804.06	39.65	172.596		
5,800.00	5,790.93	5,671.07	5,670.20	20.20	20.33	-153.24	3,149.86	5,844.10	6,851.92	6,811.46	40.46	169.360		
5,900.00	5,890.63	5,786.63	5,785.75	20.56	20.72	-153.27	3,150.72	5,844.92	6,859.85	6,818.64	41.21	166.476		
6,000.00	5,990.33	5,944.63	5,943.75	20.92	21.26	-153.31	3,149.92	5,845.97	6,867.11	6,825.01	42.10	163.103		
6,100.00	6,090.03	6,105.41	6,104.51	21.28	21.80	-153.34	3,147.80	5,846.18	6,873.50	6,830.49	43.01	159.824		
6,200.00	6,189.73	6,300.21	6,299.29	21.64	22.46	-153.39	3,145.51	5,844.09	6,879.06	6,835.04	44.02	156.272		
6,300.00	6,289.42	6,466.61	6,465.61	22.00	23.02	-153.44	3,143.67	5,839.25	6,882.76	6,837.83	44.93	153.176		
6,400.00	6,389.12	6,568.61	6,567.55	22.36	23.37	-153.47	3,141.52	5,836.67	6,886.48	6,840.84	45.64	150.903		
6,500.00	6,488.82	6,645.28	6,644.17	22.72	23.63	-153.48	3,139.66	5,834.84	6,890.18	6,843.93	46.25	148.965		
6,600.00	6,588.52	6,709.31	6,708.18	23.08	23.84	-153.50	3,138.33	5,833.60	6,894.43	6,847.60	46.83	147.222		
6,700.00	6,688.22	6,790.44	6,789.29	23.44	24.12	-153.52	3,136.92	5,832.22	6,899.05	6,851.59	47.46	145.355		
6,800.00	6,787.91	6,950.15	6,948.93	23.80	24.66	-153.56	3,134.24	5,828.50	6,903.02	6,854.66	48.36	142.743		
6,900.00	6,887.61	6,978.42	6,977.18	24.16	24.76	-153.57	3,133.80	5,827.76	6,907.29	6,858.47	48.82	141.494		
7,000.00	6,987.31	6,978.42	6,977.18	24.52	24.76	-153.57	3,133.80	5,827.76	6,912.93	6,863.76	49.17	140.588		
7,100.00	7,087.01	6,978.42	6,977.18	24.88	24.76	-153.57	3,133.80	5,827.76	6,920.02	6,870.50	49.52	139.747		
7,200.00	7,186.71	6,978.42	6,977.18	25.24	24.76	-153.57	3,133.80	5,827.76	6,928.54	6,878.69	49.86	138.970		
7,300.00	7,286.41	6,978.42	6,977.18	25.60	24.76	-153.57	3,133.80	5,827.76	6,938.50	6,888.31	50.19	138.256		
7,400.00	7,386.10	6,978.42	6,977.18	25.96	24.76	-153.57	3,133.80	5,827.76	6,949.88	6,899.37	50.51	137.603		
7,500.00	7,485.80	6,978.42	6,977.18	26.33	24.76	-153.57	3,133.80	5,827.76	6,962.68	6,911.86	50.82	137.010		
7,600.00	7,585.50	6,978.42	6,977.18	26.69	24.76	-153.57	3,133.80	5,827.76	6,976.88	6,925.76	51.12	136.474		
7,700.00	7,685.20	6,978.42	6,977.18	27.05	24.76	-153.57	3,133.80	5,827.76	6,992.49	6,941.08	51.42	135.994		
7,800.00	7,784.90	6,978.42	6,977.18	27.41	24.76	-153.57	3,133.80	5,827.76	7,009.49	6,957.79	51.70	135.570		
7,860.70	7,845.41	6,978.42	6,977.18	27.63	24.76	-153.57	3,133.80	5,827.76	7,020.49	6,968.61	51.87	135.338		
7,900.00	7,884.61	6,978.42	6,977.18	27.77	24.76	-153.62	3,133.80	5,827.76	7,027.70	6,975.72	51.98	135.196		
8,000.00	7,984.46	6,978.42	6,977.18	28.13	24.76	-153.73	3,133.80	5,827.76	7,045.40	6,993.15	52.25	134.842		
8,100.00	8,084.42	6,978.42	6,977.18	28.49	24.76	-153.85	3,133.80	5,827.76	7,062.16	7,009.65	52.51	134.499		
8,157.59	8,142.00	6,978.42	6,977.18	28.69	24.76	60.17	3,133.80	5,827.76	7,071.39	7,018.74	52.65	134.318		
8,200.00	8,184.41	6,978.42	6,977.18	28.83	24.76	60.17	3,133.80	5,827.76	7,078.19	7,025.45	52.74	134.197		
8,300.00	8,284.41	6,978.42	6,977.18	29.17	24.76	60.17	3,133.80	5,827.76	7,095.22	7,042.25	52.97	133.945		
8,400.00	8,384.41	6,978.42	6,977.18	29.51	24.76	60.17	3,133.80	5,827.76	7,113.60	7,060.41	53.19	133.739		
8,507.63	8,492.04	6,978.42	6,977.18	29.87	24.76	60.17	3,133.80	5,827.76	7,134.91	7,081.49	53.42	133.568		
8,550.00	8,534.37	6,978.42	6,977.18	30.02	24.76	-28.83	3,133.80	5,827.76	7,142.38	7,088.88	53.50	133.497		
8,600.00	8,584.01	6,978.42	6,977.18	30.18	24.76	-28.56	3,133.80	5,827.76	7,148.02	7,094.42	53.60	133.370		
8,650.00	8,632.95	6,978.42	6,977.18	30.34	24.76	-28.46	3,133.80	5,827.76	7,150.18	7,096.50	53.68	133.195		
8,700.00	8,680.82	6,978.42	6,977.18	30.50	24.76	-28.52	3,133.80	5,827.76	7,148.86	7,095.10	53.76	132.975		
8,750.00	8,727.25	6,978.42	6,977.18	30.66	24.76	-28.75	3,133.80	5,827.76	7,144.07	7,090.24	53.83	132.712		
8,800.00	8,771.89	6,978.42	6,977.18	30.81	24.76	-29.16	3,133.80	5,827.76	7,135.83	7,081.94	53.89	132.408		
8,850.00	8,814.40	6,978.42	6,977.18	30.95	24.76	-29.74	3,133.80	5,827.76	7,124.19	7,070.25	53.95	132.063		
8,900.00	8,854.46	6,978.42	6,977.18	31.09	24.76	-30.53	3,133.80	5,827.76	7,109.23	7,055.24	53.99	131.678		
8,950.00	8,891.75	6,978.42	6,977.18	31.23	24.76	-31.54	3,133.80	5,827.76	7,091.04	7,037.01	54.03	131.251		
9,000.00	8,926.01	6,978.42	6,977.18	31.37	24.76	-32.79	3,133.80	5,827.76	7,069.73	7,015.67	54.06	130.783		
9,050.00	8,956.96	6,978.42	6,977.18	31.53	24.76	-34.33	3,133.80	5,827.76	7,045.44	6,991.36	54.08	130.270		
9,100.00	8,984.38	6,978.42	6,977.18	31.69	24.76	-36.20	3,133.80	5,827.76	7,018.32	6,964.21	54.11	129.711		
9,150.00	9,008.05	6,978.42	6,977.18	31.87	24.76	-38.44	3,133.80	5,827.76	6,988.55	6,934.42	54.13	129.106		
9,200.00	9,027.79	6,978.42	6,977.18	32.07	24.76	-41.14	3,133.80	5,827.76	6,956.33	6,902.17	54.16	128.451		
9,250.00	9,043.45	6,978.42	6,977.18	32.29	24.76	-44.37	3,133.80	5,827.76	6,921.85	6,867.67	54.18	127.747		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Survey Program: 80-GYRO-NS-CT													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
9,300.00	9,054.92	6,978.42	6,977.18	32.53	24.76	-48.23	3,133.80	5,827.76	6,885.37	6,831.15	54.22	126.993		
9,350.00	9,062.10	6,978.42	6,977.18	32.79	24.76	-52.82	3,133.80	5,827.76	6,847.11	6,792.85	54.26	126.189		
9,400.00	9,064.95	6,978.42	6,977.18	33.06	24.76	-58.23	3,133.80	5,827.76	6,807.35	6,753.04	54.31	125.339		
9,407.63	9,065.00	6,978.42	6,977.18	33.10	24.76	-59.13	3,133.80	5,827.76	6,801.17	6,746.85	54.32	125.201		
9,500.00	9,065.00	6,978.42	6,977.18	33.68	24.76	-59.13	3,133.80	5,827.76	6,726.38	6,671.94	54.44	123.557		
9,600.00	9,065.00	6,978.42	6,977.18	34.41	24.76	-59.13	3,133.80	5,827.76	6,645.91	6,591.30	54.61	121.699		
9,700.00	9,065.00	6,978.42	6,977.18	35.24	24.76	-59.13	3,133.80	5,827.76	6,565.98	6,511.15	54.83	119.759		
9,800.00	9,065.00	6,978.42	6,977.18	36.17	24.76	-59.13	3,133.80	5,827.76	6,486.60	6,431.51	55.09	117.740		
9,900.00	9,065.00	6,978.42	6,977.18	37.19	24.76	-59.13	3,133.80	5,827.76	6,407.81	6,352.40	55.41	115.644		
10,000.00	9,065.00	6,978.42	6,977.18	38.30	24.76	-59.13	3,133.80	5,827.76	6,329.61	6,273.83	55.78	113.476		
10,100.00	9,065.00	6,978.42	6,977.18	39.48	24.76	-59.13	3,133.80	5,827.76	6,252.03	6,195.83	56.20	111.239		
10,200.00	9,065.00	6,978.42	6,977.18	40.72	24.76	-59.13	3,133.80	5,827.76	6,175.10	6,118.41	56.68	108.939		
10,300.00	9,065.00	6,978.42	6,977.18	42.03	24.76	-59.13	3,133.80	5,827.76	6,098.83	6,041.61	57.22	106.583		
10,400.00	9,065.00	6,978.42	6,977.18	43.40	24.76	-59.13	3,133.80	5,827.76	6,023.26	5,965.44	57.82	104.177		
10,500.00	9,065.00	6,978.42	6,977.18	44.82	24.76	-59.13	3,133.80	5,827.76	5,948.41	5,889.94	58.47	101.729		
10,600.00	9,065.00	6,978.42	6,977.18	46.29	24.76	-59.13	3,133.80	5,827.76	5,874.31	5,815.13	59.19	99.247		
10,700.00	9,065.00	6,978.42	6,977.18	47.79	24.76	-59.13	3,133.80	5,827.76	5,800.99	5,741.03	59.97	96.739		
10,800.00	9,065.00	6,978.42	6,977.18	49.34	24.76	-59.13	3,133.80	5,827.76	5,728.48	5,667.68	60.80	94.214		
10,900.00	9,065.00	6,978.42	6,977.18	50.92	24.76	-59.13	3,133.80	5,827.76	5,656.80	5,595.10	61.70	91.680		
11,000.00	9,065.00	6,978.42	6,977.18	52.54	24.76	-59.13	3,133.80	5,827.76	5,586.00	5,523.33	62.66	89.145		
11,100.00	9,065.00	6,978.42	6,977.18	54.18	24.76	-59.13	3,133.80	5,827.76	5,516.09	5,452.41	63.68	86.618		
11,200.00	9,065.00	6,978.42	6,977.18	55.85	24.76	-59.13	3,133.80	5,827.76	5,447.13	5,382.36	64.77	84.105		
11,300.00	9,065.00	6,978.42	6,977.18	57.54	24.76	-59.13	3,133.80	5,827.76	5,379.14	5,313.23	65.91	81.615		
11,400.00	9,065.00	6,978.42	6,977.18	59.26	24.76	-59.13	3,133.80	5,827.76	5,312.17	5,245.05	67.11	79.154		
11,500.00	9,065.00	6,978.42	6,977.18	61.00	24.76	-59.13	3,133.80	5,827.76	5,246.24	5,177.87	68.38	76.727		
11,600.00	9,065.00	6,978.42	6,977.18	62.75	24.76	-59.13	3,133.80	5,827.76	5,181.41	5,111.71	69.70	74.342		
11,700.00	9,065.00	6,978.42	6,977.18	64.52	24.76	-59.13	3,133.80	5,827.76	5,117.71	5,046.63	71.08	72.002		
11,800.00	9,065.00	6,978.42	6,977.18	66.31	24.76	-59.13	3,133.80	5,827.76	5,055.18	4,982.67	72.51	69.713		
11,900.00	9,065.00	6,978.42	6,977.18	68.11	24.76	-59.13	3,133.80	5,827.76	4,993.88	4,919.87	74.01	67.478		
12,000.00	9,065.00	6,978.42	6,977.18	69.93	24.76	-59.13	3,133.80	5,827.76	4,933.84	4,858.28	75.56	65.301		
12,100.00	9,065.00	6,978.42	6,977.18	71.76	24.76	-59.13	3,133.80	5,827.76	4,875.11	4,797.95	77.16	63.185		
12,200.00	9,065.00	6,978.42	6,977.18	73.60	24.76	-59.13	3,133.80	5,827.76	4,817.74	4,738.93	78.81	61.131		
12,300.00	9,065.00	6,978.42	6,977.18	75.45	24.76	-59.13	3,133.80	5,827.76	4,761.78	4,681.27	80.51	59.143		
12,400.00	9,065.00	6,978.42	6,977.18	77.31	24.76	-59.13	3,133.80	5,827.76	4,707.28	4,625.02	82.26	57.221		
12,500.00	9,065.00	6,978.42	6,977.18	79.18	24.76	-59.13	3,133.80	5,827.76	4,654.30	4,570.23	84.06	55.367		
12,600.00	9,065.00	6,978.42	6,977.18	81.05	24.76	-59.13	3,133.80	5,827.76	4,602.87	4,516.96	85.91	53.580		
12,700.00	9,065.00	6,978.42	6,977.18	82.94	24.76	-59.13	3,133.80	5,827.76	4,553.06	4,465.27	87.79	51.863		
12,800.00	9,065.00	6,978.42	6,977.18	84.83	24.76	-59.13	3,133.80	5,827.76	4,504.92	4,415.21	89.71	50.214		
12,900.00	9,065.00	6,978.42	6,977.18	86.73	24.76	-59.13	3,133.80	5,827.76	4,458.50	4,366.83	91.67	48.634		
13,000.00	9,065.00	6,978.42	6,977.18	88.64	24.76	-59.13	3,133.80	5,827.76	4,413.86	4,320.19	93.67	47.122		
13,100.00	9,065.00	6,978.42	6,977.18	90.55	24.76	-59.13	3,133.80	5,827.76	4,371.06	4,275.36	95.69	45.679		
13,200.00	9,065.00	6,978.42	6,977.18	92.47	24.76	-59.13	3,133.80	5,827.76	4,330.13	4,232.39	97.74	44.302		
13,300.00	9,065.00	6,978.42	6,977.18	94.39	24.76	-59.13	3,133.80	5,827.76	4,291.15	4,191.34	99.82	42.991		
13,400.00	9,065.00	6,978.42	6,977.18	96.32	24.76	-59.13	3,133.80	5,827.76	4,254.17	4,152.26	101.91	41.746		
13,500.00	9,065.00	6,978.42	6,977.18	98.25	24.76	-59.13	3,133.80	5,827.76	4,219.23	4,115.22	104.01	40.564		
13,600.00	9,065.00	6,978.42	6,977.18	100.19	24.76	-59.13	3,133.80	5,827.76	4,186.39	4,080.26	106.13	39.446		
13,700.00	9,065.00	6,978.42	6,977.18	102.13	24.76	-59.13	3,133.80	5,827.76	4,155.69	4,047.44	108.25	38.389		
13,800.00	9,065.00	6,978.42	6,977.18	104.08	24.76	-59.13	3,133.80	5,827.76	4,127.19	4,016.82	110.38	37.392		
13,900.00	9,065.00	6,978.42	6,977.18	106.03	24.76	-59.13	3,133.80	5,827.76	4,100.93	3,988.44	112.49	36.454		
14,000.00	9,065.00	6,978.42	6,977.18	107.98	24.76	-59.13	3,133.80	5,827.76	4,076.96	3,962.36	114.60	35.574		
14,100.00	9,065.00	6,978.42	6,977.18	109.94	24.76	-59.13	3,133.80	5,827.76	4,055.31	3,938.61	116.70	34.750		
14,200.00	9,065.00	6,978.42	6,977.18	111.90	24.76	-59.13	3,133.80	5,827.76	4,036.02	3,917.25	118.78	33.980		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Sec 13-T21S-R27E - Lone Tree Draw State Com 2H - Wellbore #1 - Wellbore #1													Offset Well Error:	0.50 ft
Survey Program: 80-GYRO-NS-CT														
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
14,300.00	9,065.00	6,978.42	6,977.18	113.86	24.76	-59.13	3,133.80	5,827.76	4,019.13	3,898.31	120.83	33.264		
14,400.00	9,065.00	6,978.42	6,977.18	115.82	24.76	-59.13	3,133.80	5,827.76	4,004.67	3,881.82	122.85	32.599		
14,500.00	9,065.00	6,978.42	6,977.18	117.79	24.76	-59.13	3,133.80	5,827.76	3,992.66	3,867.82	124.83	31.984		
14,600.00	9,065.00	6,978.42	6,977.18	119.76	24.76	-59.13	3,133.80	5,827.76	3,983.12	3,856.34	126.78	31.418		
14,700.00	9,065.00	6,978.42	6,977.18	121.74	24.76	-59.13	3,133.80	5,827.76	3,976.08	3,847.40	128.68	30.898		
14,800.00	9,065.00	6,978.42	6,977.18	123.71	24.76	-59.13	3,133.80	5,827.76	3,971.54	3,841.01	130.53	30.425		
14,900.00	9,065.00	6,978.42	6,977.18	125.69	24.76	-59.13	3,133.80	5,827.76	3,969.52	3,837.19	132.33	29.996		
14,930.29	9,065.00	6,978.42	6,977.18	126.29	24.76	-59.13	3,133.80	5,827.76	3,969.40	3,836.54	132.87	29.875 CC		
15,000.00	9,065.00	6,978.42	6,977.18	127.67	24.76	-59.13	3,133.80	5,827.76	3,970.02	3,835.94	134.08	29.610 ES		
15,100.00	9,065.00	6,978.42	6,977.18	129.65	24.76	-59.13	3,133.80	5,827.76	3,973.03	3,837.27	135.76	29.266		
15,200.00	9,065.00	6,978.42	6,977.18	131.63	24.76	-59.13	3,133.80	5,827.76	3,978.56	3,841.18	137.37	28.962		
15,300.00	9,065.00	6,978.42	6,977.18	133.62	24.76	-59.13	3,133.80	5,827.76	3,986.58	3,847.66	138.92	28.696		
15,400.00	9,065.00	6,978.42	6,977.18	135.61	24.76	-59.13	3,133.80	5,827.76	3,997.10	3,856.70	140.40	28.469		
15,500.00	9,065.00	6,978.42	6,977.18	137.60	24.76	-59.13	3,133.80	5,827.76	4,010.08	3,868.27	141.81	28.277		
15,600.00	9,065.00	6,978.42	6,977.18	139.59	24.76	-59.13	3,133.80	5,827.76	4,025.50	3,882.35	143.15	28.121		
15,700.00	9,065.00	6,978.42	6,977.18	141.58	24.76	-59.13	3,133.80	5,827.76	4,043.34	3,898.93	144.41	27.999		
15,800.00	9,065.00	6,978.42	6,977.18	143.57	24.76	-59.13	3,133.80	5,827.76	4,063.57	3,917.96	145.60	27.909		
15,900.00	9,065.00	6,978.42	6,977.18	145.57	24.76	-59.13	3,133.80	5,827.76	4,086.14	3,939.42	146.71	27.851		
16,000.00	9,065.00	6,978.42	6,977.18	147.56	24.76	-59.13	3,133.80	5,827.76	4,111.02	3,963.26	147.75	27.823 SF		
16,100.00	9,065.00	6,978.42	6,977.18	149.56	24.76	-59.13	3,133.80	5,827.76	4,138.16	3,989.44	148.72	27.825		
16,200.00	9,065.00	6,978.42	6,977.18	151.56	24.76	-59.13	3,133.80	5,827.76	4,167.53	4,017.92	149.61	27.855		
16,300.00	9,065.00	6,978.42	6,977.18	153.56	24.76	-59.13	3,133.80	5,827.76	4,199.08	4,048.64	150.44	27.913		
16,400.00	9,065.00	6,978.42	6,977.18	155.56	24.76	-59.13	3,133.80	5,827.76	4,232.75	4,081.57	151.19	27.997		
16,500.00	9,065.00	6,978.42	6,977.18	157.57	24.76	-59.13	3,133.80	5,827.76	4,268.51	4,116.64	151.87	28.106		
16,600.00	9,065.00	6,978.42	6,977.18	159.57	24.76	-59.13	3,133.80	5,827.76	4,306.29	4,153.80	152.49	28.240		
16,700.00	9,065.00	6,978.42	6,977.18	161.57	24.76	-59.13	3,133.80	5,827.76	4,346.04	4,192.99	153.04	28.397		
16,800.00	9,065.00	6,978.42	6,977.18	163.58	24.76	-59.13	3,133.80	5,827.76	4,387.71	4,234.17	153.54	28.578		
16,900.00	9,065.00	6,978.42	6,977.18	165.59	24.76	-59.13	3,133.80	5,827.76	4,431.24	4,277.27	153.97	28.780		
17,000.00	9,065.00	6,978.42	6,977.18	167.60	24.76	-59.13	3,133.80	5,827.76	4,476.59	4,322.24	154.35	29.003		
17,100.00	9,065.00	6,978.42	6,977.18	169.60	24.76	-59.13	3,133.80	5,827.76	4,523.69	4,369.02	154.67	29.247		
17,200.00	9,065.00	6,978.42	6,977.18	171.61	24.76	-59.13	3,133.80	5,827.76	4,572.50	4,417.56	154.94	29.511		
17,300.00	9,065.00	6,978.42	6,977.18	173.62	24.76	-59.13	3,133.80	5,827.76	4,622.95	4,467.79	155.17	29.793		
17,400.00	9,065.00	6,978.42	6,977.18	175.63	24.76	-59.13	3,133.80	5,827.76	4,675.00	4,519.66	155.35	30.094		
17,500.00	9,065.00	6,978.42	6,977.18	177.65	24.76	-59.13	3,133.80	5,827.76	4,728.59	4,573.11	155.48	30.413		
17,600.00	9,065.00	6,978.42	6,977.18	179.66	24.76	-59.13	3,133.80	5,827.76	4,783.67	4,628.10	155.58	30.748		
17,700.00	9,065.00	6,978.42	6,977.18	181.67	24.76	-59.13	3,133.80	5,827.76	4,840.19	4,684.56	155.63	31.100		
17,800.00	9,065.00	6,978.42	6,977.18	183.69	24.76	-59.13	3,133.80	5,827.76	4,898.10	4,742.45	155.65	31.468		
17,900.00	9,065.00	6,978.42	6,977.18	185.70	24.76	-59.13	3,133.80	5,827.76	4,957.35	4,801.71	155.64	31.851		
18,000.00	9,065.00	6,978.42	6,977.18	187.72	24.76	-59.13	3,133.80	5,827.76	5,017.90	4,862.29	155.60	32.248		
18,100.00	9,065.00	6,978.42	6,977.18	189.73	24.76	-59.13	3,133.80	5,827.76	5,079.69	4,924.16	155.53	32.660		
18,200.00	9,065.00	6,978.42	6,977.18	191.75	24.76	-59.13	3,133.80	5,827.76	5,142.68	4,987.24	155.44	33.085		
18,300.00	9,065.00	6,978.42	6,977.18	193.77	24.76	-59.13	3,133.80	5,827.76	5,206.83	5,051.52	155.32	33.524		
18,400.00	9,065.00	6,978.42	6,977.18	195.78	24.76	-59.13	3,133.80	5,827.76	5,272.10	5,116.93	155.17	33.975		
18,500.00	9,065.00	6,978.42	6,977.18	197.80	24.76	-59.13	3,133.80	5,827.76	5,338.45	5,183.43	155.01	34.439		
18,600.00	9,065.00	6,978.42	6,977.18	199.82	24.76	-59.13	3,133.80	5,827.76	5,405.82	5,250.99	154.83	34.914		
18,700.00	9,065.00	6,978.42	6,977.18	201.84	24.76	-59.13	3,133.80	5,827.76	5,474.20	5,319.57	154.63	35.401		
18,800.00	9,065.00	6,978.42	6,977.18	203.86	24.76	-59.13	3,133.80	5,827.76	5,543.54	5,389.12	154.42	35.899		
18,900.00	9,065.00	6,978.42	6,977.18	205.88	24.76	-59.13	3,133.80	5,827.76	5,613.80	5,459.61	154.19	36.407		
19,000.00	9,065.00	6,978.42	6,977.18	207.90	24.76	-59.13	3,133.80	5,827.76	5,684.95	5,531.00	153.96	36.926		
19,100.00	9,065.00	6,978.42	6,977.18	209.92	24.76	-59.13	3,133.80	5,827.76	5,756.97	5,603.26	153.71	37.455		
19,200.00	9,065.00	6,978.42	6,977.18	211.95	24.76	-59.13	3,133.80	5,827.76	5,829.80	5,676.36	153.45	37.993		
19,300.00	9,065.00	6,978.42	6,977.18	213.97	24.76	-59.13	3,133.80	5,827.76	5,903.43	5,750.26	153.18	38.540		

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design	Sec 13-T21S-R27E - Lone Tree Draw State Com 2H - Wellbore #1 - Wellbore #1												Offset Site Error:	5.00 ft
Survey Program:	80-GYRO-NS-CT												Offset Well Error:	0.50 ft
Reference	Offset		Semi Major Axis		Distance									
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor	Warning	
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)			
19,400.00	9,065.00	6,978.42	6,977.18	215.99	24.76	-59.13	3,133.80	5,827.76	5,977.83	5,824.93	152.90	39.096		
19,456.84	9,065.00	6,978.42	6,977.18	217.14	24.76	-59.13	3,133.80	5,827.76	6,020.45	5,867.71	152.74	39.417		

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Survey Program: 10-INC-ONLY													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0.00	0.00	0.00	0.00	0.50	5.02	89.87	15.65	7,023.26	7,023.75					
100.00	100.00	19.10	19.10	0.52	5.03	89.87	15.65	7,023.26	7,023.28	7,017.73	5.54	1,266.702		
200.00	200.00	119.10	119.10	0.70	5.28	89.87	15.65	7,023.26	7,023.28	7,017.29	5.99	1,173.368		
300.00	300.00	219.10	219.10	0.99	5.92	89.87	15.65	7,023.26	7,023.28	7,016.37	6.91	1,016.871		
400.00	400.00	319.10	319.10	1.31	6.83	89.87	15.65	7,023.26	7,023.28	7,015.14	8.14	862.960		
500.00	500.00	419.10	419.10	1.65	7.92	89.87	15.65	7,023.26	7,023.28	7,013.71	9.57	734.203		
600.00	600.00	519.10	519.10	1.99	9.13	89.87	15.65	7,023.26	7,023.28	7,012.16	11.12	631.791		
700.00	700.00	619.10	619.10	2.34	10.41	89.87	15.65	7,023.26	7,023.28	7,010.53	12.75	550.979		
800.00	800.00	719.10	719.10	2.69	11.74	89.87	15.65	7,023.26	7,023.28	7,008.85	14.43	486.687		
900.00	900.00	819.10	819.10	3.04	13.11	89.87	15.65	7,023.26	7,023.28	7,007.13	16.15	434.831		
1,000.00	1,000.00	919.10	919.10	3.40	14.50	89.87	15.65	7,023.26	7,023.28	7,005.38	17.90	392.379		
1,100.00	1,100.00	1,019.10	1,019.10	3.75	15.91	89.87	15.65	7,023.26	7,023.28	7,003.61	19.67	357.123		
1,200.00	1,200.00	1,119.10	1,119.10	4.11	17.34	89.87	15.65	7,023.26	7,023.28	7,001.83	21.45	327.456		
1,300.00	1,300.00	1,219.10	1,219.10	4.46	18.78	89.87	15.65	7,023.26	7,023.28	7,000.04	23.24	302.191		
1,400.00	1,400.00	1,319.10	1,319.10	4.82	20.22	89.87	15.65	7,023.26	7,023.28	6,998.24	25.04	280.446		
1,500.00	1,500.00	1,419.10	1,419.10	5.18	21.68	89.87	15.65	7,023.26	7,023.28	6,996.43	26.85	261.550		
1,600.00	1,600.00	1,519.10	1,519.10	5.53	23.13	89.87	15.65	7,023.26	7,023.28	6,994.61	28.67	244.990		
1,700.00	1,700.00	1,619.10	1,619.10	5.89	24.60	89.87	15.65	7,023.26	7,023.28	6,992.79	30.49	230.366		
1,800.00	1,800.00	1,719.10	1,719.10	6.25	26.06	89.87	15.65	7,023.26	7,023.28	6,990.97	32.31	217.363		
1,900.00	1,900.00	1,819.10	1,819.10	6.61	27.53	89.87	15.65	7,023.26	7,023.28	6,989.14	34.14	205.729		
2,000.00	2,000.00	1,919.10	1,919.10	6.96	29.01	89.87	15.65	7,023.26	7,023.28	6,987.31	35.97	195.262		
2,100.00	2,100.00	2,019.10	2,019.10	7.32	30.48	89.87	15.65	7,023.26	7,023.28	6,985.48	37.80	185.797		
2,200.00	2,200.00	2,119.10	2,119.10	7.68	31.96	89.87	15.65	7,023.26	7,023.28	6,983.64	39.64	177.198		
2,300.00	2,300.00	2,219.10	2,219.10	8.04	33.44	89.87	15.65	7,023.26	7,023.28	6,981.81	41.47	169.352		
2,400.00	2,400.00	2,319.10	2,319.10	8.39	34.92	89.87	15.65	7,023.26	7,023.28	6,979.97	43.31	162.165		
2,500.00	2,500.00	2,419.10	2,419.10	8.75	36.40	89.87	15.65	7,023.26	7,023.28	6,978.13	45.15	155.559		
2,600.00	2,599.99	2,519.09	2,519.09	9.09	37.88	-124.21	15.65	7,023.26	7,023.77	6,976.80	46.97	149.530		
2,700.00	2,699.96	2,619.06	2,619.06	9.42	39.36	-124.21	15.65	7,023.26	7,025.24	6,976.46	48.78	144.015		
2,800.00	2,799.86	2,718.96	2,718.96	9.75	40.85	-124.22	15.65	7,023.26	7,027.70	6,977.10	50.59	138.909		
2,900.00	2,899.68	2,818.78	2,818.78	10.08	42.33	-124.23	15.65	7,023.26	7,031.13	6,978.73	52.40	134.170		
2,945.33	2,944.88	2,863.98	2,863.98	10.23	43.00	-124.24	15.65	7,023.26	7,033.02	6,979.79	53.23	132.134		
3,000.00	2,999.39	2,918.49	2,918.49	10.41	43.81	-124.27	15.65	7,023.26	7,035.41	6,981.19	54.22	129.762		
3,100.00	3,099.08	3,018.18	3,018.18	10.75	45.29	-124.32	15.65	7,023.26	7,039.80	6,983.76	56.03	125.635		
3,200.00	3,198.78	3,117.88	3,117.88	11.08	46.78	-124.37	15.65	7,023.26	7,044.19	6,986.33	57.85	121.762		
3,300.00	3,298.48	3,217.58	3,217.58	11.42	48.26	-124.43	15.65	7,023.26	7,048.58	6,988.91	59.67	118.120		
3,400.00	3,398.18	3,317.28	3,317.28	11.76	49.74	-124.48	15.65	7,023.26	7,052.98	6,991.49	61.50	114.690		
3,500.00	3,497.88	3,416.98	3,416.98	12.10	51.23	-124.53	15.65	7,023.26	7,057.39	6,994.07	63.32	111.454		
3,600.00	3,597.58	3,516.68	3,516.68	12.45	52.71	-124.58	15.65	7,023.26	7,061.80	6,996.66	65.15	108.397		
3,700.00	3,697.27	3,616.37	3,616.37	12.79	54.20	-124.63	15.65	7,023.26	7,066.22	6,999.25	66.98	105.503		
3,800.00	3,796.97	3,716.07	3,716.07	13.14	55.68	-124.68	15.65	7,023.26	7,070.65	7,001.84	68.81	102.762		
3,900.00	3,896.67	3,815.77	3,815.77	13.48	57.17	-124.74	15.65	7,023.26	7,075.08	7,004.44	70.64	100.160		
4,000.00	3,996.37	3,915.47	3,915.47	13.83	58.66	-124.79	15.65	7,023.26	7,079.51	7,007.04	72.47	97.688		
4,100.00	4,096.07	4,015.17	4,015.17	14.18	60.14	-124.84	15.65	7,023.26	7,083.96	7,009.65	74.30	95.337		
4,200.00	4,195.76	4,114.86	4,114.86	14.53	61.63	-124.89	15.65	7,023.26	7,088.40	7,012.26	76.14	93.097		
4,300.00	4,295.46	4,214.56	4,214.56	14.88	63.12	-124.94	15.65	7,023.26	7,092.86	7,014.88	77.98	90.962		
4,400.00	4,395.16	4,314.26	4,314.26	15.23	64.60	-124.99	15.65	7,023.26	7,097.32	7,017.50	79.81	88.924		
4,500.00	4,494.86	4,413.96	4,413.96	15.58	66.09	-125.04	15.65	7,023.26	7,101.78	7,020.13	81.65	86.977		
4,600.00	4,594.56	4,513.66	4,513.66	15.93	67.58	-125.10	15.65	7,023.26	7,106.25	7,022.76	83.49	85.114		
4,700.00	4,694.25	4,613.35	4,613.35	16.29	69.07	-125.15	15.65	7,023.26	7,110.73	7,025.40	85.33	83.332		
4,800.00	4,793.95	4,713.05	4,713.05	16.64	70.55	-125.20	15.65	7,023.26	7,115.21	7,028.04	87.17	81.623		
4,900.00	4,893.65	4,812.75	4,812.75	17.00	72.04	-125.25	15.65	7,023.26	7,119.70	7,030.68	89.01	79.985		
5,000.00	4,993.35	4,912.45	4,912.45	17.35	73.53	-125.30	15.65	7,023.26	7,124.19	7,033.33	90.85	78.413		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Survey Program: 10-INC-ONLY													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
5,100.00	5,093.05	5,012.15	5,012.15	17.71	75.02	-125.35	15.65	7,023.26	7,128.69	7,035.99	92.70	76.903		
5,200.00	5,192.75	5,111.85	5,111.85	18.06	76.51	-125.40	15.65	7,023.26	7,133.19	7,038.65	94.54	75.452		
5,300.00	5,292.44	5,211.54	5,211.54	18.42	78.00	-125.45	15.65	7,023.26	7,137.70	7,041.32	96.38	74.055		
5,400.00	5,392.14	5,311.24	5,311.24	18.77	79.49	-125.50	15.65	7,023.26	7,142.22	7,043.99	98.23	72.711		
5,500.00	5,491.84	5,410.94	5,410.94	19.13	80.97	-125.55	15.65	7,023.26	7,146.74	7,046.67	100.07	71.415		
5,600.00	5,591.54	5,510.64	5,510.64	19.49	82.46	-125.60	15.65	7,023.26	7,151.26	7,049.35	101.92	70.167		
5,700.00	5,691.24	5,610.34	5,610.34	19.85	83.95	-125.65	15.65	7,023.26	7,155.80	7,052.03	103.76	68.963		
5,800.00	5,790.93	5,710.03	5,710.03	20.20	85.44	-125.70	15.65	7,023.26	7,160.33	7,054.72	105.61	67.800		
5,900.00	5,890.63	5,809.73	5,809.73	20.56	86.93	-125.75	15.65	7,023.26	7,164.88	7,057.42	107.46	66.677		
6,000.00	5,990.33	5,909.43	5,909.43	20.92	88.42	-125.80	15.65	7,023.26	7,169.43	7,060.12	109.30	65.592		
6,100.00	6,090.03	6,009.13	6,009.13	21.28	89.91	-125.86	15.65	7,023.26	7,173.98	7,062.83	111.15	64.543		
6,200.00	6,189.73	6,108.83	6,108.83	21.64	91.40	-125.91	15.65	7,023.26	7,178.54	7,065.54	113.00	63.528		
6,300.00	6,289.42	6,208.52	6,208.52	22.00	92.89	-125.96	15.65	7,023.26	7,183.11	7,068.26	114.85	62.546		
6,400.00	6,389.12	6,308.22	6,308.22	22.36	94.38	-126.01	15.65	7,023.26	7,187.68	7,070.98	116.69	61.595		
6,500.00	6,488.82	6,407.92	6,407.92	22.72	95.87	-126.06	15.65	7,023.26	7,192.25	7,073.71	118.54	60.673		
6,600.00	6,588.52	6,507.62	6,507.62	23.08	97.36	-126.11	15.65	7,023.26	7,196.83	7,076.44	120.39	59.779		
6,700.00	6,688.22	6,607.32	6,607.32	23.44	98.85	-126.15	15.65	7,023.26	7,201.42	7,079.18	122.24	58.913		
6,800.00	6,787.91	6,707.01	6,707.01	23.80	100.34	-126.20	15.65	7,023.26	7,206.01	7,081.93	124.09	58.072		
6,900.00	6,887.61	6,806.71	6,806.71	24.16	101.83	-126.25	15.65	7,023.26	7,210.61	7,084.67	125.94	57.255		
7,000.00	6,987.31	6,906.41	6,906.41	24.52	103.32	-126.30	15.65	7,023.26	7,215.22	7,087.43	127.79	56.463		
7,100.00	7,087.01	7,006.11	7,006.11	24.88	104.81	-126.35	15.65	7,023.26	7,219.82	7,090.19	129.64	55.693		
7,200.00	7,186.71	7,105.81	7,105.81	25.24	106.30	-126.40	15.65	7,023.26	7,224.44	7,092.95	131.49	54.944		
7,300.00	7,286.41	7,205.51	7,205.51	25.60	107.79	-126.45	15.65	7,023.26	7,229.06	7,095.72	133.34	54.216		
7,400.00	7,386.10	7,305.20	7,305.20	25.96	109.28	-126.50	15.65	7,023.26	7,233.68	7,098.50	135.19	53.508		
7,500.00	7,485.80	7,404.90	7,404.90	26.33	110.77	-126.55	15.65	7,023.26	7,238.31	7,101.28	137.04	52.820		
7,600.00	7,585.50	7,504.60	7,504.60	26.69	112.26	-126.60	15.65	7,023.26	7,242.95	7,104.06	138.89	52.149		
7,700.00	7,685.20	7,604.30	7,604.30	27.05	113.75	-126.65	15.65	7,023.26	7,247.59	7,106.85	140.74	51.496		
7,800.00	7,784.90	7,704.00	7,704.00	27.41	115.24	-126.70	15.65	7,023.26	7,252.24	7,109.65	142.59	50.860		
7,860.70	7,845.41	7,764.51	7,764.51	27.63	116.15	-126.73	15.65	7,023.26	7,255.06	7,111.35	143.72	50.482		
7,900.00	7,884.61	7,803.71	7,803.71	27.77	116.73	-126.77	15.65	7,023.26	7,256.77	7,112.33	144.44	50.240		
8,000.00	7,984.46	7,903.56	7,903.56	28.13	118.22	-126.84	15.65	7,023.26	7,260.03	7,113.73	146.29	49.626		
8,100.00	8,084.42	8,003.52	8,003.52	28.49	119.72	-126.88	15.65	7,023.26	7,261.72	7,113.57	148.14	49.018		
8,157.59	8,142.00	8,061.10	8,061.10	28.69	120.58	87.19	15.65	7,023.26	7,261.98	7,112.77	149.21	48.671		
8,200.00	8,184.41	8,103.51	8,103.51	28.83	121.21	87.19	15.65	7,023.26	7,261.98	7,111.99	149.98	48.419		
8,300.00	8,284.41	8,203.51	8,203.51	29.17	122.71	87.19	15.65	7,023.26	7,261.98	7,110.16	151.82	47.834		
8,400.00	8,384.41	8,303.51	8,303.51	29.51	124.20	87.19	15.65	7,023.26	7,261.98	7,108.33	153.65	47.263		
8,507.63	8,492.04	8,411.14	8,411.14	29.87	125.81	87.19	15.65	7,023.26	7,261.98	7,106.35	155.62	46.664		
8,550.00	8,534.37	8,453.47	8,453.47	30.02	126.45	-2.18	15.65	7,023.26	7,260.41	7,104.01	156.40	46.423		
8,600.00	8,584.01	8,503.11	8,503.11	30.18	127.19	-2.21	15.65	7,023.26	7,254.55	7,097.25	157.30	46.118		
8,650.00	8,632.95	8,552.05	8,552.05	30.34	127.92	-2.25	15.65	7,023.26	7,244.39	7,086.20	158.20	45.794		
8,700.00	8,680.82	8,599.92	8,599.92	30.50	128.64	-2.32	15.65	7,023.26	7,230.01	7,070.94	159.06	45.454		
8,750.00	8,727.25	8,646.35	8,646.35	30.66	129.33	-2.40	15.65	7,023.26	7,211.51	7,051.61	159.90	45.100		
8,800.00	8,771.89	8,690.99	8,690.99	30.81	130.00	-2.52	15.65	7,023.26	7,189.04	7,028.34	160.70	44.736		
8,850.00	8,814.40	8,733.50	8,733.50	30.95	130.63	-2.67	15.65	7,023.26	7,162.76	7,001.31	161.46	44.363		
8,900.00	8,854.46	8,773.56	8,773.56	31.09	131.23	-2.86	15.65	7,023.26	7,132.89	6,970.72	162.16	43.986		
8,950.00	8,891.75	8,810.85	8,810.85	31.23	131.79	-3.11	15.65	7,023.26	7,099.64	6,936.82	162.82	43.605		
9,000.00	8,926.01	8,845.11	8,845.11	31.37	132.30	-3.43	15.65	7,023.26	7,063.27	6,899.85	163.41	43.224		
9,050.00	8,956.96	8,876.06	8,876.06	31.53	132.77	-3.85	15.65	7,023.26	7,024.05	6,860.10	163.95	42.844		
9,100.00	8,984.38	8,903.48	8,903.48	31.69	133.18	-4.42	15.65	7,023.26	6,982.29	6,817.88	164.41	42.468		
9,150.00	9,008.05	8,927.15	8,927.15	31.87	133.53	-5.23	15.65	7,023.26	6,938.30	6,773.49	164.81	42.098		
9,200.00	9,027.79	8,946.89	8,946.89	32.07	133.82	-6.45	15.65	7,023.26	6,892.41	6,727.27	165.14	41.737		
9,250.00	9,043.45	8,962.55	8,962.55	32.29	134.06	-8.44	15.65	7,023.26	6,844.98	6,679.59	165.40	41.385		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Survey Program: 10-INC-ONLY													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
9,300.00	9,054.92	8,974.02	8,974.02	32.53	134.23	-12.27	15.65	7,023.26	6,796.37	6,630.79	165.59	41.044		
9,350.00	9,062.10	8,981.20	8,981.20	32.79	134.34	-22.17	15.65	7,023.26	6,746.95	6,581.25	165.70	40.717		
9,400.00	9,064.95	8,984.05	8,984.05	33.06	134.38	-72.10	15.65	7,023.26	6,697.09	6,531.34	165.75	40.404		
9,407.63	9,065.00	8,984.10	8,984.10	33.10	134.38	-90.00	15.65	7,023.26	6,689.47	6,523.71	165.75	40.358		
9,500.00	9,065.00	8,984.10	8,984.10	33.68	134.38	-90.00	15.65	7,023.26	6,597.17	6,431.41	165.76	39.799		
9,600.00	9,065.00	8,984.10	8,984.10	34.41	134.38	-90.00	15.65	7,023.26	6,497.26	6,331.49	165.77	39.195		
9,700.00	9,065.00	8,984.10	8,984.10	35.24	134.38	-90.00	15.65	7,023.26	6,397.35	6,231.58	165.78	38.590		
9,800.00	9,065.00	8,984.10	8,984.10	36.17	134.38	-90.00	15.65	7,023.26	6,297.45	6,131.66	165.79	37.984		
9,900.00	9,065.00	8,984.10	8,984.10	37.19	134.38	-90.00	15.65	7,023.26	6,197.55	6,031.74	165.80	37.379		
10,000.00	9,065.00	8,984.10	8,984.10	38.30	134.38	-90.00	15.65	7,023.26	6,097.65	5,931.83	165.82	36.773		
10,100.00	9,065.00	8,984.10	8,984.10	39.48	134.38	-90.00	15.65	7,023.26	5,997.75	5,831.92	165.83	36.167		
10,200.00	9,065.00	8,984.10	8,984.10	40.72	134.38	-90.00	15.65	7,023.26	5,897.86	5,732.01	165.85	35.561		
10,300.00	9,065.00	8,984.10	8,984.10	42.03	134.38	-90.00	15.65	7,023.26	5,797.97	5,632.10	165.87	34.955		
10,400.00	9,065.00	8,984.10	8,984.10	43.40	134.38	-90.00	15.65	7,023.26	5,698.09	5,532.19	165.89	34.348		
10,500.00	9,065.00	8,984.10	8,984.10	44.82	134.38	-90.00	15.65	7,023.26	5,598.20	5,432.29	165.91	33.742		
10,600.00	9,065.00	8,984.10	8,984.10	46.29	134.38	-90.00	15.65	7,023.26	5,498.33	5,332.39	165.94	33.135		
10,700.00	9,065.00	8,984.10	8,984.10	47.79	134.38	-90.00	15.65	7,023.26	5,398.46	5,232.49	165.96	32.528		
10,800.00	9,065.00	8,984.10	8,984.10	49.34	134.38	-90.00	15.65	7,023.26	5,298.59	5,132.60	165.99	31.921		
10,900.00	9,065.00	8,984.10	8,984.10	50.92	134.38	-90.00	15.65	7,023.26	5,198.73	5,032.71	166.02	31.314		
11,000.00	9,065.00	8,984.10	8,984.10	52.54	134.38	-90.00	15.65	7,023.26	5,098.87	4,932.82	166.05	30.706		
11,100.00	9,065.00	8,984.10	8,984.10	54.18	134.38	-90.00	15.65	7,023.26	4,999.02	4,832.93	166.09	30.099		
11,200.00	9,065.00	8,984.10	8,984.10	55.85	134.38	-90.00	15.65	7,023.26	4,899.18	4,733.05	166.12	29.491		
11,300.00	9,065.00	8,984.10	8,984.10	57.54	134.38	-90.00	15.65	7,023.26	4,799.34	4,633.17	166.16	28.883		
11,400.00	9,065.00	8,984.10	8,984.10	59.26	134.38	-90.00	15.65	7,023.26	4,699.51	4,533.30	166.21	28.275		
11,500.00	9,065.00	8,984.10	8,984.10	61.00	134.38	-90.00	15.65	7,023.26	4,599.68	4,433.43	166.25	27.667		
11,600.00	9,065.00	8,984.10	8,984.10	62.75	134.38	-90.00	15.65	7,023.26	4,499.87	4,333.57	166.30	27.059		
11,700.00	9,065.00	8,984.10	8,984.10	64.52	134.38	-90.00	15.65	7,023.26	4,400.06	4,233.71	166.35	26.451		
11,800.00	9,065.00	8,984.10	8,984.10	66.31	134.38	-90.00	15.65	7,023.26	4,300.26	4,133.86	166.40	25.843		
11,900.00	9,065.00	8,984.10	8,984.10	68.11	134.38	-90.00	15.65	7,023.26	4,200.47	4,034.01	166.46	25.234		
12,000.00	9,065.00	8,984.10	8,984.10	69.93	134.38	-90.00	15.65	7,023.26	4,100.69	3,934.17	166.52	24.626		
12,100.00	9,065.00	8,984.10	8,984.10	71.76	134.38	-90.00	15.65	7,023.26	4,000.92	3,834.34	166.59	24.017		
12,200.00	9,065.00	8,984.10	8,984.10	73.60	134.38	-90.00	15.65	7,023.26	3,901.17	3,734.51	166.66	23.408		
12,300.00	9,065.00	8,984.10	8,984.10	75.45	134.38	-90.00	15.65	7,023.26	3,801.42	3,634.69	166.73	22.800		
12,400.00	9,065.00	8,984.10	8,984.10	77.31	134.38	-90.00	15.65	7,023.26	3,701.70	3,534.88	166.81	22.191		
12,500.00	9,065.00	8,984.10	8,984.10	79.18	134.38	-90.00	15.65	7,023.26	3,601.98	3,435.08	166.90	21.582		
12,600.00	9,065.00	8,984.10	8,984.10	81.05	134.38	-90.00	15.65	7,023.26	3,502.28	3,335.29	166.99	20.973		
12,700.00	9,065.00	8,984.10	8,984.10	82.94	134.38	-90.00	15.65	7,023.26	3,402.60	3,235.51	167.09	20.363		
12,800.00	9,065.00	8,984.10	8,984.10	84.83	134.38	-90.00	15.65	7,023.26	3,302.94	3,135.74	167.20	19.754		
12,900.00	9,065.00	8,984.10	8,984.10	86.73	134.38	-90.00	15.65	7,023.26	3,203.30	3,035.98	167.32	19.144		
13,000.00	9,065.00	8,984.10	8,984.10	88.64	134.38	-90.00	15.65	7,023.26	3,103.69	2,936.23	167.45	18.535		
13,100.00	9,065.00	8,984.10	8,984.10	90.55	134.38	-90.00	15.65	7,023.26	3,004.09	2,836.50	167.59	17.925		
13,200.00	9,065.00	8,984.10	8,984.10	92.47	134.38	-90.00	15.65	7,023.26	2,904.53	2,736.78	167.75	17.315		
13,300.00	9,065.00	8,984.10	8,984.10	94.39	134.38	-90.00	15.65	7,023.26	2,805.00	2,637.08	167.92	16.705		
13,400.00	9,065.00	8,984.10	8,984.10	96.32	134.38	-90.00	15.65	7,023.26	2,705.50	2,537.40	168.10	16.094		
13,500.00	9,065.00	8,984.10	8,984.10	98.25	134.38	-90.00	15.65	7,023.26	2,606.04	2,437.73	168.31	15.483		
13,600.00	9,065.00	8,984.10	8,984.10	100.19	134.38	-90.00	15.65	7,023.26	2,506.63	2,338.08	168.54	14.872		
13,700.00	9,065.00	8,984.10	8,984.10	102.13	134.38	-90.00	15.65	7,023.26	2,407.26	2,238.46	168.80	14.261		
13,800.00	9,065.00	8,984.10	8,984.10	104.08	134.38	-90.00	15.65	7,023.26	2,307.95	2,138.86	169.09	13.649		
13,900.00	9,065.00	8,984.10	8,984.10	106.03	134.38	-90.00	15.65	7,023.26	2,208.69	2,039.28	169.41	13.037		
14,000.00	9,065.00	8,984.10	8,984.10	107.98	134.38	-90.00	15.65	7,023.26	2,109.51	1,939.73	169.78	12.425		
14,100.00	9,065.00	8,984.10	8,984.10	109.94	134.38	-90.00	15.65	7,023.26	2,010.42	1,840.21	170.21	11.812		
14,200.00	9,065.00	8,984.10	8,984.10	111.90	134.38	-90.00	15.65	7,023.26	1,911.41	1,740.72	170.69	11.198		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Survey Program: 10-INC-ONLY													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
14,300.00	9,065.00	8,984.10	8,984.10	113.86	134.38	-90.00	15.65	7,023.26	1,812.51	1,641.26	171.25	10.584		
14,400.00	9,065.00	8,984.10	8,984.10	115.82	134.38	-90.00	15.65	7,023.26	1,713.75	1,541.85	171.90	9.969		
14,500.00	9,065.00	8,984.10	8,984.10	117.79	134.38	-90.00	15.65	7,023.26	1,615.13	1,442.47	172.66	9.354		
14,600.00	9,065.00	8,984.10	8,984.10	119.76	134.38	-90.00	15.65	7,023.26	1,516.69	1,343.13	173.56	8.739		
14,700.00	9,065.00	8,984.10	8,984.10	121.74	134.38	-90.00	15.65	7,023.26	1,418.48	1,243.84	174.64	8.122		
14,800.00	9,065.00	8,984.10	8,984.10	123.71	134.38	-90.00	15.65	7,023.26	1,320.53	1,144.60	175.93	7.506		
14,900.00	9,065.00	8,984.10	8,984.10	125.69	134.38	-90.00	15.65	7,023.26	1,222.91	1,045.41	177.50	6.890		
15,000.00	9,065.00	8,984.10	8,984.10	127.67	134.38	-90.00	15.65	7,023.26	1,125.72	946.29	179.43	6.274		
15,100.00	9,065.00	8,984.10	8,984.10	129.65	134.38	-90.00	15.65	7,023.26	1,029.06	847.23	181.82	5.660		
15,200.00	9,065.00	8,984.10	8,984.10	131.63	134.38	-90.00	15.65	7,023.26	933.10	748.26	184.84	5.048		
15,300.00	9,065.00	8,984.10	8,984.10	133.62	134.38	-90.00	15.65	7,023.26	838.09	649.41	188.68	4.442 Alert		
15,400.00	9,065.00	8,984.10	8,984.10	135.61	134.38	-90.00	15.65	7,023.26	744.39	550.73	193.65	3.844 Alert		
15,500.00	9,065.00	8,984.10	8,984.10	137.60	134.38	-90.00	15.65	7,023.26	652.56	452.36	200.20	3.260 Alert		
15,600.00	9,065.00	8,984.10	8,984.10	139.59	134.38	-90.00	15.65	7,023.26	563.52	354.60	208.92	2.697 Alert		
15,700.00	9,065.00	8,984.10	8,984.10	141.58	134.38	-90.00	15.65	7,023.26	478.82	258.17	220.65	2.170 Minor Risk		
15,800.00	9,065.00	8,984.10	8,984.10	143.57	134.38	-90.00	15.65	7,023.26	401.23	164.98	236.25	1.698 Minor Risk		
15,900.00	9,065.00	8,984.10	8,984.10	145.57	134.38	-90.00	15.65	7,023.26	335.72	80.05	255.67	1.313 Major Risk		
16,000.00	9,065.00	8,984.10	8,984.10	147.56	134.38	-90.00	15.65	7,023.26	290.56	15.62	274.95	1.057 Major Risk		
16,091.41	9,065.00	8,984.10	8,984.10	149.39	134.38	-90.00	15.65	7,023.26	275.81	-7.96	283.77	0.972 Collision, CC, ES, SF		
16,100.00	9,065.00	8,984.10	8,984.10	149.56	134.38	-90.00	15.65	7,023.26	275.94	-7.92	283.87	0.972 Collision		
16,200.00	9,065.00	8,984.10	8,984.10	151.56	134.38	-90.00	15.65	7,023.26	296.42	20.57	275.85	1.075 Major Risk		
16,300.00	9,065.00	8,984.10	8,984.10	153.56	134.38	-90.00	15.65	7,023.26	345.81	87.42	258.39	1.338 Major Risk		
16,400.00	9,065.00	8,984.10	8,984.10	155.56	134.38	-90.00	15.65	7,023.26	413.89	172.98	240.90	1.718 Minor Risk		
16,500.00	9,065.00	8,984.10	8,984.10	157.57	134.38	-90.00	15.65	7,023.26	492.97	266.24	226.73	2.174 Minor Risk		
16,600.00	9,065.00	8,984.10	8,984.10	159.57	134.38	-90.00	15.65	7,023.26	578.57	362.63	215.94	2.679 Alert		
16,700.00	9,065.00	8,984.10	8,984.10	161.57	134.38	-90.00	15.65	7,023.26	668.17	460.40	207.78	3.216 Alert		
16,800.00	9,065.00	8,984.10	8,984.10	163.58	134.38	-90.00	15.65	7,023.26	760.38	558.82	201.56	3.773 Alert		
16,900.00	9,065.00	8,984.10	8,984.10	165.59	134.38	-90.00	15.65	7,023.26	854.34	657.60	196.74	4.342 Alert		
17,000.00	9,065.00	8,984.10	8,984.10	167.60	134.38	-90.00	15.65	7,023.26	949.53	756.57	192.96	4.921 Alert		
17,100.00	9,065.00	8,984.10	8,984.10	169.60	134.38	-90.00	15.65	7,023.26	1,045.63	855.68	189.95	5.505		
17,200.00	9,065.00	8,984.10	8,984.10	171.61	134.38	-90.00	15.65	7,023.26	1,142.39	954.88	187.51	6.092		
17,300.00	9,065.00	8,984.10	8,984.10	173.62	134.38	-90.00	15.65	7,023.26	1,239.67	1,054.14	185.52	6.682		
17,400.00	9,065.00	8,984.10	8,984.10	175.63	134.38	-90.00	15.65	7,023.26	1,337.34	1,153.46	183.88	7.273		
17,500.00	9,065.00	8,984.10	8,984.10	177.65	134.38	-90.00	15.65	7,023.26	1,435.34	1,252.83	182.51	7.864		
17,600.00	9,065.00	8,984.10	8,984.10	179.66	134.38	-90.00	15.65	7,023.26	1,533.60	1,352.24	181.36	8.456		
17,700.00	9,065.00	8,984.10	8,984.10	181.67	134.38	-90.00	15.65	7,023.26	1,632.07	1,451.68	180.39	9.048		
17,800.00	9,065.00	8,984.10	8,984.10	183.69	134.38	-90.00	15.65	7,023.26	1,730.71	1,551.15	179.56	9.639		
17,900.00	9,065.00	8,984.10	8,984.10	185.70	134.38	-90.00	15.65	7,023.26	1,829.50	1,650.66	178.85	10.229		
18,000.00	9,065.00	8,984.10	8,984.10	187.72	134.38	-90.00	15.65	7,023.26	1,928.42	1,750.18	178.24	10.819		
18,100.00	9,065.00	8,984.10	8,984.10	189.73	134.38	-90.00	15.65	7,023.26	2,027.44	1,849.73	177.71	11.409		
18,200.00	9,065.00	8,984.10	8,984.10	191.75	134.38	-90.00	15.65	7,023.26	2,126.56	1,949.30	177.25	11.997		
18,300.00	9,065.00	8,984.10	8,984.10	193.77	134.38	-90.00	15.65	7,023.26	2,225.75	2,048.89	176.86	12.585		
18,400.00	9,065.00	8,984.10	8,984.10	195.78	134.38	-90.00	15.65	7,023.26	2,325.01	2,148.50	176.51	13.172		
18,500.00	9,065.00	8,984.10	8,984.10	197.80	134.38	-90.00	15.65	7,023.26	2,424.33	2,248.12	176.21	13.758		
18,600.00	9,065.00	8,984.10	8,984.10	199.82	134.38	-90.00	15.65	7,023.26	2,523.71	2,347.76	175.95	14.343		
18,700.00	9,065.00	8,984.10	8,984.10	201.84	134.38	-90.00	15.65	7,023.26	2,623.13	2,447.41	175.72	14.928		
18,800.00	9,065.00	8,984.10	8,984.10	203.86	134.38	-90.00	15.65	7,023.26	2,722.60	2,547.08	175.52	15.511		
18,900.00	9,065.00	8,984.10	8,984.10	205.88	134.38	-90.00	15.65	7,023.26	2,822.10	2,646.75	175.35	16.094		
19,000.00	9,065.00	8,984.10	8,984.10	207.90	134.38	-90.00	15.65	7,023.26	2,921.64	2,746.44	175.20	16.676		
19,100.00	9,065.00	8,984.10	8,984.10	209.92	134.38	-90.00	15.65	7,023.26	3,021.21	2,846.14	175.07	17.257		
19,200.00	9,065.00	8,984.10	8,984.10	211.95	134.38	-90.00	15.65	7,023.26	3,120.81	2,945.85	174.96	17.837		
19,300.00	9,065.00	8,984.10	8,984.10	213.97	134.38	-90.00	15.65	7,023.26	3,220.43	3,045.56	174.86	18.417		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design	Sec 13-T21S-R27E - Lone Tree State #001 - Wellbore #1 - Wellbore #1												Offset Site Error:	5.00 ft
Survey Program:	10-INC-ONLY												Offset Well Error:	0.50 ft
Reference	Offset		Semi Major Axis		Distance									
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor	Warning	
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)			
19,400.00	9,065.00	8,984.10	8,984.10	215.99	134.38	-90.00	15.65	7,023.26	3,320.07	3,145.29	174.78	18.995		
19,456.84	9,065.00	8,984.10	8,984.10	217.14	134.38	-90.00	15.65	7,023.26	3,376.72	3,201.98	174.74	19.324		

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 10-INC-ONLY													Offset Well Error:	10.00 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0.00	0.00	0.00	0.00	0.50	10.00	32.76	2,626.81	1,690.28	3,123.70					
100.00	100.00	81.10	81.10	0.52	10.10	32.76	2,626.81	1,690.28	3,123.64	3,113.02	10.62	294.109		
200.00	200.00	181.10	181.10	0.70	10.58	32.76	2,626.81	1,690.28	3,123.64	3,112.36	11.28	276.812		
300.00	300.00	281.10	281.10	0.99	11.41	32.76	2,626.81	1,690.28	3,123.64	3,111.25	12.39	252.051		
400.00	400.00	381.10	381.10	1.31	12.51	32.76	2,626.81	1,690.28	3,123.64	3,109.83	13.81	226.119		
500.00	500.00	481.10	481.10	1.65	13.82	32.76	2,626.81	1,690.28	3,123.64	3,108.18	15.46	202.033		
600.00	600.00	581.10	581.10	1.99	15.28	32.76	2,626.81	1,690.28	3,123.64	3,106.37	17.27	180.852		
700.00	700.00	681.10	681.10	2.34	16.86	32.76	2,626.81	1,690.28	3,123.64	3,104.44	19.20	162.668		
800.00	800.00	781.10	781.10	2.69	18.53	32.76	2,626.81	1,690.28	3,123.64	3,102.42	21.22	147.190		
900.00	900.00	881.10	881.10	3.04	20.26	32.76	2,626.81	1,690.28	3,123.64	3,100.33	23.31	134.018		
1,000.00	1,000.00	981.10	981.10	3.40	22.05	32.76	2,626.81	1,690.28	3,123.64	3,098.20	25.44	122.765		
1,100.00	1,100.00	1,081.10	1,081.10	3.75	23.87	32.76	2,626.81	1,690.28	3,123.64	3,096.02	27.62	113.094		
1,200.00	1,200.00	1,181.10	1,181.10	4.11	25.72	32.76	2,626.81	1,690.28	3,123.64	3,093.82	29.83	104.727		
1,300.00	1,300.00	1,281.10	1,281.10	4.46	27.59	32.76	2,626.81	1,690.28	3,123.64	3,091.58	32.06	97.438		
1,400.00	1,400.00	1,381.10	1,381.10	4.82	29.49	32.76	2,626.81	1,690.28	3,123.64	3,089.33	34.31	91.044		
1,500.00	1,500.00	1,481.10	1,481.10	5.18	31.40	32.76	2,626.81	1,690.28	3,123.64	3,087.07	36.58	85.400		
1,600.00	1,600.00	1,581.10	1,581.10	5.53	33.32	32.76	2,626.81	1,690.28	3,123.64	3,084.78	38.86	80.387		
1,700.00	1,700.00	1,681.10	1,681.10	5.89	35.26	32.76	2,626.81	1,690.28	3,123.64	3,082.49	41.15	75.909		
1,800.00	1,800.00	1,781.10	1,781.10	6.25	37.20	32.76	2,626.81	1,690.28	3,123.64	3,080.19	43.45	71.887		
1,900.00	1,900.00	1,881.10	1,881.10	6.61	39.16	32.76	2,626.81	1,690.28	3,123.64	3,077.88	45.76	68.259		
2,000.00	2,000.00	1,981.10	1,981.10	6.96	41.12	32.76	2,626.81	1,690.28	3,123.64	3,075.56	48.08	64.969		
2,100.00	2,100.00	2,081.10	2,081.10	7.32	43.08	32.76	2,626.81	1,690.28	3,123.64	3,073.24	50.40	61.975		
2,200.00	2,200.00	2,181.10	2,181.10	7.68	45.05	32.76	2,626.81	1,690.28	3,123.64	3,070.91	52.73	59.239		
2,300.00	2,300.00	2,281.10	2,281.10	8.04	47.03	32.76	2,626.81	1,690.28	3,123.64	3,068.58	55.06	56.729		
2,400.00	2,400.00	2,381.10	2,381.10	8.39	49.01	32.76	2,626.81	1,690.28	3,123.64	3,066.24	57.40	54.420		
2,500.00	2,500.00	2,481.10	2,481.10	8.75	50.99	32.76	2,626.81	1,690.28	3,123.64	3,063.90	59.74	52.288		
2,600.00	2,599.99	2,581.09	2,581.09	9.09	52.97	178.68	2,626.81	1,690.28	3,124.51	3,062.45	62.07	50.342		
2,700.00	2,699.96	2,681.06	2,681.06	9.42	54.96	178.68	2,626.81	1,690.28	3,127.13	3,062.75	64.38	48.573		
2,800.00	2,799.86	2,780.96	2,780.96	9.75	56.95	178.68	2,626.81	1,690.28	3,131.49	3,064.79	66.70	46.951		
2,900.00	2,899.68	2,880.78	2,880.78	10.08	58.94	178.69	2,626.81	1,690.28	3,137.60	3,068.58	69.02	45.461		
2,945.33	2,944.88	2,925.98	2,925.98	10.23	59.84	178.69	2,626.81	1,690.28	3,140.94	3,070.87	70.07	44.826		
3,000.00	2,999.39	2,980.49	2,980.49	10.41	60.93	178.69	2,626.81	1,690.28	3,145.18	3,073.84	71.34	44.088		
3,100.00	3,099.08	3,080.18	3,080.18	10.75	62.92	178.69	2,626.81	1,690.28	3,152.94	3,079.28	73.66	42.802		
3,200.00	3,198.78	3,179.88	3,179.88	11.08	64.91	178.69	2,626.81	1,690.28	3,160.70	3,084.71	75.99	41.594		
3,300.00	3,298.48	3,279.58	3,279.58	11.42	66.91	178.70	2,626.81	1,690.28	3,168.47	3,090.15	78.32	40.455		
3,400.00	3,398.18	3,379.28	3,379.28	11.76	68.90	178.70	2,626.81	1,690.28	3,176.23	3,095.58	80.65	39.381		
3,500.00	3,497.88	3,478.98	3,478.98	12.10	70.90	178.70	2,626.81	1,690.28	3,183.99	3,101.00	82.99	38.366		
3,600.00	3,597.58	3,578.68	3,578.68	12.45	72.89	178.71	2,626.81	1,690.28	3,191.75	3,106.43	85.33	37.405		
3,700.00	3,697.27	3,678.37	3,678.37	12.79	74.89	178.71	2,626.81	1,690.28	3,199.52	3,111.85	87.67	36.495		
3,800.00	3,796.97	3,778.07	3,778.07	13.14	76.89	178.71	2,626.81	1,690.28	3,207.28	3,117.27	90.01	35.632		
3,900.00	3,896.67	3,877.77	3,877.77	13.48	78.89	178.72	2,626.81	1,690.28	3,215.04	3,122.69	92.36	34.811		
4,000.00	3,996.37	3,977.47	3,977.47	13.83	80.89	178.72	2,626.81	1,690.28	3,222.81	3,128.10	94.70	34.031		
4,100.00	4,096.07	4,077.17	4,077.17	14.18	82.90	178.72	2,626.81	1,690.28	3,230.57	3,133.52	97.05	33.287		
4,200.00	4,195.76	4,176.86	4,176.86	14.53	84.90	178.73	2,626.81	1,690.28	3,238.33	3,138.93	99.40	32.579		
4,300.00	4,295.46	4,276.56	4,276.56	14.88	86.90	178.73	2,626.81	1,690.28	3,246.09	3,144.34	101.75	31.902		
4,400.00	4,395.16	4,376.26	4,376.26	15.23	88.91	178.73	2,626.81	1,690.28	3,253.86	3,149.75	104.10	31.256		
4,500.00	4,494.86	4,475.96	4,475.96	15.58	90.91	178.73	2,626.81	1,690.28	3,261.62	3,155.16	106.46	30.638		
4,600.00	4,594.56	4,575.66	4,575.66	15.93	92.92	178.74	2,626.81	1,690.28	3,269.38	3,160.57	108.81	30.047		
4,700.00	4,694.25	4,675.35	4,675.35	16.29	94.92	178.74	2,626.81	1,690.28	3,277.14	3,165.98	111.17	29.480		
4,800.00	4,793.95	4,775.05	4,775.05	16.64	96.93	178.74	2,626.81	1,690.28	3,284.91	3,171.38	113.52	28.936		
4,900.00	4,893.65	4,874.75	4,874.75	17.00	98.94	178.75	2,626.81	1,690.28	3,292.67	3,176.79	115.88	28.414		
5,000.00	4,993.35	4,974.45	4,974.45	17.35	100.94	178.75	2,626.81	1,690.28	3,300.43	3,182.19	118.24	27.913		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 10-INC-ONLY													Offset Well Error:	10.00 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
5,100.00	5,093.05	5,074.15	5,074.15	17.71	102.95	178.75	2,626.81	1,690.28	3,308.20	3,187.60	120.60	27.432		
5,200.00	5,192.75	5,173.85	5,173.85	18.06	104.96	178.76	2,626.81	1,690.28	3,315.96	3,193.00	122.96	26.968		
5,300.00	5,292.44	5,273.54	5,273.54	18.42	106.97	178.76	2,626.81	1,690.28	3,323.72	3,198.40	125.32	26.522		
5,400.00	5,392.14	5,373.24	5,373.24	18.77	108.97	178.76	2,626.81	1,690.28	3,331.48	3,203.80	127.68	26.093		
5,500.00	5,491.84	5,472.94	5,472.94	19.13	110.98	178.76	2,626.81	1,690.28	3,339.25	3,209.20	130.04	25.678		
5,600.00	5,591.54	5,572.64	5,572.64	19.49	112.99	178.77	2,626.81	1,690.28	3,347.01	3,214.61	132.40	25.279		
5,700.00	5,691.24	5,672.34	5,672.34	19.85	115.00	178.77	2,626.81	1,690.28	3,354.77	3,220.00	134.77	24.893		
5,800.00	5,790.93	5,772.03	5,772.03	20.20	117.01	178.77	2,626.81	1,690.28	3,362.53	3,225.40	137.13	24.521		
5,900.00	5,890.63	5,871.73	5,871.73	20.56	119.02	178.78	2,626.81	1,690.28	3,370.30	3,230.80	139.50	24.161		
6,000.00	5,990.33	5,971.43	5,971.43	20.92	121.03	178.78	2,626.81	1,690.28	3,378.06	3,236.20	141.86	23.813		
6,100.00	6,090.03	6,071.13	6,071.13	21.28	123.04	178.78	2,626.81	1,690.28	3,385.82	3,241.60	144.23	23.476		
6,200.00	6,189.73	6,170.83	6,170.83	21.64	125.05	178.78	2,626.81	1,690.28	3,393.59	3,246.99	146.59	23.150		
6,300.00	6,289.42	6,270.52	6,270.52	22.00	127.06	178.79	2,626.81	1,690.28	3,401.35	3,252.39	148.96	22.834		
6,400.00	6,389.12	6,370.22	6,370.22	22.36	129.07	178.79	2,626.81	1,690.28	3,409.11	3,257.79	151.32	22.529		
6,500.00	6,488.82	6,469.92	6,469.92	22.72	131.09	178.79	2,626.81	1,690.28	3,416.87	3,263.18	153.69	22.232		
6,600.00	6,588.52	6,569.62	6,569.62	23.08	133.10	178.80	2,626.81	1,690.28	3,424.64	3,268.58	156.06	21.945		
6,700.00	6,688.22	6,669.32	6,669.32	23.44	135.11	178.80	2,626.81	1,690.28	3,432.40	3,273.97	158.43	21.666		
6,800.00	6,787.91	6,769.01	6,769.01	23.80	137.12	178.80	2,626.81	1,690.28	3,440.16	3,279.37	160.79	21.395		
6,900.00	6,887.61	6,868.71	6,868.71	24.16	139.13	178.80	2,626.81	1,690.28	3,447.93	3,284.76	163.16	21.132		
7,000.00	6,987.31	6,968.41	6,968.41	24.52	141.14	178.81	2,626.81	1,690.28	3,455.69	3,290.16	165.53	20.876		
7,100.00	7,087.01	7,068.11	7,068.11	24.88	143.16	178.81	2,626.81	1,690.28	3,463.45	3,295.55	167.90	20.628		
7,200.00	7,186.71	7,167.81	7,167.81	25.24	145.17	178.81	2,626.81	1,690.28	3,471.21	3,300.95	170.27	20.387		
7,300.00	7,286.41	7,267.51	7,267.51	25.60	147.18	178.81	2,626.81	1,690.28	3,478.98	3,306.34	172.64	20.152		
7,400.00	7,386.10	7,367.20	7,367.20	25.96	149.19	178.82	2,626.81	1,690.28	3,486.74	3,311.73	175.01	19.923		
7,500.00	7,485.80	7,466.90	7,466.90	26.33	151.21	178.82	2,626.81	1,690.28	3,494.50	3,317.12	177.38	19.701		
7,600.00	7,585.50	7,566.60	7,566.60	26.69	153.22	178.82	2,626.81	1,690.28	3,502.27	3,322.52	179.75	19.484		
7,700.00	7,685.20	7,666.30	7,666.30	27.05	155.23	178.82	2,626.81	1,690.28	3,510.03	3,327.91	182.12	19.273		
7,800.00	7,784.90	7,766.00	7,766.00	27.41	157.25	178.83	2,626.81	1,690.28	3,517.79	3,333.30	184.49	19.068		
7,900.00	7,884.61	7,865.71	7,865.71	27.77	159.26	178.83	2,626.81	1,690.28	3,525.55	3,338.69	186.86	18.866		
8,000.00	7,984.46	7,965.56	7,965.56	28.13	161.28	178.83	2,626.81	1,690.28	3,533.31	3,344.08	189.23	18.658		
8,100.00	8,084.42	8,065.52	8,065.52	28.49	163.29	178.84	2,626.81	1,690.28	3,541.07	3,349.47	191.61	18.442		
8,157.59	8,142.00	8,123.10	8,123.10	28.69	164.46	32.91	2,626.81	1,690.28	3,548.83	3,354.86	193.97	18.219		
8,200.00	8,184.41	8,165.51	8,165.51	28.83	165.31	32.91	2,626.81	1,690.28	3,556.59	3,360.25	196.33	18.000		
8,300.00	8,284.41	8,265.51	8,265.51	29.17	167.33	32.91	2,626.81	1,690.28	3,564.35	3,365.64	198.69	17.787		
8,400.00	8,384.41	8,365.51	8,365.51	29.51	169.35	32.91	2,626.81	1,690.28	3,572.11	3,371.03	201.05	17.574		
8,507.63	8,492.04	8,473.14	8,473.14	29.87	171.53	32.91	2,626.81	1,690.28	3,579.87	3,376.42	203.41	17.361		
8,550.00	8,534.37	8,515.47	8,515.47	30.02	172.38	-56.55	2,626.81	1,690.28	3,587.63	3,381.81	205.77	17.148		
8,600.00	8,584.01	8,565.11	8,565.11	30.18	173.38	-56.90	2,626.81	1,690.28	3,595.39	3,387.20	208.13	16.935		
8,650.00	8,632.95	8,614.05	8,614.05	30.34	174.37	-57.51	2,626.81	1,690.28	3,603.15	3,392.59	210.49	16.722		
8,700.00	8,680.82	8,661.92	8,661.92	30.50	175.34	-58.38	2,626.81	1,690.28	3,610.91	3,397.98	212.85	16.509		
8,750.00	8,727.25	8,708.35	8,708.35	30.66	176.28	-59.51	2,626.81	1,690.28	3,618.67	3,403.37	215.21	16.296		
8,800.00	8,771.89	8,752.99	8,752.99	30.81	177.18	-60.89	2,626.81	1,690.28	3,626.43	3,408.76	217.57	16.083		
8,850.00	8,814.40	8,795.50	8,795.50	30.95	178.04	-62.52	2,626.81	1,690.28	3,634.19	3,414.15	219.93	15.870		
8,900.00	8,854.46	8,835.56	8,835.56	31.09	178.85	-64.38	2,626.81	1,690.28	3,641.95	3,419.54	222.29	15.657		
8,950.00	8,891.75	8,872.85	8,872.85	31.23	179.60	-66.47	2,626.81	1,690.28	3,649.71	3,424.93	224.65	15.444		
9,000.00	8,926.01	8,907.11	8,907.11	31.37	180.29	-68.75	2,626.81	1,690.28	3,657.47	3,430.32	227.01	15.231		
9,050.00	8,956.96	8,938.06	8,938.06	31.53	180.92	-71.21	2,626.81	1,690.28	3,665.23	3,435.71	229.37	15.018		
9,100.00	8,984.38	8,965.48	8,965.48	31.69	181.47	-73.80	2,626.81	1,690.28	3,672.99	3,441.10	231.73	14.805		
9,150.00	9,008.05	8,989.15	8,989.15	31.87	181.95	-76.48	2,626.81	1,690.28	3,680.75	3,446.49	234.09	14.592		
9,200.00	9,027.79	9,008.89	9,008.89	32.07	182.35	-79.21	2,626.81	1,690.28	3,688.51	3,451.88	236.45	14.379		
9,250.00	9,043.45	9,024.55	9,024.55	32.29	182.67	-81.94	2,626.81	1,690.28	3,696.27	3,457.27	238.81	14.166		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 10-INC-ONLY													Offset Well Error:	10.00 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
9,300.00	9,054.92	9,036.02	9,036.02	32.53	182.90	-84.61	2,626.81	1,690.28	3,299.49	3,084.43	215.07	15.342		
9,350.00	9,062.10	9,043.20	9,043.20	32.79	183.04	-87.19	2,626.81	1,690.28	3,277.50	3,062.06	215.44	15.213		
9,400.00	9,064.95	9,046.05	9,046.05	33.06	183.10	-89.64	2,626.81	1,690.28	3,255.92	3,040.17	215.75	15.091		
9,407.63	9,065.00	9,046.10	9,046.10	33.10	183.10	-90.00	2,626.81	1,690.28	3,252.68	3,036.89	215.79	15.073		
9,500.00	9,065.00	9,046.10	9,046.10	33.68	183.10	-90.00	2,626.81	1,690.28	3,214.58	2,998.25	216.33	14.860		
9,600.00	9,065.00	9,046.10	9,046.10	34.41	183.10	-90.00	2,626.81	1,690.28	3,175.85	2,958.83	217.03	14.633		
9,700.00	9,065.00	9,046.10	9,046.10	35.24	183.10	-90.00	2,626.81	1,690.28	3,139.83	2,921.99	217.84	14.413		
9,800.00	9,065.00	9,046.10	9,046.10	36.17	183.10	-90.00	2,626.81	1,690.28	3,106.61	2,887.84	218.77	14.200		
9,900.00	9,065.00	9,046.10	9,046.10	37.19	183.10	-90.00	2,626.81	1,690.28	3,076.29	2,856.48	219.81	13.995		
10,000.00	9,065.00	9,046.10	9,046.10	38.30	183.10	-90.00	2,626.81	1,690.28	3,048.94	2,827.99	220.95	13.799		
10,100.00	9,065.00	9,046.10	9,046.10	39.48	183.10	-90.00	2,626.81	1,690.28	3,024.66	2,802.47	222.18	13.613		
10,200.00	9,065.00	9,046.10	9,046.10	40.72	183.10	-90.00	2,626.81	1,690.28	3,003.51	2,780.01	223.50	13.439		
10,300.00	9,065.00	9,046.10	9,046.10	42.03	183.10	-90.00	2,626.81	1,690.28	2,985.56	2,760.68	224.88	13.276		
10,400.00	9,065.00	9,046.10	9,046.10	43.40	183.10	-90.00	2,626.81	1,690.28	2,970.87	2,744.55	226.32	13.127		
10,500.00	9,065.00	9,046.10	9,046.10	44.82	183.10	-90.00	2,626.81	1,690.28	2,959.49	2,731.68	227.81	12.991		
10,600.00	9,065.00	9,046.10	9,046.10	46.29	183.10	-90.00	2,626.81	1,690.28	2,951.45	2,722.12	229.34	12.870		
10,700.00	9,065.00	9,046.10	9,046.10	47.79	183.10	-90.00	2,626.81	1,690.28	2,946.79	2,715.91	230.88	12.763		
10,787.48	9,065.00	9,046.10	9,046.10	49.15	183.10	-90.00	2,626.81	1,690.28	2,945.49	2,713.25	232.25	12.683 CC		
10,800.00	9,065.00	9,046.10	9,046.10	49.34	183.10	-90.00	2,626.81	1,690.28	2,945.52	2,713.08	232.44	12.672 ES		
10,900.00	9,065.00	9,046.10	9,046.10	50.92	183.10	-90.00	2,626.81	1,690.28	2,947.64	2,713.64	234.00	12.597		
11,000.00	9,065.00	9,046.10	9,046.10	52.54	183.10	-90.00	2,626.81	1,690.28	2,953.15	2,717.60	235.55	12.538		
11,100.00	9,065.00	9,046.10	9,046.10	54.18	183.10	-90.00	2,626.81	1,690.28	2,962.03	2,724.95	237.07	12.494		
11,200.00	9,065.00	9,046.10	9,046.10	55.85	183.10	-90.00	2,626.81	1,690.28	2,974.24	2,735.67	238.57	12.467		
11,300.00	9,065.00	9,046.10	9,046.10	57.54	183.10	-90.00	2,626.81	1,690.28	2,989.75	2,749.72	240.03	12.456 SF		
11,400.00	9,065.00	9,046.10	9,046.10	59.26	183.10	-90.00	2,626.81	1,690.28	3,008.51	2,767.05	241.45	12.460		
11,500.00	9,065.00	9,046.10	9,046.10	61.00	183.10	-90.00	2,626.81	1,690.28	3,030.45	2,787.62	242.82	12.480		
11,600.00	9,065.00	9,046.10	9,046.10	62.75	183.10	-90.00	2,626.81	1,690.28	3,055.51	2,811.36	244.14	12.515		
11,700.00	9,065.00	9,046.10	9,046.10	64.52	183.10	-90.00	2,626.81	1,690.28	3,083.60	2,838.20	245.40	12.565		
11,800.00	9,065.00	9,046.10	9,046.10	66.31	183.10	-90.00	2,626.81	1,690.28	3,114.66	2,868.06	246.61	12.630		
11,900.00	9,065.00	9,046.10	9,046.10	68.11	183.10	-90.00	2,626.81	1,690.28	3,148.59	2,900.84	247.75	12.709		
12,000.00	9,065.00	9,046.10	9,046.10	69.93	183.10	-90.00	2,626.81	1,690.28	3,185.30	2,936.47	248.83	12.801		
12,100.00	9,065.00	9,046.10	9,046.10	71.76	183.10	-90.00	2,626.81	1,690.28	3,224.69	2,974.84	249.85	12.907		
12,200.00	9,065.00	9,046.10	9,046.10	73.60	183.10	-90.00	2,626.81	1,690.28	3,266.67	3,015.87	250.80	13.025		
12,300.00	9,065.00	9,046.10	9,046.10	75.45	183.10	-90.00	2,626.81	1,690.28	3,311.14	3,059.44	251.70	13.155		
12,400.00	9,065.00	9,046.10	9,046.10	77.31	183.10	-90.00	2,626.81	1,690.28	3,358.00	3,105.46	252.54	13.297		
12,500.00	9,065.00	9,046.10	9,046.10	79.18	183.10	-90.00	2,626.81	1,690.28	3,407.15	3,153.83	253.32	13.450		
12,600.00	9,065.00	9,046.10	9,046.10	81.05	183.10	-90.00	2,626.81	1,690.28	3,458.49	3,204.45	254.04	13.614		
12,700.00	9,065.00	9,046.10	9,046.10	82.94	183.10	-90.00	2,626.81	1,690.28	3,511.93	3,257.22	254.71	13.788		
12,800.00	9,065.00	9,046.10	9,046.10	84.83	183.10	-90.00	2,626.81	1,690.28	3,567.37	3,312.04	255.33	13.971		
12,900.00	9,065.00	9,046.10	9,046.10	86.73	183.10	-90.00	2,626.81	1,690.28	3,624.73	3,368.82	255.91	14.164		
13,000.00	9,065.00	9,046.10	9,046.10	88.64	183.10	-90.00	2,626.81	1,690.28	3,683.91	3,427.47	256.43	14.366		
13,100.00	9,065.00	9,046.10	9,046.10	90.55	183.10	-90.00	2,626.81	1,690.28	3,744.82	3,487.90	256.92	14.576		
13,200.00	9,065.00	9,046.10	9,046.10	92.47	183.10	-90.00	2,626.81	1,690.28	3,807.38	3,550.02	257.36	14.794		
13,300.00	9,065.00	9,046.10	9,046.10	94.39	183.10	-90.00	2,626.81	1,690.28	3,871.52	3,613.75	257.77	15.019		
13,400.00	9,065.00	9,046.10	9,046.10	96.32	183.10	-90.00	2,626.81	1,690.28	3,937.15	3,679.01	258.14	15.252		
13,500.00	9,065.00	9,046.10	9,046.10	98.25	183.10	-90.00	2,626.81	1,690.28	4,004.21	3,745.73	258.48	15.491		
13,600.00	9,065.00	9,046.10	9,046.10	100.19	183.10	-90.00	2,626.81	1,690.28	4,072.62	3,813.83	258.79	15.737		
13,700.00	9,065.00	9,046.10	9,046.10	102.13	183.10	-90.00	2,626.81	1,690.28	4,142.31	3,883.24	259.07	15.989		
13,800.00	9,065.00	9,046.10	9,046.10	104.08	183.10	-90.00	2,626.81	1,690.28	4,213.22	3,953.89	259.32	16.247		
13,900.00	9,065.00	9,046.10	9,046.10	106.03	183.10	-90.00	2,626.81	1,690.28	4,285.29	4,025.74	259.55	16.510		
14,000.00	9,065.00	9,046.10	9,046.10	107.98	183.10	-90.00	2,626.81	1,690.28	4,358.46	4,098.70	259.76	16.779		
14,100.00	9,065.00	9,046.10	9,046.10	109.94	183.10	-90.00	2,626.81	1,690.28	4,432.69	4,172.74	259.95	17.052		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 10-INC-ONLY													Offset Well Error:	10.00 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
14,200.00	9,065.00	9,046.10	9,046.10	111.90	183.10	-90.00	2,626.81	1,690.28	4,507.91	4,247.79	260.12	17.330		
14,300.00	9,065.00	9,046.10	9,046.10	113.86	183.10	-90.00	2,626.81	1,690.28	4,584.07	4,323.81	260.27	17.613		
14,400.00	9,065.00	9,046.10	9,046.10	115.82	183.10	-90.00	2,626.81	1,690.28	4,661.14	4,400.74	260.40	17.900		
14,500.00	9,065.00	9,046.10	9,046.10	117.79	183.10	-90.00	2,626.81	1,690.28	4,739.06	4,478.54	260.52	18.191		
14,600.00	9,065.00	9,046.10	9,046.10	119.76	183.10	-90.00	2,626.81	1,690.28	4,817.80	4,557.18	260.63	18.485		
14,700.00	9,065.00	9,046.10	9,046.10	121.74	183.10	-90.00	2,626.81	1,690.28	4,897.32	4,636.60	260.72	18.784		
14,800.00	9,065.00	9,046.10	9,046.10	123.71	183.10	-90.00	2,626.81	1,690.28	4,977.57	4,716.77	260.80	19.086		
14,900.00	9,065.00	9,046.10	9,046.10	125.69	183.10	-90.00	2,626.81	1,690.28	5,058.53	4,797.66	260.87	19.391		
15,000.00	9,065.00	9,046.10	9,046.10	127.67	183.10	-90.00	2,626.81	1,690.28	5,140.16	4,879.22	260.94	19.699		
15,100.00	9,065.00	9,046.10	9,046.10	129.65	183.10	-90.00	2,626.81	1,690.28	5,222.43	4,961.44	260.99	20.010		
15,200.00	9,065.00	9,046.10	9,046.10	131.63	183.10	-90.00	2,626.81	1,690.28	5,305.31	5,044.27	261.04	20.324		
15,300.00	9,065.00	9,046.10	9,046.10	133.62	183.10	-90.00	2,626.81	1,690.28	5,388.76	5,127.69	261.08	20.641		
15,400.00	9,065.00	9,046.10	9,046.10	135.61	183.10	-90.00	2,626.81	1,690.28	5,472.78	5,211.67	261.11	20.960		
15,500.00	9,065.00	9,046.10	9,046.10	137.60	183.10	-90.00	2,626.81	1,690.28	5,557.32	5,296.18	261.14	21.281		
15,600.00	9,065.00	9,046.10	9,046.10	139.59	183.10	-90.00	2,626.81	1,690.28	5,642.36	5,381.21	261.16	21.605		
15,700.00	9,065.00	9,046.10	9,046.10	141.58	183.10	-90.00	2,626.81	1,690.28	5,727.90	5,466.72	261.17	21.931		
15,800.00	9,065.00	9,046.10	9,046.10	143.57	183.10	-90.00	2,626.81	1,690.28	5,813.89	5,552.70	261.19	22.260		
15,900.00	9,065.00	9,046.10	9,046.10	145.57	183.10	-90.00	2,626.81	1,690.28	5,900.32	5,639.13	261.19	22.590		
16,000.00	9,065.00	9,046.10	9,046.10	147.56	183.10	-90.00	2,626.81	1,690.28	5,987.18	5,725.98	261.20	22.922		
16,100.00	9,065.00	9,046.10	9,046.10	149.56	183.10	-90.00	2,626.81	1,690.28	6,074.44	5,813.24	261.20	23.256		
16,200.00	9,065.00	9,046.10	9,046.10	151.56	183.10	-90.00	2,626.81	1,690.28	6,162.09	5,900.89	261.20	23.591		
16,300.00	9,065.00	9,046.10	9,046.10	153.56	183.10	-90.00	2,626.81	1,690.28	6,250.10	5,988.91	261.20	23.929		
16,400.00	9,065.00	9,046.10	9,046.10	155.56	183.10	-90.00	2,626.81	1,690.28	6,338.48	6,077.29	261.19	24.268		
16,500.00	9,065.00	9,046.10	9,046.10	157.57	183.10	-90.00	2,626.81	1,690.28	6,427.19	6,166.01	261.18	24.608		
16,600.00	9,065.00	9,046.10	9,046.10	159.57	183.10	-90.00	2,626.81	1,690.28	6,516.23	6,255.06	261.17	24.950		
16,700.00	9,065.00	9,046.10	9,046.10	161.57	183.10	-90.00	2,626.81	1,690.28	6,605.59	6,344.43	261.16	25.293		
16,800.00	9,065.00	9,046.10	9,046.10	163.58	183.10	-90.00	2,626.81	1,690.28	6,695.25	6,434.10	261.15	25.637		
16,900.00	9,065.00	9,046.10	9,046.10	165.59	183.10	-90.00	2,626.81	1,690.28	6,785.19	6,524.05	261.14	25.983		
17,000.00	9,065.00	9,046.10	9,046.10	167.60	183.10	-90.00	2,626.81	1,690.28	6,875.42	6,614.29	261.12	26.330		
17,100.00	9,065.00	9,046.10	9,046.10	169.60	183.10	-90.00	2,626.81	1,690.28	6,965.91	6,704.80	261.11	26.678		
17,200.00	9,065.00	9,046.10	9,046.10	171.61	183.10	-90.00	2,626.81	1,690.28	7,056.65	6,795.56	261.09	27.027		
17,300.00	9,065.00	9,046.10	9,046.10	173.62	183.10	-90.00	2,626.81	1,690.28	7,147.65	6,886.57	261.08	27.377		
17,400.00	9,065.00	9,046.10	9,046.10	175.63	183.10	-90.00	2,626.81	1,690.28	7,238.88	6,977.82	261.06	27.729		
17,500.00	9,065.00	9,046.10	9,046.10	177.65	183.10	-90.00	2,626.81	1,690.28	7,330.34	7,069.29	261.05	28.081		
17,600.00	9,065.00	9,046.10	9,046.10	179.66	183.10	-90.00	2,626.81	1,690.28	7,422.02	7,160.99	261.03	28.434		
17,700.00	9,065.00	9,046.10	9,046.10	181.67	183.10	-90.00	2,626.81	1,690.28	7,513.91	7,252.90	261.01	28.788		
17,800.00	9,065.00	9,046.10	9,046.10	183.69	183.10	-90.00	2,626.81	1,690.28	7,606.01	7,345.01	261.00	29.142		
17,900.00	9,065.00	9,046.10	9,046.10	185.70	183.10	-90.00	2,626.81	1,690.28	7,698.30	7,437.32	260.98	29.498		
18,000.00	9,065.00	9,046.10	9,046.10	187.72	183.10	-90.00	2,626.81	1,690.28	7,790.79	7,529.83	260.96	29.854		
18,100.00	9,065.00	9,046.10	9,046.10	189.73	183.10	-90.00	2,626.81	1,690.28	7,883.46	7,622.51	260.95	30.211		
18,200.00	9,065.00	9,046.10	9,046.10	191.75	183.10	-90.00	2,626.81	1,690.28	7,976.30	7,715.37	260.93	30.569		
18,300.00	9,065.00	9,046.10	9,046.10	193.77	183.10	-90.00	2,626.81	1,690.28	8,069.32	7,808.40	260.91	30.927		
18,400.00	9,065.00	9,046.10	9,046.10	195.78	183.10	-90.00	2,626.81	1,690.28	8,162.50	7,901.60	260.90	31.286		
18,500.00	9,065.00	9,046.10	9,046.10	197.80	183.10	-90.00	2,626.81	1,690.28	8,255.84	7,994.95	260.89	31.645		
18,600.00	9,065.00	9,046.10	9,046.10	199.82	183.10	-90.00	2,626.81	1,690.28	8,349.34	8,088.46	260.87	32.006		
18,700.00	9,065.00	9,046.10	9,046.10	201.84	183.10	-90.00	2,626.81	1,690.28	8,442.98	8,182.12	260.86	32.366		
18,800.00	9,065.00	9,046.10	9,046.10	203.86	183.10	-90.00	2,626.81	1,690.28	8,536.77	8,275.92	260.84	32.727		
18,900.00	9,065.00	9,046.10	9,046.10	205.88	183.10	-90.00	2,626.81	1,690.28	8,630.70	8,369.86	260.83	33.089		
19,000.00	9,065.00	9,046.10	9,046.10	207.90	183.10	-90.00	2,626.81	1,690.28	8,724.76	8,463.94	260.82	33.451		
19,100.00	9,065.00	9,046.10	9,046.10	209.92	183.10	-90.00	2,626.81	1,690.28	8,818.95	8,558.14	260.81	33.814		
19,200.00	9,065.00	9,046.10	9,046.10	211.95	183.10	-90.00	2,626.81	1,690.28	8,913.27	8,652.47	260.80	34.177		
19,300.00	9,065.00	9,046.10	9,046.10	213.97	183.10	-90.00	2,626.81	1,690.28	9,007.71	8,746.92	260.79	34.540		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design	Sec 14-T21S-R27E - Allied State Com 1 (Active) - Wellbore #1 - Wellbore #1												Offset Site Error:	0.00 ft
Survey Program:	10-INC-ONLY												Offset Well Error:	10.00 ft
Reference		Offset		Semi Major Axis			Distance							
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor	Warning	
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)			
19,400.00	9,065.00	9,046.10	9,046.10	215.99	183.10	-90.00	2,626.81	1,690.28	9,102.28	8,841.49	260.78	34.904		
19,456.84	9,065.00	9,046.10	9,046.10	217.14	183.10	-90.00	2,626.81	1,690.28	9,156.08	8,895.30	260.78	35.111		

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 10-INC-ONLY													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0.00	0.00	0.00	0.00	0.50	0.50	164.39	-1,348.45	376.73	1,400.12					
100.00	100.00	90.10	90.10	0.52	1.30	164.39	-1,348.45	376.73	1,400.09	1,398.27	1.82	770.382		
200.00	200.00	190.10	190.10	0.70	2.74	164.39	-1,348.45	376.73	1,400.09	1,396.64	3.45	406.376		
300.00	300.00	290.10	290.10	0.99	4.22	164.39	-1,348.45	376.73	1,400.09	1,394.88	5.21	268.632		
400.00	400.00	390.10	390.10	1.31	5.71	164.39	-1,348.45	376.73	1,400.09	1,393.07	7.02	199.342		
500.00	500.00	490.10	490.10	1.65	7.21	164.39	-1,348.45	376.73	1,400.09	1,391.24	8.85	158.137		
600.00	600.00	590.10	590.10	1.99	8.70	164.39	-1,348.45	376.73	1,400.09	1,389.40	10.69	130.938		
700.00	700.00	690.10	690.10	2.34	10.20	164.39	-1,348.45	376.73	1,400.09	1,387.55	12.54	111.676		
800.00	800.00	790.10	790.10	2.69	11.69	164.39	-1,348.45	376.73	1,400.09	1,385.71	14.38	97.334		
900.00	900.00	890.10	890.10	3.04	13.19	164.39	-1,348.45	376.73	1,400.09	1,383.86	16.23	86.245		
1,000.00	1,000.00	990.10	990.10	3.40	14.69	164.39	-1,348.45	376.73	1,400.09	1,382.01	18.08	77.419		
1,100.00	1,100.00	1,090.10	1,090.10	3.75	16.18	164.39	-1,348.45	376.73	1,400.09	1,380.15	19.94	70.228		
1,200.00	1,200.00	1,190.10	1,190.10	4.11	17.68	164.39	-1,348.45	376.73	1,400.09	1,378.30	21.79	64.257		
1,300.00	1,300.00	1,290.10	1,290.10	4.46	19.18	164.39	-1,348.45	376.73	1,400.09	1,376.45	23.64	59.220		
1,400.00	1,400.00	1,390.10	1,390.10	4.82	20.68	164.39	-1,348.45	376.73	1,400.09	1,374.59	25.50	54.915		
1,500.00	1,500.00	1,490.10	1,490.10	5.18	22.17	164.39	-1,348.45	376.73	1,400.09	1,372.74	27.35	51.193		
1,600.00	1,600.00	1,590.10	1,590.10	5.53	23.67	164.39	-1,348.45	376.73	1,400.09	1,370.89	29.20	47.942		
1,700.00	1,700.00	1,690.10	1,690.10	5.89	25.17	164.39	-1,348.45	376.73	1,400.09	1,369.03	31.06	45.080		
1,800.00	1,800.00	1,790.10	1,790.10	6.25	26.66	164.39	-1,348.45	376.73	1,400.09	1,367.18	32.91	42.540		
1,900.00	1,900.00	1,890.10	1,890.10	6.61	28.16	164.39	-1,348.45	376.73	1,400.09	1,365.32	34.77	40.270		
2,000.00	2,000.00	1,990.10	1,990.10	6.96	29.66	164.39	-1,348.45	376.73	1,400.09	1,363.47	36.62	38.230		
2,100.00	2,100.00	2,090.10	2,090.10	7.32	31.16	164.39	-1,348.45	376.73	1,400.09	1,361.61	38.48	36.387		
2,200.00	2,200.00	2,190.10	2,190.10	7.68	32.65	164.39	-1,348.45	376.73	1,400.09	1,359.76	40.33	34.714		
2,300.00	2,300.00	2,290.10	2,290.10	8.04	34.15	164.39	-1,348.45	376.73	1,400.09	1,357.90	42.19	33.187		
2,400.00	2,400.00	2,390.10	2,390.10	8.39	35.65	164.39	-1,348.45	376.73	1,400.09	1,356.05	44.04	31.789		
2,500.00	2,500.00	2,490.10	2,490.10	8.75	37.15	164.39	-1,348.45	376.73	1,400.09	1,354.19	45.90	30.504		
2,600.00	2,599.99	2,590.09	2,590.09	9.09	38.64	-49.72	-1,348.45	376.73	1,399.53	1,351.79	47.74	29.317		
2,700.00	2,699.96	2,690.06	2,690.06	9.42	40.14	-49.81	-1,348.45	376.73	1,397.83	1,348.27	49.56	28.204		
2,800.00	2,799.86	2,789.96	2,789.96	9.75	41.64	-49.97	-1,348.45	376.73	1,395.02	1,343.64	51.39	27.148		
2,900.00	2,899.68	2,889.78	2,889.78	10.08	43.13	-50.19	-1,348.45	376.73	1,391.10	1,337.89	53.21	26.143		
2,945.33	2,944.88	2,934.98	2,934.98	10.23	43.81	-50.32	-1,348.45	376.73	1,388.96	1,334.92	54.04	25.703		
3,000.00	2,999.39	2,989.49	2,989.49	10.41	44.62	-50.45	-1,348.45	376.73	1,386.25	1,331.21	55.04	25.187		
3,100.00	3,099.08	3,089.18	3,089.18	10.75	46.12	-50.70	-1,348.45	376.73	1,381.31	1,324.44	56.87	24.291		
3,200.00	3,198.78	3,188.88	3,188.88	11.08	47.61	-50.95	-1,348.45	376.73	1,376.40	1,317.70	58.69	23.450		
3,300.00	3,298.48	3,288.58	3,288.58	11.42	49.10	-51.20	-1,348.45	376.73	1,371.51	1,310.98	60.53	22.660		
3,400.00	3,398.18	3,388.28	3,388.28	11.76	50.60	-51.45	-1,348.45	376.73	1,366.65	1,304.29	62.36	21.916		
3,500.00	3,497.88	3,487.98	3,487.98	12.10	52.09	-51.71	-1,348.45	376.73	1,361.81	1,297.62	64.19	21.214		
3,600.00	3,597.58	3,587.68	3,587.68	12.45	53.58	-51.96	-1,348.45	376.73	1,357.01	1,290.98	66.03	20.552		
3,700.00	3,697.27	3,687.37	3,687.37	12.79	55.08	-52.22	-1,348.45	376.73	1,352.23	1,284.36	67.87	19.925		
3,800.00	3,796.97	3,787.07	3,787.07	13.14	56.57	-52.48	-1,348.45	376.73	1,347.48	1,277.77	69.70	19.331		
3,900.00	3,896.67	3,886.77	3,886.77	13.48	58.06	-52.75	-1,348.45	376.73	1,342.75	1,271.21	71.54	18.768		
4,000.00	3,996.37	3,986.47	3,986.47	13.83	59.56	-53.01	-1,348.45	376.73	1,338.06	1,264.67	73.38	18.234		
4,100.00	4,096.07	4,086.17	4,086.17	14.18	61.05	-53.28	-1,348.45	376.73	1,333.39	1,258.17	75.22	17.726		
4,200.00	4,195.76	4,185.86	4,185.86	14.53	62.54	-53.54	-1,348.45	376.73	1,328.75	1,251.69	77.07	17.242		
4,300.00	4,295.46	4,285.56	4,285.56	14.88	64.03	-53.81	-1,348.45	376.73	1,324.14	1,245.24	78.91	16.781		
4,400.00	4,395.16	4,385.26	4,385.26	15.23	65.53	-54.09	-1,348.45	376.73	1,319.57	1,238.81	80.75	16.341		
4,500.00	4,494.86	4,484.96	4,484.96	15.58	67.02	-54.36	-1,348.45	376.73	1,315.02	1,232.42	82.60	15.921		
4,600.00	4,594.56	4,584.66	4,584.66	15.93	68.51	-54.63	-1,348.45	376.73	1,310.50	1,226.06	84.44	15.520		
4,700.00	4,694.25	4,684.35	4,684.35	16.29	70.01	-54.91	-1,348.45	376.73	1,306.01	1,219.73	86.29	15.136		
4,800.00	4,793.95	4,784.05	4,784.05	16.64	71.50	-55.19	-1,348.45	376.73	1,301.55	1,213.42	88.13	14.768		
4,900.00	4,893.65	4,883.75	4,883.75	17.00	72.99	-55.47	-1,348.45	376.73	1,297.13	1,207.15	89.98	14.416		
5,000.00	4,993.35	4,983.45	4,983.45	17.35	74.49	-55.75	-1,348.45	376.73	1,292.73	1,200.91	91.82	14.078		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 10-INC-ONLY													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
5,100.00	5,093.05	5,083.15	5,083.15	17.71	75.98	-56.04	-1,348.45	376.73	1,288.37	1,194.70	93.67	13.754		
5,200.00	5,192.75	5,182.85	5,182.85	18.06	77.47	-56.33	-1,348.45	376.73	1,284.04	1,188.52	95.52	13.443		
5,300.00	5,292.44	5,282.54	5,282.54	18.42	78.97	-56.61	-1,348.45	376.73	1,279.74	1,182.38	97.37	13.143		
5,400.00	5,392.14	5,382.24	5,382.24	18.77	80.46	-56.91	-1,348.45	376.73	1,275.48	1,176.26	99.22	12.856		
5,500.00	5,491.84	5,481.94	5,481.94	19.13	81.95	-57.20	-1,348.45	376.73	1,271.25	1,170.18	101.07	12.578		
5,600.00	5,591.54	5,581.64	5,581.64	19.49	83.44	-57.49	-1,348.45	376.73	1,267.05	1,164.13	102.91	12.312		
5,700.00	5,691.24	5,681.34	5,681.34	19.85	84.94	-57.79	-1,348.45	376.73	1,262.88	1,158.12	104.76	12.054		
5,800.00	5,790.93	5,781.03	5,781.03	20.20	86.43	-58.09	-1,348.45	376.73	1,258.75	1,152.14	106.61	11.807		
5,900.00	5,890.63	5,880.73	5,880.73	20.56	87.92	-58.39	-1,348.45	376.73	1,254.66	1,146.19	108.47	11.567		
6,000.00	5,990.33	5,980.43	5,980.43	20.92	89.42	-58.69	-1,348.45	376.73	1,250.59	1,140.28	110.32	11.336		
6,100.00	6,090.03	6,080.13	6,080.13	21.28	90.91	-58.99	-1,348.45	376.73	1,246.57	1,134.40	112.17	11.113		
6,200.00	6,189.73	6,179.83	6,179.83	21.64	92.40	-59.30	-1,348.45	376.73	1,242.58	1,128.56	114.02	10.898		
6,300.00	6,289.42	6,279.52	6,279.52	22.00	93.90	-59.61	-1,348.45	376.73	1,238.62	1,122.75	115.87	10.690		
6,400.00	6,389.12	6,379.22	6,379.22	22.36	95.39	-59.92	-1,348.45	376.73	1,234.70	1,116.98	117.72	10.488		
6,500.00	6,488.82	6,478.92	6,478.92	22.72	96.88	-60.23	-1,348.45	376.73	1,230.82	1,111.25	119.57	10.293		
6,600.00	6,588.52	6,578.62	6,578.62	23.08	98.38	-60.54	-1,348.45	376.73	1,226.98	1,105.55	121.43	10.105		
6,700.00	6,688.22	6,678.32	6,678.32	23.44	99.87	-60.86	-1,348.45	376.73	1,223.17	1,099.89	123.28	9.922		
6,800.00	6,787.91	6,778.01	6,778.01	23.80	101.36	-61.18	-1,348.45	376.73	1,219.40	1,094.26	125.13	9.745		
6,900.00	6,887.61	6,877.71	6,877.71	24.16	102.86	-61.50	-1,348.45	376.73	1,215.66	1,088.68	126.98	9.573		
7,000.00	6,987.31	6,977.41	6,977.41	24.52	104.35	-61.82	-1,348.45	376.73	1,211.97	1,083.13	128.84	9.407		
7,100.00	7,087.01	7,077.11	7,077.11	24.88	105.84	-62.14	-1,348.45	376.73	1,208.31	1,077.62	130.69	9.246		
7,200.00	7,186.71	7,176.81	7,176.81	25.24	107.33	-62.47	-1,348.45	376.73	1,204.70	1,072.15	132.55	9.089		
7,300.00	7,286.41	7,276.51	7,276.51	25.60	108.83	-62.80	-1,348.45	376.73	1,201.12	1,066.72	134.40	8.937		
7,400.00	7,386.10	7,376.20	7,376.20	25.96	110.32	-63.13	-1,348.45	376.73	1,197.58	1,061.33	136.25	8.789		
7,500.00	7,485.80	7,475.90	7,475.90	26.33	111.81	-63.46	-1,348.45	376.73	1,194.08	1,055.97	138.11	8.646		
7,600.00	7,585.50	7,575.60	7,575.60	26.69	113.31	-63.79	-1,348.45	376.73	1,190.62	1,050.66	139.96	8.507		
7,700.00	7,685.20	7,675.30	7,675.30	27.05	114.80	-64.13	-1,348.45	376.73	1,187.21	1,045.39	141.82	8.371		
7,800.00	7,784.90	7,775.00	7,775.00	27.41	116.29	-64.46	-1,348.45	376.73	1,183.83	1,040.16	143.67	8.240		
7,860.70	7,845.41	7,835.51	7,835.51	27.63	117.20	-64.67	-1,348.45	376.73	1,181.80	1,037.00	144.80	8.162		
7,900.00	7,884.61	7,874.71	7,874.71	27.77	117.79	-64.78	-1,348.45	376.73	1,180.58	1,035.06	145.53	8.112		
8,000.00	7,984.46	7,974.56	7,974.56	28.13	119.28	-64.99	-1,348.45	376.73	1,178.27	1,030.89	147.38	7.995		
8,100.00	8,084.42	8,074.52	8,074.52	28.49	120.78	-65.09	-1,348.45	376.73	1,177.08	1,027.85	149.23	7.888		
8,157.59	8,142.00	8,132.10	8,132.10	28.69	121.64	148.97	-1,348.45	376.73	1,176.90	1,026.61	150.30	7.831		
8,200.00	8,184.41	8,174.51	8,174.51	28.83	122.28	148.97	-1,348.45	376.73	1,176.90	1,025.83	151.07	7.790		
8,300.00	8,284.41	8,274.51	8,274.51	29.17	123.77	148.97	-1,348.45	376.73	1,176.90	1,023.99	152.91	7.697		
8,400.00	8,384.41	8,374.51	8,374.51	29.51	125.27	148.97	-1,348.45	376.73	1,176.90	1,022.15	154.75	7.605		
8,507.63	8,492.04	8,482.14	8,482.14	29.87	126.88	148.97	-1,348.45	376.73	1,176.90	1,020.18	156.73	7.509		
8,550.00	8,534.37	8,524.47	8,524.47	30.02	127.52	59.73	-1,348.45	376.73	1,176.11	1,018.61	157.50	7.467		
8,600.00	8,584.01	8,574.11	8,574.11	30.18	128.26	60.23	-1,348.45	376.73	1,173.16	1,014.75	158.41	7.406		
8,650.00	8,632.95	8,623.05	8,623.05	30.34	128.99	61.10	-1,348.45	376.73	1,168.09	1,008.79	159.31	7.332		
8,700.00	8,680.82	8,670.92	8,670.92	30.50	129.71	62.34	-1,348.45	376.73	1,161.04	1,000.85	160.19	7.248		
8,750.00	8,727.25	8,717.35	8,717.35	30.66	130.41	63.91	-1,348.45	376.73	1,152.17	991.13	161.04	7.155		
8,800.00	8,771.89	8,761.99	8,761.99	30.81	131.07	65.81	-1,348.45	376.73	1,141.70	979.84	161.86	7.054		
8,850.00	8,814.40	8,804.50	8,804.50	30.95	131.71	67.99	-1,348.45	376.73	1,129.91	967.26	162.64	6.947		
8,900.00	8,854.46	8,844.56	8,844.56	31.09	132.31	70.41	-1,348.45	376.73	1,117.10	953.71	163.39	6.837		
8,950.00	8,891.75	8,881.85	8,881.85	31.23	132.87	73.00	-1,348.45	376.73	1,103.62	939.53	164.09	6.726		
9,000.00	8,926.01	8,916.11	8,916.11	31.37	133.38	75.68	-1,348.45	376.73	1,089.85	925.09	164.75	6.615		
9,050.00	8,956.96	8,947.06	8,947.06	31.53	133.85	78.37	-1,348.45	376.73	1,076.18	910.81	165.37	6.508		
9,100.00	8,984.38	8,974.48	8,974.48	31.69	134.26	80.96	-1,348.45	376.73	1,063.03	897.08	165.95	6.406		
9,150.00	9,008.05	8,998.15	8,998.15	31.87	134.61	83.36	-1,348.45	376.73	1,050.79	884.31	166.48	6.312		
9,200.00	9,027.79	9,017.89	9,017.89	32.07	134.91	85.49	-1,348.45	376.73	1,039.87	872.89	166.98	6.228		
9,250.00	9,043.45	9,033.55	9,033.55	32.29	135.14	87.27	-1,348.45	376.73	1,030.61	863.17	167.43	6.155		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 10-INC-ONLY													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
9,300.00	9,054.92	9,045.02	9,045.02	32.53	135.31	88.63	-1,348.45	376.73	1,023.31	855.47	167.84	6.097		
9,350.00	9,062.10	9,052.20	9,052.20	32.79	135.42	89.55	-1,348.45	376.73	1,018.23	850.02	168.21	6.053		
9,400.00	9,064.95	9,055.05	9,055.05	33.06	135.46	89.98	-1,348.45	376.73	1,015.52	847.00	168.52	6.026		
9,407.63	9,065.00	9,055.10	9,055.10	33.10	135.46	90.00	-1,348.45	376.73	1,015.32	846.76	168.56	6.023		
9,430.26	9,065.00	9,055.10	9,055.10	33.24	135.46	90.00	-1,348.45	376.73	1,015.07	846.37	168.70	6.017 CC, ES		
9,500.00	9,065.00	9,055.10	9,055.10	33.68	135.46	90.00	-1,348.45	376.73	1,017.46	848.35	169.11	6.017 SF		
9,600.00	9,065.00	9,055.10	9,055.10	34.41	135.46	90.00	-1,348.45	376.73	1,029.16	859.41	169.76	6.063		
9,700.00	9,065.00	9,055.10	9,055.10	35.24	135.46	90.00	-1,348.45	376.73	1,050.30	879.88	170.42	6.163		
9,800.00	9,065.00	9,055.10	9,055.10	36.17	135.46	90.00	-1,348.45	376.73	1,080.31	909.25	171.06	6.315		
9,900.00	9,065.00	9,055.10	9,055.10	37.19	135.46	90.00	-1,348.45	376.73	1,118.49	946.83	171.66	6.516		
10,000.00	9,065.00	9,055.10	9,055.10	38.30	135.46	90.00	-1,348.45	376.73	1,164.03	991.84	172.19	6.760		
10,100.00	9,065.00	9,055.10	9,055.10	39.48	135.46	90.00	-1,348.45	376.73	1,216.11	1,043.46	172.65	7.044		
10,200.00	9,065.00	9,055.10	9,055.10	40.72	135.46	90.00	-1,348.45	376.73	1,273.92	1,100.88	173.04	7.362		
10,300.00	9,065.00	9,055.10	9,055.10	42.03	135.46	90.00	-1,348.45	376.73	1,336.72	1,163.35	173.36	7.711		
10,400.00	9,065.00	9,055.10	9,055.10	43.40	135.46	90.00	-1,348.45	376.73	1,403.84	1,230.21	173.63	8.085		
10,500.00	9,065.00	9,055.10	9,055.10	44.82	135.46	90.00	-1,348.45	376.73	1,474.69	1,300.84	173.85	8.483		
10,600.00	9,065.00	9,055.10	9,055.10	46.29	135.46	90.00	-1,348.45	376.73	1,548.76	1,374.73	174.03	8.899		
10,700.00	9,065.00	9,055.10	9,055.10	47.79	135.46	90.00	-1,348.45	376.73	1,625.61	1,451.43	174.17	9.333		
10,800.00	9,065.00	9,055.10	9,055.10	49.34	135.46	90.00	-1,348.45	376.73	1,704.86	1,530.57	174.29	9.782		
10,900.00	9,065.00	9,055.10	9,055.10	50.92	135.46	90.00	-1,348.45	376.73	1,786.20	1,611.81	174.38	10.243		
11,000.00	9,065.00	9,055.10	9,055.10	52.54	135.46	90.00	-1,348.45	376.73	1,869.34	1,694.88	174.46	10.715		
11,100.00	9,065.00	9,055.10	9,055.10	54.18	135.46	90.00	-1,348.45	376.73	1,954.07	1,779.55	174.52	11.197		
11,200.00	9,065.00	9,055.10	9,055.10	55.85	135.46	90.00	-1,348.45	376.73	2,040.18	1,865.61	174.57	11.687		
11,300.00	9,065.00	9,055.10	9,055.10	57.54	135.46	90.00	-1,348.45	376.73	2,127.51	1,952.89	174.61	12.184		
11,400.00	9,065.00	9,055.10	9,055.10	59.26	135.46	90.00	-1,348.45	376.73	2,215.90	2,041.26	174.65	12.688		
11,500.00	9,065.00	9,055.10	9,055.10	61.00	135.46	90.00	-1,348.45	376.73	2,305.25	2,130.58	174.67	13.197		
11,600.00	9,065.00	9,055.10	9,055.10	62.75	135.46	90.00	-1,348.45	376.73	2,395.44	2,220.74	174.70	13.712		
11,700.00	9,065.00	9,055.10	9,055.10	64.52	135.46	90.00	-1,348.45	376.73	2,486.38	2,311.66	174.72	14.231		
11,800.00	9,065.00	9,055.10	9,055.10	66.31	135.46	90.00	-1,348.45	376.73	2,577.99	2,403.25	174.74	14.754		
11,900.00	9,065.00	9,055.10	9,055.10	68.11	135.46	90.00	-1,348.45	376.73	2,670.20	2,495.45	174.75	15.280		
12,000.00	9,065.00	9,055.10	9,055.10	69.93	135.46	90.00	-1,348.45	376.73	2,762.95	2,588.19	174.77	15.809		
12,100.00	9,065.00	9,055.10	9,055.10	71.76	135.46	90.00	-1,348.45	376.73	2,856.20	2,681.42	174.78	16.341		
12,200.00	9,065.00	9,055.10	9,055.10	73.60	135.46	90.00	-1,348.45	376.73	2,949.88	2,775.09	174.80	16.876		
12,300.00	9,065.00	9,055.10	9,055.10	75.45	135.46	90.00	-1,348.45	376.73	3,043.97	2,869.16	174.81	17.413		
12,400.00	9,065.00	9,055.10	9,055.10	77.31	135.46	90.00	-1,348.45	376.73	3,138.42	2,963.60	174.82	17.952		
12,500.00	9,065.00	9,055.10	9,055.10	79.18	135.46	90.00	-1,348.45	376.73	3,233.21	3,058.37	174.84	18.493		
12,600.00	9,065.00	9,055.10	9,055.10	81.05	135.46	90.00	-1,348.45	376.73	3,328.30	3,153.45	174.85	19.035		
12,700.00	9,065.00	9,055.10	9,055.10	82.94	135.46	90.00	-1,348.45	376.73	3,423.67	3,248.81	174.87	19.579		
12,800.00	9,065.00	9,055.10	9,055.10	84.83	135.46	90.00	-1,348.45	376.73	3,519.30	3,344.42	174.88	20.124		
12,900.00	9,065.00	9,055.10	9,055.10	86.73	135.46	90.00	-1,348.45	376.73	3,615.17	3,440.27	174.90	20.670		
13,000.00	9,065.00	9,055.10	9,055.10	88.64	135.46	90.00	-1,348.45	376.73	3,711.25	3,536.33	174.92	21.217		
13,100.00	9,065.00	9,055.10	9,055.10	90.55	135.46	90.00	-1,348.45	376.73	3,807.54	3,632.60	174.94	21.765		
13,200.00	9,065.00	9,055.10	9,055.10	92.47	135.46	90.00	-1,348.45	376.73	3,904.01	3,729.05	174.96	22.314		
13,300.00	9,065.00	9,055.10	9,055.10	94.39	135.46	90.00	-1,348.45	376.73	4,000.65	3,825.68	174.98	22.864		
13,400.00	9,065.00	9,055.10	9,055.10	96.32	135.46	90.00	-1,348.45	376.73	4,097.46	3,922.46	175.00	23.414		
13,500.00	9,065.00	9,055.10	9,055.10	98.25	135.46	90.00	-1,348.45	376.73	4,194.42	4,019.40	175.02	23.965		
13,600.00	9,065.00	9,055.10	9,055.10	100.19	135.46	90.00	-1,348.45	376.73	4,291.51	4,116.47	175.04	24.517		
13,700.00	9,065.00	9,055.10	9,055.10	102.13	135.46	90.00	-1,348.45	376.73	4,388.74	4,213.67	175.07	25.069		
13,800.00	9,065.00	9,055.10	9,055.10	104.08	135.46	90.00	-1,348.45	376.73	4,486.09	4,310.99	175.09	25.621		
13,900.00	9,065.00	9,055.10	9,055.10	106.03	135.46	90.00	-1,348.45	376.73	4,583.55	4,408.43	175.12	26.174		
14,000.00	9,065.00	9,055.10	9,055.10	107.98	135.46	90.00	-1,348.45	376.73	4,681.12	4,505.97	175.15	26.727		
14,100.00	9,065.00	9,055.10	9,055.10	109.94	135.46	90.00	-1,348.45	376.73	4,778.79	4,603.61	175.18	27.280		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 10-INC-ONLY													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
14,200.00	9,065.00	9,055.10	9,055.10	111.90	135.46	90.00	-1,348.45	376.73	4,876.55	4,701.35	175.21	27.833		
14,300.00	9,065.00	9,055.10	9,055.10	113.86	135.46	90.00	-1,348.45	376.73	4,974.41	4,799.17	175.24	28.387		
14,400.00	9,065.00	9,055.10	9,055.10	115.82	135.46	90.00	-1,348.45	376.73	5,072.34	4,897.07	175.27	28.940		
14,500.00	9,065.00	9,055.10	9,055.10	117.79	135.46	90.00	-1,348.45	376.73	5,170.36	4,995.06	175.30	29.494		
14,600.00	9,065.00	9,055.10	9,055.10	119.76	135.46	90.00	-1,348.45	376.73	5,268.45	5,093.11	175.34	30.048		
14,700.00	9,065.00	9,055.10	9,055.10	121.74	135.46	90.00	-1,348.45	376.73	5,366.61	5,191.24	175.37	30.602		
14,800.00	9,065.00	9,055.10	9,055.10	123.71	135.46	90.00	-1,348.45	376.73	5,464.84	5,289.43	175.41	31.155		
14,900.00	9,065.00	9,055.10	9,055.10	125.69	135.46	90.00	-1,348.45	376.73	5,563.13	5,387.69	175.44	31.709		
15,000.00	9,065.00	9,055.10	9,055.10	127.67	135.46	90.00	-1,348.45	376.73	5,661.48	5,486.00	175.48	32.263		
15,100.00	9,065.00	9,055.10	9,055.10	129.65	135.46	90.00	-1,348.45	376.73	5,759.89	5,584.37	175.52	32.816		
15,200.00	9,065.00	9,055.10	9,055.10	131.63	135.46	90.00	-1,348.45	376.73	5,858.35	5,682.79	175.56	33.370		
15,300.00	9,065.00	9,055.10	9,055.10	133.62	135.46	90.00	-1,348.45	376.73	5,956.86	5,781.26	175.60	33.923		
15,400.00	9,065.00	9,055.10	9,055.10	135.61	135.46	90.00	-1,348.45	376.73	6,055.42	5,879.78	175.64	34.476		
15,500.00	9,065.00	9,055.10	9,055.10	137.60	135.46	90.00	-1,348.45	376.73	6,154.03	5,978.35	175.68	35.029		
15,600.00	9,065.00	9,055.10	9,055.10	139.59	135.46	90.00	-1,348.45	376.73	6,252.68	6,076.95	175.73	35.582		
15,700.00	9,065.00	9,055.10	9,055.10	141.58	135.46	90.00	-1,348.45	376.73	6,351.38	6,175.60	175.77	36.134		
15,800.00	9,065.00	9,055.10	9,055.10	143.57	135.46	90.00	-1,348.45	376.73	6,450.11	6,274.29	175.82	36.686		
15,900.00	9,065.00	9,055.10	9,055.10	145.57	135.46	90.00	-1,348.45	376.73	6,548.88	6,373.02	175.86	37.238		
16,000.00	9,065.00	9,055.10	9,055.10	147.56	135.46	90.00	-1,348.45	376.73	6,647.69	6,471.78	175.91	37.790		
16,100.00	9,065.00	9,055.10	9,055.10	149.56	135.46	90.00	-1,348.45	376.73	6,746.54	6,570.58	175.96	38.342		
16,200.00	9,065.00	9,055.10	9,055.10	151.56	135.46	90.00	-1,348.45	376.73	6,845.42	6,669.41	176.01	38.893		
16,300.00	9,065.00	9,055.10	9,055.10	153.56	135.46	90.00	-1,348.45	376.73	6,944.33	6,768.27	176.06	39.443		
16,400.00	9,065.00	9,055.10	9,055.10	155.56	135.46	90.00	-1,348.45	376.73	7,043.27	6,867.16	176.11	39.994		
16,500.00	9,065.00	9,055.10	9,055.10	157.57	135.46	90.00	-1,348.45	376.73	7,142.24	6,966.08	176.16	40.544		
16,600.00	9,065.00	9,055.10	9,055.10	159.57	135.46	90.00	-1,348.45	376.73	7,241.24	7,065.02	176.21	41.094		
16,700.00	9,065.00	9,055.10	9,055.10	161.57	135.46	90.00	-1,348.45	376.73	7,340.26	7,164.00	176.27	41.643		
16,800.00	9,065.00	9,055.10	9,055.10	163.58	135.46	90.00	-1,348.45	376.73	7,439.31	7,262.99	176.32	42.192		
16,900.00	9,065.00	9,055.10	9,055.10	165.59	135.46	90.00	-1,348.45	376.73	7,538.39	7,362.02	176.38	42.741		
17,000.00	9,065.00	9,055.10	9,055.10	167.60	135.46	90.00	-1,348.45	376.73	7,637.49	7,461.06	176.43	43.289		
17,100.00	9,065.00	9,055.10	9,055.10	169.60	135.46	90.00	-1,348.45	376.73	7,736.62	7,560.13	176.49	43.837		
17,200.00	9,065.00	9,055.10	9,055.10	171.61	135.46	90.00	-1,348.45	376.73	7,835.76	7,659.22	176.55	44.384		
17,300.00	9,065.00	9,055.10	9,055.10	173.62	135.46	90.00	-1,348.45	376.73	7,934.93	7,758.33	176.60	44.931		
17,400.00	9,065.00	9,055.10	9,055.10	175.63	135.46	90.00	-1,348.45	376.73	8,034.12	7,857.46	176.66	45.477		
17,500.00	9,065.00	9,055.10	9,055.10	177.65	135.46	90.00	-1,348.45	376.73	8,133.33	7,956.61	176.72	46.023		
17,600.00	9,065.00	9,055.10	9,055.10	179.66	135.46	90.00	-1,348.45	376.73	8,232.56	8,055.77	176.78	46.569		
17,700.00	9,065.00	9,055.10	9,055.10	181.67	135.46	90.00	-1,348.45	376.73	8,331.80	8,154.96	176.84	47.114		
17,800.00	9,065.00	9,055.10	9,055.10	183.69	135.46	90.00	-1,348.45	376.73	8,431.07	8,254.16	176.91	47.658		
17,900.00	9,065.00	9,055.10	9,055.10	185.70	135.46	90.00	-1,348.45	376.73	8,530.35	8,353.38	176.97	48.202		
18,000.00	9,065.00	9,055.10	9,055.10	187.72	135.46	90.00	-1,348.45	376.73	8,629.64	8,452.61	177.03	48.746		
18,100.00	9,065.00	9,055.10	9,055.10	189.73	135.46	90.00	-1,348.45	376.73	8,728.96	8,551.86	177.10	49.289		
18,200.00	9,065.00	9,055.10	9,055.10	191.75	135.46	90.00	-1,348.45	376.73	8,828.29	8,651.12	177.16	49.831		
18,300.00	9,065.00	9,055.10	9,055.10	193.77	135.46	90.00	-1,348.45	376.73	8,927.63	8,750.40	177.23	50.373		
18,400.00	9,065.00	9,055.10	9,055.10	195.78	135.46	90.00	-1,348.45	376.73	9,026.99	8,849.69	177.30	50.915		
18,500.00	9,065.00	9,055.10	9,055.10	197.80	135.46	90.00	-1,348.45	376.73	9,126.36	8,949.00	177.36	51.456		
18,600.00	9,065.00	9,055.10	9,055.10	199.82	135.46	90.00	-1,348.45	376.73	9,225.75	9,048.32	177.43	51.996		
18,700.00	9,065.00	9,055.10	9,055.10	201.84	135.46	90.00	-1,348.45	376.73	9,325.15	9,147.65	177.50	52.536		
18,800.00	9,065.00	9,055.10	9,055.10	203.86	135.46	90.00	-1,348.45	376.73	9,424.56	9,246.99	177.57	53.075		
18,900.00	9,065.00	9,055.10	9,055.10	205.88	135.46	90.00	-1,348.45	376.73	9,523.99	9,346.34	177.64	53.614		
19,000.00	9,065.00	9,055.10	9,055.10	207.90	135.46	90.00	-1,348.45	376.73	9,623.42	9,445.71	177.71	54.152		
19,100.00	9,065.00	9,055.10	9,055.10	209.92	135.46	90.00	-1,348.45	376.73	9,722.87	9,545.09	177.78	54.689		
19,200.00	9,065.00	9,055.10	9,055.10	211.95	135.46	90.00	-1,348.45	376.73	9,822.33	9,644.47	177.86	55.226		
19,300.00	9,065.00	9,055.10	9,055.10	213.97	135.46	90.00	-1,348.45	376.73	9,921.80	9,743.87	177.93	55.763		

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 10-INC-ONLY													Offset Well Error:	10.00 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0.00	0.00	0.00	0.00	0.50	10.00	14.42	1,447.91	372.37	1,495.08					
100.00	100.00	87.10	87.10	0.52	10.12	14.42	1,447.91	372.37	1,495.02	1,484.39	10.64	140.527		
200.00	200.00	187.10	187.10	0.70	10.62	14.42	1,447.91	372.37	1,495.02	1,483.70	11.32	132.014		
300.00	300.00	287.10	287.10	0.99	11.46	14.42	1,447.91	372.37	1,495.02	1,482.57	12.45	120.065		
400.00	400.00	387.10	387.10	1.31	12.58	14.42	1,447.91	372.37	1,495.02	1,481.14	13.89	107.653		
500.00	500.00	487.10	487.10	1.65	13.90	14.42	1,447.91	372.37	1,495.02	1,479.48	15.55	96.173		
600.00	600.00	587.10	587.10	1.99	15.37	14.42	1,447.91	372.37	1,495.02	1,477.66	17.36	86.099		
700.00	700.00	687.10	687.10	2.34	16.96	14.42	1,447.91	372.37	1,495.02	1,475.72	19.30	77.460		
800.00	800.00	787.10	787.10	2.69	18.63	14.42	1,447.91	372.37	1,495.02	1,473.70	21.32	70.109		
900.00	900.00	887.10	887.10	3.04	20.37	14.42	1,447.91	372.37	1,495.02	1,471.61	23.41	63.853		
1,000.00	1,000.00	987.10	987.10	3.40	22.15	14.42	1,447.91	372.37	1,495.02	1,469.47	25.55	58.508		
1,100.00	1,100.00	1,087.10	1,087.10	3.75	23.98	14.42	1,447.91	372.37	1,495.02	1,467.29	27.73	53.913		
1,200.00	1,200.00	1,187.10	1,187.10	4.11	25.83	14.42	1,447.91	372.37	1,495.02	1,465.09	29.94	49.936		
1,300.00	1,300.00	1,287.10	1,287.10	4.46	27.71	14.42	1,447.91	372.37	1,495.02	1,462.85	32.17	46.471		
1,400.00	1,400.00	1,387.10	1,387.10	4.82	29.60	14.42	1,447.91	372.37	1,495.02	1,460.60	34.42	43.430		
1,500.00	1,500.00	1,487.10	1,487.10	5.18	31.51	14.42	1,447.91	372.37	1,495.02	1,458.33	36.69	40.745		
1,600.00	1,600.00	1,587.10	1,587.10	5.53	33.44	14.42	1,447.91	372.37	1,495.02	1,456.05	38.97	38.360		
1,700.00	1,700.00	1,687.10	1,687.10	5.89	35.38	14.42	1,447.91	372.37	1,495.02	1,453.76	41.27	36.228		
1,800.00	1,800.00	1,787.10	1,787.10	6.25	37.32	14.42	1,447.91	372.37	1,495.02	1,451.46	43.57	34.314		
1,900.00	1,900.00	1,887.10	1,887.10	6.61	39.27	14.42	1,447.91	372.37	1,495.02	1,449.14	45.88	32.586		
2,000.00	2,000.00	1,987.10	1,987.10	6.96	41.23	14.42	1,447.91	372.37	1,495.02	1,446.83	48.20	31.019		
2,100.00	2,100.00	2,087.10	2,087.10	7.32	43.20	14.42	1,447.91	372.37	1,495.02	1,444.50	50.52	29.592		
2,200.00	2,200.00	2,187.10	2,187.10	7.68	45.17	14.42	1,447.91	372.37	1,495.02	1,442.18	52.85	28.289		
2,300.00	2,300.00	2,287.10	2,287.10	8.04	47.15	14.42	1,447.91	372.37	1,495.02	1,439.84	55.18	27.093		
2,400.00	2,400.00	2,387.10	2,387.10	8.39	49.12	14.42	1,447.91	372.37	1,495.02	1,437.51	57.52	25.992		
2,500.00	2,500.00	2,487.10	2,487.10	8.75	51.11	14.42	1,447.91	372.37	1,495.02	1,435.17	59.86	24.976 CC		
2,600.00	2,599.99	2,587.09	2,587.09	9.09	53.09	160.35	1,447.91	372.37	1,495.85	1,433.66	62.19	24.054 ES		
2,700.00	2,699.96	2,687.06	2,687.06	9.42	55.08	160.38	1,447.91	372.37	1,498.31	1,433.81	64.50	23.229		
2,800.00	2,799.86	2,786.96	2,786.96	9.75	57.07	160.42	1,447.91	372.37	1,502.42	1,435.60	66.82	22.485		
2,900.00	2,899.68	2,886.78	2,886.78	10.08	59.06	160.48	1,447.91	372.37	1,508.18	1,439.04	69.14	21.814		
2,945.33	2,944.88	2,931.98	2,931.98	10.23	59.96	160.51	1,447.91	372.37	1,511.33	1,441.13	70.19	21.532		
3,000.00	2,999.39	2,986.49	2,986.49	10.41	61.05	160.57	1,447.91	372.37	1,515.33	1,443.87	71.46	21.205		
3,100.00	3,099.08	3,086.18	3,086.18	10.75	63.04	160.66	1,447.91	372.37	1,522.66	1,448.87	73.79	20.636		
3,200.00	3,198.78	3,185.88	3,185.88	11.08	65.03	160.76	1,447.91	372.37	1,529.99	1,453.87	76.11	20.101		
3,300.00	3,298.48	3,285.58	3,285.58	11.42	67.03	160.85	1,447.91	372.37	1,537.32	1,458.88	78.44	19.598		
3,400.00	3,398.18	3,385.28	3,385.28	11.76	69.02	160.95	1,447.91	372.37	1,544.66	1,463.88	80.78	19.122		
3,500.00	3,497.88	3,484.98	3,484.98	12.10	71.02	161.04	1,447.91	372.37	1,552.01	1,468.89	83.11	18.673		
3,600.00	3,597.58	3,584.68	3,584.68	12.45	73.01	161.13	1,447.91	372.37	1,559.35	1,473.90	85.45	18.248		
3,700.00	3,697.27	3,684.37	3,684.37	12.79	75.01	161.23	1,447.91	372.37	1,566.71	1,478.91	87.80	17.845		
3,800.00	3,796.97	3,784.07	3,784.07	13.14	77.01	161.32	1,447.91	372.37	1,574.06	1,483.92	90.14	17.463		
3,900.00	3,896.67	3,883.77	3,883.77	13.48	79.01	161.41	1,447.91	372.37	1,581.42	1,488.94	92.48	17.100		
4,000.00	3,996.37	3,983.47	3,983.47	13.83	81.02	161.50	1,447.91	372.37	1,588.78	1,493.95	94.83	16.754		
4,100.00	4,096.07	4,083.17	4,083.17	14.18	83.02	161.58	1,447.91	372.37	1,596.15	1,498.97	97.18	16.425		
4,200.00	4,195.76	4,182.86	4,182.86	14.53	85.02	161.67	1,447.91	372.37	1,603.52	1,504.00	99.53	16.111		
4,300.00	4,295.46	4,282.56	4,282.56	14.88	87.02	161.76	1,447.91	372.37	1,610.90	1,509.02	101.88	15.811		
4,400.00	4,395.16	4,382.26	4,382.26	15.23	89.03	161.85	1,447.91	372.37	1,618.28	1,514.04	104.23	15.526		
4,500.00	4,494.86	4,481.96	4,481.96	15.58	91.03	161.93	1,447.91	372.37	1,625.66	1,519.07	106.58	15.252		
4,600.00	4,594.56	4,581.66	4,581.66	15.93	93.04	162.02	1,447.91	372.37	1,633.04	1,524.10	108.94	14.990		
4,700.00	4,694.25	4,681.35	4,681.35	16.29	95.04	162.10	1,447.91	372.37	1,640.43	1,529.14	111.30	14.739		
4,800.00	4,793.95	4,781.05	4,781.05	16.64	97.05	162.18	1,447.91	372.37	1,647.83	1,534.17	113.65	14.499		
4,900.00	4,893.65	4,880.75	4,880.75	17.00	99.06	162.26	1,447.91	372.37	1,655.22	1,539.21	116.01	14.268		
5,000.00	4,993.35	4,980.45	4,980.45	17.35	101.06	162.35	1,447.91	372.37	1,662.62	1,544.25	118.37	14.046		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 10-INC-ONLY													Offset Well Error:	10.00 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
5,100.00	5,093.05	5,080.15	5,080.15	17.71	103.07	162.43	1,447.91	372.37	1,670.02	1,549.30	120.73	13.833		
5,200.00	5,192.75	5,179.85	5,179.85	18.06	105.08	162.51	1,447.91	372.37	1,677.43	1,554.34	123.09	13.628		
5,300.00	5,292.44	5,279.54	5,279.54	18.42	107.09	162.59	1,447.91	372.37	1,684.84	1,559.39	125.45	13.430		
5,400.00	5,392.14	5,379.24	5,379.24	18.77	109.10	162.66	1,447.91	372.37	1,692.25	1,564.44	127.81	13.240		
5,500.00	5,491.84	5,478.94	5,478.94	19.13	111.10	162.74	1,447.91	372.37	1,699.67	1,569.49	130.17	13.057		
5,600.00	5,591.54	5,578.64	5,578.64	19.49	113.11	162.82	1,447.91	372.37	1,707.08	1,574.55	132.54	12.880		
5,700.00	5,691.24	5,678.34	5,678.34	19.85	115.12	162.90	1,447.91	372.37	1,714.51	1,579.61	134.90	12.710		
5,800.00	5,790.93	5,778.03	5,778.03	20.20	117.13	162.97	1,447.91	372.37	1,721.93	1,584.67	137.26	12.545		
5,900.00	5,890.63	5,877.73	5,877.73	20.56	119.14	163.05	1,447.91	372.37	1,729.36	1,589.73	139.63	12.386		
6,000.00	5,990.33	5,977.43	5,977.43	20.92	121.15	163.12	1,447.91	372.37	1,736.79	1,594.80	141.99	12.232		
6,100.00	6,090.03	6,077.13	6,077.13	21.28	123.16	163.20	1,447.91	372.37	1,744.22	1,599.86	144.36	12.083		
6,200.00	6,189.73	6,176.83	6,176.83	21.64	125.17	163.27	1,447.91	372.37	1,751.66	1,604.93	146.72	11.939		
6,300.00	6,289.42	6,276.52	6,276.52	22.00	127.19	163.34	1,447.91	372.37	1,759.10	1,610.01	149.09	11.799		
6,400.00	6,389.12	6,376.22	6,376.22	22.36	129.20	163.41	1,447.91	372.37	1,766.54	1,615.08	151.46	11.664		
6,500.00	6,488.82	6,475.92	6,475.92	22.72	131.21	163.49	1,447.91	372.37	1,773.98	1,620.16	153.82	11.533		
6,600.00	6,588.52	6,575.62	6,575.62	23.08	133.22	163.56	1,447.91	372.37	1,781.43	1,625.24	156.19	11.405		
6,700.00	6,688.22	6,675.32	6,675.32	23.44	135.23	163.63	1,447.91	372.37	1,788.88	1,630.32	158.56	11.282		
6,800.00	6,787.91	6,775.01	6,775.01	23.80	137.24	163.70	1,447.91	372.37	1,796.33	1,635.41	160.93	11.162		
6,900.00	6,887.61	6,874.71	6,874.71	24.16	139.25	163.77	1,447.91	372.37	1,803.79	1,640.49	163.30	11.046		
7,000.00	6,987.31	6,974.41	6,974.41	24.52	141.27	163.84	1,447.91	372.37	1,811.25	1,645.58	165.66	10.933		
7,100.00	7,087.01	7,074.11	7,074.11	24.88	143.28	163.90	1,447.91	372.37	1,818.71	1,650.68	168.03	10.823		
7,200.00	7,186.71	7,173.81	7,173.81	25.24	145.29	163.97	1,447.91	372.37	1,826.17	1,655.77	170.40	10.717		
7,300.00	7,286.41	7,273.51	7,273.51	25.60	147.30	164.04	1,447.91	372.37	1,833.64	1,660.87	172.77	10.613		
7,400.00	7,386.10	7,373.20	7,373.20	25.96	149.32	164.10	1,447.91	372.37	1,841.11	1,665.96	175.14	10.512		
7,500.00	7,485.80	7,472.90	7,472.90	26.33	151.33	164.17	1,447.91	372.37	1,848.58	1,671.06	177.51	10.414		
7,600.00	7,585.50	7,572.60	7,572.60	26.69	153.34	164.24	1,447.91	372.37	1,856.05	1,676.17	179.88	10.318		
7,700.00	7,685.20	7,672.30	7,672.30	27.05	155.35	164.30	1,447.91	372.37	1,863.52	1,681.27	182.25	10.225		
7,800.00	7,784.90	7,772.00	7,772.00	27.41	157.37	164.36	1,447.91	372.37	1,871.00	1,686.38	184.62	10.134		
7,860.70	7,845.41	7,832.51	7,832.51	27.63	158.59	164.40	1,447.91	372.37	1,875.54	1,689.48	186.06	10.080		
7,900.00	7,884.61	7,871.71	7,871.71	27.77	159.38	164.44	1,447.91	372.37	1,878.29	1,691.29	187.00	10.045		
8,000.00	7,984.46	7,971.56	7,971.56	28.13	161.40	164.50	1,447.91	372.37	1,883.52	1,694.15	189.37	9.946		
8,100.00	8,084.42	8,071.52	8,071.52	28.49	163.42	164.54	1,447.91	372.37	1,886.24	1,694.49	191.74	9.837		
8,157.59	8,142.00	8,129.10	8,129.10	28.69	164.58	18.62	1,447.91	372.37	1,886.65	1,693.55	193.10	9.770		
8,200.00	8,184.41	8,171.51	8,171.51	28.83	165.44	18.62	1,447.91	372.37	1,886.65	1,692.55	194.11	9.720		
8,300.00	8,284.41	8,271.51	8,271.51	29.17	167.45	18.62	1,447.91	372.37	1,886.65	1,690.19	196.47	9.603		
8,400.00	8,384.41	8,371.51	8,371.51	29.51	169.47	18.62	1,447.91	372.37	1,886.65	1,687.83	198.83	9.489		
8,507.63	8,492.04	8,479.14	8,479.14	29.87	171.65	18.62	1,447.91	372.37	1,886.65	1,685.29	201.37	9.369		
8,550.00	8,534.37	8,521.47	8,521.47	30.02	172.50	-70.84	1,447.91	372.37	1,886.14	1,683.77	202.37	9.320		
8,600.00	8,584.01	8,571.11	8,571.11	30.18	173.51	-71.19	1,447.91	372.37	1,884.22	1,680.68	203.53	9.258		
8,650.00	8,632.95	8,620.05	8,620.05	30.34	174.49	-71.79	1,447.91	372.37	1,880.93	1,676.24	204.68	9.189		
8,700.00	8,680.82	8,667.92	8,667.92	30.50	175.46	-72.63	1,447.91	372.37	1,876.35	1,670.54	205.81	9.117		
8,750.00	8,727.25	8,714.35	8,714.35	30.66	176.40	-73.69	1,447.91	372.37	1,870.61	1,663.71	206.90	9.041		
8,800.00	8,771.89	8,758.99	8,758.99	30.81	177.30	-74.95	1,447.91	372.37	1,863.86	1,655.91	207.95	8.963		
8,850.00	8,814.40	8,801.50	8,801.50	30.95	178.16	-76.36	1,447.91	372.37	1,856.29	1,647.33	208.96	8.884		
8,900.00	8,854.46	8,841.56	8,841.56	31.09	178.97	-77.90	1,447.91	372.37	1,848.09	1,638.18	209.91	8.804		
8,950.00	8,891.75	8,878.85	8,878.85	31.23	179.72	-79.53	1,447.91	372.37	1,839.50	1,628.68	210.81	8.726		
9,000.00	8,926.01	8,913.11	8,913.11	31.37	180.41	-81.18	1,447.91	372.37	1,830.75	1,619.08	211.66	8.649		
9,050.00	8,956.96	8,944.06	8,944.06	31.53	181.04	-82.82	1,447.91	372.37	1,822.07	1,609.62	212.45	8.576		
9,100.00	8,984.38	8,971.48	8,971.48	31.69	181.59	-84.39	1,447.91	372.37	1,813.73	1,600.55	213.18	8.508		
9,150.00	9,008.05	8,995.15	8,995.15	31.87	182.07	-85.84	1,447.91	372.37	1,805.94	1,592.09	213.85	8.445		
9,200.00	9,027.79	9,014.89	9,014.89	32.07	182.47	-87.13	1,447.91	372.37	1,798.93	1,584.47	214.46	8.388		
9,250.00	9,043.45	9,030.55	9,030.55	32.29	182.79	-88.21	1,447.91	372.37	1,792.90	1,577.88	215.01	8.339		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 10-INC-ONLY													Offset Well Error:	10.00 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
9,300.00	9,054.92	9,042.02	9,042.02	32.53	183.02	-89.06	1,447.91	372.37	1,787.99	1,572.50	215.50	8.297		
9,350.00	9,062.10	9,049.20	9,049.20	32.79	183.16	-89.66	1,447.91	372.37	1,784.36	1,568.44	215.92	8.264		
9,400.00	9,064.95	9,052.05	9,052.05	33.06	183.22	-89.98	1,447.91	372.37	1,782.07	1,565.81	216.26	8.240		
9,407.63	9,065.00	9,052.10	9,052.10	33.10	183.22	-90.00	1,447.91	372.37	1,781.85	1,565.54	216.31	8.238		
9,456.68	9,065.00	9,052.10	9,052.10	33.41	183.22	-90.00	1,447.91	372.37	1,781.17	1,564.55	216.62	8.222		
9,500.00	9,065.00	9,052.10	9,052.10	33.68	183.22	-90.00	1,447.91	372.37	1,781.70	1,564.80	216.90	8.214		
9,600.00	9,065.00	9,052.10	9,052.10	34.41	183.22	-90.00	1,447.91	372.37	1,786.93	1,569.30	217.62	8.211 SF		
9,700.00	9,065.00	9,052.10	9,052.10	35.24	183.22	-90.00	1,447.91	372.37	1,797.71	1,579.29	218.42	8.231		
9,800.00	9,065.00	9,052.10	9,052.10	36.17	183.22	-90.00	1,447.91	372.37	1,813.96	1,594.69	219.26	8.273		
9,900.00	9,065.00	9,052.10	9,052.10	37.19	183.22	-90.00	1,447.91	372.37	1,835.51	1,615.38	220.13	8.338		
10,000.00	9,065.00	9,052.10	9,052.10	38.30	183.22	-90.00	1,447.91	372.37	1,862.20	1,641.18	221.01	8.426		
10,100.00	9,065.00	9,052.10	9,052.10	39.48	183.22	-90.00	1,447.91	372.37	1,893.79	1,671.90	221.88	8.535		
10,200.00	9,065.00	9,052.10	9,052.10	40.72	183.22	-90.00	1,447.91	372.37	1,930.05	1,707.32	222.73	8.665		
10,300.00	9,065.00	9,052.10	9,052.10	42.03	183.22	-90.00	1,447.91	372.37	1,970.73	1,747.18	223.55	8.816		
10,400.00	9,065.00	9,052.10	9,052.10	43.40	183.22	-90.00	1,447.91	372.37	2,015.55	1,791.23	224.32	8.985		
10,500.00	9,065.00	9,052.10	9,052.10	44.82	183.22	-90.00	1,447.91	372.37	2,064.24	1,839.20	225.05	9.173		
10,600.00	9,065.00	9,052.10	9,052.10	46.29	183.22	-90.00	1,447.91	372.37	2,116.54	1,890.82	225.72	9.377		
10,700.00	9,065.00	9,052.10	9,052.10	47.79	183.22	-90.00	1,447.91	372.37	2,172.19	1,945.84	226.35	9.597		
10,800.00	9,065.00	9,052.10	9,052.10	49.34	183.22	-90.00	1,447.91	372.37	2,230.94	2,004.01	226.93	9.831		
10,900.00	9,065.00	9,052.10	9,052.10	50.92	183.22	-90.00	1,447.91	372.37	2,292.54	2,065.08	227.46	10.079		
11,000.00	9,065.00	9,052.10	9,052.10	52.54	183.22	-90.00	1,447.91	372.37	2,356.78	2,128.83	227.95	10.339		
11,100.00	9,065.00	9,052.10	9,052.10	54.18	183.22	-90.00	1,447.91	372.37	2,423.44	2,195.05	228.39	10.611		
11,200.00	9,065.00	9,052.10	9,052.10	55.85	183.22	-90.00	1,447.91	372.37	2,492.34	2,263.54	228.80	10.893		
11,300.00	9,065.00	9,052.10	9,052.10	57.54	183.22	-90.00	1,447.91	372.37	2,563.28	2,334.11	229.17	11.185		
11,400.00	9,065.00	9,052.10	9,052.10	59.26	183.22	-90.00	1,447.91	372.37	2,636.11	2,406.61	229.50	11.486		
11,500.00	9,065.00	9,052.10	9,052.10	61.00	183.22	-90.00	1,447.91	372.37	2,710.67	2,480.87	229.80	11.796		
11,600.00	9,065.00	9,052.10	9,052.10	62.75	183.22	-90.00	1,447.91	372.37	2,786.83	2,556.75	230.08	12.112		
11,700.00	9,065.00	9,052.10	9,052.10	64.52	183.22	-90.00	1,447.91	372.37	2,864.45	2,634.12	230.33	12.436		
11,800.00	9,065.00	9,052.10	9,052.10	66.31	183.22	-90.00	1,447.91	372.37	2,943.42	2,712.86	230.56	12.766		
11,900.00	9,065.00	9,052.10	9,052.10	68.11	183.22	-90.00	1,447.91	372.37	3,023.64	2,792.87	230.77	13.103		
12,000.00	9,065.00	9,052.10	9,052.10	69.93	183.22	-90.00	1,447.91	372.37	3,105.01	2,874.05	230.96	13.444		
12,100.00	9,065.00	9,052.10	9,052.10	71.76	183.22	-90.00	1,447.91	372.37	3,187.43	2,956.30	231.13	13.791		
12,200.00	9,065.00	9,052.10	9,052.10	73.60	183.22	-90.00	1,447.91	372.37	3,270.84	3,039.55	231.29	14.142		
12,300.00	9,065.00	9,052.10	9,052.10	75.45	183.22	-90.00	1,447.91	372.37	3,355.15	3,123.72	231.43	14.497		
12,400.00	9,065.00	9,052.10	9,052.10	77.31	183.22	-90.00	1,447.91	372.37	3,440.31	3,208.74	231.57	14.857		
12,500.00	9,065.00	9,052.10	9,052.10	79.18	183.22	-90.00	1,447.91	372.37	3,526.24	3,294.55	231.69	15.220		
12,600.00	9,065.00	9,052.10	9,052.10	81.05	183.22	-90.00	1,447.91	372.37	3,612.90	3,381.10	231.80	15.586		
12,700.00	9,065.00	9,052.10	9,052.10	82.94	183.22	-90.00	1,447.91	372.37	3,700.23	3,468.33	231.91	15.956		
12,800.00	9,065.00	9,052.10	9,052.10	84.83	183.22	-90.00	1,447.91	372.37	3,788.19	3,556.19	232.00	16.328		
12,900.00	9,065.00	9,052.10	9,052.10	86.73	183.22	-90.00	1,447.91	372.37	3,876.73	3,644.64	232.09	16.703		
13,000.00	9,065.00	9,052.10	9,052.10	88.64	183.22	-90.00	1,447.91	372.37	3,965.82	3,733.64	232.18	17.081		
13,100.00	9,065.00	9,052.10	9,052.10	90.55	183.22	-90.00	1,447.91	372.37	4,055.41	3,823.16	232.26	17.461		
13,200.00	9,065.00	9,052.10	9,052.10	92.47	183.22	-90.00	1,447.91	372.37	4,145.48	3,913.15	232.33	17.843		
13,300.00	9,065.00	9,052.10	9,052.10	94.39	183.22	-90.00	1,447.91	372.37	4,236.00	4,003.60	232.40	18.227		
13,400.00	9,065.00	9,052.10	9,052.10	96.32	183.22	-90.00	1,447.91	372.37	4,326.93	4,094.47	232.47	18.613		
13,500.00	9,065.00	9,052.10	9,052.10	98.25	183.22	-90.00	1,447.91	372.37	4,418.26	4,185.73	232.53	19.001		
13,600.00	9,065.00	9,052.10	9,052.10	100.19	183.22	-90.00	1,447.91	372.37	4,509.95	4,277.37	232.59	19.390		
13,700.00	9,065.00	9,052.10	9,052.10	102.13	183.22	-90.00	1,447.91	372.37	4,601.99	4,369.35	232.65	19.781		
13,800.00	9,065.00	9,052.10	9,052.10	104.08	183.22	-90.00	1,447.91	372.37	4,694.36	4,461.66	232.70	20.173		
13,900.00	9,065.00	9,052.10	9,052.10	106.03	183.22	-90.00	1,447.91	372.37	4,787.03	4,554.28	232.75	20.567		
14,000.00	9,065.00	9,052.10	9,052.10	107.98	183.22	-90.00	1,447.91	372.37	4,879.99	4,647.19	232.80	20.962		
14,100.00	9,065.00	9,052.10	9,052.10	109.94	183.22	-90.00	1,447.91	372.37	4,973.23	4,740.38	232.85	21.358		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 10-INC-ONLY													Offset Well Error:	10.00 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
14,200.00	9,065.00	9,052.10	9,052.10	111.90	183.22	-90.00	1,447.91	372.37	5,066.72	4,833.82	232.90	21.755		
14,300.00	9,065.00	9,052.10	9,052.10	113.86	183.22	-90.00	1,447.91	372.37	5,160.46	4,927.51	232.95	22.153		
14,400.00	9,065.00	9,052.10	9,052.10	115.82	183.22	-90.00	1,447.91	372.37	5,254.43	5,021.44	232.99	22.552		
14,500.00	9,065.00	9,052.10	9,052.10	117.79	183.22	-90.00	1,447.91	372.37	5,348.61	5,115.58	233.04	22.952		
14,600.00	9,065.00	9,052.10	9,052.10	119.76	183.22	-90.00	1,447.91	372.37	5,443.01	5,209.93	233.08	23.353		
14,700.00	9,065.00	9,052.10	9,052.10	121.74	183.22	-90.00	1,447.91	372.37	5,537.60	5,304.48	233.12	23.754		
14,800.00	9,065.00	9,052.10	9,052.10	123.71	183.22	-90.00	1,447.91	372.37	5,632.38	5,399.21	233.16	24.156		
14,900.00	9,065.00	9,052.10	9,052.10	125.69	183.22	-90.00	1,447.91	372.37	5,727.33	5,494.12	233.21	24.559		
15,000.00	9,065.00	9,052.10	9,052.10	127.67	183.22	-90.00	1,447.91	372.37	5,822.46	5,589.21	233.25	24.962		
15,100.00	9,065.00	9,052.10	9,052.10	129.65	183.22	-90.00	1,447.91	372.37	5,917.74	5,684.45	233.29	25.366		
15,200.00	9,065.00	9,052.10	9,052.10	131.63	183.22	-90.00	1,447.91	372.37	6,013.18	5,779.85	233.33	25.771		
15,300.00	9,065.00	9,052.10	9,052.10	133.62	183.22	-90.00	1,447.91	372.37	6,108.76	5,875.39	233.37	26.176		
15,400.00	9,065.00	9,052.10	9,052.10	135.61	183.22	-90.00	1,447.91	372.37	6,204.49	5,971.07	233.41	26.582		
15,500.00	9,065.00	9,052.10	9,052.10	137.60	183.22	-90.00	1,447.91	372.37	6,300.34	6,066.89	233.45	26.988		
15,600.00	9,065.00	9,052.10	9,052.10	139.59	183.22	-90.00	1,447.91	372.37	6,396.33	6,162.83	233.49	27.394		
15,700.00	9,065.00	9,052.10	9,052.10	141.58	183.22	-90.00	1,447.91	372.37	6,492.43	6,258.89	233.54	27.801		
15,800.00	9,065.00	9,052.10	9,052.10	143.57	183.22	-90.00	1,447.91	372.37	6,588.65	6,355.07	233.58	28.208		
15,900.00	9,065.00	9,052.10	9,052.10	145.57	183.22	-90.00	1,447.91	372.37	6,684.98	6,451.36	233.62	28.615		
16,000.00	9,065.00	9,052.10	9,052.10	147.56	183.22	-90.00	1,447.91	372.37	6,781.42	6,547.76	233.66	29.023		
16,100.00	9,065.00	9,052.10	9,052.10	149.56	183.22	-90.00	1,447.91	372.37	6,877.96	6,644.26	233.70	29.430		
16,200.00	9,065.00	9,052.10	9,052.10	151.56	183.22	-90.00	1,447.91	372.37	6,974.59	6,740.85	233.74	29.839		
16,300.00	9,065.00	9,052.10	9,052.10	153.56	183.22	-90.00	1,447.91	372.37	7,071.32	6,837.54	233.79	30.247		
16,400.00	9,065.00	9,052.10	9,052.10	155.56	183.22	-90.00	1,447.91	372.37	7,168.14	6,934.32	233.83	30.655		
16,500.00	9,065.00	9,052.10	9,052.10	157.57	183.22	-90.00	1,447.91	372.37	7,265.05	7,031.18	233.87	31.064		
16,600.00	9,065.00	9,052.10	9,052.10	159.57	183.22	-90.00	1,447.91	372.37	7,362.04	7,128.12	233.92	31.473		
16,700.00	9,065.00	9,052.10	9,052.10	161.57	183.22	-90.00	1,447.91	372.37	7,459.11	7,225.15	233.96	31.882		
16,800.00	9,065.00	9,052.10	9,052.10	163.58	183.22	-90.00	1,447.91	372.37	7,556.25	7,322.25	234.00	32.291		
16,900.00	9,065.00	9,052.10	9,052.10	165.59	183.22	-90.00	1,447.91	372.37	7,653.47	7,419.42	234.05	32.700		
17,000.00	9,065.00	9,052.10	9,052.10	167.60	183.22	-90.00	1,447.91	372.37	7,750.76	7,516.67	234.09	33.109		
17,100.00	9,065.00	9,052.10	9,052.10	169.60	183.22	-90.00	1,447.91	372.37	7,848.12	7,613.98	234.14	33.519		
17,200.00	9,065.00	9,052.10	9,052.10	171.61	183.22	-90.00	1,447.91	372.37	7,945.54	7,711.35	234.19	33.928		
17,300.00	9,065.00	9,052.10	9,052.10	173.62	183.22	-90.00	1,447.91	372.37	8,043.03	7,808.79	234.23	34.338		
17,400.00	9,065.00	9,052.10	9,052.10	175.63	183.22	-90.00	1,447.91	372.37	8,140.57	7,906.29	234.28	34.747		
17,500.00	9,065.00	9,052.10	9,052.10	177.65	183.22	-90.00	1,447.91	372.37	8,238.18	8,003.85	234.33	35.157		
17,600.00	9,065.00	9,052.10	9,052.10	179.66	183.22	-90.00	1,447.91	372.37	8,335.84	8,101.47	234.38	35.566		
17,700.00	9,065.00	9,052.10	9,052.10	181.67	183.22	-90.00	1,447.91	372.37	8,433.56	8,199.13	234.43	35.975		
17,800.00	9,065.00	9,052.10	9,052.10	183.69	183.22	-90.00	1,447.91	372.37	8,531.33	8,296.86	234.47	36.385		
17,900.00	9,065.00	9,052.10	9,052.10	185.70	183.22	-90.00	1,447.91	372.37	8,629.15	8,394.63	234.52	36.794		
18,000.00	9,065.00	9,052.10	9,052.10	187.72	183.22	-90.00	1,447.91	372.37	8,727.02	8,492.45	234.57	37.204		
18,100.00	9,065.00	9,052.10	9,052.10	189.73	183.22	-90.00	1,447.91	372.37	8,824.94	8,590.32	234.63	37.613		
18,200.00	9,065.00	9,052.10	9,052.10	191.75	183.22	-90.00	1,447.91	372.37	8,922.91	8,688.23	234.68	38.022		
18,300.00	9,065.00	9,052.10	9,052.10	193.77	183.22	-90.00	1,447.91	372.37	9,020.92	8,786.19	234.73	38.431		
18,400.00	9,065.00	9,052.10	9,052.10	195.78	183.22	-90.00	1,447.91	372.37	9,118.97	8,884.19	234.78	38.840		
18,500.00	9,065.00	9,052.10	9,052.10	197.80	183.22	-90.00	1,447.91	372.37	9,217.06	8,982.23	234.83	39.249		
18,600.00	9,065.00	9,052.10	9,052.10	199.82	183.22	-90.00	1,447.91	372.37	9,315.20	9,080.31	234.89	39.658		
18,700.00	9,065.00	9,052.10	9,052.10	201.84	183.22	-90.00	1,447.91	372.37	9,413.37	9,178.43	234.94	40.067		
18,800.00	9,065.00	9,052.10	9,052.10	203.86	183.22	-90.00	1,447.91	372.37	9,511.58	9,276.59	235.00	40.475		
18,900.00	9,065.00	9,052.10	9,052.10	205.88	183.22	-90.00	1,447.91	372.37	9,609.83	9,374.78	235.05	40.884		
19,000.00	9,065.00	9,052.10	9,052.10	207.90	183.22	-90.00	1,447.91	372.37	9,708.12	9,473.01	235.11	41.292		
19,100.00	9,065.00	9,052.10	9,052.10	209.92	183.22	-90.00	1,447.91	372.37	9,806.44	9,571.27	235.16	41.700		
19,200.00	9,065.00	9,052.10	9,052.10	211.95	183.22	-90.00	1,447.91	372.37	9,904.79	9,669.57	235.22	42.108		

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 0-MWD+IFR1													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0.00	0.00	12.40	12.40	0.50	0.50	-0.13	1,618.68	-3.59	1,618.69					
100.00	100.00	112.40	112.40	0.52	0.53	-0.13	1,618.68	-3.59	1,618.69	1,617.64	1.05	1,543.386		
200.00	200.00	212.40	212.40	0.70	0.73	-0.13	1,618.68	-3.59	1,618.69	1,617.25	1.44	1,127.145		
300.00	300.00	312.40	312.40	0.99	1.03	-0.13	1,618.68	-3.59	1,618.69	1,616.67	2.01	804.018		
400.00	400.00	412.40	412.40	1.31	1.35	-0.13	1,618.68	-3.59	1,618.69	1,616.03	2.66	608.674		
500.00	500.00	512.40	512.40	1.65	1.69	-0.13	1,618.68	-3.59	1,618.69	1,615.35	3.33	485.425		
600.00	600.00	612.40	612.40	1.99	2.03	-0.13	1,618.68	-3.59	1,618.69	1,614.66	4.02	402.232		
700.00	700.00	712.40	712.40	2.34	2.38	-0.13	1,618.68	-3.59	1,618.69	1,613.97	4.72	342.792		
800.00	800.00	812.40	812.40	2.69	2.73	-0.13	1,618.68	-3.59	1,618.69	1,613.26	5.42	298.382		
900.00	900.00	912.40	912.40	3.04	3.09	-0.13	1,618.68	-3.59	1,618.69	1,612.56	6.13	264.019		
1,000.00	1,000.00	1,012.40	1,012.40	3.40	3.44	-0.13	1,618.68	-3.59	1,618.69	1,611.85	6.84	236.675		
1,100.00	1,100.00	1,112.40	1,112.40	3.75	3.80	-0.13	1,618.68	-3.59	1,618.69	1,611.14	7.55	214.417		
1,200.00	1,200.00	1,212.40	1,212.40	4.11	4.15	-0.13	1,618.68	-3.59	1,618.69	1,610.43	8.26	195.957		
1,300.00	1,300.00	1,312.40	1,312.40	4.46	4.51	-0.13	1,618.68	-3.59	1,618.69	1,609.71	8.97	180.405		
1,400.00	1,400.00	1,412.40	1,412.40	4.82	4.86	-0.13	1,618.68	-3.59	1,618.69	1,609.00	9.69	167.128		
1,500.00	1,500.00	1,512.40	1,512.40	5.18	5.22	-0.13	1,618.68	-3.59	1,618.69	1,608.29	10.40	155.662		
1,600.00	1,600.00	1,612.40	1,612.40	5.53	5.58	-0.13	1,618.68	-3.59	1,618.69	1,607.57	11.11	145.663		
1,700.00	1,700.00	1,712.40	1,712.40	5.89	5.94	-0.13	1,618.68	-3.59	1,618.69	1,606.86	11.83	136.867		
1,800.00	1,800.00	1,812.40	1,812.40	6.25	6.29	-0.13	1,618.68	-3.59	1,618.69	1,606.15	12.54	129.069		
1,900.00	1,900.00	1,912.40	1,912.40	6.61	6.65	-0.13	1,618.68	-3.59	1,618.69	1,605.43	13.26	122.109		
1,911.95	1,911.95	1,924.35	1,924.35	6.65	6.69	-0.13	1,618.68	-3.59	1,618.69	1,605.35	13.34	121.327	CC	
2,000.00	2,000.00	2,009.71	2,009.71	6.96	7.00	-0.13	1,618.69	-3.59	1,618.70	1,604.74	13.96	115.941	ES	
2,100.00	2,100.00	2,088.03	2,088.03	7.32	7.28	-0.13	1,619.35	-3.73	1,619.53	1,604.94	14.60	110.945		
2,200.00	2,200.00	2,166.32	2,166.29	7.68	7.56	-0.14	1,621.05	-4.08	1,621.71	1,606.48	15.23	106.471		
2,300.00	2,300.00	2,244.54	2,244.46	8.04	7.84	-0.16	1,623.79	-4.65	1,625.22	1,609.36	15.86	102.457		
2,400.00	2,400.00	2,322.67	2,322.50	8.39	8.12	-0.19	1,627.58	-5.44	1,630.07	1,613.58	16.49	98.849		
2,500.00	2,500.00	2,400.00	2,399.68	8.75	8.39	-0.23	1,632.35	-6.43	1,636.25	1,619.14	17.11	95.618		
2,600.00	2,599.99	2,478.50	2,477.95	9.09	8.67	145.62	1,638.24	-7.65	1,644.48	1,626.76	17.72	92.804		
2,700.00	2,699.96	2,556.02	2,555.14	9.42	8.95	145.55	1,645.08	-9.07	1,655.47	1,637.16	18.31	90.434		
2,800.00	2,799.86	2,633.14	2,631.85	9.75	9.23	145.48	1,652.90	-10.70	1,669.19	1,650.30	18.89	88.368		
2,900.00	2,899.68	2,709.78	2,707.97	10.08	9.50	145.42	1,661.67	-12.52	1,685.64	1,666.17	19.47	86.582		
2,945.33	2,944.88	2,744.34	2,742.25	10.23	9.62	145.39	1,665.95	-13.41	1,693.99	1,674.26	19.73	85.856		
3,000.00	2,999.39	2,785.89	2,783.43	10.41	9.77	145.42	1,671.37	-14.54	1,704.58	1,684.54	20.04	85.040		
3,100.00	3,099.08	2,861.59	2,858.35	10.75	10.04	145.46	1,681.99	-16.74	1,724.94	1,704.33	20.62	83.673		
3,200.00	3,198.78	2,936.88	2,932.71	11.08	10.31	145.49	1,693.51	-19.14	1,746.56	1,725.38	21.18	82.452		
3,300.00	3,298.48	3,011.73	3,006.48	11.42	10.58	145.51	1,705.91	-21.71	1,769.44	1,747.69	21.75	81.368		
3,400.00	3,398.18	3,086.12	3,079.63	11.76	10.85	145.53	1,719.17	-24.47	1,793.55	1,771.24	22.31	80.408		
3,500.00	3,497.88	3,173.18	3,165.05	12.10	11.16	145.55	1,735.61	-27.88	1,818.69	1,795.76	22.93	79.300		
3,600.00	3,597.58	3,269.93	3,259.97	12.45	11.51	145.56	1,753.98	-31.70	1,843.94	1,820.32	23.62	78.069		
3,700.00	3,697.27	3,366.69	3,354.89	12.79	11.86	145.57	1,772.34	-35.51	1,869.20	1,844.89	24.31	76.901		
3,800.00	3,796.97	3,463.45	3,449.82	13.14	12.21	145.59	1,790.71	-39.33	1,894.45	1,869.45	25.00	75.790		
3,900.00	3,896.67	3,560.21	3,544.74	13.48	12.57	145.60	1,809.07	-43.14	1,919.70	1,894.02	25.69	74.732		
4,000.00	3,896.37	3,656.97	3,639.66	13.83	12.93	145.61	1,827.44	-46.96	1,944.96	1,918.58	26.38	73.725		
4,100.00	4,096.07	3,753.72	3,734.58	14.18	13.28	145.63	1,845.80	-50.77	1,970.21	1,943.14	27.08	72.765		
4,200.00	4,195.76	3,850.48	3,829.50	14.53	13.64	145.64	1,864.17	-54.59	1,995.47	1,967.69	27.77	71.849		
4,300.00	4,295.46	3,947.24	3,924.43	14.88	14.00	145.65	1,882.53	-58.40	2,020.72	1,992.25	28.47	70.973		
4,400.00	4,395.16	4,044.00	4,019.35	15.23	14.36	145.66	1,900.90	-62.22	2,045.98	2,016.80	29.17	70.137		
4,500.00	4,494.86	4,140.75	4,114.27	15.58	14.72	145.68	1,919.26	-66.03	2,071.23	2,041.36	29.87	69.336		
4,600.00	4,594.56	4,237.51	4,209.19	15.93	15.08	145.69	1,937.63	-69.85	2,096.48	2,065.91	30.57	68.569		
4,700.00	4,694.25	4,334.27	4,304.12	16.29	15.44	145.70	1,955.99	-73.66	2,121.74	2,090.46	31.28	67.835		
4,800.00	4,793.95	4,431.03	4,399.04	16.64	15.81	145.71	1,974.36	-77.48	2,146.99	2,115.01	31.98	67.130		
4,900.00	4,893.65	4,527.79	4,493.96	17.00	16.17	145.72	1,992.72	-81.29	2,172.25	2,139.56	32.69	66.454		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 0-MWD+IFR1													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
5,000.00	4,993.35	4,624.54	4,588.88	17.35	16.54	145.73	2,011.09	-85.11	2,197.50	2,164.11	33.39	65.804		
5,100.00	5,093.05	4,721.30	4,683.81	17.71	16.90	145.74	2,029.45	-88.92	2,222.76	2,188.66	34.10	65.180		
5,200.00	5,192.75	4,818.06	4,778.73	18.06	17.27	145.75	2,047.82	-92.74	2,248.01	2,213.20	34.81	64.579		
5,300.00	5,292.44	4,914.82	4,873.65	18.42	17.63	145.76	2,066.18	-96.55	2,273.27	2,237.75	35.52	64.001		
5,400.00	5,392.14	5,011.57	4,968.57	18.77	18.00	145.77	2,084.55	-100.37	2,298.52	2,262.29	36.23	63.444		
5,500.00	5,491.84	5,108.33	5,063.49	19.13	18.36	145.78	2,102.91	-104.18	2,323.78	2,286.84	36.94	62.908		
5,600.00	5,591.54	5,205.09	5,158.42	19.49	18.73	145.79	2,121.28	-108.00	2,349.03	2,311.38	37.65	62.390		
5,700.00	5,691.24	5,301.85	5,253.34	19.85	19.10	145.79	2,139.64	-111.81	2,374.29	2,335.92	38.36	61.891		
5,800.00	5,790.93	5,401.40	5,348.26	20.20	19.48	145.80	2,158.01	-115.63	2,399.54	2,360.46	39.09	61.392		
5,900.00	5,890.63	5,504.64	5,443.18	20.56	19.87	145.81	2,176.37	-119.45	2,424.80	2,384.97	39.82	60.889		
6,000.00	5,990.33	5,592.12	5,538.11	20.92	20.20	145.82	2,194.73	-123.26	2,450.05	2,409.55	40.50	60.492		
6,100.00	6,090.03	5,688.88	5,633.03	21.28	20.57	145.83	2,213.10	-127.08	2,475.31	2,434.09	41.22	60.057		
6,200.00	6,189.73	5,785.64	5,727.95	21.64	20.94	145.84	2,231.46	-130.89	2,500.56	2,458.63	41.93	59.636		
6,300.00	6,289.42	5,882.39	5,822.87	22.00	21.31	145.84	2,249.83	-134.71	2,525.82	2,483.17	42.65	59.228		
6,400.00	6,389.12	5,979.15	5,917.79	22.36	21.68	145.85	2,268.19	-138.52	2,551.07	2,507.71	43.36	58.832		
6,500.00	6,488.82	6,075.91	6,012.72	22.72	22.05	145.86	2,286.56	-142.34	2,576.33	2,532.25	44.08	58.450		
6,600.00	6,588.52	6,172.67	6,107.64	23.08	22.42	145.87	2,304.92	-146.15	2,601.59	2,556.79	44.79	58.078		
6,700.00	6,688.22	6,269.42	6,202.56	23.44	22.79	145.87	2,323.29	-149.97	2,626.84	2,581.33	45.51	57.718		
6,800.00	6,787.91	6,366.18	6,297.48	23.80	23.16	145.88	2,341.65	-153.78	2,652.10	2,605.87	46.23	57.369		
6,900.00	6,887.61	6,462.94	6,392.41	24.16	23.53	145.89	2,360.02	-157.60	2,677.35	2,630.41	46.95	57.029		
7,000.00	6,987.31	6,559.70	6,487.33	24.52	23.90	145.89	2,378.38	-161.41	2,702.61	2,654.94	47.67	56.700		
7,100.00	7,087.01	6,656.45	6,582.25	24.88	24.27	145.90	2,396.75	-165.23	2,727.86	2,679.48	48.38	56.380		
7,200.00	7,186.71	6,753.21	6,677.17	25.24	24.64	145.91	2,415.11	-169.04	2,753.12	2,704.02	49.10	56.069		
7,300.00	7,286.41	6,849.97	6,772.09	25.60	25.01	145.91	2,433.48	-172.86	2,778.37	2,728.55	49.82	55.766		
7,400.00	7,386.10	6,946.73	6,867.02	25.96	25.38	145.92	2,451.84	-176.67	2,803.63	2,753.09	50.54	55.472		
7,500.00	7,485.80	7,043.49	6,961.94	26.33	25.75	145.93	2,470.21	-180.49	2,828.89	2,777.62	51.26	55.185		
7,600.00	7,585.50	7,140.24	7,056.86	26.69	26.12	145.93	2,488.57	-184.30	2,854.14	2,802.16	51.98	54.906		
7,700.00	7,685.20	7,237.00	7,151.78	27.05	26.50	145.94	2,506.94	-188.12	2,879.40	2,826.70	52.70	54.635		
7,800.00	7,784.90	7,333.76	7,246.71	27.41	26.87	145.94	2,525.30	-191.93	2,904.65	2,851.23	53.42	54.370		
7,860.70	7,845.41	7,407.51	7,304.33	27.63	27.15	145.95	2,536.45	-194.25	2,919.99	2,866.07	53.92	54.155		
7,900.00	7,884.61	7,430.56	7,341.67	27.77	27.24	146.03	2,543.67	-195.75	2,929.75	2,875.60	54.15	54.109		
8,000.00	7,984.46	7,527.78	7,437.05	28.13	27.61	146.21	2,562.13	-199.58	2,953.12	2,898.26	54.87	53.823		
8,100.00	8,084.42	7,625.46	7,532.87	28.49	27.99	146.34	2,580.67	-203.43	2,974.38	2,918.79	55.59	53.506		
8,157.59	8,142.00	7,681.89	7,588.24	28.69	28.21	0.48	2,591.38	-205.66	2,985.65	2,929.65	56.00	53.314		
8,200.00	8,184.41	7,723.50	7,629.06	28.83	28.37	0.44	2,599.28	-207.30	2,993.69	2,937.39	56.30	53.171		
8,300.00	8,284.41	7,821.61	7,725.30	29.17	28.74	0.36	2,617.90	-211.17	3,012.66	2,955.65	57.01	52.840		
8,400.00	8,384.41	7,919.71	7,821.54	29.51	29.12	0.29	2,636.52	-215.04	3,031.64	2,973.91	57.73	52.517		
8,507.63	8,492.04	8,025.29	7,925.12	29.87	29.53	0.21	2,656.56	-219.20	3,052.06	2,993.57	58.49	52.177		
8,550.00	8,534.37	8,066.77	7,965.81	30.02	29.69	-88.41	2,664.43	-220.84	3,060.08	3,001.28	58.79	52.047		
8,600.00	8,584.01	8,115.25	8,013.37	30.18	29.87	-87.60	2,673.63	-222.75	3,069.43	3,010.29	59.14	51.897		
8,650.00	8,632.95	8,162.88	8,060.10	30.34	30.06	-86.89	2,682.67	-224.63	3,078.64	3,019.16	59.49	51.753		
8,700.00	8,680.82	8,209.30	8,105.64	30.50	30.24	-86.26	2,691.48	-226.46	3,087.69	3,027.86	59.82	51.615		
8,750.00	8,727.25	8,254.16	8,149.64	30.66	30.41	-85.71	2,700.00	-228.22	3,096.56	3,036.41	60.15	51.484		
8,800.00	8,771.89	8,302.89	8,191.78	30.81	30.60	-85.22	2,708.15	-229.92	3,105.27	3,044.79	60.48	51.342		
8,850.00	8,814.40	8,337.83	8,231.73	30.95	30.73	-84.78	2,715.88	-231.52	3,113.84	3,053.07	60.76	51.246		
8,900.00	8,854.46	8,379.36	8,272.48	31.09	30.89	-84.41	2,723.76	-232.91	3,122.28	3,061.21	61.07	51.123		
8,950.00	8,891.75	8,428.20	8,320.39	31.23	31.07	-84.16	2,733.05	-231.32	3,130.54	3,069.11	61.43	50.959		
9,000.00	8,926.01	8,481.00	8,371.82	31.37	31.27	-83.99	2,743.05	-224.94	3,138.52	3,076.70	61.82	50.770		
9,050.00	8,956.96	8,538.80	8,427.18	31.53	31.46	-83.89	2,753.85	-212.46	3,146.16	3,083.92	62.24	50.550		
9,100.00	8,984.38	8,602.94	8,486.82	31.69	31.67	-83.90	2,765.52	-192.04	3,153.37	3,090.68	62.70	50.297		
9,150.00	9,008.05	8,675.12	8,550.76	31.87	31.88	-84.01	2,778.09	-161.11	3,160.05	3,096.86	63.19	50.005		
9,200.00	9,027.79	8,757.41	8,618.32	32.07	32.10	-84.24	2,791.45	-116.19	3,166.07	3,102.33	63.74	49.672		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 0-MWD+IFR1													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
9,250.00	9,043.45	8,852.07	8,687.27	32.29	32.31	-84.57	2,805.18	-52.97	3,171.26	3,106.92	64.34	49.289		
9,300.00	9,054.92	9,300.00	8,740.72	32.53	33.68	-84.82	2,815.94	15.07	3,175.38	3,109.13	66.25	47.933		
9,350.00	9,062.10	9,084.63	8,806.13	32.79	32.99	-85.37	2,829.37	143.59	3,178.23	3,112.41	65.81	48.291		
9,400.00	9,064.95	9,220.16	8,836.46	33.06	33.63	-85.66	2,836.03	275.19	3,179.51	3,112.75	66.76	47.623		
9,407.63	9,065.00	9,241.51	8,838.42	33.10	33.74	-85.69	2,836.53	296.44	3,179.56	3,112.64	66.92	47.512		
9,500.00	9,065.00	9,361.59	8,840.00	33.68	34.45	-85.72	2,837.55	416.48	3,179.16	3,110.95	68.21	46.606		
9,600.00	9,065.00	9,461.59	8,840.00	34.41	35.16	-85.72	2,838.14	516.47	3,178.66	3,109.01	69.65	45.639		
9,700.00	9,065.00	9,561.59	8,840.00	35.24	35.96	-85.72	2,838.74	616.47	3,178.15	3,106.86	71.29	44.582		
9,800.00	9,065.00	9,661.59	8,840.00	36.17	36.87	-85.72	2,839.33	716.47	3,177.64	3,104.53	73.12	43.459		
9,900.00	9,065.00	9,761.59	8,840.00	37.19	37.86	-85.71	2,839.92	816.47	3,177.14	3,102.01	75.13	42.291		
10,000.00	9,065.00	9,861.59	8,840.00	38.30	38.93	-85.71	2,840.52	916.46	3,176.63	3,099.33	77.30	41.096		
10,100.00	9,065.00	9,961.58	8,840.00	39.48	40.08	-85.71	2,841.11	1,016.46	3,176.13	3,096.51	79.62	39.891		
10,200.00	9,065.00	10,061.58	8,840.00	40.72	41.29	-85.71	2,841.70	1,116.46	3,175.62	3,093.54	82.08	38.690		
10,300.00	9,065.00	10,161.58	8,840.00	42.03	42.57	-85.71	2,842.30	1,216.45	3,175.12	3,090.45	84.66	37.503		
10,400.00	9,065.00	10,261.58	8,840.00	43.40	43.91	-85.71	2,842.89	1,316.45	3,174.61	3,087.25	87.36	36.338		
10,500.00	9,065.00	10,361.58	8,840.00	44.82	45.30	-85.71	2,843.48	1,416.45	3,174.10	3,083.94	90.17	35.203		
10,600.00	9,065.00	10,461.58	8,840.00	46.29	46.74	-85.71	2,844.08	1,516.44	3,173.60	3,080.53	93.06	34.101		
10,700.00	9,065.00	10,561.58	8,840.00	47.79	48.23	-85.71	2,844.67	1,616.44	3,173.09	3,077.04	96.05	33.036		
10,800.00	9,065.00	10,661.58	8,840.00	49.34	49.75	-85.71	2,845.27	1,716.44	3,172.59	3,073.47	99.11	32.010		
10,900.00	9,065.00	10,761.57	8,840.00	50.92	51.31	-85.71	2,845.86	1,816.43	3,172.08	3,069.84	102.25	31.024		
11,000.00	9,065.00	10,861.57	8,840.00	52.54	52.90	-85.71	2,846.45	1,916.43	3,171.58	3,066.13	105.44	30.078		
11,100.00	9,065.00	10,961.57	8,840.00	54.18	54.52	-85.71	2,847.05	2,016.43	3,171.07	3,062.37	108.70	29.172		
11,200.00	9,065.00	11,061.57	8,840.00	55.85	56.17	-85.71	2,847.64	2,116.43	3,170.56	3,058.55	112.01	28.305		
11,300.00	9,065.00	11,161.57	8,840.00	57.54	57.85	-85.71	2,848.23	2,216.42	3,170.06	3,054.68	115.38	27.476		
11,400.00	9,065.00	11,261.57	8,840.00	59.26	59.55	-85.70	2,848.83	2,316.42	3,169.55	3,050.77	118.78	26.684		
11,500.00	9,065.00	11,361.57	8,840.00	61.00	61.27	-85.70	2,849.42	2,416.42	3,169.05	3,046.82	122.23	25.927		
11,600.00	9,065.00	11,461.57	8,840.00	62.75	63.01	-85.70	2,850.01	2,516.41	3,168.54	3,042.82	125.72	25.204		
11,700.00	9,065.00	11,561.56	8,840.00	64.52	64.76	-85.70	2,850.61	2,616.41	3,168.04	3,038.80	129.24	24.513		
11,800.00	9,065.00	11,661.56	8,840.00	66.31	66.54	-85.70	2,851.20	2,716.41	3,167.53	3,034.74	132.79	23.854		
11,900.00	9,065.00	11,761.56	8,840.00	68.11	68.33	-85.70	2,851.79	2,816.40	3,167.02	3,030.65	136.37	23.223		
12,000.00	9,065.00	11,861.56	8,840.00	69.93	70.13	-85.70	2,852.39	2,916.40	3,166.52	3,026.53	139.98	22.621		
12,100.00	9,065.00	11,961.56	8,840.00	71.76	71.95	-85.70	2,852.98	3,016.40	3,166.01	3,022.39	143.62	22.045		
12,200.00	9,065.00	12,061.56	8,840.00	73.60	73.77	-85.70	2,853.57	3,116.40	3,165.51	3,018.23	147.28	21.493		
12,300.00	9,065.00	12,161.56	8,840.00	75.45	75.61	-85.70	2,854.17	3,216.39	3,165.00	3,014.04	150.96	20.966		
12,400.00	9,065.00	12,261.56	8,840.00	77.31	77.46	-85.70	2,854.76	3,316.39	3,164.50	3,009.84	154.66	20.461		
12,500.00	9,065.00	12,361.55	8,840.00	79.18	79.32	-85.70	2,855.35	3,416.39	3,163.99	3,005.61	158.38	19.977		
12,600.00	9,065.00	12,461.55	8,840.00	81.05	81.19	-85.70	2,855.95	3,516.38	3,163.48	3,001.37	162.12	19.514		
12,700.00	9,065.00	12,561.55	8,840.00	82.94	83.07	-85.70	2,856.54	3,616.38	3,162.98	2,997.11	165.87	19.069		
12,800.00	9,065.00	12,661.55	8,840.00	84.83	84.95	-85.69	2,857.13	3,716.38	3,162.47	2,992.84	169.64	18.643		
12,900.00	9,065.00	12,761.55	8,840.00	86.73	86.84	-85.69	2,857.73	3,816.37	3,161.97	2,988.55	173.42	18.233		
13,000.00	9,065.00	12,861.55	8,840.00	88.64	88.74	-85.69	2,858.32	3,916.37	3,161.46	2,984.25	177.22	17.840		
13,100.00	9,065.00	12,961.55	8,840.00	90.55	90.65	-85.69	2,858.91	4,016.37	3,160.96	2,979.93	181.02	17.462		
13,200.00	9,065.00	13,061.54	8,840.00	92.47	92.56	-85.69	2,859.51	4,116.36	3,160.45	2,975.61	184.84	17.098		
13,300.00	9,065.00	13,161.54	8,840.00	94.39	94.48	-85.69	2,860.10	4,216.36	3,159.94	2,971.27	188.68	16.748		
13,400.00	9,065.00	13,261.54	8,840.00	96.32	96.40	-85.69	2,860.69	4,316.36	3,159.44	2,966.92	192.52	16.411		
13,500.00	9,065.00	13,361.54	8,840.00	98.25	98.32	-85.69	2,861.29	4,416.36	3,158.93	2,962.56	196.37	16.087		
13,600.00	9,065.00	13,461.54	8,840.00	100.19	100.26	-85.69	2,861.88	4,516.35	3,158.43	2,958.20	200.23	15.774		
13,700.00	9,065.00	13,561.54	8,840.00	102.13	102.19	-85.69	2,862.47	4,616.35	3,157.92	2,953.82	204.10	15.473		
13,800.00	9,065.00	13,661.54	8,840.00	104.08	104.13	-85.69	2,863.07	4,716.35	3,157.42	2,949.44	207.97	15.182		
13,900.00	9,065.00	13,761.54	8,840.00	106.03	106.08	-85.69	2,863.66	4,816.34	3,156.91	2,945.05	211.86	14.901		
14,000.00	9,065.00	13,861.53	8,840.00	107.98	108.03	-85.69	2,864.25	4,916.34	3,156.40	2,940.65	215.75	14.630		
14,100.00	9,065.00	13,961.53	8,840.00	109.94	109.98	-85.69	2,864.85	5,016.34	3,155.90	2,936.25	219.65	14.368		

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 0-MWD+IFR1													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
14,200.00	9,065.00	14,061.53	8,840.00	111.90	111.93	-85.69	2,865.44	5,116.33	3,155.39	2,931.84	223.56	14.115		
14,300.00	9,065.00	14,161.53	8,840.00	113.86	113.89	-85.68	2,866.03	5,216.33	3,154.89	2,927.42	227.47	13.870		
14,400.00	9,065.00	14,261.53	8,840.00	115.82	115.85	-85.68	2,866.63	5,316.33	3,154.38	2,923.00	231.38	13.633		
14,500.00	9,065.00	14,361.53	8,840.00	117.79	117.82	-85.68	2,867.22	5,416.33	3,153.88	2,918.57	235.31	13.403		
14,600.00	9,065.00	14,461.53	8,840.00	119.76	119.78	-85.68	2,867.81	5,516.32	3,153.37	2,914.13	239.24	13.181		
14,700.00	9,065.00	14,561.53	8,840.00	121.74	121.75	-85.68	2,868.41	5,616.32	3,152.86	2,909.69	243.17	12.966		
14,800.00	9,065.00	14,661.52	8,840.00	123.71	123.73	-85.68	2,869.00	5,716.32	3,152.36	2,905.25	247.11	12.757		
14,900.00	9,065.00	14,761.52	8,840.00	125.69	125.70	-85.68	2,869.59	5,816.31	3,151.85	2,900.80	251.05	12.555		
15,000.00	9,065.00	14,861.52	8,840.00	127.67	127.68	-85.68	2,870.19	5,916.31	3,151.35	2,896.35	255.00	12.358		
15,100.00	9,065.00	14,961.52	8,840.00	129.65	129.66	-85.68	2,870.78	6,016.31	3,150.84	2,891.89	258.95	12.168		
15,200.00	9,065.00	15,061.52	8,840.00	131.63	131.64	-85.68	2,871.37	6,116.30	3,150.34	2,887.43	262.91	11.983		
15,300.00	9,065.00	15,161.52	8,840.00	133.62	133.62	-85.68	2,871.97	6,216.30	3,149.83	2,882.97	266.86	11.803		
15,400.00	9,065.00	15,261.52	8,840.00	135.61	135.60	-85.68	2,872.56	6,316.30	3,149.32	2,878.50	270.83	11.629		
15,500.00	9,065.00	15,361.52	8,840.00	137.60	137.59	-85.68	2,873.15	6,416.29	3,148.82	2,874.02	274.79	11.459		
15,600.00	9,065.00	15,461.51	8,840.00	139.59	139.58	-85.68	2,873.75	6,516.29	3,148.31	2,869.55	278.76	11.294		
15,700.00	9,065.00	15,561.51	8,840.00	141.58	141.57	-85.67	2,874.34	6,616.29	3,147.81	2,865.07	282.74	11.133		
15,800.00	9,065.00	15,661.51	8,840.00	143.57	143.56	-85.67	2,874.94	6,716.29	3,147.30	2,860.59	286.71	10.977		
15,900.00	9,065.00	15,761.51	8,840.00	145.57	145.55	-85.67	2,875.53	6,816.28	3,146.80	2,856.10	290.69	10.825		
16,000.00	9,065.00	15,861.51	8,840.00	147.56	147.55	-85.67	2,876.12	6,916.28	3,146.29	2,851.62	294.67	10.677		
16,100.00	9,065.00	15,961.51	8,840.00	149.56	149.54	-85.67	2,876.72	7,016.28	3,145.78	2,847.13	298.66	10.533		
16,200.00	9,065.00	16,061.51	8,840.00	151.56	151.54	-85.67	2,877.31	7,116.27	3,145.28	2,842.63	302.65	10.393		
16,300.00	9,065.00	16,161.51	8,840.00	153.56	153.54	-85.67	2,877.90	7,216.27	3,144.77	2,838.14	306.63	10.256		
16,400.00	9,065.00	16,261.50	8,840.00	155.56	155.54	-85.67	2,878.50	7,316.27	3,144.27	2,833.64	310.63	10.122		
16,500.00	9,065.00	16,361.50	8,840.00	157.57	157.54	-85.67	2,879.09	7,416.26	3,143.76	2,829.14	314.62	9.992		
16,600.00	9,065.00	16,461.50	8,840.00	159.57	159.54	-85.67	2,879.68	7,516.26	3,143.26	2,824.64	318.62	9.865		
16,700.00	9,065.00	16,561.50	8,840.00	161.57	161.55	-85.67	2,880.28	7,616.26	3,142.75	2,820.13	322.62	9.741		
16,800.00	9,065.00	16,661.50	8,840.00	163.58	163.55	-85.67	2,880.87	7,716.26	3,142.24	2,815.63	326.62	9.621		
16,900.00	9,065.00	16,761.50	8,840.00	165.59	165.56	-85.67	2,881.46	7,816.25	3,141.74	2,811.12	330.62	9.503		
17,000.00	9,065.00	16,861.50	8,840.00	167.60	167.56	-85.67	2,882.06	7,916.25	3,141.23	2,806.61	334.62	9.387		
17,100.00	9,065.00	16,961.49	8,840.00	169.60	169.57	-85.66	2,882.65	8,016.25	3,140.73	2,802.10	338.63	9.275		
17,200.00	9,065.00	17,061.49	8,840.00	171.61	171.58	-85.66	2,883.24	8,116.24	3,140.22	2,797.58	342.64	9.165		
17,300.00	9,065.00	17,161.49	8,840.00	173.62	173.59	-85.66	2,883.84	8,216.24	3,139.72	2,793.07	346.65	9.057		
17,400.00	9,065.00	17,261.49	8,840.00	175.63	175.60	-85.66	2,884.43	8,316.24	3,139.21	2,788.55	350.66	8.952		
17,500.00	9,065.00	17,361.49	8,840.00	177.65	177.61	-85.66	2,885.02	8,416.23	3,138.70	2,784.03	354.67	8.850		
17,600.00	9,065.00	17,461.49	8,840.00	179.66	179.62	-85.66	2,885.62	8,516.23	3,138.20	2,779.51	358.69	8.749		
17,700.00	9,065.00	17,561.49	8,840.00	181.67	181.63	-85.66	2,886.21	8,616.23	3,137.69	2,774.99	362.70	8.651		
17,800.00	9,065.00	17,661.49	8,840.00	183.69	183.65	-85.66	2,886.80	8,716.22	3,137.19	2,770.47	366.72	8.555		
17,900.00	9,065.00	17,761.48	8,840.00	185.70	185.66	-85.66	2,887.40	8,816.22	3,136.68	2,765.94	370.74	8.461		
18,000.00	9,065.00	17,861.48	8,840.00	187.72	187.67	-85.66	2,887.99	8,916.22	3,136.18	2,761.41	374.76	8.368		
18,100.00	9,065.00	17,961.48	8,840.00	189.73	189.69	-85.66	2,888.58	9,016.22	3,135.67	2,756.89	378.78	8.278		
18,200.00	9,065.00	18,061.48	8,840.00	191.75	191.70	-85.66	2,889.18	9,116.21	3,135.17	2,752.36	382.81	8.190		
18,300.00	9,065.00	18,161.48	8,840.00	193.77	193.72	-85.66	2,889.77	9,216.21	3,134.66	2,747.83	386.83	8.103		
18,400.00	9,065.00	18,261.48	8,840.00	195.78	195.74	-85.66	2,890.36	9,316.21	3,134.15	2,743.30	390.86	8.019		
18,500.00	9,065.00	18,361.48	8,840.00	197.80	197.76	-85.66	2,890.96	9,416.20	3,133.65	2,738.76	394.88	7.936		
18,600.00	9,065.00	18,461.48	8,840.00	199.82	199.77	-85.65	2,891.55	9,516.20	3,133.14	2,734.23	398.91	7.854		
18,700.00	9,065.00	18,561.47	8,840.00	201.84	201.79	-85.65	2,892.14	9,616.20	3,132.64	2,729.70	402.94	7.774		
18,800.00	9,065.00	18,661.47	8,840.00	203.86	203.81	-85.65	2,892.74	9,716.19	3,132.13	2,725.16	406.97	7.696		
18,900.00	9,065.00	18,761.47	8,840.00	205.88	205.83	-85.65	2,893.33	9,816.19	3,131.63	2,720.62	411.00	7.620		
19,000.00	9,065.00	18,861.47	8,840.00	207.90	207.85	-85.65	2,893.92	9,916.19	3,131.12	2,716.09	415.03	7.544		
19,100.00	9,065.00	18,961.47	8,840.00	209.92	209.87	-85.65	2,894.52	10,016.19	3,130.61	2,711.55	419.07	7.470		
19,200.00	9,065.00	19,061.47	8,840.00	211.95	211.90	-85.65	2,895.11	10,116.18	3,130.11	2,707.01	423.10	7.398		
19,300.00	9,065.00	19,161.47	8,840.00	213.97	213.92	-85.65	2,895.70	10,216.18	3,129.60	2,702.47	427.13	7.327		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Sec 14-T21S-R27E - Lone Tree Draw 14-13 State Com 331H - Wellbore #1 - Permit Plan 1		Offset Site Error:		0.00 ft	
Survey Program: 0-MWD+IFR1															Offset Well Error:		0.50 ft	
Reference		Offset		Semi Major Axis			Distance							Warning				
Measured Depth Depth (ft)	Vertical Depth (ft)	Measured Depth Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor						
19,400.00	9,065.00	19,261.47	8,840.00	215.99	215.94	-85.65	2,896.30	10,316.18	3,129.10	2,697.93	431.17	7.257						
19,456.84	9,065.00	19,318.31	8,840.00	217.14	217.09	-85.65	2,896.63	10,373.02	3,128.81	2,695.35	433.46	7.218 SF						

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design		Sec 14-T21S-R27E - Lone Tree Draw 14-13 State Com 332H - Wellbore #1 - Permit Plan 1											Offset Site Error:		0.00 ft
Survey Program:		0-MWD+IFR1											Offset Well Error:		0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor			
0.00	0.00	11.10	11.10	0.50	0.50	-0.13	1,558.67	-3.41	1,558.68						
100.00	100.00	111.10	111.10	0.52	0.53	-0.13	1,558.67	-3.41	1,558.68	1,557.63	1.05	1,488.369			
200.00	200.00	211.10	211.10	0.70	0.73	-0.13	1,558.67	-3.41	1,558.68	1,557.24	1.43	1,087.937			
300.00	300.00	311.10	311.10	0.99	1.02	-0.13	1,558.67	-3.41	1,558.68	1,556.67	2.01	775.778			
400.00	400.00	411.10	411.10	1.31	1.35	-0.13	1,558.67	-3.41	1,558.68	1,556.02	2.66	587.064			
500.00	500.00	511.10	511.10	1.65	1.68	-0.13	1,558.67	-3.41	1,558.68	1,555.35	3.33	468.053			
600.00	600.00	611.10	611.10	1.99	2.03	-0.13	1,558.67	-3.41	1,558.68	1,554.66	4.02	387.755			
700.00	700.00	711.10	711.10	2.34	2.38	-0.13	1,558.67	-3.41	1,558.68	1,553.96	4.72	330.402			
800.00	800.00	811.10	811.10	2.69	2.73	-0.13	1,558.67	-3.41	1,558.68	1,553.26	5.42	287.563			
900.00	900.00	911.10	911.10	3.04	3.08	-0.13	1,558.67	-3.41	1,558.68	1,552.55	6.13	254.421			
1,000.00	1,000.00	1,011.10	1,011.10	3.40	3.44	-0.13	1,558.67	-3.41	1,558.68	1,551.84	6.83	228.054			
1,100.00	1,100.00	1,111.10	1,111.10	3.75	3.79	-0.13	1,558.67	-3.41	1,558.68	1,551.13	7.54	206.594			
1,200.00	1,200.00	1,211.10	1,211.10	4.11	4.15	-0.13	1,558.67	-3.41	1,558.68	1,550.42	8.26	188.798			
1,300.00	1,300.00	1,311.10	1,311.10	4.46	4.50	-0.13	1,558.67	-3.41	1,558.68	1,549.71	8.97	173.806			
1,400.00	1,400.00	1,411.10	1,411.10	4.82	4.86	-0.13	1,558.67	-3.41	1,558.68	1,549.00	9.68	161.009			
1,500.00	1,500.00	1,511.10	1,511.10	5.18	5.22	-0.13	1,558.67	-3.41	1,558.68	1,548.28	10.39	149.958			
1,600.00	1,600.00	1,611.10	1,611.10	5.53	5.57	-0.13	1,558.67	-3.41	1,558.68	1,547.57	11.11	140.322			
1,700.00	1,700.00	1,711.10	1,711.10	5.89	5.93	-0.13	1,558.67	-3.41	1,558.68	1,546.85	11.82	131.844			
1,800.00	1,800.00	1,811.10	1,811.10	6.25	6.29	-0.13	1,558.67	-3.41	1,558.68	1,546.14	12.54	124.330			
1,900.00	1,900.00	1,911.10	1,911.10	6.61	6.65	-0.13	1,558.67	-3.41	1,558.68	1,545.43	13.25	117.624			
2,000.00	2,000.00	2,011.10	2,011.10	6.96	7.00	-0.13	1,558.67	-3.41	1,558.68	1,544.71	13.97	111.602			
2,100.00	2,100.00	2,111.10	2,111.10	7.32	7.36	-0.13	1,558.67	-3.41	1,558.68	1,544.00	14.68	106.165			
2,200.00	2,200.00	2,211.10	2,211.10	7.68	7.72	-0.13	1,558.67	-3.41	1,558.68	1,543.28	15.40	101.233			
2,300.00	2,300.00	2,311.10	2,311.10	8.04	8.08	-0.13	1,558.67	-3.41	1,558.68	1,542.56	16.11	96.737			
2,400.00	2,400.00	2,411.10	2,411.10	8.39	8.43	-0.13	1,558.67	-3.41	1,558.68	1,541.85	16.83	92.624			
2,500.00	2,500.00	2,511.10	2,511.10	8.75	8.79	-0.13	1,558.67	-3.41	1,558.68	1,541.13	17.54	88.845 CC, ES			
2,600.00	2,599.99	2,611.09	2,611.09	9.09	9.15	145.81	1,558.67	-3.41	1,559.40	1,541.16	18.24	85.479			
2,700.00	2,699.96	2,708.94	2,708.94	9.42	9.50	145.85	1,558.68	-3.41	1,561.57	1,542.65	18.92	82.536			
2,800.00	2,799.86	2,789.66	2,789.66	9.75	9.79	145.89	1,559.28	-3.76	1,565.93	1,546.40	19.54	80.158			
2,900.00	2,899.68	2,870.21	2,870.19	10.08	10.07	145.92	1,560.87	-4.66	1,572.96	1,552.81	20.15	78.066			
2,945.33	2,944.88	2,906.65	2,906.60	10.23	10.20	145.93	1,561.91	-5.25	1,577.02	1,556.59	20.43	77.204			
3,000.00	2,999.39	2,950.53	2,950.45	10.41	10.36	145.96	1,563.44	-6.11	1,582.43	1,561.67	20.76	76.223			
3,100.00	3,099.08	3,030.66	3,030.48	10.75	10.65	146.02	1,566.97	-8.12	1,593.26	1,571.89	21.37	74.558			
3,200.00	3,198.78	3,110.59	3,110.23	11.08	10.93	146.05	1,571.46	-10.67	1,605.29	1,583.32	21.98	73.047			
3,300.00	3,298.48	3,190.27	3,189.67	11.42	11.21	146.06	1,576.90	-13.76	1,618.53	1,595.95	22.58	71.679			
3,400.00	3,398.18	3,273.66	3,272.71	11.76	11.51	146.05	1,583.59	-17.56	1,632.93	1,609.73	23.20	70.386			
3,500.00	3,497.88	3,372.56	3,371.15	12.10	11.86	146.04	1,591.89	-22.27	1,647.71	1,623.82	23.89	68.968			
3,600.00	3,597.58	3,471.46	3,469.59	12.45	12.22	146.02	1,600.19	-26.99	1,662.49	1,637.90	24.58	67.625			
3,700.00	3,697.27	3,570.37	3,568.03	12.79	12.57	146.00	1,608.48	-31.70	1,677.26	1,651.99	25.28	66.351			
3,800.00	3,796.97	3,669.27	3,666.47	13.14	12.93	145.99	1,616.78	-36.41	1,692.04	1,666.07	25.97	65.142			
3,900.00	3,896.67	3,768.17	3,764.91	13.48	13.28	145.97	1,625.08	-41.12	1,706.82	1,680.15	26.67	63.993			
4,000.00	3,996.37	3,867.07	3,863.35	13.83	13.63	145.96	1,633.37	-45.83	1,721.60	1,694.23	27.37	62.899			
4,100.00	4,096.07	3,965.97	3,961.79	14.18	13.99	145.94	1,641.67	-50.54	1,736.38	1,708.31	28.07	61.857			
4,200.00	4,195.76	4,064.87	4,060.22	14.53	14.34	145.93	1,649.97	-55.26	1,751.16	1,722.39	28.77	60.863			
4,300.00	4,295.46	4,163.77	4,158.66	14.88	14.70	145.91	1,658.26	-59.97	1,765.94	1,736.47	29.47	59.915			
4,400.00	4,395.16	4,262.67	4,257.10	15.23	15.06	145.90	1,666.56	-64.68	1,780.72	1,750.54	30.18	59.009			
4,500.00	4,494.86	4,361.57	4,355.54	15.58	15.41	145.89	1,674.86	-69.39	1,795.50	1,764.62	30.88	58.143			
4,600.00	4,594.56	4,460.47	4,453.98	15.93	15.77	145.87	1,683.15	-74.10	1,810.28	1,778.69	31.59	57.313			
4,700.00	4,694.25	4,559.37	4,552.42	16.29	16.13	145.86	1,691.45	-78.81	1,825.06	1,792.77	32.29	56.519			
4,800.00	4,793.95	4,658.27	4,650.86	16.64	16.48	145.85	1,699.75	-83.53	1,839.84	1,806.84	33.00	55.757			
4,900.00	4,893.65	4,757.18	4,749.30	17.00	16.84	145.83	1,708.04	-88.24	1,854.62	1,820.92	33.70	55.026			
5,000.00	4,993.35	4,856.08	4,847.74	17.35	17.20	145.82	1,716.34	-92.95	1,869.40	1,834.99	34.41	54.324			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 0-MWD+IFR1													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
5,100.00	5,093.05	4,954.98	4,946.18	17.71	17.56	145.81	1,724.64	-97.66	1,884.18	1,849.06	35.12	53.649		
5,200.00	5,192.75	5,053.88	5,044.62	18.06	17.91	145.80	1,732.93	-102.37	1,898.96	1,863.13	35.83	53.001		
5,300.00	5,292.44	5,152.78	5,143.06	18.42	18.27	145.78	1,741.23	-107.08	1,913.74	1,877.20	36.54	52.376		
5,400.00	5,392.14	5,251.68	5,241.50	18.77	18.63	145.77	1,749.53	-111.80	1,928.52	1,891.27	37.25	51.775		
5,500.00	5,491.84	5,350.58	5,339.94	19.13	18.99	145.76	1,757.82	-116.51	1,943.30	1,905.34	37.96	51.195		
5,600.00	5,591.54	5,449.48	5,438.38	19.49	19.35	145.75	1,766.12	-121.22	1,958.08	1,919.41	38.67	50.637		
5,700.00	5,691.24	5,548.38	5,536.82	19.85	19.70	145.74	1,774.42	-125.93	1,972.86	1,933.48	39.38	50.097		
5,800.00	5,790.93	5,647.28	5,635.26	20.20	20.06	145.72	1,782.71	-130.64	1,987.65	1,947.55	40.09	49.577		
5,900.00	5,890.63	5,746.18	5,733.70	20.56	20.42	145.71	1,791.01	-135.36	2,002.43	1,961.62	40.80	49.074		
6,000.00	5,990.33	5,845.08	5,832.14	20.92	20.78	145.70	1,799.31	-140.07	2,017.21	1,975.69	41.52	48.588		
6,100.00	6,090.03	5,943.99	5,930.58	21.28	21.14	145.69	1,807.60	-144.78	2,031.99	1,989.76	42.23	48.118		
6,200.00	6,189.73	6,042.89	6,029.02	21.64	21.50	145.68	1,815.90	-149.49	2,046.77	2,003.83	42.94	47.663		
6,300.00	6,289.42	6,141.79	6,127.45	22.00	21.86	145.67	1,824.20	-154.20	2,061.55	2,017.90	43.66	47.223		
6,400.00	6,389.12	6,240.69	6,225.89	22.36	22.22	145.66	1,832.49	-158.91	2,076.33	2,031.96	44.37	46.796		
6,500.00	6,488.82	6,339.59	6,324.33	22.72	22.57	145.65	1,840.79	-163.63	2,091.11	2,046.03	45.08	46.383		
6,600.00	6,588.52	6,438.49	6,422.77	23.08	22.93	145.64	1,849.09	-168.34	2,105.90	2,060.10	45.80	45.982		
6,700.00	6,688.22	6,537.39	6,521.21	23.44	23.29	145.63	1,857.38	-173.05	2,120.68	2,074.16	46.51	45.593		
6,800.00	6,787.91	6,636.29	6,619.65	23.80	23.65	145.62	1,865.68	-177.76	2,135.46	2,088.23	47.23	45.216		
6,900.00	6,887.61	6,735.19	6,718.09	24.16	24.01	145.61	1,873.98	-182.47	2,150.24	2,102.30	47.94	44.850		
7,000.00	6,987.31	6,834.09	6,816.53	24.52	24.37	145.60	1,882.27	-187.18	2,165.02	2,116.36	48.66	44.494		
7,100.00	7,087.01	6,932.99	6,914.97	24.88	24.73	145.59	1,890.57	-191.90	2,179.80	2,130.43	49.37	44.149		
7,200.00	7,186.71	7,031.89	7,013.41	25.24	25.09	145.58	1,898.87	-196.61	2,194.59	2,144.50	50.09	43.813		
7,300.00	7,286.41	7,130.80	7,111.85	25.60	25.45	145.57	1,907.16	-201.32	2,209.37	2,158.56	50.81	43.486		
7,400.00	7,386.10	7,229.70	7,210.29	25.96	25.81	145.56	1,915.46	-206.03	2,224.15	2,172.63	51.52	43.168		
7,500.00	7,485.80	7,328.60	7,308.73	26.33	26.17	145.56	1,923.76	-210.74	2,238.93	2,186.69	52.24	42.859		
7,600.00	7,585.50	7,427.50	7,407.17	26.69	26.53	145.55	1,932.05	-215.45	2,253.71	2,200.76	52.96	42.558		
7,700.00	7,685.20	7,526.40	7,505.61	27.05	26.89	145.54	1,940.35	-220.17	2,268.50	2,214.82	53.67	42.265		
7,800.00	7,784.90	7,631.36	7,610.08	27.41	27.27	145.53	1,949.14	-225.16	2,283.27	2,228.85	54.42	41.956		
7,860.70	7,845.41	7,757.20	7,735.54	27.63	27.73	145.55	1,957.57	-229.94	2,291.22	2,236.05	55.17	41.530		
7,900.00	7,884.61	7,839.15	7,817.39	27.77	28.02	145.62	1,961.12	-231.96	2,295.28	2,239.64	55.64	41.255		
8,000.00	7,984.46	8,017.36	7,995.56	28.13	28.66	145.77	1,963.67	-233.41	2,300.99	2,244.34	56.65	40.621		
8,100.00	8,084.42	8,117.32	8,095.52	28.49	29.01	145.83	1,963.67	-233.41	2,303.32	2,245.96	57.35	40.159		
8,157.59	8,142.00	8,174.90	8,153.10	28.69	29.21	-0.08	1,963.67	-233.41	2,303.68	2,245.92	57.76	39.885		
8,200.00	8,184.41	8,217.31	8,195.51	28.83	29.37	-0.08	1,963.67	-233.41	2,303.68	2,245.62	58.05	39.682		
8,300.00	8,284.41	8,317.31	8,295.51	29.17	29.72	-0.08	1,963.67	-233.41	2,303.68	2,244.93	58.75	39.213		
8,303.26	8,287.67	8,320.57	8,298.77	29.18	29.73	-0.08	1,963.67	-233.41	2,303.68	2,244.91	58.77	39.198		
8,400.00	8,384.41	8,415.46	8,393.43	29.51	30.05	0.04	1,963.70	-228.29	2,303.71	2,244.29	59.42	38.770		
8,507.63	8,492.04	8,515.79	8,491.19	29.87	30.38	0.59	1,963.83	-206.30	2,303.99	2,243.87	60.12	38.325		
8,550.00	8,534.37	8,553.23	8,526.46	30.02	30.51	-88.48	1,963.91	-193.77	2,304.23	2,243.85	60.38	38.162		
8,600.00	8,584.01	8,596.59	8,566.18	30.18	30.64	-88.13	1,964.01	-176.41	2,304.58	2,243.89	60.68	37.977		
8,650.00	8,632.95	8,639.15	8,603.79	30.34	30.78	-87.80	1,964.13	-156.50	2,304.97	2,243.99	60.98	37.799		
8,700.00	8,680.82	8,680.99	8,639.22	30.50	30.91	-87.48	1,964.26	-134.25	2,305.40	2,244.13	61.27	37.628		
8,750.00	8,727.25	8,722.19	8,672.43	30.66	31.04	-87.17	1,964.41	-109.88	2,305.85	2,244.30	61.55	37.464		
8,800.00	8,771.89	8,762.83	8,703.38	30.81	31.17	-86.89	1,964.57	-83.57	2,306.31	2,244.49	61.82	37.305		
8,850.00	8,814.40	8,802.95	8,732.04	30.95	31.29	-86.63	1,964.74	-55.50	2,306.76	2,244.67	62.09	37.149		
8,900.00	8,854.46	8,842.63	8,758.38	31.09	31.42	-86.38	1,964.91	-25.84	2,307.20	2,244.84	62.37	36.994		
8,950.00	8,891.75	8,881.91	8,782.37	31.23	31.56	-86.16	1,965.10	5.26	2,307.61	2,244.96	62.64	36.838		
9,000.00	8,926.01	8,920.85	8,804.00	31.37	31.70	-85.97	1,965.29	37.63	2,307.97	2,245.04	62.93	36.676		
9,050.00	8,956.96	8,959.50	8,823.24	31.53	31.85	-85.80	1,965.49	71.14	2,308.28	2,245.05	63.23	36.508		
9,100.00	8,984.38	8,997.90	8,840.08	31.69	32.00	-85.65	1,965.70	105.64	2,308.53	2,244.98	63.54	36.330		
9,150.00	9,008.05	9,036.09	8,854.50	31.87	32.16	-85.53	1,965.91	140.99	2,308.70	2,244.82	63.89	36.138		
9,200.00	9,027.79	9,074.11	8,866.48	32.07	32.34	-85.44	1,966.12	177.07	2,308.80	2,244.54	64.26	35.931		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 0-MWD+IFR1													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
9,250.00	9,043.45	9,112.00	8,876.02	32.29	32.52	-85.38	1,966.34	213.73	2,308.81	2,244.16	64.65	35.710		
9,300.00	9,054.92	9,150.00	8,883.13	32.53	32.71	-85.35	1,966.56	251.05	2,308.74	2,243.66	65.08	35.474		
9,350.00	9,062.10	9,187.55	8,887.70	32.79	32.91	-85.34	1,966.79	288.31	2,308.58	2,243.04	65.54	35.223		
9,400.00	9,064.95	9,225.28	8,889.84	33.06	33.12	-85.37	1,967.01	325.97	2,308.33	2,242.31	66.03	34.961		
9,407.63	9,065.00	9,231.03	8,889.95	33.10	33.15	-85.37	1,967.05	331.73	2,308.29	2,242.18	66.10	34.920		
9,500.00	9,065.00	9,320.87	8,890.00	33.68	33.71	-85.37	1,967.58	421.56	2,307.82	2,240.58	67.24	34.322		
9,600.00	9,065.00	9,420.87	8,890.00	34.41	34.43	-85.37	1,968.18	521.56	2,307.31	2,238.62	68.69	33.590		
9,700.00	9,065.00	9,520.86	8,890.00	35.24	35.26	-85.37	1,968.78	621.56	2,306.81	2,236.46	70.35	32.791		
9,800.00	9,065.00	9,620.86	8,890.00	36.17	36.18	-85.37	1,969.37	721.55	2,306.31	2,234.11	72.20	31.943		
9,900.00	9,065.00	9,720.86	8,890.00	37.19	37.19	-85.37	1,969.97	821.55	2,305.81	2,231.58	74.23	31.063		
10,000.00	9,065.00	9,820.86	8,890.00	38.30	38.29	-85.37	1,970.57	921.55	2,305.31	2,228.88	76.42	30.165		
10,100.00	9,065.00	9,920.86	8,890.00	39.48	39.46	-85.37	1,971.16	1,021.54	2,304.80	2,226.04	78.77	29.260		
10,200.00	9,065.00	10,020.86	8,890.00	40.72	40.70	-85.37	1,971.76	1,121.54	2,304.30	2,223.05	81.25	28.361		
10,300.00	9,065.00	10,120.86	8,890.00	42.03	42.01	-85.37	1,972.36	1,221.54	2,303.80	2,219.94	83.86	27.473		
10,400.00	9,065.00	10,220.86	8,890.00	43.40	43.37	-85.37	1,972.95	1,321.53	2,303.30	2,216.72	86.58	26.604		
10,500.00	9,065.00	10,320.85	8,890.00	44.82	44.78	-85.36	1,973.55	1,421.53	2,302.80	2,213.39	89.40	25.758		
10,600.00	9,065.00	10,420.85	8,890.00	46.29	46.24	-85.36	1,974.15	1,521.53	2,302.29	2,209.97	92.32	24.938		
10,700.00	9,065.00	10,520.85	8,890.00	47.79	47.74	-85.36	1,974.74	1,621.52	2,301.79	2,206.47	95.33	24.147		
10,800.00	9,065.00	10,620.85	8,890.00	49.34	49.29	-85.36	1,975.34	1,721.52	2,301.29	2,202.88	98.41	23.386		
10,900.00	9,065.00	10,720.85	8,890.00	50.92	50.87	-85.36	1,975.94	1,821.52	2,300.79	2,199.23	101.56	22.655		
11,000.00	9,065.00	10,820.85	8,890.00	52.54	52.48	-85.36	1,976.53	1,921.52	2,300.29	2,195.51	104.77	21.955		
11,100.00	9,065.00	10,920.85	8,890.00	54.18	54.12	-85.36	1,977.13	2,021.51	2,299.78	2,191.73	108.05	21.285		
11,200.00	9,065.00	11,020.84	8,890.00	55.85	55.78	-85.36	1,977.73	2,121.51	2,299.28	2,187.90	111.38	20.644		
11,300.00	9,065.00	11,120.84	8,890.00	57.54	57.48	-85.36	1,978.32	2,221.51	2,298.78	2,184.03	114.75	20.032		
11,400.00	9,065.00	11,220.84	8,890.00	59.26	59.19	-85.36	1,978.92	2,321.50	2,298.28	2,180.10	118.17	19.448		
11,500.00	9,065.00	11,320.84	8,890.00	61.00	60.92	-85.35	1,979.52	2,421.50	2,297.78	2,176.14	121.64	18.891		
11,600.00	9,065.00	11,420.84	8,890.00	62.75	62.68	-85.35	1,980.12	2,521.50	2,297.27	2,172.14	125.13	18.358		
11,700.00	9,065.00	11,520.84	8,890.00	64.52	64.45	-85.35	1,980.71	2,621.49	2,296.77	2,168.10	128.67	17.850		
11,800.00	9,065.00	11,620.84	8,890.00	66.31	66.24	-85.35	1,981.31	2,721.49	2,296.27	2,164.04	132.23	17.365		
11,900.00	9,065.00	11,720.84	8,890.00	68.11	68.04	-85.35	1,981.91	2,821.49	2,295.77	2,159.94	135.83	16.902		
12,000.00	9,065.00	11,820.83	8,890.00	69.93	69.85	-85.35	1,982.50	2,921.49	2,295.27	2,155.82	139.45	16.460		
12,100.00	9,065.00	11,920.83	8,890.00	71.76	71.68	-85.35	1,983.10	3,021.48	2,294.76	2,151.67	143.09	16.037		
12,200.00	9,065.00	12,020.83	8,890.00	73.60	73.52	-85.35	1,983.70	3,121.48	2,294.26	2,147.50	146.76	15.633		
12,300.00	9,065.00	12,120.83	8,890.00	75.45	75.37	-85.35	1,984.29	3,221.48	2,293.76	2,143.31	150.45	15.246		
12,400.00	9,065.00	12,220.83	8,890.00	77.31	77.23	-85.35	1,984.89	3,321.47	2,293.26	2,139.10	154.16	14.876		
12,500.00	9,065.00	12,320.83	8,890.00	79.18	79.09	-85.34	1,985.49	3,421.47	2,292.75	2,134.87	157.89	14.522		
12,600.00	9,065.00	12,420.83	8,890.00	81.05	80.97	-85.34	1,986.08	3,521.47	2,292.25	2,130.62	161.63	14.182		
12,700.00	9,065.00	12,520.83	8,890.00	82.94	82.86	-85.34	1,986.68	3,621.46	2,291.75	2,126.36	165.39	13.856		
12,800.00	9,065.00	12,620.82	8,890.00	84.83	84.75	-85.34	1,987.28	3,721.46	2,291.25	2,122.08	169.17	13.544		
12,900.00	9,065.00	12,720.82	8,890.00	86.73	86.65	-85.34	1,987.87	3,821.46	2,290.75	2,117.79	172.96	13.245		
13,000.00	9,065.00	12,820.82	8,890.00	88.64	88.55	-85.34	1,988.47	3,921.45	2,290.24	2,113.49	176.76	12.957		
13,100.00	9,065.00	12,920.82	8,890.00	90.55	90.47	-85.34	1,989.07	4,021.45	2,289.74	2,109.17	180.57	12.680		
13,200.00	9,065.00	13,020.82	8,890.00	92.47	92.39	-85.34	1,989.66	4,121.45	2,289.24	2,104.84	184.40	12.415		
13,300.00	9,065.00	13,120.82	8,890.00	94.39	94.31	-85.34	1,990.26	4,221.45	2,288.74	2,100.50	188.23	12.159		
13,400.00	9,065.00	13,220.82	8,890.00	96.32	96.24	-85.33	1,990.86	4,321.44	2,288.24	2,096.16	192.08	11.913		
13,500.00	9,065.00	13,320.82	8,890.00	98.25	98.17	-85.33	1,991.45	4,421.44	2,287.73	2,091.80	195.94	11.676		
13,600.00	9,065.00	13,420.81	8,890.00	100.19	100.11	-85.33	1,992.05	4,521.44	2,287.23	2,087.43	199.80	11.447		
13,700.00	9,065.00	13,520.81	8,890.00	102.13	102.05	-85.33	1,992.65	4,621.43	2,286.73	2,083.06	203.68	11.227		
13,800.00	9,065.00	13,620.81	8,890.00	104.08	104.00	-85.33	1,993.25	4,721.43	2,286.23	2,078.67	207.56	11.015		
13,900.00	9,065.00	13,720.81	8,890.00	106.03	105.95	-85.33	1,993.84	4,821.43	2,285.73	2,074.28	211.45	10.810		
14,000.00	9,065.00	13,820.81	8,890.00	107.98	107.90	-85.33	1,994.44	4,921.42	2,285.22	2,069.88	215.34	10.612		
14,100.00	9,065.00	13,920.81	8,890.00	109.94	109.86	-85.33	1,995.04	5,021.42	2,284.72	2,065.48	219.24	10.421		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 0-MWD+IFR1													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
14,200.00	9,065.00	14,020.81	8,890.00	111.90	111.82	-85.33	1,995.63	5,121.42	2,284.22	2,061.07	223.15	10.236		
14,300.00	9,065.00	14,120.81	8,890.00	113.86	113.78	-85.33	1,996.23	5,221.42	2,283.72	2,056.65	227.07	10.057		
14,400.00	9,065.00	14,220.80	8,890.00	115.82	115.74	-85.32	1,996.83	5,321.41	2,283.22	2,052.23	230.99	9.885		
14,500.00	9,065.00	14,320.80	8,890.00	117.79	117.71	-85.32	1,997.42	5,421.41	2,282.71	2,047.80	234.91	9.717		
14,600.00	9,065.00	14,420.80	8,890.00	119.76	119.68	-85.32	1,998.02	5,521.41	2,282.21	2,043.37	238.84	9.555		
14,700.00	9,065.00	14,520.80	8,890.00	121.74	121.66	-85.32	1,998.62	5,621.40	2,281.71	2,038.93	242.78	9.398		
14,800.00	9,065.00	14,620.80	8,890.00	123.71	123.63	-85.32	1,999.21	5,721.40	2,281.21	2,034.49	246.72	9.246		
14,900.00	9,065.00	14,720.80	8,890.00	125.69	125.61	-85.32	1,999.81	5,821.40	2,280.71	2,030.04	250.67	9.099		
15,000.00	9,065.00	14,820.80	8,890.00	127.67	127.59	-85.32	2,000.41	5,921.39	2,280.20	2,025.59	254.62	8.955		
15,100.00	9,065.00	14,920.80	8,890.00	129.65	129.58	-85.32	2,001.00	6,021.39	2,279.70	2,021.13	258.57	8.817		
15,200.00	9,065.00	15,020.79	8,890.00	131.63	131.56	-85.32	2,001.60	6,121.39	2,279.20	2,016.67	262.53	8.682		
15,300.00	9,065.00	15,120.79	8,890.00	133.62	133.55	-85.32	2,002.20	6,221.38	2,278.70	2,012.21	266.49	8.551		
15,400.00	9,065.00	15,220.79	8,890.00	135.61	135.53	-85.31	2,002.79	6,321.38	2,278.20	2,007.74	270.45	8.424		
15,500.00	9,065.00	15,320.79	8,890.00	137.60	137.52	-85.31	2,003.39	6,421.38	2,277.69	2,003.27	274.42	8.300		
15,600.00	9,065.00	15,420.79	8,890.00	139.59	139.52	-85.31	2,003.99	6,521.38	2,277.19	1,998.80	278.39	8.180		
15,700.00	9,065.00	15,520.79	8,890.00	141.58	141.51	-85.31	2,004.58	6,621.37	2,276.69	1,994.32	282.37	8.063		
15,800.00	9,065.00	15,620.79	8,890.00	143.57	143.50	-85.31	2,005.18	6,721.37	2,276.19	1,989.84	286.34	7.949		
15,900.00	9,065.00	15,720.79	8,890.00	145.57	145.50	-85.31	2,005.78	6,821.37	2,275.69	1,985.36	290.32	7.838		
16,000.00	9,065.00	15,820.78	8,890.00	147.56	147.50	-85.31	2,006.38	6,921.36	2,275.18	1,980.88	294.31	7.731		
16,100.00	9,065.00	15,920.78	8,890.00	149.56	149.50	-85.31	2,006.97	7,021.36	2,274.68	1,976.39	298.29	7.626		
16,200.00	9,065.00	16,020.78	8,890.00	151.56	151.50	-85.31	2,007.57	7,121.36	2,274.18	1,971.90	302.28	7.523		
16,300.00	9,065.00	16,120.78	8,890.00	153.56	153.50	-85.31	2,008.17	7,221.35	2,273.68	1,967.41	306.27	7.424		
16,400.00	9,065.00	16,220.78	8,890.00	155.56	155.50	-85.30	2,008.76	7,321.35	2,273.18	1,962.91	310.26	7.327		
16,500.00	9,065.00	16,320.78	8,890.00	157.57	157.50	-85.30	2,009.36	7,421.35	2,272.67	1,958.41	314.26	7.232		
16,600.00	9,065.00	16,420.78	8,890.00	159.57	159.51	-85.30	2,009.96	7,521.35	2,272.17	1,953.91	318.26	7.139		
16,700.00	9,065.00	16,520.78	8,890.00	161.57	161.51	-85.30	2,010.55	7,621.34	2,271.67	1,949.41	322.26	7.049		
16,800.00	9,065.00	16,620.77	8,890.00	163.58	163.52	-85.30	2,011.15	7,721.34	2,271.17	1,944.91	326.26	6.961		
16,900.00	9,065.00	16,720.77	8,890.00	165.59	165.53	-85.30	2,011.75	7,821.34	2,270.67	1,940.40	330.26	6.875		
17,000.00	9,065.00	16,820.77	8,890.00	167.60	167.53	-85.30	2,012.34	7,921.33	2,270.16	1,935.90	334.27	6.791		
17,100.00	9,065.00	16,920.77	8,890.00	169.60	169.54	-85.30	2,012.94	8,021.33	2,269.66	1,931.39	338.27	6.710		
17,200.00	9,065.00	17,020.77	8,890.00	171.61	171.55	-85.30	2,013.54	8,121.33	2,269.16	1,926.88	342.28	6.630		
17,300.00	9,065.00	17,120.77	8,890.00	173.62	173.57	-85.29	2,014.13	8,221.32	2,268.66	1,922.37	346.29	6.551		
17,400.00	9,065.00	17,220.77	8,890.00	175.63	175.58	-85.29	2,014.73	8,321.32	2,268.16	1,917.85	350.30	6.475		
17,500.00	9,065.00	17,320.77	8,890.00	177.65	177.59	-85.29	2,015.33	8,421.32	2,267.65	1,913.34	354.32	6.400		
17,600.00	9,065.00	17,420.76	8,890.00	179.66	179.60	-85.29	2,015.92	8,521.31	2,267.15	1,908.82	358.33	6.327		
17,700.00	9,065.00	17,520.76	8,890.00	181.67	181.62	-85.29	2,016.52	8,621.31	2,266.65	1,904.30	362.35	6.255		
17,800.00	9,065.00	17,620.76	8,890.00	183.69	183.63	-85.29	2,017.12	8,721.31	2,266.15	1,899.78	366.37	6.185		
17,900.00	9,065.00	17,720.76	8,890.00	185.70	185.65	-85.29	2,017.71	8,821.31	2,265.65	1,895.26	370.39	6.117		
18,000.00	9,065.00	17,820.76	8,890.00	187.72	187.66	-85.29	2,018.31	8,921.30	2,265.14	1,890.74	374.41	6.050		
18,100.00	9,065.00	17,920.76	8,890.00	189.73	189.68	-85.29	2,018.91	9,021.30	2,264.64	1,886.21	378.43	5.984		
18,200.00	9,065.00	18,020.76	8,890.00	191.75	191.70	-85.29	2,019.51	9,121.30	2,264.14	1,881.69	382.45	5.920		
18,300.00	9,065.00	18,120.75	8,890.00	193.77	193.72	-85.28	2,020.10	9,221.29	2,263.64	1,877.16	386.47	5.857		
18,400.00	9,065.00	18,220.75	8,890.00	195.78	195.74	-85.28	2,020.70	9,321.29	2,263.14	1,872.64	390.50	5.795		
18,500.00	9,065.00	18,320.75	8,890.00	197.80	197.76	-85.28	2,021.30	9,421.29	2,262.63	1,868.11	394.53	5.735		
18,600.00	9,065.00	18,420.75	8,890.00	199.82	199.78	-85.28	2,021.89	9,521.28	2,262.13	1,863.58	398.55	5.676		
18,700.00	9,065.00	18,520.75	8,890.00	201.84	201.80	-85.28	2,022.49	9,621.28	2,261.63	1,859.05	402.58	5.618		
18,800.00	9,065.00	18,620.75	8,890.00	203.86	203.82	-85.28	2,023.09	9,721.28	2,261.13	1,854.52	406.61	5.561		
18,900.00	9,065.00	18,720.75	8,890.00	205.88	205.84	-85.28	2,023.68	9,821.28	2,260.63	1,849.98	410.64	5.505		
19,000.00	9,065.00	18,820.75	8,890.00	207.90	207.86	-85.28	2,024.28	9,921.27	2,260.12	1,845.45	414.67	5.450		
19,100.00	9,065.00	18,920.74	8,890.00	209.92	209.88	-85.28	2,024.88	10,021.27	2,259.62	1,840.92	418.71	5.397		
19,200.00	9,065.00	19,020.74	8,890.00	211.95	211.90	-85.27	2,025.47	10,121.27	2,259.12	1,836.38	422.74	5.344		
19,300.00	9,065.00	19,120.74	8,890.00	213.97	213.93	-85.27	2,026.07	10,221.26	2,258.62	1,831.84	426.77	5.292		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design	Sec 14-T21S-R27E - Lone Tree Draw 14-13 State Com 332H - Wellbore #1 - Permit Plan 1											Offset Site Error:	0.00 ft
Survey Program:	0-MWD+IFR1											Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
19,400.00	9,065.00	19,220.74	8,890.00	215.99	215.95	-85.27	2,026.67	10,321.26	2,258.12	1,827.31	430.81	5.242	
19,456.84	9,065.00	19,277.58	8,890.00	217.14	217.10	-85.27	2,027.01	10,378.10	2,257.83	1,824.73	433.10	5.213 SF	

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 0-MWD+IFR1													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0.00	0.00	0.90	0.90	0.50	0.50	-0.11	59.98	-0.11	59.98					
100.00	100.00	100.90	100.90	0.52	0.52	-0.11	59.98	-0.11	59.98	58.94	1.04	57.876		
200.00	200.00	200.90	200.90	0.70	0.70	-0.11	59.98	-0.11	59.98	58.57	1.41	42.646		
300.00	300.00	300.90	300.90	0.99	0.99	-0.11	59.98	-0.11	59.98	58.00	1.98	30.332		
400.00	400.00	400.90	400.90	1.31	1.31	-0.11	59.98	-0.11	59.98	57.36	2.62	22.883		
500.00	500.00	500.90	500.90	1.65	1.65	-0.11	59.98	-0.11	59.98	56.68	3.30	18.202		
600.00	600.00	600.90	600.90	1.99	1.99	-0.11	59.98	-0.11	59.98	56.00	3.98	15.054		
700.00	700.00	700.90	700.90	2.34	2.34	-0.11	59.98	-0.11	59.98	55.30	4.68	12.811		
800.00	800.00	800.90	800.90	2.69	2.69	-0.11	59.98	-0.11	59.98	54.60	5.38	11.140		
900.00	900.00	900.90	900.90	3.04	3.05	-0.11	59.98	-0.11	59.98	53.89	6.09	9.849		
1,000.00	1,000.00	1,000.90	1,000.90	3.40	3.40	-0.11	59.98	-0.11	59.98	53.18	6.80	8.823		
1,100.00	1,100.00	1,100.90	1,100.90	3.75	3.76	-0.11	59.98	-0.11	59.98	52.47	7.51	7.988		
1,200.00	1,200.00	1,200.90	1,200.90	4.11	4.11	-0.11	59.98	-0.11	59.98	51.76	8.22	7.297		
1,300.00	1,300.00	1,300.90	1,300.90	4.46	4.47	-0.11	59.98	-0.11	59.98	51.05	8.93	6.716		
1,400.00	1,400.00	1,400.90	1,400.90	4.82	4.82	-0.11	59.98	-0.11	59.98	50.34	9.64	6.219		
1,500.00	1,500.00	1,500.90	1,500.90	5.18	5.18	-0.11	59.98	-0.11	59.98	49.62	10.36	5.791		
1,600.00	1,600.00	1,600.90	1,600.90	5.53	5.54	-0.11	59.98	-0.11	59.98	48.91	11.07	5.418		
1,700.00	1,700.00	1,700.90	1,700.90	5.89	5.89	-0.11	59.98	-0.11	59.98	48.19	11.79	5.089		
1,800.00	1,800.00	1,800.90	1,800.90	6.25	6.25	-0.11	59.98	-0.11	59.98	47.48	12.50	4.798 Alert		
1,900.00	1,900.00	1,900.90	1,900.90	6.61	6.61	-0.11	59.98	-0.11	59.98	46.77	13.21	4.539 Alert		
2,000.00	2,000.00	2,000.90	2,000.90	6.96	6.97	-0.11	59.98	-0.11	59.98	46.05	13.93	4.306 Alert, CC, ES		
2,100.00	2,100.00	2,099.87	2,099.86	7.32	7.32	-0.28	60.83	-0.30	60.84	46.20	14.64	4.156 Alert		
2,200.00	2,200.00	2,198.79	2,198.75	7.68	7.67	-0.79	63.34	-0.87	63.39	48.04	15.35	4.131 Alert		
2,300.00	2,300.00	2,297.59	2,297.46	8.04	8.03	-1.54	67.52	-1.82	67.63	51.58	16.05	4.215 Alert		
2,400.00	2,400.00	2,396.21	2,395.90	8.39	8.38	-2.45	73.33	-3.14	73.57	56.83	16.74	4.394 Alert		
2,500.00	2,500.00	2,494.60	2,493.99	8.75	8.73	-3.42	80.79	-4.83	81.23	63.79	17.43	4.659 Alert		
2,600.00	2,599.99	2,592.64	2,591.58	9.09	9.08	141.82	89.84	-6.88	91.27	73.17	18.10	5.042		
2,700.00	2,699.96	2,690.13	2,688.46	9.42	9.43	141.70	100.46	-9.29	104.35	85.61	18.75	5.566		
2,800.00	2,799.86	2,786.95	2,784.47	9.75	9.78	141.96	112.60	-12.05	120.46	101.07	19.39	6.213		
2,900.00	2,899.68	2,882.95	2,879.46	10.08	10.12	142.44	126.20	-15.13	139.56	119.53	20.02	6.969		
2,945.33	2,944.88	2,926.16	2,922.13	10.23	10.27	142.71	132.82	-16.63	149.20	128.89	20.31	7.346		
3,000.00	2,999.39	2,978.05	2,973.31	10.41	10.46	143.06	141.19	-18.53	161.44	140.78	20.65	7.817		
3,100.00	3,099.08	3,072.41	3,066.16	10.75	10.80	143.51	157.57	-22.25	185.06	163.78	21.27	8.699		
3,200.00	3,198.78	3,166.01	3,157.98	11.08	11.13	143.78	175.29	-26.26	210.24	188.36	21.89	9.605		
3,300.00	3,298.48	3,261.40	3,251.31	11.42	11.48	143.94	194.48	-30.62	236.62	214.07	22.55	10.495		
3,400.00	3,398.18	3,357.84	3,345.66	11.76	11.83	144.06	213.95	-35.04	263.06	239.84	23.23	11.325		
3,500.00	3,497.88	3,454.27	3,440.01	12.10	12.18	144.16	233.43	-39.45	289.51	265.60	23.91	12.107		
3,600.00	3,597.58	3,550.71	3,534.36	12.45	12.54	144.25	252.90	-43.87	315.96	291.36	24.60	12.844		
3,700.00	3,697.27	3,647.15	3,628.71	12.79	12.89	144.32	272.38	-48.29	342.41	317.12	25.29	13.540		
3,800.00	3,796.97	3,743.59	3,723.05	13.14	13.25	144.38	291.85	-52.70	368.86	342.88	25.98	14.198		
3,900.00	3,896.67	3,840.03	3,817.40	13.48	13.61	144.43	311.33	-57.12	395.31	368.64	26.67	14.821		
4,000.00	3,996.37	3,936.46	3,911.75	13.83	13.97	144.48	330.80	-61.54	421.76	394.39	27.37	15.411		
4,100.00	4,096.07	4,032.90	4,006.10	14.18	14.33	144.52	350.28	-65.96	448.21	420.15	28.06	15.971		
4,200.00	4,195.76	4,129.34	4,100.44	14.53	14.69	144.55	369.75	-70.37	474.66	445.90	28.76	16.503		
4,300.00	4,295.46	4,225.78	4,194.79	14.88	15.05	144.59	389.23	-74.79	501.12	471.65	29.46	17.009		
4,400.00	4,395.16	4,322.22	4,289.14	15.23	15.42	144.62	408.70	-79.21	527.57	497.40	30.16	17.490		
4,500.00	4,494.86	4,418.65	4,383.49	15.58	15.78	144.64	428.17	-83.63	554.02	523.15	30.87	17.949		
4,600.00	4,594.56	4,515.09	4,477.83	15.93	16.14	144.67	447.65	-88.04	580.47	548.90	31.57	18.387		
4,700.00	4,694.25	4,611.53	4,572.18	16.29	16.51	144.69	467.12	-92.46	606.92	574.65	32.27	18.805		
4,800.00	4,793.95	4,707.97	4,666.53	16.64	16.88	144.71	486.60	-96.88	633.37	600.39	32.98	19.205		
4,900.00	4,893.65	4,804.40	4,760.88	17.00	17.24	144.73	506.07	-101.29	659.83	626.14	33.69	19.587		
5,000.00	4,993.35	4,900.84	4,855.23	17.35	17.61	144.74	525.55	-105.71	686.28	651.88	34.39	19.953		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 0-MWD+IFR1													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
5,100.00	5,093.05	4,997.28	4,949.57	17.71	17.98	144.76	545.02	-110.13	712.73	677.63	35.10	20.304		
5,200.00	5,192.75	5,106.28	5,043.92	18.06	18.39	144.77	564.50	-114.55	739.18	703.32	35.86	20.613		
5,300.00	5,292.44	5,209.84	5,138.27	18.42	18.79	144.79	583.97	-118.96	765.63	729.04	36.60	20.920		
5,400.00	5,392.14	5,286.59	5,232.62	18.77	19.08	144.80	603.45	-123.38	792.09	754.85	37.23	21.273		
5,500.00	5,491.84	5,383.03	5,326.96	19.13	19.45	144.81	622.92	-127.80	818.54	780.59	37.95	21.572		
5,600.00	5,591.54	5,479.47	5,421.31	19.49	19.82	144.82	642.40	-132.22	844.99	806.33	38.66	21.858		
5,700.00	5,691.24	5,575.91	5,515.66	19.85	20.19	144.83	661.87	-136.63	871.44	832.07	39.37	22.134		
5,800.00	5,790.93	5,672.34	5,610.01	20.20	20.56	144.84	681.34	-141.05	897.90	857.81	40.08	22.400		
5,900.00	5,890.63	5,768.78	5,704.35	20.56	20.93	144.85	700.82	-145.47	924.35	883.55	40.80	22.656		
6,000.00	5,990.33	5,865.22	5,798.70	20.92	21.31	144.86	720.29	-149.89	950.80	909.29	41.51	22.903		
6,100.00	6,090.03	5,961.66	5,893.05	21.28	21.68	144.87	739.77	-154.30	977.25	935.02	42.23	23.142		
6,200.00	6,189.73	6,058.10	5,987.40	21.64	22.05	144.88	759.24	-158.72	1,003.70	960.76	42.94	23.372		
6,300.00	6,289.42	6,154.53	6,081.75	22.00	22.42	144.89	778.72	-163.14	1,030.16	986.50	43.66	23.594		
6,400.00	6,389.12	6,250.97	6,176.09	22.36	22.79	144.89	798.19	-167.55	1,056.61	1,012.23	44.38	23.809		
6,500.00	6,488.82	6,347.41	6,270.44	22.72	23.17	144.90	817.67	-171.97	1,083.06	1,037.97	45.10	24.017		
6,600.00	6,588.52	6,443.85	6,364.79	23.08	23.54	144.91	837.14	-176.39	1,109.51	1,063.70	45.81	24.218		
6,700.00	6,688.22	6,540.29	6,459.14	23.44	23.91	144.91	856.62	-180.81	1,135.97	1,089.44	46.53	24.413		
6,800.00	6,787.91	6,636.72	6,553.48	23.80	24.28	144.92	876.09	-185.22	1,162.42	1,115.17	47.25	24.601		
6,900.00	6,887.61	6,733.16	6,647.83	24.16	24.66	144.92	895.56	-189.64	1,188.87	1,140.90	47.97	24.784		
7,000.00	6,987.31	6,829.60	6,742.18	24.52	25.03	144.93	915.04	-194.06	1,215.32	1,166.64	48.69	24.961		
7,100.00	7,087.01	6,926.04	6,836.53	24.88	25.41	144.93	934.51	-198.48	1,241.78	1,192.37	49.41	25.133		
7,200.00	7,186.71	7,022.47	6,930.87	25.24	25.78	144.94	953.99	-202.89	1,268.23	1,218.10	50.13	25.299		
7,300.00	7,286.41	7,118.91	7,025.22	25.60	26.15	144.94	973.46	-207.31	1,294.68	1,243.83	50.85	25.461		
7,400.00	7,386.10	7,215.35	7,119.57	25.96	26.53	144.95	992.94	-211.73	1,321.13	1,269.56	51.57	25.618		
7,500.00	7,485.80	7,361.69	7,263.27	26.33	27.09	144.98	1,019.86	-217.83	1,345.83	1,293.14	52.69	25.542		
7,600.00	7,585.50	7,511.43	7,411.30	26.69	27.65	145.06	1,041.84	-222.82	1,366.82	1,313.06	53.76	25.423		
7,700.00	7,685.20	7,663.39	7,562.30	27.05	28.21	145.20	1,058.34	-226.56	1,384.03	1,329.26	54.77	25.268		
7,800.00	7,784.90	7,817.14	7,715.65	27.41	28.76	145.38	1,069.06	-228.99	1,397.39	1,341.67	55.72	25.079		
7,860.70	7,845.41	7,911.14	7,809.57	27.63	29.08	145.52	1,072.64	-229.81	1,403.58	1,347.33	56.26	24.950		
7,900.00	7,884.61	7,972.22	7,870.64	27.77	29.29	145.64	1,073.76	-230.06	1,406.66	1,350.07	56.59	24.858		
8,000.00	7,984.46	8,086.94	7,985.36	28.13	29.68	145.82	1,073.98	-230.11	1,411.29	1,353.97	57.32	24.621		
8,100.00	8,084.42	8,186.89	8,085.32	28.49	30.02	145.91	1,073.98	-230.11	1,413.62	1,355.60	58.02	24.365		
8,157.59	8,142.00	8,244.48	8,142.90	28.69	30.22	0.00	1,073.98	-230.11	1,413.98	1,355.56	58.42	24.206		
8,200.00	8,184.41	8,286.89	8,185.31	28.83	30.36	0.00	1,073.98	-230.11	1,413.98	1,355.27	58.71	24.086		
8,206.90	8,191.31	8,306.21	8,192.21	28.85	30.43	0.00	1,073.98	-230.11	1,413.98	1,355.18	58.80	24.049		
8,300.00	8,284.41	8,386.55	8,284.96	29.17	30.70	0.01	1,073.98	-229.65	1,413.98	1,354.60	59.39	23.810		
8,400.00	8,384.41	8,483.35	8,380.91	29.51	31.02	0.50	1,074.05	-217.64	1,414.12	1,354.07	60.05	23.550		
8,507.63	8,492.04	8,580.26	8,473.56	29.87	31.32	1.63	1,074.22	-189.64	1,414.93	1,354.18	60.75	23.293		
8,550.00	8,534.37	8,615.98	8,506.32	30.02	31.42	-87.14	1,074.31	-175.43	1,415.58	1,354.57	61.01	23.202		
8,600.00	8,584.01	8,657.26	8,543.00	30.18	31.54	-86.47	1,074.42	-156.50	1,416.50	1,355.18	61.32	23.101		
8,650.00	8,632.95	8,697.71	8,577.52	30.34	31.66	-85.81	1,074.54	-135.43	1,417.56	1,355.95	61.61	23.008		
8,700.00	8,680.82	8,737.43	8,609.90	30.50	31.76	-85.18	1,074.68	-112.43	1,418.74	1,356.84	61.90	22.920		
8,750.00	8,727.25	8,776.51	8,640.11	30.66	31.87	-84.58	1,074.83	-87.67	1,419.98	1,357.81	62.17	22.839		
8,800.00	8,771.89	8,815.00	8,668.16	30.81	31.97	-84.01	1,074.99	-61.32	1,421.27	1,358.83	62.44	22.762		
8,850.00	8,814.40	8,853.00	8,694.05	30.95	32.07	-83.48	1,075.15	-33.52	1,422.57	1,359.88	62.70	22.690		
8,900.00	8,854.46	8,890.55	8,717.77	31.09	32.17	-82.99	1,075.33	-4.41	1,423.85	1,360.90	62.95	22.618		
8,950.00	8,891.75	8,927.72	8,739.33	31.23	32.27	-82.54	1,075.51	25.86	1,425.07	1,361.86	63.21	22.546		
9,000.00	8,926.01	8,964.55	8,758.70	31.37	32.38	-82.13	1,075.69	57.17	1,426.21	1,362.75	63.47	22.471		
9,050.00	8,956.96	9,000.00	8,775.42	31.53	32.50	-81.78	1,075.88	88.43	1,427.25	1,363.51	63.73	22.394		
9,100.00	8,984.38	9,037.40	8,790.92	31.69	32.63	-81.46	1,076.08	122.46	1,428.15	1,364.12	64.03	22.304		
9,150.00	9,008.05	9,073.50	8,803.74	31.87	32.77	-81.20	1,076.28	156.19	1,428.90	1,364.55	64.35	22.206		
9,200.00	9,027.79	9,109.44	8,814.38	32.07	32.92	-80.99	1,076.49	190.51	1,429.48	1,364.79	64.69	22.098		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 0-MWD+IFR1													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
9,250.00	9,043.45	9,145.24	8,822.81	32.29	33.07	-80.83	1,076.69	225.31	1,429.88	1,364.82	65.06	21.978		
9,300.00	9,054.92	9,180.96	8,829.05	32.53	33.25	-80.73	1,076.90	260.47	1,430.08	1,364.62	65.47	21.845		
9,350.00	9,062.10	9,216.62	8,833.07	32.79	33.42	-80.69	1,077.11	295.89	1,430.09	1,364.18	65.90	21.700		
9,400.00	9,064.95	9,252.25	8,834.89	33.06	33.61	-80.70	1,077.33	331.47	1,429.89	1,363.52	66.37	21.545		
9,407.63	9,065.00	9,257.69	8,834.97	33.10	33.64	-80.71	1,077.36	336.91	1,429.84	1,363.40	66.44	21.520		
9,500.00	9,065.00	9,347.67	8,835.00	33.68	34.19	-80.70	1,077.90	426.88	1,429.37	1,361.79	67.58	21.150		
9,600.00	9,065.00	9,447.67	8,835.00	34.41	34.90	-80.70	1,078.49	526.88	1,428.87	1,359.85	69.03	20.700		
9,700.00	9,065.00	9,547.66	8,835.00	35.24	35.71	-80.70	1,079.09	626.88	1,428.38	1,357.70	70.68	20.210		
9,800.00	9,065.00	9,647.66	8,835.00	36.17	36.63	-80.69	1,079.68	726.88	1,427.88	1,355.37	72.51	19.692		
9,900.00	9,065.00	9,747.66	8,835.00	37.19	37.63	-80.69	1,080.28	826.87	1,427.38	1,352.86	74.52	19.154		
10,000.00	9,065.00	9,847.66	8,835.00	38.30	38.72	-80.69	1,080.87	926.87	1,426.88	1,350.19	76.69	18.605		
10,100.00	9,065.00	9,947.66	8,835.00	39.48	39.88	-80.68	1,081.47	1,026.87	1,426.38	1,347.37	79.01	18.052		
10,200.00	9,065.00	10,047.66	8,835.00	40.72	41.11	-80.68	1,082.07	1,126.86	1,425.89	1,344.42	81.47	17.502		
10,300.00	9,065.00	10,147.66	8,835.00	42.03	42.41	-80.68	1,082.66	1,226.86	1,425.39	1,341.34	84.05	16.960		
10,400.00	9,065.00	10,247.66	8,835.00	43.40	43.76	-80.67	1,083.26	1,326.86	1,424.89	1,338.15	86.74	16.428		
10,500.00	9,065.00	10,347.65	8,835.00	44.82	45.17	-80.67	1,083.85	1,426.85	1,424.39	1,334.86	89.53	15.910		
10,600.00	9,065.00	10,447.65	8,835.00	46.29	46.62	-80.67	1,084.45	1,526.85	1,423.89	1,331.48	92.41	15.408		
10,700.00	9,065.00	10,547.65	8,835.00	47.79	48.12	-80.66	1,085.05	1,626.85	1,423.40	1,328.01	95.38	14.923		
10,800.00	9,065.00	10,647.65	8,835.00	49.34	49.65	-80.66	1,085.64	1,726.84	1,422.90	1,324.47	98.43	14.456		
10,900.00	9,065.00	10,747.65	8,835.00	50.92	51.22	-80.66	1,086.24	1,826.84	1,422.40	1,320.85	101.55	14.007		
11,000.00	9,065.00	10,847.65	8,835.00	52.54	52.83	-80.65	1,086.83	1,926.84	1,421.90	1,317.18	104.73	13.577		
11,100.00	9,065.00	10,947.65	8,835.00	54.18	54.46	-80.65	1,087.43	2,026.84	1,421.40	1,313.44	107.96	13.166		
11,200.00	9,065.00	11,047.64	8,835.00	55.85	56.12	-80.65	1,088.03	2,126.83	1,420.91	1,309.65	111.26	12.772		
11,300.00	9,065.00	11,147.64	8,835.00	57.54	57.81	-80.64	1,088.62	2,226.83	1,420.41	1,305.81	114.59	12.395		
11,400.00	9,065.00	11,247.64	8,835.00	59.26	59.51	-80.64	1,089.22	2,326.83	1,419.91	1,301.93	117.98	12.035		
11,500.00	9,065.00	11,347.64	8,835.00	61.00	61.24	-80.64	1,089.81	2,426.82	1,419.41	1,298.01	121.40	11.692		
11,600.00	9,065.00	11,447.64	8,835.00	62.75	62.99	-80.63	1,090.41	2,526.82	1,418.91	1,294.05	124.86	11.364		
11,700.00	9,065.00	11,547.64	8,835.00	64.52	64.76	-80.63	1,091.01	2,626.82	1,418.42	1,290.06	128.36	11.051		
11,800.00	9,065.00	11,647.64	8,835.00	66.31	66.54	-80.63	1,091.60	2,726.81	1,417.92	1,286.03	131.88	10.751		
11,900.00	9,065.00	11,747.64	8,835.00	68.11	68.33	-80.62	1,092.20	2,826.81	1,417.42	1,281.98	135.44	10.465		
12,000.00	9,065.00	11,847.63	8,835.00	69.93	70.14	-80.62	1,092.79	2,926.81	1,416.92	1,277.90	139.02	10.192		
12,100.00	9,065.00	11,947.63	8,835.00	71.76	71.97	-80.62	1,093.39	3,026.81	1,416.43	1,273.80	142.63	9.931		
12,200.00	9,065.00	12,047.63	8,835.00	73.60	73.80	-80.61	1,093.98	3,126.80	1,415.93	1,269.67	146.26	9.681		
12,300.00	9,065.00	12,147.63	8,835.00	75.45	75.65	-80.61	1,094.58	3,226.80	1,415.43	1,265.52	149.91	9.442		
12,400.00	9,065.00	12,247.63	8,835.00	77.31	77.50	-80.61	1,095.18	3,326.80	1,414.93	1,261.35	153.58	9.213		
12,500.00	9,065.00	12,347.63	8,835.00	79.18	79.37	-80.60	1,095.77	3,426.79	1,414.43	1,257.16	157.27	8.994		
12,600.00	9,065.00	12,447.63	8,835.00	81.05	81.24	-80.60	1,096.37	3,526.79	1,413.94	1,252.96	160.98	8.783		
12,700.00	9,065.00	12,547.63	8,835.00	82.94	83.12	-80.60	1,096.96	3,626.79	1,413.44	1,248.74	164.70	8.582		
12,800.00	9,065.00	12,647.62	8,835.00	84.83	85.01	-80.59	1,097.56	3,726.78	1,412.94	1,244.50	168.44	8.389		
12,900.00	9,065.00	12,747.62	8,835.00	86.73	86.91	-80.59	1,098.16	3,826.78	1,412.44	1,240.26	172.19	8.203		
13,000.00	9,065.00	12,847.62	8,835.00	88.64	88.81	-80.59	1,098.75	3,926.78	1,411.94	1,235.99	175.95	8.025		
13,100.00	9,065.00	12,947.62	8,835.00	90.55	90.72	-80.58	1,099.35	4,026.77	1,411.45	1,231.72	179.73	7.853		
13,200.00	9,065.00	13,047.62	8,835.00	92.47	92.63	-80.58	1,099.94	4,126.77	1,410.95	1,227.43	183.51	7.689		
13,300.00	9,065.00	13,147.62	8,835.00	94.39	94.55	-80.58	1,100.54	4,226.77	1,410.45	1,223.14	187.31	7.530		
13,400.00	9,065.00	13,247.62	8,835.00	96.32	96.48	-80.57	1,101.14	4,326.77	1,409.95	1,218.83	191.12	7.377		
13,500.00	9,065.00	13,347.62	8,835.00	98.25	98.41	-80.57	1,101.73	4,426.76	1,409.46	1,214.52	194.94	7.230		
13,600.00	9,065.00	13,447.61	8,835.00	100.19	100.34	-80.57	1,102.33	4,526.76	1,408.96	1,210.19	198.76	7.089		
13,700.00	9,065.00	13,547.61	8,835.00	102.13	102.28	-80.56	1,102.92	4,626.76	1,408.46	1,205.86	202.60	6.952		
13,800.00	9,065.00	13,647.61	8,835.00	104.08	104.23	-80.56	1,103.52	4,726.75	1,407.96	1,201.52	206.44	6.820		
13,900.00	9,065.00	13,747.61	8,835.00	106.03	106.17	-80.56	1,104.12	4,826.75	1,407.46	1,197.17	210.29	6.693		
14,000.00	9,065.00	13,847.61	8,835.00	107.98	108.13	-80.55	1,104.71	4,926.75	1,406.97	1,192.82	214.15	6.570		
14,100.00	9,065.00	13,947.61	8,835.00	109.94	110.08	-80.55	1,105.31	5,026.74	1,406.47	1,188.45	218.01	6.451		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 0-MWD+IFR1													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
14,200.00	9,065.00	14,047.61	8,835.00	111.90	112.04	-80.55	1,105.90	5,126.74	1,405.97	1,184.09	221.89	6.336		
14,300.00	9,065.00	14,147.61	8,835.00	113.86	114.00	-80.54	1,106.50	5,226.74	1,405.47	1,179.71	225.76	6.225		
14,400.00	9,065.00	14,247.60	8,835.00	115.82	115.96	-80.54	1,107.09	5,326.74	1,404.98	1,175.33	229.64	6.118		
14,500.00	9,065.00	14,347.60	8,835.00	117.79	117.93	-80.54	1,107.69	5,426.73	1,404.48	1,170.95	233.53	6.014		
14,600.00	9,065.00	14,447.60	8,835.00	119.76	119.90	-80.53	1,108.29	5,526.73	1,403.98	1,166.55	237.42	5.913		
14,700.00	9,065.00	14,547.60	8,835.00	121.74	121.87	-80.53	1,108.88	5,626.73	1,403.48	1,162.16	241.32	5.816		
14,800.00	9,065.00	14,647.60	8,835.00	123.71	123.84	-80.53	1,109.48	5,726.72	1,402.98	1,157.76	245.23	5.721		
14,900.00	9,065.00	14,747.60	8,835.00	125.69	125.82	-80.52	1,110.07	5,826.72	1,402.49	1,153.35	249.13	5.629		
15,000.00	9,065.00	14,847.60	8,835.00	127.67	127.80	-80.52	1,110.67	5,926.72	1,401.99	1,148.95	253.04	5.541		
15,100.00	9,065.00	14,947.60	8,835.00	129.65	129.78	-80.52	1,111.27	6,026.71	1,401.49	1,144.53	256.96	5.454		
15,200.00	9,065.00	15,047.59	8,835.00	131.63	131.76	-80.51	1,111.86	6,126.71	1,400.99	1,140.12	260.88	5.370		
15,300.00	9,065.00	15,147.59	8,835.00	133.62	133.75	-80.51	1,112.46	6,226.71	1,400.50	1,135.70	264.80	5.289		
15,400.00	9,065.00	15,247.59	8,835.00	135.61	135.73	-80.51	1,113.05	6,326.70	1,400.00	1,131.27	268.73	5.210		
15,500.00	9,065.00	15,347.59	8,835.00	137.60	137.72	-80.50	1,113.65	6,426.70	1,399.50	1,126.84	272.66	5.133		
15,600.00	9,065.00	15,447.59	8,835.00	139.59	139.71	-80.50	1,114.25	6,526.70	1,399.00	1,122.41	276.59	5.058		
15,700.00	9,065.00	15,547.59	8,835.00	141.58	141.70	-80.50	1,114.84	6,626.70	1,398.50	1,117.98	280.52	4.985 Alert		
15,800.00	9,065.00	15,647.59	8,835.00	143.57	143.70	-80.49	1,115.44	6,726.69	1,398.01	1,113.54	284.46	4.915 Alert		
15,900.00	9,065.00	15,747.59	8,835.00	145.57	145.69	-80.49	1,116.03	6,826.69	1,397.51	1,109.10	288.41	4.846 Alert		
16,000.00	9,065.00	15,847.58	8,835.00	147.56	147.69	-80.49	1,116.63	6,926.69	1,397.01	1,104.66	292.35	4.779 Alert		
16,100.00	9,065.00	15,947.58	8,835.00	149.56	149.68	-80.48	1,117.23	7,026.68	1,396.51	1,100.22	296.30	4.713 Alert		
16,200.00	9,065.00	16,047.58	8,835.00	151.56	151.68	-80.48	1,117.82	7,126.68	1,396.02	1,095.77	300.25	4.650 Alert		
16,300.00	9,065.00	16,147.58	8,835.00	153.56	153.68	-80.48	1,118.42	7,226.68	1,395.52	1,091.32	304.20	4.588 Alert		
16,400.00	9,065.00	16,247.58	8,835.00	155.56	155.68	-80.47	1,119.01	7,326.67	1,395.02	1,086.87	308.15	4.527 Alert		
16,500.00	9,065.00	16,347.58	8,835.00	157.57	157.69	-80.47	1,119.61	7,426.67	1,394.52	1,082.42	312.11	4.468 Alert		
16,600.00	9,065.00	16,447.58	8,835.00	159.57	159.69	-80.47	1,120.20	7,526.67	1,394.03	1,077.96	316.07	4.411 Alert		
16,700.00	9,065.00	16,547.58	8,835.00	161.57	161.69	-80.46	1,120.80	7,626.66	1,393.53	1,073.50	320.03	4.354 Alert		
16,800.00	9,065.00	16,647.57	8,835.00	163.58	163.70	-80.46	1,121.40	7,726.66	1,393.03	1,069.04	323.99	4.300 Alert		
16,900.00	9,065.00	16,747.57	8,835.00	165.59	165.71	-80.46	1,121.99	7,826.66	1,392.53	1,064.58	327.95	4.246 Alert		
17,000.00	9,065.00	16,847.57	8,835.00	167.60	167.71	-80.45	1,122.59	7,926.66	1,392.04	1,060.12	331.92	4.194 Alert		
17,100.00	9,065.00	16,947.57	8,835.00	169.60	169.72	-80.45	1,123.18	8,026.65	1,391.54	1,055.65	335.89	4.143 Alert		
17,200.00	9,065.00	17,047.57	8,835.00	171.61	171.73	-80.45	1,123.78	8,126.65	1,391.04	1,051.18	339.86	4.093 Alert		
17,300.00	9,065.00	17,147.57	8,835.00	173.62	173.74	-80.44	1,124.38	8,226.65	1,390.54	1,046.71	343.83	4.044 Alert		
17,400.00	9,065.00	17,247.57	8,835.00	175.63	175.75	-80.44	1,124.97	8,326.64	1,390.04	1,042.24	347.80	3.997 Alert		
17,500.00	9,065.00	17,347.56	8,835.00	177.65	177.76	-80.43	1,125.57	8,426.64	1,389.55	1,037.77	351.78	3.950 Alert		
17,600.00	9,065.00	17,447.56	8,835.00	179.66	179.78	-80.43	1,126.16	8,526.64	1,389.05	1,033.30	355.75	3.905 Alert		
17,700.00	9,065.00	17,547.56	8,835.00	181.67	181.79	-80.43	1,126.76	8,626.63	1,388.55	1,028.82	359.73	3.860 Alert		
17,800.00	9,065.00	17,647.56	8,835.00	183.69	183.80	-80.42	1,127.36	8,726.63	1,388.05	1,024.35	363.71	3.816 Alert		
17,900.00	9,065.00	17,747.56	8,835.00	185.70	185.82	-80.42	1,127.95	8,826.63	1,387.56	1,019.87	367.69	3.774 Alert		
18,000.00	9,065.00	17,847.56	8,835.00	187.72	187.83	-80.42	1,128.55	8,926.63	1,387.06	1,015.39	371.67	3.732 Alert		
18,100.00	9,065.00	17,947.56	8,835.00	189.73	189.85	-80.41	1,129.14	9,026.62	1,386.56	1,010.91	375.65	3.691 Alert		
18,200.00	9,065.00	18,047.56	8,835.00	191.75	191.87	-80.41	1,129.74	9,126.62	1,386.06	1,006.43	379.63	3.651 Alert		
18,300.00	9,065.00	18,147.55	8,835.00	193.77	193.88	-80.41	1,130.34	9,226.62	1,385.57	1,001.95	383.62	3.612 Alert		
18,400.00	9,065.00	18,247.55	8,835.00	195.78	195.90	-80.40	1,130.93	9,326.61	1,385.07	997.47	387.60	3.573 Alert		
18,500.00	9,065.00	18,347.55	8,835.00	197.80	197.92	-80.40	1,131.53	9,426.61	1,384.57	992.98	391.59	3.536 Alert		
18,600.00	9,065.00	18,447.55	8,835.00	199.82	199.94	-80.40	1,132.12	9,526.61	1,384.07	988.50	395.58	3.499 Alert		
18,700.00	9,065.00	18,547.55	8,835.00	201.84	201.96	-80.39	1,132.72	9,626.60	1,383.58	984.01	399.57	3.463 Alert		
18,800.00	9,065.00	18,647.55	8,835.00	203.86	203.98	-80.39	1,133.31	9,726.60	1,383.08	979.52	403.56	3.427 Alert		
18,900.00	9,065.00	18,747.55	8,835.00	205.88	206.00	-80.39	1,133.91	9,826.60	1,382.58	975.03	407.55	3.392 Alert		
19,000.00	9,065.00	18,847.55	8,835.00	207.90	208.02	-80.38	1,134.51	9,926.59	1,382.08	970.54	411.54	3.358 Alert		
19,100.00	9,065.00	18,947.54	8,835.00	209.92	210.04	-80.38	1,135.10	10,026.59	1,381.59	966.05	415.53	3.325 Alert		
19,200.00	9,065.00	19,047.54	8,835.00	211.95	212.06	-80.38	1,135.70	10,126.59	1,381.09	961.56	419.52	3.292 Alert		
19,300.00	9,065.00	19,147.54	8,835.00	213.97	214.09	-80.37	1,136.29	10,226.59	1,380.59	957.07	423.52	3.260 Alert		

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design		Sec 14-T21S-R27E - Lone Tree Draw 14-13 State Com 333H - Wellbore #1 - Permit Plan 1										Offset Site Error:		0.00 ft
Survey Program:		0-MWD+IFR1										Offset Well Error:		0.50 ft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre	Between Centres	Between Ellipses	Minimum Separation	Separation Factor			
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)			
19,400.00	9,065.00	19,247.54	8,835.00	215.99	216.11	-80.37	1,136.89	10,326.58	1,380.09	952.58	427.51	3.228	Alert	
19,456.84	9,065.00	19,304.38	8,835.00	217.14	217.26	-80.37	1,137.23	10,383.42	1,379.81	950.03	429.79	3.210	Alert, SF	

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design		Sec 14-T21S-R27E - Lone Tree Draw 14-13 State Com 334H - Wellbore #1 - Permit Plan 1											Offset Site Error:		0.00 ft
Survey Program:		0-MWD+IFR1											Offset Well Error:		0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning	
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor			
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)				
0.00	0.00	0.60	0.60	0.50	0.50	-0.10	30.01	-0.05	30.01						
100.00	100.00	100.60	100.60	0.52	0.52	-0.10	30.01	-0.05	30.01	28.97	1.04	28.965			
200.00	200.00	200.60	200.60	0.70	0.70	-0.10	30.01	-0.05	30.01	28.60	1.41	21.349			
300.00	300.00	300.60	300.60	0.99	0.99	-0.10	30.01	-0.05	30.01	28.03	1.98	15.183			
400.00	400.00	400.60	400.60	1.31	1.31	-0.10	30.01	-0.05	30.01	27.39	2.62	11.454			
500.00	500.00	500.60	500.60	1.65	1.65	-0.10	30.01	-0.05	30.01	26.72	3.29	9.110			
600.00	600.00	600.60	600.60	1.99	1.99	-0.10	30.01	-0.05	30.01	26.03	3.98	7.534			
700.00	700.00	700.60	700.60	2.34	2.34	-0.10	30.01	-0.05	30.01	25.33	4.68	6.411			
800.00	800.00	800.60	800.60	2.69	2.69	-0.10	30.01	-0.05	30.01	24.63	5.38	5.575			
900.00	900.00	900.60	900.60	3.04	3.05	-0.10	30.01	-0.05	30.01	23.92	6.09	4.928 Alert			
1,000.00	1,000.00	1,000.60	1,000.60	3.40	3.40	-0.10	30.01	-0.05	30.01	23.21	6.80	4.415 Alert			
1,100.00	1,100.00	1,100.60	1,100.60	3.75	3.75	-0.10	30.01	-0.05	30.01	22.50	7.51	3.997 Alert			
1,200.00	1,200.00	1,200.60	1,200.60	4.11	4.11	-0.10	30.01	-0.05	30.01	21.79	8.22	3.652 Alert			
1,300.00	1,300.00	1,300.60	1,300.60	4.46	4.47	-0.10	30.01	-0.05	30.01	21.08	8.93	3.360 Alert			
1,400.00	1,400.00	1,400.60	1,400.60	4.82	4.82	-0.10	30.01	-0.05	30.01	20.37	9.64	3.112 Alert			
1,500.00	1,500.00	1,500.60	1,500.60	5.18	5.18	-0.10	30.01	-0.05	30.01	19.65	10.36	2.898 Alert			
1,600.00	1,600.00	1,600.60	1,600.60	5.53	5.54	-0.10	30.01	-0.05	30.01	18.94	11.07	2.711 Alert			
1,700.00	1,700.00	1,700.60	1,700.60	5.89	5.89	-0.10	30.01	-0.05	30.01	18.23	11.78	2.547 Alert			
1,800.00	1,800.00	1,800.60	1,800.60	6.25	6.25	-0.10	30.01	-0.05	30.01	17.51	12.50	2.401 Minor Risk			
1,900.00	1,900.00	1,900.60	1,900.60	6.61	6.61	-0.10	30.01	-0.05	30.01	16.80	13.21	2.271 Minor Risk			
2,000.00	2,000.00	2,000.60	2,000.60	6.96	6.97	-0.10	30.01	-0.05	30.01	16.08	13.93	2.155 Minor Risk			
2,100.00	2,100.00	2,100.60	2,100.60	7.32	7.32	-0.10	30.01	-0.05	30.01	15.37	14.64	2.049 Minor Risk			
2,200.00	2,200.00	2,200.60	2,200.60	7.68	7.68	-0.10	30.01	-0.05	30.01	14.65	15.36	1.954 Minor Risk			
2,300.00	2,300.00	2,300.60	2,300.60	8.04	8.04	-0.10	30.01	-0.05	30.01	13.94	16.07	1.867 Minor Risk			
2,400.00	2,400.00	2,400.60	2,400.60	8.39	8.40	-0.10	30.01	-0.05	30.01	13.22	16.79	1.787 Minor Risk			
2,500.00	2,500.00	2,500.60	2,500.60	8.75	8.75	-0.10	30.01	-0.05	30.01	12.50	17.51	1.714 Minor Risk, CC, ES			
2,600.00	2,599.99	2,600.59	2,600.59	9.09	9.11	146.74	30.01	-0.05	30.74	12.53	18.21	1.688 Minor Risk			
2,700.00	2,699.96	2,700.56	2,700.56	9.42	9.47	149.22	30.01	-0.05	32.96	14.07	18.89	1.745 Minor Risk			
2,800.00	2,799.86	2,800.46	2,800.46	9.75	9.83	152.68	30.01	-0.05	36.77	17.20	19.58	1.878 Minor Risk			
2,900.00	2,899.68	2,900.28	2,900.28	10.08	10.18	156.46	30.01	-0.05	42.29	22.03	20.26	2.087 Minor Risk			
2,945.33	2,944.88	2,945.48	2,945.48	10.23	10.35	158.13	30.01	-0.05	45.37	24.80	20.58	2.205 Minor Risk			
3,000.00	2,999.39	3,000.01	2,999.99	10.41	10.54	159.97	30.01	-0.05	49.34	28.39	20.95	2.355 Minor Risk			
3,100.00	3,099.08	3,100.32	3,099.68	10.75	10.90	162.66	30.01	-0.05	56.70	35.05	21.65	2.619 Alert			
3,200.00	3,198.78	3,200.62	3,199.38	11.08	11.26	164.72	30.01	-0.05	64.15	41.81	22.34	2.872 Alert			
3,300.00	3,298.48	3,300.92	3,299.08	11.42	11.62	166.36	30.01	-0.05	71.68	48.64	23.04	3.111 Alert			
3,400.00	3,398.18	3,401.22	3,398.78	11.76	11.98	167.68	30.01	-0.05	79.24	55.51	23.74	3.339 Alert			
3,500.00	3,497.88	3,501.52	3,498.48	12.10	12.34	168.78	30.01	-0.05	86.85	62.41	24.43	3.554 Alert			
3,600.00	3,597.58	3,601.82	3,598.18	12.45	12.70	169.69	30.01	-0.05	94.47	69.34	25.13	3.759 Alert			
3,700.00	3,697.27	3,702.13	3,697.87	12.79	13.06	170.47	30.01	-0.05	102.12	76.29	25.84	3.953 Alert			
3,800.00	3,796.97	3,802.43	3,797.57	13.14	13.42	171.14	30.01	-0.05	109.79	83.25	26.54	4.137 Alert			
3,900.00	3,896.67	3,902.73	3,897.27	13.48	13.78	171.73	30.01	-0.05	117.47	90.23	27.24	4.312 Alert			
4,000.00	3,996.37	3,996.97	3,996.97	13.83	14.11	172.24	30.01	-0.05	125.16	97.23	27.92	4.482 Alert			
4,100.00	4,096.07	4,096.55	4,096.55	14.18	14.47	172.34	30.41	-0.76	132.90	104.27	28.62	4.643 Alert			
4,200.00	4,195.76	4,196.10	4,196.06	14.53	14.81	171.72	31.66	-2.97	140.74	111.42	29.32	4.801 Alert			
4,300.00	4,295.46	4,295.54	4,295.41	14.88	15.16	170.51	33.76	-6.68	148.73	118.71	30.01	4.956 Alert			
4,400.00	4,395.16	4,394.83	4,394.52	15.23	15.51	168.79	36.70	-11.89	156.96	126.26	30.71	5.112			
4,500.00	4,494.86	4,505.75	4,493.68	15.58	15.90	166.84	40.22	-18.12	165.50	134.05	31.45	5.263			
4,600.00	4,594.56	4,606.27	4,592.90	15.93	16.26	165.07	43.77	-24.39	174.22	142.07	32.15	5.419			
4,700.00	4,694.25	4,706.79	4,692.12	16.29	16.61	163.46	47.31	-30.66	183.08	150.23	32.85	5.573			
4,800.00	4,793.95	4,807.30	4,791.34	16.64	16.96	162.01	50.85	-36.92	192.08	158.52	33.56	5.724			
4,900.00	4,893.65	4,907.82	4,890.56	17.00	17.32	160.69	54.39	-43.19	201.18	166.92	34.26	5.872			
5,000.00	4,993.35	5,008.34	4,989.79	17.35	17.68	159.48	57.94	-49.46	210.38	175.42	34.97	6.016			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 0-MWD+IFR1													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
5,100.00	5,093.05	5,108.86	5,089.01	17.71	18.03	158.37	61.48	-55.73	219.67	184.00	35.68	6.157		
5,200.00	5,192.75	5,209.38	5,188.23	18.06	18.39	157.36	65.02	-62.00	229.04	192.65	36.39	6.295		
5,300.00	5,292.44	5,309.89	5,287.45	18.42	18.75	156.42	68.57	-68.26	238.47	201.37	37.09	6.429		
5,400.00	5,392.14	5,389.59	5,386.67	18.77	19.03	155.56	72.11	-74.53	247.95	210.22	37.73	6.572		
5,500.00	5,491.84	5,489.07	5,485.89	19.13	19.38	154.76	75.65	-80.80	257.49	219.05	38.44	6.699		
5,600.00	5,591.54	5,588.55	5,585.11	19.49	19.74	154.01	79.19	-87.07	267.08	227.93	39.14	6.823		
5,700.00	5,691.24	5,688.03	5,684.33	19.85	20.09	153.32	82.74	-93.33	276.70	236.85	39.85	6.943		
5,800.00	5,790.93	5,787.51	5,783.55	20.20	20.45	152.67	86.28	-99.60	286.37	245.81	40.56	7.060		
5,900.00	5,890.63	5,887.00	5,882.77	20.56	20.80	152.07	89.82	-105.87	296.07	254.80	41.27	7.174		
6,000.00	5,990.33	5,986.48	5,981.99	20.92	21.16	151.51	93.36	-112.14	305.80	263.82	41.98	7.284		
6,100.00	6,090.03	6,085.96	6,081.21	21.28	21.51	150.98	96.91	-118.41	315.55	272.86	42.69	7.391		
6,200.00	6,189.73	6,185.44	6,180.44	21.64	21.87	150.48	100.45	-124.67	325.33	281.93	43.40	7.496		
6,300.00	6,289.42	6,284.92	6,279.66	22.00	22.22	150.01	103.99	-130.94	335.14	291.03	44.11	7.597		
6,400.00	6,389.12	6,384.40	6,378.88	22.36	22.58	149.56	107.53	-137.21	344.97	300.14	44.83	7.696		
6,500.00	6,488.82	6,483.89	6,478.10	22.72	22.93	149.15	111.08	-143.48	354.81	309.27	45.54	7.792		
6,600.00	6,588.52	6,583.37	6,577.32	23.08	23.29	148.75	114.62	-149.74	364.67	318.42	46.25	7.885		
6,700.00	6,688.22	6,682.85	6,676.54	23.44	23.65	148.38	118.16	-156.01	374.55	327.59	46.96	7.975		
6,800.00	6,787.91	6,782.33	6,775.76	23.80	24.00	148.02	121.70	-162.28	384.45	336.77	47.68	8.064		
6,900.00	6,887.61	6,881.81	6,874.98	24.16	24.36	147.68	125.25	-168.55	394.35	345.96	48.39	8.149		
7,000.00	6,987.31	6,981.30	6,974.20	24.52	24.72	147.36	128.79	-174.81	404.27	355.17	49.10	8.233		
7,100.00	7,087.01	7,080.78	7,073.42	24.88	25.07	147.06	132.33	-181.08	414.21	364.39	49.82	8.314		
7,200.00	7,186.71	7,180.26	7,172.64	25.24	25.43	146.77	135.88	-187.35	424.15	373.62	50.53	8.394		
7,300.00	7,286.41	7,279.74	7,271.87	25.60	25.79	146.49	139.42	-193.62	434.11	382.86	51.25	8.471		
7,400.00	7,386.10	7,379.22	7,371.09	25.96	26.15	146.22	142.96	-199.89	444.07	392.11	51.96	8.546		
7,500.00	7,485.80	7,478.70	7,470.31	26.33	26.50	145.97	146.50	-206.15	454.04	401.36	52.68	8.619		
7,600.00	7,585.50	7,578.19	7,569.53	26.69	26.86	145.72	150.05	-212.42	464.02	410.63	53.39	8.690		
7,700.00	7,685.20	7,677.67	7,668.75	27.05	27.22	145.49	153.59	-218.69	474.01	419.90	54.11	8.760		
7,800.00	7,784.90	7,781.04	7,771.88	27.41	27.59	145.31	157.03	-224.77	483.78	428.92	54.86	8.819		
7,860.70	7,845.41	7,845.62	7,836.38	27.63	27.82	145.33	158.55	-227.46	489.11	433.79	55.32	8.842		
7,900.00	7,884.61	7,887.48	7,878.22	27.77	27.97	145.42	159.25	-228.70	492.12	436.50	55.61	8.849		
8,000.00	7,984.46	7,994.19	7,984.92	28.13	28.35	145.68	160.01	-230.05	497.32	440.96	56.36	8.824		
8,100.00	8,084.42	8,105.71	8,085.02	28.49	28.75	145.89	160.01	-230.05	499.65	442.54	57.11	8.748		
8,157.59	8,142.00	8,151.87	8,142.60	28.69	28.91	-0.01	160.01	-230.05	500.01	442.53	57.48	8.699		
8,200.00	8,184.41	8,205.72	8,185.01	28.83	29.10	-0.01	160.01	-230.05	500.01	442.20	57.81	8.649		
8,300.00	8,284.41	8,294.28	8,285.01	29.17	29.42	-0.01	160.01	-230.05	500.01	441.54	58.47	8.552		
8,302.89	8,287.30	8,302.83	8,287.90	29.18	29.45	-0.01	160.01	-230.05	500.01	441.50	58.51	8.546		
8,400.00	8,384.41	8,393.72	8,384.40	29.51	29.76	0.22	160.03	-228.09	500.04	440.89	59.15	8.454		
8,507.63	8,492.04	8,496.88	8,485.88	29.87	30.10	2.25	160.23	-210.38	500.66	440.81	59.84	8.366		
8,550.00	8,534.37	8,535.70	8,523.00	30.02	30.23	-85.92	160.35	-199.03	501.34	441.24	60.10	8.342		
8,600.00	8,584.01	8,580.72	8,564.97	30.18	30.38	-84.53	160.53	-182.77	502.41	442.04	60.37	8.322		
8,650.00	8,632.95	8,624.98	8,604.85	30.34	30.52	-83.19	160.74	-163.61	503.74	443.11	60.63	8.309		
8,700.00	8,680.82	8,668.52	8,642.54	30.50	30.66	-81.91	160.98	-141.82	505.27	444.42	60.85	8.304		
8,750.00	8,727.25	8,711.44	8,677.95	30.66	30.79	-80.69	161.25	-117.60	506.96	445.93	61.03	8.306		
8,800.00	8,771.89	8,753.78	8,711.02	30.81	30.93	-79.54	161.54	-91.17	508.77	447.58	61.19	8.315		
8,850.00	8,814.40	8,795.61	8,741.69	30.95	31.06	-78.47	161.85	-62.74	510.64	449.32	61.32	8.328		
8,900.00	8,854.46	8,836.99	8,769.90	31.09	31.20	-77.48	162.18	-32.48	512.53	451.11	61.42	8.344		
8,950.00	8,891.75	8,877.97	8,795.62	31.23	31.34	-76.57	162.53	-0.60	514.38	452.87	61.51	8.362		
9,000.00	8,926.01	8,918.59	8,818.80	31.37	31.49	-75.75	162.90	32.75	516.16	454.56	61.60	8.379		
9,050.00	8,956.96	8,958.90	8,839.41	31.53	31.64	-75.02	163.28	67.38	517.82	456.12	61.70	8.393		
9,100.00	8,984.38	8,998.95	8,857.43	31.69	31.81	-74.39	163.67	103.14	519.33	457.51	61.82	8.401		
9,150.00	9,008.05	9,038.79	8,872.83	31.87	31.98	-73.86	164.08	139.87	520.65	458.67	61.98	8.401		
9,200.00	9,027.79	9,078.44	8,885.58	32.07	32.16	-73.43	164.49	177.40	521.75	459.57	62.18	8.391		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 0-MWD+IFR1													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
9,250.00	9,043.45	9,117.95	8,895.68	32.29	32.36	-73.09	164.91	215.59	522.62	460.18	62.44	8.370		
9,300.00	9,054.92	9,157.36	8,903.11	32.53	32.56	-72.86	165.34	254.29	523.24	460.47	62.76	8.337		
9,350.00	9,062.10	9,196.71	8,907.85	32.79	32.77	-72.73	165.77	293.34	523.58	460.43	63.15	8.290		
9,400.00	9,064.95	9,236.03	8,909.91	33.06	32.99	-72.71	166.20	332.59	523.65	460.04	63.61	8.232		
9,407.63	9,065.00	9,242.03	8,909.98	33.10	33.03	-72.71	166.26	338.59	523.63	459.95	63.69	8.222		
9,440.52	9,065.00	9,273.75	8,910.00	33.31	33.22	-72.71	166.61	370.31	523.63	459.56	64.07	8.173		
9,500.00	9,065.00	9,333.23	8,910.00	33.68	33.61	-72.71	167.27	429.79	523.63	458.83	64.80	8.081		
9,600.00	9,065.00	9,433.23	8,910.00	34.41	34.34	-72.71	168.37	529.79	523.63	457.43	66.19	7.910		
9,700.00	9,065.00	9,533.23	8,910.00	35.24	35.18	-72.71	169.47	629.78	523.63	455.83	67.79	7.724		
9,800.00	9,065.00	9,633.23	8,910.00	36.17	36.11	-72.71	170.57	729.77	523.63	454.05	69.58	7.526		
9,900.00	9,065.00	9,733.23	8,910.00	37.19	37.13	-72.71	171.67	829.77	523.63	452.09	71.53	7.320		
10,000.00	9,065.00	9,833.23	8,910.00	38.30	38.23	-72.71	172.77	929.76	523.62	449.97	73.65	7.110		
10,100.00	9,065.00	9,933.23	8,910.00	39.48	39.41	-72.71	173.87	1,029.76	523.62	447.71	75.91	6.898		
10,200.00	9,065.00	10,033.23	8,910.00	40.72	40.66	-72.71	174.97	1,129.75	523.62	445.32	78.30	6.687		
10,300.00	9,065.00	10,133.23	8,910.00	42.03	41.97	-72.71	176.07	1,229.74	523.62	442.80	80.82	6.479		
10,400.00	9,065.00	10,233.23	8,910.00	43.40	43.34	-72.71	177.16	1,329.74	523.62	440.18	83.44	6.275		
10,500.00	9,065.00	10,333.23	8,910.00	44.82	44.76	-72.71	178.26	1,429.73	523.62	437.45	86.17	6.077		
10,600.00	9,065.00	10,433.23	8,910.00	46.29	46.22	-72.71	179.36	1,529.73	523.62	434.64	88.98	5.884		
10,700.00	9,065.00	10,533.23	8,910.00	47.79	47.73	-72.71	180.46	1,629.72	523.62	431.74	91.88	5.699		
10,800.00	9,065.00	10,633.23	8,910.00	49.34	49.28	-72.71	181.56	1,729.71	523.62	428.76	94.85	5.520		
10,900.00	9,065.00	10,733.23	8,910.00	50.92	50.86	-72.71	182.66	1,829.71	523.62	425.72	97.90	5.349		
11,000.00	9,065.00	10,833.23	8,910.00	52.54	52.48	-72.71	183.76	1,929.70	523.62	422.62	101.00	5.184		
11,100.00	9,065.00	10,933.23	8,910.00	54.18	54.12	-72.71	184.86	2,029.70	523.62	419.46	104.16	5.027		
11,200.00	9,065.00	11,033.23	8,910.00	55.85	55.79	-72.71	185.96	2,129.69	523.62	416.25	107.37	4.877	Alert	
11,300.00	9,065.00	11,133.23	8,910.00	57.54	57.49	-72.71	187.06	2,229.68	523.61	412.99	110.63	4.733	Alert	
11,400.00	9,065.00	11,233.23	8,910.00	59.26	59.20	-72.71	188.16	2,329.68	523.61	409.69	113.93	4.596	Alert	
11,500.00	9,065.00	11,333.23	8,910.00	61.00	60.94	-72.71	189.26	2,429.67	523.61	406.35	117.27	4.465	Alert	
11,600.00	9,065.00	11,433.23	8,910.00	62.75	62.70	-72.71	190.36	2,529.66	523.61	402.97	120.64	4.340	Alert	
11,700.00	9,065.00	11,533.23	8,910.00	64.52	64.47	-72.71	191.46	2,629.66	523.61	399.56	124.05	4.221	Alert	
11,800.00	9,065.00	11,633.23	8,910.00	66.31	66.26	-72.71	192.56	2,729.65	523.61	396.12	127.49	4.107	Alert	
11,900.00	9,065.00	11,733.23	8,910.00	68.11	68.06	-72.71	193.66	2,829.65	523.61	392.65	130.96	3.998	Alert	
12,000.00	9,065.00	11,833.23	8,910.00	69.93	69.88	-72.71	194.76	2,929.64	523.61	389.16	134.45	3.894	Alert	
12,100.00	9,065.00	11,933.23	8,910.00	71.76	71.71	-72.71	195.86	3,029.63	523.61	385.64	137.97	3.795	Alert	
12,200.00	9,065.00	12,033.23	8,910.00	73.60	73.55	-72.71	196.96	3,129.63	523.61	382.10	141.51	3.700	Alert	
12,300.00	9,065.00	12,133.23	8,910.00	75.45	75.40	-72.71	198.06	3,229.62	523.61	378.54	145.07	3.609	Alert	
12,400.00	9,065.00	12,233.23	8,910.00	77.31	77.26	-72.71	199.16	3,329.62	523.61	374.96	148.64	3.523	Alert	
12,500.00	9,065.00	12,333.24	8,910.00	79.18	79.13	-72.71	200.26	3,429.61	523.61	371.37	152.24	3.439	Alert	
12,600.00	9,065.00	12,433.24	8,910.00	81.05	81.01	-72.71	201.36	3,529.60	523.61	367.75	155.85	3.360	Alert	
12,700.00	9,065.00	12,533.24	8,910.00	82.94	82.89	-72.71	202.46	3,629.60	523.60	364.12	159.48	3.283	Alert	
12,800.00	9,065.00	12,633.24	8,910.00	84.83	84.78	-72.71	203.56	3,729.59	523.60	360.48	163.12	3.210	Alert	
12,900.00	9,065.00	12,733.24	8,910.00	86.73	86.68	-72.71	204.66	3,829.59	523.60	356.82	166.78	3.139	Alert	
13,000.00	9,065.00	12,833.24	8,910.00	88.64	88.59	-72.71	205.76	3,929.58	523.60	353.15	170.45	3.072	Alert	
13,100.00	9,065.00	12,933.24	8,910.00	90.55	90.50	-72.71	206.86	4,029.57	523.60	349.47	174.13	3.007	Alert	
13,200.00	9,065.00	13,033.24	8,910.00	92.47	92.42	-72.71	207.96	4,129.57	523.60	345.78	177.82	2.945	Alert	
13,300.00	9,065.00	13,133.24	8,910.00	94.39	94.35	-72.71	209.06	4,229.56	523.60	342.08	181.52	2.885	Alert	
13,400.00	9,065.00	13,233.24	8,910.00	96.32	96.28	-72.71	210.16	4,329.56	523.60	338.37	185.23	2.827	Alert	
13,500.00	9,065.00	13,333.24	8,910.00	98.25	98.21	-72.71	211.26	4,429.55	523.60	334.65	188.95	2.771	Alert	
13,600.00	9,065.00	13,433.24	8,910.00	100.19	100.15	-72.71	212.36	4,529.54	523.60	330.92	192.68	2.717	Alert	
13,700.00	9,065.00	13,533.24	8,910.00	102.13	102.09	-72.71	213.46	4,629.54	523.60	327.18	196.42	2.666	Alert	
13,800.00	9,065.00	13,633.24	8,910.00	104.08	104.03	-72.71	214.56	4,729.53	523.60	323.43	200.16	2.616	Alert	
13,900.00	9,065.00	13,733.24	8,910.00	106.03	105.98	-72.71	215.66	4,829.53	523.60	319.68	203.91	2.568	Alert	
14,000.00	9,065.00	13,833.24	8,910.00	107.98	107.94	-72.71	216.76	4,929.52	523.59	315.92	207.67	2.521	Alert	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 0-MWD+IFR1													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
14,100.00	9,065.00	13,933.24	8,910.00	109.94	109.89	-72.71	217.86	5,029.51	523.59	312.16	211.44	2.476	Minor Risk	
14,200.00	9,065.00	14,033.24	8,910.00	111.90	111.85	-72.71	218.95	5,129.51	523.59	308.39	215.21	2.433	Minor Risk	
14,300.00	9,065.00	14,133.24	8,910.00	113.86	113.82	-72.71	220.05	5,229.50	523.59	304.61	218.99	2.391	Minor Risk	
14,400.00	9,065.00	14,233.24	8,910.00	115.82	115.78	-72.71	221.15	5,329.50	523.59	300.82	222.77	2.350	Minor Risk	
14,500.00	9,065.00	14,333.24	8,910.00	117.79	117.75	-72.71	222.25	5,429.49	523.59	297.04	226.56	2.311	Minor Risk	
14,600.00	9,065.00	14,433.24	8,910.00	119.76	119.72	-72.71	223.35	5,529.48	523.59	293.24	230.35	2.273	Minor Risk	
14,700.00	9,065.00	14,533.24	8,910.00	121.74	121.70	-72.71	224.45	5,629.48	523.59	289.44	234.15	2.236	Minor Risk	
14,800.00	9,065.00	14,633.24	8,910.00	123.71	123.67	-72.71	225.55	5,729.47	523.59	285.64	237.95	2.200	Minor Risk	
14,900.00	9,065.00	14,733.24	8,910.00	125.69	125.65	-72.71	226.65	5,829.47	523.59	281.83	241.75	2.166	Minor Risk	
15,000.00	9,065.00	14,833.24	8,910.00	127.67	127.63	-72.71	227.75	5,929.46	523.59	278.02	245.57	2.132	Minor Risk	
15,100.00	9,065.00	14,933.24	8,910.00	129.65	129.61	-72.71	228.85	6,029.45	523.59	274.21	249.38	2.100	Minor Risk	
15,200.00	9,065.00	15,033.24	8,910.00	131.63	131.60	-72.71	229.95	6,129.45	523.59	270.39	253.20	2.068	Minor Risk	
15,300.00	9,065.00	15,133.24	8,910.00	133.62	133.58	-72.71	231.05	6,229.44	523.58	266.57	257.02	2.037	Minor Risk	
15,400.00	9,065.00	15,233.24	8,910.00	135.61	135.57	-72.71	232.15	6,329.44	523.58	262.74	260.84	2.007	Minor Risk	
15,500.00	9,065.00	15,333.24	8,910.00	137.60	137.56	-72.71	233.25	6,429.43	523.58	258.91	264.67	1.978	Minor Risk	
15,600.00	9,065.00	15,433.24	8,910.00	139.59	139.55	-72.71	234.35	6,529.42	523.58	255.08	268.50	1.950	Minor Risk	
15,700.00	9,065.00	15,533.24	8,910.00	141.58	141.54	-72.71	235.45	6,629.42	523.58	251.24	272.34	1.923	Minor Risk	
15,800.00	9,065.00	15,633.24	8,910.00	143.57	143.54	-72.71	236.55	6,729.41	523.58	247.40	276.18	1.896	Minor Risk	
15,900.00	9,065.00	15,733.24	8,910.00	145.57	145.53	-72.71	237.65	6,829.40	523.58	243.56	280.02	1.870	Minor Risk	
16,000.00	9,065.00	15,833.24	8,910.00	147.56	147.53	-72.71	238.75	6,929.40	523.58	239.72	283.86	1.845	Minor Risk	
16,100.00	9,065.00	15,933.24	8,910.00	149.56	149.53	-72.71	239.85	7,029.39	523.58	235.87	287.70	1.820	Minor Risk	
16,200.00	9,065.00	16,033.24	8,910.00	151.56	151.53	-72.71	240.95	7,129.39	523.58	232.03	291.55	1.796	Minor Risk	
16,300.00	9,065.00	16,133.24	8,910.00	153.56	153.53	-72.71	242.05	7,229.38	523.58	228.17	295.40	1.772	Minor Risk	
16,400.00	9,065.00	16,233.24	8,910.00	155.56	155.53	-72.71	243.15	7,329.37	523.58	224.32	299.26	1.750	Minor Risk	
16,500.00	9,065.00	16,333.24	8,910.00	157.57	157.53	-72.71	244.25	7,429.37	523.58	220.47	303.11	1.727	Minor Risk	
16,600.00	9,065.00	16,433.24	8,910.00	159.57	159.53	-72.71	245.35	7,529.36	523.58	216.61	306.97	1.706	Minor Risk	
16,700.00	9,065.00	16,533.24	8,910.00	161.57	161.54	-72.71	246.45	7,629.36	523.57	212.75	310.82	1.684	Minor Risk	
16,800.00	9,065.00	16,633.24	8,910.00	163.58	163.55	-72.71	247.55	7,729.35	523.57	208.89	314.69	1.664	Minor Risk	
16,900.00	9,065.00	16,733.24	8,910.00	165.59	165.55	-72.71	248.65	7,829.34	523.57	205.03	318.55	1.644	Minor Risk	
17,000.00	9,065.00	16,833.24	8,910.00	167.60	167.56	-72.71	249.75	7,929.34	523.57	201.16	322.41	1.624	Minor Risk	
17,100.00	9,065.00	16,933.24	8,910.00	169.60	169.57	-72.71	250.85	8,029.33	523.57	197.29	326.28	1.605	Minor Risk	
17,200.00	9,065.00	17,033.24	8,910.00	171.61	171.58	-72.71	251.95	8,129.33	523.57	193.43	330.15	1.586	Minor Risk	
17,300.00	9,065.00	17,133.24	8,910.00	173.62	173.59	-72.71	253.05	8,229.32	523.57	189.56	334.01	1.568	Minor Risk	
17,400.00	9,065.00	17,233.24	8,910.00	175.63	175.60	-72.71	254.15	8,329.31	523.57	185.68	337.89	1.550	Minor Risk	
17,500.00	9,065.00	17,333.24	8,910.00	177.65	177.61	-72.71	255.25	8,429.31	523.57	181.81	341.76	1.532	Minor Risk	
17,600.00	9,065.00	17,433.24	8,910.00	179.66	179.63	-72.71	256.35	8,529.30	523.57	177.94	345.63	1.515	Minor Risk	
17,700.00	9,065.00	17,533.24	8,910.00	181.67	181.64	-72.71	257.45	8,629.30	523.57	174.06	349.51	1.498	Major Risk	
17,800.00	9,065.00	17,633.24	8,910.00	183.69	183.65	-72.71	258.55	8,729.29	523.57	170.18	353.38	1.482	Major Risk	
17,900.00	9,065.00	17,733.24	8,910.00	185.70	185.67	-72.71	259.65	8,829.28	523.57	166.30	357.26	1.465	Major Risk	
18,000.00	9,065.00	17,833.24	8,910.00	187.72	187.68	-72.71	260.75	8,929.28	523.56	162.42	361.14	1.450	Major Risk	
18,100.00	9,065.00	17,933.24	8,910.00	189.73	189.70	-72.71	261.84	9,029.27	523.56	158.54	365.02	1.434	Major Risk	
18,200.00	9,065.00	18,033.24	8,910.00	191.75	191.72	-72.71	262.94	9,129.27	523.56	154.66	368.90	1.419	Major Risk	
18,300.00	9,065.00	18,133.24	8,910.00	193.77	193.73	-72.71	264.04	9,229.26	523.56	150.78	372.78	1.404	Major Risk	
18,400.00	9,065.00	18,233.24	8,910.00	195.78	195.75	-72.71	265.14	9,329.25	523.56	146.89	376.67	1.390	Major Risk	
18,500.00	9,065.00	18,333.24	8,910.00	197.80	197.77	-72.71	266.24	9,429.25	523.56	143.01	380.55	1.376	Major Risk	
18,600.00	9,065.00	18,433.24	8,910.00	199.82	199.79	-72.71	267.34	9,529.24	523.56	139.12	384.44	1.362	Major Risk	
18,700.00	9,065.00	18,533.24	8,910.00	201.84	201.81	-72.71	268.44	9,629.24	523.56	135.23	388.33	1.348	Major Risk	
18,800.00	9,065.00	18,633.24	8,910.00	203.86	203.83	-72.71	269.54	9,729.23	523.56	131.34	392.21	1.335	Major Risk	
18,900.00	9,065.00	18,733.24	8,910.00	205.88	205.85	-72.71	270.64	9,829.22	523.56	127.46	396.10	1.322	Major Risk	
19,000.00	9,065.00	18,833.24	8,910.00	207.90	207.87	-72.71	271.74	9,929.22	523.56	123.56	399.99	1.309	Major Risk	
19,100.00	9,065.00	18,933.24	8,910.00	209.92	209.89	-72.71	272.84	10,029.21	523.56	119.67	403.88	1.296	Major Risk	
19,200.00	9,065.00	19,033.24	8,910.00	211.95	211.91	-72.71	273.94	10,129.21	523.56	115.78	407.78	1.284	Major Risk	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design		Sec 14-T21S-R27E - Lone Tree Draw 14-13 State Com 334H - Wellbore #1 - Permit Plan 1										Offset Site Error:	0.00 ft
Survey Program: 0-MWD+IFR1												Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
19,300.00	9,065.00	19,133.24	8,910.00	213.97	213.94	-72.71	275.04	10,229.20	523.56	111.89	411.67	1.272	Major Risk
19,400.00	9,065.00	19,233.24	8,910.00	215.99	215.96	-72.71	276.14	10,329.19	523.55	107.99	415.56	1.260	Major Risk
19,456.84	9,065.00	19,290.08	8,910.00	217.14	217.11	-72.71	276.77	10,386.03	523.55	105.78	417.77	1.253	Major Risk, SF

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design		Sec 14-T21S-R27E - Lone Tree Draw 14-13 State Com 335H - Wellbore #1 - Wellbore #1											Offset Site Error:		0.00 ft	
Survey Program:		431-MWD+HDGM											Offset Well Error:		0.50 ft	
Reference		Offset		Semi Major Axis			Distance									
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor	Warning			
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)					
0.00	0.00	16.11	16.11	0.50	0.50	-177.08	-1,644.23	-83.74	1,646.37							
100.00	100.00	114.38	114.38	0.52	0.54	-177.09	-1,644.31	-83.60	1,646.44	1,645.38	1.05	1,562.369				
200.00	200.00	212.64	212.64	0.70	0.62	-177.10	-1,644.50	-83.25	1,646.61	1,645.29	1.32	1,249.515				
300.00	300.00	310.89	310.89	0.99	0.73	-177.12	-1,644.81	-82.69	1,646.89	1,645.18	1.71	961.667				
400.00	400.00	409.15	409.14	1.31	0.85	-177.15	-1,645.23	-81.93	1,647.28	1,645.12	2.16	761.840				
500.00	500.00	503.07	503.06	1.65	1.11	-177.18	-1,645.83	-81.09	1,647.88	1,645.12	2.75	598.801				
600.00	600.00	606.45	606.43	1.99	1.45	-177.21	-1,646.66	-80.31	1,648.65	1,645.21	3.44	479.758				
700.00	700.00	706.81	706.78	2.34	1.79	-177.24	-1,647.29	-79.56	1,649.24	1,645.11	4.13	399.617				
800.00	800.00	807.86	807.83	2.69	2.14	-177.26	-1,647.83	-78.99	1,649.75	1,644.92	4.83	341.696				
900.00	900.00	903.65	903.62	3.04	2.47	-177.27	-1,648.57	-78.62	1,650.50	1,644.98	5.51	299.289				
1,000.00	1,000.00	1,017.48	1,017.44	3.40	2.87	-177.30	-1,648.95	-77.79	1,650.79	1,644.52	6.27	263.464				
1,100.00	1,100.00	1,120.47	1,120.43	3.75	3.23	-177.32	-1,648.75	-77.14	1,650.56	1,643.58	6.98	236.526				
1,200.00	1,200.00	1,222.40	1,222.35	4.11	3.58	-177.35	-1,648.52	-76.22	1,650.30	1,642.61	7.69	214.600				
1,300.00	1,300.00	1,330.06	1,330.00	4.46	3.96	-177.40	-1,647.98	-74.77	1,649.73	1,641.31	8.42	195.878				
1,400.00	1,400.00	1,431.44	1,431.37	4.82	4.31	-177.44	-1,647.14	-73.57	1,648.85	1,639.71	9.13	180.551				
1,500.00	1,500.00	1,525.82	1,525.74	5.18	4.65	-177.49	-1,646.50	-72.26	1,648.11	1,638.29	9.82	167.805				
1,600.00	1,600.00	1,630.98	1,630.89	5.53	5.02	-177.53	-1,645.80	-71.03	1,647.39	1,636.84	10.55	156.169				
1,700.00	1,700.00	1,726.73	1,726.63	5.89	5.35	-177.56	-1,645.18	-69.98	1,646.70	1,635.46	11.24	146.452				
1,800.00	1,800.00	1,830.34	1,830.24	6.25	5.72	-177.61	-1,644.45	-68.58	1,645.94	1,633.97	11.97	137.525				
1,900.00	1,900.00	1,929.01	1,928.89	6.61	6.07	-177.66	-1,643.73	-67.20	1,645.15	1,632.47	12.68	129.786				
2,000.00	2,000.00	2,033.44	2,033.31	6.96	6.44	-177.71	-1,642.94	-65.83	1,644.35	1,630.95	13.40	122.689				
2,100.00	2,100.00	2,145.25	2,145.11	7.32	6.83	-177.72	-1,641.35	-65.25	1,642.90	1,628.75	14.15	116.121				
2,200.00	2,200.00	2,245.68	2,245.52	7.68	7.18	-177.72	-1,639.49	-65.28	1,641.05	1,626.20	14.85	110.501				
2,300.00	2,300.00	2,344.16	2,343.98	8.04	7.51	-177.71	-1,637.82	-65.57	1,639.36	1,623.81	15.55	105.448				
2,400.00	2,400.00	2,444.27	2,444.08	8.39	7.86	-177.69	-1,636.10	-65.92	1,637.66	1,621.42	16.25	100.788				
2,500.00	2,500.00	2,542.29	2,542.09	8.75	8.20	-177.68	-1,634.48	-66.14	1,636.02	1,619.07	16.95	96.545				
2,600.00	2,599.99	2,636.93	2,636.72	9.09	8.53	-31.79	-1,633.12	-66.11	1,633.84	1,616.23	17.62	92.736				
2,700.00	2,699.96	2,736.12	2,735.90	9.42	8.87	-31.87	-1,631.98	-65.68	1,630.46	1,612.16	18.29	89.131				
2,800.00	2,799.86	2,836.06	2,835.84	9.75	9.22	-31.96	-1,630.76	-65.95	1,625.54	1,606.57	18.97	85.689				
2,900.00	2,899.68	2,944.42	2,944.18	10.08	9.60	-32.11	-1,629.40	-66.15	1,619.14	1,599.46	19.68	82.284				
2,945.33	2,944.88	3,022.65	3,022.38	10.23	9.87	-32.23	-1,627.23	-66.55	1,615.06	1,594.97	20.09	80.379				
3,000.00	2,999.39	3,083.52	3,083.20	10.41	10.09	-32.30	-1,624.82	-66.87	1,609.33	1,588.84	20.49	78.560				
3,100.00	3,099.08	3,185.91	3,185.49	10.75	10.45	-32.44	-1,620.34	-67.14	1,598.40	1,577.22	21.18	75.479				
3,200.00	3,198.78	3,287.27	3,286.75	11.08	10.80	-32.58	-1,615.84	-67.49	1,587.43	1,565.56	21.87	72.594				
3,300.00	3,298.48	3,380.39	3,379.78	11.42	11.13	-32.70	-1,611.78	-67.77	1,576.55	1,554.02	22.54	69.960				
3,400.00	3,398.18	3,581.61	3,580.42	11.76	11.84	-32.89	-1,597.48	-70.89	1,563.28	1,539.79	23.49	66.555				
3,500.00	3,497.88	3,745.73	3,743.19	12.10	12.43	-32.99	-1,576.87	-74.51	1,544.47	1,520.17	24.30	63.568				
3,600.00	3,597.58	3,937.19	3,931.25	12.45	13.14	-33.08	-1,541.54	-79.44	1,519.18	1,494.10	25.08	60.565				
3,700.00	3,697.27	4,046.78	4,038.12	12.79	13.55	-33.02	-1,517.96	-85.02	1,491.44	1,465.67	25.77	57.884				
3,800.00	3,796.97	4,121.91	4,111.41	13.14	13.83	-32.97	-1,501.94	-89.27	1,463.93	1,437.50	26.43	55.385				
3,900.00	3,896.67	4,223.95	4,211.17	13.48	14.23	-32.89	-1,481.25	-94.87	1,437.45	1,410.34	27.12	53.010				
4,000.00	3,996.37	4,328.58	4,313.30	13.83	14.63	-32.86	-1,458.99	-99.51	1,409.94	1,382.14	27.80	50.711				
4,100.00	4,096.07	4,411.19	4,393.98	14.18	14.96	-32.83	-1,441.59	-103.07	1,382.65	1,354.17	28.49	48.539				
4,200.00	4,195.76	4,515.41	4,495.89	14.53	15.37	-32.81	-1,420.25	-107.45	1,355.95	1,326.78	29.18	46.476				
4,300.00	4,295.46	4,617.57	4,595.65	14.88	15.78	-32.83	-1,398.46	-110.70	1,328.36	1,298.50	29.87	44.478				
4,400.00	4,395.16	4,703.36	4,679.47	15.23	16.12	-32.86	-1,380.33	-113.00	1,300.97	1,270.41	30.56	42.574				
4,500.00	4,494.86	4,789.49	4,763.77	15.58	16.47	-32.90	-1,362.88	-115.40	1,274.41	1,243.16	31.25	40.778				
4,600.00	4,594.56	4,898.96	4,870.96	15.93	16.91	-32.95	-1,340.84	-118.26	1,248.03	1,216.08	31.95	39.068				
4,700.00	4,694.25	4,990.41	4,960.39	16.29	17.28	-33.07	-1,321.78	-119.36	1,220.88	1,188.24	32.64	37.401				
4,800.00	4,793.95	5,070.68	5,039.05	16.64	17.61	-33.18	-1,305.80	-120.10	1,194.66	1,161.32	33.35	35.826				
4,900.00	4,893.65	5,153.38	5,120.32	17.00	17.94	-33.28	-1,290.49	-121.23	1,169.81	1,135.76	34.05	34.355				
5,000.00	4,993.35	5,242.60	5,208.13	17.35	18.30	-33.39	-1,274.78	-122.62	1,145.86	1,111.11	34.75	32.971				

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design		Sec 14-T21S-R27E - Lone Tree Draw 14-13 State Com 335H - Wellbore #1 - Wellbore #1											Offset Site Error:		0.00 ft
Survey Program:		431-MWD+HDGM											Offset Well Error:		0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor			
5,100.00	5,093.05	5,341.13	5,305.16	17.71	18.70	-33.49	-1,257.76	-124.63	1,122.26	1,086.80	35.46	31.651			
5,200.00	5,192.75	5,432.72	5,395.32	18.06	19.07	-33.61	-1,241.70	-126.22	1,098.42	1,062.25	36.16	30.373			
5,300.00	5,292.44	5,519.16	5,480.59	18.42	19.41	-33.72	-1,227.64	-127.62	1,075.78	1,038.91	36.87	29.176			
5,400.00	5,392.14	5,639.52	5,599.29	18.77	19.90	-33.98	-1,207.74	-128.01	1,053.04	1,015.47	37.57	28.032			
5,500.00	5,491.84	5,740.91	5,698.85	19.13	20.31	-34.28	-1,188.60	-127.05	1,027.82	989.55	38.27	26.860			
5,600.00	5,591.54	5,838.75	5,795.02	19.49	20.71	-34.55	-1,170.61	-126.69	1,003.16	964.19	38.97	25.741			
5,700.00	5,691.24	5,954.64	5,908.69	19.85	21.19	-34.80	-1,148.04	-127.78	977.45	937.81	39.64	24.657			
5,800.00	5,790.93	6,034.30	5,986.72	20.20	21.53	-34.87	-1,132.23	-130.23	951.38	911.00	40.38	23.559			
5,900.00	5,890.63	6,127.45	6,078.20	20.56	21.91	-34.90	-1,115.12	-134.12	926.72	885.62	41.10	22.548			
6,000.00	5,990.33	6,238.31	6,186.93	20.92	22.38	-34.92	-1,093.98	-138.94	901.40	859.63	41.78	21.576			
6,100.00	6,090.03	6,349.71	6,295.77	21.28	22.85	-34.92	-1,070.82	-143.95	874.36	831.92	42.44	20.602			
6,200.00	6,189.73	6,441.45	6,385.29	21.64	23.25	-34.90	-1,051.30	-148.56	846.83	803.66	43.17	19.618			
6,300.00	6,289.42	6,541.27	6,482.72	22.00	23.68	-34.93	-1,029.99	-152.74	819.25	775.39	43.86	18.678			
6,400.00	6,389.12	6,610.73	6,550.78	22.36	23.97	-35.01	-1,016.30	-154.86	793.22	748.55	44.67	17.756			
6,500.00	6,488.82	6,696.69	6,635.41	22.72	24.32	-35.19	-1,001.36	-156.51	769.56	724.14	45.42	16.943			
6,600.00	6,588.52	6,801.99	6,739.15	23.08	24.76	-35.55	-983.27	-156.98	746.16	700.06	46.11	16.184			
6,700.00	6,688.22	6,922.82	6,857.64	23.44	25.27	-35.97	-959.68	-157.73	720.48	673.78	46.71	15.426			
6,800.00	6,787.91	7,003.59	6,936.79	23.80	25.61	-36.29	-943.60	-158.20	694.39	646.89	47.50	14.619			
6,900.00	6,887.61	7,098.36	7,029.86	24.16	26.01	-36.66	-925.72	-158.90	669.39	621.17	48.22	13.881			
7,000.00	6,987.31	7,204.19	7,133.66	24.52	26.46	-37.03	-905.20	-160.59	643.87	594.98	48.88	13.171			
7,100.00	7,087.01	7,297.12	7,224.74	24.88	26.86	-37.38	-886.77	-162.14	617.94	568.32	49.62	12.453			
7,200.00	7,186.71	7,374.44	7,300.78	25.24	27.18	-37.71	-872.86	-163.18	593.84	543.39	50.45	11.771			
7,300.00	7,286.41	7,473.92	7,398.94	25.60	27.59	-38.19	-856.72	-164.22	571.55	520.40	51.15	11.173			
7,400.00	7,386.10	7,561.84	7,485.70	25.96	27.95	-38.62	-842.52	-165.26	549.38	497.46	51.92	10.581			
7,500.00	7,485.80	7,641.76	7,564.86	26.33	28.27	-39.00	-831.67	-166.55	529.76	477.05	52.70	10.052			
7,600.00	7,585.50	7,733.97	7,656.54	26.69	28.62	-39.38	-822.01	-168.44	513.12	459.69	53.43	9.603			
7,700.00	7,685.20	7,828.42	7,750.46	27.05	28.98	-39.97	-812.00	-169.00	496.59	442.43	54.16	9.169			
7,800.00	7,784.90	7,915.16	7,836.84	27.41	29.30	-40.73	-804.25	-167.76	481.97	427.09	54.88	8.782			
7,860.70	7,845.41	7,967.29	7,888.82	27.63	29.49	-41.29	-800.66	-166.14	474.47	419.17	55.31	8.579			
7,900.00	7,884.61	8,005.06	7,926.51	27.77	29.62	-41.63	-798.42	-165.12	470.16	414.57	55.59	8.458			
8,000.00	7,984.46	8,104.07	8,025.37	28.13	29.97	-42.08	-793.18	-164.98	460.89	404.59	56.30	8.187			
8,100.00	8,084.42	8,200.94	8,122.11	28.49	30.32	-42.16	-788.19	-166.32	453.51	396.51	57.00	7.956			
8,157.59	8,142.00	8,254.37	8,175.49	28.69	30.50	171.95	-786.01	-166.90	450.77	393.38	57.39	7.854			
8,200.00	8,184.41	8,296.97	8,218.06	28.83	30.65	171.99	-784.44	-167.42	449.15	391.47	57.69	7.786			
8,300.00	8,284.41	8,393.67	8,314.67	29.17	30.98	171.86	-780.85	-166.97	445.54	387.18	58.36	7.634			
8,400.00	8,384.41	8,487.22	8,407.43	29.51	31.30	170.45	-776.94	-156.46	443.13	384.10	59.03	7.507			
8,428.62	8,413.04	8,509.89	8,429.44	29.60	31.37	169.74	-775.83	-151.12	442.91	383.72	59.19	7.483			
8,507.63	8,492.04	8,570.35	8,486.41	29.87	31.55	167.15	-773.14	-131.23	444.80	385.25	59.55	7.470			
8,550.00	8,534.37	8,599.70	8,512.97	30.02	31.63	76.08	-771.94	-118.81	447.25	387.61	59.64	7.499			
8,600.00	8,584.01	8,630.00	8,539.42	30.18	31.72	74.23	-770.93	-104.07	451.14	391.56	59.59	7.571			
8,650.00	8,632.95	8,660.53	8,564.93	30.34	31.79	72.35	-770.36	-87.32	456.23	396.81	59.42	7.679			
8,700.00	8,680.82	8,690.09	8,588.45	30.50	31.85	70.53	-770.39	-69.43	462.50	403.39	59.11	7.824			
8,750.00	8,727.25	8,725.00	8,614.96	30.66	31.92	68.61	-771.00	-46.72	469.50	410.63	58.87	7.976			
8,800.00	8,771.89	8,758.41	8,638.89	30.81	31.97	66.87	-771.70	-23.43	476.68	418.15	58.53	8.144			
8,850.00	8,814.40	8,798.59	8,665.66	30.95	32.04	65.03	-772.10	6.52	483.49	425.13	58.36	8.284			
8,900.00	8,854.46	8,843.13	8,693.35	31.09	32.10	63.30	-771.87	41.40	489.36	431.06	58.30	8.393			
8,950.00	8,891.75	8,885.21	8,718.00	31.23	32.16	61.91	-770.93	75.50	493.83	435.62	58.21	8.483			
9,000.00	8,926.01	8,921.49	8,737.84	31.37	32.22	60.92	-770.16	105.86	497.54	439.56	57.98	8.582			
9,050.00	8,956.96	8,959.35	8,756.82	31.53	32.28	60.10	-769.27	138.58	500.45	442.61	57.84	8.653			
9,100.00	8,984.38	8,999.77	8,775.23	31.69	32.36	59.46	-768.07	174.55	502.30	444.46	57.84	8.684			
9,150.00	9,008.05	9,045.99	8,794.58	31.87	32.52	59.09	-766.36	216.49	502.69	444.58	58.11	8.650			
9,200.00	9,027.79	9,086.13	8,810.22	32.07	32.75	59.09	-764.52	253.41	501.33	443.00	58.33	8.594			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 431-MWD+HDGM													Offset Well Error:	0.50 ft
Reference														
		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
9,250.00	9,043.45	9,122.57	8,822.91	32.29	33.02	59.35	-762.96	287.53	498.99	440.41	58.59	8.517		
9,300.00	9,054.92	9,158.46	8,833.77	32.53	33.34	59.84	-761.57	321.70	495.84	436.87	58.97	8.409		
9,350.00	9,062.10	9,195.84	8,843.43	32.79	33.72	60.57	-760.23	357.78	491.83	432.28	59.55	8.259		
9,400.00	9,064.95	9,239.87	8,853.10	33.06	34.20	61.71	-758.63	400.70	486.70	426.23	60.47	8.049		
9,407.63	9,065.00	9,246.80	8,854.51	33.10	34.28	61.92	-758.35	407.49	485.77	425.15	60.63	8.012		
9,500.00	9,065.00	9,328.21	8,868.20	33.68	35.29	63.22	-754.59	487.63	475.61	413.06	62.55	7.604		
9,600.00	9,065.00	9,427.34	8,878.14	34.41	36.69	63.98	-747.34	585.98	465.55	400.78	64.78	7.187		
9,700.00	9,065.00	9,520.11	8,885.10	35.24	38.12	64.42	-740.08	678.21	456.24	389.25	66.99	6.811		
9,800.00	9,065.00	9,610.04	8,890.42	36.17	39.63	64.77	-734.38	767.79	448.95	379.63	69.32	6.477		
9,900.00	9,065.00	9,699.48	8,894.08	37.19	41.22	65.01	-729.89	857.05	443.68	371.92	71.76	6.183		
10,000.00	9,065.00	9,784.72	8,895.64	38.30	42.82	65.13	-727.76	942.24	441.61	367.41	74.20	5.951		
10,100.00	9,065.00	9,883.45	8,896.59	39.48	44.77	65.24	-726.69	1,040.96	441.23	364.12	77.11	5.722		
10,200.00	9,065.00	9,983.70	8,898.08	40.72	46.84	65.42	-725.74	1,141.19	440.74	360.49	80.25	5.492		
10,223.54	9,065.00	10,005.71	8,898.37	41.03	47.31	65.46	-725.59	1,163.20	440.70	359.72	80.97	5.442		
10,300.00	9,065.00	10,080.07	8,898.84	42.03	48.90	65.55	-725.38	1,237.55	441.07	357.67	83.39	5.289		
10,400.00	9,065.00	10,186.84	8,899.01	43.40	51.26	65.55	-723.81	1,344.32	440.66	353.80	86.86	5.073		
10,500.00	9,065.00	10,290.98	8,899.43	44.82	53.63	65.52	-721.15	1,448.42	439.17	348.82	90.35	4.861 Alert		
10,600.00	9,065.00	10,395.10	8,900.36	46.29	56.06	65.49	-717.54	1,552.47	436.64	342.71	93.93	4.649 Alert		
10,700.00	9,065.00	10,493.75	8,902.71	47.79	58.41	65.65	-714.24	1,651.04	433.62	336.05	97.57	4.444 Alert		
10,800.00	9,065.00	10,595.26	8,904.89	49.34	60.87	65.82	-711.31	1,752.48	431.11	329.74	101.37	4.253 Alert		
10,900.00	9,065.00	10,699.82	8,909.26	50.92	63.44	66.23	-707.99	1,856.89	427.51	322.01	105.50	4.052 Alert		
11,000.00	9,065.00	10,800.75	8,913.77	52.54	65.96	66.65	-704.16	1,957.65	423.25	313.65	109.60	3.862 Alert		
11,100.00	9,065.00	10,900.59	8,917.67	54.18	68.47	66.97	-700.08	2,057.33	418.96	305.27	113.69	3.685 Alert		
11,200.00	9,065.00	10,996.97	8,920.49	55.85	70.92	67.17	-696.12	2,153.59	415.05	297.40	117.66	3.528 Alert		
11,300.00	9,065.00	11,096.55	8,923.49	57.54	73.48	67.43	-692.70	2,253.06	411.74	289.94	121.80	3.380 Alert		
11,400.00	9,065.00	11,183.44	8,926.43	59.26	75.73	67.78	-689.17	2,339.89	409.86	284.18	125.68	3.261 Alert		
11,403.70	9,065.00	11,186.61	8,926.52	59.32	75.81	67.80	-691.17	2,343.05	409.86	284.03	125.82	3.257 Alert		
11,500.00	9,065.00	11,281.57	8,929.30	61.00	78.29	68.24	-691.70	2,437.98	410.28	280.24	130.03	3.155 Alert		
11,600.00	9,065.00	11,390.05	8,933.78	62.75	81.13	68.88	-691.60	2,546.36	409.71	274.78	134.93	3.036 Alert		
11,644.86	9,065.00	11,427.96	8,935.49	63.55	82.13	69.12	-691.48	2,584.22	409.32	272.56	136.75	2.993 Alert		
11,700.00	9,065.00	11,474.29	8,937.11	64.52	83.36	69.39	-692.12	2,630.53	409.91	270.99	138.93	2.951 Alert		
11,800.00	9,065.00	11,572.84	8,939.17	66.31	85.97	69.82	-694.52	2,729.03	412.50	269.09	143.41	2.876 Alert		
11,900.00	9,065.00	11,669.04	8,939.84	68.11	88.53	70.07	-696.70	2,825.20	415.42	267.75	147.67	2.813 Alert		
12,000.00	9,065.00	11,775.41	8,940.02	69.93	91.37	70.24	-698.72	2,931.55	418.19	265.85	152.34	2.745 Alert		
12,100.00	9,065.00	11,880.53	8,939.49	71.76	94.20	70.23	-698.81	3,036.66	419.48	262.67	156.81	2.675 Alert		
12,200.00	9,065.00	11,985.68	8,937.16	73.60	97.03	69.89	-696.87	3,141.76	419.54	258.56	160.98	2.606 Alert		
12,255.97	9,065.00	12,039.35	8,936.25	74.63	98.48	69.76	-695.94	3,195.42	419.53	256.33	163.19	2.571 Alert		
12,300.00	9,065.00	12,082.49	8,935.74	75.45	99.65	69.69	-695.32	3,238.55	419.57	254.58	164.99	2.543 Alert		
12,400.00	9,065.00	12,180.70	8,934.54	77.31	102.32	69.54	-694.31	3,336.75	420.06	250.96	169.09	2.484 Minor Risk		
12,500.00	9,065.00	12,283.91	8,932.81	79.18	105.13	69.31	-693.09	3,439.93	420.58	247.26	173.31	2.427 Minor Risk		
12,600.00	9,065.00	12,389.48	8,932.65	81.05	108.01	69.23	-690.69	3,545.47	419.52	241.77	177.75	2.360 Minor Risk		
12,700.00	9,065.00	12,488.63	8,934.18	82.94	110.72	69.38	-688.67	3,644.59	418.10	235.86	182.24	2.294 Minor Risk		
12,800.00	9,065.00	12,585.57	8,936.79	84.83	113.38	69.72	-687.62	3,741.49	417.18	230.31	186.87	2.232 Minor Risk		
12,886.38	9,065.00	12,669.87	8,938.67	86.47	115.70	69.98	-687.22	3,825.77	417.02	226.15	190.88	2.185 Minor Risk		
12,900.00	9,065.00	12,683.36	8,938.96	86.73	116.07	70.03	-687.18	3,839.26	417.02	225.51	191.52	2.177 Minor Risk		
13,000.00	9,065.00	12,790.16	8,941.73	88.64	119.01	70.41	-686.51	3,946.02	416.61	220.04	196.57	2.119 Minor Risk		
13,100.00	9,065.00	12,894.49	8,945.84	90.55	121.89	70.89	-684.25	4,050.24	414.29	212.65	201.64	2.055 Minor Risk		
13,200.00	9,065.00	12,998.05	8,950.72	92.47	124.75	71.46	-681.48	4,153.65	411.28	204.49	206.79	1.989 Minor Risk		
13,300.00	9,065.00	13,093.64	8,954.65	94.39	127.39	71.91	-678.68	4,249.11	408.25	196.62	211.64	1.929 Minor Risk		
13,400.00	9,065.00	13,185.96	8,956.51	96.32	129.95	72.12	-676.83	4,341.39	406.77	190.65	216.12	1.882 Minor Risk		
13,500.00	9,065.00	13,287.21	8,956.54	98.25	132.76	72.10	-675.17	4,442.63	406.25	185.61	220.65	1.841 Minor Risk		
13,600.00	9,065.00	13,387.71	8,956.02	100.19	135.55	71.98	-672.95	4,543.11	405.36	180.32	225.04	1.801 Minor Risk		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Sec 14-T21S-R27E - Lone Tree Draw 14-13 State Com 335H - Wellbore #1 - Wellbore #1													Offset Well Error:	0.50 ft
Survey Program: 431-MWD+HDGM														
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
13,700.00	9,065.00	13,490.79	8,957.05	102.13	138.42	72.07	-670.72	4,646.15	404.04	174.29	229.75	1.759	Minor Risk	
13,800.00	9,065.00	13,590.59	8,959.59	104.08	141.20	72.37	-668.66	4,745.90	402.33	167.71	234.62	1.715	Minor Risk	
13,900.00	9,065.00	13,688.61	8,961.66	106.03	143.93	72.63	-666.92	4,843.88	401.06	161.66	239.40	1.675	Minor Risk	
14,000.00	9,065.00	13,792.70	8,964.80	107.98	146.83	73.02	-664.81	4,947.90	399.28	154.76	244.52	1.633	Minor Risk	
14,100.00	9,065.00	13,890.23	8,968.51	109.94	149.56	73.49	-662.71	5,045.34	397.18	147.62	249.56	1.592	Minor Risk	
14,166.28	9,065.00	13,950.41	8,970.46	111.23	151.24	73.76	-662.14	5,105.48	396.67	143.96	252.71	1.570	Minor Risk	
14,200.00	9,065.00	13,983.64	8,971.38	111.90	152.17	73.90	-662.10	5,138.70	396.72	142.32	254.40	1.559	Minor Risk	
14,300.00	9,065.00	14,084.60	8,974.17	113.86	155.00	74.32	-661.73	5,239.62	396.68	137.17	259.51	1.529	Minor Risk	
14,400.00	9,065.00	14,186.02	8,976.43	115.82	157.84	74.65	-661.11	5,341.01	396.55	132.00	264.56	1.499	Major Risk	
14,500.00	9,065.00	14,288.62	8,979.08	117.79	160.71	75.01	-659.70	5,443.57	395.60	125.93	269.67	1.467	Major Risk	
14,600.00	9,065.00	14,390.28	8,981.31	119.76	163.57	75.30	-657.94	5,545.19	394.43	119.75	274.68	1.436	Major Risk	
14,700.00	9,065.00	14,489.98	8,983.56	121.74	166.36	75.57	-655.65	5,644.84	392.71	113.09	279.62	1.404	Major Risk	
14,800.00	9,065.00	14,591.03	8,985.77	123.71	169.20	75.86	-653.71	5,745.85	391.38	106.75	284.62	1.375	Major Risk	
14,900.00	9,065.00	14,690.08	8,988.31	125.69	171.98	76.17	-651.40	5,844.83	389.57	99.96	289.61	1.345	Major Risk	
14,968.28	9,065.00	14,752.67	8,989.79	127.04	173.74	76.38	-650.47	5,907.40	388.94	96.11	292.83	1.328	Major Risk	
15,000.00	9,065.00	14,780.47	8,990.49	127.67	174.52	76.49	-650.48	5,935.18	389.10	94.83	294.27	1.322	Major Risk	
15,100.00	9,065.00	14,877.11	8,993.00	129.65	177.25	76.93	-651.91	6,031.79	391.00	91.73	299.27	1.307	Major Risk	
15,200.00	9,065.00	14,978.65	8,994.98	131.63	180.11	77.28	-652.96	6,133.30	392.65	88.21	304.43	1.290	Major Risk	
15,300.00	9,065.00	15,077.43	8,996.79	133.62	182.89	77.60	-653.87	6,232.06	394.22	84.80	309.42	1.274	Major Risk	
15,400.00	9,065.00	15,180.34	8,999.03	135.61	185.80	77.99	-654.89	6,334.94	395.80	81.12	314.69	1.258	Major Risk	
15,500.00	9,065.00	15,284.14	9,001.77	137.60	188.72	78.41	-654.94	6,438.70	396.40	76.38	320.02	1.239	Major Risk	
15,600.00	9,065.00	15,387.31	9,004.98	139.59	191.64	78.88	-654.17	6,541.82	396.12	70.78	325.34	1.218	Major Risk	
15,700.00	9,065.00	15,488.96	9,008.08	141.58	194.50	79.31	-652.76	6,643.41	395.26	64.70	330.56	1.196	Major Risk	
15,800.00	9,065.00	15,588.08	9,010.54	143.57	197.30	79.65	-651.16	6,742.48	394.31	58.70	335.61	1.175	Major Risk	
15,900.00	9,065.00	15,688.23	9,012.70	145.57	200.13	79.95	-649.86	6,842.61	393.73	53.07	340.66	1.156	Major Risk	
16,000.00	9,065.00	15,797.67	9,017.77	147.56	203.21	80.64	-646.78	6,951.87	391.22	44.96	346.26	1.130	Major Risk	
16,100.00	9,065.00	15,892.64	9,021.92	149.56	205.89	81.19	-643.57	7,046.70	388.30	36.87	351.43	1.105	Major Risk	
16,164.46	9,065.00	15,949.53	9,023.09	150.85	207.50	81.35	-642.57	7,103.56	387.67	33.26	354.41	1.094	Major Risk, CC	
16,200.00	9,065.00	15,983.58	9,023.38	151.56	208.46	81.39	-642.32	7,137.62	387.75	31.67	356.08	1.089	Major Risk	
16,300.00	9,065.00	16,080.19	9,023.80	153.56	211.19	81.47	-642.10	7,234.22	388.56	27.78	360.77	1.077	Major Risk	
16,400.00	9,065.00	16,179.24	9,023.85	155.56	214.00	81.52	-642.64	7,333.27	390.16	24.62	365.54	1.067	Major Risk	
16,500.00	9,065.00	16,280.12	9,023.36	157.57	216.86	81.47	-642.62	7,434.15	391.31	20.97	370.34	1.057	Major Risk	
16,600.00	9,065.00	16,381.00	9,022.55	159.57	219.71	81.38	-642.88	7,535.03	392.78	17.69	375.09	1.047	Major Risk	
16,700.00	9,065.00	16,485.29	9,021.31	161.57	222.67	81.21	-641.96	7,639.31	393.17	13.26	379.91	1.035	Major Risk	
16,772.00	9,065.00	16,557.12	9,020.66	163.02	224.70	81.11	-640.96	7,711.13	393.05	9.80	383.25	1.026	Major Risk	
16,800.00	9,065.00	16,584.23	9,020.56	163.58	225.47	81.10	-640.67	7,738.23	393.08	8.54	384.54	1.022	Major Risk	
16,900.00	9,065.00	16,683.35	9,021.16	165.59	228.28	81.19	-640.11	7,837.35	393.52	4.14	389.39	1.011	Major Risk	
17,000.00	9,065.00	16,783.98	9,023.35	167.60	231.13	81.53	-639.73	7,937.95	393.91	-0.61	394.52	0.998	Collision	
17,100.00	9,065.00	16,883.65	9,025.63	169.60	233.96	81.87	-639.28	8,037.59	394.22	-5.40	399.62	0.986	Collision	
17,200.00	9,065.00	16,984.46	9,027.43	171.61	236.82	82.14	-638.75	8,138.39	394.54	-10.16	404.71	0.975	Collision	
17,300.00	9,065.00	17,084.87	9,029.79	173.62	239.66	82.49	-638.09	8,238.77	394.67	-15.17	409.84	0.963	Collision	
17,400.00	9,065.00	17,184.32	9,032.92	175.63	242.49	82.95	-637.56	8,338.17	394.83	-20.19	415.02	0.951	Collision	
17,500.00	9,065.00	17,284.41	9,035.86	177.65	245.33	83.38	-637.05	8,438.21	395.07	-25.12	420.19	0.940	Collision	
17,600.00	9,065.00	17,385.10	9,038.62	179.66	248.18	83.79	-636.41	8,538.87	395.22	-30.13	425.35	0.929	Collision	
17,700.00	9,065.00	17,486.28	9,041.05	181.67	251.06	84.14	-635.46	8,640.01	395.13	-35.36	430.49	0.918	Collision	
17,800.00	9,065.00	17,587.08	9,043.07	183.69	253.92	84.43	-634.28	8,740.78	394.85	-40.70	435.55	0.907	Collision	
17,900.00	9,065.00	17,687.75	9,044.47	185.70	256.77	84.62	-632.58	8,841.43	394.13	-46.40	440.54	0.895	Collision	
17,940.82	9,065.00	17,726.24	9,044.54	186.52	257.87	84.63	-632.05	8,879.91	394.01	-48.42	442.43	0.891	Collision	
18,000.00	9,065.00	17,782.53	9,044.03	187.72	259.47	84.56	-631.61	8,936.20	394.25	-50.87	445.12	0.886	Collision	
18,100.00	9,065.00	17,881.10	9,043.04	189.73	262.27	84.43	-631.56	9,034.76	395.39	-54.40	449.80	0.879	Collision	
18,200.00	9,065.00	17,984.23	9,044.80	191.75	265.20	84.70	-631.13	9,137.87	395.91	-59.06	454.97	0.870	Collision	
18,300.00	9,065.00	18,085.11	9,048.08	193.77	268.06	85.18	-630.67	9,238.69	396.26	-63.90	460.16	0.861	Collision	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:		0.00 ft
Survey Program: 431-MWD+HDGM													Offset Well Error:		0.50 ft
Reference		Offset		Semi Major Axis			Distance								
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor	Warning		
Depth (ft)	Depth (ft)	Depth (ft)	Depth (ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)				
18,392.80	9,065.00	18,178.36	9,051.00	195.64	270.71	85.60	-629.73	9,331.90	396.11	-68.82	464.94	0.852	Collision		
18,400.00	9,065.00	18,185.31	9,051.19	195.78	270.91	85.63	-629.67	9,338.85	396.12	-69.18	465.29	0.851	Collision		
18,500.00	9,065.00	18,282.90	9,053.52	197.80	273.69	85.97	-629.20	9,436.41	396.55	-73.68	470.23	0.843	Collision		
18,600.00	9,065.00	18,383.74	9,055.38	199.82	276.55	86.24	-628.93	9,537.23	397.26	-78.01	475.27	0.836	Collision		
18,700.00	9,065.00	18,482.21	9,056.28	201.84	279.35	86.38	-628.35	9,635.69	397.72	-82.40	480.12	0.828	Collision		
18,800.00	9,065.00	18,583.91	9,055.88	203.86	282.25	86.33	-628.15	9,737.39	398.64	-86.39	485.03	0.822	Collision		
18,900.00	9,065.00	18,683.39	9,055.27	205.88	285.08	86.24	-627.30	9,836.86	398.93	-90.89	489.82	0.814	Collision		
19,000.00	9,065.00	18,786.76	9,056.14	207.90	288.02	86.37	-626.56	9,940.23	399.27	-95.61	494.88	0.807	Collision		
19,100.00	9,065.00	18,890.91	9,058.03	209.92	290.98	86.64	-624.67	10,044.34	398.44	-101.55	499.99	0.797	Collision		
19,200.00	9,065.00	18,988.90	9,059.52	211.95	293.76	86.84	-622.57	10,142.30	397.32	-107.57	504.89	0.787	Collision		
19,300.00	9,065.00	19,091.13	9,061.01	213.97	296.67	87.05	-620.44	10,244.50	396.26	-113.65	509.91	0.777	Collision		
19,373.50	9,065.00	19,164.57	9,062.04	215.45	298.75	87.19	-618.68	10,317.90	395.26	-118.28	513.54	0.770	Collision, ES, SF		
19,400.00	9,065.00	19,158.00	9,061.95	215.99	298.57	87.18	-618.84	10,311.34	396.28	-116.03	512.32	0.774	Collision		
19,456.84	9,065.00	19,158.00	9,061.95	217.14	298.57	87.18	-618.84	10,311.34	404.25	-98.67	502.92	0.804	Collision		

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 438-MWD+HDGM, 9290-MWD+HDGM													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)						
0.00	0.00	14.70	14.70	0.50	0.50	-176.33	-1,663.40	-106.75	1,666.82					
100.00	100.00	111.43	111.43	0.52	0.53	-176.33	-1,663.53	-106.62	1,666.95	1,665.89	1.05	1,584.344		
200.00	200.00	208.16	208.16	0.70	0.61	-176.34	-1,663.86	-106.30	1,667.27	1,665.96	1.31	1,269.136		
300.00	300.00	304.89	304.89	0.99	0.72	-176.36	-1,664.40	-105.79	1,667.79	1,666.08	1.71	977.772		
400.00	400.00	401.61	401.60	1.31	0.84	-176.39	-1,665.14	-105.09	1,668.51	1,666.35	2.15	775.103		
500.00	500.00	497.70	497.68	1.65	1.08	-176.42	-1,666.08	-104.23	1,669.43	1,666.71	2.72	612.830		
600.00	600.00	597.47	597.44	1.99	1.41	-176.45	-1,667.23	-103.34	1,670.53	1,667.13	3.40	491.988		
700.00	700.00	695.00	694.96	2.34	1.74	-176.48	-1,668.36	-102.72	1,671.64	1,667.56	4.07	410.228		
800.00	800.00	793.91	793.86	2.69	2.08	-176.49	-1,669.63	-102.28	1,672.89	1,668.12	4.77	350.896		
900.00	900.00	895.91	895.85	3.04	2.44	-176.52	-1,670.91	-101.61	1,674.11	1,668.64	5.48	305.672		
1,000.00	1,000.00	992.05	991.98	3.40	2.78	-176.55	-1,672.26	-100.68	1,675.45	1,669.28	6.17	271.579		
1,100.00	1,100.00	1,113.87	1,113.78	3.75	3.20	-176.61	-1,673.33	-99.25	1,676.27	1,669.32	6.95	241.303		
1,200.00	1,200.00	1,232.39	1,232.30	4.11	3.59	-176.58	-1,672.59	-100.01	1,675.66	1,667.97	7.69	217.797		
1,300.00	1,300.00	1,343.41	1,343.28	4.46	3.95	-176.49	-1,670.95	-102.38	1,674.31	1,665.90	8.41	199.031		
1,400.00	1,400.00	1,444.47	1,444.28	4.82	4.29	-176.39	-1,669.04	-105.23	1,672.61	1,663.50	9.11	183.677		
1,500.00	1,500.00	1,532.31	1,532.08	5.18	4.59	-176.31	-1,667.73	-107.62	1,671.29	1,661.53	9.76	171.214		
1,600.00	1,600.00	1,630.54	1,630.26	5.53	4.92	-176.21	-1,666.63	-110.30	1,670.34	1,659.89	10.45	159.777		
1,700.00	1,700.00	1,732.97	1,732.65	5.89	5.28	-176.11	-1,665.46	-113.11	1,669.39	1,658.23	11.16	149.535		
1,800.00	1,800.00	1,837.76	1,837.39	6.25	5.64	-176.01	-1,664.00	-116.04	1,668.18	1,656.30	11.88	140.377		
1,900.00	1,900.00	1,936.35	1,935.93	6.61	5.98	-175.92	-1,662.46	-118.59	1,666.82	1,654.23	12.58	132.456		
2,000.00	2,000.00	2,029.43	2,028.98	6.96	6.30	-175.84	-1,661.37	-120.86	1,665.82	1,652.55	13.27	125.562		
2,100.00	2,100.00	2,126.44	2,125.95	7.32	6.64	-175.75	-1,660.48	-123.32	1,665.09	1,651.12	13.96	119.235		
2,200.00	2,200.00	2,225.92	2,225.39	7.68	6.99	-175.65	-1,659.67	-126.11	1,664.49	1,649.82	14.67	113.442		
2,300.00	2,300.00	2,328.05	2,327.48	8.04	7.35	-175.55	-1,658.76	-129.01	1,663.81	1,648.42	15.39	108.106		
2,400.00	2,400.00	2,431.42	2,430.80	8.39	7.72	-175.45	-1,657.68	-131.93	1,662.99	1,646.88	16.11	103.206		
2,500.00	2,500.00	2,533.45	2,532.78	8.75	8.08	-175.34	-1,656.38	-135.03	1,661.96	1,645.13	16.83	98.737		
2,600.00	2,599.99	2,630.55	2,629.82	9.09	8.43	-29.33	-1,655.16	-137.98	1,660.20	1,642.68	17.52	94.769		
2,700.00	2,699.96	2,726.59	2,725.82	9.42	8.77	-29.29	-1,654.20	-140.87	1,657.18	1,638.99	18.19	91.122		
2,800.00	2,799.86	2,831.78	2,830.96	9.75	9.14	-29.28	-1,653.10	-143.83	1,652.57	1,633.68	18.89	87.488		
2,900.00	2,899.68	2,930.55	2,929.68	10.08	9.49	-29.31	-1,651.94	-146.79	1,646.32	1,626.75	19.57	84.118		
2,945.33	2,944.88	2,962.85	2,961.96	10.23	9.61	-29.33	-1,651.72	-147.74	1,643.20	1,623.37	19.84	82.832		
3,000.00	2,999.39	3,004.01	3,003.10	10.41	9.75	-29.35	-1,651.76	-148.75	1,639.66	1,619.50	20.17	81.310		
3,100.00	3,099.08	3,091.99	3,091.07	10.75	10.07	-29.41	-1,652.61	-150.57	1,634.02	1,613.21	20.81	78.518		
3,200.00	3,198.78	3,189.93	3,188.97	11.08	10.41	-29.47	-1,653.94	-152.63	1,628.77	1,607.28	21.49	75.779		
3,300.00	3,298.48	3,277.14	3,276.16	11.42	10.72	-29.55	-1,655.47	-153.79	1,623.87	1,601.74	22.13	73.363		
3,400.00	3,398.18	3,364.24	3,363.23	11.76	11.02	-29.70	-1,657.89	-153.26	1,619.84	1,597.07	22.77	71.136		
3,500.00	3,497.88	3,505.78	3,504.70	12.10	11.50	-29.98	-1,661.16	-151.13	1,615.44	1,591.84	23.60	68.446		
3,600.00	3,597.58	3,608.64	3,607.55	12.45	11.85	-30.17	-1,661.77	-149.80	1,609.22	1,584.93	24.29	66.240		
3,700.00	3,697.27	3,704.78	3,703.68	12.79	12.18	-30.35	-1,662.30	-148.38	1,602.96	1,578.00	24.97	64.208		
3,800.00	3,796.97	3,802.79	3,801.68	13.14	12.52	-30.54	-1,662.99	-146.95	1,596.86	1,571.22	25.65	62.268		
3,900.00	3,896.67	3,901.87	3,900.75	13.48	12.86	-30.73	-1,663.76	-145.65	1,590.88	1,564.55	26.33	60.419		
4,000.00	3,996.37	4,001.75	4,000.62	13.83	13.20	-30.91	-1,664.49	-144.68	1,584.88	1,557.86	27.02	58.653		
4,100.00	4,096.07	4,104.40	4,103.27	14.18	13.56	-31.10	-1,665.23	-143.69	1,578.88	1,551.16	27.72	56.953		
4,200.00	4,195.76	4,202.73	4,201.59	14.53	13.90	-31.27	-1,665.70	-142.97	1,572.68	1,544.26	28.41	55.354		
4,300.00	4,295.46	4,298.59	4,297.44	14.88	14.23	-31.44	-1,666.46	-142.37	1,566.81	1,537.71	29.09	53.854		
4,400.00	4,395.16	4,400.99	4,399.84	15.23	14.59	-31.60	-1,667.31	-142.05	1,560.99	1,531.19	29.80	52.381		
4,500.00	4,494.86	4,501.59	4,500.44	15.58	14.94	-31.76	-1,667.93	-141.81	1,554.98	1,524.48	30.50	50.979		
4,600.00	4,594.56	4,601.60	4,600.44	15.93	15.29	-31.92	-1,668.56	-141.60	1,549.00	1,517.80	31.20	49.642		
4,700.00	4,694.25	4,700.02	4,698.86	16.29	15.64	-32.07	-1,669.18	-141.62	1,543.04	1,511.14	31.90	48.370		
4,800.00	4,793.95	4,799.64	4,798.48	16.64	15.99	-32.23	-1,669.87	-141.66	1,537.16	1,504.56	32.60	47.147		
4,900.00	4,893.65	4,902.29	4,901.13	17.00	16.35	-32.38	-1,670.50	-141.80	1,531.20	1,497.88	33.32	45.959		
5,000.00	4,993.35	4,986.66	4,985.49	17.35	16.65	-32.49	-1,671.29	-142.35	1,525.60	1,491.64	33.97	44.912		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 438-MWD+HDGM, 9290-MWD+HDGM													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)						
5,100.00	5,093.05	5,084.28	5,083.08	17.71	16.99	-32.58	-1,672.89	-144.14	1,520.74	1,486.07	34.67	43.867		
5,200.00	5,192.75	5,183.32	5,182.09	18.06	17.34	-32.66	-1,674.48	-146.27	1,515.86	1,480.49	35.37	42.857		
5,300.00	5,292.44	5,282.08	5,280.81	18.42	17.69	-32.74	-1,676.15	-148.45	1,511.06	1,474.99	36.07	41.888		
5,400.00	5,392.14	5,379.00	5,377.69	18.77	18.04	-32.81	-1,677.91	-150.71	1,506.39	1,469.62	36.77	40.967		
5,500.00	5,491.84	5,479.30	5,477.91	19.13	18.39	-32.84	-1,679.80	-154.11	1,501.82	1,464.34	37.48	40.069		
5,600.00	5,591.54	5,574.54	5,573.01	19.49	18.73	-32.82	-1,681.68	-158.74	1,497.38	1,459.21	38.17	39.226		
5,700.00	5,691.24	5,666.05	5,664.38	19.85	19.06	-32.79	-1,683.90	-163.28	1,493.38	1,454.53	38.85	38.437		
5,800.00	5,790.93	5,767.29	5,765.49	20.20	19.42	-32.78	-1,686.62	-167.86	1,489.64	1,450.07	39.57	37.647		
5,900.00	5,890.63	5,867.66	5,865.73	20.56	19.78	-32.78	-1,689.24	-172.24	1,485.82	1,445.54	40.28	36.886		
6,000.00	5,990.33	5,968.39	5,966.35	20.92	20.14	-32.79	-1,691.84	-176.29	1,481.96	1,440.97	41.00	36.149		
6,100.00	6,090.03	6,073.08	6,070.94	21.28	20.51	-32.81	-1,694.40	-180.09	1,477.96	1,436.24	41.73	35.421		
6,200.00	6,189.73	6,180.75	6,178.51	21.64	20.90	-32.84	-1,696.41	-184.06	1,473.36	1,430.90	42.47	34.695		
6,300.00	6,289.42	6,276.36	6,274.05	22.00	21.24	-32.87	-1,698.16	-187.41	1,468.75	1,425.59	43.16	34.027		
6,400.00	6,389.12	6,368.65	6,366.26	22.36	21.57	-32.90	-1,700.22	-190.51	1,464.52	1,420.68	43.85	33.399		
6,500.00	6,488.82	6,460.22	6,457.75	22.72	21.90	-32.94	-1,702.86	-193.36	1,460.95	1,416.42	44.53	32.807		
6,600.00	6,588.52	6,558.67	6,556.10	23.08	22.25	-32.99	-1,705.96	-196.33	1,457.63	1,412.39	45.24	32.220		
6,700.00	6,688.22	6,656.96	6,654.28	23.44	22.60	-33.01	-1,709.19	-199.92	1,454.46	1,408.52	45.95	31.654		
6,800.00	6,787.91	6,766.63	6,763.80	23.80	23.00	-33.02	-1,712.62	-204.47	1,451.18	1,404.48	46.70	31.074		
6,900.00	6,887.61	6,879.48	6,876.59	24.16	23.40	-33.11	-1,714.97	-207.04	1,446.77	1,399.31	47.46	30.483		
7,000.00	6,987.31	6,984.78	6,981.86	24.52	23.78	-33.22	-1,716.65	-208.69	1,441.88	1,393.69	48.19	29.918		
7,100.00	7,087.01	7,086.71	7,083.78	24.88	24.14	-33.35	-1,717.93	-209.80	1,436.65	1,387.74	48.91	29.371		
7,200.00	7,186.71	7,212.28	7,209.32	25.24	24.58	-33.64	-1,718.39	-208.01	1,430.52	1,380.82	49.69	28.787		
7,300.00	7,286.41	7,300.49	7,297.48	25.60	24.87	-33.92	-1,718.32	-204.80	1,423.95	1,373.59	50.36	28.276		
7,400.00	7,386.10	7,390.23	7,387.18	25.96	25.18	-34.18	-1,718.91	-202.32	1,418.16	1,367.13	51.03	27.791		
7,500.00	7,485.80	7,489.78	7,486.70	26.33	25.52	-34.43	-1,719.91	-200.59	1,412.75	1,361.02	51.73	27.309		
7,600.00	7,585.50	7,590.04	7,586.96	26.69	25.87	-34.65	-1,720.90	-199.51	1,407.34	1,354.90	52.44	26.838		
7,700.00	7,685.20	7,689.76	7,686.67	27.05	26.22	-34.84	-1,721.86	-199.21	1,401.92	1,348.77	53.15	26.378		
7,800.00	7,784.90	7,784.87	7,781.78	27.41	26.56	-35.02	-1,722.86	-199.00	1,396.61	1,342.77	53.84	25.938		
7,860.70	7,845.41	7,835.84	7,832.74	27.63	26.74	-35.12	-1,723.71	-198.83	1,393.76	1,339.51	54.24	25.694		
7,900.00	7,884.61	7,871.83	7,868.72	27.77	26.86	-35.18	-1,724.50	-198.68	1,392.29	1,337.78	54.51	25.541		
8,000.00	7,984.46	7,990.18	7,987.04	28.13	27.27	-35.38	-1,725.93	-196.93	1,389.03	1,333.76	55.28	25.129		
8,090.06	8,074.48	8,072.85	8,069.70	28.45	27.56	-35.48	-1,726.96	-195.56	1,388.02	1,332.13	55.89	24.837 CC		
8,100.00	8,084.42	8,083.63	8,080.47	28.49	27.60	-35.49	-1,727.11	-195.36	1,388.03	1,332.07	55.96	24.805		
8,157.59	8,142.00	8,146.05	8,142.87	28.69	27.81	178.51	-1,727.82	-193.82	1,388.37	1,332.00	56.37	24.629		
8,200.00	8,184.41	8,191.01	8,187.82	28.83	27.97	178.46	-1,728.21	-192.59	1,388.77	1,332.10	56.67	24.506		
8,300.00	8,284.41	8,285.25	8,282.04	29.17	28.30	178.40	-1,728.96	-191.09	1,389.62	1,332.28	57.34	24.235		
8,400.00	8,384.41	8,374.19	8,370.96	29.51	28.61	178.39	-1,730.57	-190.88	1,391.41	1,333.42	58.00	23.992		
8,507.63	8,492.04	8,479.66	8,476.41	29.87	28.98	178.41	-1,732.82	-191.38	1,393.70	1,334.96	58.74	23.728		
8,550.00	8,534.37	8,520.78	8,517.51	30.02	29.13	89.03	-1,733.76	-191.80	1,394.63	1,335.60	59.03	23.627		
8,600.00	8,584.01	8,567.20	8,563.91	30.18	29.30	89.16	-1,734.89	-192.31	1,395.74	1,336.39	59.36	23.515		
8,650.00	8,632.95	8,612.68	8,609.37	30.34	29.46	89.43	-1,736.10	-192.61	1,396.97	1,337.29	59.68	23.408		
8,700.00	8,680.82	8,654.26	8,650.94	30.50	29.61	89.78	-1,737.34	-192.80	1,398.43	1,338.44	59.98	23.313		
8,750.00	8,727.25	8,693.66	8,690.32	30.66	29.75	90.20	-1,738.71	-193.04	1,400.30	1,340.02	60.28	23.231		
8,800.00	8,771.89	8,731.20	8,727.82	30.81	29.88	90.66	-1,740.19	-193.32	1,402.72	1,342.16	60.56	23.164		
8,850.00	8,814.40	8,766.45	8,763.04	30.95	30.01	91.12	-1,741.76	-193.65	1,405.84	1,345.02	60.82	23.114		
8,900.00	8,854.46	8,799.54	8,796.08	31.09	30.13	91.53	-1,743.39	-194.00	1,409.82	1,348.74	61.08	23.082		
8,950.00	8,891.75	8,833.03	8,829.53	31.23	30.25	91.95	-1,745.17	-194.40	1,414.78	1,353.44	61.34	23.065		
9,000.00	8,926.01	8,865.46	8,861.91	31.37	30.36	92.32	-1,746.93	-194.80	1,420.80	1,359.20	61.60	23.065		
9,050.00	8,956.96	8,894.66	8,891.06	31.53	30.47	92.52	-1,748.54	-195.18	1,428.03	1,366.17	61.86	23.087		
9,100.00	8,984.38	8,920.03	8,916.39	31.69	30.56	92.52	-1,749.96	-195.51	1,436.60	1,374.49	62.10	23.132		
9,150.00	9,008.05	8,941.38	8,937.70	31.87	30.64	92.26	-1,751.17	-195.82	1,446.63	1,384.28	62.35	23.203		
9,200.00	9,027.79	9,614.46	9,283.16	32.07	33.16	98.98	-1,763.44	152.64	1,447.63	1,383.32	64.31	22.512		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 438-MWD+HDGM, 9290-MWD+HDGM													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		+N/-S (ft)	+E/-W (ft)						
9,250.00	9,043.45	9,665.04	9,286.36	32.29	33.59	98.73	-1,762.41	203.11	1,445.14	1,380.12	65.02	22.226		
9,300.00	9,054.92	9,720.18	9,289.87	32.53	34.15	98.56	-1,761.13	258.13	1,443.26	1,377.39	65.86	21.912		
9,350.00	9,062.10	9,779.20	9,293.25	32.79	34.79	98.51	-1,759.54	317.03	1,441.83	1,375.05	66.78	21.591		
9,400.00	9,064.95	9,850.23	9,295.65	33.06	35.66	98.59	-1,757.08	387.97	1,440.48	1,372.57	67.92	21.210		
9,407.63	9,065.00	9,861.06	9,295.81	33.10	35.79	98.61	-1,756.64	398.80	1,440.27	1,372.18	68.09	21.153		
9,500.00	9,065.00	9,968.24	9,298.08	33.68	37.29	98.73	-1,751.53	505.83	1,437.22	1,367.10	70.12	20.497		
9,600.00	9,065.00	10,063.82	9,301.25	34.41	38.81	98.88	-1,746.35	601.22	1,433.46	1,361.15	72.31	19.823		
9,700.00	9,065.00	10,136.78	9,303.30	35.24	40.04	98.97	-1,743.33	674.08	1,430.89	1,356.56	74.33	19.250		
9,800.00	9,065.00	10,225.84	9,305.04	36.17	41.64	99.05	-1,741.04	763.09	1,429.72	1,352.91	76.82	18.612		
9,864.33	9,065.00	10,277.90	9,306.32	36.83	42.62	99.10	-1,739.99	815.13	1,429.41	1,350.98	78.42	18.227		
9,900.00	9,065.00	10,305.30	9,307.47	37.19	43.15	99.15	-1,739.59	842.50	1,429.51	1,350.22	79.29	18.029		
10,000.00	9,065.00	10,393.63	9,313.02	38.30	44.90	99.37	-1,738.77	930.65	1,430.68	1,348.62	82.05	17.436		
10,100.00	9,065.00	10,499.54	9,320.62	39.48	47.08	99.67	-1,737.76	1,036.28	1,432.01	1,346.71	85.31	16.786		
10,200.00	9,065.00	10,606.04	9,326.56	40.72	49.37	99.90	-1,736.37	1,142.61	1,432.76	1,344.02	88.74	16.145		
10,300.00	9,065.00	10,688.73	9,329.18	42.03	51.21	100.00	-1,735.86	1,225.25	1,433.80	1,341.99	91.81	15.617		
10,400.00	9,065.00	10,774.66	9,330.93	43.40	53.16	100.06	-1,736.69	1,311.16	1,436.18	1,341.12	95.06	15.109		
10,500.00	9,065.00	10,880.92	9,333.24	44.82	55.64	100.13	-1,738.09	1,417.38	1,438.95	1,340.07	98.88	14.552		
10,600.00	9,065.00	10,979.06	9,335.38	46.29	57.97	100.20	-1,738.83	1,515.50	1,441.17	1,338.56	102.60	14.046		
10,700.00	9,065.00	11,097.73	9,338.02	47.79	60.84	100.29	-1,739.49	1,634.13	1,443.23	1,336.32	106.91	13.499		
10,800.00	9,065.00	11,199.55	9,340.48	49.34	63.35	100.38	-1,739.05	1,735.92	1,444.32	1,333.44	110.88	13.026		
10,900.00	9,065.00	11,303.08	9,343.26	50.92	65.94	100.49	-1,738.32	1,839.41	1,445.20	1,330.25	114.96	12.572		
11,000.00	9,065.00	11,399.65	9,346.17	52.54	68.38	100.60	-1,737.61	1,935.94	1,446.11	1,327.20	118.91	12.162		
11,100.00	9,065.00	11,495.30	9,347.73	54.18	70.82	100.65	-1,737.40	2,031.57	1,447.28	1,324.37	122.91	11.776		
11,200.00	9,065.00	11,588.75	9,348.55	55.85	73.22	100.68	-1,737.70	2,125.01	1,448.84	1,321.93	126.90	11.417		
11,300.00	9,065.00	11,683.81	9,349.45	57.54	75.69	100.70	-1,738.42	2,220.07	1,450.83	1,319.85	130.99	11.076		
11,400.00	9,065.00	11,788.91	9,350.51	59.26	78.44	100.72	-1,739.16	2,325.17	1,452.79	1,317.41	135.38	10.731		
11,500.00	9,065.00	11,897.30	9,351.64	61.00	81.29	100.76	-1,739.42	2,433.55	1,454.31	1,314.42	139.89	10.396		
11,600.00	9,065.00	12,004.08	9,353.15	62.75	84.12	100.81	-1,738.92	2,540.31	1,455.19	1,310.80	144.39	10.078		
11,700.00	9,065.00	12,104.42	9,355.26	64.52	86.79	100.89	-1,738.12	2,640.62	1,455.88	1,307.16	148.72	9.789		
11,800.00	9,065.00	12,210.30	9,358.38	66.31	89.62	101.01	-1,736.99	2,746.45	1,456.48	1,303.27	153.21	9.506		
11,900.00	9,065.00	12,338.48	9,362.00	68.11	93.06	101.16	-1,734.18	2,874.55	1,455.99	1,297.71	158.27	9.199		
12,000.00	9,065.00	12,462.58	9,365.26	69.93	96.39	101.32	-1,728.90	2,998.49	1,453.38	1,290.17	163.21	8.905		
12,100.00	9,065.00	12,556.64	9,367.38	71.76	98.93	101.43	-1,724.20	3,092.41	1,450.01	1,282.55	167.46	8.659		
12,200.00	9,065.00	12,633.93	9,368.13	73.60	101.02	101.47	-1,721.67	3,169.65	1,448.04	1,276.70	171.34	8.451		
12,300.00	9,065.00	12,734.79	9,368.29	75.45	103.77	101.49	-1,718.91	3,270.47	1,446.46	1,270.62	175.84	8.226		
12,371.01	9,065.00	12,786.05	9,368.22	76.77	105.16	101.49	-1,718.00	3,321.72	1,445.98	1,267.45	178.53	8.099		
12,400.00	9,065.00	12,812.00	9,368.17	77.31	105.87	101.49	-1,717.82	3,347.68	1,446.07	1,266.32	179.76	8.045		
12,500.00	9,065.00	12,895.65	9,368.11	79.18	108.16	101.48	-1,717.77	3,431.33	1,447.05	1,263.21	183.83	7.871		
12,600.00	9,065.00	12,981.40	9,368.90	81.05	110.52	101.50	-1,718.25	3,517.07	1,448.86	1,260.91	187.95	7.709		
12,700.00	9,065.00	13,079.64	9,371.29	82.94	113.22	101.57	-1,719.19	3,615.28	1,451.35	1,258.95	192.41	7.543		
12,800.00	9,065.00	13,199.62	9,374.11	84.83	116.53	101.67	-1,719.54	3,735.22	1,453.21	1,255.71	197.49	7.358		
12,900.00	9,065.00	13,300.48	9,376.28	86.73	119.31	101.75	-1,718.98	3,836.06	1,454.18	1,252.14	202.04	7.197		
13,000.00	9,065.00	13,384.73	9,378.07	88.64	121.65	101.81	-1,719.04	3,920.28	1,455.76	1,249.63	206.13	7.062		
13,100.00	9,065.00	13,495.53	9,381.17	90.55	124.72	101.92	-1,718.93	4,031.04	1,457.30	1,246.33	210.97	6.908		
13,200.00	9,065.00	13,585.79	9,383.81	92.47	127.22	102.01	-1,719.07	4,121.26	1,459.12	1,243.90	215.22	6.780		
13,300.00	9,065.00	13,709.51	9,387.36	94.39	130.66	102.14	-1,718.45	4,244.92	1,460.29	1,239.88	220.41	6.625		
13,400.00	9,065.00	13,807.66	9,389.47	96.32	133.39	102.23	-1,717.03	4,343.05	1,460.42	1,235.50	224.92	6.493		
13,500.00	9,065.00	13,896.65	9,389.75	98.25	135.87	102.23	-1,717.00	4,432.03	1,461.51	1,232.28	229.23	6.376		
13,600.00	9,065.00	13,989.38	9,387.96	100.19	138.45	102.15	-1,717.62	4,524.74	1,462.84	1,229.12	233.71	6.259		
13,700.00	9,065.00	14,077.03	9,387.97	102.13	140.90	102.13	-1,718.83	4,612.37	1,465.24	1,227.24	238.00	6.157		
13,800.00	9,065.00	14,182.72	9,389.83	104.08	143.86	102.18	-1,719.80	4,718.05	1,467.58	1,224.80	242.78	6.045		
13,900.00	9,065.00	14,308.30	9,394.35	106.03	147.37	102.34	-1,719.70	4,843.54	1,469.45	1,221.41	248.04	5.924		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Sec 14-T21S-R27E - Lone Tree Draw 14-13 State Com 336H - ST01 - ST01													Offset Well Error:	0.50 ft
Survey Program: 438-MWD+HDGM, 9290-MWD+HDGM														
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
14,000.00	9,065.00	14,422.34	9,400.37	107.98	150.55	102.59	-1,716.90	4,957.38	1,469.23	1,216.38	252.86	5.811		
14,100.00	9,065.00	14,529.97	9,406.14	109.94	153.56	102.82	-1,713.65	5,064.81	1,468.54	1,211.05	257.49	5.703		
14,200.00	9,065.00	14,636.83	9,410.94	111.90	156.54	103.03	-1,710.04	5,171.50	1,467.31	1,205.19	262.12	5.598		
14,300.00	9,065.00	14,734.40	9,415.06	113.86	159.27	103.21	-1,706.62	5,268.92	1,465.93	1,199.39	266.54	5.500		
14,400.00	9,065.00	14,824.86	9,417.80	115.82	161.80	103.32	-1,704.12	5,359.31	1,465.00	1,194.17	270.83	5.409		
14,472.70	9,065.00	14,888.94	9,418.09	117.25	163.60	103.34	-1,703.15	5,423.38	1,464.79	1,190.81	273.98	5.346		
14,500.00	9,065.00	14,913.64	9,417.79	117.79	164.30	103.32	-1,702.98	5,448.07	1,464.82	1,189.62	275.19	5.323		
14,600.00	9,065.00	15,009.57	9,417.90	119.76	167.00	103.33	-1,702.26	5,543.99	1,465.18	1,185.43	279.75	5.237		
14,700.00	9,065.00	15,119.84	9,419.19	121.74	170.10	103.38	-1,700.85	5,654.25	1,465.28	1,180.62	284.65	5.148		
14,800.00	9,065.00	15,234.58	9,421.64	123.71	173.33	103.48	-1,698.24	5,768.93	1,464.65	1,175.05	289.60	5.058		
14,900.00	9,065.00	15,345.03	9,425.68	125.69	176.43	103.66	-1,694.04	5,879.23	1,462.86	1,168.54	294.32	4.970 Alert		
15,000.00	9,065.00	15,451.52	9,429.72	127.67	179.42	103.85	-1,689.56	5,985.55	1,460.74	1,161.81	298.93	4.887 Alert		
15,100.00	9,065.00	15,533.53	9,432.36	129.65	181.72	103.97	-1,686.31	6,067.45	1,458.78	1,155.75	303.02	4.814 Alert		
15,200.00	9,065.00	15,621.10	9,433.91	131.63	184.19	104.04	-1,684.51	6,154.98	1,458.25	1,150.95	307.30	4.745 Alert		
15,300.00	9,065.00	15,733.86	9,435.54	133.62	187.37	104.11	-1,682.21	6,267.71	1,457.71	1,145.49	312.22	4.669 Alert		
15,400.00	9,065.00	15,828.86	9,436.42	135.61	190.05	104.16	-1,679.74	6,362.67	1,456.50	1,139.78	316.72	4.599 Alert		
15,500.00	9,065.00	15,931.47	9,435.79	137.60	192.95	104.14	-1,677.94	6,465.26	1,455.72	1,134.23	321.49	4.528 Alert		
15,583.57	9,065.00	16,000.24	9,435.47	139.26	194.89	104.13	-1,676.78	6,534.02	1,455.17	1,130.14	325.03	4.477 Alert		
15,600.00	9,065.00	16,012.65	9,435.48	139.59	195.24	104.13	-1,676.65	6,546.43	1,455.19	1,129.51	325.69	4.468 Alert		
15,700.00	9,065.00	16,105.19	9,436.07	141.58	197.86	104.15	-1,676.26	6,638.97	1,455.98	1,125.84	330.14	4.410 Alert		
15,800.00	9,065.00	16,216.02	9,436.83	143.57	201.00	104.17	-1,675.38	6,749.79	1,456.45	1,121.34	335.11	4.346 Alert		
15,900.00	9,065.00	16,294.72	9,437.85	145.57	203.22	104.21	-1,674.68	6,828.48	1,457.03	1,117.89	339.14	4.296 Alert		
16,000.00	9,065.00	16,373.91	9,440.00	147.56	205.47	104.28	-1,675.20	6,907.64	1,459.37	1,116.31	343.06	4.254 Alert		
16,100.00	9,065.00	16,471.85	9,443.99	149.56	208.24	104.41	-1,676.39	7,005.49	1,462.62	1,115.10	347.51	4.209 Alert		
16,200.00	9,065.00	16,574.14	9,449.21	151.56	211.14	104.59	-1,676.91	7,107.65	1,465.45	1,113.42	352.03	4.163 Alert		
16,300.00	9,065.00	16,674.51	9,455.01	153.56	213.98	104.79	-1,677.40	7,207.85	1,468.45	1,112.01	356.44	4.120 Alert		
16,400.00	9,065.00	16,778.16	9,461.30	155.56	216.91	105.02	-1,677.55	7,311.30	1,471.22	1,110.30	360.92	4.076 Alert		
16,500.00	9,065.00	16,885.60	9,467.39	157.57	219.95	105.24	-1,677.45	7,418.57	1,473.67	1,108.16	365.52	4.032 Alert		
16,600.00	9,065.00	17,003.21	9,471.95	159.57	223.29	105.40	-1,676.85	7,536.09	1,475.28	1,104.78	370.50	3.982 Alert		
16,700.00	9,065.00	17,105.07	9,473.09	161.57	226.18	105.43	-1,676.52	7,637.93	1,476.33	1,101.14	375.19	3.935 Alert		
16,800.00	9,065.00	17,207.29	9,471.03	163.58	229.08	105.35	-1,676.44	7,740.13	1,476.77	1,096.68	380.09	3.885 Alert		
16,900.00	9,065.00	17,281.73	9,470.20	165.59	231.20	105.30	-1,677.09	7,814.56	1,478.37	1,094.31	384.06	3.849 Alert		
17,000.00	9,065.00	17,376.62	9,472.14	167.60	233.89	105.35	-1,678.11	7,909.42	1,481.00	1,092.50	388.50	3.812 Alert		
17,100.00	9,065.00	17,488.69	9,476.30	169.60	237.08	105.49	-1,678.30	8,021.41	1,483.20	1,089.83	393.36	3.771 Alert		
17,200.00	9,065.00	17,580.54	9,479.32	171.61	239.69	105.59	-1,678.67	8,113.21	1,485.51	1,087.89	397.62	3.736 Alert		
17,300.00	9,065.00	17,692.01	9,481.81	173.62	242.86	105.66	-1,679.35	8,224.65	1,487.78	1,085.21	402.57	3.696 Alert		
17,400.00	9,065.00	17,802.99	9,483.62	175.63	246.01	105.72	-1,678.94	8,335.61	1,488.90	1,081.40	407.50	3.654 Alert		
17,500.00	9,065.00	17,849.00	9,484.32	177.65	247.32	105.74	-1,678.74	8,381.62	1,490.91	1,080.63	410.28	3.634 Alert		
17,600.00	9,065.00	17,908.28	9,491.55	179.66	248.92	106.01	-1,678.60	8,440.34	1,495.85	1,083.21	412.64	3.625 Alert		
17,700.00	9,065.00	18,102.64	9,518.70	181.67	254.25	106.98	-1,678.76	8,631.18	1,501.77	1,082.88	418.90	3.585 Alert		
17,800.00	9,065.00	18,243.21	9,519.49	183.69	258.25	107.01	-1,677.31	8,771.74	1,502.12	1,077.52	424.60	3.538 Alert		
17,900.00	9,065.00	18,350.53	9,520.83	185.70	261.29	107.08	-1,674.00	8,879.00	1,500.60	1,071.32	429.28	3.496 Alert		
18,000.00	9,065.00	18,456.47	9,521.94	187.72	264.30	107.15	-1,670.10	8,984.86	1,498.43	1,064.51	433.92	3.453 Alert		
18,100.00	9,065.00	18,549.23	9,522.94	189.73	266.93	107.21	-1,666.64	9,077.55	1,496.25	1,057.95	438.30	3.414 Alert		
18,200.00	9,065.00	18,637.48	9,525.82	191.75	269.43	107.34	-1,663.58	9,165.70	1,494.95	1,052.53	442.42	3.379 Alert		
18,300.00	9,065.00	18,733.66	9,530.29	193.77	272.15	107.53	-1,660.16	9,261.71	1,493.99	1,047.42	446.57	3.346 Alert		
18,400.00	9,065.00	18,835.34	9,535.73	195.78	275.03	107.76	-1,656.74	9,363.19	1,493.46	1,042.70	450.76	3.313 Alert		
18,500.00	9,065.00	18,946.63	9,542.21	197.80	278.18	108.04	-1,651.69	9,474.18	1,491.94	1,036.91	455.03	3.279 Alert		
18,600.00	9,065.00	19,049.92	9,548.99	199.82	281.10	108.34	-1,646.61	9,577.12	1,490.36	1,031.31	459.05	3.247 Alert		
18,700.00	9,065.00	19,154.20	9,556.52	201.84	284.04	108.67	-1,640.74	9,680.96	1,488.35	1,025.37	462.97	3.215 Alert		
18,748.45	9,065.00	19,172.00	9,557.83	202.82	284.54	108.73	-1,639.72	9,698.68	1,487.67	1,023.33	464.34	3.204 Alert, ES		
18,800.00	9,065.00	19,172.00	9,557.83	203.86	284.54	108.73	-1,639.72	9,698.68	1,488.56	1,023.51	465.05	3.201 Alert, SF		

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design												Sec 14-T21S-R27E - Lone Tree Draw 14-13 State Com 336H - ST01 - ST01		Offset Site Error:		0.00 ft	
Survey Program:												438-MWD+HDGM, 9290-MWD+HDGM		Offset Well Error:		0.50 ft	
Reference		Offset		Semi Major Axis			Distance						Warning				
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor					
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)						
18,900.00	9,065.00	19,172.00	9,557.83	205.88	284.54	108.73	-1,639.72	9,698.68	1,495.37	1,030.48	464.89	3.217	Alert				
19,000.00	9,065.00	19,172.00	9,557.83	207.90	284.54	108.73	-1,639.72	9,698.68	1,508.79	1,046.04	462.74	3.261	Alert				
19,100.00	9,065.00	19,172.00	9,557.83	209.92	284.54	108.73	-1,639.72	9,698.68	1,528.64	1,069.89	458.75	3.332	Alert				
19,200.00	9,065.00	19,172.00	9,557.83	211.95	284.54	108.73	-1,639.72	9,698.68	1,554.69	1,101.59	453.10	3.431	Alert				
19,300.00	9,065.00	19,172.00	9,557.83	213.97	284.54	108.73	-1,639.72	9,698.68	1,586.62	1,140.59	446.03	3.557	Alert				
19,400.00	9,065.00	19,172.00	9,557.83	215.99	284.54	108.73	-1,639.72	9,698.68	1,624.09	1,186.31	437.79	3.710	Alert				
19,456.84	9,065.00	19,172.00	9,557.83	217.14	284.54	108.73	-1,639.72	9,698.68	1,647.72	1,215.04	432.68	3.808	Alert				

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design		Sec 14-T21S-R27E - Lone Tree Draw 14-13 State Com 336H - Wellbore #1 - Wellbore #1											Offset Site Error:		0.00 ft
Survey Program:		438-MWD+HDGM											Offset Well Error:		0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor			
0.00	0.00	14.70	14.70	0.50	0.50	-176.33	-1,663.40	-106.75	1,666.82						
100.00	100.00	111.43	111.43	0.52	0.53	-176.33	-1,663.53	-106.62	1,666.95	1,665.89	1.05	1,584.345			
200.00	200.00	208.16	208.16	0.70	0.61	-176.34	-1,663.86	-106.30	1,667.27	1,665.96	1.31	1,269.137			
300.00	300.00	304.89	304.89	0.99	0.72	-176.36	-1,664.40	-105.79	1,667.79	1,666.08	1.71	977.772			
400.00	400.00	401.61	401.60	1.31	0.84	-176.39	-1,665.14	-105.09	1,668.51	1,666.35	2.15	775.104			
500.00	500.00	497.70	497.68	1.65	1.08	-176.42	-1,666.08	-104.23	1,669.43	1,666.71	2.72	612.830			
600.00	600.00	597.47	597.44	1.99	1.41	-176.45	-1,667.23	-103.34	1,670.53	1,667.13	3.40	491.988			
700.00	700.00	695.00	694.96	2.34	1.74	-176.48	-1,668.36	-102.72	1,671.64	1,667.56	4.07	410.228			
800.00	800.00	793.91	793.86	2.69	2.08	-176.49	-1,669.63	-102.28	1,672.89	1,668.12	4.77	350.896			
900.00	900.00	895.91	895.85	3.04	2.44	-176.52	-1,670.91	-101.61	1,674.11	1,668.64	5.48	305.673			
1,000.00	1,000.00	992.05	991.98	3.40	2.78	-176.55	-1,672.26	-100.68	1,675.45	1,669.28	6.17	271.579			
1,100.00	1,100.00	1,113.87	1,113.78	3.75	3.20	-176.61	-1,673.33	-99.25	1,676.27	1,669.32	6.95	241.303			
1,200.00	1,200.00	1,232.39	1,232.30	4.11	3.59	-176.58	-1,672.59	-100.01	1,675.66	1,667.97	7.69	217.797			
1,300.00	1,300.00	1,343.41	1,343.28	4.46	3.95	-176.49	-1,670.95	-102.38	1,674.31	1,665.90	8.41	199.031			
1,400.00	1,400.00	1,444.47	1,444.28	4.82	4.29	-176.39	-1,669.04	-105.23	1,672.61	1,663.50	9.11	183.677			
1,500.00	1,500.00	1,532.31	1,532.08	5.18	4.59	-176.31	-1,667.73	-107.62	1,671.29	1,661.53	9.76	171.214			
1,600.00	1,600.00	1,630.54	1,630.26	5.53	4.92	-176.21	-1,666.63	-110.30	1,670.34	1,659.89	10.45	159.777			
1,700.00	1,700.00	1,732.97	1,732.65	5.89	5.28	-176.11	-1,665.46	-113.11	1,669.39	1,658.23	11.16	149.535			
1,800.00	1,800.00	1,837.76	1,837.39	6.25	5.64	-176.01	-1,664.00	-116.04	1,668.18	1,656.30	11.88	140.377			
1,900.00	1,900.00	1,936.35	1,935.93	6.61	5.98	-175.92	-1,662.46	-118.59	1,666.82	1,654.23	12.58	132.456			
2,000.00	2,000.00	2,029.43	2,028.98	6.96	6.30	-175.84	-1,661.37	-120.86	1,665.82	1,652.55	13.27	125.562			
2,100.00	2,100.00	2,126.44	2,125.95	7.32	6.64	-175.75	-1,660.48	-123.32	1,665.09	1,651.12	13.96	119.235			
2,200.00	2,200.00	2,225.92	2,225.39	7.68	6.99	-175.65	-1,659.67	-126.11	1,664.49	1,649.82	14.67	113.442			
2,300.00	2,300.00	2,328.05	2,327.48	8.04	7.35	-175.55	-1,658.76	-129.01	1,663.81	1,648.42	15.39	108.106			
2,400.00	2,400.00	2,431.42	2,430.80	8.39	7.72	-175.45	-1,657.68	-131.93	1,662.99	1,646.88	16.11	103.206			
2,500.00	2,500.00	2,533.45	2,532.78	8.75	8.08	-175.34	-1,656.38	-135.03	1,661.96	1,645.13	16.83	98.737			
2,600.00	2,599.99	2,630.55	2,629.82	9.09	8.43	-29.33	-1,655.16	-137.98	1,660.20	1,642.68	17.52	94.769			
2,700.00	2,699.96	2,726.59	2,725.82	9.42	8.77	-29.29	-1,654.20	-140.87	1,657.18	1,638.99	18.19	91.122			
2,800.00	2,799.86	2,831.78	2,830.96	9.75	9.14	-29.28	-1,653.10	-143.83	1,652.57	1,633.68	18.89	87.488			
2,900.00	2,899.68	2,930.55	2,929.68	10.08	9.49	-29.31	-1,651.94	-146.79	1,646.32	1,626.75	19.57	84.118			
2,945.33	2,944.88	2,962.85	2,961.96	10.23	9.61	-29.33	-1,651.72	-147.74	1,643.20	1,623.37	19.84	82.833			
3,000.00	2,999.39	3,004.01	3,003.10	10.41	9.75	-29.35	-1,651.76	-148.75	1,639.66	1,619.50	20.17	81.310			
3,100.00	3,099.08	3,091.99	3,091.07	10.75	10.07	-29.41	-1,652.61	-150.57	1,634.02	1,613.21	20.81	78.518			
3,200.00	3,198.78	3,189.93	3,188.97	11.08	10.41	-29.47	-1,653.94	-152.63	1,628.77	1,607.28	21.49	75.779			
3,300.00	3,298.48	3,277.14	3,276.16	11.42	10.72	-29.55	-1,655.47	-153.79	1,623.87	1,601.74	22.13	73.363			
3,400.00	3,398.18	3,364.24	3,363.23	11.76	11.02	-29.70	-1,657.89	-153.26	1,619.84	1,597.07	22.77	71.136			
3,500.00	3,497.88	3,505.78	3,504.70	12.10	11.50	-29.98	-1,661.16	-151.13	1,615.44	1,591.84	23.60	68.446			
3,600.00	3,597.58	3,608.64	3,607.55	12.45	11.85	-30.17	-1,661.77	-149.80	1,609.22	1,584.93	24.29	66.240			
3,700.00	3,697.27	3,704.78	3,703.68	12.79	12.18	-30.35	-1,662.30	-148.38	1,602.96	1,578.00	24.97	64.208			
3,800.00	3,796.97	3,802.79	3,801.68	13.14	12.52	-30.54	-1,662.99	-146.95	1,596.86	1,571.22	25.65	62.268			
3,900.00	3,896.67	3,901.87	3,900.75	13.48	12.86	-30.73	-1,663.76	-145.65	1,590.88	1,564.55	26.33	60.419			
4,000.00	3,996.37	4,001.75	4,000.62	13.83	13.20	-30.91	-1,664.49	-144.68	1,584.88	1,557.86	27.02	58.653			
4,100.00	4,096.07	4,104.40	4,103.27	14.18	13.56	-31.10	-1,665.23	-143.69	1,578.88	1,551.16	27.72	56.953			
4,200.00	4,195.76	4,202.73	4,201.59	14.53	13.90	-31.27	-1,665.70	-142.97	1,572.68	1,544.26	28.41	55.354			
4,300.00	4,295.46	4,298.59	4,297.44	14.88	14.23	-31.44	-1,666.46	-142.37	1,566.81	1,537.71	29.09	53.854			
4,400.00	4,395.16	4,400.99	4,399.84	15.23	14.59	-31.60	-1,667.31	-142.05	1,560.99	1,531.19	29.80	52.381			
4,500.00	4,494.86	4,501.59	4,500.44	15.58	14.94	-31.76	-1,667.93	-141.81	1,554.98	1,524.48	30.50	50.979			
4,600.00	4,594.56	4,601.60	4,600.44	15.93	15.29	-31.92	-1,668.56	-141.60	1,549.00	1,517.80	31.20	49.642			
4,700.00	4,694.25	4,700.02	4,698.86	16.29	15.64	-32.07	-1,669.18	-141.62	1,543.04	1,511.14	31.90	48.370			
4,800.00	4,793.95	4,799.64	4,798.48	16.64	15.99	-32.23	-1,669.87	-141.66	1,537.16	1,504.56	32.60	47.147			
4,900.00	4,893.65	4,902.29	4,901.13	17.00	16.35	-32.38	-1,670.50	-141.80	1,531.20	1,497.88	33.32	45.959			
5,000.00	4,993.35	4,986.66	4,985.49	17.35	16.65	-32.49	-1,671.29	-142.35	1,525.60	1,491.64	33.97	44.912			

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design		Sec 14-T21S-R27E - Lone Tree Draw 14-13 State Com 336H - Wellbore #1 - Wellbore #1											Offset Site Error:		0.00 ft
Survey Program:		438-MWD+HDGM											Offset Well Error:		0.50 ft
Reference		Offset		Semi Major Axis			Distance						Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor			
5,100.00	5,093.05	5,084.28	5,083.08	17.71	16.99	-32.58	-1,672.89	-144.14	1,520.74	1,486.07	34.67	43.868			
5,200.00	5,192.75	5,183.32	5,182.09	18.06	17.34	-32.66	-1,674.48	-146.27	1,515.86	1,480.49	35.37	42.857			
5,300.00	5,292.44	5,282.08	5,280.81	18.42	17.69	-32.74	-1,676.15	-148.45	1,511.06	1,474.99	36.07	41.888			
5,400.00	5,392.14	5,379.00	5,377.69	18.77	18.04	-32.81	-1,677.91	-150.71	1,506.39	1,469.62	36.77	40.967			
5,500.00	5,491.84	5,479.30	5,477.91	19.13	18.39	-32.84	-1,679.80	-154.11	1,501.82	1,464.34	37.48	40.069			
5,600.00	5,591.54	5,574.54	5,573.01	19.49	18.73	-32.82	-1,681.68	-158.74	1,497.38	1,459.21	38.17	39.226			
5,700.00	5,691.24	5,666.05	5,664.38	19.85	19.06	-32.79	-1,683.90	-163.28	1,493.38	1,454.53	38.85	38.437			
5,800.00	5,790.93	5,767.29	5,765.49	20.20	19.42	-32.78	-1,686.62	-167.86	1,489.64	1,450.07	39.57	37.647			
5,900.00	5,890.63	5,867.66	5,865.73	20.56	19.78	-32.78	-1,689.24	-172.24	1,485.82	1,445.54	40.28	36.886			
6,000.00	5,990.33	5,968.39	5,966.35	20.92	20.14	-32.79	-1,691.84	-176.29	1,481.96	1,440.97	41.00	36.149			
6,100.00	6,090.03	6,073.08	6,070.94	21.28	20.51	-32.81	-1,694.40	-180.09	1,477.96	1,436.24	41.73	35.421			
6,200.00	6,189.73	6,180.75	6,178.51	21.64	20.90	-32.84	-1,696.41	-184.06	1,473.36	1,430.90	42.47	34.695			
6,300.00	6,289.42	6,276.36	6,274.05	22.00	21.24	-32.87	-1,698.16	-187.41	1,468.75	1,425.59	43.16	34.027			
6,400.00	6,389.12	6,368.65	6,366.26	22.36	21.57	-32.90	-1,700.22	-190.51	1,464.52	1,420.68	43.85	33.399			
6,500.00	6,488.82	6,460.22	6,457.75	22.72	21.90	-32.94	-1,702.86	-193.36	1,460.95	1,416.42	44.53	32.807			
6,600.00	6,588.52	6,558.67	6,556.10	23.08	22.25	-32.99	-1,705.96	-196.33	1,457.63	1,412.39	45.24	32.220			
6,700.00	6,688.22	6,656.96	6,654.28	23.44	22.60	-33.01	-1,709.19	-199.92	1,454.46	1,408.52	45.95	31.654			
6,800.00	6,787.91	6,766.63	6,763.80	23.80	23.00	-33.02	-1,712.62	-204.47	1,451.18	1,404.48	46.70	31.074			
6,900.00	6,887.61	6,879.48	6,876.59	24.16	23.40	-33.11	-1,714.97	-207.04	1,446.77	1,399.31	47.46	30.483			
7,000.00	6,987.31	6,984.78	6,981.86	24.52	23.78	-33.22	-1,716.65	-208.69	1,441.88	1,393.69	48.19	29.918			
7,100.00	7,087.01	7,086.71	7,083.78	24.88	24.14	-33.35	-1,717.93	-209.80	1,436.65	1,387.74	48.91	29.371			
7,200.00	7,186.71	7,212.28	7,209.32	25.24	24.58	-33.64	-1,718.39	-208.01	1,430.52	1,380.82	49.69	28.787			
7,300.00	7,286.41	7,300.49	7,297.48	25.60	24.87	-33.92	-1,718.32	-204.80	1,423.95	1,373.59	50.36	28.276			
7,400.00	7,386.10	7,390.23	7,387.18	25.96	25.18	-34.18	-1,718.91	-202.32	1,418.16	1,367.13	51.03	27.791			
7,500.00	7,485.80	7,489.78	7,486.70	26.33	25.52	-34.43	-1,719.91	-200.59	1,412.75	1,361.02	51.73	27.310			
7,600.00	7,585.50	7,590.04	7,586.96	26.69	25.87	-34.65	-1,720.90	-199.51	1,407.34	1,354.90	52.44	26.838			
7,700.00	7,685.20	7,689.76	7,686.67	27.05	26.22	-34.84	-1,721.86	-199.21	1,401.92	1,348.77	53.15	26.378			
7,800.00	7,784.90	7,784.87	7,781.78	27.41	26.56	-35.02	-1,722.86	-199.00	1,396.61	1,342.77	53.84	25.938			
7,860.70	7,845.41	7,835.84	7,832.74	27.63	26.74	-35.12	-1,723.71	-198.83	1,393.76	1,339.51	54.24	25.694			
7,900.00	7,884.61	7,871.83	7,868.72	27.77	26.86	-35.18	-1,724.50	-198.68	1,392.29	1,337.78	54.51	25.541			
8,000.00	7,984.46	7,990.18	7,987.04	28.13	27.27	-35.38	-1,725.93	-196.93	1,389.03	1,333.76	55.28	25.129			
8,090.06	8,074.48	8,072.85	8,069.70	28.45	27.56	-35.48	-1,726.96	-195.56	1,388.02	1,332.13	55.89	24.837 CC			
8,100.00	8,084.42	8,083.63	8,080.47	28.49	27.60	-35.49	-1,727.11	-195.36	1,388.03	1,332.07	55.96	24.805			
8,157.59	8,142.00	8,146.05	8,142.87	28.69	27.81	178.51	-1,727.82	-193.82	1,388.37	1,332.00	56.37	24.629 ES			
8,200.00	8,184.41	8,191.01	8,187.82	28.83	27.97	178.46	-1,728.21	-192.59	1,388.77	1,332.10	56.67	24.506			
8,300.00	8,284.41	8,285.25	8,282.04	29.17	28.30	178.40	-1,728.96	-191.09	1,389.62	1,332.28	57.34	24.235			
8,400.00	8,384.41	8,374.19	8,370.96	29.51	28.61	178.39	-1,730.57	-190.88	1,391.41	1,333.42	58.00	23.992			
8,507.63	8,492.04	8,479.66	8,476.41	29.87	28.98	178.41	-1,732.82	-191.38	1,393.70	1,334.96	58.74	23.728			
8,550.00	8,534.37	8,520.78	8,517.51	30.02	29.13	89.03	-1,733.76	-191.80	1,394.63	1,335.60	59.03	23.627			
8,600.00	8,584.01	8,567.20	8,563.91	30.18	29.30	89.16	-1,734.89	-192.31	1,395.74	1,336.39	59.36	23.515			
8,650.00	8,632.95	8,612.68	8,609.37	30.34	29.46	89.43	-1,736.10	-192.61	1,396.97	1,337.29	59.68	23.408			
8,700.00	8,680.82	8,654.26	8,650.94	30.50	29.61	89.78	-1,737.34	-192.80	1,398.43	1,338.44	59.98	23.313			
8,750.00	8,727.25	8,693.66	8,690.32	30.66	29.75	90.20	-1,738.71	-193.04	1,400.30	1,340.02	60.28	23.231			
8,800.00	8,771.89	8,731.20	8,727.82	30.81	29.88	90.66	-1,740.19	-193.32	1,402.72	1,342.16	60.56	23.164			
8,850.00	8,814.40	8,766.45	8,763.04	30.95	30.01	91.12	-1,741.76	-193.65	1,405.84	1,345.02	60.82	23.114			
8,900.00	8,854.46	8,799.54	8,796.08	31.09	30.13	91.53	-1,743.39	-194.00	1,409.82	1,348.74	61.08	23.082			
8,950.00	8,891.75	8,833.03	8,829.53	31.23	30.25	91.95	-1,745.17	-194.40	1,414.78	1,353.44	61.34	23.065 SF			
9,000.00	8,926.01	8,865.46	8,861.91	31.37	30.36	92.32	-1,746.93	-194.80	1,420.80	1,359.20	61.60	23.065			
9,050.00	8,956.96	8,894.66	8,891.06	31.53	30.47	92.52	-1,748.54	-195.18	1,428.03	1,366.17	61.86	23.087			
9,100.00	8,984.38	8,920.03	8,916.39	31.69	30.56	92.52	-1,749.96	-195.51	1,436.60	1,374.49	62.10	23.132			
9,150.00	9,008.05	8,941.38	8,937.70	31.87	30.64	92.26	-1,751.17	-195.82	1,446.63	1,384.28	62.35	23.203			
9,200.00	9,027.79	8,958.96	8,955.24	32.07	30.70	91.73	-1,752.18	-196.10	1,458.19	1,395.60	62.59	23.298			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design		Sec 14-T21S-R27E - Lone Tree Draw 14-13 State Com 336H - Wellbore #1 - Wellbore #1											Offset Site Error:		0.00 ft
Survey Program:		438-MWD+HDGM											Offset Well Error:		0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor			
9,250.00	9,043.45	8,972.64	8,968.90	32.29	30.75	90.89	-1,752.98	-196.33	1,471.30	1,408.47	62.83	23.419			
9,300.00	9,054.92	8,982.37	8,978.61	32.53	30.78	89.75	-1,753.55	-196.51	1,485.94	1,422.88	63.06	23.564			
9,350.00	9,062.10	8,988.10	8,984.33	32.79	30.81	88.28	-1,753.89	-196.61	1,502.04	1,438.75	63.29	23.733			
9,400.00	9,064.95	8,989.83	8,986.06	33.06	30.81	86.49	-1,753.99	-196.64	1,519.48	1,455.97	63.51	23.926			
9,407.63	9,065.00	8,989.74	8,985.97	33.10	30.81	86.19	-1,753.98	-196.64	1,522.24	1,458.71	63.54	23.958			
9,500.00	9,065.00	8,988.13	8,984.36	33.68	30.81	86.12	-1,753.89	-196.61	1,558.31	1,494.36	63.95	24.367			
9,600.00	9,065.00	8,986.40	8,982.64	34.41	30.80	86.05	-1,753.79	-196.58	1,602.44	1,538.01	64.43	24.869			
9,700.00	9,065.00	8,984.70	8,980.94	35.24	30.79	85.98	-1,753.69	-196.55	1,651.46	1,586.52	64.94	25.432			
9,800.00	9,065.00	8,983.01	8,979.26	36.17	30.79	85.92	-1,753.59	-196.52	1,704.93	1,639.49	65.44	26.053			
9,900.00	9,065.00	8,981.35	8,977.60	37.19	30.78	85.85	-1,753.49	-196.49	1,762.46	1,696.53	65.94	26.730			
10,000.00	9,065.00	8,979.71	8,975.96	38.30	30.78	85.78	-1,753.39	-196.46	1,823.66	1,757.24	66.42	27.458			
10,100.00	9,065.00	8,978.08	8,974.34	39.48	30.77	85.72	-1,753.30	-196.43	1,888.18	1,821.30	66.88	28.234			
10,200.00	9,065.00	8,976.48	8,972.74	40.72	30.76	85.65	-1,753.20	-196.40	1,955.68	1,888.36	67.31	29.054			
10,300.00	9,065.00	8,974.89	8,971.15	42.03	30.76	85.59	-1,753.11	-196.37	2,025.86	1,958.14	67.72	29.915			
10,400.00	9,065.00	8,973.33	8,969.59	43.40	30.75	85.52	-1,753.02	-196.34	2,098.47	2,030.37	68.10	30.813			
10,500.00	9,065.00	8,971.78	8,968.04	44.82	30.75	85.46	-1,752.93	-196.32	2,173.25	2,104.79	68.46	31.745			
10,600.00	9,065.00	8,970.25	8,966.51	46.29	30.74	85.40	-1,752.84	-196.29	2,249.99	2,181.20	68.79	32.708			
10,700.00	9,065.00	8,968.73	8,965.00	47.79	30.74	85.34	-1,752.75	-196.27	2,328.49	2,259.40	69.10	33.699			
10,800.00	9,065.00	8,967.24	8,963.51	49.34	30.73	85.28	-1,752.66	-196.24	2,408.59	2,339.21	69.38	34.715			
10,900.00	9,065.00	8,965.76	8,962.03	50.92	30.73	85.22	-1,752.58	-196.21	2,490.13	2,420.48	69.65	35.754			
11,000.00	9,065.00	8,964.29	8,960.57	52.54	30.72	85.16	-1,752.49	-196.19	2,572.96	2,503.07	69.89	36.814			
11,100.00	9,065.00	8,962.85	8,959.13	54.18	30.71	85.10	-1,752.41	-196.17	2,656.98	2,586.87	70.12	37.893			
11,200.00	9,065.00	8,961.42	8,957.70	55.85	30.71	85.04	-1,752.32	-196.14	2,742.07	2,671.74	70.33	38.989			
11,300.00	9,065.00	8,960.00	8,956.29	57.54	30.70	84.99	-1,752.24	-196.12	2,828.14	2,757.61	70.53	40.100			
11,400.00	9,065.00	8,958.60	8,954.89	59.26	30.70	84.93	-1,752.16	-196.10	2,915.09	2,844.38	70.71	41.226			
11,500.00	9,065.00	8,957.22	8,953.51	61.00	30.69	84.87	-1,752.08	-196.07	3,002.86	2,931.97	70.88	42.364			
11,600.00	9,065.00	8,955.85	8,952.15	62.75	30.69	84.82	-1,752.00	-196.05	3,091.37	3,020.32	71.04	43.513			
11,700.00	9,065.00	8,954.50	8,950.79	64.52	30.68	84.76	-1,751.92	-196.03	3,180.55	3,109.36	71.20	44.674			
11,800.00	9,065.00	8,953.16	8,949.46	66.31	30.68	84.71	-1,751.85	-196.01	3,270.37	3,199.03	71.34	45.843			
11,900.00	9,065.00	8,951.83	8,948.13	68.11	30.67	84.66	-1,751.77	-195.99	3,360.75	3,289.28	71.47	47.022			
12,000.00	9,065.00	8,950.52	8,946.83	69.93	30.67	84.60	-1,751.69	-195.96	3,451.67	3,380.07	71.60	48.208			
12,100.00	9,065.00	8,949.23	8,945.53	71.76	30.67	84.55	-1,751.62	-195.94	3,543.08	3,471.36	71.72	49.402			
12,200.00	9,065.00	8,947.94	8,944.25	73.60	30.66	84.50	-1,751.54	-195.92	3,634.94	3,563.10	71.83	50.602			
12,300.00	9,065.00	8,946.67	8,942.98	75.45	30.66	84.45	-1,751.47	-195.90	3,727.21	3,655.27	71.94	51.808			
12,400.00	9,065.00	8,945.42	8,941.73	77.31	30.65	84.40	-1,751.40	-195.88	3,819.88	3,747.83	72.05	53.019			
12,500.00	9,065.00	8,944.17	8,940.49	79.18	30.65	84.35	-1,751.33	-195.86	3,912.90	3,840.76	72.15	54.236			
12,600.00	9,065.00	8,942.94	8,939.26	81.05	30.64	84.30	-1,751.26	-195.85	4,006.27	3,934.02	72.24	55.456			
12,700.00	9,065.00	8,941.72	8,938.04	82.94	30.64	84.25	-1,751.19	-195.83	4,099.94	4,027.61	72.33	56.681			
12,800.00	9,065.00	8,940.52	8,936.84	84.83	30.63	84.20	-1,751.12	-195.81	4,193.91	4,121.48	72.42	57.909			
12,900.00	9,065.00	8,939.32	8,935.65	86.73	30.63	84.15	-1,751.05	-195.79	4,288.14	4,215.64	72.51	59.141			
13,000.00	9,065.00	8,938.14	8,934.47	88.64	30.63	84.10	-1,750.98	-195.77	4,382.64	4,310.05	72.59	60.375			
13,100.00	9,065.00	8,936.97	8,933.30	90.55	30.62	84.06	-1,750.92	-195.75	4,477.37	4,404.70	72.67	61.612			
13,200.00	9,065.00	8,935.82	8,932.15	92.47	30.62	84.01	-1,750.85	-195.74	4,572.32	4,499.58	72.75	62.851			
13,300.00	9,065.00	8,934.67	8,931.00	94.39	30.61	83.96	-1,750.79	-195.72	4,667.49	4,594.67	72.82	64.093			
13,400.00	9,065.00	8,933.54	8,929.87	96.32	30.61	83.92	-1,750.72	-195.70	4,762.85	4,689.96	72.90	65.336			
13,500.00	9,065.00	8,932.41	8,928.75	98.25	30.61	83.87	-1,750.66	-195.69	4,858.40	4,785.43	72.97	66.580			
13,600.00	9,065.00	8,931.30	8,927.64	100.19	30.60	83.83	-1,750.59	-195.67	4,954.13	4,881.09	73.04	67.826			
13,700.00	9,065.00	8,930.20	8,926.54	102.13	30.60	83.78	-1,750.53	-195.65	5,050.02	4,976.91	73.11	69.073			
13,800.00	9,065.00	8,929.11	8,925.45	104.08	30.59	83.74	-1,750.47	-195.64	5,146.07	5,072.89	73.18	70.321			
13,900.00	9,065.00	8,928.03	8,924.37	106.03	30.59	83.70	-1,750.41	-195.62	5,242.26	5,169.01	73.25	71.570			
14,000.00	9,065.00	8,926.96	8,923.30	107.98	30.59	83.65	-1,750.35	-195.61	5,338.59	5,265.28	73.31	72.820			
14,100.00	9,065.00	8,925.90	8,922.24	109.94	30.58	83.61	-1,750.29	-195.59	5,435.06	5,361.68	73.38	74.069			

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Sec 14-T21S-R27E - Lone Tree Draw 14-13 State Com 336H - Wellbore #1 - Wellbore #1													Offset Well Error:	0.50 ft
Survey Program: 438-MWD+HDGM														
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
14,200.00	9,065.00	8,924.85	8,921.19	111.90	30.58	83.57	-1,750.23	-195.58	5,531.65	5,458.21	73.44	75.319		
14,300.00	9,065.00	8,923.81	8,920.16	113.86	30.57	83.53	-1,750.17	-195.56	5,628.36	5,554.86	73.51	76.570		
14,400.00	9,065.00	8,922.78	8,919.13	115.82	30.57	83.48	-1,750.11	-195.55	5,725.18	5,651.61	73.57	77.820		
14,500.00	9,065.00	8,921.76	8,918.11	117.79	30.57	83.44	-1,750.05	-195.53	5,822.11	5,748.48	73.63	79.070		
14,600.00	9,065.00	8,920.75	8,917.10	119.76	30.56	83.40	-1,750.00	-195.52	5,919.15	5,845.45	73.70	80.319		
14,700.00	9,065.00	8,919.74	8,916.10	121.74	30.56	83.36	-1,749.94	-195.51	6,016.28	5,942.52	73.76	81.569		
14,800.00	9,065.00	8,918.75	8,915.11	123.71	30.56	83.32	-1,749.88	-195.49	6,113.50	6,039.68	73.82	82.818		
14,900.00	9,065.00	8,917.77	8,914.13	125.69	30.55	83.28	-1,749.83	-195.48	6,210.81	6,136.93	73.88	84.066		
15,000.00	9,065.00	8,916.80	8,913.16	127.67	30.55	83.24	-1,749.77	-195.47	6,308.20	6,234.26	73.94	85.314		
15,100.00	9,065.00	8,908.00	8,904.38	129.65	30.52	82.89	-1,749.28	-195.35	6,405.68	6,331.70	73.97	86.593		
15,200.00	9,065.00	8,908.00	8,904.38	131.63	30.52	82.89	-1,749.28	-195.35	6,503.23	6,429.19	74.04	87.836		
15,300.00	9,065.00	8,908.00	8,904.38	133.62	30.52	82.89	-1,749.28	-195.35	6,600.85	6,526.75	74.10	89.077		
15,400.00	9,065.00	8,908.00	8,904.38	135.61	30.52	82.89	-1,749.28	-195.35	6,698.54	6,624.37	74.17	90.317		
15,500.00	9,065.00	8,908.00	8,904.38	137.60	30.52	82.89	-1,749.28	-195.35	6,796.30	6,722.07	74.23	91.556		
15,600.00	9,065.00	8,908.00	8,904.38	139.59	30.52	82.89	-1,749.28	-195.35	6,894.12	6,819.83	74.30	92.793		
15,700.00	9,065.00	8,911.02	8,907.39	141.58	30.53	83.01	-1,749.45	-195.39	6,992.01	6,917.64	74.37	94.016		
15,800.00	9,065.00	8,909.79	8,906.17	143.57	30.52	82.96	-1,749.38	-195.37	7,089.95	7,015.52	74.43	95.256		
15,900.00	9,065.00	8,908.57	8,904.95	145.57	30.52	82.91	-1,749.31	-195.36	7,187.95	7,113.46	74.49	96.495		
16,000.00	9,065.00	8,907.35	8,903.73	147.56	30.51	82.86	-1,749.24	-195.34	7,286.00	7,211.45	74.55	97.733		
16,100.00	9,065.00	8,906.14	8,902.52	149.56	30.51	82.81	-1,749.18	-195.32	7,384.11	7,309.50	74.61	98.969		
16,200.00	9,065.00	8,904.92	8,901.30	151.56	30.51	82.77	-1,749.11	-195.31	7,482.27	7,407.60	74.67	100.203		
16,300.00	9,065.00	8,903.71	8,900.09	153.56	30.50	82.72	-1,749.04	-195.29	7,580.47	7,505.74	74.73	101.436		
16,400.00	9,065.00	8,902.50	8,898.89	155.56	30.50	82.67	-1,748.97	-195.28	7,678.72	7,603.93	74.79	102.668		
16,500.00	9,065.00	8,901.29	8,897.68	157.57	30.49	82.62	-1,748.91	-195.26	7,777.02	7,702.16	74.85	103.897		
16,600.00	9,065.00	8,900.09	8,896.48	159.57	30.49	82.57	-1,748.84	-195.25	7,875.36	7,800.44	74.91	105.125		
16,700.00	9,065.00	8,898.89	8,895.28	161.57	30.48	82.52	-1,748.77	-195.23	7,973.73	7,898.76	74.98	106.350		
16,800.00	9,065.00	8,897.69	8,894.08	163.58	30.48	82.48	-1,748.71	-195.21	8,072.15	7,997.11	75.04	107.574		
16,900.00	9,065.00	8,896.49	8,892.89	165.59	30.48	82.43	-1,748.64	-195.20	8,170.61	8,095.51	75.10	108.796		
17,000.00	9,065.00	8,895.30	8,891.69	167.60	30.47	82.38	-1,748.57	-195.18	8,269.10	8,193.94	75.16	110.017		
17,100.00	9,065.00	8,894.11	8,890.50	169.60	30.47	82.33	-1,748.51	-195.17	8,367.63	8,292.41	75.23	111.235		
17,200.00	9,065.00	8,892.92	8,889.32	171.61	30.46	82.28	-1,748.44	-195.15	8,466.20	8,390.91	75.29	112.451		
17,300.00	9,065.00	8,891.73	8,888.13	173.62	30.46	82.24	-1,748.37	-195.14	8,564.79	8,489.44	75.35	113.664		
17,400.00	9,065.00	8,890.54	8,886.95	175.63	30.45	82.19	-1,748.31	-195.12	8,663.42	8,588.00	75.42	114.876		
17,500.00	9,065.00	8,889.36	8,885.77	177.65	30.45	82.14	-1,748.24	-195.11	8,762.08	8,686.60	75.48	116.086		
17,600.00	9,065.00	8,888.18	8,884.59	179.66	30.45	82.09	-1,748.18	-195.09	8,860.77	8,785.23	75.54	117.293		
17,700.00	9,065.00	8,887.00	8,883.42	181.67	30.44	82.05	-1,748.11	-195.08	8,959.49	8,883.88	75.61	118.498		
17,800.00	9,065.00	8,885.83	8,882.24	183.69	30.44	82.00	-1,748.05	-195.06	9,058.23	8,982.56	75.67	119.701		
17,900.00	9,065.00	8,884.66	8,881.07	185.70	30.43	81.95	-1,747.98	-195.05	9,157.01	9,081.27	75.74	120.901		
18,000.00	9,065.00	8,883.49	8,879.90	187.72	30.43	81.90	-1,747.92	-195.03	9,255.81	9,180.00	75.81	122.099		
18,100.00	9,065.00	8,882.32	8,878.74	189.73	30.43	81.86	-1,747.85	-195.02	9,354.63	9,278.76	75.87	123.295		
18,200.00	9,065.00	8,881.15	8,877.57	191.75	30.42	81.81	-1,747.79	-195.00	9,453.48	9,377.54	75.94	124.488		
18,300.00	9,065.00	8,879.99	8,876.41	193.77	30.42	81.76	-1,747.73	-194.99	9,552.35	9,476.35	76.01	125.679		
18,400.00	9,065.00	8,878.83	8,875.25	195.78	30.41	81.72	-1,747.66	-194.97	9,651.25	9,575.17	76.07	126.867		
18,500.00	9,065.00	8,877.67	8,874.10	197.80	30.41	81.67	-1,747.60	-194.96	9,750.17	9,674.03	76.14	128.053		
18,600.00	9,065.00	8,876.52	8,872.94	199.82	30.40	81.63	-1,747.53	-194.94	9,849.11	9,772.90	76.21	129.236		
18,700.00	9,065.00	8,875.36	8,871.79	201.84	30.40	81.58	-1,747.47	-194.93	9,948.07	9,871.79	76.28	130.417		

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 0-MWD+IFR1													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0.00	0.00	11.70	11.70	0.50	0.50	-0.13	1,588.66	-3.49	1,588.67					
100.00	100.00	111.70	111.70	0.52	0.53	-0.13	1,588.66	-3.49	1,588.67	1,587.62	1.05	1,515.977		
200.00	200.00	211.70	211.70	0.70	0.73	-0.13	1,588.66	-3.49	1,588.67	1,587.23	1.43	1,107.656		
300.00	300.00	311.70	311.70	0.99	1.02	-0.13	1,588.66	-3.49	1,588.67	1,586.66	2.01	789.966		
400.00	400.00	411.70	411.70	1.31	1.35	-0.13	1,588.66	-3.49	1,588.67	1,586.01	2.66	597.909		
500.00	500.00	511.70	511.70	1.65	1.69	-0.13	1,588.66	-3.49	1,588.67	1,585.33	3.33	476.765		
600.00	600.00	611.70	611.70	1.99	2.03	-0.13	1,588.66	-3.49	1,588.67	1,584.65	4.02	395.011		
700.00	700.00	711.70	711.70	2.34	2.38	-0.13	1,588.66	-3.49	1,588.67	1,583.95	4.72	336.609		
800.00	800.00	811.70	811.70	2.69	2.73	-0.13	1,588.66	-3.49	1,588.67	1,583.24	5.42	292.982		
900.00	900.00	911.70	911.70	3.04	3.08	-0.13	1,588.66	-3.49	1,588.67	1,582.54	6.13	259.227		
1,000.00	1,000.00	1,011.70	1,011.70	3.40	3.44	-0.13	1,588.66	-3.49	1,588.67	1,581.83	6.84	232.369		
1,100.00	1,100.00	1,111.70	1,111.70	3.75	3.79	-0.13	1,588.66	-3.49	1,588.67	1,581.12	7.55	210.509		
1,200.00	1,200.00	1,211.70	1,211.70	4.11	4.15	-0.13	1,588.66	-3.49	1,588.67	1,580.41	8.26	192.381		
1,300.00	1,300.00	1,311.70	1,311.70	4.46	4.51	-0.13	1,588.66	-3.49	1,588.67	1,579.70	8.97	177.108		
1,400.00	1,400.00	1,411.70	1,411.70	4.82	4.86	-0.13	1,588.66	-3.49	1,588.67	1,578.98	9.68	164.070		
1,500.00	1,500.00	1,511.70	1,511.70	5.18	5.22	-0.13	1,588.66	-3.49	1,588.67	1,578.27	10.40	152.812		
1,600.00	1,600.00	1,611.70	1,611.70	5.53	5.58	-0.13	1,588.66	-3.49	1,588.67	1,577.56	11.11	142.994		
1,700.00	1,700.00	1,711.70	1,711.70	5.89	5.93	-0.13	1,588.66	-3.49	1,588.67	1,576.84	11.82	134.357		
1,800.00	1,800.00	1,811.70	1,811.70	6.25	6.29	-0.13	1,588.66	-3.49	1,588.67	1,576.13	12.54	126.700		
1,900.00	1,900.00	1,911.70	1,911.70	6.61	6.65	-0.13	1,588.66	-3.49	1,588.67	1,575.41	13.25	119.867		
2,000.00	2,000.00	2,011.70	2,011.70	6.96	7.01	-0.13	1,588.66	-3.49	1,588.67	1,574.70	13.97	113.732		
2,100.00	2,100.00	2,111.70	2,111.70	7.32	7.36	-0.13	1,588.66	-3.49	1,588.67	1,573.98	14.68	108.192		
2,200.00	2,200.00	2,211.70	2,211.70	7.68	7.72	-0.13	1,588.66	-3.49	1,588.67	1,573.27	15.40	103.166		
2,300.00	2,300.00	2,311.70	2,311.70	8.04	8.08	-0.13	1,588.66	-3.49	1,588.67	1,572.55	16.11	98.586		
2,302.97	2,302.97	2,314.67	2,314.67	8.05	8.09	-0.13	1,588.66	-3.49	1,588.67	1,572.53	16.14	98.456 CC		
2,400.00	2,400.00	2,398.64	2,398.64	8.39	8.39	-0.13	1,588.86	-3.54	1,588.92	1,572.14	16.78	94.675 ES		
2,500.00	2,500.00	2,477.45	2,477.44	8.75	8.67	-0.14	1,590.04	-3.85	1,590.41	1,572.99	17.42	91.301		
2,600.00	2,599.99	2,556.20	2,556.15	9.09	8.95	145.76	1,592.25	-4.42	1,593.95	1,575.91	18.04	88.373		
2,700.00	2,699.96	2,634.78	2,634.66	9.42	9.23	145.73	1,595.51	-5.27	1,600.26	1,581.62	18.64	85.871		
2,800.00	2,799.86	2,713.12	2,712.87	9.75	9.51	145.71	1,599.80	-6.38	1,609.33	1,590.10	19.23	83.677		
2,900.00	2,899.68	2,791.11	2,790.68	10.08	9.79	145.69	1,605.09	-7.76	1,621.15	1,601.32	19.83	81.765		
2,945.33	2,944.88	2,826.33	2,825.78	10.23	9.92	145.68	1,607.82	-8.47	1,627.41	1,607.31	20.10	80.984		
3,000.00	2,999.39	2,868.71	2,868.00	10.41	10.07	145.72	1,611.37	-9.39	1,635.49	1,615.07	20.42	80.102		
3,100.00	3,099.08	2,945.99	2,944.92	10.75	10.34	145.77	1,618.64	-11.28	1,651.27	1,630.27	21.00	78.616		
3,200.00	3,198.78	3,022.95	3,021.40	11.08	10.62	145.81	1,626.87	-13.42	1,668.34	1,646.75	21.59	77.283		
3,300.00	3,298.48	3,100.00	3,097.86	11.42	10.89	145.84	1,636.10	-15.82	1,686.68	1,664.52	22.17	76.082		
3,400.00	3,398.18	3,175.79	3,172.93	11.76	11.17	145.87	1,646.16	-18.43	1,706.30	1,683.55	22.74	75.027		
3,500.00	3,497.88	3,251.62	3,247.90	12.10	11.44	145.88	1,657.18	-21.30	1,727.16	1,703.85	23.31	74.084		
3,600.00	3,597.58	3,327.03	3,322.30	12.45	11.71	145.88	1,669.09	-24.39	1,749.28	1,725.40	23.88	73.251		
3,700.00	3,697.27	3,411.50	3,394.87	12.79	12.01	145.88	1,681.65	-27.66	1,772.63	1,748.15	24.47	72.428		
3,800.00	3,796.97	3,502.18	3,490.30	13.14	12.33	145.87	1,698.87	-32.13	1,796.66	1,771.52	25.14	71.472		
3,900.00	3,896.67	3,605.11	3,585.72	13.48	12.70	145.86	1,716.09	-36.61	1,820.69	1,794.84	25.85	70.438		
4,000.00	3,996.37	3,708.04	3,681.15	13.83	13.08	145.85	1,733.31	-41.08	1,844.72	1,818.16	26.56	69.454		
4,100.00	4,096.07	3,789.03	3,776.57	14.18	13.37	145.84	1,750.53	-45.56	1,868.75	1,841.56	27.19	68.718		
4,200.00	4,195.76	3,886.10	3,872.00	14.53	13.72	145.83	1,767.75	-50.03	1,892.79	1,864.90	27.89	67.868		
4,300.00	4,295.46	3,983.17	3,967.42	14.88	14.08	145.82	1,784.97	-54.51	1,916.82	1,888.23	28.59	67.056		
4,400.00	4,395.16	4,080.23	4,062.84	15.23	14.44	145.81	1,802.19	-58.98	1,940.85	1,911.57	29.28	66.280		
4,500.00	4,494.86	4,177.30	4,158.27	15.58	14.79	145.80	1,819.41	-63.46	1,964.88	1,934.90	29.98	65.536		
4,600.00	4,594.56	4,274.37	4,253.69	15.93	15.15	145.79	1,836.63	-67.93	1,988.92	1,958.23	30.68	64.824		
4,700.00	4,694.25	4,371.44	4,349.12	16.29	15.51	145.79	1,853.84	-72.41	2,012.95	1,981.56	31.38	64.141		
4,800.00	4,793.95	4,468.51	4,444.54	16.64	15.87	145.78	1,871.06	-76.88	2,036.98	2,004.89	32.09	63.485		
4,900.00	4,893.65	4,565.58	4,539.97	17.00	16.23	145.77	1,888.28	-81.36	2,061.01	2,028.22	32.79	62.855		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 0-MWD+IFR1													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
5,000.00	4,993.35	4,662.65	4,635.39	17.35	16.59	145.76	1,905.50	-85.83	2,085.04	2,051.55	33.49	62.251		
5,100.00	5,093.05	4,759.72	4,730.82	17.71	16.95	145.75	1,922.72	-90.31	2,109.08	2,074.88	34.20	61.669		
5,200.00	5,192.75	4,856.79	4,826.24	18.06	17.31	145.75	1,939.94	-94.78	2,133.11	2,098.20	34.91	61.109		
5,300.00	5,292.44	4,953.85	4,921.66	18.42	17.67	145.74	1,957.16	-99.26	2,157.14	2,121.53	35.61	60.570		
5,400.00	5,392.14	5,050.92	5,017.09	18.77	18.04	145.73	1,974.38	-103.73	2,181.17	2,144.85	36.32	60.051		
5,500.00	5,491.84	5,147.99	5,112.51	19.13	18.40	145.72	1,991.60	-108.21	2,205.21	2,168.18	37.03	59.550		
5,600.00	5,591.54	5,245.06	5,207.94	19.49	18.76	145.72	2,008.82	-112.68	2,229.24	2,191.50	37.74	59.067		
5,700.00	5,691.24	5,342.13	5,303.36	19.85	19.13	145.71	2,026.04	-117.16	2,253.27	2,214.82	38.45	58.601		
5,800.00	5,790.93	5,439.20	5,398.79	20.20	19.49	145.70	2,043.26	-121.63	2,277.30	2,238.14	39.16	58.150		
5,900.00	5,890.63	5,536.27	5,494.21	20.56	19.86	145.70	2,060.48	-126.11	2,301.34	2,261.46	39.87	57.715		
6,000.00	5,990.33	5,633.34	5,589.64	20.92	20.22	145.69	2,077.70	-130.58	2,325.37	2,284.78	40.59	57.294		
6,100.00	6,090.03	5,730.41	5,685.06	21.28	20.59	145.68	2,094.92	-135.06	2,349.40	2,308.10	41.30	56.887		
6,200.00	6,189.73	5,827.47	5,780.48	21.64	20.95	145.68	2,112.14	-139.53	2,373.44	2,331.42	42.01	56.493		
6,300.00	6,289.42	5,924.54	5,875.91	22.00	21.32	145.67	2,129.36	-144.01	2,397.47	2,354.74	42.73	56.112		
6,400.00	6,389.12	6,021.61	5,971.33	22.36	21.69	145.67	2,146.57	-148.48	2,421.50	2,378.06	43.44	55.742		
6,500.00	6,488.82	6,118.68	6,066.76	22.72	22.05	145.66	2,163.79	-152.96	2,445.53	2,401.38	44.16	55.384		
6,600.00	6,588.52	6,215.75	6,162.18	23.08	22.42	145.65	2,181.01	-157.43	2,469.57	2,424.70	44.87	55.037		
6,700.00	6,688.22	6,312.82	6,257.61	23.44	22.79	145.65	2,198.23	-161.91	2,493.60	2,448.01	45.59	54.700		
6,800.00	6,787.91	6,409.89	6,353.03	23.80	23.15	145.64	2,215.45	-166.38	2,517.63	2,471.33	46.30	54.373		
6,900.00	6,887.61	6,506.96	6,448.46	24.16	23.52	145.64	2,232.67	-170.86	2,541.67	2,494.65	47.02	54.055		
7,000.00	6,987.31	6,604.03	6,543.88	24.52	23.89	145.63	2,249.89	-175.33	2,565.70	2,517.96	47.74	53.746		
7,100.00	7,087.01	6,701.09	6,639.31	24.88	24.26	145.63	2,267.11	-179.81	2,589.73	2,541.28	48.45	53.447		
7,200.00	7,186.71	6,801.84	6,734.73	25.24	24.64	145.62	2,284.33	-184.28	2,613.76	2,564.58	49.19	53.140		
7,300.00	7,286.41	6,904.77	6,830.15	25.60	25.03	145.62	2,301.55	-188.76	2,637.80	2,587.87	49.93	52.834		
7,400.00	7,386.10	7,007.70	6,925.58	25.96	25.42	145.61	2,318.77	-193.23	2,661.83	2,611.16	50.67	52.535		
7,500.00	7,485.80	7,089.37	7,021.00	26.33	25.73	145.61	2,335.99	-197.71	2,685.86	2,634.54	51.33	52.327		
7,600.00	7,585.50	7,186.44	7,116.43	26.69	26.10	145.60	2,353.21	-202.19	2,709.90	2,657.85	52.05	52.066		
7,700.00	7,685.20	7,283.51	7,211.85	27.05	26.47	145.60	2,370.43	-206.66	2,733.93	2,681.16	52.77	51.811		
7,800.00	7,784.90	7,380.58	7,307.28	27.41	26.84	145.59	2,387.65	-211.14	2,757.96	2,704.48	53.49	51.563		
7,860.70	7,845.41	7,439.50	7,365.20	27.63	27.06	145.59	2,398.10	-213.85	2,772.55	2,718.63	53.92	51.416		
7,900.00	7,884.61	7,477.68	7,402.74	27.77	27.21	145.67	2,404.87	-215.61	2,781.83	2,727.63	54.21	51.319		
8,000.00	7,984.46	8,000.00	7,595.28	28.13	29.17	145.80	2,436.04	-223.71	2,802.18	2,745.48	56.70	49.420		
8,100.00	8,084.42	8,074.08	7,994.60	28.49	29.40	145.84	2,471.09	-232.82	2,812.57	2,755.03	57.54	48.878		
8,157.59	8,142.00	8,233.21	8,153.70	28.69	29.95	-0.07	2,473.66	-233.49	2,813.67	2,755.40	58.27	48.287		
8,200.00	8,184.41	8,275.63	8,196.11	28.83	30.10	-0.07	2,473.66	-233.49	2,813.67	2,755.10	58.56	48.047		
8,300.00	8,284.41	8,375.63	8,296.11	29.17	30.44	-0.07	2,473.66	-233.49	2,813.67	2,754.42	59.25	47.489		
8,400.00	8,384.41	8,475.63	8,396.11	29.51	30.79	-0.07	2,473.66	-233.49	2,813.67	2,753.73	59.94	46.944		
8,411.42	8,395.83	8,487.04	8,407.53	29.55	30.83	-0.07	2,473.66	-233.49	2,813.67	2,753.65	60.01	46.883		
8,507.63	8,492.04	8,582.87	8,503.36	29.87	31.16	-0.07	2,473.66	-233.26	2,813.67	2,752.99	60.67	46.373		
8,550.00	8,534.37	8,624.21	8,544.60	30.02	31.30	-89.41	2,473.68	-230.59	2,813.66	2,752.71	60.96	46.159		
8,600.00	8,584.01	8,672.89	8,592.77	30.18	31.45	-89.39	2,473.72	-223.65	2,813.64	2,752.36	61.28	45.914		
8,650.00	8,632.95	8,721.48	8,640.08	30.34	31.61	-89.37	2,473.79	-212.67	2,813.60	2,751.99	61.60	45.673		
8,700.00	8,680.82	8,769.97	8,686.21	30.50	31.76	-89.36	2,473.88	-197.76	2,813.53	2,751.61	61.92	45.439		
8,750.00	8,727.25	8,818.39	8,730.85	30.66	31.91	-89.35	2,473.99	-179.03	2,813.44	2,751.21	62.23	45.211		
8,800.00	8,771.89	8,866.74	8,773.68	30.81	32.05	-89.34	2,474.12	-156.63	2,813.34	2,750.80	62.53	44.989		
8,850.00	8,814.40	8,915.05	8,814.44	30.95	32.19	-89.35	2,474.28	-130.74	2,813.21	2,750.37	62.84	44.771		
8,900.00	8,854.46	8,963.30	8,852.83	31.09	32.33	-89.35	2,474.45	-101.53	2,813.06	2,749.92	63.14	44.555		
8,950.00	8,891.75	9,011.53	8,888.62	31.23	32.46	-89.36	2,474.64	-69.21	2,812.89	2,749.45	63.44	44.339		
9,000.00	8,926.01	9,059.74	8,921.54	31.37	32.60	-89.38	2,474.85	-34.02	2,812.71	2,748.96	63.75	44.118		
9,050.00	8,956.96	9,107.95	8,951.39	31.53	32.74	-89.40	2,475.08	3.82	2,812.51	2,748.43	64.08	43.889		
9,100.00	8,984.38	9,156.16	8,977.96	31.69	32.89	-89.42	2,475.32	44.03	2,812.30	2,747.87	64.43	43.648		
9,150.00	9,008.05	9,204.39	9,001.06	31.87	33.06	-89.45	2,475.57	86.35	2,812.08	2,747.27	64.81	43.393		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 0-MWD+IFR1													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
9,200.00	9,027.79	9,252.65	9,020.53	32.07	33.24	-89.48	2,475.83	130.49	2,811.84	2,746.63	65.21	43.119		
9,250.00	9,043.45	9,300.96	9,036.23	32.29	33.44	-89.52	2,476.10	176.16	2,811.60	2,745.95	65.65	42.827		
9,300.00	9,054.92	9,349.31	9,048.05	32.53	33.65	-89.56	2,476.38	223.04	2,811.35	2,745.22	66.12	42.517		
9,350.00	9,062.10	9,397.74	9,055.87	32.79	33.89	-89.60	2,476.67	270.81	2,811.09	2,744.46	66.63	42.189		
9,400.00	9,064.95	9,446.24	9,059.64	33.06	34.14	-89.65	2,476.96	319.15	2,810.83	2,743.66	67.17	41.848		
9,407.63	9,065.00	9,453.65	9,059.85	33.10	34.18	-89.66	2,477.00	326.55	2,810.79	2,743.54	67.25	41.795		
9,500.00	9,065.00	9,545.64	9,060.00	33.68	34.73	-89.66	2,477.55	418.54	2,810.33	2,741.93	68.39	41.091		
9,600.00	9,065.00	9,645.64	9,060.00	34.41	35.42	-89.66	2,478.14	518.54	2,809.82	2,740.00	69.83	40.240		
9,700.00	9,065.00	9,745.64	9,060.00	35.24	36.22	-89.66	2,478.74	618.54	2,809.32	2,737.85	71.47	39.310		
9,800.00	9,065.00	9,845.64	9,060.00	36.17	37.12	-89.66	2,479.34	718.54	2,808.81	2,735.51	73.30	38.321		
9,900.00	9,065.00	9,945.64	9,060.00	37.19	38.10	-89.66	2,479.93	818.53	2,808.31	2,733.00	75.31	37.292		
10,000.00	9,065.00	10,045.64	9,060.00	38.30	39.17	-89.66	2,480.53	918.53	2,807.80	2,730.32	77.48	36.239		
10,100.00	9,065.00	10,145.63	9,060.00	39.48	40.32	-89.66	2,481.12	1,018.53	2,807.30	2,727.49	79.80	35.177		
10,200.00	9,065.00	10,245.63	9,060.00	40.72	41.53	-89.66	2,481.72	1,118.52	2,806.79	2,724.53	82.27	34.118		
10,300.00	9,065.00	10,345.63	9,060.00	42.03	42.81	-89.66	2,482.32	1,218.52	2,806.29	2,721.43	84.85	33.072		
10,400.00	9,065.00	10,445.63	9,060.00	43.40	44.14	-89.66	2,482.91	1,318.52	2,805.78	2,718.23	87.56	32.045		
10,500.00	9,065.00	10,545.63	9,060.00	44.82	45.53	-89.66	2,483.51	1,418.51	2,805.28	2,714.91	90.36	31.044		
10,600.00	9,065.00	10,645.63	9,060.00	46.29	46.97	-89.66	2,484.10	1,518.51	2,804.78	2,711.51	93.27	30.072		
10,700.00	9,065.00	10,745.63	9,060.00	47.79	48.45	-89.66	2,484.70	1,618.51	2,804.27	2,708.01	96.26	29.133		
10,800.00	9,065.00	10,845.63	9,060.00	49.34	49.97	-89.66	2,485.30	1,718.50	2,803.77	2,704.44	99.32	28.229		
10,900.00	9,065.00	10,945.62	9,060.00	50.92	51.53	-89.66	2,485.89	1,818.50	2,803.26	2,700.80	102.46	27.359		
11,000.00	9,065.00	11,045.62	9,060.00	52.54	53.12	-89.66	2,486.49	1,918.50	2,802.76	2,697.09	105.67	26.525		
11,100.00	9,065.00	11,145.62	9,060.00	54.18	54.74	-89.66	2,487.08	2,018.50	2,802.25	2,693.32	108.93	25.725		
11,200.00	9,065.00	11,245.62	9,060.00	55.85	56.39	-89.66	2,487.68	2,118.49	2,801.75	2,689.50	112.25	24.960		
11,300.00	9,065.00	11,345.62	9,060.00	57.54	58.06	-89.66	2,488.27	2,218.49	2,801.24	2,685.63	115.62	24.229		
11,400.00	9,065.00	11,445.62	9,060.00	59.26	59.76	-89.66	2,488.87	2,318.49	2,800.74	2,681.71	119.03	23.530		
11,500.00	9,065.00	11,545.62	9,060.00	61.00	61.48	-89.66	2,489.47	2,418.48	2,800.23	2,677.75	122.48	22.862		
11,600.00	9,065.00	11,645.62	9,060.00	62.75	63.21	-89.66	2,490.06	2,518.48	2,799.73	2,673.75	125.98	22.224		
11,700.00	9,065.00	11,745.61	9,060.00	64.52	64.97	-89.66	2,490.66	2,618.48	2,799.22	2,669.72	129.50	21.615		
11,800.00	9,065.00	11,845.61	9,060.00	66.31	66.74	-89.66	2,491.25	2,718.47	2,798.72	2,665.66	133.06	21.033		
11,900.00	9,065.00	11,945.61	9,060.00	68.11	68.53	-89.66	2,491.85	2,818.47	2,798.21	2,661.56	136.65	20.477		
12,000.00	9,065.00	12,045.61	9,060.00	69.93	70.33	-89.66	2,492.45	2,918.47	2,797.71	2,657.44	140.27	19.945		
12,100.00	9,065.00	12,145.61	9,060.00	71.76	72.15	-89.66	2,493.04	3,018.46	2,797.21	2,653.29	143.91	19.437		
12,200.00	9,065.00	12,245.61	9,060.00	73.60	73.97	-89.66	2,493.64	3,118.46	2,796.70	2,649.12	147.58	18.951		
12,300.00	9,065.00	12,345.61	9,060.00	75.45	75.81	-89.66	2,494.23	3,218.46	2,796.20	2,644.93	151.27	18.485		
12,400.00	9,065.00	12,445.61	9,060.00	77.31	77.66	-89.66	2,494.83	3,318.46	2,795.69	2,640.72	154.98	18.040		
12,500.00	9,065.00	12,545.60	9,060.00	79.18	79.52	-89.66	2,495.43	3,418.45	2,795.19	2,636.48	158.70	17.613		
12,600.00	9,065.00	12,645.60	9,060.00	81.05	81.38	-89.66	2,496.02	3,518.45	2,794.68	2,632.24	162.45	17.204		
12,700.00	9,065.00	12,745.60	9,060.00	82.94	83.26	-89.66	2,496.62	3,618.45	2,794.18	2,627.97	166.21	16.811		
12,800.00	9,065.00	12,845.60	9,060.00	84.83	85.14	-89.66	2,497.21	3,718.44	2,793.67	2,623.69	169.98	16.435		
12,900.00	9,065.00	12,945.60	9,060.00	86.73	87.03	-89.66	2,497.81	3,818.44	2,793.17	2,619.39	173.77	16.073		
13,000.00	9,065.00	13,045.60	9,060.00	88.64	88.93	-89.66	2,498.40	3,918.44	2,792.66	2,615.08	177.58	15.726		
13,100.00	9,065.00	13,145.60	9,060.00	90.55	90.84	-89.66	2,499.00	4,018.43	2,792.16	2,610.76	181.40	15.393		
13,200.00	9,065.00	13,245.60	9,060.00	92.47	92.75	-89.66	2,499.60	4,118.43	2,791.65	2,606.43	185.22	15.072		
13,300.00	9,065.00	13,345.59	9,060.00	94.39	94.66	-89.66	2,500.19	4,218.43	2,791.15	2,602.09	189.06	14.763		
13,400.00	9,065.00	13,445.59	9,060.00	96.32	96.58	-89.66	2,500.79	4,318.43	2,790.64	2,597.73	192.91	14.466		
13,500.00	9,065.00	13,545.59	9,060.00	98.25	98.51	-89.66	2,501.38	4,418.42	2,790.14	2,593.37	196.77	14.180		
13,600.00	9,065.00	13,645.59	9,060.00	100.19	100.44	-89.66	2,501.98	4,518.42	2,789.64	2,589.00	200.64	13.904		
13,700.00	9,065.00	13,745.59	9,060.00	102.13	102.38	-89.66	2,502.58	4,618.42	2,789.13	2,584.61	204.52	13.638		
13,800.00	9,065.00	13,845.59	9,060.00	104.08	104.32	-89.66	2,503.17	4,718.41	2,788.63	2,580.22	208.40	13.381		
13,900.00	9,065.00	13,945.59	9,060.00	106.03	106.26	-89.66	2,503.77	4,818.41	2,788.12	2,575.83	212.30	13.133		
14,000.00	9,065.00	14,045.59	9,060.00	107.98	108.21	-89.66	2,504.36	4,918.41	2,787.62	2,571.42	216.20	12.894		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 0-MWD+IFR1													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
14,100.00	9,065.00	14,145.58	9,060.00	109.94	110.16	-89.66	2,504.96	5,018.40	2,787.11	2,567.01	220.10	12.663		
14,200.00	9,065.00	14,245.58	9,060.00	111.90	112.11	-89.66	2,505.56	5,118.40	2,786.61	2,562.59	224.02	12.439		
14,300.00	9,065.00	14,345.58	9,060.00	113.86	114.07	-89.66	2,506.15	5,218.40	2,786.10	2,558.17	227.94	12.223		
14,400.00	9,065.00	14,445.58	9,060.00	115.82	116.03	-89.66	2,506.75	5,318.39	2,785.60	2,553.73	231.86	12.014		
14,500.00	9,065.00	14,545.58	9,060.00	117.79	117.99	-89.66	2,507.34	5,418.39	2,785.09	2,549.30	235.80	11.811		
14,600.00	9,065.00	14,645.58	9,060.00	119.76	119.96	-89.66	2,507.94	5,518.39	2,784.59	2,544.86	239.73	11.615		
14,700.00	9,065.00	14,745.58	9,060.00	121.74	121.93	-89.66	2,508.53	5,618.39	2,784.08	2,540.41	243.67	11.425		
14,800.00	9,065.00	14,845.57	9,060.00	123.71	123.90	-89.66	2,509.13	5,718.38	2,783.58	2,535.96	247.62	11.241		
14,900.00	9,065.00	14,945.57	9,060.00	125.69	125.87	-89.66	2,509.73	5,818.38	2,783.08	2,531.50	251.57	11.063		
15,000.00	9,065.00	15,045.57	9,060.00	127.67	127.85	-89.66	2,510.32	5,918.38	2,782.57	2,527.04	255.53	10.889		
15,100.00	9,065.00	15,145.57	9,060.00	129.65	129.83	-89.66	2,510.92	6,018.37	2,782.07	2,522.58	259.49	10.721		
15,200.00	9,065.00	15,245.57	9,060.00	131.63	131.81	-89.66	2,511.51	6,118.37	2,781.56	2,518.11	263.45	10.558		
15,300.00	9,065.00	15,345.57	9,060.00	133.62	133.79	-89.66	2,512.11	6,218.37	2,781.06	2,513.63	267.42	10.400		
15,400.00	9,065.00	15,445.57	9,060.00	135.61	135.78	-89.66	2,512.71	6,318.36	2,780.55	2,509.16	271.39	10.245		
15,500.00	9,065.00	15,545.57	9,060.00	137.60	137.76	-89.66	2,513.30	6,418.36	2,780.05	2,504.68	275.37	10.096		
15,600.00	9,065.00	15,645.56	9,060.00	139.59	139.75	-89.66	2,513.90	6,518.36	2,779.54	2,500.20	279.35	9.950		
15,700.00	9,065.00	15,745.56	9,060.00	141.58	141.74	-89.66	2,514.49	6,618.36	2,779.04	2,495.71	283.33	9.809		
15,800.00	9,065.00	15,845.56	9,060.00	143.57	143.73	-89.66	2,515.09	6,718.35	2,778.53	2,491.22	287.31	9.671		
15,900.00	9,065.00	15,945.56	9,060.00	145.57	145.72	-89.66	2,515.69	6,818.35	2,778.03	2,486.73	291.30	9.537		
16,000.00	9,065.00	16,045.56	9,060.00	147.56	147.72	-89.66	2,516.28	6,918.35	2,777.52	2,482.23	295.29	9.406		
16,100.00	9,065.00	16,145.56	9,060.00	149.56	149.71	-89.66	2,516.88	7,018.34	2,777.02	2,477.73	299.29	9.279		
16,200.00	9,065.00	16,245.56	9,060.00	151.56	151.71	-89.66	2,517.47	7,118.34	2,776.51	2,473.23	303.28	9.155		
16,300.00	9,065.00	16,345.56	9,060.00	153.56	153.71	-89.66	2,518.07	7,218.34	2,776.01	2,468.73	307.28	9.034		
16,400.00	9,065.00	16,445.55	9,060.00	155.56	155.71	-89.66	2,518.66	7,318.33	2,775.51	2,464.22	311.28	8.916		
16,500.00	9,065.00	16,545.55	9,060.00	157.57	157.71	-89.66	2,519.26	7,418.33	2,775.00	2,459.72	315.28	8.802		
16,600.00	9,065.00	16,645.55	9,060.00	159.57	159.71	-89.66	2,519.86	7,518.33	2,774.50	2,455.21	319.29	8.690		
16,700.00	9,065.00	16,745.55	9,060.00	161.57	161.71	-89.66	2,520.45	7,618.32	2,773.99	2,450.69	323.30	8.580		
16,800.00	9,065.00	16,845.55	9,060.00	163.58	163.72	-89.66	2,521.05	7,718.32	2,773.49	2,446.18	327.31	8.474		
16,900.00	9,065.00	16,945.55	9,060.00	165.59	165.72	-89.65	2,521.64	7,818.32	2,772.98	2,441.66	331.32	8.370		
17,000.00	9,065.00	17,045.55	9,060.00	167.60	167.73	-89.65	2,522.24	7,918.32	2,772.48	2,437.14	335.33	8.268		
17,100.00	9,065.00	17,145.55	9,060.00	169.60	169.74	-89.65	2,522.84	8,018.31	2,771.97	2,432.62	339.35	8.169		
17,200.00	9,065.00	17,245.54	9,060.00	171.61	171.74	-89.65	2,523.43	8,118.31	2,771.47	2,428.10	343.37	8.071		
17,300.00	9,065.00	17,345.54	9,060.00	173.62	173.75	-89.65	2,524.03	8,218.31	2,770.96	2,423.58	347.39	7.977		
17,400.00	9,065.00	17,445.54	9,060.00	175.63	175.76	-89.65	2,524.62	8,318.30	2,770.46	2,419.05	351.41	7.884		
17,500.00	9,065.00	17,545.54	9,060.00	177.65	177.77	-89.65	2,525.22	8,418.30	2,769.95	2,414.53	355.43	7.793		
17,600.00	9,065.00	17,645.54	9,060.00	179.66	179.78	-89.65	2,525.81	8,518.30	2,769.45	2,410.00	359.45	7.705		
17,700.00	9,065.00	17,745.54	9,060.00	181.67	181.80	-89.65	2,526.41	8,618.29	2,768.95	2,405.47	363.48	7.618		
17,800.00	9,065.00	17,845.54	9,060.00	183.69	183.81	-89.65	2,527.01	8,718.29	2,768.44	2,400.94	367.50	7.533		
17,900.00	9,065.00	17,945.54	9,060.00	185.70	185.82	-89.65	2,527.60	8,818.29	2,767.94	2,396.40	371.53	7.450		
18,000.00	9,065.00	18,045.53	9,060.00	187.72	187.84	-89.65	2,528.20	8,918.29	2,767.43	2,391.87	375.56	7.369		
18,100.00	9,065.00	18,145.53	9,060.00	189.73	189.85	-89.65	2,528.79	9,018.28	2,766.93	2,387.33	379.59	7.289		
18,200.00	9,065.00	18,245.53	9,060.00	191.75	191.87	-89.65	2,529.39	9,118.28	2,766.42	2,382.80	383.63	7.211		
18,300.00	9,065.00	18,345.53	9,060.00	193.77	193.88	-89.65	2,529.99	9,218.28	2,765.92	2,378.26	387.66	7.135		
18,400.00	9,065.00	18,445.53	9,060.00	195.78	195.90	-89.65	2,530.58	9,318.27	2,765.41	2,373.72	391.69	7.060		
18,500.00	9,065.00	18,545.53	9,060.00	197.80	197.92	-89.65	2,531.18	9,418.27	2,764.91	2,369.18	395.73	6.987		
18,600.00	9,065.00	18,645.53	9,060.00	199.82	199.94	-89.65	2,531.77	9,518.27	2,764.40	2,364.64	399.77	6.915		
18,700.00	9,065.00	18,745.53	9,060.00	201.84	201.95	-89.65	2,532.37	9,618.26	2,763.90	2,360.09	403.80	6.845		
18,800.00	9,065.00	18,845.52	9,060.00	203.86	203.97	-89.65	2,532.97	9,718.26	2,763.39	2,355.55	407.84	6.776		
18,900.00	9,065.00	18,945.52	9,060.00	205.88	205.99	-89.65	2,533.56	9,818.26	2,762.89	2,351.01	411.88	6.708		
19,000.00	9,065.00	19,045.52	9,060.00	207.90	208.01	-89.65	2,534.16	9,918.25	2,762.38	2,346.46	415.92	6.642		
19,100.00	9,065.00	19,145.52	9,060.00	209.92	210.03	-89.65	2,534.75	10,018.25	2,761.88	2,341.91	419.97	6.576		
19,200.00	9,065.00	19,245.52	9,060.00	211.95	212.06	-89.65	2,535.35	10,118.25	2,761.38	2,337.37	424.01	6.513		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Sec 14-T21S-R27E - Lone Tree Draw 14-13 State Com 621H - Wellbore #1 - Permit Plan 1		Offset Site Error:		0.00 ft	
Survey Program:													0-MWD+IFR1		Offset Well Error:		0.50 ft	
Reference		Offset		Semi Major Axis			Distance							Warning				
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor						
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)	(ft)						
19,300.00	9,065.00	19,345.52	9,060.00	213.97	214.08	-89.65	2,535.94	10,218.25	2,760.87	2,332.82	428.05	6.450						
19,400.00	9,065.00	19,445.52	9,060.00	215.99	216.10	-89.65	2,536.54	10,318.24	2,760.37	2,328.27	432.10	6.388						
19,456.84	9,065.00	19,502.36	9,060.00	217.14	217.25	-89.65	2,536.88	10,375.08	2,760.08	2,325.68	434.40	6.354 SF						

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 10-INC-ONLY													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0.00	0.00	0.00	0.00	0.50	0.50	113.77	-1,351.10	3,068.29	3,352.95					
100.00	100.00	51.10	51.10	0.52	0.79	113.77	-1,351.10	3,068.29	3,352.59	3,351.28	1.31	2,557.741		
200.00	200.00	151.10	151.10	0.70	2.17	113.77	-1,351.10	3,068.29	3,352.59	3,349.72	2.87	1,166.697		
300.00	300.00	251.10	251.10	0.99	3.65	113.77	-1,351.10	3,068.29	3,352.59	3,347.96	4.63	723.708		
400.00	400.00	351.10	351.10	1.31	5.13	113.77	-1,351.10	3,068.29	3,352.59	3,346.15	6.44	520.440		
500.00	500.00	451.10	451.10	1.65	6.63	113.77	-1,351.10	3,068.29	3,352.59	3,344.32	8.27	405.346		
600.00	600.00	551.10	551.10	1.99	8.12	113.77	-1,351.10	3,068.29	3,352.59	3,342.48	10.11	331.626		
700.00	700.00	651.10	651.10	2.34	9.61	113.77	-1,351.10	3,068.29	3,352.59	3,340.64	11.95	280.470		
800.00	800.00	751.10	751.10	2.69	11.11	113.77	-1,351.10	3,068.29	3,352.59	3,338.79	13.80	242.930		
900.00	900.00	851.10	851.10	3.04	12.61	113.77	-1,351.10	3,068.29	3,352.59	3,336.94	15.65	214.225		
1,000.00	1,000.00	951.10	951.10	3.40	14.10	113.77	-1,351.10	3,068.29	3,352.59	3,335.09	17.50	191.571		
1,100.00	1,100.00	1,051.10	1,051.10	3.75	15.60	113.77	-1,351.10	3,068.29	3,352.59	3,333.24	19.35	173.241		
1,200.00	1,200.00	1,151.10	1,151.10	4.11	17.10	113.77	-1,351.10	3,068.29	3,352.59	3,331.39	21.20	158.106		
1,300.00	1,300.00	1,251.10	1,251.10	4.46	18.59	113.77	-1,351.10	3,068.29	3,352.59	3,329.53	23.06	145.400		
1,400.00	1,400.00	1,351.10	1,351.10	4.82	20.09	113.77	-1,351.10	3,068.29	3,352.59	3,327.68	24.91	134.582		
1,500.00	1,500.00	1,451.10	1,451.10	5.18	21.59	113.77	-1,351.10	3,068.29	3,352.59	3,325.83	26.77	125.260		
1,600.00	1,600.00	1,551.10	1,551.10	5.53	23.09	113.77	-1,351.10	3,068.29	3,352.59	3,323.97	28.62	117.145		
1,700.00	1,700.00	1,651.10	1,651.10	5.89	24.58	113.77	-1,351.10	3,068.29	3,352.59	3,322.12	30.47	110.016		
1,800.00	1,800.00	1,751.10	1,751.10	6.25	26.08	113.77	-1,351.10	3,068.29	3,352.59	3,320.26	32.33	103.705		
1,900.00	1,900.00	1,851.10	1,851.10	6.61	27.58	113.77	-1,351.10	3,068.29	3,352.59	3,318.41	34.18	98.078		
2,000.00	2,000.00	1,951.10	1,951.10	6.96	29.08	113.77	-1,351.10	3,068.29	3,352.59	3,316.55	36.04	93.030		
2,100.00	2,100.00	2,051.10	2,051.10	7.32	30.57	113.77	-1,351.10	3,068.29	3,352.59	3,314.70	37.89	88.476		
2,200.00	2,200.00	2,151.10	2,151.10	7.68	32.07	113.77	-1,351.10	3,068.29	3,352.59	3,312.84	39.75	84.347		
2,300.00	2,300.00	2,251.10	2,251.10	8.04	33.57	113.77	-1,351.10	3,068.29	3,352.59	3,310.99	41.60	80.585		
2,400.00	2,400.00	2,351.10	2,351.10	8.39	35.07	113.77	-1,351.10	3,068.29	3,352.59	3,309.13	43.46	77.145		
2,500.00	2,500.00	2,451.10	2,451.10	8.75	36.56	113.77	-1,351.10	3,068.29	3,352.59	3,307.28	45.31	73.987		
2,600.00	2,599.99	2,551.09	2,551.09	9.09	38.06	-100.32	-1,351.10	3,068.29	3,352.75	3,305.60	47.15	71.105		
2,700.00	2,699.96	2,651.06	2,651.06	9.42	39.56	-100.36	-1,351.10	3,068.29	3,353.22	3,304.24	48.98	68.468		
2,800.00	2,799.86	2,750.96	2,750.96	9.75	41.05	-100.43	-1,351.10	3,068.29	3,354.01	3,303.21	50.80	66.025		
2,900.00	2,899.68	2,850.78	2,850.78	10.08	42.55	-100.52	-1,351.10	3,068.29	3,355.12	3,302.49	52.62	63.757		
2,945.33	2,944.88	2,895.98	2,895.98	10.23	43.22	-100.57	-1,351.10	3,068.29	3,355.73	3,302.28	53.45	62.782		
3,000.00	2,999.39	2,950.49	2,950.49	10.41	44.04	-100.64	-1,351.10	3,068.29	3,356.51	3,302.07	54.45	61.645		
3,100.00	3,099.08	3,050.18	3,050.18	10.75	45.53	-100.77	-1,351.10	3,068.29	3,357.96	3,301.69	56.28	59.669		
3,200.00	3,198.78	3,149.88	3,149.88	11.08	47.03	-100.90	-1,351.10	3,068.29	3,359.43	3,301.32	58.11	57.816		
3,300.00	3,298.48	3,249.58	3,249.58	11.42	48.52	-101.03	-1,351.10	3,068.29	3,360.91	3,300.97	59.94	56.074		
3,400.00	3,398.18	3,349.28	3,349.28	11.76	50.01	-101.16	-1,351.10	3,068.29	3,362.41	3,300.64	61.77	54.435		
3,500.00	3,497.88	3,448.98	3,448.98	12.10	51.51	-101.29	-1,351.10	3,068.29	3,363.92	3,300.32	63.60	52.889		
3,600.00	3,597.58	3,548.68	3,548.68	12.45	53.00	-101.42	-1,351.10	3,068.29	3,365.45	3,300.01	65.44	51.428		
3,700.00	3,697.27	3,648.37	3,648.37	12.79	54.49	-101.55	-1,351.10	3,068.29	3,367.00	3,299.73	67.28	50.047		
3,800.00	3,796.97	3,748.07	3,748.07	13.14	55.99	-101.68	-1,351.10	3,068.29	3,368.57	3,299.46	69.12	48.739		
3,900.00	3,896.67	3,847.77	3,847.77	13.48	57.48	-101.81	-1,351.10	3,068.29	3,370.16	3,299.20	70.95	47.497		
4,000.00	3,996.37	3,947.47	3,947.47	13.83	58.97	-101.93	-1,351.10	3,068.29	3,371.76	3,298.96	72.80	46.318		
4,100.00	4,096.07	4,047.17	4,047.17	14.18	60.46	-102.06	-1,351.10	3,068.29	3,373.38	3,298.74	74.64	45.197		
4,200.00	4,195.76	4,146.86	4,146.86	14.53	61.96	-102.19	-1,351.10	3,068.29	3,375.01	3,298.53	76.48	44.130		
4,300.00	4,295.46	4,246.56	4,246.56	14.88	63.45	-102.32	-1,351.10	3,068.29	3,376.67	3,298.34	78.32	43.112		
4,400.00	4,395.16	4,346.26	4,346.26	15.23	64.94	-102.45	-1,351.10	3,068.29	3,378.34	3,298.17	80.17	42.142		
4,500.00	4,494.86	4,445.96	4,445.96	15.58	66.44	-102.58	-1,351.10	3,068.29	3,380.02	3,298.01	82.01	41.214		
4,600.00	4,594.56	4,545.66	4,545.66	15.93	67.93	-102.70	-1,351.10	3,068.29	3,381.73	3,297.87	83.86	40.328		
4,700.00	4,694.25	4,645.35	4,645.35	16.29	69.42	-102.83	-1,351.10	3,068.29	3,383.45	3,297.75	85.70	39.479		
4,800.00	4,793.95	4,745.05	4,745.05	16.64	70.92	-102.96	-1,351.10	3,068.29	3,385.19	3,297.64	87.55	38.666		
4,900.00	4,893.65	4,844.75	4,844.75	17.00	72.41	-103.09	-1,351.10	3,068.29	3,386.94	3,297.55	89.40	37.887		
5,000.00	4,993.35	4,944.45	4,944.45	17.35	73.90	-103.22	-1,351.10	3,068.29	3,388.71	3,297.47	91.24	37.139		

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 10-INC-ONLY													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
5,100.00	5,093.05	5,044.15	5,044.15	17.71	75.40	-103.34	-1,351.10	3,068.29	3,390.50	3,297.41	93.09	36.421		
5,200.00	5,192.75	5,143.85	5,143.85	18.06	76.89	-103.47	-1,351.10	3,068.29	3,392.31	3,297.37	94.94	35.731		
5,300.00	5,292.44	5,243.54	5,243.54	18.42	78.38	-103.60	-1,351.10	3,068.29	3,394.13	3,297.34	96.79	35.067		
5,400.00	5,392.14	5,343.24	5,343.24	18.77	79.87	-103.72	-1,351.10	3,068.29	3,395.97	3,297.33	98.64	34.428		
5,500.00	5,491.84	5,442.94	5,442.94	19.13	81.37	-103.85	-1,351.10	3,068.29	3,397.82	3,297.34	100.49	33.813		
5,600.00	5,591.54	5,542.64	5,542.64	19.49	82.86	-103.98	-1,351.10	3,068.29	3,399.70	3,297.36	102.34	33.220		
5,700.00	5,691.24	5,642.34	5,642.34	19.85	84.35	-104.10	-1,351.10	3,068.29	3,401.59	3,297.40	104.19	32.648		
5,800.00	5,790.93	5,742.03	5,742.03	20.20	85.85	-104.23	-1,351.10	3,068.29	3,403.49	3,297.45	106.04	32.096		
5,900.00	5,890.63	5,841.73	5,841.73	20.56	87.34	-104.36	-1,351.10	3,068.29	3,405.41	3,297.52	107.89	31.563		
6,000.00	5,990.33	5,941.43	5,941.43	20.92	88.83	-104.48	-1,351.10	3,068.29	3,407.35	3,297.61	109.74	31.049		
6,100.00	6,090.03	6,041.13	6,041.13	21.28	90.33	-104.61	-1,351.10	3,068.29	3,409.31	3,297.71	111.59	30.551		
6,200.00	6,189.73	6,140.83	6,140.83	21.64	91.82	-104.73	-1,351.10	3,068.29	3,411.28	3,297.84	113.45	30.070		
6,300.00	6,289.42	6,240.52	6,240.52	22.00	93.31	-104.86	-1,351.10	3,068.29	3,413.27	3,297.97	115.30	29.604		
6,400.00	6,389.12	6,340.22	6,340.22	22.36	94.81	-104.99	-1,351.10	3,068.29	3,415.28	3,298.12	117.15	29.153		
6,500.00	6,488.82	6,439.92	6,439.92	22.72	96.30	-105.11	-1,351.10	3,068.29	3,417.30	3,298.29	119.00	28.716		
6,600.00	6,588.52	6,539.62	6,539.62	23.08	97.79	-105.24	-1,351.10	3,068.29	3,419.34	3,298.48	120.86	28.292		
6,700.00	6,688.22	6,639.32	6,639.32	23.44	99.29	-105.36	-1,351.10	3,068.29	3,421.39	3,298.68	122.71	27.882		
6,800.00	6,787.91	6,739.01	6,739.01	23.80	100.78	-105.49	-1,351.10	3,068.29	3,423.46	3,298.90	124.56	27.484		
6,900.00	6,887.61	6,838.71	6,838.71	24.16	102.27	-105.61	-1,351.10	3,068.29	3,425.55	3,299.13	126.42	27.097		
7,000.00	6,987.31	6,938.41	6,938.41	24.52	103.76	-105.74	-1,351.10	3,068.29	3,427.65	3,299.38	128.27	26.722		
7,100.00	7,087.01	7,038.11	7,038.11	24.88	105.26	-105.86	-1,351.10	3,068.29	3,429.77	3,299.65	130.12	26.358		
7,200.00	7,186.71	7,137.81	7,137.81	25.24	106.75	-105.99	-1,351.10	3,068.29	3,431.91	3,299.93	131.98	26.004		
7,300.00	7,286.41	7,237.51	7,237.51	25.60	108.24	-106.11	-1,351.10	3,068.29	3,434.06	3,300.23	133.83	25.659		
7,400.00	7,386.10	7,337.20	7,337.20	25.96	109.74	-106.23	-1,351.10	3,068.29	3,436.23	3,300.54	135.69	25.325		
7,500.00	7,485.80	7,436.90	7,436.90	26.33	111.23	-106.36	-1,351.10	3,068.29	3,438.41	3,300.87	137.54	24.999		
7,600.00	7,585.50	7,536.60	7,536.60	26.69	112.72	-106.48	-1,351.10	3,068.29	3,440.61	3,301.22	139.40	24.682		
7,700.00	7,685.20	7,636.30	7,636.30	27.05	114.22	-106.60	-1,351.10	3,068.29	3,442.83	3,301.58	141.25	24.374		
7,800.00	7,784.90	7,736.00	7,736.00	27.41	115.71	-106.73	-1,351.10	3,068.29	3,445.06	3,301.96	143.10	24.074		
7,860.70	7,845.41	7,796.51	7,796.51	27.63	116.62	-106.80	-1,351.10	3,068.29	3,446.43	3,302.20	144.23	23.895		
7,900.00	7,884.61	7,835.71	7,835.71	27.77	117.20	-106.86	-1,351.10	3,068.29	3,447.26	3,302.30	144.96	23.781		
8,000.00	7,984.46	7,935.56	7,935.56	28.13	118.70	-106.97	-1,351.10	3,068.29	3,448.84	3,302.02	146.81	23.491		
8,100.00	8,084.42	8,035.52	8,035.52	28.49	120.20	-107.03	-1,351.10	3,068.29	3,449.66	3,300.99	148.67	23.204		
8,157.59	8,142.00	8,093.10	8,093.10	28.69	121.06	107.04	-1,351.10	3,068.29	3,449.79	3,300.06	149.73	23.040		
8,200.00	8,184.41	8,135.51	8,135.51	28.83	121.69	107.04	-1,351.10	3,068.29	3,449.79	3,299.28	150.51	22.921		
8,300.00	8,284.41	8,235.51	8,235.51	29.17	123.19	107.04	-1,351.10	3,068.29	3,449.79	3,297.45	152.34	22.645		
8,400.00	8,384.41	8,335.51	8,335.51	29.51	124.69	107.04	-1,351.10	3,068.29	3,449.79	3,295.61	154.18	22.375		
8,507.63	8,492.04	8,443.14	8,443.14	29.87	126.30	107.04	-1,351.10	3,068.29	3,449.79	3,293.63	156.15	22.092		
8,550.00	8,534.37	8,485.47	8,485.47	30.02	126.93	17.73	-1,351.10	3,068.29	3,448.30	3,291.37	156.93	21.973		
8,600.00	8,584.01	8,535.11	8,535.11	30.18	127.68	17.93	-1,351.10	3,068.29	3,442.71	3,284.87	157.84	21.811		
8,650.00	8,632.95	8,584.05	8,584.05	30.34	128.41	18.29	-1,351.10	3,068.29	3,433.03	3,274.29	158.73	21.628		
8,700.00	8,680.82	8,631.92	8,631.92	30.50	129.13	18.82	-1,351.10	3,068.29	3,419.32	3,259.71	159.61	21.423		
8,750.00	8,727.25	8,678.35	8,678.35	30.66	129.82	19.54	-1,351.10	3,068.29	3,401.70	3,241.25	160.45	21.201		
8,800.00	8,771.89	8,722.99	8,722.99	30.81	130.49	20.48	-1,351.10	3,068.29	3,380.31	3,219.06	161.26	20.962		
8,850.00	8,814.40	8,765.50	8,765.50	30.95	131.13	21.67	-1,351.10	3,068.29	3,355.32	3,193.30	162.02	20.709		
8,900.00	8,854.46	8,805.56	8,805.56	31.09	131.73	23.18	-1,351.10	3,068.29	3,326.93	3,164.19	162.74	20.443		
8,950.00	8,891.75	8,842.85	8,842.85	31.23	132.29	25.07	-1,351.10	3,068.29	3,295.37	3,131.96	163.41	20.167		
9,000.00	8,926.01	8,877.11	8,877.11	31.37	132.80	27.45	-1,351.10	3,068.29	3,260.88	3,096.86	164.01	19.882		
9,050.00	8,956.96	8,908.06	8,908.06	31.53	133.26	30.45	-1,351.10	3,068.29	3,223.73	3,059.17	164.56	19.590		
9,100.00	8,984.38	8,935.48	8,935.48	31.69	133.67	34.25	-1,351.10	3,068.29	3,184.23	3,019.19	165.05	19.293		
9,150.00	9,008.05	8,959.15	8,959.15	31.87	134.03	39.12	-1,351.10	3,068.29	3,142.69	2,977.22	165.47	18.993		
9,200.00	9,027.79	8,978.89	8,978.89	32.07	134.32	45.36	-1,351.10	3,068.29	3,099.43	2,933.61	165.82	18.691		
9,250.00	9,043.45	8,994.55	8,994.55	32.29	134.56	53.34	-1,351.10	3,068.29	3,054.80	2,888.69	166.11	18.390		

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 10-INC-ONLY													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
9,300.00	9,054.92	9,006.02	9,006.02	32.53	134.73	63.30	-1,351.10	3,068.29	3,009.15	2,842.81	166.33	18.091		
9,350.00	9,062.10	9,013.20	9,013.20	32.79	134.84	75.12	-1,351.10	3,068.29	2,962.82	2,796.34	166.48	17.796		
9,400.00	9,064.95	9,016.05	9,016.05	33.06	134.88	88.02	-1,351.10	3,068.29	2,916.20	2,749.62	166.57	17.507		
9,407.63	9,065.00	9,016.10	9,016.10	33.10	134.88	90.00	-1,351.10	3,068.29	2,909.08	2,742.50	166.58	17.464		
9,500.00	9,065.00	9,016.10	9,016.10	33.68	134.88	90.00	-1,351.10	3,068.29	2,823.10	2,656.42	166.68	16.938		
9,600.00	9,065.00	9,016.10	9,016.10	34.41	134.88	90.00	-1,351.10	3,068.29	2,730.48	2,563.67	166.81	16.369		
9,700.00	9,065.00	9,016.10	9,016.10	35.24	134.88	90.00	-1,351.10	3,068.29	2,638.41	2,471.42	166.99	15.800		
9,800.00	9,065.00	9,016.10	9,016.10	36.17	134.88	90.00	-1,351.10	3,068.29	2,546.94	2,379.73	167.21	15.232		
9,900.00	9,065.00	9,016.10	9,016.10	37.19	134.88	90.00	-1,351.10	3,068.29	2,456.13	2,288.65	167.48	14.665		
10,000.00	9,065.00	9,016.10	9,016.10	38.30	134.88	90.00	-1,351.10	3,068.29	2,366.06	2,198.24	167.82	14.099		
10,100.00	9,065.00	9,016.10	9,016.10	39.48	134.88	90.00	-1,351.10	3,068.29	2,276.82	2,108.60	168.22	13.535		
10,200.00	9,065.00	9,016.10	9,016.10	40.72	134.88	90.00	-1,351.10	3,068.29	2,188.51	2,019.80	168.71	12.972		
10,300.00	9,065.00	9,016.10	9,016.10	42.03	134.88	90.00	-1,351.10	3,068.29	2,101.25	1,931.95	169.30	12.412		
10,400.00	9,065.00	9,016.10	9,016.10	43.40	134.88	90.00	-1,351.10	3,068.29	2,015.17	1,845.18	169.99	11.854		
10,500.00	9,065.00	9,016.10	9,016.10	44.82	134.88	90.00	-1,351.10	3,068.29	1,930.44	1,759.62	170.82	11.301		
10,600.00	9,065.00	9,016.10	9,016.10	46.29	134.88	90.00	-1,351.10	3,068.29	1,847.23	1,675.45	171.78	10.753		
10,700.00	9,065.00	9,016.10	9,016.10	47.79	134.88	90.00	-1,351.10	3,068.29	1,765.77	1,592.86	172.91	10.212		
10,800.00	9,065.00	9,016.10	9,016.10	49.34	134.88	90.00	-1,351.10	3,068.29	1,686.30	1,512.08	174.23	9.679		
10,900.00	9,065.00	9,016.10	9,016.10	50.92	134.88	90.00	-1,351.10	3,068.29	1,609.13	1,433.38	175.74	9.156		
11,000.00	9,065.00	9,016.10	9,016.10	52.54	134.88	90.00	-1,351.10	3,068.29	1,534.59	1,357.11	177.48	8.646		
11,100.00	9,065.00	9,016.10	9,016.10	54.18	134.88	90.00	-1,351.10	3,068.29	1,463.09	1,283.64	179.45	8.153		
11,200.00	9,065.00	9,016.10	9,016.10	55.85	134.88	90.00	-1,351.10	3,068.29	1,395.10	1,213.43	181.67	7.679		
11,300.00	9,065.00	9,016.10	9,016.10	57.54	134.88	90.00	-1,351.10	3,068.29	1,331.16	1,147.03	184.13	7.229		
11,400.00	9,065.00	9,016.10	9,016.10	59.26	134.88	90.00	-1,351.10	3,068.29	1,271.87	1,085.05	186.82	6.808		
11,500.00	9,065.00	9,016.10	9,016.10	61.00	134.88	90.00	-1,351.10	3,068.29	1,217.92	1,028.21	189.71	6.420		
11,600.00	9,065.00	9,016.10	9,016.10	62.75	134.88	90.00	-1,351.10	3,068.29	1,170.05	977.30	192.75	6.070		
11,700.00	9,065.00	9,016.10	9,016.10	64.52	134.88	90.00	-1,351.10	3,068.29	1,129.02	933.17	195.85	5.765		
11,800.00	9,065.00	9,016.10	9,016.10	66.31	134.88	90.00	-1,351.10	3,068.29	1,095.61	896.70	198.91	5.508		
11,900.00	9,065.00	9,016.10	9,016.10	68.11	134.88	90.00	-1,351.10	3,068.29	1,070.53	868.72	201.81	5.305		
12,000.00	9,065.00	9,016.10	9,016.10	69.93	134.88	90.00	-1,351.10	3,068.29	1,054.37	849.95	204.42	5.158		
12,100.00	9,065.00	9,016.10	9,016.10	71.76	134.88	90.00	-1,351.10	3,068.29	1,047.56	840.93	206.62	5.070		
12,121.63	9,065.00	9,016.10	9,016.10	72.15	134.88	90.00	-1,351.10	3,068.29	1,047.33	840.30	207.04	5.059 CC, ES		
12,200.00	9,065.00	9,016.10	9,016.10	73.60	134.88	90.00	-1,351.10	3,068.29	1,050.26	841.94	208.32	5.041 SF		
12,300.00	9,065.00	9,016.10	9,016.10	75.45	134.88	90.00	-1,351.10	3,068.29	1,062.41	852.93	209.48	5.072		
12,400.00	9,065.00	9,016.10	9,016.10	77.31	134.88	90.00	-1,351.10	3,068.29	1,083.69	873.60	210.09	5.158		
12,500.00	9,065.00	9,016.10	9,016.10	79.18	134.88	90.00	-1,351.10	3,068.29	1,113.58	903.38	210.20	5.298		
12,600.00	9,065.00	9,016.10	9,016.10	81.05	134.88	90.00	-1,351.10	3,068.29	1,151.41	941.53	209.88	5.486		
12,700.00	9,065.00	9,016.10	9,016.10	82.94	134.88	90.00	-1,351.10	3,068.29	1,196.42	987.20	209.22	5.719		
12,800.00	9,065.00	9,016.10	9,016.10	84.83	134.88	90.00	-1,351.10	3,068.29	1,247.83	1,039.53	208.30	5.991		
12,900.00	9,065.00	9,016.10	9,016.10	86.73	134.88	90.00	-1,351.10	3,068.29	1,304.90	1,097.69	207.21	6.298		
13,000.00	9,065.00	9,016.10	9,016.10	88.64	134.88	90.00	-1,351.10	3,068.29	1,366.91	1,160.90	206.01	6.635		
13,100.00	9,065.00	9,016.10	9,016.10	90.55	134.88	90.00	-1,351.10	3,068.29	1,433.22	1,228.46	204.75	7.000		
13,200.00	9,065.00	9,016.10	9,016.10	92.47	134.88	90.00	-1,351.10	3,068.29	1,503.26	1,299.77	203.49	7.388		
13,300.00	9,065.00	9,016.10	9,016.10	94.39	134.88	90.00	-1,351.10	3,068.29	1,576.53	1,374.30	202.23	7.796		
13,400.00	9,065.00	9,016.10	9,016.10	96.32	134.88	90.00	-1,351.10	3,068.29	1,652.61	1,451.59	201.02	8.221		
13,500.00	9,065.00	9,016.10	9,016.10	98.25	134.88	90.00	-1,351.10	3,068.29	1,731.13	1,531.28	199.85	8.662		
13,600.00	9,065.00	9,016.10	9,016.10	100.19	134.88	90.00	-1,351.10	3,068.29	1,811.76	1,613.02	198.74	9.116		
13,700.00	9,065.00	9,016.10	9,016.10	102.13	134.88	90.00	-1,351.10	3,068.29	1,894.24	1,696.56	197.68	9.582		
13,800.00	9,065.00	9,016.10	9,016.10	104.08	134.88	90.00	-1,351.10	3,068.29	1,978.34	1,781.65	196.69	10.058		
13,900.00	9,065.00	9,016.10	9,016.10	106.03	134.88	90.00	-1,351.10	3,068.29	2,063.85	1,868.10	195.76	10.543		
14,000.00	9,065.00	9,016.10	9,016.10	107.98	134.88	90.00	-1,351.10	3,068.29	2,150.62	1,955.74	194.88	11.035		
14,100.00	9,065.00	9,016.10	9,016.10	109.94	134.88	90.00	-1,351.10	3,068.29	2,238.49	2,044.42	194.07	11.535		

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 10-INC-ONLY													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
14,200.00	9,065.00	9,016.10	9,016.10	111.90	134.88	90.00	-1,351.10	3,068.29	2,327.34	2,134.04	193.30	12.040		
14,300.00	9,065.00	9,016.10	9,016.10	113.86	134.88	90.00	-1,351.10	3,068.29	2,417.06	2,224.48	192.59	12.551		
14,400.00	9,065.00	9,016.10	9,016.10	115.82	134.88	90.00	-1,351.10	3,068.29	2,507.56	2,315.64	191.92	13.066		
14,500.00	9,065.00	9,016.10	9,016.10	117.79	134.88	90.00	-1,351.10	3,068.29	2,598.76	2,407.46	191.29	13.585		
14,600.00	9,065.00	9,016.10	9,016.10	119.76	134.88	90.00	-1,351.10	3,068.29	2,690.58	2,499.87	190.71	14.108		
14,700.00	9,065.00	9,016.10	9,016.10	121.74	134.88	90.00	-1,351.10	3,068.29	2,782.96	2,592.80	190.16	14.635		
14,800.00	9,065.00	9,016.10	9,016.10	123.71	134.88	90.00	-1,351.10	3,068.29	2,875.86	2,686.20	189.65	15.164		
14,900.00	9,065.00	9,016.10	9,016.10	125.69	134.88	90.00	-1,351.10	3,068.29	2,969.21	2,780.04	189.18	15.696		
15,000.00	9,065.00	9,016.10	9,016.10	127.67	134.88	90.00	-1,351.10	3,068.29	3,062.99	2,874.26	188.73	16.230		
15,100.00	9,065.00	9,016.10	9,016.10	129.65	134.88	90.00	-1,351.10	3,068.29	3,157.15	2,968.84	188.31	16.766		
15,200.00	9,065.00	9,016.10	9,016.10	131.63	134.88	90.00	-1,351.10	3,068.29	3,251.65	3,063.74	187.92	17.304		
15,300.00	9,065.00	9,016.10	9,016.10	133.62	134.88	90.00	-1,351.10	3,068.29	3,346.48	3,158.93	187.55	17.843		
15,400.00	9,065.00	9,016.10	9,016.10	135.61	134.88	90.00	-1,351.10	3,068.29	3,441.60	3,254.39	187.20	18.384		
15,500.00	9,065.00	9,016.10	9,016.10	137.60	134.88	90.00	-1,351.10	3,068.29	3,536.99	3,350.11	186.88	18.927		
15,600.00	9,065.00	9,016.10	9,016.10	139.59	134.88	90.00	-1,351.10	3,068.29	3,632.62	3,446.05	186.58	19.470		
15,700.00	9,065.00	9,016.10	9,016.10	141.58	134.88	90.00	-1,351.10	3,068.29	3,728.49	3,542.20	186.29	20.014		
15,800.00	9,065.00	9,016.10	9,016.10	143.57	134.88	90.00	-1,351.10	3,068.29	3,824.56	3,638.54	186.02	20.560		
15,900.00	9,065.00	9,016.10	9,016.10	145.57	134.88	90.00	-1,351.10	3,068.29	3,920.84	3,735.07	185.77	21.106		
16,000.00	9,065.00	9,016.10	9,016.10	147.56	134.88	90.00	-1,351.10	3,068.29	4,017.29	3,831.76	185.53	21.653		
16,100.00	9,065.00	9,016.10	9,016.10	149.56	134.88	90.00	-1,351.10	3,068.29	4,113.92	3,928.61	185.31	22.200		
16,200.00	9,065.00	9,016.10	9,016.10	151.56	134.88	90.00	-1,351.10	3,068.29	4,210.70	4,025.60	185.10	22.748		
16,300.00	9,065.00	9,016.10	9,016.10	153.56	134.88	90.00	-1,351.10	3,068.29	4,307.63	4,122.72	184.90	23.297		
16,400.00	9,065.00	9,016.10	9,016.10	155.56	134.88	90.00	-1,351.10	3,068.29	4,404.69	4,219.97	184.72	23.845		
16,500.00	9,065.00	9,016.10	9,016.10	157.57	134.88	90.00	-1,351.10	3,068.29	4,501.89	4,317.34	184.55	24.394		
16,600.00	9,065.00	9,016.10	9,016.10	159.57	134.88	90.00	-1,351.10	3,068.29	4,599.20	4,414.82	184.38	24.944		
16,700.00	9,065.00	9,016.10	9,016.10	161.57	134.88	90.00	-1,351.10	3,068.29	4,696.63	4,512.40	184.23	25.493		
16,800.00	9,065.00	9,016.10	9,016.10	163.58	134.88	90.00	-1,351.10	3,068.29	4,794.17	4,610.08	184.09	26.043		
16,900.00	9,065.00	9,016.10	9,016.10	165.59	134.88	90.00	-1,351.10	3,068.29	4,891.80	4,707.85	183.95	26.593		
17,000.00	9,065.00	9,016.10	9,016.10	167.60	134.88	90.00	-1,351.10	3,068.29	4,989.53	4,805.70	183.82	27.143		
17,100.00	9,065.00	9,016.10	9,016.10	169.60	134.88	90.00	-1,351.10	3,068.29	5,087.34	4,903.63	183.71	27.693		
17,200.00	9,065.00	9,016.10	9,016.10	171.61	134.88	90.00	-1,351.10	3,068.29	5,185.24	5,001.64	183.60	28.243		
17,300.00	9,065.00	9,016.10	9,016.10	173.62	134.88	90.00	-1,351.10	3,068.29	5,283.22	5,099.73	183.49	28.793		
17,400.00	9,065.00	9,016.10	9,016.10	175.63	134.88	90.00	-1,351.10	3,068.29	5,381.27	5,197.87	183.40	29.342		
17,500.00	9,065.00	9,016.10	9,016.10	177.65	134.88	90.00	-1,351.10	3,068.29	5,479.39	5,296.09	183.31	29.892		
17,600.00	9,065.00	9,016.10	9,016.10	179.66	134.88	90.00	-1,351.10	3,068.29	5,577.58	5,394.36	183.22	30.442		
17,700.00	9,065.00	9,016.10	9,016.10	181.67	134.88	90.00	-1,351.10	3,068.29	5,675.83	5,492.69	183.14	30.991		
17,800.00	9,065.00	9,016.10	9,016.10	183.69	134.88	90.00	-1,351.10	3,068.29	5,774.15	5,591.07	183.07	31.541		
17,900.00	9,065.00	9,016.10	9,016.10	185.70	134.88	90.00	-1,351.10	3,068.29	5,872.51	5,689.51	183.00	32.090		
18,000.00	9,065.00	9,016.10	9,016.10	187.72	134.88	90.00	-1,351.10	3,068.29	5,970.94	5,788.00	182.94	32.638		
18,100.00	9,065.00	9,016.10	9,016.10	189.73	134.88	90.00	-1,351.10	3,068.29	6,069.41	5,886.53	182.89	33.187		
18,200.00	9,065.00	9,016.10	9,016.10	191.75	134.88	90.00	-1,351.10	3,068.29	6,167.94	5,985.10	182.83	33.735		
18,300.00	9,065.00	9,016.10	9,016.10	193.77	134.88	90.00	-1,351.10	3,068.29	6,266.51	6,083.72	182.79	34.283		
18,400.00	9,065.00	9,016.10	9,016.10	195.78	134.88	90.00	-1,351.10	3,068.29	6,365.12	6,182.38	182.74	34.831		
18,500.00	9,065.00	9,016.10	9,016.10	197.80	134.88	90.00	-1,351.10	3,068.29	6,463.78	6,281.08	182.70	35.378		
18,600.00	9,065.00	9,016.10	9,016.10	199.82	134.88	90.00	-1,351.10	3,068.29	6,562.48	6,379.81	182.67	35.926		
18,700.00	9,065.00	9,016.10	9,016.10	201.84	134.88	90.00	-1,351.10	3,068.29	6,661.22	6,478.58	182.64	36.472		
18,800.00	9,065.00	9,016.10	9,016.10	203.86	134.88	90.00	-1,351.10	3,068.29	6,759.99	6,577.38	182.61	37.019		
18,900.00	9,065.00	9,016.10	9,016.10	205.88	134.88	90.00	-1,351.10	3,068.29	6,858.80	6,676.21	182.59	37.565		
19,000.00	9,065.00	9,016.10	9,016.10	207.90	134.88	90.00	-1,351.10	3,068.29	6,957.65	6,775.08	182.57	38.110		
19,100.00	9,065.00	9,016.10	9,016.10	209.92	134.88	90.00	-1,351.10	3,068.29	7,056.52	6,873.97	182.55	38.655		
19,200.00	9,065.00	9,016.10	9,016.10	211.95	134.88	90.00	-1,351.10	3,068.29	7,155.43	6,972.89	182.54	39.200		
19,300.00	9,065.00	9,016.10	9,016.10	213.97	134.88	90.00	-1,351.10	3,068.29	7,254.37	7,071.84	182.53	39.744		

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design Sec 14-T21S-R27E - Lonetree 14 State Com #001 - Wellbore #1 - Wellbore #1												Offset Site Error:	0.00 ft
Survey Program: 10-INC-ONLY												Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance					Warning	
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre	Between Centres	Between Ellipses	Minimum Separation	Separation Factor		
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)		
19,400.00	9,065.00	9,016.10	9,016.10	215.99	134.88	90.00	-1,351.10	3,068.29	7,353.33	7,170.82	182.52	40.288	
19,456.84	9,065.00	9,016.10	9,016.10	217.14	134.88	90.00	-1,351.10	3,068.29	7,409.60	7,227.09	182.52	40.597	

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design Sec 14-T21S-R27E - Magnolia State 2 (P&A) - Wellbore #1 - Wellbore #1													Offset Site Error:	0.00 ft
Survey Program: 5-INC-ONLY													Offset Well Error:	150.00 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0.00	0.00	0.00	0.00	0.50	150.00	30.68	2,294.61	1,361.46	2,668.20					
100.00	100.00	78.10	78.10	0.52	150.00	30.68	2,294.61	1,361.46	2,668.11	2,517.59	150.52	17.726		
200.00	200.00	178.10	178.10	0.70	150.02	30.68	2,294.61	1,361.46	2,668.11	2,517.38	150.72	17.702		
300.00	300.00	278.10	278.10	0.99	150.05	30.68	2,294.61	1,361.46	2,668.11	2,517.07	151.04	17.665		
400.00	400.00	378.10	378.10	1.31	150.10	30.68	2,294.61	1,361.46	2,668.11	2,516.70	151.41	17.622		
500.00	500.00	478.10	478.10	1.65	150.16	30.68	2,294.61	1,361.46	2,668.11	2,516.30	151.81	17.575		
600.00	600.00	578.10	578.10	1.99	150.24	30.68	2,294.61	1,361.46	2,668.11	2,515.88	152.23	17.527 CC, ES		
700.00	700.00	563.00	562.89	2.34	150.23	30.68	2,294.61	1,361.46	2,670.59	2,518.17	152.43	17.521 SF		
800.00	800.00	563.00	562.89	2.69	150.23	30.68	2,294.61	1,361.46	2,676.77	2,524.34	152.43	17.561		
900.00	900.00	563.00	562.89	3.04	150.23	30.68	2,294.61	1,361.46	2,686.66	2,534.44	152.23	17.649		
1,000.00	1,000.00	563.00	562.89	3.40	150.23	30.68	2,294.61	1,361.46	2,700.22	2,548.40	151.82	17.786		
1,100.00	1,100.00	563.00	562.89	3.75	150.23	30.68	2,294.61	1,361.46	2,717.40	2,566.18	151.22	17.970		
1,200.00	1,200.00	563.00	562.89	4.11	150.23	30.68	2,294.61	1,361.46	2,738.12	2,587.68	150.43	18.201		
1,300.00	1,300.00	563.00	562.89	4.46	150.23	30.68	2,294.61	1,361.46	2,762.30	2,612.83	149.48	18.480		
1,400.00	1,400.00	563.00	562.89	4.82	150.23	30.68	2,294.61	1,361.46	2,789.87	2,641.51	148.35	18.805		
1,500.00	1,500.00	563.00	562.89	5.18	150.23	30.68	2,294.61	1,361.46	2,820.71	2,673.62	147.09	19.177		
1,600.00	1,600.00	563.00	562.89	5.53	150.23	30.68	2,294.61	1,361.46	2,854.72	2,709.04	145.69	19.595		
1,700.00	1,700.00	563.00	562.89	5.89	150.23	30.68	2,294.61	1,361.46	2,891.80	2,747.63	144.17	20.058		
1,800.00	1,800.00	563.00	562.89	6.25	150.23	30.68	2,294.61	1,361.46	2,931.81	2,789.27	142.55	20.567		
1,900.00	1,900.00	563.00	562.89	6.61	150.23	30.68	2,294.61	1,361.46	2,974.66	2,833.82	140.84	21.121		
2,000.00	2,000.00	563.00	562.89	6.96	150.23	30.68	2,294.61	1,361.46	3,020.20	2,881.14	139.06	21.719		
2,100.00	2,100.00	563.00	562.89	7.32	150.23	30.68	2,294.61	1,361.46	3,068.33	2,931.12	137.22	22.361		
2,200.00	2,200.00	563.00	562.89	7.68	150.23	30.68	2,294.61	1,361.46	3,118.93	2,983.60	135.33	23.047		
2,300.00	2,300.00	563.00	562.89	8.04	150.23	30.68	2,294.61	1,361.46	3,171.87	3,038.47	133.40	23.777		
2,400.00	2,400.00	563.00	562.89	8.39	150.23	30.68	2,294.61	1,361.46	3,227.04	3,095.59	131.45	24.549		
2,500.00	2,500.00	563.00	562.89	8.75	150.23	30.68	2,294.61	1,361.46	3,284.33	3,154.84	129.49	25.364		
2,600.00	2,599.99	563.00	562.89	9.09	150.23	176.56	2,294.61	1,361.46	3,344.32	3,216.80	127.52	26.225		
2,700.00	2,699.96	563.00	562.89	9.42	150.23	176.51	2,294.61	1,361.46	3,407.54	3,281.96	125.58	27.135		
2,800.00	2,799.86	563.00	562.89	9.75	150.23	176.46	2,294.61	1,361.46	3,473.79	3,350.11	123.68	28.087		
2,900.00	2,899.68	563.00	562.89	10.08	150.23	176.40	2,294.61	1,361.46	3,542.89	3,421.05	121.84	29.079		
2,945.33	2,944.88	563.00	562.89	10.23	150.23	176.37	2,294.61	1,361.46	3,575.09	3,454.07	121.02	29.540		
3,000.00	2,999.39	563.00	562.89	10.41	150.23	176.37	2,294.61	1,361.46	3,614.46	3,494.41	120.05	30.108		
3,100.00	3,099.08	563.00	562.89	10.75	150.23	176.37	2,294.61	1,361.46	3,687.47	3,569.18	118.29	31.173		
3,200.00	3,198.78	563.00	562.89	11.08	150.23	176.37	2,294.61	1,361.46	3,761.73	3,645.16	116.57	32.270		
3,300.00	3,298.48	563.00	562.89	11.42	150.23	176.37	2,294.61	1,361.46	3,837.16	3,722.27	114.88	33.400		
3,400.00	3,398.18	563.00	562.89	11.76	150.23	176.37	2,294.61	1,361.46	3,913.69	3,800.45	113.24	34.562		
3,500.00	3,497.88	563.00	562.89	12.10	150.23	176.37	2,294.61	1,361.46	3,991.25	3,879.62	111.63	35.754		
3,600.00	3,597.58	563.00	562.89	12.45	150.23	176.37	2,294.61	1,361.46	4,069.80	3,959.74	110.06	36.977		
3,700.00	3,697.27	563.00	562.89	12.79	150.23	176.37	2,294.61	1,361.46	4,149.27	4,040.73	108.54	38.230		
3,800.00	3,796.97	563.00	562.89	13.14	150.23	176.37	2,294.61	1,361.46	4,229.61	4,122.56	107.05	39.511		
3,900.00	3,896.67	563.00	562.89	13.48	150.23	176.37	2,294.61	1,361.46	4,310.77	4,205.16	105.61	40.820		
4,000.00	3,996.37	563.00	562.89	13.83	150.23	176.37	2,294.61	1,361.46	4,392.71	4,288.51	104.20	42.156		
4,100.00	4,096.07	563.00	562.89	14.18	150.23	176.37	2,294.61	1,361.46	4,475.38	4,372.54	102.84	43.519		
4,200.00	4,195.76	563.00	562.89	14.53	150.23	176.37	2,294.61	1,361.46	4,558.75	4,457.24	101.51	44.908		
4,300.00	4,295.46	563.00	562.89	14.88	150.23	176.37	2,294.61	1,361.46	4,642.77	4,542.55	100.23	46.322		
4,400.00	4,395.16	563.00	562.89	15.23	150.23	176.37	2,294.61	1,361.46	4,727.42	4,628.44	98.98	47.760		
4,500.00	4,494.86	563.00	562.89	15.58	150.23	176.37	2,294.61	1,361.46	4,812.66	4,714.88	97.78	49.222		
4,600.00	4,594.56	563.00	562.89	15.93	150.23	176.37	2,294.61	1,361.46	4,898.45	4,801.85	96.60	50.706		
4,700.00	4,694.25	563.00	562.89	16.29	150.23	176.37	2,294.61	1,361.46	4,984.77	4,889.30	95.47	52.213		
4,800.00	4,793.95	563.00	562.89	16.64	150.23	176.37	2,294.61	1,361.46	5,071.60	4,977.23	94.37	53.741		
4,900.00	4,893.65	563.00	562.89	17.00	150.23	176.37	2,294.61	1,361.46	5,158.90	5,065.60	93.31	55.289		
5,000.00	4,993.35	563.00	562.89	17.35	150.23	176.37	2,294.61	1,361.46	5,246.66	5,154.38	92.28	56.857		

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design				Sec 14-T21S-R27E - Magnolia State 2 (P&A) - Wellbore #1 - Wellbore #1									Offset Site Error:		0.00 ft
Survey Program: 5-INC-ONLY													Offset Well Error:		150.00 ft
Reference		Offset		Semi Major Axis			Distance						Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor			
5,100.00	5,093.05	563.00	562.89	17.71	150.23	176.37	2,294.61	1,361.46	5,334.85	5,243.57	91.28	58.444			
5,200.00	5,192.75	563.00	562.89	18.06	150.23	176.37	2,294.61	1,361.46	5,423.45	5,333.13	90.32	60.049			
5,300.00	5,292.44	563.00	562.89	18.42	150.23	176.37	2,294.61	1,361.46	5,512.43	5,423.05	89.38	61.671			
5,400.00	5,392.14	563.00	562.89	18.77	150.23	176.37	2,294.61	1,361.46	5,601.79	5,513.31	88.48	63.309			
5,500.00	5,491.84	563.00	562.89	19.13	150.23	176.37	2,294.61	1,361.46	5,691.51	5,603.90	87.61	64.964			
5,600.00	5,591.54	563.00	562.89	19.49	150.23	176.37	2,294.61	1,361.46	5,781.56	5,694.79	86.77	66.633			
5,700.00	5,691.24	563.00	562.89	19.85	150.23	176.37	2,294.61	1,361.46	5,871.93	5,785.98	85.95	68.316			
5,800.00	5,790.93	563.00	562.89	20.20	150.23	176.37	2,294.61	1,361.46	5,962.61	5,877.44	85.17	70.012			
5,900.00	5,890.63	563.00	562.89	20.56	150.23	176.37	2,294.61	1,361.46	6,053.58	5,969.18	84.40	71.721			
6,000.00	5,990.33	563.00	562.89	20.92	150.23	176.37	2,294.61	1,361.46	6,144.84	6,061.17	83.67	73.441			
6,100.00	6,090.03	563.00	562.89	21.28	150.23	176.37	2,294.61	1,361.46	6,236.36	6,153.40	82.96	75.172			
6,200.00	6,189.73	563.00	562.89	21.64	150.23	176.37	2,294.61	1,361.46	6,328.14	6,245.86	82.28	76.912			
6,300.00	6,289.42	563.00	562.89	22.00	150.23	176.37	2,294.61	1,361.46	6,420.16	6,338.55	81.62	78.662			
6,400.00	6,389.12	563.00	562.89	22.36	150.23	176.37	2,294.61	1,361.46	6,512.42	6,431.44	80.98	80.420			
6,500.00	6,488.82	563.00	562.89	22.72	150.23	176.37	2,294.61	1,361.46	6,604.91	6,524.54	80.37	82.186			
6,600.00	6,588.52	563.00	562.89	23.08	150.23	176.37	2,294.61	1,361.46	6,697.61	6,617.84	79.77	83.958			
6,700.00	6,688.22	563.00	562.89	23.44	150.23	176.37	2,294.61	1,361.46	6,790.52	6,711.31	79.20	85.735			
6,800.00	6,787.91	563.00	562.89	23.80	150.23	176.37	2,294.61	1,361.46	6,883.62	6,804.97	78.65	87.518			
6,900.00	6,887.61	563.00	562.89	24.16	150.23	176.37	2,294.61	1,361.46	6,976.92	6,898.80	78.13	89.305			
7,000.00	6,987.31	563.00	562.89	24.52	150.23	176.37	2,294.61	1,361.46	7,070.40	6,992.79	77.62	91.095			
7,100.00	7,087.01	563.00	562.89	24.88	150.23	176.37	2,294.61	1,361.46	7,164.06	7,086.93	77.13	92.887			
7,200.00	7,186.71	563.00	562.89	25.24	150.23	176.37	2,294.61	1,361.46	7,257.89	7,181.23	76.66	94.681			
7,300.00	7,286.41	563.00	562.89	25.60	150.23	176.37	2,294.61	1,361.46	7,351.88	7,275.67	76.20	96.476			
7,400.00	7,386.10	563.00	562.89	25.96	150.23	176.37	2,294.61	1,361.46	7,446.02	7,370.25	75.77	98.271			
7,500.00	7,485.80	563.00	562.89	26.33	150.23	176.37	2,294.61	1,361.46	7,540.32	7,464.96	75.35	100.066			
7,600.00	7,585.50	563.00	562.89	26.69	150.23	176.37	2,294.61	1,361.46	7,634.76	7,559.80	74.95	101.859			
7,700.00	7,685.20	563.00	562.89	27.05	150.23	176.37	2,294.61	1,361.46	7,729.34	7,654.77	74.57	103.650			
7,800.00	7,784.90	563.00	562.89	27.41	150.23	176.37	2,294.61	1,361.46	7,824.06	7,749.85	74.21	105.438			
7,860.70	7,845.41	563.00	562.89	27.63	150.23	176.37	2,294.61	1,361.46	7,881.61	7,807.62	73.99	106.521			
7,900.00	7,884.61	563.00	562.89	27.77	150.23	176.48	2,294.61	1,361.46	7,918.84	7,844.99	73.85	107.227			
8,000.00	7,984.46	563.00	562.89	28.13	150.23	176.73	2,294.61	1,361.46	8,013.06	7,939.58	73.48	109.056			
8,100.00	8,084.42	563.00	562.89	28.49	150.23	176.94	2,294.61	1,361.46	8,106.52	8,033.45	73.07	110.936			
8,157.59	8,142.00	563.00	562.89	28.69	150.23	31.13	2,294.61	1,361.46	8,159.99	8,087.16	72.83	112.044			
8,200.00	8,184.41	563.00	562.89	28.83	150.23	31.13	2,294.61	1,361.46	8,199.28	8,126.64	72.65	112.865			
8,300.00	8,284.41	563.00	562.89	29.17	150.23	31.13	2,294.61	1,361.46	8,292.05	8,219.82	72.23	114.797			
8,400.00	8,384.41	563.00	562.89	29.51	150.23	31.13	2,294.61	1,361.46	8,384.99	8,313.16	71.83	116.727			
8,507.63	8,492.04	563.00	562.89	29.87	150.23	31.13	2,294.61	1,361.46	8,485.20	8,413.77	71.42	118.801			
8,550.00	8,534.37	563.00	562.89	30.02	150.23	-49.92	2,294.61	1,361.46	8,524.36	8,453.11	71.25	119.638			
8,600.00	8,584.01	563.00	562.89	30.18	150.23	-42.30	2,294.61	1,361.46	8,569.57	8,498.55	71.02	120.672			
8,650.00	8,632.95	563.00	562.89	30.34	150.23	-36.53	2,294.61	1,361.46	8,613.37	8,542.62	70.75	121.747			
8,700.00	8,680.82	563.00	562.89	30.50	150.23	-32.13	2,294.61	1,361.46	8,655.46	8,585.01	70.45	122.857			
8,750.00	8,727.25	563.00	562.89	30.66	150.23	-28.73	2,294.61	1,361.46	8,695.54	8,625.41	70.13	123.993			
8,800.00	8,771.89	563.00	562.89	30.81	150.23	-26.07	2,294.61	1,361.46	8,733.35	8,663.56	69.78	125.149			
8,850.00	8,814.40	563.00	562.89	30.95	150.23	-23.96	2,294.61	1,361.46	8,768.61	8,699.19	69.42	126.313			
8,900.00	8,854.46	563.00	562.89	31.09	150.23	-22.28	2,294.61	1,361.46	8,801.10	8,732.06	69.04	127.476			
8,950.00	8,891.75	563.00	562.89	31.23	150.23	-20.94	2,294.61	1,361.46	8,830.60	8,761.95	68.65	128.627			
9,000.00	8,926.01	563.00	562.89	31.37	150.23	-19.86	2,294.61	1,361.46	8,856.92	8,788.66	68.26	129.751			
9,050.00	8,956.96	563.00	562.89	31.53	150.23	-19.00	2,294.61	1,361.46	8,879.88	8,812.01	67.87	130.835			
9,100.00	8,984.38	563.00	562.89	31.69	150.23	-18.32	2,294.61	1,361.46	8,899.34	8,831.86	67.49	131.865			
9,150.00	9,008.05	563.00	562.89	31.87	150.23	-17.80	2,294.61	1,361.46	8,915.18	8,848.06	67.12	132.827			
9,200.00	9,027.79	563.00	562.89	32.07	150.23	-17.42	2,294.61	1,361.46	8,927.28	8,860.52	66.77	133.705			
9,250.00	9,043.45	563.00	562.89	32.29	150.23	-17.17	2,294.61	1,361.46	8,935.59	8,869.14	66.44	134.485			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 5-INC-ONLY													Offset Well Error:	150.00 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
9,300.00	9,054.92	563.00	562.89	32.53	150.23	-17.04	2,294.61	1,361.46	8,940.03	8,873.88	66.15	135.155		
9,350.00	9,062.10	563.00	562.89	32.79	150.23	-17.03	2,294.61	1,361.46	8,940.59	8,874.70	65.88	135.704		
9,400.00	9,064.95	563.00	562.89	33.06	150.23	-17.12	2,294.61	1,361.46	8,937.26	8,871.60	65.66	136.124		
9,407.63	9,065.00	563.00	562.89	33.10	150.23	-17.15	2,294.61	1,361.46	8,936.41	8,870.78	65.63	136.173		
9,500.00	9,065.00	563.00	562.89	33.68	150.23	-17.15	2,294.61	1,361.46	8,926.05	8,860.76	65.29	136.714		
9,600.00	9,065.00	563.00	562.89	34.41	150.23	-17.15	2,294.61	1,361.46	8,915.91	8,850.88	65.02	137.115		
9,700.00	9,065.00	563.00	562.89	35.24	150.23	-17.15	2,294.61	1,361.46	8,906.87	8,842.01	64.86	137.319		
9,800.00	9,065.00	563.00	562.89	36.17	150.23	-17.15	2,294.61	1,361.46	8,898.95	8,834.15	64.80	137.324		
9,900.00	9,065.00	563.00	562.89	37.19	150.23	-17.15	2,294.61	1,361.46	8,892.15	8,827.31	64.84	137.130		
10,000.00	9,065.00	563.00	562.89	38.30	150.23	-17.15	2,294.61	1,361.46	8,886.47	8,821.49	64.99	136.743		
10,100.00	9,065.00	563.00	562.89	39.48	150.23	-17.15	2,294.61	1,361.46	8,881.91	8,816.69	65.23	136.167		
10,200.00	9,065.00	563.00	562.89	40.72	150.23	-17.15	2,294.61	1,361.46	8,878.48	8,812.91	65.57	135.412		
10,300.00	9,065.00	563.00	562.89	42.03	150.23	-17.15	2,294.61	1,361.46	8,876.17	8,810.17	66.00	134.488		
10,400.00	9,065.00	563.00	562.89	43.40	150.23	-17.15	2,294.61	1,361.46	8,874.99	8,808.46	66.53	133.407		
10,455.03	9,065.00	563.00	562.89	44.18	150.23	-17.15	2,294.61	1,361.46	8,874.81	8,807.96	66.86	132.744		
10,500.00	9,065.00	563.00	562.89	44.82	150.23	-17.15	2,294.61	1,361.46	8,874.93	8,807.79	67.14	132.183		
10,600.00	9,065.00	563.00	562.89	46.29	150.23	-17.15	2,294.61	1,361.46	8,876.00	8,808.16	67.84	130.830		
10,700.00	9,065.00	563.00	562.89	47.79	150.23	-17.15	2,294.61	1,361.46	8,878.20	8,809.57	68.63	129.363		
10,800.00	9,065.00	563.00	562.89	49.34	150.23	-17.15	2,294.61	1,361.46	8,881.52	8,812.02	69.50	127.797		
10,900.00	9,065.00	563.00	562.89	50.92	150.23	-17.15	2,294.61	1,361.46	8,885.96	8,815.52	70.44	126.147		
11,000.00	9,065.00	563.00	562.89	52.54	150.23	-17.15	2,294.61	1,361.46	8,891.53	8,820.07	71.46	124.428		
11,100.00	9,065.00	563.00	562.89	54.18	150.23	-17.15	2,294.61	1,361.46	8,898.22	8,825.67	72.55	122.654		
11,200.00	9,065.00	563.00	562.89	55.85	150.23	-17.15	2,294.61	1,361.46	8,906.03	8,832.32	73.70	120.838		
11,300.00	9,065.00	563.00	562.89	57.54	150.23	-17.15	2,294.61	1,361.46	8,914.95	8,840.03	74.92	118.993		
11,400.00	9,065.00	563.00	562.89	59.26	150.23	-17.15	2,294.61	1,361.46	8,924.98	8,848.79	76.20	117.131		
11,500.00	9,065.00	563.00	562.89	61.00	150.23	-17.15	2,294.61	1,361.46	8,936.12	8,858.59	77.53	115.262		
11,600.00	9,065.00	563.00	562.89	62.75	150.23	-17.15	2,294.61	1,361.46	8,948.37	8,869.46	78.91	113.396		
11,700.00	9,065.00	563.00	562.89	64.52	150.23	-17.15	2,294.61	1,361.46	8,961.71	8,881.37	80.34	111.542		
11,800.00	9,065.00	563.00	562.89	66.31	150.23	-17.15	2,294.61	1,361.46	8,976.15	8,894.33	81.82	109.708		
11,900.00	9,065.00	563.00	562.89	68.11	150.23	-17.15	2,294.61	1,361.46	8,991.68	8,908.34	83.33	107.899		
12,000.00	9,065.00	563.00	562.89	69.93	150.23	-17.15	2,294.61	1,361.46	9,008.29	8,923.40	84.89	106.121		
12,100.00	9,065.00	563.00	562.89	71.76	150.23	-17.15	2,294.61	1,361.46	9,025.98	8,939.50	86.47	104.379		
12,200.00	9,065.00	563.00	562.89	73.60	150.23	-17.15	2,294.61	1,361.46	9,044.74	8,956.65	88.09	102.677		
12,300.00	9,065.00	563.00	562.89	75.45	150.23	-17.15	2,294.61	1,361.46	9,064.56	8,974.83	89.73	101.018		
12,400.00	9,065.00	563.00	562.89	77.31	150.23	-17.15	2,294.61	1,361.46	9,085.44	8,994.04	91.40	99.404		
12,500.00	9,065.00	563.00	562.89	79.18	150.23	-17.15	2,294.61	1,361.46	9,107.37	9,014.29	93.09	97.838		
12,600.00	9,065.00	563.00	562.89	81.05	150.23	-17.15	2,294.61	1,361.46	9,130.35	9,035.55	94.79	96.319		
12,700.00	9,065.00	563.00	562.89	82.94	150.23	-17.15	2,294.61	1,361.46	9,154.36	9,057.84	96.51	94.851		
12,800.00	9,065.00	563.00	562.89	84.83	150.23	-17.15	2,294.61	1,361.46	9,179.39	9,081.14	98.25	93.432		
12,900.00	9,065.00	563.00	562.89	86.73	150.23	-17.15	2,294.61	1,361.46	9,205.45	9,105.45	99.99	92.063		
13,000.00	9,065.00	563.00	562.89	88.64	150.23	-17.15	2,294.61	1,361.46	9,232.51	9,130.77	101.74	90.743		
13,100.00	9,065.00	563.00	562.89	90.55	150.23	-17.15	2,294.61	1,361.46	9,260.57	9,157.07	103.50	89.473		
13,200.00	9,065.00	563.00	562.89	92.47	150.23	-17.15	2,294.61	1,361.46	9,289.63	9,184.37	105.26	88.251		
13,300.00	9,065.00	563.00	562.89	94.39	150.23	-17.15	2,294.61	1,361.46	9,319.67	9,212.64	107.03	87.077		
13,400.00	9,065.00	563.00	562.89	96.32	150.23	-17.15	2,294.61	1,361.46	9,350.68	9,241.89	108.79	85.951		
13,500.00	9,065.00	563.00	562.89	98.25	150.23	-17.15	2,294.61	1,361.46	9,382.65	9,272.10	110.55	84.870		
13,600.00	9,065.00	563.00	562.89	100.19	150.23	-17.15	2,294.61	1,361.46	9,415.58	9,303.27	112.31	83.833		
13,700.00	9,065.00	563.00	562.89	102.13	150.23	-17.15	2,294.61	1,361.46	9,449.45	9,335.39	114.07	82.840		
13,800.00	9,065.00	563.00	562.89	104.08	150.23	-17.15	2,294.61	1,361.46	9,484.26	9,368.44	115.82	81.890		
13,900.00	9,065.00	563.00	562.89	106.03	150.23	-17.15	2,294.61	1,361.46	9,519.99	9,402.43	117.56	80.980		
14,000.00	9,065.00	563.00	562.89	107.98	150.23	-17.15	2,294.61	1,361.46	9,556.63	9,437.34	119.29	80.111		
14,100.00	9,065.00	563.00	562.89	109.94	150.23	-17.15	2,294.61	1,361.46	9,594.17	9,473.16	121.02	79.280		

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

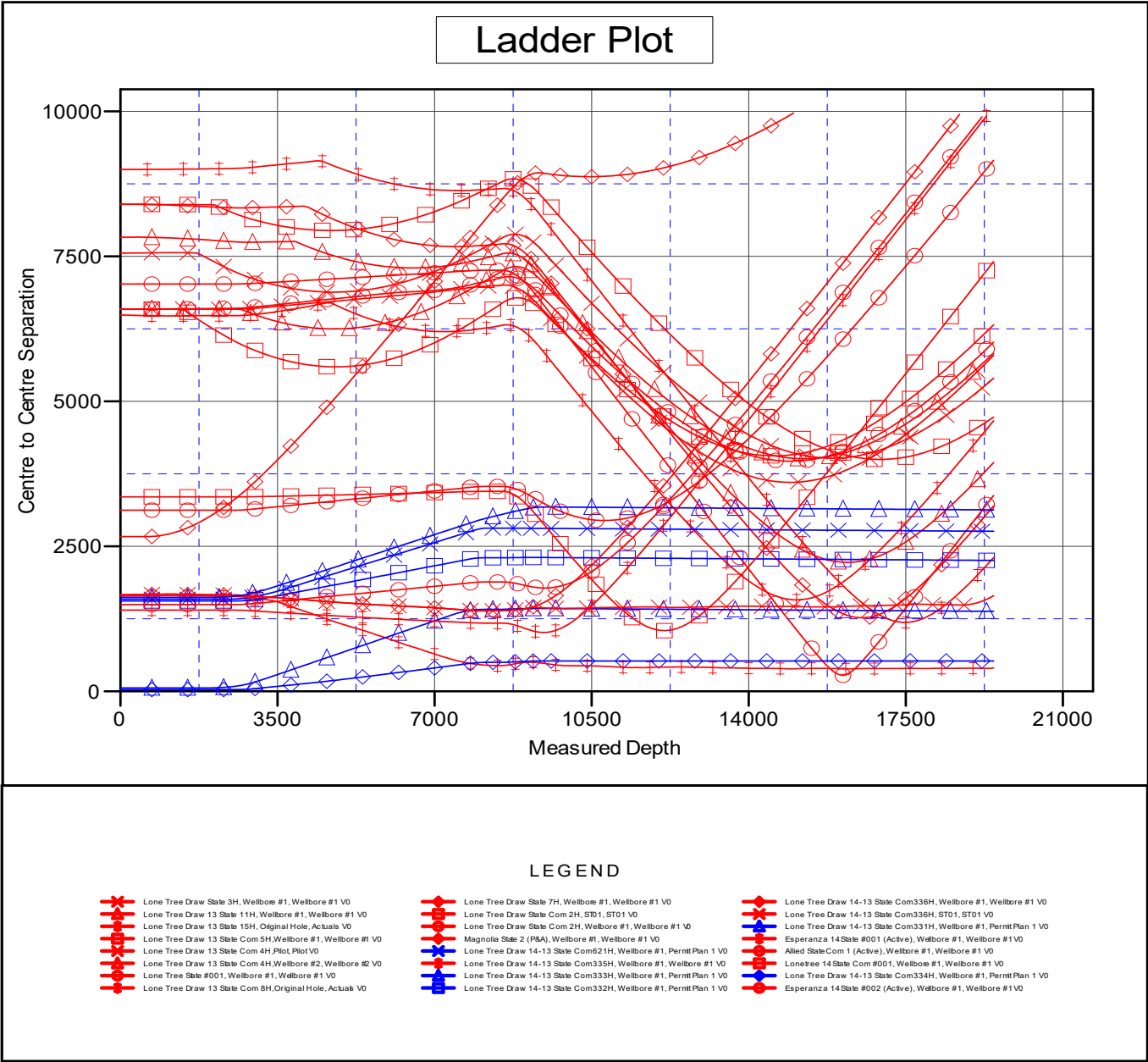
Offset Design													Sec 14-T21S-R27E - Magnolia State 2 (P&A) - Wellbore #1 - Wellbore #1		Offset Site Error:		0.00 ft	
Survey Program: 5-INC-ONLY													Offset Well Error:		150.00 ft			
Reference		Offset		Semi Major Axis			Distance							Warning				
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor						
14,200.00	9,065.00	563.00	562.89	111.90	150.23	-17.15	2,294.61	1,361.46	9,632.61	9,509.88	122.73	78.486						
14,300.00	9,065.00	563.00	562.89	113.86	150.23	-17.15	2,294.61	1,361.46	9,671.93	9,547.49	124.43	77.728						
14,400.00	9,065.00	563.00	562.89	115.82	150.23	-17.15	2,294.61	1,361.46	9,712.11	9,585.99	126.12	77.006						
14,500.00	9,065.00	563.00	562.89	117.79	150.23	-17.15	2,294.61	1,361.46	9,753.16	9,625.36	127.80	76.316						
14,600.00	9,065.00	563.00	562.89	119.76	150.23	-17.15	2,294.61	1,361.46	9,795.06	9,665.59	129.46	75.660						
14,700.00	9,065.00	563.00	562.89	121.74	150.23	-17.15	2,294.61	1,361.46	9,837.79	9,706.68	131.11	75.034						
14,800.00	9,065.00	563.00	562.89	123.71	150.23	-17.15	2,294.61	1,361.46	9,881.35	9,748.61	132.74	74.439						
14,900.00	9,065.00	563.00	562.89	125.69	150.23	-17.15	2,294.61	1,361.46	9,925.73	9,791.37	134.36	73.872						
15,000.00	9,065.00	563.00	562.89	127.67	150.23	-17.15	2,294.61	1,361.46	9,970.91	9,834.95	135.97	73.334						

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Reference Depths are relative to RKB @ 3268.90ft
Offset Depths are relative to Offset Datum
Central Meridian is -104.333334

Coordinates are relative to: Lone Tree Draw 14-13 State Com 623H
Coordinate System is US State Plane 1983, New Mexico Eastern Zone
Grid Convergence at Surface is: 0.09°

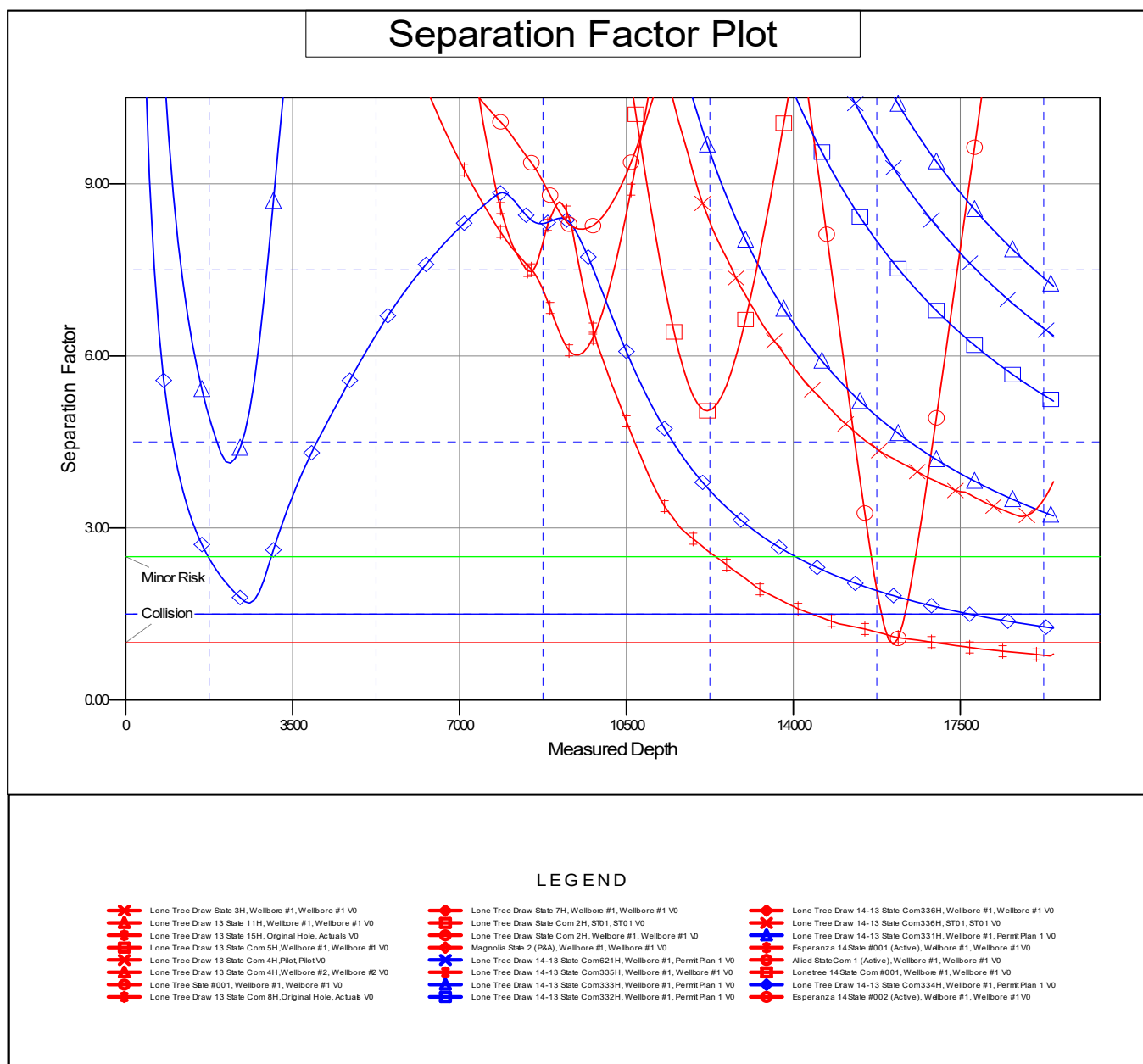


Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Reference Depths are relative to RKB @ 3268.90ft
Offset Depths are relative to Offset Datum
Central Meridian is -104.333334

Coordinates are relative to: Lone Tree Draw 14-13 State Com 623H
Coordinate System is US State Plane 1983, New Mexico Eastern Zone
Grid Convergence at Surface is: 0.09°



CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

WCDSC Permian NM

Eddy County (NAD 83 NM Eastern)

Sec 14-T21S-R27E

Lone Tree Draw 14-13 State Com 623H

Wellbore #1

Permit Plan 1

Anticollision Report

07 October, 2019

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Reference	Permit Plan 1
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria
Interpolation Method:	Stations
Depth Range:	Unlimited
Results Limited by:	Maximum center-center distance of 10,000.00 ft
Warning Levels Evaluated at:	2.00 Sigma
Error Model:	ISCWSA
Scan Method:	Closest Approach 3D
Error Surface:	Pedal Curve
Casing Method:	Not applied

Survey Tool Program	Date	10/4/2019
From (ft)	To (ft)	Survey (Wellbore)
0.00	19,456.84	Permit Plan 1 (Wellbore #1)
		Tool Name
		MWD+IFR1
		Description
		OWSG MWD + IFR1

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
Sec 13-T21S-R27E						
Lone Tree Draw 13 State 11H - Wellbore #1 - Wellbore #	16,199.10	9,793.78	2,223.93	2,137.85	25.835	CC
Lone Tree Draw 13 State 11H - Wellbore #1 - Wellbore #	16,200.00	9,793.80	2,223.94	2,137.84	25.833	ES
Lone Tree Draw 13 State 11H - Wellbore #1 - Wellbore #	16,900.00	9,813.32	2,331.69	2,237.96	24.878	SF
Lone Tree Draw 13 State 15H - Original Hole - Actuals	15,067.09	10,513.23	1,577.38	1,498.34	19.959	CC, ES
Lone Tree Draw 13 State 15H - Original Hole - Actuals	15,600.00	10,525.69	1,664.92	1,577.81	19.113	SF
Lone Tree Draw 13 State Com 4H - Pilot - Pilot	14,920.92	7,876.00	3,603.45	3,456.25	24.479	CC
Lone Tree Draw 13 State Com 4H - Pilot - Pilot	15,000.00	7,876.00	3,604.32	3,455.64	24.242	ES
Lone Tree Draw 13 State Com 4H - Pilot - Pilot	15,800.00	7,876.00	3,709.13	3,548.78	23.132	SF
Lone Tree Draw 13 State Com 4H - Wellbore #2 - Wellbo	15,226.38	8,204.00	4,011.30	3,932.22	50.724	CC, ES
Lone Tree Draw 13 State Com 4H - Wellbore #2 - Wellbo	17,000.00	8,161.83	4,385.34	4,290.05	46.023	SF
Lone Tree Draw 13 State Com 5H - Wellbore #1 - Wellbo	16,934.09	8,407.96	3,999.45	3,906.24	42.906	CC
Lone Tree Draw 13 State Com 5H - Wellbore #1 - Wellbo	17,400.00	17,400.00	4,026.42	3,859.55	24.130	ES
Lone Tree Draw 13 State Com 5H - Wellbore #1 - Wellbo	17,600.00	17,600.00	4,054.44	3,883.03	23.654	SF
Lone Tree Draw 13 State Com 8H - Original Hole - Actua	17,483.22	11,016.90	1,188.71	1,091.89	12.278	CC
Lone Tree Draw 13 State Com 8H - Original Hole - Actua	17,500.00	11,016.78	1,188.83	1,091.83	12.256	ES
Lone Tree Draw 13 State Com 8H - Original Hole - Actua	17,900.00	11,014.10	1,259.65	1,153.99	11.921	SF
Lone Tree Draw State 3H - Wellbore #1 - Wellbore #1	15,853.32	8,192.80	4,019.73	3,935.84	47.913	CC
Lone Tree Draw State 3H - Wellbore #1 - Wellbore #1	15,900.00	8,192.02	4,020.00	3,935.72	47.699	ES
Lone Tree Draw State 3H - Wellbore #1 - Wellbore #1	17,400.00	8,157.44	4,306.94	4,209.39	44.150	SF
Lone Tree Draw State 7H - Wellbore #1 - Wellbore #1	16,522.49	11,222.42	1,269.40	1,176.76	13.703	CC, ES
Lone Tree Draw State 7H - Wellbore #1 - Wellbore #1	16,800.00	11,215.70	1,299.35	1,203.10	13.499	SF
Lone Tree Draw State Com 2H - ST01 - ST01	14,571.87	8,196.56	4,060.31	3,985.72	54.430	CC
Lone Tree Draw State Com 2H - ST01 - ST01	14,600.00	8,194.29	4,060.41	3,985.61	54.282	ES
Lone Tree Draw State Com 2H - ST01 - ST01	16,300.00	7,982.30	4,407.15	4,318.51	49.719	SF
Lone Tree Draw State Com 2H - Wellbore #1 - Wellbore	14,930.29	6,978.42	3,969.40	3,836.54	29.875	CC
Lone Tree Draw State Com 2H - Wellbore #1 - Wellbore	15,000.00	6,978.42	3,970.02	3,835.94	29.610	ES
Lone Tree Draw State Com 2H - Wellbore #1 - Wellbore	16,000.00	6,978.42	4,111.02	3,963.26	27.823	SF
Lone Tree State #001 - Wellbore #1 - Wellbore #1	16,091.41	8,984.10	275.81	-7.96	0.972	Collision, CC, ES, SF

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Summary

Site Name Offset Well - Wellbore - Design	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Between Ellipses (ft)	Separation Factor	Warning
Sec 14-T21S-R27E						
Allied State Com 1 (Active) - Wellbore #1 - Wellbore #1	10,787.48	9,046.10	2,945.49	2,713.25	12.683	CC
Allied State Com 1 (Active) - Wellbore #1 - Wellbore #1	10,800.00	9,046.10	2,945.52	2,713.08	12.672	ES
Allied State Com 1 (Active) - Wellbore #1 - Wellbore #1	11,300.00	9,046.10	2,989.75	2,749.72	12.456	SF
Esperanza 14 State #001 (Active) - Wellbore #1 - Wellbo	9,430.26	9,055.10	1,015.07	846.37	6.017	CC, ES
Esperanza 14 State #001 (Active) - Wellbore #1 - Wellbo	9,500.00	9,055.10	1,017.46	848.35	6.017	SF
Esperanza 14 State #002 (Active) - Wellbore #1 - Wellbo	2,500.00	2,487.10	1,495.02	1,435.17	24.976	CC
Esperanza 14 State #002 (Active) - Wellbore #1 - Wellbo	2,600.00	2,587.09	1,495.85	1,433.66	24.054	ES
Esperanza 14 State #002 (Active) - Wellbore #1 - Wellbo	9,600.00	9,052.10	1,786.93	1,569.30	8.211	SF
Lone Tree Draw 14-13 State Com 331H - Wellbore #1 - P	1,911.95	1,924.35	1,618.69	1,605.35	121.327	CC
Lone Tree Draw 14-13 State Com 331H - Wellbore #1 - P	2,000.00	2,009.71	1,618.70	1,604.74	115.941	ES
Lone Tree Draw 14-13 State Com 331H - Wellbore #1 - P	19,456.84	19,318.31	3,128.81	2,695.35	7.218	SF
Lone Tree Draw 14-13 State Com 332H - Wellbore #1 - P	2,500.00	2,511.10	1,558.68	1,541.13	88.845	CC, ES
Lone Tree Draw 14-13 State Com 332H - Wellbore #1 - P	19,456.84	19,277.58	2,257.83	1,824.73	5.213	SF
Lone Tree Draw 14-13 State Com 333H - Wellbore #1 - P	2,000.00	2,000.90	59.98	46.05	4.306	Alert, CC, ES
Lone Tree Draw 14-13 State Com 333H - Wellbore #1 - P	19,456.84	19,304.38	1,379.81	950.03	3.210	Alert, SF
Lone Tree Draw 14-13 State Com 334H - Wellbore #1 - P	2,500.00	2,500.60	30.01	12.50	1.714	Minor Risk, CC, ES
Lone Tree Draw 14-13 State Com 334H - Wellbore #1 - P	19,456.84	19,290.08	523.55	105.78	1.253	Major Risk, SF
Lone Tree Draw 14-13 State Com 335H - Wellbore #1 - W	16,164.46	15,949.53	387.67	33.26	1.094	Major Risk, CC
Lone Tree Draw 14-13 State Com 335H - Wellbore #1 - W	19,373.50	19,164.57	395.26	-118.28	0.770	Collision, ES, SF
Lone Tree Draw 14-13 State Com 336H - ST01 - ST01	8,090.06	8,072.85	1,388.02	1,332.13	24.837	CC
Lone Tree Draw 14-13 State Com 336H - ST01 - ST01	18,748.45	19,172.00	1,487.67	1,023.33	3.204	Alert, ES
Lone Tree Draw 14-13 State Com 336H - ST01 - ST01	18,800.00	19,172.00	1,488.56	1,023.51	3.201	Alert, SF
Lone Tree Draw 14-13 State Com 336H - Wellbore #1 - W	8,090.06	8,072.85	1,388.02	1,332.13	24.837	CC
Lone Tree Draw 14-13 State Com 336H - Wellbore #1 - W	8,157.59	8,146.05	1,388.37	1,332.00	24.629	ES
Lone Tree Draw 14-13 State Com 336H - Wellbore #1 - W	8,950.00	8,833.03	1,414.78	1,353.44	23.065	SF
Lone Tree Draw 14-13 State Com 621H - Wellbore #1 - P	2,302.97	2,314.67	1,588.67	1,572.53	98.456	CC
Lone Tree Draw 14-13 State Com 621H - Wellbore #1 - P	2,400.00	2,398.64	1,588.92	1,572.14	94.675	ES
Lone Tree Draw 14-13 State Com 621H - Wellbore #1 - P	19,456.84	19,502.36	2,760.08	2,325.68	6.354	SF
Lonetree 14 State Com #001 - Wellbore #1 - Wellbore #1	12,121.63	9,016.10	1,047.33	840.30	5.059	CC, ES
Lonetree 14 State Com #001 - Wellbore #1 - Wellbore #1	12,200.00	9,016.10	1,050.26	841.94	5.041	SF
Magnolia State 2 (P&A) - Wellbore #1 - Wellbore #1	600.00	578.10	2,668.11	2,515.88	17.527	CC, ES
Magnolia State 2 (P&A) - Wellbore #1 - Wellbore #1	700.00	563.00	2,670.59	2,518.17	17.521	SF

Offset Design Sec 13-T21S-R27E - Lone Tree Draw 13 State 11H - Wellbore #1 - Wellbore #1											
Survey Program: 111-GYRO-NS-CT, 6243-MWD+HDMG											
										Offset Site Error:	5.00 ft
										Offset Well Error:	0.50 ft
Reference Measured Depth (ft)	Vertical Depth (ft)	Offset Measured Depth (ft)	Vertical Depth (ft)	Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Warning
				Reference (ft)	Offset (ft)		+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	
0.00	0.00	0.00	0.00	0.50	5.02	66.15	3,166.53	7,162.61	7,831.55		
100.00	100.00	28.67	28.67	0.52	5.03	66.15	3,166.53	7,162.64	7,831.38	7,825.84	5.54 1,412.879
200.00	200.00	95.20	95.20	0.70	5.03	66.15	3,166.52	7,162.94	7,831.78	7,826.05	5.73 1,367.103
300.00	300.00	222.11	222.11	0.99	5.05	66.15	3,166.50	7,163.53	7,832.20	7,826.16	6.04 1,296.446
400.00	400.00	283.13	283.13	1.31	5.08	66.16	3,166.12	7,164.04	7,832.72	7,826.33	6.39 1,225.690
500.00	500.00	596.71	596.61	1.65	5.36	66.20	3,159.29	7,164.09	7,831.28	7,824.27	7.01 1,117.904
600.00	600.00	672.12	672.00	1.99	5.46	66.21	3,157.51	7,163.39	7,829.47	7,822.03	7.45 1,051.264
700.00	700.00	794.71	794.55	2.34	5.64	66.23	3,154.63	7,162.24	7,827.66	7,819.68	7.98 981.145
800.00	800.00	890.81	890.62	2.69	5.81	66.24	3,152.48	7,161.20	7,825.77	7,817.28	8.49 921.742
900.00	900.00	996.24	996.02	3.04	6.00	66.25	3,150.32	7,159.93	7,823.85	7,814.81	9.04 865.842
1,000.00	1,000.00	1,139.59	1,139.32	3.40	6.30	66.26	3,147.45	7,157.86	7,821.75	7,812.08	9.68 808.278
1,100.00	1,100.00	1,307.90	1,307.55	3.75	6.67	66.28	3,143.46	7,154.10	7,818.72	7,808.32	10.40 751.752

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Sec 13-T21S-R27E - Lone Tree Draw 13 State 11H - Wellbore #1 - Wellbore #1													Offset Well Error:	0.50 ft
Survey Program: 111-GYRO-NS-CT, 6243-MWD+HDGM														
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
1,200.00	1,200.00	1,455.55	1,455.09	4.11	7.03	66.28	3,140.65	7,149.36	7,815.01	7,803.91	11.10	703.876		
1,300.00	1,300.00	1,562.11	1,561.56	4.46	7.31	66.29	3,138.10	7,145.78	7,810.97	7,799.25	11.72	666.310		
1,400.00	1,400.00	1,655.00	1,654.37	4.82	7.55	66.30	3,135.93	7,142.60	7,806.90	7,794.58	12.32	633.818		
1,500.00	1,500.00	1,735.10	1,734.41	5.18	7.77	66.30	3,134.22	7,139.99	7,803.05	7,790.17	12.88	605.596		
1,600.00	1,600.00	1,830.03	1,829.28	5.53	8.04	66.31	3,132.15	7,137.04	7,799.34	7,785.84	13.50	577.859		
1,700.00	1,700.00	1,994.47	1,993.58	5.89	8.51	66.32	3,128.08	7,132.04	7,795.75	7,781.44	14.31	544.915		
1,800.00	1,800.00	2,145.10	2,144.00	6.25	8.96	66.34	3,122.36	7,126.56	7,790.88	7,775.78	15.09	516.195		
1,900.00	1,900.00	2,254.35	2,253.08	6.61	9.30	66.36	3,118.03	7,122.18	7,785.60	7,769.83	15.77	493.702		
2,000.00	2,000.00	2,355.85	2,354.42	6.96	9.63	66.37	3,114.14	7,118.06	7,780.34	7,763.92	16.43	473.580		
2,100.00	2,100.00	2,474.46	2,472.84	7.32	10.01	66.39	3,109.76	7,113.00	7,774.96	7,757.82	17.14	453.574		
2,200.00	2,200.00	2,561.06	2,559.30	7.68	10.29	66.39	3,106.68	7,109.20	7,769.51	7,751.75	17.76	437.391		
2,300.00	2,300.00	2,637.45	2,635.58	8.04	10.54	66.41	3,103.62	7,106.19	7,764.30	7,745.94	18.36	422.941		
2,400.00	2,400.00	2,771.30	2,769.21	8.39	10.98	66.43	3,098.11	7,101.04	7,759.16	7,740.03	19.13	405.618		
2,500.00	2,500.00	2,880.62	2,878.35	8.75	11.34	66.44	3,093.98	7,096.18	7,753.58	7,733.75	19.83	391.039		
2,600.00	2,599.99	2,965.19	2,962.78	9.09	11.63	-147.65	3,090.93	7,092.42	7,748.79	7,728.36	20.44	379.161		
2,700.00	2,699.96	3,046.69	3,044.14	9.42	11.90	-147.67	3,087.80	7,089.08	7,745.71	7,724.69	21.02	368.443		
2,800.00	2,799.86	3,153.45	3,150.74	9.75	12.26	-147.68	3,083.88	7,084.71	7,744.18	7,722.49	21.69	357.024		
2,862.94	2,862.70	3,222.92	3,220.11	9.96	12.50	-147.69	3,081.59	7,081.69	7,743.91	7,721.79	22.12	350.087		
2,900.00	2,899.68	3,257.94	3,255.08	10.08	12.62	-147.70	3,080.47	7,080.13	7,744.02	7,721.66	22.35	346.413		
2,945.33	2,944.88	3,298.72	3,295.80	10.23	12.76	-147.70	3,079.13	7,078.37	7,744.44	7,721.80	22.64	342.122		
3,000.00	2,999.39	3,354.21	3,351.21	10.41	12.95	-147.71	3,077.25	7,076.01	7,745.16	7,722.16	23.00	336.794		
3,100.00	3,099.08	3,461.17	3,458.00	10.75	13.32	-147.74	3,073.81	7,071.26	7,746.37	7,722.70	23.68	327.189		
3,200.00	3,198.78	3,557.59	3,554.28	11.08	13.65	-147.76	3,070.96	7,066.89	7,747.60	7,723.28	24.32	318.517		
3,300.00	3,298.48	3,654.29	3,650.84	11.42	13.98	-147.78	3,068.19	7,062.50	7,748.86	7,723.89	24.98	310.252		
3,400.00	3,398.18	3,745.37	3,741.80	11.76	14.30	-147.81	3,065.86	7,058.32	7,750.20	7,724.59	25.61	302.593		
3,500.00	3,497.88	3,835.71	3,832.02	12.10	14.61	-147.83	3,063.59	7,054.28	7,751.68	7,725.43	26.25	295.314		
3,600.00	3,597.58	3,929.21	3,925.41	12.45	14.93	-147.86	3,061.68	7,050.01	7,753.26	7,726.36	26.90	288.255		
3,700.00	3,697.27	4,023.20	4,019.28	12.79	15.25	-147.89	3,059.73	7,045.81	7,754.91	7,727.36	27.55	281.493		
3,800.00	3,796.97	4,110.82	4,106.80	13.14	15.56	-147.91	3,057.77	7,042.05	7,756.66	7,728.48	28.18	275.228		
3,900.00	3,896.67	9,445.73	6,794.24	13.48	48.46	-127.66	201.05	7,114.41	7,755.76	7,697.22	58.53	132.500		
4,000.00	3,996.37	9,450.79	6,794.18	13.83	48.53	-127.62	195.99	7,114.63	7,722.60	7,663.46	59.14	130.585		
4,100.00	4,096.07	9,455.67	6,794.11	14.18	48.60	-127.58	191.12	7,114.84	7,690.59	7,630.86	59.74	128.735		
4,200.00	4,195.76	9,460.37	6,794.05	14.53	48.66	-127.54	186.42	7,115.05	7,659.76	7,599.42	60.34	126.949		
4,300.00	4,295.46	9,464.91	6,793.98	14.88	48.72	-127.51	181.90	7,115.25	7,630.11	7,569.18	60.93	125.226		
4,400.00	4,395.16	9,469.28	6,793.91	15.23	48.77	-127.47	177.53	7,115.45	7,601.65	7,540.13	61.52	123.563		
4,500.00	4,494.86	9,473.50	6,793.84	15.58	48.83	-127.44	173.31	7,115.64	7,574.41	7,512.31	62.11	121.961		
4,600.00	4,594.56	9,477.58	6,793.77	15.93	48.88	-127.41	169.23	7,115.82	7,548.39	7,485.71	62.68	120.418		
4,700.00	4,694.25	9,481.53	6,793.70	16.29	48.94	-127.38	165.29	7,116.01	7,523.61	7,460.35	63.26	118.933		
4,800.00	4,793.95	9,485.35	6,793.63	16.64	48.99	-127.35	161.48	7,116.18	7,500.08	7,436.25	63.83	117.504		
4,900.00	4,893.65	9,489.04	6,793.56	17.00	49.04	-127.32	157.79	7,116.35	7,477.80	7,413.41	64.39	116.132		
5,000.00	4,893.35	9,492.62	6,793.49	17.35	49.08	-127.29	154.22	7,116.52	7,456.80	7,391.86	64.95	114.814		
5,100.00	5,093.05	9,496.00	6,793.42	17.71	49.13	-127.27	150.84	7,116.68	7,437.09	7,371.59	65.50	113.551		
5,200.00	5,192.75	9,496.00	6,793.42	18.06	49.13	-127.27	150.84	7,116.68	7,418.67	7,352.67	65.99	112.414		
5,300.00	5,292.44	9,496.00	6,793.42	18.42	49.13	-127.27	150.84	7,116.68	7,401.55	7,335.06	66.49	111.323		
5,400.00	5,392.14	9,496.00	6,793.42	18.77	49.13	-127.27	150.84	7,116.68	7,385.75	7,318.78	66.97	110.280		
5,500.00	5,491.84	9,496.00	6,793.42	19.13	49.13	-127.27	150.84	7,116.68	7,371.27	7,303.82	67.45	109.283		
5,600.00	5,591.54	9,496.00	6,793.42	19.49	49.13	-127.27	150.84	7,116.68	7,358.12	7,290.20	67.92	108.331		
5,700.00	5,691.24	9,496.00	6,793.42	19.85	49.13	-127.27	150.84	7,116.68	7,346.31	7,277.93	68.39	107.425		
5,800.00	5,790.93	9,496.00	6,793.42	20.20	49.13	-127.27	150.84	7,116.68	7,335.85	7,267.00	68.84	106.562		
5,900.00	5,890.63	9,496.00	6,793.42	20.56	49.13	-127.27	150.84	7,116.68	7,326.73	7,257.44	69.29	105.744		
6,000.00	5,990.33	9,496.00	6,793.42	20.92	49.13	-127.27	150.84	7,116.68	7,318.97	7,249.24	69.73	104.969		
6,100.00	6,090.03	9,496.00	6,793.42	21.28	49.13	-127.27	150.84	7,116.68	7,312.57	7,242.41	70.15	104.236		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design		Sec 13-T21S-R27E - Lone Tree Draw 13 State 11H - Wellbore #1 - Wellbore #1											Offset Site Error:		5.00 ft
Survey Program:		111-GYRO-NS-CT, 6243-MWD+HDGM											Offset Well Error:		0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor			
6,200.00	6,189.73	9,496.00	6,793.42	21.64	49.13	-127.27	150.84	7,116.68	7,307.53	7,236.96	70.57	103.545			
6,300.00	6,289.42	9,518.74	6,792.99	22.00	49.43	-127.09	128.13	7,117.79	7,303.78	7,232.49	71.29	102.457			
6,400.00	6,389.12	9,520.85	6,792.96	22.36	49.46	-127.07	126.02	7,117.90	7,301.46	7,229.74	71.72	101.812			
6,500.00	6,488.82	9,523.01	6,792.93	22.72	49.49	-127.05	123.87	7,118.00	7,300.51	7,228.37	72.13	101.207			
6,519.52	6,508.28	9,523.43	6,792.92	22.79	49.49	-127.05	123.45	7,118.03	7,300.48	7,228.27	72.22	101.094			
6,600.00	6,588.52	9,525.20	6,792.89	23.08	49.52	-127.04	121.68	7,118.12	7,300.93	7,228.38	72.54	100.641			
6,700.00	6,688.22	9,527.43	6,792.86	23.44	49.55	-127.02	119.45	7,118.23	7,302.71	7,229.77	72.94	100.114			
6,800.00	6,787.91	9,529.70	6,792.83	23.80	49.58	-127.00	117.18	7,118.35	7,305.86	7,232.53	73.33	99.625			
6,900.00	6,887.61	9,532.02	6,792.80	24.16	49.61	-126.98	114.87	7,118.47	7,310.38	7,236.67	73.71	99.173			
7,000.00	6,987.31	9,534.38	6,792.76	24.52	49.64	-126.96	112.52	7,118.59	7,316.26	7,242.18	74.08	98.757			
7,100.00	7,087.01	9,536.78	6,792.73	24.88	49.67	-126.95	110.11	7,118.72	7,323.50	7,249.06	74.44	98.378			
7,200.00	7,186.71	9,539.24	6,792.70	25.24	49.70	-126.93	107.66	7,118.85	7,332.09	7,257.30	74.79	98.033			
7,300.00	7,286.41	9,541.74	6,792.67	25.60	49.74	-126.91	105.17	7,118.99	7,342.04	7,266.91	75.13	97.723			
7,400.00	7,386.10	9,544.28	6,792.64	25.96	49.77	-126.89	102.62	7,119.12	7,353.33	7,277.87	75.46	97.446			
7,500.00	7,485.80	9,546.89	6,792.61	26.33	49.81	-126.87	100.03	7,119.27	7,365.96	7,290.18	75.78	97.203			
7,600.00	7,585.50	9,549.54	6,792.59	26.69	49.84	-126.85	97.38	7,119.41	7,379.92	7,303.83	76.09	96.992			
7,700.00	7,685.20	9,552.24	6,792.56	27.05	49.88	-126.82	94.68	7,119.56	7,395.20	7,318.81	76.39	96.813			
7,800.00	7,784.90	9,555.01	6,792.53	27.41	49.91	-126.80	91.92	7,119.71	7,411.80	7,335.12	76.68	96.665			
7,860.70	7,845.41	9,556.71	6,792.52	27.63	49.94	-126.79	90.21	7,119.81	7,422.51	7,345.67	76.85	96.590			
7,900.00	7,884.61	9,557.74	6,792.51	27.77	49.95	-126.87	89.19	7,119.87	7,429.59	7,352.64	76.95	96.547			
8,000.00	7,984.46	9,559.62	6,792.50	28.13	49.98	-127.07	87.31	7,119.97	7,447.42	7,370.21	77.21	96.461			
8,100.00	8,084.42	9,560.40	6,792.49	28.49	49.99	-127.28	86.53	7,120.02	7,464.99	7,387.56	77.43	96.406			
8,157.59	8,142.00	9,560.34	6,792.49	28.69	49.99	86.68	86.59	7,120.01	7,474.99	7,397.45	77.55	96.395			
8,200.00	8,184.41	9,560.15	6,792.49	28.83	49.98	86.68	86.78	7,120.00	7,482.44	7,404.82	77.62	96.396			
8,300.00	8,284.41	9,559.71	6,792.49	29.17	49.98	86.67	87.23	7,119.98	7,500.93	7,423.14	77.79	96.420			
8,400.00	8,384.41	9,559.25	6,792.50	29.51	49.97	86.67	87.68	7,119.95	7,520.70	7,442.75	77.96	96.472			
8,507.63	8,492.04	9,558.75	6,792.50	29.87	49.96	86.67	88.18	7,119.92	7,543.41	7,465.28	78.12	96.558			
8,550.00	8,534.37	9,558.59	6,792.50	30.02	49.96	-2.67	88.34	7,119.91	7,551.21	7,473.03	78.18	96.583			
8,600.00	8,584.01	9,558.51	6,792.50	30.18	49.96	-2.64	88.43	7,119.91	7,556.74	7,478.49	78.25	96.573			
8,650.00	8,632.95	9,558.54	6,792.50	30.34	49.96	-2.64	88.39	7,119.91	7,558.26	7,479.95	78.31	96.517			
8,700.00	8,680.82	9,558.69	6,792.50	30.50	49.96	-2.65	88.25	7,119.92	7,555.74	7,477.38	78.36	96.418			
8,750.00	8,727.25	9,558.95	6,792.50	30.66	49.97	-2.67	87.98	7,119.94	7,549.22	7,470.81	78.41	96.277			
8,800.00	8,771.89	9,559.34	6,792.50	30.81	49.97	-2.72	87.59	7,119.96	7,538.73	7,460.28	78.45	96.096			
8,850.00	8,814.40	9,559.85	6,792.49	30.95	49.98	-2.79	87.08	7,119.99	7,524.32	7,445.84	78.48	95.876			
8,900.00	8,854.46	9,560.48	6,792.49	31.09	49.99	-2.88	86.46	7,120.02	7,506.10	7,427.60	78.50	95.617			
8,950.00	8,891.75	9,561.22	6,792.48	31.23	50.00	-3.00	85.72	7,120.06	7,484.17	7,405.66	78.51	95.322			
9,000.00	8,926.01	9,562.07	6,792.48	31.37	50.01	-3.15	84.86	7,120.11	7,458.66	7,380.15	78.52	94.992			
9,050.00	8,956.96	9,563.04	6,792.47	31.53	50.02	-3.34	83.90	7,120.17	7,429.74	7,351.23	78.52	94.627			
9,100.00	8,984.38	9,564.10	6,792.46	31.69	50.04	-3.59	82.83	7,120.23	7,397.59	7,319.08	78.51	94.230			
9,150.00	9,008.05	9,565.27	6,792.45	31.87	50.05	-3.90	81.67	7,120.29	7,362.40	7,283.91	78.49	93.801			
9,200.00	9,027.79	9,566.52	6,792.44	32.07	50.07	-4.30	80.42	7,120.37	7,324.41	7,245.94	78.47	93.342			
9,250.00	9,043.45	9,567.85	6,792.44	32.29	50.09	-4.84	79.09	7,120.44	7,283.86	7,205.42	78.44	92.853			
9,300.00	9,054.92	9,569.25	6,792.43	32.53	50.11	-5.57	77.69	7,120.52	7,241.02	7,162.60	78.42	92.338			
9,350.00	9,062.10	9,570.71	6,792.42	32.79	50.12	-6.62	76.24	7,120.61	7,196.19	7,117.79	78.39	91.796			
9,400.00	9,064.95	9,572.22	6,792.41	33.06	50.14	-8.24	74.74	7,120.70	7,149.66	7,071.29	78.37	91.230			
9,407.63	9,065.00	9,572.45	6,792.41	33.10	50.15	-8.56	74.50	7,120.71	7,142.43	7,064.06	78.37	91.139			
9,500.00	9,065.00	9,575.30	6,792.39	33.68	50.19	-8.49	71.66	7,120.88	7,054.78	6,976.46	78.32	90.076			
9,600.00	9,065.00	9,578.43	6,792.38	34.41	50.23	-8.41	68.53	7,121.06	6,960.03	6,881.76	78.27	88.925			
9,700.00	9,065.00	9,591.00	6,792.34	35.24	50.40	-8.09	55.99	7,121.82	6,865.43	6,787.09	78.34	87.638			
9,800.00	9,065.00	9,591.00	6,792.34	36.17	50.40	-8.09	55.99	7,121.82	6,770.97	6,692.72	78.25	86.535			
9,900.00	9,065.00	9,591.00	6,792.34	37.19	50.40	-8.09	55.99	7,121.82	6,676.67	6,598.52	78.15	85.431			
10,000.00	9,065.00	9,591.00	6,792.34	38.30	50.40	-8.09	55.99	7,121.82	6,582.54	6,504.48	78.06	84.327			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design		Sec 13-T21S-R27E - Lone Tree Draw 13 State 11H - Wellbore #1 - Wellbore #1											Offset Site Error:		5.00 ft
Survey Program:		111-GYRO-NS-CT, 6243-MWD+HDGM											Offset Well Error:		0.50 ft
Reference		Offset		Semi Major Axis			Distance						Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor			
10,100.00	9,065.00	9,591.00	6,792.34	39.48	50.40	-8.09	55.99	7,121.82	6,488.59	6,410.62	77.97	83.223			
10,200.00	9,065.00	9,598.89	6,792.32	40.72	50.50	-7.89	48.11	7,122.30	6,394.81	6,316.84	77.98	82.010			
10,300.00	9,065.00	9,602.50	6,792.31	42.03	50.55	-7.80	44.51	7,122.52	6,301.23	6,223.30	77.93	80.858			
10,400.00	9,065.00	9,606.10	6,792.29	43.40	50.60	-7.71	40.92	7,122.74	6,207.84	6,129.95	77.88	79.708			
10,500.00	9,065.00	9,609.68	6,792.27	44.82	50.65	-7.62	37.34	7,122.95	6,114.65	6,036.82	77.84	78.558			
10,600.00	9,065.00	9,613.26	6,792.25	46.29	50.70	-7.53	33.77	7,123.17	6,021.69	5,943.90	77.79	77.410			
10,700.00	9,065.00	9,616.83	6,792.22	47.79	50.74	-7.44	30.21	7,123.39	5,928.95	5,851.20	77.74	76.264			
10,800.00	9,065.00	9,620.39	6,792.19	49.34	50.79	-7.35	26.66	7,123.60	5,836.44	5,758.74	77.70	75.119			
10,900.00	9,065.00	9,623.93	6,792.16	50.92	50.84	-7.26	23.11	7,123.82	5,744.18	5,666.53	77.65	73.976			
11,000.00	9,065.00	9,627.47	6,792.13	52.54	50.89	-7.17	19.58	7,124.03	5,652.19	5,574.58	77.60	72.834			
11,100.00	9,065.00	9,631.00	6,792.09	54.18	50.93	-7.08	16.06	7,124.24	5,560.46	5,482.91	77.56	71.694			
11,200.00	9,065.00	9,634.52	6,792.05	55.85	50.98	-6.99	12.55	7,124.46	5,469.03	5,391.51	77.51	70.556			
11,300.00	9,065.00	9,638.03	6,792.01	57.54	51.03	-6.90	9.04	7,124.67	5,377.89	5,300.42	77.47	69.420			
11,400.00	9,065.00	9,641.53	6,791.97	59.26	51.08	-6.81	5.55	7,124.88	5,287.08	5,209.65	77.43	68.285			
11,500.00	9,065.00	9,645.03	6,791.92	61.00	51.12	-6.72	2.06	7,125.09	5,196.59	5,119.21	77.38	67.153			
11,600.00	9,065.00	9,648.51	6,791.87	62.75	51.17	-6.63	-1.41	7,125.30	5,106.46	5,029.12	77.34	66.023			
11,700.00	9,065.00	9,651.98	6,791.82	64.52	51.22	-6.54	-4.88	7,125.50	5,016.70	4,939.39	77.31	64.895			
11,800.00	9,065.00	9,655.45	6,791.77	66.31	51.26	-6.45	-8.34	7,125.71	4,927.33	4,850.06	77.27	63.769			
11,900.00	9,065.00	9,658.90	6,791.71	68.11	51.31	-6.37	-11.79	7,125.92	4,838.37	4,761.14	77.23	62.646			
12,000.00	9,065.00	9,662.35	6,791.65	69.93	51.36	-6.28	-15.23	7,126.12	4,749.85	4,672.65	77.20	61.525			
12,100.00	9,065.00	9,665.79	6,791.59	71.76	51.40	-6.19	-18.66	7,126.33	4,661.79	4,584.62	77.17	60.407			
12,200.00	9,065.00	9,669.21	6,791.52	73.60	51.45	-6.10	-22.08	7,126.53	4,574.21	4,497.07	77.15	59.291			
12,300.00	9,065.00	9,672.63	6,791.46	75.45	51.50	-6.01	-25.49	7,126.74	4,487.16	4,410.03	77.13	58.179			
12,400.00	9,065.00	9,676.04	6,791.39	77.31	51.54	-5.93	-28.89	7,126.94	4,400.64	4,323.54	77.11	57.071			
12,500.00	9,065.00	9,685.00	6,791.19	79.18	51.66	-5.70	-37.83	7,127.47	4,314.72	4,237.56	77.15	55.923			
12,600.00	9,065.00	9,685.00	6,791.19	81.05	51.66	-5.70	-37.83	7,127.47	4,229.39	4,152.28	77.11	54.848			
12,700.00	9,065.00	9,686.84	6,791.15	82.94	51.69	-5.65	-39.67	7,127.58	4,144.73	4,067.63	77.09	53.762			
12,800.00	9,065.00	9,691.81	6,791.03	84.83	51.75	-5.52	-44.63	7,127.87	4,060.75	3,983.64	77.11	52.659			
12,900.00	9,065.00	9,696.57	6,790.91	86.73	51.82	-5.40	-49.38	7,128.14	3,977.52	3,900.38	77.14	51.563			
13,000.00	9,065.00	9,701.14	6,790.79	88.64	51.88	-5.28	-53.94	7,128.40	3,895.06	3,817.89	77.17	50.474			
13,100.00	9,065.00	9,705.53	6,790.67	90.55	51.94	-5.17	-58.32	7,128.65	3,813.44	3,736.23	77.21	49.393			
13,200.00	9,065.00	9,709.75	6,790.54	92.47	52.00	-5.06	-62.54	7,128.88	3,732.71	3,655.46	77.25	48.320			
13,300.00	9,065.00	9,713.81	6,790.42	94.39	52.05	-4.96	-66.59	7,129.10	3,652.92	3,575.62	77.30	47.256			
13,400.00	9,065.00	9,717.72	6,790.29	96.32	52.10	-4.86	-70.49	7,129.30	3,574.15	3,496.79	77.36	46.201			
13,500.00	9,065.00	9,721.49	6,790.17	98.25	52.15	-4.76	-74.25	7,129.50	3,496.46	3,419.03	77.43	45.157			
13,600.00	9,065.00	9,725.12	6,790.05	100.19	52.20	-4.67	-77.88	7,129.69	3,419.93	3,342.42	77.51	44.123			
13,700.00	9,065.00	9,728.62	6,789.92	102.13	52.25	-4.58	-81.37	7,129.87	3,344.63	3,267.03	77.60	43.101			
13,800.00	9,065.00	9,732.01	6,789.80	104.08	52.30	-4.49	-84.75	7,130.04	3,270.65	3,192.95	77.70	42.092			
13,900.00	9,065.00	9,735.27	6,789.68	106.03	52.34	-4.41	-88.01	7,130.20	3,198.08	3,120.26	77.82	41.098			
14,000.00	9,065.00	9,738.43	6,789.56	107.98	52.38	-4.33	-91.16	7,130.35	3,127.02	3,049.08	77.94	40.119			
14,100.00	9,065.00	9,741.49	6,789.44	109.94	52.42	-4.25	-94.21	7,130.50	3,057.58	2,979.50	78.08	39.158			
14,200.00	9,065.00	9,744.44	6,789.33	111.90	52.46	-4.17	-97.16	7,130.64	2,989.87	2,911.63	78.24	38.216			
14,300.00	9,065.00	9,747.30	6,789.21	113.86	52.50	-4.10	-100.02	7,130.77	2,924.00	2,845.60	78.40	37.295			
14,400.00	9,065.00	9,750.07	6,789.09	115.82	52.54	-4.03	-102.78	7,130.90	2,860.11	2,781.53	78.58	36.397			
14,500.00	9,065.00	9,752.76	6,788.98	117.79	52.57	-3.96	-105.46	7,131.03	2,798.34	2,719.56	78.78	35.523			
14,600.00	9,065.00	9,755.36	6,788.87	119.76	52.61	-3.89	-108.06	7,131.14	2,738.81	2,659.83	78.98	34.676			
14,700.00	9,065.00	9,757.89	6,788.76	121.74	52.64	-3.83	-110.58	7,131.26	2,681.70	2,602.50	79.20	33.859			
14,800.00	9,065.00	9,760.34	6,788.65	123.71	52.68	-3.76	-113.03	7,131.37	2,627.15	2,547.71	79.44	33.072			
14,900.00	9,065.00	9,762.72	6,788.54	125.69	52.71	-3.70	-115.40	7,131.47	2,575.32	2,495.64	79.69	32.318			
15,000.00	9,065.00	9,765.03	6,788.44	127.67	52.74	-3.64	-117.71	7,131.57	2,526.39	2,446.44	79.95	31.599			
15,100.00	9,065.00	9,767.27	6,788.33	129.65	52.77	-3.58	-119.95	7,131.67	2,480.52	2,400.29	80.23	30.917			
15,200.00	9,065.00	9,769.46	6,788.23	131.63	52.80	-3.53	-122.13	7,131.76	2,437.89	2,357.36	80.54	30.271			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Sec 13-T21S-R27E - Lone Tree Draw 13 State 11H - Wellbore #1 - Wellbore #1													Offset Well Error:	0.50 ft
Survey Program: 111-GYRO-NS-CT, 6243-MWD+HDGM														
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
15,300.00	9,065.00	9,780.00	6,787.71	133.62	52.94	-3.26	-132.65	7,132.19	2,398.69	2,317.82	80.88	29.658		
15,400.00	9,065.00	9,780.00	6,787.71	135.61	52.94	-3.26	-132.65	7,132.19	2,363.05	2,281.82	81.23	29.091		
15,500.00	9,065.00	9,780.00	6,787.71	137.60	52.94	-3.26	-132.65	7,132.19	2,331.15	2,249.53	81.62	28.562		
15,600.00	9,065.00	9,780.00	6,787.71	139.59	52.94	-3.26	-132.65	7,132.19	2,303.15	2,221.10	82.05	28.070		
15,700.00	9,065.00	9,780.00	6,787.71	141.58	52.94	-3.26	-132.65	7,132.19	2,279.21	2,196.67	82.54	27.614		
15,800.00	9,065.00	9,782.20	6,787.60	143.57	52.97	-3.20	-134.84	7,132.28	2,259.43	2,176.34	83.09	27.192		
15,900.00	9,065.00	9,785.13	6,787.45	145.57	53.01	-3.12	-137.77	7,132.40	2,243.94	2,160.22	83.72	26.804		
16,000.00	9,065.00	9,788.04	6,787.30	147.56	53.05	-3.05	-140.68	7,132.51	2,232.82	2,148.40	84.42	26.448		
16,100.00	9,065.00	9,790.93	6,787.16	149.56	53.09	-2.97	-143.56	7,132.63	2,226.14	2,140.93	85.21	26.124		
16,199.10	9,065.00	9,793.78	6,787.01	151.54	53.13	-2.90	-146.40	7,132.74	2,223.93	2,137.85	86.08	25.835 CC		
16,200.00	9,065.00	9,793.80	6,787.01	151.56	53.13	-2.90	-146.42	7,132.74	2,223.94	2,137.84	86.09	25.833 ES		
16,300.00	9,065.00	9,796.65	6,786.87	153.56	53.17	-2.83	-149.27	7,132.86	2,226.22	2,139.17	87.05	25.575		
16,400.00	9,065.00	9,799.48	6,786.73	155.56	53.20	-2.75	-152.09	7,132.97	2,232.98	2,144.91	88.08	25.353		
16,500.00	9,065.00	9,802.29	6,786.58	157.57	53.24	-2.68	-154.89	7,133.08	2,244.18	2,155.02	89.16	25.170		
16,600.00	9,065.00	9,805.08	6,786.44	159.57	53.28	-2.61	-157.67	7,133.19	2,259.75	2,169.46	90.29	25.028		
16,700.00	9,065.00	9,807.84	6,786.30	161.57	53.32	-2.54	-160.43	7,133.29	2,279.60	2,188.17	91.44	24.931		
16,800.00	9,065.00	9,810.59	6,786.16	163.58	53.35	-2.47	-163.17	7,133.40	2,303.62	2,211.04	92.59	24.880		
16,900.00	9,065.00	9,813.32	6,786.03	165.59	53.39	-2.40	-165.90	7,133.51	2,331.69	2,237.96	93.72	24.878 SF		
17,000.00	9,065.00	9,816.03	6,785.89	167.60	53.43	-2.33	-168.60	7,133.61	2,363.65	2,268.82	94.83	24.925		
17,100.00	9,065.00	9,818.71	6,785.75	169.60	53.46	-2.26	-171.28	7,133.72	2,399.35	2,303.46	95.89	25.021		
17,200.00	9,065.00	9,821.38	6,785.62	171.61	53.50	-2.19	-173.95	7,133.82	2,438.63	2,341.73	96.90	25.166		
17,300.00	9,065.00	9,824.03	6,785.48	173.62	53.53	-2.12	-176.59	7,133.92	2,481.31	2,383.47	97.85	25.358		
17,400.00	9,065.00	9,826.67	6,785.35	175.63	53.57	-2.05	-179.22	7,134.02	2,527.24	2,428.50	98.73	25.597		
17,500.00	9,065.00	9,829.28	6,785.22	177.65	53.60	-1.99	-181.83	7,134.12	2,576.22	2,476.67	99.55	25.879		
17,600.00	9,065.00	9,831.88	6,785.09	179.66	53.64	-1.92	-184.42	7,134.22	2,628.10	2,527.80	100.30	26.202		
17,700.00	9,065.00	9,834.45	6,784.96	181.67	53.67	-1.85	-186.99	7,134.32	2,682.70	2,581.71	100.98	26.566		
17,800.00	9,065.00	9,837.01	6,784.83	183.69	53.71	-1.79	-189.55	7,134.42	2,739.85	2,638.25	101.60	26.967		
17,900.00	9,065.00	9,839.56	6,784.70	185.70	53.74	-1.72	-192.08	7,134.52	2,799.42	2,697.26	102.16	27.402		
18,000.00	9,065.00	9,842.08	6,784.57	187.72	53.78	-1.66	-194.60	7,134.61	2,861.23	2,758.57	102.66	27.871		
18,100.00	9,065.00	9,844.59	6,784.44	189.73	53.81	-1.59	-197.11	7,134.71	2,925.16	2,822.05	103.11	28.370		
18,200.00	9,065.00	9,847.08	6,784.32	191.75	53.84	-1.53	-199.59	7,134.80	2,991.06	2,887.55	103.51	28.897		
18,300.00	9,065.00	9,849.55	6,784.19	193.77	53.88	-1.47	-202.06	7,134.89	3,058.81	2,954.95	103.86	29.451		
18,400.00	9,065.00	9,852.01	6,784.07	195.78	53.91	-1.40	-204.51	7,134.98	3,128.29	3,024.12	104.17	30.029		
18,500.00	9,065.00	9,854.45	6,783.95	197.80	53.94	-1.34	-206.95	7,135.08	3,199.38	3,094.93	104.45	30.631		
18,600.00	9,065.00	9,856.87	6,783.82	199.82	53.97	-1.28	-209.36	7,135.17	3,271.99	3,167.29	104.69	31.253		
18,700.00	9,065.00	9,859.28	6,783.70	201.84	54.01	-1.21	-211.77	7,135.26	3,346.00	3,241.10	104.91	31.896		
18,800.00	9,065.00	9,861.67	6,783.58	203.86	54.04	-1.15	-214.15	7,135.34	3,421.34	3,316.25	105.09	32.556		
18,900.00	9,065.00	9,864.04	6,783.46	205.88	54.07	-1.09	-216.52	7,135.43	3,497.91	3,392.65	105.25	33.233		
19,000.00	9,065.00	9,866.40	6,783.34	207.90	54.10	-1.03	-218.88	7,135.52	3,575.63	3,470.24	105.39	33.926		
19,100.00	9,065.00	9,868.75	6,783.22	209.92	54.13	-0.97	-221.22	7,135.61	3,654.44	3,548.92	105.52	34.634		
19,200.00	9,065.00	9,871.07	6,783.10	211.95	54.17	-0.91	-223.54	7,135.69	3,734.26	3,628.63	105.62	35.355		
19,300.00	9,065.00	9,873.39	6,782.99	213.97	54.20	-0.85	-225.85	7,135.78	3,815.03	3,709.31	105.71	36.088		
19,400.00	9,065.00	9,876.92	6,782.81	215.99	54.24	-0.76	-229.37	7,135.91	3,896.69	3,790.88	105.81	36.828		
19,456.84	9,065.00	9,880.53	6,782.63	217.14	54.29	-0.67	-232.98	7,136.04	3,943.48	3,837.61	105.88	37.246		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Survey Program: 106-MWD+IGRF, 2746-MWD+IGRF													Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)						
0.00	0.00	0.00	0.00	0.50	5.00	65.32	2,709.18	5,894.96	6,487.93					
100.00	100.00	51.78	51.78	0.52	5.00	65.32	2,709.01	5,895.01	6,487.67	6,482.16	5.52	1,175.673		
200.00	200.00	324.22	324.14	0.70	5.08	65.31	2,708.04	5,890.36	6,485.51	6,479.73	5.79	1,120.994		
300.00	300.00	390.29	390.18	0.99	5.13	65.30	2,708.82	5,888.17	6,483.00	6,476.88	6.12	1,059.800		
400.00	400.00	456.97	456.83	1.31	5.19	65.29	2,709.31	5,886.52	6,481.05	6,474.55	6.50	997.540		
500.00	500.00	538.67	538.52	1.65	5.28	65.28	2,709.66	5,884.95	6,479.47	6,472.56	6.92	936.432		
600.00	600.00	608.29	608.12	1.99	5.36	65.27	2,710.14	5,883.77	6,478.24	6,470.89	7.35	881.630		
700.00	700.00	687.70	687.53	2.34	5.47	65.26	2,710.90	5,882.77	6,477.48	6,469.67	7.80	829.944		
800.00	800.00	791.42	791.23	2.69	5.63	65.25	2,711.94	5,881.56	6,476.84	6,468.52	8.32	778.904		
900.00	900.00	935.75	935.54	3.04	5.88	65.23	2,712.73	5,879.52	6,475.79	6,466.86	8.92	725.790		
1,000.00	1,000.00	1,017.00	1,016.78	3.40	6.04	65.22	2,713.10	5,878.24	6,474.55	6,465.11	9.43	686.235		
1,100.00	1,100.00	1,071.00	1,070.77	3.75	6.15	65.22	2,713.43	5,877.65	6,473.80	6,463.90	9.90	653.957		
1,165.68	1,165.68	1,111.00	1,110.78	3.99	6.24	65.22	2,713.69	5,877.46	6,473.69	6,463.48	10.22	633.654		
1,200.00	1,200.00	1,127.87	1,127.65	4.11	6.27	65.22	2,713.82	5,877.44	6,473.75	6,463.38	10.37	624.059		
1,300.00	1,300.00	1,189.39	1,189.16	4.46	6.40	65.21	2,714.42	5,877.55	6,474.32	6,463.46	10.86	596.146		
1,400.00	1,400.00	1,259.43	1,259.20	4.82	6.55	65.21	2,715.24	5,878.03	6,475.43	6,464.06	11.37	569.598		
1,500.00	1,500.00	1,391.65	1,391.41	5.18	6.85	65.20	2,716.30	5,879.40	6,476.77	6,464.74	12.03	538.576		
1,600.00	1,600.00	1,477.54	1,477.29	5.53	7.06	65.20	2,716.60	5,880.13	6,477.69	6,465.10	12.59	514.692		
1,700.00	1,700.00	1,595.12	1,594.86	5.89	7.34	65.21	2,716.60	5,881.35	6,478.63	6,465.40	13.23	489.699		
1,800.00	1,800.00	1,716.62	1,716.36	6.25	7.65	65.21	2,716.24	5,882.38	6,479.29	6,465.39	13.90	466.225		
1,900.00	1,900.00	1,841.82	1,841.56	6.61	7.99	65.21	2,716.32	5,882.64	6,479.50	6,464.91	14.59	444.156		
2,000.00	2,000.00	1,927.98	1,927.72	6.96	8.22	65.22	2,716.13	5,882.83	6,479.61	6,464.43	15.18	426.833		
2,100.00	2,100.00	2,022.75	2,022.48	7.32	8.49	65.21	2,716.48	5,883.04	6,479.97	6,464.17	15.80	410.034		
2,200.00	2,200.00	2,178.16	2,177.89	7.68	8.93	65.21	2,716.97	5,882.76	6,479.95	6,463.35	16.61	390.155		
2,300.00	2,300.00	2,281.16	2,280.90	8.04	9.23	65.21	2,717.06	5,881.98	6,479.30	6,462.04	17.27	375.231		
2,400.00	2,400.00	2,357.26	2,356.99	8.39	9.46	65.21	2,716.87	5,881.78	6,478.95	6,461.11	17.85	363.006		
2,500.00	2,500.00	2,461.38	2,461.11	8.75	9.76	65.21	2,716.79	5,881.70	6,478.86	6,460.34	18.51	349.962		
2,538.47	2,538.47	2,538.47	2,506.79	8.88	10.00	-148.87	2,716.84	5,881.42	6,478.75	6,459.88	18.88	343.228		
2,600.00	2,599.99	2,564.14	2,563.87	9.09	10.08	-148.87	2,716.93	5,881.08	6,479.11	6,459.94	19.16	338.076		
2,700.00	2,699.96	2,626.10	2,625.83	9.42	10.26	-148.87	2,717.11	5,881.01	6,481.36	6,461.68	19.68	329.331		
2,800.00	2,799.86	2,748.02	2,747.75	9.75	10.46	-148.88	2,717.20	5,881.15	6,485.23	6,465.03	20.20	321.047		
2,900.00	2,899.68	2,809.50	2,809.23	10.08	10.46	-148.87	2,717.31	5,881.14	6,490.60	6,470.07	20.53	316.081		
2,945.33	2,944.88	2,828.49	2,828.22	10.23	10.46	-148.86	2,717.54	5,881.20	6,493.80	6,473.11	20.69	313.905		
3,000.00	2,999.39	2,872.00	2,871.72	10.41	10.47	-148.88	2,718.47	5,881.44	6,498.17	6,477.29	20.88	311.287		
3,100.00	3,099.08	2,872.00	2,871.72	10.75	10.47	-148.88	2,718.47	5,881.44	6,506.70	6,485.50	21.20	306.896		
3,200.00	3,198.78	2,935.97	2,935.64	11.08	10.49	-148.92	2,720.84	5,882.13	6,516.02	6,494.47	21.55	302.359		
3,300.00	3,298.48	2,966.00	2,965.63	11.42	10.50	-148.94	2,722.35	5,882.58	6,526.33	6,504.45	21.89	298.190		
3,400.00	3,398.18	3,028.49	3,027.99	11.76	10.52	-148.99	2,726.18	5,883.77	6,537.38	6,515.14	22.24	293.897		
3,500.00	3,497.88	3,090.26	3,089.57	12.10	10.55	-149.04	2,730.73	5,885.19	6,549.20	6,526.60	22.60	289.724		
3,600.00	3,597.58	3,181.47	3,180.48	12.45	10.60	-149.12	2,737.89	5,887.33	6,561.33	6,538.34	23.00	285.328		
3,700.00	3,697.27	3,287.88	3,286.52	12.79	10.68	-149.22	2,746.44	5,889.74	6,573.47	6,550.06	23.41	280.756		
3,800.00	3,796.97	3,405.48	3,403.74	13.14	10.78	-149.32	2,755.53	5,892.29	6,585.42	6,561.56	23.86	276.019		
3,900.00	3,896.67	3,468.74	3,466.79	13.48	10.84	-149.38	2,760.38	5,893.64	6,597.39	6,573.13	24.26	271.996		
4,000.00	3,996.37	3,531.00	3,528.76	13.83	10.91	-149.44	2,766.20	5,895.20	6,610.23	6,585.58	24.66	268.105		
4,100.00	4,096.07	3,531.00	3,528.76	14.18	10.91	-149.44	2,766.20	5,895.20	6,623.89	6,598.91	24.97	265.231		
4,200.00	4,195.76	3,592.16	3,589.53	14.53	10.98	-149.50	2,772.83	5,897.16	6,638.32	6,612.94	25.38	261.556		
4,300.00	4,295.46	3,645.03	3,641.98	14.88	11.05	-149.56	2,779.08	5,899.30	6,653.71	6,627.94	25.77	258.147		
4,400.00	4,395.16	3,769.13	3,765.08	15.23	11.23	-149.70	2,794.12	5,904.14	6,669.21	6,642.91	26.30	253.606		
4,500.00	4,494.86	3,929.63	3,924.32	15.58	11.49	-149.89	2,813.55	5,908.93	6,683.62	6,656.91	26.91	248.380		
4,600.00	4,594.56	3,974.42	3,968.73	15.93	11.57	-149.95	2,819.20	5,910.18	6,698.63	6,671.32	27.31	245.238		
4,700.00	4,694.25	4,700.00	7,435.19	16.29	43.53	-126.21	-66.99	5,997.57	6,695.56	6,640.50	55.06	121.613		
4,800.00	4,793.95	10,352.10	7,434.74	16.64	58.99	-126.05	-85.10	5,997.89	6,658.53	6,588.09	70.45	94.516		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Sec 13-T21S-R27E - Lone Tree Draw 13 State 15H - Original Hole - Actuals													Offset Well Error:	0.00 ft
Survey Program: 106-MWD+IGRF, 2746-MWD+IGRF														
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
4,900.00	4,893.65	10,354.26	7,434.69	17.00	59.03	-126.03	-87.27	5,997.92	6,622.85	6,551.70	71.15	93.077		
5,000.00	4,993.35	10,356.48	7,434.65	17.35	59.07	-126.01	-89.49	5,997.96	6,588.49	6,516.63	71.86	91.688		
5,100.00	5,093.05	10,358.76	7,434.60	17.71	59.11	-125.99	-91.77	5,998.00	6,555.48	6,482.92	72.56	90.347		
5,200.00	5,192.75	10,361.10	7,434.55	18.06	59.16	-125.96	-94.11	5,998.05	6,523.82	6,450.57	73.26	89.056		
5,300.00	5,292.44	10,363.51	7,434.50	18.42	59.20	-125.94	-96.51	5,998.09	6,493.56	6,419.61	73.95	87.812		
5,400.00	5,392.14	10,365.98	7,434.46	18.77	59.24	-125.92	-98.98	5,998.14	6,464.69	6,390.06	74.64	86.617		
5,500.00	5,491.84	10,368.51	7,434.41	19.13	59.29	-125.90	-101.51	5,998.18	6,437.25	6,361.93	75.32	85.468		
5,600.00	5,591.54	10,371.12	7,434.36	19.49	59.34	-125.87	-104.12	5,998.23	6,411.25	6,335.26	75.99	84.366		
5,700.00	5,691.24	10,373.80	7,434.32	19.85	59.39	-125.85	-106.80	5,998.28	6,386.71	6,310.05	76.66	83.311		
5,800.00	5,790.93	10,376.57	7,434.27	20.20	59.44	-125.82	-109.56	5,998.33	6,363.64	6,286.32	77.32	82.300		
5,900.00	5,890.63	10,379.41	7,434.23	20.56	59.49	-125.80	-112.41	5,998.39	6,342.07	6,264.09	77.97	81.335		
6,000.00	5,990.33	10,382.33	7,434.18	20.92	59.54	-125.77	-115.33	5,998.44	6,322.00	6,243.38	78.62	80.414		
6,100.00	6,090.03	10,385.35	7,434.14	21.28	59.60	-125.74	-118.34	5,998.50	6,303.45	6,224.19	79.25	79.536		
6,200.00	6,189.73	10,388.45	7,434.10	21.64	59.65	-125.71	-121.45	5,998.56	6,286.43	6,206.55	79.88	78.702		
6,300.00	6,289.42	10,391.66	7,434.06	22.00	59.71	-125.68	-124.65	5,998.62	6,270.96	6,190.47	80.49	77.910		
6,400.00	6,389.12	10,394.96	7,434.02	22.36	59.77	-125.65	-127.96	5,998.69	6,257.05	6,175.96	81.09	77.160		
6,500.00	6,488.82	10,398.37	7,433.98	22.72	59.83	-125.62	-131.37	5,998.76	6,244.70	6,163.02	81.68	76.451		
6,600.00	6,588.52	10,401.89	7,433.94	23.08	59.90	-125.59	-134.89	5,998.83	6,233.94	6,151.68	82.26	75.783		
6,700.00	6,688.22	10,405.53	7,433.91	23.44	59.96	-125.55	-138.52	5,998.90	6,224.75	6,141.93	82.83	75.155		
6,800.00	6,787.91	10,409.29	7,433.88	23.80	60.03	-125.52	-142.29	5,998.98	6,217.16	6,133.78	83.38	74.566		
6,900.00	6,887.61	10,413.19	7,433.85	24.16	60.10	-125.48	-146.18	5,999.05	6,211.17	6,127.25	83.92	74.015		
7,000.00	6,987.31	10,417.21	7,433.82	24.52	60.17	-125.45	-150.20	5,999.14	6,206.78	6,122.34	84.44	73.503		
7,100.00	7,087.01	10,421.00	7,433.77	24.88	60.35	-125.36	-159.99	5,999.34	6,204.00	6,118.94	85.06	72.941		
7,200.00	7,186.71	10,427.00	7,433.77	25.24	60.35	-125.36	-159.99	5,999.34	6,202.81	6,117.34	85.47	72.569		
7,223.34	7,209.98	10,427.00	7,433.77	25.33	60.35	-125.36	-159.99	5,999.34	6,202.77	6,117.20	85.57	72.488		
7,300.00	7,286.41	10,427.00	7,433.77	25.60	60.35	-125.36	-159.99	5,999.34	6,203.24	6,117.37	85.88	72.235		
7,400.00	7,386.10	10,427.00	7,433.77	25.96	60.35	-125.36	-159.99	5,999.34	6,205.28	6,119.02	86.26	71.937		
7,500.00	7,485.80	10,427.00	7,433.77	26.33	60.35	-125.36	-159.99	5,999.34	6,208.94	6,122.31	86.63	71.675		
7,600.00	7,585.50	10,427.00	7,433.77	26.69	60.35	-125.36	-159.99	5,999.34	6,214.19	6,127.22	86.98	71.448		
7,700.00	7,685.20	10,427.00	7,433.77	27.05	60.35	-125.36	-159.99	5,999.34	6,221.06	6,133.75	87.31	71.256		
7,800.00	7,784.90	10,427.00	7,433.77	27.41	60.35	-125.36	-159.99	5,999.34	6,229.52	6,141.90	87.62	71.098		
7,860.70	7,845.41	10,427.00	7,433.77	27.63	60.35	-125.36	-159.99	5,999.34	6,235.43	6,147.63	87.80	71.019		
7,900.00	7,884.61	10,427.00	7,433.77	27.77	60.35	-125.41	-159.99	5,999.34	6,239.45	6,151.54	87.91	70.973		
8,000.00	7,984.46	10,448.16	7,433.66	28.13	60.74	-125.34	-181.14	5,999.83	6,249.67	6,161.09	88.57	70.559		
8,100.00	8,084.42	10,448.94	7,433.66	28.49	60.75	-125.46	-181.92	5,999.84	6,260.02	6,171.18	88.84	70.463		
8,157.59	8,142.00	10,448.92	7,433.66	28.69	60.75	88.55	-181.90	5,999.84	6,266.01	6,177.04	88.97	70.426		
8,200.00	8,184.41	10,448.78	7,433.66	28.83	60.75	88.55	-181.76	5,999.84	6,270.58	6,181.52	89.06	70.408		
8,300.00	8,284.41	10,448.46	7,433.66	29.17	60.74	88.54	-181.45	5,999.83	6,282.46	6,193.21	89.26	70.387		
8,400.00	8,384.41	10,448.15	7,433.66	29.51	60.74	88.54	-181.13	5,999.82	6,295.91	6,206.48	89.43	70.397		
8,507.63	8,492.04	10,447.81	7,433.67	29.87	60.73	88.54	-180.80	5,999.82	6,312.13	6,222.52	89.61	70.442		
8,550.00	8,534.37	10,427.00	7,433.77	30.02	60.35	-1.02	-159.99	5,999.34	6,317.52	6,228.23	89.30	70.749		
8,600.00	8,584.01	10,427.00	7,433.77	30.18	60.35	-1.01	-159.99	5,999.34	6,320.15	6,230.79	89.36	70.725		
8,650.00	8,632.95	10,427.00	7,433.77	30.34	60.35	-1.01	-159.99	5,999.34	6,318.82	6,229.40	89.42	70.664		
8,700.00	8,680.82	10,427.00	7,433.77	30.50	60.35	-1.02	-159.99	5,999.34	6,313.53	6,224.06	89.47	70.566		
8,750.00	8,727.25	10,427.00	7,433.77	30.66	60.35	-1.04	-159.99	5,999.34	6,304.31	6,214.80	89.51	70.432		
8,800.00	8,771.89	10,427.00	7,433.77	30.81	60.35	-1.06	-159.99	5,999.34	6,291.22	6,201.68	89.54	70.264		
8,850.00	8,814.40	10,427.00	7,433.77	30.95	60.35	-1.10	-159.99	5,999.34	6,274.33	6,184.78	89.55	70.063		
8,900.00	8,854.46	10,427.00	7,433.77	31.09	60.35	-1.14	-159.99	5,999.34	6,253.74	6,164.18	89.56	69.829		
8,950.00	8,891.75	10,427.00	7,433.77	31.23	60.35	-1.20	-159.99	5,999.34	6,229.57	6,140.02	89.55	69.564		
9,000.00	8,926.01	10,427.00	7,433.77	31.37	60.35	-1.27	-159.99	5,999.34	6,201.97	6,112.44	89.53	69.269		
9,050.00	8,956.96	10,427.00	7,433.77	31.53	60.35	-1.36	-159.99	5,999.34	6,171.10	6,081.59	89.51	68.944		
9,100.00	8,984.38	10,427.00	7,433.77	31.69	60.35	-1.47	-159.99	5,999.34	6,137.14	6,047.67	89.47	68.591		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Sec 13-T21S-R27E - Lone Tree Draw 13 State 15H - Original Hole - Actuals													Offset Well Error:	0.00 ft
Survey Program: 106-MWD+IGRF, 2746-MWD+IGRF														
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
9,150.00	9,008.05	10,448.25	7,433.66	31.87	60.74	-1.31	-181.23	5,999.83	6,100.23	6,010.42	89.81	67.923		
9,200.00	9,027.79	10,448.47	7,433.66	32.07	60.74	-1.47	-181.45	5,999.83	6,060.76	5,970.99	89.77	67.515		
9,250.00	9,043.45	10,448.72	7,433.66	32.29	60.75	-1.67	-181.70	5,999.84	6,018.89	5,929.17	89.72	67.083		
9,300.00	9,054.92	10,448.99	7,433.66	32.53	60.75	-1.96	-181.97	5,999.85	5,974.91	5,885.23	89.68	66.627		
9,350.00	9,062.10	10,449.28	7,433.66	32.79	60.76	-2.39	-182.27	5,999.85	5,929.10	5,839.47	89.63	66.150		
9,400.00	9,064.95	10,449.60	7,433.65	33.06	60.76	-3.08	-182.58	5,999.86	5,881.77	5,792.18	89.59	65.652		
9,407.63	9,065.00	10,449.64	7,433.65	33.10	60.77	-3.22	-182.62	5,999.86	5,874.43	5,784.85	89.59	65.573		
9,500.00	9,065.00	10,450.24	7,433.65	33.68	60.78	-3.20	-183.22	5,999.88	5,785.51	5,696.00	89.51	64.636		
9,600.00	9,065.00	10,450.90	7,433.64	34.41	60.79	-3.18	-183.88	5,999.89	5,689.37	5,599.95	89.42	63.624		
9,700.00	9,065.00	10,451.57	7,433.64	35.24	60.80	-3.15	-184.55	5,999.91	5,593.37	5,504.04	89.33	62.612		
9,800.00	9,065.00	10,452.25	7,433.64	36.17	60.81	-3.13	-185.23	5,999.93	5,497.51	5,408.27	89.24	61.602		
9,900.00	9,065.00	10,452.94	7,433.63	37.19	60.83	-3.10	-185.91	5,999.94	5,401.80	5,312.65	89.15	60.593		
10,000.00	9,065.00	10,453.64	7,433.62	38.30	60.84	-3.08	-186.61	5,999.96	5,306.24	5,217.19	89.05	59.585		
10,100.00	9,065.00	10,454.35	7,433.62	39.48	60.85	-3.05	-187.32	5,999.98	5,210.86	5,121.90	88.96	58.578		
10,200.00	9,065.00	10,455.07	7,433.61	40.72	60.86	-3.03	-188.05	6,000.00	5,115.65	5,026.79	88.85	57.573		
10,300.00	9,065.00	10,455.80	7,433.61	42.03	60.88	-3.00	-188.78	6,000.02	5,020.62	4,931.87	88.75	56.570		
10,400.00	9,065.00	10,456.55	7,433.60	43.40	60.89	-2.97	-189.53	6,000.04	4,925.80	4,837.15	88.64	55.569		
10,500.00	9,065.00	10,457.31	7,433.60	44.82	60.91	-2.95	-190.28	6,000.06	4,831.18	4,742.64	88.53	54.569		
10,600.00	9,065.00	10,458.08	7,433.59	46.29	60.92	-2.92	-191.05	6,000.08	4,736.78	4,648.36	88.42	53.572		
10,700.00	9,065.00	10,458.86	7,433.58	47.79	60.93	-2.89	-191.84	6,000.10	4,642.61	4,554.31	88.30	52.577		
10,800.00	9,065.00	10,459.66	7,433.58	49.34	60.95	-2.86	-192.63	6,000.12	4,548.70	4,460.52	88.18	51.584		
10,900.00	9,065.00	10,460.47	7,433.57	50.92	60.96	-2.83	-193.45	6,000.14	4,455.05	4,366.99	88.05	50.594		
11,000.00	9,065.00	10,461.29	7,433.56	52.54	60.98	-2.80	-194.27	6,000.16	4,361.68	4,273.75	87.92	49.607		
11,100.00	9,065.00	10,462.13	7,433.56	54.18	60.99	-2.77	-195.11	6,000.18	4,268.61	4,180.82	87.79	48.623		
11,200.00	9,065.00	10,462.99	7,433.55	55.85	61.01	-2.74	-195.96	6,000.21	4,175.86	4,088.21	87.65	47.642		
11,300.00	9,065.00	10,463.85	7,433.54	57.54	61.03	-2.71	-196.83	6,000.23	4,083.45	3,995.95	87.51	46.665		
11,400.00	9,065.00	10,464.74	7,433.53	59.26	61.04	-2.68	-197.71	6,000.25	3,991.41	3,904.06	87.36	45.692		
11,500.00	9,065.00	10,465.64	7,433.52	61.00	61.06	-2.64	-198.61	6,000.28	3,899.76	3,812.56	87.20	44.722		
11,600.00	9,065.00	10,466.55	7,433.52	62.75	61.07	-2.61	-199.53	6,000.30	3,808.53	3,721.49	87.04	43.757		
11,700.00	9,065.00	10,467.49	7,433.51	64.52	61.09	-2.58	-200.46	6,000.33	3,717.75	3,630.88	86.87	42.796		
11,800.00	9,065.00	10,468.44	7,433.50	66.31	61.11	-2.54	-201.41	6,000.36	3,627.46	3,540.76	86.70	41.841		
11,900.00	9,065.00	10,469.40	7,433.49	68.11	61.13	-2.51	-202.38	6,000.38	3,537.69	3,451.17	86.52	40.890		
12,000.00	9,065.00	10,470.39	7,433.48	69.93	61.14	-2.47	-203.36	6,000.41	3,448.48	3,362.15	86.33	39.946		
12,100.00	9,065.00	10,471.39	7,433.47	71.76	61.16	-2.44	-204.36	6,000.44	3,359.87	3,273.74	86.13	39.008		
12,200.00	9,065.00	10,472.42	7,433.46	73.60	61.18	-2.40	-205.39	6,000.47	3,271.92	3,185.99	85.93	38.076		
12,300.00	9,065.00	10,473.46	7,433.45	75.45	61.20	-2.36	-206.43	6,000.50	3,184.69	3,098.97	85.72	37.152		
12,400.00	9,065.00	10,474.52	7,433.44	77.31	61.22	-2.32	-207.49	6,000.53	3,098.22	3,012.72	85.50	36.236		
12,500.00	9,065.00	10,475.61	7,433.43	79.18	61.24	-2.28	-208.58	6,000.56	3,012.60	2,927.32	85.27	35.329		
12,600.00	9,065.00	10,476.71	7,433.41	81.05	61.26	-2.24	-209.68	6,000.59	2,927.88	2,842.84	85.04	34.431		
12,700.00	9,065.00	10,477.84	7,433.40	82.94	61.28	-2.20	-210.81	6,000.62	2,844.15	2,759.36	84.79	33.543		
12,800.00	9,065.00	10,478.99	7,433.39	84.83	61.30	-2.16	-211.96	6,000.66	2,761.51	2,676.98	84.53	32.667		
12,900.00	9,065.00	10,480.17	7,433.38	86.73	61.32	-2.12	-213.14	6,000.69	2,680.05	2,595.78	84.27	31.804		
13,000.00	9,065.00	10,481.37	7,433.36	88.64	61.34	-2.07	-214.33	6,000.73	2,599.88	2,515.89	83.99	30.954		
13,100.00	9,065.00	10,482.59	7,433.35	90.55	61.37	-2.03	-215.56	6,000.77	2,521.13	2,437.43	83.70	30.120		
13,200.00	9,065.00	10,483.84	7,433.33	92.47	61.39	-1.98	-216.81	6,000.80	2,443.93	2,360.53	83.40	29.303		
13,300.00	9,065.00	10,485.12	7,433.32	94.39	61.41	-1.94	-218.08	6,000.84	2,368.44	2,285.35	83.09	28.505		
13,400.00	9,065.00	10,486.42	7,433.30	96.32	61.44	-1.89	-219.39	6,000.88	2,294.82	2,212.07	82.76	27.729		
13,500.00	9,065.00	10,487.76	7,433.29	98.25	61.46	-1.84	-220.72	6,000.92	2,223.27	2,140.85	82.42	26.976		
13,600.00	9,065.00	10,489.12	7,433.27	100.19	61.49	-1.79	-222.08	6,000.97	2,153.98	2,071.92	82.06	26.250		
13,700.00	9,065.00	10,490.51	7,433.25	102.13	61.51	-1.74	-223.47	6,001.01	2,087.17	2,005.50	81.68	25.553		
13,800.00	9,065.00	10,491.94	7,433.23	104.08	61.54	-1.69	-224.90	6,001.05	2,023.11	1,941.83	81.28	24.890		
13,900.00	9,065.00	10,493.39	7,433.21	106.03	61.56	-1.64	-226.35	6,001.10	1,962.05	1,881.18	80.87	24.262		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Sec 13-T21S-R27E - Lone Tree Draw 13 State 15H - Original Hole - Actuals													Offset Well Error:	0.00 ft
Survey Program: 106-MWD+IGRF, 2746-MWD+IGRF														
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)						
14,000.00	9,065.00	10,494.88	7,433.19	107.98	61.59	-1.58	-227.84	6,001.15	1,904.29	1,823.85	80.44	23.675		
14,100.00	9,065.00	10,496.41	7,433.17	109.94	61.62	-1.53	-229.37	6,001.20	1,850.13	1,770.14	79.99	23.130		
14,200.00	9,065.00	10,497.97	7,433.15	111.90	61.65	-1.47	-230.93	6,001.25	1,799.90	1,720.37	79.53	22.632		
14,300.00	9,065.00	10,499.57	7,433.13	113.86	61.68	-1.41	-232.52	6,001.30	1,753.93	1,674.86	79.07	22.181		
14,400.00	9,065.00	10,501.20	7,433.11	115.82	61.71	-1.35	-234.16	6,001.35	1,712.58	1,633.94	78.64	21.779		
14,500.00	9,065.00	10,502.88	7,433.08	117.79	61.74	-1.29	-235.84	6,001.41	1,676.17	1,597.93	78.24	21.423		
14,600.00	9,065.00	10,504.60	7,433.06	119.76	61.77	-1.23	-237.55	6,001.47	1,645.05	1,567.12	77.93	21.109		
14,700.00	9,065.00	10,506.36	7,433.03	121.74	61.80	-1.17	-239.32	6,001.53	1,619.51	1,541.76	77.75	20.831		
14,800.00	9,065.00	10,508.17	7,433.00	123.71	61.83	-1.10	-241.12	6,001.59	1,599.82	1,522.07	77.74	20.578		
14,900.00	9,065.00	10,510.02	7,432.98	125.69	61.87	-1.03	-242.97	6,001.65	1,586.20	1,508.22	77.98	20.341		
15,000.00	9,065.00	10,511.93	7,432.95	127.67	61.90	-0.96	-244.87	6,001.72	1,578.80	1,500.30	78.50	20.111		
15,067.09	9,065.00	10,513.23	7,432.93	129.00	61.93	-0.92	-246.18	6,001.76	1,577.38	1,498.34	79.03	19.959 CC, ES		
15,100.00	9,065.00	10,513.88	7,432.92	129.65	61.94	-0.89	-246.83	6,001.79	1,577.72	1,498.38	79.34	19.885		
15,200.00	9,065.00	10,515.88	7,432.88	131.63	61.98	-0.82	-248.83	6,001.86	1,582.96	1,502.48	80.49	19.667		
15,300.00	9,065.00	10,517.94	7,432.85	133.62	62.01	-0.75	-250.89	6,001.93	1,594.47	1,512.57	81.90	19.467		
15,400.00	9,065.00	10,520.06	7,432.81	135.61	62.05	-0.67	-253.00	6,002.01	1,612.11	1,528.58	83.53	19.300		
15,500.00	9,065.00	10,522.72	7,432.77	137.60	62.10	-0.57	-255.66	6,002.10	1,635.67	1,550.39	85.29	19.178		
15,600.00	9,065.00	10,525.69	7,432.72	139.59	62.15	-0.46	-258.63	6,002.21	1,664.92	1,577.81	87.11	19.113 SF		
15,700.00	9,065.00	10,528.57	7,432.67	141.58	62.21	-0.36	-261.51	6,002.31	1,699.55	1,610.63	88.92	19.114		
15,800.00	9,065.00	10,531.37	7,432.63	143.57	62.26	-0.26	-264.30	6,002.41	1,739.25	1,648.58	90.67	19.182		
15,900.00	9,065.00	10,534.08	7,432.59	145.57	62.31	-0.16	-267.01	6,002.50	1,783.66	1,691.34	92.33	19.319		
16,000.00	9,065.00	10,536.71	7,432.55	147.56	62.36	-0.06	-269.64	6,002.59	1,832.47	1,738.60	93.87	19.522		
16,100.00	9,065.00	10,539.27	7,432.51	149.56	62.40	0.03	-272.20	6,002.68	1,885.31	1,790.03	95.28	19.788		
16,200.00	9,065.00	10,541.76	7,432.47	151.56	62.45	0.12	-274.69	6,002.77	1,941.87	1,845.31	96.56	20.111		
16,300.00	9,065.00	10,544.18	7,432.44	153.56	62.49	0.21	-277.10	6,002.85	2,001.82	1,904.11	97.71	20.488		
16,400.00	9,065.00	10,546.53	7,432.41	155.56	62.54	0.29	-279.45	6,002.92	2,064.88	1,966.14	98.74	20.913		
16,500.00	9,065.00	10,548.82	7,432.38	157.57	62.58	0.38	-281.74	6,003.00	2,130.76	2,031.11	99.65	21.382		
16,600.00	9,065.00	10,551.04	7,432.35	159.57	62.62	0.46	-283.96	6,003.07	2,199.21	2,098.75	100.46	21.891		
16,700.00	9,065.00	10,553.21	7,432.32	161.57	62.66	0.53	-286.13	6,003.14	2,270.01	2,168.83	101.18	22.436		
16,800.00	9,065.00	10,555.32	7,432.29	163.58	62.70	0.61	-288.24	6,003.21	2,342.93	2,241.12	101.81	23.013		
16,900.00	9,065.00	10,557.38	7,432.27	165.59	62.74	0.69	-290.30	6,003.27	2,417.79	2,315.42	102.37	23.619		
17,000.00	9,065.00	10,559.39	7,432.25	167.60	62.77	0.76	-292.30	6,003.34	2,494.41	2,391.55	102.86	24.251		
17,100.00	9,065.00	10,561.34	7,432.22	169.60	62.81	0.83	-294.26	6,003.40	2,572.63	2,469.34	103.30	24.906		
17,200.00	9,065.00	10,563.25	7,432.20	171.61	62.84	0.90	-296.16	6,003.46	2,652.32	2,548.64	103.68	25.582		
17,300.00	9,065.00	10,565.11	7,432.18	173.62	62.88	0.97	-298.02	6,003.51	2,733.34	2,629.32	104.02	26.277		
17,400.00	9,065.00	10,566.92	7,432.16	175.63	62.91	1.03	-299.84	6,003.57	2,815.58	2,711.26	104.32	26.989		
17,500.00	9,065.00	10,568.70	7,432.14	177.65	62.94	1.10	-301.61	6,003.62	2,898.94	2,794.35	104.59	27.717		
17,600.00	9,065.00	10,570.43	7,432.13	179.66	62.97	1.16	-303.34	6,003.68	2,983.31	2,878.48	104.83	28.458		
17,700.00	9,065.00	10,572.12	7,432.11	181.67	63.01	1.22	-305.03	6,003.73	3,068.63	2,963.58	105.05	29.212		
17,800.00	9,065.00	10,573.77	7,432.09	183.69	63.04	1.28	-306.68	6,003.77	3,154.81	3,049.57	105.24	29.978		
17,900.00	9,065.00	10,575.38	7,432.08	185.70	63.07	1.34	-308.29	6,003.82	3,241.78	3,136.36	105.41	30.753		
18,000.00	9,065.00	10,576.96	7,432.06	187.72	63.09	1.40	-309.87	6,003.87	3,329.48	3,223.91	105.57	31.538		
18,100.00	9,065.00	10,578.50	7,432.05	189.73	63.12	1.45	-311.41	6,003.91	3,417.85	3,312.14	105.72	32.331		
18,200.00	9,065.00	10,580.01	7,432.04	191.75	63.15	1.51	-312.92	6,003.96	3,506.83	3,401.00	105.85	33.131		
18,300.00	9,065.00	10,581.49	7,432.02	193.77	63.18	1.56	-314.39	6,004.00	3,596.43	3,490.46	105.97	33.939		
18,400.00	9,065.00	10,582.93	7,432.01	195.78	63.20	1.61	-315.83	6,004.04	3,686.54	3,580.46	106.08	34.752		
18,500.00	9,065.00	10,584.34	7,432.00	197.80	63.23	1.66	-317.25	6,004.08	3,777.15	3,670.96	106.19	35.571		
18,600.00	9,065.00	10,585.73	7,431.99	199.82	63.26	1.71	-318.63	6,004.12	3,868.22	3,761.94	106.28	36.395		
18,700.00	9,065.00	10,587.08	7,431.98	201.84	63.28	1.76	-319.98	6,004.15	3,959.72	3,853.35	106.38	37.224		
18,800.00	9,065.00	10,588.41	7,431.97	203.86	63.30	1.81	-321.31	6,004.19	4,051.63	3,945.16	106.46	38.057		
18,900.00	9,065.00	10,589.71	7,431.96	205.88	63.33	1.86	-322.61	6,004.23	4,143.90	4,037.36	106.55	38.893		
19,000.00	9,065.00	10,590.98	7,431.95	207.90	63.35	1.91	-323.88	6,004.26	4,236.53	4,129.90	106.63	39.733		

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Sec 13-T21S-R27E - Lone Tree Draw 13 State 15H - Original Hole - Actuals													Offset Well Error:	0.00 ft
Survey Program: 106-MWD+IGRF, 2746-MWD+IGRF														
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
19,100.00	9,065.00	10,592.23	7,431.94	209.92	63.37	1.95	-325.13	6,004.30	4,329.48	4,222.78	106.70	40.575		
19,200.00	9,065.00	10,593.45	7,431.93	211.95	63.40	1.99	-326.35	6,004.33	4,422.75	4,315.97	106.78	41.420		
19,300.00	9,065.00	10,594.65	7,431.93	213.97	63.42	2.04	-327.55	6,004.36	4,516.30	4,409.45	106.85	42.268		
19,400.00	9,065.00	10,595.83	7,431.92	215.99	63.44	2.08	-328.73	6,004.39	4,610.12	4,503.20	106.92	43.117		
19,456.84	9,065.00	10,596.49	7,431.91	217.14	63.45	2.10	-329.38	6,004.41	4,663.56	4,556.60	106.96	43.601		

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Survey Program: 18-GYRO-NS-CT													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0.00	0.00	0.00	0.00	0.50	5.02	61.36	3,158.45	5,782.98	6,589.59					
100.00	100.00	9.85	9.85	0.52	5.02	61.36	3,158.46	5,782.99	6,589.36	6,583.81	5.54	1,188.828		
200.00	200.00	84.17	84.17	0.70	5.03	61.36	3,158.86	5,783.40	6,590.05	6,584.32	5.73	1,150.464		
300.00	300.00	190.22	190.21	0.99	5.04	61.36	3,159.06	5,784.22	6,590.82	6,584.79	6.03	1,093.001		
400.00	400.00	289.89	289.88	1.31	5.08	61.36	3,158.97	5,785.05	6,591.51	6,585.12	6.39	1,031.055		
500.00	500.00	387.78	387.76	1.65	5.15	61.37	3,158.98	5,785.84	6,592.23	6,585.43	6.79	970.412		
600.00	600.00	492.73	492.72	1.99	5.24	61.37	3,158.96	5,786.69	6,592.93	6,585.70	7.23	911.917		
700.00	700.00	597.10	597.08	2.34	5.35	61.37	3,158.76	5,787.52	6,593.53	6,585.84	7.69	857.035		
800.00	800.00	743.25	743.23	2.69	5.55	61.37	3,159.48	5,787.92	6,594.12	6,585.88	8.24	800.088		
900.00	900.00	884.50	884.48	3.04	5.78	61.37	3,159.32	5,786.96	6,593.37	6,584.55	8.82	747.536		
1,000.00	1,000.00	953.30	953.27	3.40	5.90	61.37	3,158.68	5,787.05	6,592.98	6,583.69	9.30	709.201		
1,017.17	1,017.17	953.30	953.27	3.46	5.90	61.37	3,158.68	5,787.05	6,592.96	6,583.60	9.36	704.581		
1,100.00	1,100.00	1,030.43	1,030.39	3.75	6.04	61.38	3,157.98	5,787.49	6,593.02	6,583.22	9.80	672.961		
1,200.00	1,200.00	1,131.02	1,130.98	4.11	6.25	61.39	3,157.44	5,787.88	6,593.10	6,582.75	10.35	636.725		
1,300.00	1,300.00	1,226.36	1,226.32	4.46	6.45	61.39	3,157.17	5,788.14	6,593.21	6,582.30	10.91	604.102		
1,400.00	1,400.00	1,322.59	1,322.55	4.82	6.67	61.39	3,156.98	5,788.44	6,593.39	6,581.90	11.49	574.017		
1,500.00	1,500.00	1,421.70	1,421.66	5.18	6.90	61.40	3,156.76	5,788.81	6,593.60	6,581.53	12.08	546.026		
1,600.00	1,600.00	1,528.46	1,528.42	5.53	7.16	61.40	3,156.30	5,789.27	6,593.78	6,581.09	12.69	519.470		
1,700.00	1,700.00	1,646.93	1,646.89	5.89	7.46	61.41	3,155.65	5,789.58	6,593.75	6,580.40	13.35	493.895		
1,800.00	1,800.00	1,762.85	1,762.80	6.25	7.77	61.41	3,155.06	5,789.54	6,593.47	6,579.46	14.01	470.599		
1,900.00	1,900.00	1,862.52	1,862.47	6.61	8.03	61.41	3,154.82	5,789.17	6,593.03	6,578.39	14.64	450.474		
2,000.00	2,000.00	1,962.60	1,962.55	6.96	8.31	61.41	3,154.87	5,788.70	6,592.65	6,577.38	15.27	431.793		
2,100.00	2,100.00	2,067.36	2,067.31	7.32	8.60	61.41	3,154.97	5,788.13	6,592.21	6,576.29	15.92	414.103		
2,200.00	2,200.00	2,173.74	2,173.69	7.68	8.91	61.40	3,155.10	5,787.43	6,591.69	6,575.11	16.58	397.554		
2,300.00	2,300.00	2,274.12	2,274.06	8.04	9.20	61.40	3,155.31	5,786.65	6,591.11	6,573.88	17.23	382.542		
2,400.00	2,400.00	2,367.14	2,367.08	8.39	9.47	61.39	3,155.56	5,785.95	6,590.58	6,572.72	17.86	368.987		
2,500.00	2,500.00	2,457.27	2,457.21	8.75	9.74	61.39	3,155.86	5,785.40	6,590.20	6,571.71	18.49	356.467		
2,522.73	2,522.73	2,482.13	2,482.07	8.83	9.81	-152.69	3,155.94	5,785.26	6,590.16	6,571.52	18.64	353.559		
2,600.00	2,599.99	2,565.02	2,564.96	9.09	10.06	-152.70	3,156.09	5,784.80	6,590.59	6,571.43	19.15	344.106		
2,700.00	2,699.96	2,667.42	2,667.36	9.42	10.37	-152.70	3,156.09	5,784.27	6,592.46	6,572.67	19.79	333.118		
2,800.00	2,799.86	2,767.00	2,766.94	9.75	10.68	-152.70	3,156.21	5,783.64	6,595.84	6,575.42	20.42	322.946		
2,900.00	2,899.68	2,880.22	2,880.15	10.08	11.03	-152.72	3,156.64	5,782.78	6,600.80	6,579.69	21.10	312.768		
2,945.33	2,944.88	2,947.12	2,947.05	10.23	11.24	-152.73	3,156.79	5,782.06	6,603.39	6,581.93	21.46	307.665		
3,000.00	2,999.39	3,028.83	3,028.75	10.41	11.50	-152.76	3,156.68	5,781.00	6,606.51	6,584.61	21.90	301.671		
3,100.00	3,099.08	3,106.26	3,106.18	10.75	11.74	-152.78	3,156.41	5,780.12	6,612.24	6,589.76	22.48	294.171		
3,200.00	3,198.78	3,187.66	3,187.57	11.08	12.00	-152.81	3,156.04	5,779.46	6,618.21	6,595.14	23.07	286.868		
3,300.00	3,298.48	3,264.13	3,264.04	11.42	12.24	-152.83	3,155.94	5,778.96	6,624.50	6,600.85	23.65	280.097		
3,400.00	3,398.18	3,324.58	3,324.49	11.76	12.43	-152.86	3,156.30	5,778.61	6,631.22	6,607.04	24.18	274.229		
3,500.00	3,497.88	3,385.60	3,385.50	12.10	12.63	-152.88	3,156.83	5,778.72	6,638.66	6,613.95	24.71	268.612		
3,600.00	3,597.58	3,489.54	3,489.44	12.45	12.96	-152.91	3,157.64	5,779.28	6,646.42	6,621.03	25.39	261.786		
3,700.00	3,697.27	3,610.34	3,610.24	12.79	13.35	-152.95	3,158.09	5,779.66	6,653.79	6,627.67	26.12	254.731		
3,800.00	3,796.97	3,712.63	3,712.53	13.14	13.68	-152.98	3,158.33	5,779.92	6,661.04	6,634.25	26.80	248.591		
3,900.00	3,896.67	3,816.40	3,816.30	13.48	14.02	-153.02	3,158.53	5,780.14	6,668.25	6,640.77	27.48	242.685		
4,000.00	3,996.37	3,925.64	3,925.53	13.83	14.38	-153.05	3,158.84	5,780.20	6,675.36	6,647.18	28.18	236.890		
4,100.00	4,096.07	4,029.45	4,029.35	14.18	14.72	-153.09	3,159.16	5,780.10	6,682.35	6,653.48	28.87	231.498		
4,200.00	4,195.76	4,134.28	4,134.17	14.53	15.06	-153.12	3,159.54	5,779.89	6,689.28	6,659.72	29.56	226.314		
4,300.00	4,295.46	4,240.22	4,240.11	14.88	15.41	-153.16	3,159.92	5,779.59	6,696.13	6,665.88	30.25	221.324		
4,400.00	4,395.16	4,354.85	4,354.75	15.23	15.79	-153.20	3,160.24	5,779.13	6,702.86	6,671.88	30.98	216.339		
4,500.00	4,494.86	4,485.28	4,485.17	15.58	16.22	-153.24	3,160.26	5,778.25	6,709.21	6,677.45	31.77	211.209		
4,600.00	4,594.56	4,591.82	4,591.71	15.93	16.58	-153.27	3,160.01	5,777.30	6,715.26	6,682.79	32.47	206.813		
4,700.00	4,694.25	4,685.42	4,685.30	16.29	16.89	-153.31	3,160.09	5,776.33	6,721.34	6,688.20	33.13	202.861		
4,800.00	4,793.95	4,774.60	4,774.47	16.64	17.19	-153.34	3,160.39	5,775.40	6,727.54	6,693.76	33.78	199.148		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Sec 13-T21S-R27E - Lone Tree Draw 13 State Com 4H - Pilot - Pilot													Offset Well Error:	0.50 ft
Survey Program: 18-GYRO-NS-CT														
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
4,900.00	4,893.65	4,863.26	4,863.13	17.00	17.48	-153.37	3,160.78	5,774.59	6,733.90	6,699.48	34.43	195.585		
5,000.00	4,993.35	4,929.69	4,929.56	17.35	17.70	-153.39	3,161.13	5,774.16	6,740.57	6,705.56	35.00	192.576		
5,100.00	5,093.05	5,000.42	5,000.29	17.71	17.94	-153.42	3,161.56	5,774.16	6,747.79	6,712.20	35.59	189.603		
5,200.00	5,192.75	5,098.74	5,098.60	18.06	18.27	-153.45	3,161.77	5,774.50	6,755.14	6,718.87	36.27	186.240		
5,300.00	5,292.44	5,185.92	5,185.78	18.42	18.56	-153.47	3,161.72	5,775.08	6,762.64	6,725.72	36.92	183.191		
5,400.00	5,392.14	5,278.48	5,278.33	18.77	18.88	-153.49	3,161.46	5,775.95	6,770.27	6,732.69	37.58	180.157		
5,500.00	5,491.84	5,378.76	5,378.61	19.13	19.21	-153.52	3,161.60	5,776.79	6,778.01	6,739.74	38.27	177.104		
5,600.00	5,591.54	5,509.82	5,509.67	19.49	19.66	-153.56	3,162.23	5,777.14	6,785.44	6,746.36	39.07	173.670		
5,700.00	5,691.24	5,638.94	5,638.79	19.85	20.09	-153.60	3,162.84	5,776.88	6,792.45	6,752.59	39.86	170.389		
5,800.00	5,790.93	5,724.10	5,723.95	20.20	20.38	-153.63	3,163.17	5,776.66	6,799.37	6,758.86	40.51	167.860		
5,900.00	5,890.63	5,816.54	5,816.39	20.56	20.69	-153.66	3,163.50	5,776.57	6,806.43	6,765.26	41.17	165.310		
6,000.00	5,990.33	5,911.67	5,911.52	20.92	21.02	-153.69	3,163.69	5,776.67	6,813.58	6,771.73	41.85	162.806		
6,100.00	6,090.03	6,029.22	6,029.06	21.28	21.41	-153.72	3,163.61	5,776.82	6,820.62	6,778.02	42.61	160.081		
6,200.00	6,189.73	6,148.94	6,148.78	21.64	21.82	-153.75	3,162.82	5,777.05	6,827.44	6,784.07	43.37	157.416		
6,300.00	6,289.42	6,249.14	6,248.97	22.00	22.16	-153.77	3,161.56	5,777.29	6,833.99	6,789.92	44.07	155.074		
6,400.00	6,389.12	6,334.54	6,334.37	22.36	22.45	-153.79	3,160.51	5,777.66	6,840.72	6,796.01	44.72	152.983		
6,500.00	6,488.82	6,412.41	6,412.23	22.72	22.72	-153.80	3,159.65	5,778.14	6,847.69	6,802.35	45.34	151.044		
6,600.00	6,588.52	6,472.75	6,472.57	23.08	22.92	-153.81	3,159.00	5,778.78	6,855.08	6,809.18	45.89	149.370		
6,700.00	6,688.22	6,543.72	6,543.52	23.44	23.16	-153.82	3,158.35	5,779.87	6,862.95	6,816.46	46.49	147.629		
6,800.00	6,787.91	6,642.28	6,642.06	23.80	23.50	-153.84	3,157.62	5,781.74	6,871.20	6,824.02	47.18	145.632		
6,900.00	6,887.61	6,766.35	6,766.11	24.16	23.93	-153.85	3,156.44	5,783.88	6,879.19	6,831.22	47.97	143.412		
7,000.00	6,987.31	6,837.16	6,836.91	24.52	24.17	-153.87	3,156.00	5,785.03	6,887.25	6,838.69	48.56	141.821		
7,100.00	7,087.01	6,931.22	6,930.96	24.88	24.49	-153.89	3,156.00	5,786.45	6,895.54	6,846.29	49.24	140.036		
7,200.00	7,186.71	6,998.10	6,997.83	25.24	24.72	-153.90	3,156.28	5,787.49	6,904.06	6,854.24	49.82	138.579		
7,300.00	7,286.41	7,062.77	7,062.48	25.60	24.94	-153.92	3,156.59	5,788.85	6,913.10	6,862.71	50.39	137.189		
7,400.00	7,386.10	7,127.60	7,127.29	25.96	25.17	-153.93	3,156.87	5,790.60	6,922.63	6,871.67	50.96	135.841		
7,500.00	7,485.80	7,205.80	7,205.44	26.33	25.44	-153.94	3,156.92	5,793.24	6,932.56	6,880.98	51.58	134.401		
7,600.00	7,585.50	7,302.85	7,302.41	26.69	25.77	-153.95	3,156.13	5,797.25	6,942.70	6,890.43	52.27	132.817		
7,700.00	7,685.20	7,390.01	7,389.46	27.05	26.08	-153.95	3,154.82	5,801.26	6,952.90	6,899.97	52.93	131.365		
7,800.00	7,784.90	7,470.53	7,469.89	27.41	26.36	-153.95	3,153.77	5,805.08	6,963.33	6,909.77	53.56	130.013		
7,860.70	7,845.41	7,599.12	7,598.34	27.63	26.81	-153.95	3,152.41	5,810.75	6,969.68	6,915.44	54.24	128.491		
7,900.00	7,884.61	7,900.00	7,666.91	27.77	27.85	-153.98	3,151.71	5,812.88	6,973.03	6,917.60	55.43	125.796		
8,000.00	7,984.46	7,803.28	7,802.41	28.13	27.51	-154.03	3,150.42	5,816.42	6,979.65	6,924.18	55.46	125.844		
8,100.00	8,084.42	7,876.00	7,875.11	28.49	27.77	-154.05	3,149.79	5,818.21	6,983.92	6,927.86	56.06	124.575		
8,157.59	8,142.00	7,876.00	7,875.11	28.69	27.77	60.02	3,149.79	5,818.21	6,985.75	6,929.50	56.25	124.202		
8,200.00	8,184.41	7,876.00	7,875.11	28.83	27.77	60.02	3,149.79	5,818.21	6,987.11	6,930.73	56.37	123.941		
8,300.00	8,284.41	7,876.00	7,875.11	29.17	27.77	60.02	3,149.79	5,818.21	6,991.33	6,934.66	56.67	123.360		
8,400.00	8,384.41	7,876.00	7,875.11	29.51	27.77	60.02	3,149.79	5,818.21	6,996.99	6,940.02	56.97	122.829		
8,507.63	8,492.04	7,876.00	7,875.11	29.87	27.77	60.02	3,149.79	5,818.21	7,004.66	6,947.39	57.27	122.311		
8,550.00	8,534.37	7,876.00	7,875.11	30.02	27.77	-29.25	3,149.79	5,818.21	7,006.77	6,949.39	57.38	122.103		
8,600.00	8,584.01	7,876.00	7,875.11	30.18	27.77	-29.28	3,149.79	5,818.21	7,006.08	6,948.56	57.51	121.817		
8,650.00	8,632.95	7,876.00	7,875.11	30.34	27.77	-29.49	3,149.79	5,818.21	7,001.94	6,944.30	57.64	121.487		
8,700.00	8,680.82	7,876.00	7,875.11	30.50	27.77	-29.87	3,149.79	5,818.21	6,994.38	6,936.63	57.75	121.118		
8,750.00	8,727.25	7,876.00	7,875.11	30.66	27.77	-30.43	3,149.79	5,818.21	6,983.45	6,925.60	57.85	120.711		
8,800.00	8,771.89	7,876.00	7,875.11	30.81	27.77	-31.19	3,149.79	5,818.21	6,969.22	6,911.27	57.95	120.269		
8,850.00	8,814.40	7,876.00	7,875.11	30.95	27.77	-32.17	3,149.79	5,818.21	6,951.77	6,893.74	58.03	119.793		
8,900.00	8,854.46	7,876.00	7,875.11	31.09	27.77	-33.39	3,149.79	5,818.21	6,931.21	6,873.11	58.11	119.284		
8,950.00	8,891.75	7,876.00	7,875.11	31.23	27.77	-34.89	3,149.79	5,818.21	6,907.68	6,849.51	58.17	118.742		
9,000.00	8,926.01	7,876.00	7,875.11	31.37	27.77	-36.70	3,149.79	5,818.21	6,881.32	6,823.09	58.23	118.167		
9,050.00	8,956.96	7,876.00	7,875.11	31.53	27.77	-38.89	3,149.79	5,818.21	6,852.30	6,794.01	58.29	117.559		
9,100.00	8,984.38	7,876.00	7,875.11	31.69	27.77	-41.51	3,149.79	5,818.21	6,820.82	6,762.48	58.34	116.916		
9,150.00	9,008.05	7,876.00	7,875.11	31.87	27.77	-44.63	3,149.79	5,818.21	6,787.06	6,728.68	58.39	116.239		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Survey Program: 18-GYRO-NS-CT													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
9,200.00	9,027.79	7,876.00	7,875.11	32.07	27.77	-48.35	3,149.79	5,818.21	6,751.28	6,692.84	58.44	115.525		
9,250.00	9,043.45	7,876.00	7,875.11	32.29	27.77	-52.75	3,149.79	5,818.21	6,713.69	6,655.20	58.49	114.777		
9,300.00	9,054.92	7,876.00	7,875.11	32.53	27.77	-57.92	3,149.79	5,818.21	6,674.57	6,616.02	58.55	113.993		
9,350.00	9,062.10	7,876.00	7,875.11	32.79	27.77	-63.90	3,149.79	5,818.21	6,634.19	6,575.57	58.62	113.177		
9,400.00	9,064.95	7,876.00	7,875.11	33.06	27.77	-70.69	3,149.79	5,818.21	6,592.82	6,534.13	58.69	112.329		
9,407.63	9,065.00	7,876.00	7,875.11	33.10	27.77	-71.79	3,149.79	5,818.21	6,586.44	6,527.74	58.71	112.195		
9,500.00	9,065.00	7,876.00	7,875.11	33.68	27.77	-71.79	3,149.79	5,818.21	6,509.32	6,450.45	58.87	110.573		
9,600.00	9,065.00	7,876.00	7,875.11	34.41	27.77	-71.79	3,149.79	5,818.21	6,426.28	6,367.19	59.09	108.753		
9,700.00	9,065.00	7,876.00	7,875.11	35.24	27.77	-71.79	3,149.79	5,818.21	6,343.73	6,284.36	59.36	106.866		
9,800.00	9,065.00	7,876.00	7,875.11	36.17	27.77	-71.79	3,149.79	5,818.21	6,261.68	6,202.00	59.68	104.914		
9,900.00	9,065.00	7,876.00	7,875.11	37.19	27.77	-71.79	3,149.79	5,818.21	6,180.17	6,120.11	60.06	102.900		
10,000.00	9,065.00	7,876.00	7,875.11	38.30	27.77	-71.79	3,149.79	5,818.21	6,099.21	6,038.71	60.49	100.827		
10,100.00	9,065.00	7,876.00	7,875.11	39.48	27.77	-71.79	3,149.79	5,818.21	6,018.81	5,957.83	60.98	98.700		
10,200.00	9,065.00	7,876.00	7,875.11	40.72	27.77	-71.79	3,149.79	5,818.21	5,939.02	5,877.49	61.53	96.523		
10,300.00	9,065.00	7,876.00	7,875.11	42.03	27.77	-71.79	3,149.79	5,818.21	5,859.84	5,797.70	62.14	94.302		
10,400.00	9,065.00	7,876.00	7,875.11	43.40	27.77	-71.79	3,149.79	5,818.21	5,781.31	5,718.50	62.81	92.042		
10,500.00	9,065.00	7,876.00	7,875.11	44.82	27.77	-71.79	3,149.79	5,818.21	5,703.45	5,639.91	63.55	89.752		
10,600.00	9,065.00	7,876.00	7,875.11	46.29	27.77	-71.79	3,149.79	5,818.21	5,626.30	5,561.95	64.35	87.437		
10,700.00	9,065.00	7,876.00	7,875.11	47.79	27.77	-71.79	3,149.79	5,818.21	5,549.87	5,484.65	65.21	85.104		
10,800.00	9,065.00	7,876.00	7,875.11	49.34	27.77	-71.79	3,149.79	5,818.21	5,474.20	5,408.05	66.14	82.761		
10,900.00	9,065.00	7,876.00	7,875.11	50.92	27.77	-71.79	3,149.79	5,818.21	5,399.32	5,332.18	67.14	80.414		
11,000.00	9,065.00	7,876.00	7,875.11	52.54	27.77	-71.79	3,149.79	5,818.21	5,325.27	5,257.06	68.21	78.072		
11,100.00	9,065.00	7,876.00	7,875.11	54.18	27.77	-71.79	3,149.79	5,818.21	5,252.07	5,182.73	69.34	75.740		
11,200.00	9,065.00	7,876.00	7,875.11	55.85	27.77	-71.79	3,149.79	5,818.21	5,179.78	5,109.23	70.55	73.425		
11,300.00	9,065.00	7,876.00	7,875.11	57.54	27.77	-71.79	3,149.79	5,818.21	5,108.42	5,036.60	71.81	71.134		
11,400.00	9,065.00	7,876.00	7,875.11	59.26	27.77	-71.79	3,149.79	5,818.21	5,038.03	4,964.88	73.15	68.871		
11,500.00	9,065.00	7,876.00	7,875.11	61.00	27.77	-71.79	3,149.79	5,818.21	4,968.66	4,894.10	74.56	66.644		
11,600.00	9,065.00	7,876.00	7,875.11	62.75	27.77	-71.79	3,149.79	5,818.21	4,900.34	4,824.32	76.03	64.456		
11,700.00	9,065.00	7,876.00	7,875.11	64.52	27.77	-71.79	3,149.79	5,818.21	4,833.13	4,755.57	77.56	62.311		
11,800.00	9,065.00	7,876.00	7,875.11	66.31	27.77	-71.79	3,149.79	5,818.21	4,767.07	4,687.91	79.17	60.215		
11,900.00	9,065.00	7,876.00	7,875.11	68.11	27.77	-71.79	3,149.79	5,818.21	4,702.21	4,621.38	80.84	58.170		
12,000.00	9,065.00	7,876.00	7,875.11	69.93	27.77	-71.79	3,149.79	5,818.21	4,638.60	4,556.03	82.57	56.179		
12,100.00	9,065.00	7,876.00	7,875.11	71.76	27.77	-71.79	3,149.79	5,818.21	4,576.29	4,491.93	84.36	54.244		
12,200.00	9,065.00	7,876.00	7,875.11	73.60	27.77	-71.79	3,149.79	5,818.21	4,515.34	4,429.12	86.22	52.369		
12,300.00	9,065.00	7,876.00	7,875.11	75.45	27.77	-71.79	3,149.79	5,818.21	4,455.79	4,367.65	88.14	50.554		
12,400.00	9,065.00	7,876.00	7,875.11	77.31	27.77	-71.79	3,149.79	5,818.21	4,397.72	4,307.60	90.11	48.801		
12,500.00	9,065.00	7,876.00	7,875.11	79.18	27.77	-71.79	3,149.79	5,818.21	4,341.17	4,249.02	92.15	47.112		
12,600.00	9,065.00	7,876.00	7,875.11	81.05	27.77	-71.79	3,149.79	5,818.21	4,286.20	4,191.97	94.23	45.486		
12,700.00	9,065.00	7,876.00	7,875.11	82.94	27.77	-71.79	3,149.79	5,818.21	4,232.89	4,136.52	96.37	43.924		
12,800.00	9,065.00	7,876.00	7,875.11	84.83	27.77	-71.79	3,149.79	5,818.21	4,181.29	4,082.73	98.55	42.426		
12,900.00	9,065.00	7,876.00	7,875.11	86.73	27.77	-71.79	3,149.79	5,818.21	4,131.46	4,030.68	100.79	40.993		
13,000.00	9,065.00	7,876.00	7,875.11	88.64	27.77	-71.79	3,149.79	5,818.21	4,083.48	3,980.42	103.06	39.623		
13,100.00	9,065.00	7,876.00	7,875.11	90.55	27.77	-71.79	3,149.79	5,818.21	4,037.40	3,932.03	105.37	38.318		
13,200.00	9,065.00	7,876.00	7,875.11	92.47	27.77	-71.79	3,149.79	5,818.21	3,993.30	3,885.59	107.71	37.075		
13,300.00	9,065.00	7,876.00	7,875.11	94.39	27.77	-71.79	3,149.79	5,818.21	3,951.23	3,841.15	110.08	35.894		
13,400.00	9,065.00	7,876.00	7,875.11	96.32	27.77	-71.79	3,149.79	5,818.21	3,911.27	3,798.80	112.48	34.775		
13,500.00	9,065.00	7,876.00	7,875.11	98.25	27.77	-71.79	3,149.79	5,818.21	3,873.48	3,758.60	114.89	33.716		
13,600.00	9,065.00	7,876.00	7,875.11	100.19	27.77	-71.79	3,149.79	5,818.21	3,837.93	3,720.62	117.31	32.716		
13,700.00	9,065.00	7,876.00	7,875.11	102.13	27.77	-71.79	3,149.79	5,818.21	3,804.67	3,684.93	119.74	31.774		
13,800.00	9,065.00	7,876.00	7,875.11	104.08	27.77	-71.79	3,149.79	5,818.21	3,773.77	3,651.60	122.17	30.890		
13,900.00	9,065.00	7,876.00	7,875.11	106.03	27.77	-71.79	3,149.79	5,818.21	3,745.28	3,620.69	124.59	30.061		
14,000.00	9,065.00	7,876.00	7,875.11	107.98	27.77	-71.79	3,149.79	5,818.21	3,719.27	3,592.27	126.99	29.287		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Survey Program: 18-GYRO-NS-CT													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
14,100.00	9,065.00	7,876.00	7,875.11	109.94	27.77	-71.79	3,149.79	5,818.21	3,695.78	3,566.40	129.38	28.566		
14,200.00	9,065.00	7,876.00	7,875.11	111.90	27.77	-71.79	3,149.79	5,818.21	3,674.86	3,543.13	131.73	27.896		
14,300.00	9,065.00	7,876.00	7,875.11	113.86	27.77	-71.79	3,149.79	5,818.21	3,656.56	3,522.50	134.05	27.277		
14,400.00	9,065.00	7,876.00	7,875.11	115.82	27.77	-71.79	3,149.79	5,818.21	3,640.91	3,504.58	136.33	26.707		
14,500.00	9,065.00	7,876.00	7,875.11	117.79	27.77	-71.79	3,149.79	5,818.21	3,627.95	3,489.40	138.55	26.185		
14,600.00	9,065.00	7,876.00	7,875.11	119.76	27.77	-71.79	3,149.79	5,818.21	3,617.71	3,477.00	140.72	25.709		
14,700.00	9,065.00	7,876.00	7,875.11	121.74	27.77	-71.79	3,149.79	5,818.21	3,610.22	3,467.40	142.82	25.278		
14,800.00	9,065.00	7,876.00	7,875.11	123.71	27.77	-71.79	3,149.79	5,818.21	3,605.48	3,460.63	144.85	24.891		
14,900.00	9,065.00	7,876.00	7,875.11	125.69	27.77	-71.79	3,149.79	5,818.21	3,603.51	3,456.71	146.80	24.546		
14,920.92	9,065.00	7,876.00	7,875.11	126.10	27.77	-71.79	3,149.79	5,818.21	3,603.45	3,456.25	147.20	24.479 CC		
15,000.00	9,065.00	7,876.00	7,875.11	127.67	27.77	-71.79	3,149.79	5,818.21	3,604.32	3,455.64	148.68	24.242 ES		
15,100.00	9,065.00	7,876.00	7,875.11	129.65	27.77	-71.79	3,149.79	5,818.21	3,607.90	3,457.43	150.47	23.978		
15,200.00	9,065.00	7,876.00	7,875.11	131.63	27.77	-71.79	3,149.79	5,818.21	3,614.24	3,462.08	152.17	23.752		
15,300.00	9,065.00	7,876.00	7,875.11	133.62	27.77	-71.79	3,149.79	5,818.21	3,623.34	3,469.56	153.77	23.563		
15,400.00	9,065.00	7,876.00	7,875.11	135.61	27.77	-71.79	3,149.79	5,818.21	3,635.16	3,479.88	155.28	23.410		
15,500.00	9,065.00	7,876.00	7,875.11	137.60	27.77	-71.79	3,149.79	5,818.21	3,649.68	3,492.99	156.70	23.291		
15,600.00	9,065.00	7,876.00	7,875.11	139.59	27.77	-71.79	3,149.79	5,818.21	3,666.88	3,508.87	158.01	23.206		
15,700.00	9,065.00	7,876.00	7,875.11	141.58	27.77	-71.79	3,149.79	5,818.21	3,686.71	3,527.48	159.23	23.154		
15,800.00	9,065.00	7,876.00	7,875.11	143.57	27.77	-71.79	3,149.79	5,818.21	3,709.13	3,548.78	160.35	23.132 SF		
15,900.00	9,065.00	7,876.00	7,875.11	145.57	27.77	-71.79	3,149.79	5,818.21	3,734.09	3,572.73	161.37	23.141		
16,000.00	9,065.00	7,876.00	7,875.11	147.56	27.77	-71.79	3,149.79	5,818.21	3,761.55	3,599.26	162.29	23.178		
16,100.00	9,065.00	7,876.00	7,875.11	149.56	27.77	-71.79	3,149.79	5,818.21	3,791.45	3,628.33	163.12	23.243		
16,200.00	9,065.00	7,876.00	7,875.11	151.56	27.77	-71.79	3,149.79	5,818.21	3,823.73	3,659.87	163.86	23.335		
16,300.00	9,065.00	7,876.00	7,875.11	153.56	27.77	-71.79	3,149.79	5,818.21	3,858.33	3,693.82	164.51	23.454		
16,400.00	9,065.00	7,876.00	7,875.11	155.56	27.77	-71.79	3,149.79	5,818.21	3,895.20	3,730.12	165.07	23.597		
16,500.00	9,065.00	7,876.00	7,875.11	157.57	27.77	-71.79	3,149.79	5,818.21	3,934.25	3,768.70	165.56	23.764		
16,600.00	9,065.00	7,876.00	7,875.11	159.57	27.77	-71.79	3,149.79	5,818.21	3,975.45	3,809.49	165.96	23.954		
16,700.00	9,065.00	7,876.00	7,875.11	161.57	27.77	-71.79	3,149.79	5,818.21	4,018.71	3,852.42	166.29	24.167		
16,800.00	9,065.00	7,876.00	7,875.11	163.58	27.77	-71.79	3,149.79	5,818.21	4,063.96	3,897.42	166.55	24.401		
16,900.00	9,065.00	7,876.00	7,875.11	165.59	27.77	-71.79	3,149.79	5,818.21	4,111.16	3,944.42	166.74	24.656		
17,000.00	9,065.00	7,876.00	7,875.11	167.60	27.77	-71.79	3,149.79	5,818.21	4,160.22	3,993.35	166.87	24.931		
17,100.00	9,065.00	7,876.00	7,875.11	169.60	27.77	-71.79	3,149.79	5,818.21	4,211.09	4,044.15	166.94	25.225		
17,200.00	9,065.00	7,876.00	7,875.11	171.61	27.77	-71.79	3,149.79	5,818.21	4,263.69	4,096.74	166.96	25.538		
17,300.00	9,065.00	7,876.00	7,875.11	173.62	27.77	-71.79	3,149.79	5,818.21	4,317.97	4,151.05	166.92	25.868		
17,400.00	9,065.00	7,876.00	7,875.11	175.63	27.77	-71.79	3,149.79	5,818.21	4,373.87	4,207.02	166.84	26.215		
17,500.00	9,065.00	7,876.00	7,875.11	177.65	27.77	-71.79	3,149.79	5,818.21	4,431.31	4,264.59	166.72	26.579		
17,600.00	9,065.00	7,876.00	7,875.11	179.66	27.77	-71.79	3,149.79	5,818.21	4,490.25	4,323.69	166.56	26.959		
17,700.00	9,065.00	7,876.00	7,875.11	181.67	27.77	-71.79	3,149.79	5,818.21	4,550.62	4,384.26	166.36	27.354		
17,800.00	9,065.00	7,876.00	7,875.11	183.69	27.77	-71.79	3,149.79	5,818.21	4,612.37	4,446.24	166.13	27.764		
17,900.00	9,065.00	7,876.00	7,875.11	185.70	27.77	-71.79	3,149.79	5,818.21	4,675.45	4,509.58	165.87	28.188		
18,000.00	9,065.00	7,876.00	7,875.11	187.72	27.77	-71.79	3,149.79	5,818.21	4,739.79	4,574.21	165.58	28.625		
18,100.00	9,065.00	7,876.00	7,875.11	189.73	27.77	-71.79	3,149.79	5,818.21	4,805.35	4,640.08	165.27	29.076		
18,200.00	9,065.00	7,876.00	7,875.11	191.75	27.77	-71.79	3,149.79	5,818.21	4,872.09	4,707.15	164.94	29.539		
18,300.00	9,065.00	7,876.00	7,875.11	193.77	27.77	-71.79	3,149.79	5,818.21	4,939.94	4,775.36	164.58	30.015		
18,400.00	9,065.00	7,876.00	7,875.11	195.78	27.77	-71.79	3,149.79	5,818.21	5,008.88	4,844.66	164.21	30.502		
18,500.00	9,065.00	7,876.00	7,875.11	197.80	27.77	-71.79	3,149.79	5,818.21	5,078.85	4,915.02	163.83	31.001		
18,600.00	9,065.00	7,876.00	7,875.11	199.82	27.77	-71.79	3,149.79	5,818.21	5,149.81	4,986.37	163.43	31.510		
18,700.00	9,065.00	7,876.00	7,875.11	201.84	27.77	-71.79	3,149.79	5,818.21	5,221.72	5,058.69	163.02	32.030		
18,800.00	9,065.00	7,876.00	7,875.11	203.86	27.77	-71.79	3,149.79	5,818.21	5,294.54	5,131.93	162.61	32.560		
18,900.00	9,065.00	7,876.00	7,875.11	205.88	27.77	-71.79	3,149.79	5,818.21	5,368.24	5,206.05	162.18	33.100		
19,000.00	9,065.00	7,876.00	7,875.11	207.90	27.77	-71.79	3,149.79	5,818.21	5,442.77	5,281.02	161.75	33.650		
19,100.00	9,065.00	7,876.00	7,875.11	209.92	27.77	-71.79	3,149.79	5,818.21	5,518.11	5,356.80	161.31	34.208		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Sec 13-T21S-R27E - Lone Tree Draw 13 State Com 4H - Pilot - Pilot		Offset Site Error:		5.00 ft	
Survey Program:													18-GYRO-NS-CT		Offset Well Error:		0.50 ft	
Reference		Offset		Semi Major Axis			Distance							Warning				
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor						
19,200.00	9,065.00	7,876.00	7,875.11	211.95	27.77	-71.79	3,149.79	5,818.21	5,594.23	5,433.36	160.87	34.775						
19,300.00	9,065.00	7,876.00	7,875.11	213.97	27.77	-71.79	3,149.79	5,818.21	5,671.09	5,510.66	160.42	35.351						
19,400.00	9,065.00	7,876.00	7,875.11	215.99	27.77	-71.79	3,149.79	5,818.21	5,748.65	5,588.68	159.98	35.935						
19,456.84	9,065.00	7,876.00	7,875.11	217.14	27.77	-71.79	3,149.79	5,818.21	5,793.05	5,633.33	159.72	36.270						

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Survey Program: 18-GYRO-NS-CT, 4369-MWD+HDGM													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)						
0.00	0.00	0.00	0.00	0.50	5.02	61.36	3,158.45	5,782.98	6,589.59					
100.00	100.00	9.85	9.85	0.52	5.02	61.36	3,158.46	5,782.99	6,589.36	6,583.81	5.54	1,188.828		
200.00	200.00	84.17	84.17	0.70	5.03	61.36	3,158.86	5,783.40	6,590.05	6,584.32	5.73	1,150.464		
300.00	300.00	190.22	190.21	0.99	5.04	61.36	3,159.06	5,784.22	6,590.82	6,584.79	6.03	1,093.001		
400.00	400.00	289.89	289.88	1.31	5.08	61.36	3,158.97	5,785.05	6,591.51	6,585.12	6.39	1,031.055		
500.00	500.00	387.78	387.76	1.65	5.15	61.37	3,158.98	5,785.84	6,592.23	6,585.43	6.79	970.412		
600.00	600.00	492.73	492.72	1.99	5.24	61.37	3,158.96	5,786.69	6,592.93	6,585.70	7.23	911.917		
700.00	700.00	597.10	597.08	2.34	5.35	61.37	3,158.76	5,787.52	6,593.53	6,585.84	7.69	857.035		
800.00	800.00	743.25	743.23	2.69	5.55	61.37	3,159.48	5,787.92	6,594.12	6,585.88	8.24	800.088		
900.00	900.00	884.50	884.48	3.04	5.78	61.37	3,159.32	5,786.96	6,593.37	6,584.55	8.82	747.536		
1,000.00	1,000.00	953.30	953.27	3.40	5.90	61.37	3,158.68	5,787.05	6,592.98	6,583.69	9.30	709.201		
1,017.17	1,017.17	953.30	953.27	3.46	5.90	61.37	3,158.68	5,787.05	6,592.96	6,583.60	9.36	704.581		
1,100.00	1,100.00	1,030.43	1,030.39	3.75	6.04	61.38	3,157.98	5,787.49	6,593.02	6,583.22	9.80	672.961		
1,200.00	1,200.00	1,131.02	1,130.98	4.11	6.25	61.39	3,157.44	5,787.88	6,593.10	6,582.75	10.35	636.725		
1,300.00	1,300.00	1,226.36	1,226.32	4.46	6.45	61.39	3,157.17	5,788.14	6,593.21	6,582.30	10.91	604.102		
1,400.00	1,400.00	1,322.59	1,322.55	4.82	6.67	61.39	3,156.98	5,788.44	6,593.39	6,581.90	11.49	574.017		
1,500.00	1,500.00	1,421.70	1,421.66	5.18	6.90	61.40	3,156.76	5,788.81	6,593.60	6,581.53	12.08	546.026		
1,600.00	1,600.00	1,528.46	1,528.42	5.53	7.16	61.40	3,156.30	5,789.27	6,593.78	6,581.09	12.69	519.470		
1,700.00	1,700.00	1,646.93	1,646.89	5.89	7.46	61.41	3,155.65	5,789.58	6,593.75	6,580.40	13.35	493.895		
1,800.00	1,800.00	1,762.85	1,762.80	6.25	7.77	61.41	3,155.06	5,789.54	6,593.47	6,579.46	14.01	470.599		
1,900.00	1,900.00	1,862.52	1,862.47	6.61	8.03	61.41	3,154.82	5,789.17	6,593.03	6,578.39	14.64	450.474		
2,000.00	2,000.00	1,962.60	1,962.55	6.96	8.31	61.41	3,154.87	5,788.70	6,592.65	6,577.38	15.27	431.793		
2,100.00	2,100.00	2,067.36	2,067.31	7.32	8.60	61.41	3,154.97	5,788.13	6,592.21	6,576.29	15.92	414.103		
2,200.00	2,200.00	2,173.74	2,173.69	7.68	8.91	61.40	3,155.10	5,787.43	6,591.69	6,575.11	16.58	397.554		
2,300.00	2,300.00	2,274.12	2,274.06	8.04	9.20	61.40	3,155.31	5,786.65	6,591.11	6,573.88	17.23	382.542		
2,400.00	2,400.00	2,367.14	2,367.08	8.39	9.47	61.39	3,155.56	5,785.95	6,590.58	6,572.72	17.86	368.987		
2,500.00	2,500.00	2,457.27	2,457.21	8.75	9.74	61.39	3,155.86	5,785.40	6,590.20	6,571.71	18.49	356.467		
2,522.73	2,522.73	2,482.13	2,482.07	8.83	9.81	-152.69	3,155.94	5,785.26	6,590.16	6,571.52	18.64	353.559		
2,600.00	2,599.99	2,565.02	2,564.96	9.09	10.06	-152.70	3,156.09	5,784.80	6,590.59	6,571.43	19.15	344.106		
2,700.00	2,699.96	2,730.00	4,982.67	9.42	48.56	-126.59	203.09	6,146.58	6,584.33	6,529.52	54.82	120.119		
2,800.00	2,799.86	7,730.00	4,982.67	9.75	48.56	-126.87	203.09	6,146.58	6,551.80	6,496.45	55.35	118.365		
2,900.00	2,899.68	7,730.00	4,982.67	10.08	48.56	-127.12	203.09	6,146.58	6,521.64	6,465.75	55.89	116.686		
2,945.33	2,944.88	7,730.00	4,982.67	10.23	48.56	-127.23	203.09	6,146.58	6,508.76	6,452.63	56.13	115.950		
3,000.00	2,999.39	7,730.00	4,982.67	10.41	48.56	-127.23	203.09	6,146.58	6,493.74	6,437.31	56.43	115.079		
3,100.00	3,099.08	7,730.00	4,982.67	10.75	48.56	-127.23	203.09	6,146.58	6,467.37	6,410.41	56.97	113.531		
3,200.00	3,198.78	7,730.00	4,982.67	11.08	48.56	-127.23	203.09	6,146.58	6,442.45	6,384.95	57.50	112.045		
3,300.00	3,298.48	7,730.00	4,982.67	11.42	48.56	-127.23	203.09	6,146.58	6,418.99	6,360.96	58.03	110.618		
3,400.00	3,398.18	7,730.00	4,982.67	11.76	48.56	-127.23	203.09	6,146.58	6,397.00	6,338.45	58.55	109.253		
3,500.00	3,497.88	7,730.00	4,982.67	12.10	48.56	-127.23	203.09	6,146.58	6,376.51	6,317.44	59.07	107.946		
3,600.00	3,597.58	7,761.15	4,983.35	12.45	49.00	-126.94	171.96	6,147.41	6,357.29	6,297.30	59.99	105.974		
3,700.00	3,697.27	7,763.88	4,983.41	12.79	49.04	-126.92	169.24	6,147.49	6,339.78	6,279.25	60.53	104.736		
3,800.00	3,796.97	7,766.58	4,983.46	13.14	49.07	-126.89	166.54	6,147.58	6,323.80	6,262.73	61.07	103.557		
3,900.00	3,896.67	7,769.26	4,983.51	13.48	49.11	-126.87	163.86	6,147.68	6,309.36	6,247.77	61.59	102.437		
4,000.00	3,996.37	7,771.92	4,983.57	13.83	49.15	-126.84	161.20	6,147.77	6,296.47	6,234.36	62.11	101.377		
4,100.00	4,096.07	7,774.56	4,983.62	14.18	49.18	-126.82	158.56	6,147.87	6,285.15	6,222.53	62.62	100.373		
4,200.00	4,195.76	7,777.18	4,983.66	14.53	49.22	-126.80	155.95	6,147.97	6,275.39	6,212.27	63.12	99.427		
4,300.00	4,295.46	7,779.77	4,983.71	14.88	49.26	-126.77	153.35	6,148.07	6,267.21	6,203.61	63.60	98.536		
4,400.00	4,395.16	7,782.35	4,983.76	15.23	49.29	-126.75	150.78	6,148.17	6,260.62	6,196.54	64.08	97.700		
4,500.00	4,494.86	7,784.90	4,983.80	15.58	49.33	-126.73	148.23	6,148.27	6,255.61	6,191.06	64.54	96.919		
4,600.00	4,594.56	7,787.43	4,983.85	15.93	49.36	-126.70	145.70	6,148.37	6,252.19	6,187.20	65.00	96.190		
4,700.00	4,694.25	7,789.94	4,983.89	16.29	49.40	-126.68	143.19	6,148.48	6,250.37	6,184.94	65.44	95.514		
4,763.97	4,758.03	7,791.54	4,983.92	16.51	49.42	-126.67	141.60	6,148.55	6,250.05	6,184.33	65.71	95.109		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Sec 13-T21S-R27E - Lone Tree Draw 13 State Com 4H - Wellbore #2 - Wellbore #2													Offset Well Error:	0.50 ft
Survey Program: 18-GYRO-NS-CT, 4369-MWD+HDGM														
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
4,800.00	4,793.95	7,792.44	4,983.93	16.64	49.43	-126.66	140.70	6,148.58	6,250.15	6,184.28	65.87	94.890		
4,900.00	4,893.65	7,794.91	4,983.97	17.00	49.47	-126.63	138.23	6,148.69	6,251.52	6,185.24	66.28	94.316		
5,000.00	4,993.35	7,825.00	4,984.42	17.35	49.88	-126.36	108.18	6,150.18	6,254.69	6,187.64	67.05	93.277		
5,100.00	5,093.05	7,825.00	4,984.42	17.71	49.88	-126.36	108.18	6,150.18	6,259.22	6,191.81	67.41	92.851		
5,200.00	5,192.75	7,825.00	4,984.42	18.06	49.88	-126.36	108.18	6,150.18	6,265.34	6,197.59	67.75	92.471		
5,300.00	5,292.44	7,825.00	4,984.42	18.42	49.88	-126.36	108.18	6,150.18	6,273.05	6,204.97	68.08	92.136		
5,400.00	5,392.14	7,825.00	4,984.42	18.77	49.88	-126.36	108.18	6,150.18	6,282.35	6,213.95	68.40	91.846		
5,500.00	5,491.84	7,825.00	4,984.42	19.13	49.88	-126.36	108.18	6,150.18	6,293.22	6,224.52	68.70	91.600		
5,600.00	5,591.54	8,393.00	4,988.07	19.49	57.65	-121.17	-459.14	6,151.26	6,305.55	6,229.25	76.30	82.643		
5,700.00	5,691.24	8,393.00	4,988.07	19.85	57.65	-121.17	-459.14	6,151.26	6,318.91	6,242.34	76.57	82.520		
5,800.00	5,790.93	8,424.58	4,987.95	20.20	58.07	-120.88	-490.67	6,149.60	6,333.57	6,256.35	77.22	82.018		
5,900.00	5,890.63	8,426.70	4,987.96	20.56	58.10	-120.86	-492.79	6,149.50	6,349.99	6,272.50	77.49	81.942		
6,000.00	5,990.33	8,428.86	4,987.96	20.92	58.13	-120.84	-494.95	6,149.40	6,367.94	6,290.19	77.75	81.902		
6,100.00	6,090.03	8,431.07	4,987.97	21.28	58.16	-120.82	-497.15	6,149.31	6,387.40	6,309.40	77.99	81.895		
6,200.00	6,189.73	8,433.31	4,987.98	21.64	58.19	-120.80	-499.39	6,149.21	6,408.35	6,330.13	78.22	81.923		
6,300.00	6,289.42	8,435.60	4,987.99	22.00	58.22	-120.78	-501.68	6,149.11	6,430.80	6,352.36	78.44	81.983		
6,400.00	6,389.12	8,437.93	4,988.00	22.36	58.25	-120.76	-504.01	6,149.01	6,454.71	6,376.06	78.64	82.076		
6,500.00	6,488.82	8,440.30	4,988.01	22.72	58.28	-120.74	-506.38	6,148.92	6,480.07	6,401.24	78.83	82.200		
6,600.00	6,588.52	8,442.72	4,988.03	23.08	58.31	-120.72	-508.80	6,148.82	6,506.87	6,427.86	79.01	82.355		
6,700.00	6,688.22	8,445.19	4,988.05	23.44	58.34	-120.70	-511.26	6,148.72	6,535.09	6,455.91	79.18	82.539		
6,800.00	6,787.91	8,447.71	4,988.07	23.80	58.38	-120.67	-513.78	6,148.63	6,564.70	6,485.38	79.33	82.753		
6,900.00	6,887.61	8,450.28	4,988.09	24.16	58.41	-120.65	-516.35	6,148.53	6,595.70	6,516.23	79.47	82.996		
7,000.00	6,987.31	8,452.90	4,988.11	24.52	58.45	-120.63	-518.96	6,148.44	6,628.06	6,548.46	79.60	83.266		
7,100.00	7,087.01	8,455.57	4,988.14	24.88	58.48	-120.60	-521.64	6,148.35	6,661.76	6,582.04	79.72	83.563		
7,200.00	7,186.71	8,458.30	4,988.17	25.24	58.52	-120.58	-524.36	6,148.25	6,696.78	6,616.95	79.83	83.886		
7,300.00	7,286.41	8,488.00	4,988.65	25.60	58.92	-120.30	-554.05	6,147.44	6,733.25	6,652.99	80.26	83.896		
7,400.00	7,386.10	8,488.00	4,988.65	25.96	58.92	-120.30	-554.05	6,147.44	6,770.81	6,690.50	80.31	84.305		
7,500.00	7,485.80	8,488.00	4,988.65	26.33	58.92	-120.30	-554.05	6,147.44	6,809.64	6,729.28	80.36	84.738		
7,600.00	7,585.50	8,488.00	4,988.65	26.69	58.92	-120.30	-554.05	6,147.44	6,849.71	6,769.31	80.40	85.196		
7,700.00	7,685.20	8,488.00	4,988.65	27.05	58.92	-120.30	-554.05	6,147.44	6,891.00	6,810.57	80.43	85.677		
7,800.00	7,784.90	8,488.00	4,988.65	27.41	58.92	-120.30	-554.05	6,147.44	6,933.48	6,853.03	80.45	86.181		
7,860.70	7,845.41	8,488.00	4,988.65	27.63	58.92	-120.30	-554.05	6,147.44	6,959.84	6,879.38	80.46	86.498		
7,900.00	7,884.61	8,488.00	4,988.65	27.77	58.92	-120.55	-554.05	6,147.44	6,977.04	6,896.58	80.47	86.707		
8,000.00	7,984.46	8,488.00	4,988.65	28.13	58.92	-121.18	-554.05	6,147.44	7,020.79	6,940.32	80.47	87.248		
8,100.00	8,084.42	8,488.00	4,988.65	28.49	58.92	-121.80	-554.05	6,147.44	7,064.47	6,984.01	80.46	87.801		
8,157.59	8,142.00	8,488.00	4,988.65	28.69	58.92	91.92	-554.05	6,147.44	7,089.58	7,009.14	80.44	88.130		
8,200.00	8,184.41	8,488.00	4,988.65	28.83	58.92	91.92	-554.05	6,147.44	7,108.17	7,027.74	80.43	88.378		
8,300.00	8,284.41	8,488.00	4,988.65	29.17	58.92	91.92	-554.05	6,147.44	7,152.79	7,072.40	80.39	88.976		
8,400.00	8,384.41	8,488.00	4,988.65	29.51	58.92	91.92	-554.05	6,147.44	7,198.53	7,118.18	80.35	89.594		
8,507.63	8,492.04	8,488.00	4,988.65	29.87	58.92	91.92	-554.05	6,147.44	7,248.97	7,168.68	80.29	90.280		
8,550.00	8,534.37	8,488.00	4,988.65	30.02	58.92	2.46	-554.05	6,147.44	7,267.78	7,187.51	80.27	90.545		
8,600.00	8,584.01	8,488.00	4,988.65	30.18	58.92	2.38	-554.05	6,147.44	7,286.57	7,206.34	80.22	90.828		
8,650.00	8,632.95	8,488.00	4,988.65	30.34	58.92	2.31	-554.05	6,147.44	7,301.55	7,221.38	80.17	91.074		
8,700.00	8,680.82	8,488.00	4,988.65	30.50	58.92	2.27	-554.05	6,147.44	7,312.66	7,232.55	80.11	91.283		
8,750.00	8,727.25	8,488.00	4,988.65	30.66	58.92	2.24	-554.05	6,147.44	7,319.80	7,239.77	80.04	91.454		
8,800.00	8,771.89	8,488.00	4,988.65	30.81	58.92	2.22	-554.05	6,147.44	7,322.96	7,243.00	79.96	91.588		
8,850.00	8,814.40	8,488.00	4,988.65	30.95	58.92	2.23	-554.05	6,147.44	7,322.09	7,242.23	79.86	91.684		
8,900.00	8,854.46	8,488.00	4,988.65	31.09	58.92	2.25	-554.05	6,147.44	7,317.22	7,237.46	79.76	91.742		
8,950.00	8,891.75	8,488.00	4,988.65	31.23	58.92	2.28	-554.05	6,147.44	7,308.36	7,228.71	79.65	91.761		
9,000.00	8,926.01	8,488.00	4,988.65	31.37	58.92	2.34	-554.05	6,147.44	7,295.57	7,216.05	79.52	91.742		
9,050.00	8,956.96	8,488.00	4,988.65	31.53	58.92	2.41	-554.05	6,147.44	7,278.94	7,199.54	79.39	91.682		
9,100.00	8,984.38	8,488.00	4,988.65	31.69	58.92	2.51	-554.05	6,147.44	7,258.55	7,179.29	79.26	91.583		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	5.00 ft
Sec 13-T21S-R27E - Lone Tree Draw 13 State Com 4H - Wellbore #2 - Wellbore #2												Offset Well Error:	0.50 ft
Survey Program: 18-GYRO-NS-CT, 4369-MWD+HDGM													
Reference		Offset		Semi Major Axis		Distance							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
9,150.00	9,008.05	8,488.00	4,988.65	31.87	58.92	2.63	-554.05	6,147.44	7,234.54	7,155.42	79.11	91.444	
9,200.00	9,027.79	8,488.00	4,988.65	32.07	58.92	2.78	-554.05	6,147.44	7,207.04	7,128.08	78.97	91.265	
9,250.00	9,043.45	8,488.00	4,988.65	32.29	58.92	2.98	-554.05	6,147.44	7,176.24	7,097.42	78.82	91.045	
9,300.00	9,054.92	8,488.00	4,988.65	32.53	58.92	3.23	-554.05	6,147.44	7,142.33	7,063.65	78.67	90.784	
9,350.00	9,062.10	8,488.00	4,988.65	32.79	58.92	3.55	-554.05	6,147.44	7,105.51	7,026.98	78.53	90.484	
9,400.00	9,064.95	8,488.00	4,988.65	33.06	58.92	3.98	-554.05	6,147.44	7,066.03	6,987.64	78.39	90.144	
9,407.63	9,065.00	8,488.00	4,988.65	33.10	58.92	4.05	-554.05	6,147.44	7,059.79	6,981.42	78.37	90.084	
9,500.00	9,065.00	8,488.00	4,988.65	33.68	58.92	4.05	-554.05	6,147.44	6,984.08	6,905.98	78.10	89.426	
9,600.00	9,065.00	8,488.00	4,988.65	34.41	58.92	4.05	-554.05	6,147.44	6,902.57	6,824.76	77.81	88.714	
9,700.00	9,065.00	8,488.00	4,988.65	35.24	58.92	4.05	-554.05	6,147.44	6,821.55	6,744.04	77.52	88.003	
9,800.00	9,065.00	8,488.00	4,988.65	36.17	58.92	4.05	-554.05	6,147.44	6,741.05	6,663.82	77.22	87.291	
9,900.00	9,065.00	8,488.00	4,988.65	37.19	58.92	4.05	-554.05	6,147.44	6,661.07	6,584.13	76.94	86.580	
10,000.00	9,065.00	8,471.38	4,988.35	38.30	58.70	3.82	-537.44	6,147.85	6,581.60	6,505.14	76.46	86.074	
10,100.00	9,065.00	8,469.14	4,988.32	39.48	58.67	3.78	-535.20	6,147.92	6,502.73	6,426.57	76.16	85.388	
10,200.00	9,065.00	8,466.80	4,988.28	40.72	58.63	3.75	-532.86	6,147.99	6,424.44	6,348.59	75.85	84.701	
10,300.00	9,065.00	8,464.35	4,988.25	42.03	58.60	3.72	-530.41	6,148.06	6,346.76	6,271.22	75.54	84.014	
10,400.00	9,065.00	8,461.79	4,988.22	43.40	58.57	3.68	-527.85	6,148.14	6,269.72	6,194.47	75.24	83.327	
10,500.00	9,065.00	8,459.10	4,988.18	44.82	58.53	3.64	-525.16	6,148.23	6,193.32	6,118.38	74.94	82.639	
10,600.00	9,065.00	8,456.27	4,988.15	46.29	58.49	3.60	-522.34	6,148.32	6,117.61	6,042.96	74.65	81.949	
10,700.00	9,065.00	8,453.30	4,988.12	47.79	58.45	3.56	-519.37	6,148.43	6,042.60	5,968.24	74.36	81.258	
10,800.00	9,065.00	8,450.18	4,988.09	49.34	58.41	3.51	-516.25	6,148.54	5,968.32	5,894.24	74.08	80.566	
10,900.00	9,065.00	8,446.89	4,988.06	50.92	58.37	3.47	-512.96	6,148.66	5,894.80	5,821.00	73.80	79.872	
11,000.00	9,065.00	8,443.42	4,988.03	52.54	58.32	3.42	-509.49	6,148.79	5,822.07	5,748.53	73.53	79.176	
11,100.00	9,065.00	8,439.75	4,988.01	54.18	58.27	3.37	-505.83	6,148.94	5,750.15	5,676.88	73.27	78.479	
11,200.00	9,065.00	8,435.86	4,987.99	55.85	58.22	3.31	-501.95	6,149.10	5,679.07	5,606.06	73.02	77.779	
11,300.00	9,065.00	8,431.75	4,987.97	57.54	58.16	3.25	-497.83	6,149.28	5,608.88	5,536.11	72.77	77.077	
11,400.00	9,065.00	8,427.37	4,987.96	59.26	58.11	3.19	-493.46	6,149.47	5,539.60	5,467.07	72.53	76.373	
11,500.00	9,065.00	8,422.72	4,987.95	61.00	58.04	3.12	-488.82	6,149.69	5,471.26	5,398.96	72.31	75.668	
11,600.00	9,065.00	8,417.76	4,987.95	62.75	57.98	3.05	-483.86	6,149.92	5,403.91	5,331.82	72.09	74.960	
11,700.00	9,065.00	8,412.46	4,987.96	64.52	57.91	2.98	-478.57	6,150.19	5,337.57	5,265.69	71.88	74.252	
11,800.00	9,065.00	8,406.79	4,987.98	66.31	57.83	2.90	-472.90	6,150.48	5,272.29	5,200.60	71.69	73.542	
11,900.00	9,065.00	8,401.70	4,987.99	68.11	57.76	2.83	-467.82	6,150.75	5,208.10	5,136.58	71.52	72.822	
12,000.00	9,065.00	8,394.25	4,988.06	69.93	57.66	2.72	-460.38	6,151.18	5,145.05	5,073.71	71.34	72.120	
12,100.00	9,065.00	8,386.80	4,988.12	71.76	57.56	2.61	-452.95	6,151.62	5,083.18	5,012.00	71.18	71.414	
12,200.00	9,065.00	8,379.35	4,988.18	73.60	57.47	2.51	-445.51	6,152.06	5,022.52	4,951.48	71.04	70.704	
12,300.00	9,065.00	8,371.91	4,988.25	75.45	57.37	2.40	-438.08	6,152.49	4,963.12	4,892.21	70.91	69.989	
12,400.00	9,065.00	8,364.46	4,988.31	77.31	57.27	2.30	-430.64	6,152.93	4,905.04	4,834.23	70.81	69.272	
12,500.00	9,065.00	8,357.01	4,988.38	79.18	57.17	2.19	-423.21	6,153.37	4,848.31	4,777.59	70.72	68.552	
12,600.00	9,065.00	8,349.56	4,988.44	81.05	57.08	2.08	-415.77	6,153.80	4,792.99	4,722.33	70.66	67.831	
12,700.00	9,065.00	8,342.11	4,988.51	82.94	56.98	1.98	-408.34	6,154.24	4,739.12	4,668.50	70.62	67.108	
12,800.00	9,065.00	8,334.67	4,988.58	84.83	56.88	1.87	-400.90	6,154.68	4,686.75	4,616.15	70.60	66.386	
12,900.00	9,065.00	8,327.22	4,988.65	86.73	56.78	1.77	-393.47	6,155.11	4,635.94	4,565.34	70.60	65.664	
13,000.00	9,065.00	8,319.77	4,988.72	88.64	56.68	1.66	-386.04	6,155.55	4,586.73	4,516.10	70.63	64.944	
13,100.00	9,065.00	8,312.32	4,988.79	90.55	56.59	1.55	-378.60	6,155.98	4,539.18	4,468.51	70.67	64.227	
13,200.00	9,065.00	8,309.24	4,988.82	92.47	56.55	1.51	-375.53	6,156.15	4,493.34	4,422.55	70.79	63.476	
13,300.00	9,065.00	8,297.64	4,988.94	94.39	56.39	1.35	-363.94	6,156.85	4,449.27	4,378.43	70.85	62.803	
13,400.00	9,065.00	8,286.86	4,989.05	96.32	56.25	1.19	-353.18	6,157.47	4,407.01	4,336.08	70.94	62.127	
13,500.00	9,065.00	8,276.82	4,989.14	98.25	56.12	1.05	-343.16	6,158.02	4,366.62	4,295.56	71.06	61.449	
13,600.00	9,065.00	8,267.45	4,989.23	100.19	55.99	0.92	-333.80	6,158.51	4,328.15	4,256.93	71.22	60.773	
13,700.00	9,065.00	8,258.68	4,989.31	102.13	55.88	0.79	-325.04	6,158.96	4,291.65	4,220.24	71.41	60.099	
13,800.00	9,065.00	8,250.46	4,989.39	104.08	55.77	0.67	-316.83	6,159.36	4,257.17	4,185.54	71.63	59.430	
13,900.00	9,065.00	8,242.73	4,989.46	106.03	55.67	0.56	-309.11	6,159.72	4,224.77	4,152.88	71.89	58.765	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Sec 13-T21S-R27E - Lone Tree Draw 13 State Com 4H - Wellbore #2 - Wellbore #2													Offset Well Error:	0.50 ft
Survey Program: 18-GYRO-NS-CT, 4369-MWD+HDGM														
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
14,000.00	9,065.00	8,235.46	4,989.53	107.98	55.57	0.46	-301.85	6,160.05	4,194.49	4,122.31	72.19	58.108		
14,100.00	9,065.00	8,228.60	4,989.59	109.94	55.48	0.36	-295.00	6,160.35	4,166.39	4,093.88	72.51	57.457		
14,200.00	9,065.00	8,222.13	4,989.64	111.90	55.40	0.27	-288.53	6,160.62	4,140.50	4,067.62	72.88	56.816		
14,300.00	9,065.00	8,216.00	4,989.70	113.86	55.32	0.18	-282.41	6,160.87	4,116.87	4,043.59	73.28	56.183		
14,400.00	9,065.00	8,210.19	4,989.75	115.82	55.24	0.10	-276.61	6,161.10	4,095.54	4,021.82	73.71	55.560		
14,500.00	9,065.00	8,204.69	4,989.79	117.79	55.17	0.02	-271.11	6,161.31	4,076.54	4,002.35	74.19	54.948		
14,600.00	9,065.00	8,204.00	4,989.80	119.76	55.16	0.01	-270.42	6,161.34	4,059.91	3,985.17	74.74	54.321		
14,700.00	9,065.00	8,204.00	4,989.80	121.74	55.16	0.01	-270.42	6,161.34	4,045.69	3,970.36	75.33	53.704		
14,800.00	9,065.00	8,204.00	4,989.80	123.71	55.16	0.01	-270.42	6,161.34	4,033.90	3,957.94	75.96	53.102		
14,900.00	9,065.00	8,204.00	4,989.80	125.69	55.16	0.01	-270.42	6,161.34	4,024.56	3,947.92	76.63	52.517		
15,000.00	9,065.00	8,204.00	4,989.80	127.67	55.16	0.01	-270.42	6,161.34	4,017.68	3,940.34	77.34	51.947		
15,100.00	9,065.00	8,204.00	4,989.80	129.65	55.16	0.01	-270.42	6,161.34	4,013.29	3,935.21	78.09	51.395		
15,200.00	9,065.00	8,204.00	4,989.80	131.63	55.16	0.01	-270.42	6,161.34	4,011.39	3,932.52	78.87	50.861		
15,226.38	9,065.00	8,204.00	4,989.80	132.16	55.16	0.01	-270.42	6,161.34	4,011.30	3,932.22	79.08	50.724 CC, ES		
15,300.00	9,065.00	8,204.00	4,989.80	133.62	55.16	0.01	-270.42	6,161.34	4,011.98	3,932.29	79.69	50.347		
15,400.00	9,065.00	8,204.00	4,989.80	135.61	55.16	0.01	-270.42	6,161.34	4,015.06	3,934.52	80.54	49.854		
15,500.00	9,065.00	8,204.00	4,989.80	137.60	55.16	0.01	-270.42	6,161.34	4,020.62	3,939.21	81.42	49.384		
15,600.00	9,065.00	8,180.78	4,989.92	139.59	54.84	-0.32	-247.21	6,162.09	4,028.51	3,946.39	82.12	49.054		
15,700.00	9,065.00	8,179.10	4,989.92	141.58	54.82	-0.34	-245.53	6,162.13	4,038.99	3,955.95	83.04	48.640		
15,800.00	9,065.00	8,177.49	4,989.92	143.57	54.80	-0.37	-243.92	6,162.17	4,051.91	3,967.93	83.97	48.252		
15,900.00	9,065.00	8,175.93	4,989.92	145.57	54.78	-0.39	-242.36	6,162.21	4,067.24	3,982.31	84.92	47.893		
16,000.00	9,065.00	8,174.43	4,989.93	147.56	54.76	-0.41	-240.86	6,162.25	4,084.96	3,999.08	85.89	47.563		
16,100.00	9,065.00	8,172.97	4,989.93	149.56	54.74	-0.43	-239.41	6,162.29	4,105.04	4,018.19	86.86	47.263		
16,200.00	9,065.00	8,171.57	4,989.93	151.56	54.72	-0.45	-238.00	6,162.32	4,127.45	4,039.62	87.83	46.995		
16,300.00	9,065.00	8,170.21	4,989.92	153.56	54.70	-0.47	-236.65	6,162.35	4,152.14	4,063.34	88.80	46.759		
16,400.00	9,065.00	8,168.90	4,989.92	155.56	54.68	-0.49	-235.33	6,162.38	4,179.08	4,089.32	89.77	46.555		
16,500.00	9,065.00	8,167.63	4,989.92	157.57	54.67	-0.51	-234.06	6,162.41	4,208.23	4,117.50	90.73	46.384		
16,600.00	9,065.00	8,166.39	4,989.92	159.57	54.65	-0.53	-232.83	6,162.44	4,239.53	4,147.85	91.67	46.247		
16,700.00	9,065.00	8,165.20	4,989.92	161.57	54.63	-0.54	-231.63	6,162.46	4,272.94	4,180.33	92.60	46.142		
16,800.00	9,065.00	8,164.04	4,989.91	163.58	54.62	-0.56	-230.48	6,162.49	4,308.41	4,214.89	93.52	46.070		
16,900.00	9,065.00	8,162.92	4,989.91	165.59	54.60	-0.58	-229.35	6,162.51	4,345.90	4,251.48	94.41	46.030		
17,000.00	9,065.00	8,161.83	4,989.91	167.60	54.59	-0.59	-228.26	6,162.53	4,385.34	4,290.05	95.29	46.023 SF		
17,100.00	9,065.00	8,160.77	4,989.90	169.60	54.57	-0.61	-227.20	6,162.55	4,426.69	4,330.56	96.14	46.046		
17,200.00	9,065.00	8,159.74	4,989.90	171.61	54.56	-0.62	-226.18	6,162.57	4,469.90	4,372.94	96.96	46.100		
17,300.00	9,065.00	8,158.74	4,989.90	173.62	54.55	-0.64	-225.18	6,162.59	4,514.90	4,417.14	97.76	46.184		
17,400.00	9,065.00	8,157.77	4,989.89	175.63	54.53	-0.65	-224.21	6,162.61	4,561.66	4,463.13	98.53	46.297		
17,500.00	9,065.00	8,156.82	4,989.89	177.65	54.52	-0.66	-223.26	6,162.62	4,610.11	4,510.83	99.28	46.437		
17,600.00	9,065.00	8,155.91	4,989.88	179.66	54.51	-0.68	-222.34	6,162.64	4,660.20	4,560.21	99.99	46.605		
17,700.00	9,065.00	8,155.01	4,989.88	181.67	54.50	-0.69	-221.45	6,162.65	4,711.88	4,611.20	100.68	46.799		
17,800.00	9,065.00	8,154.14	4,989.87	183.69	54.48	-0.70	-220.58	6,162.67	4,765.10	4,663.75	101.34	47.019		
17,900.00	9,065.00	8,153.29	4,989.87	185.70	54.47	-0.71	-219.73	6,162.68	4,819.80	4,717.82	101.98	47.262		
18,000.00	9,065.00	8,152.47	4,989.87	187.72	54.46	-0.72	-218.90	6,162.70	4,875.94	4,773.36	102.59	47.529		
18,100.00	9,065.00	8,151.66	4,989.86	189.73	54.45	-0.74	-218.10	6,162.71	4,933.47	4,830.30	103.17	47.819		
18,200.00	9,065.00	8,150.87	4,989.86	191.75	54.44	-0.75	-217.31	6,162.72	4,992.34	4,888.62	103.73	48.130		
18,300.00	9,065.00	8,150.11	4,989.85	193.77	54.43	-0.76	-216.55	6,162.73	5,052.51	4,948.25	104.26	48.462		
18,400.00	9,065.00	8,149.36	4,989.85	195.78	54.42	-0.77	-215.80	6,162.74	5,113.92	5,009.15	104.76	48.814		
18,500.00	9,065.00	8,148.63	4,989.84	197.80	54.41	-0.78	-215.07	6,162.75	5,176.53	5,071.29	105.25	49.185		
18,600.00	9,065.00	8,147.92	4,989.84	199.82	54.40	-0.79	-214.36	6,162.76	5,240.30	5,134.60	105.71	49.574		
18,700.00	9,065.00	8,147.23	4,989.83	201.84	54.39	-0.80	-213.66	6,162.77	5,305.20	5,199.05	106.14	49.981		
18,800.00	9,065.00	8,146.55	4,989.83	203.86	54.38	-0.81	-212.98	6,162.78	5,371.16	5,264.60	106.56	50.405		
18,900.00	9,065.00	8,145.88	4,989.82	205.88	54.37	-0.82	-212.32	6,162.79	5,438.17	5,331.22	106.96	50.844		
19,000.00	9,065.00	8,145.24	4,989.82	207.90	54.36	-0.83	-211.67	6,162.80	5,506.18	5,398.85	107.33	51.299		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design Sec 13-T21S-R27E - Lone Tree Draw 13 State Com 4H - Wellbore #2 - Wellbore #2													Offset Site Error: 5.00 ft	
Survey Program: 18-GYRO-NS-CT, 4369-MWD+HDGM													Offset Well Error: 0.50 ft	
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre	Between Centres	Between Ellipses	Minimum Separation	Separation Factor			
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)			
19,100.00	9,065.00	8,144.60	4,989.81	209.92	54.36	-0.84	-211.04	6,162.81	5,575.15	5,467.46	107.69	51.769		
19,200.00	9,065.00	8,143.98	4,989.81	211.95	54.35	-0.85	-210.42	6,162.81	5,645.05	5,537.02	108.03	52.253		
19,300.00	9,065.00	8,143.38	4,989.80	213.97	54.34	-0.85	-209.82	6,162.82	5,715.85	5,607.49	108.36	52.750		
19,400.00	9,065.00	8,142.78	4,989.80	215.99	54.33	-0.86	-209.22	6,162.83	5,787.50	5,678.84	108.67	53.260		
19,456.84	9,065.00	8,142.45	4,989.79	217.14	54.33	-0.87	-208.89	6,162.83	5,828.61	5,719.77	108.83	53.555		

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Survey Program: 233-GYRO-NS-CT, 4541-MWD+HDGM													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)						
0.00	0.00	0.00	0.00	0.50	5.02	66.72	3,319.90	7,715.44	8,399.74					
100.00	100.00	26.84	26.84	0.52	5.03	66.72	3,319.90	7,715.43	8,399.38	8,393.84	5.54	1,515.349		
200.00	200.00	143.02	143.02	0.70	5.03	66.72	3,320.12	7,715.15	8,399.24	8,393.51	5.73	1,465.338		
300.00	300.00	271.76	271.75	0.99	5.05	66.71	3,320.63	7,714.42	8,398.89	8,392.85	6.04	1,391.281		
400.00	400.00	382.31	382.30	1.31	5.10	66.71	3,320.49	7,713.59	8,398.13	8,391.72	6.41	1,309.951		
500.00	500.00	468.86	468.86	1.65	5.16	66.71	3,320.11	7,713.17	8,397.52	8,390.71	6.81	1,233.285		
600.00	600.00	570.61	570.60	1.99	5.26	66.71	3,319.62	7,712.81	8,397.00	8,389.75	7.25	1,158.717		
700.00	700.00	685.20	685.18	2.34	5.39	66.72	3,318.89	7,712.31	8,396.35	8,388.62	7.73	1,086.644		
800.00	800.00	783.63	783.61	2.69	5.52	66.72	3,318.07	7,711.88	8,395.61	8,387.40	8.21	1,022.373		
900.00	900.00	853.75	853.73	3.04	5.63	66.72	3,317.60	7,711.67	8,395.07	8,386.40	8.67	968.168		
1,000.00	1,000.00	964.90	964.87	3.40	5.81	66.73	3,317.07	7,711.45	8,394.71	8,385.50	9.21	911.414		
1,100.00	1,100.00	1,051.06	1,051.03	3.75	5.97	66.73	3,316.67	7,711.23	8,394.29	8,384.57	9.72	863.345		
1,200.00	1,200.00	1,174.71	1,174.68	4.11	6.22	66.72	3,316.69	7,710.46	8,393.71	8,383.38	10.32	813.113		
1,300.00	1,300.00	1,240.90	1,240.87	4.46	6.35	66.72	3,316.90	7,710.08	8,393.30	8,382.48	10.82	775.865		
1,400.00	1,400.00	1,332.76	1,332.73	4.82	6.55	66.72	3,317.20	7,709.79	8,393.14	8,381.76	11.38	737.825		
1,500.00	1,500.00	1,432.49	1,432.46	5.18	6.78	66.72	3,317.46	7,709.57	8,393.04	8,381.08	11.96	701.705		
1,600.00	1,600.00	1,576.73	1,576.69	5.53	7.13	66.71	3,318.06	7,708.71	8,392.65	8,379.98	12.67	662.602		
1,700.00	1,700.00	1,662.86	1,662.82	5.89	7.35	66.71	3,318.22	7,708.04	8,392.02	8,378.78	13.24	633.818		
1,800.00	1,800.00	1,742.58	1,742.54	6.25	7.56	66.71	3,318.06	7,707.83	8,391.70	8,377.89	13.80	607.932		
1,900.00	1,900.00	1,831.45	1,831.41	6.61	7.79	66.71	3,317.62	7,707.86	8,391.53	8,377.14	14.40	582.922		
1,987.41	1,987.41	1,910.54	1,910.50	6.92	8.00	66.71	3,317.21	7,708.00	8,391.49	8,376.57	14.92	562.397		
2,000.00	2,000.00	1,922.24	1,922.20	6.96	8.03	66.72	3,317.13	7,708.04	8,391.49	8,376.50	15.00	559.516		
2,100.00	2,100.00	7,758.00	4,988.81	7.32	46.55	87.37	359.76	7,837.12	8,387.21	8,335.97	51.24	163.670		
2,200.00	2,200.00	7,758.00	4,988.81	7.68	46.55	87.37	359.76	7,837.12	8,352.37	8,300.64	51.74	161.437		
2,300.00	2,300.00	7,758.00	4,988.81	8.04	46.55	87.37	359.76	7,837.12	8,318.59	8,266.36	52.23	159.268		
2,400.00	2,400.00	7,758.00	4,988.81	8.39	46.55	87.37	359.76	7,837.12	8,285.88	8,233.16	52.72	157.162		
2,500.00	2,500.00	7,758.00	4,988.81	8.75	46.55	87.37	359.76	7,837.12	8,254.26	8,201.04	53.21	155.118		
2,600.00	2,599.99	7,758.00	4,988.81	9.09	46.55	-126.96	359.76	7,837.12	8,224.22	8,170.53	53.69	153.191		
2,700.00	2,699.96	7,758.00	4,988.81	9.42	46.55	-127.19	359.76	7,837.12	8,196.30	8,142.16	54.14	151.380		
2,800.00	2,799.86	7,758.00	4,988.81	9.75	46.55	-127.40	359.76	7,837.12	8,170.53	8,115.93	54.60	149.637		
2,900.00	2,899.68	7,758.00	4,988.81	10.08	46.55	-127.59	359.76	7,837.12	8,146.94	8,091.88	55.06	147.963		
2,945.33	2,944.88	7,758.00	4,988.81	10.23	46.55	-127.68	359.76	7,837.12	8,136.97	8,081.70	55.27	147.228		
3,000.00	2,999.39	7,758.00	4,988.81	10.41	46.55	-127.68	359.76	7,837.12	8,125.40	8,069.88	55.52	146.354		
3,100.00	3,099.08	7,758.00	4,988.81	10.75	46.55	-127.68	359.76	7,837.12	8,105.13	8,049.16	55.98	144.796		
3,200.00	3,198.78	7,758.00	4,988.81	11.08	46.55	-127.68	359.76	7,837.12	8,086.06	8,029.63	56.43	143.289		
3,300.00	3,298.48	7,758.00	4,988.81	11.42	46.55	-127.68	359.76	7,837.12	8,068.18	8,011.29	56.88	141.833		
3,400.00	3,398.18	7,758.00	4,988.81	11.76	46.55	-127.68	359.76	7,837.12	8,051.50	7,994.16	57.34	140.429		
3,500.00	3,497.88	7,758.00	4,988.81	12.10	46.55	-127.68	359.76	7,837.12	8,036.03	7,978.25	57.78	139.075		
3,600.00	3,597.58	7,758.00	4,988.81	12.45	46.55	-127.68	359.76	7,837.12	8,021.77	7,963.55	58.22	137.772		
3,700.00	3,697.27	7,758.00	4,988.81	12.79	46.55	-127.68	359.76	7,837.12	8,008.75	7,950.08	58.66	136.519		
3,800.00	3,796.97	7,758.00	4,988.81	13.14	46.55	-127.68	359.76	7,837.12	7,996.95	7,937.85	59.10	135.315		
3,900.00	3,896.67	7,758.00	4,988.81	13.48	46.55	-127.68	359.76	7,837.12	7,986.38	7,926.85	59.53	134.161		
4,000.00	3,896.37	7,758.00	4,988.81	13.83	46.55	-127.68	359.76	7,837.12	7,977.06	7,917.10	59.95	133.055		
4,100.00	4,096.07	7,761.59	4,988.83	14.18	46.60	-127.65	356.17	7,837.32	7,968.97	7,908.55	60.42	131.887		
4,200.00	4,195.76	7,821.71	4,988.76	14.53	47.44	-127.22	296.14	7,840.50	7,962.11	7,900.43	61.68	129.090		
4,300.00	4,295.46	7,867.91	4,988.35	14.88	48.09	-126.88	250.00	7,842.71	7,956.47	7,893.73	62.73	126.827		
4,400.00	4,395.16	4,400.00	4,988.63	15.23	15.53	-127.24	299.24	7,840.25	7,952.00	7,931.93	20.07	396.183		
4,500.00	4,494.86	4,500.00	4,988.61	15.58	15.57	-127.20	293.36	7,840.55	7,948.88	7,928.30	20.58	386.273		
4,600.00	4,594.56	4,600.00	4,988.59	15.93	15.61	-127.15	287.47	7,840.86	7,947.01	7,925.77	21.24	374.125		
4,698.93	4,693.19	4,698.93	4,988.58	16.28	15.65	-127.11	281.65	7,841.16	7,946.40	7,924.18	22.21	357.729		
4,700.00	4,694.25	4,700.00	4,988.58	16.29	15.65	-127.11	281.59	7,841.16	7,946.40	7,924.17	22.23	357.537		
4,800.00	4,793.95	4,800.00	4,988.56	16.64	15.69	-127.07	275.70	7,841.46	7,947.04	7,923.60	23.44	339.000		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Sec 13-T21S-R27E - Lone Tree Draw 13 State Com 5H - Wellbore #1 - Wellbore #1													Offset Well Error:	0.50 ft
Survey Program: 233-GYRO-NS-CT, 4541-MWD+HDGM														
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
4,900.00	4,893.65	4,900.00	4,988.54	17.00	15.73	-127.03	269.82	7,841.77	7,948.93	7,924.12	24.82	320.313		
5,000.00	4,993.35	5,000.00	4,988.52	17.35	15.77	-126.98	263.93	7,842.07	7,952.08	7,925.79	26.29	302.456		
5,100.00	5,093.05	5,100.00	4,988.50	17.71	15.81	-126.94	258.05	7,842.38	7,956.48	7,928.64	27.83	285.851		
5,200.00	5,192.75	7,852.00	4,988.53	18.06	47.86	-127.00	265.89	7,841.97	7,962.14	7,896.25	65.88	120.852		
5,300.00	5,292.44	7,876.32	4,988.34	18.42	48.21	-126.82	241.60	7,843.16	7,968.96	7,902.40	66.56	119.718		
5,400.00	5,392.14	7,878.89	4,988.33	18.77	48.24	-126.81	239.03	7,843.30	7,977.10	7,910.17	66.93	119.187		
5,500.00	5,491.84	7,881.50	4,988.32	19.13	48.28	-126.79	236.42	7,843.43	7,986.48	7,919.19	67.29	118.693		
5,600.00	5,591.54	7,884.15	4,988.31	19.49	48.32	-126.77	233.77	7,843.57	7,997.09	7,929.46	67.64	118.236		
5,700.00	5,691.24	7,886.86	4,988.30	19.85	48.36	-126.75	231.07	7,843.71	8,008.94	7,940.96	67.98	117.815		
5,800.00	5,790.93	7,889.60	4,988.29	20.20	48.39	-126.73	228.33	7,843.86	8,022.02	7,953.70	68.31	117.430		
5,900.00	5,890.63	7,892.40	4,988.28	20.56	48.43	-126.71	225.54	7,844.01	8,036.32	7,967.68	68.64	117.079		
6,000.00	5,990.33	7,895.24	4,988.28	20.92	48.47	-126.69	222.70	7,844.16	8,051.83	7,982.87	68.96	116.762		
6,100.00	6,090.03	7,898.14	4,988.27	21.28	48.51	-126.67	219.81	7,844.32	8,068.55	7,999.28	69.27	116.478		
6,200.00	6,189.73	7,901.09	4,988.27	21.64	48.56	-126.65	216.86	7,844.48	8,086.47	8,016.89	69.57	116.227		
6,300.00	6,289.42	7,904.09	4,988.27	22.00	48.60	-126.62	213.87	7,844.64	8,105.58	8,035.71	69.87	116.008		
6,400.00	6,389.12	7,907.14	4,988.27	22.36	48.64	-126.60	210.82	7,844.81	8,125.87	8,055.71	70.16	115.819		
6,500.00	6,488.82	7,910.25	4,988.28	22.72	48.69	-126.58	207.71	7,844.99	8,147.34	8,076.90	70.44	115.661		
6,600.00	6,588.52	7,913.42	4,988.28	23.08	48.73	-126.56	204.55	7,845.17	8,169.98	8,099.26	70.72	115.533		
6,700.00	6,688.22	7,916.65	4,988.29	23.44	48.78	-126.53	201.32	7,845.35	8,193.77	8,122.78	70.98	115.433		
6,800.00	6,787.91	7,919.94	4,988.30	23.80	48.82	-126.51	198.04	7,845.54	8,218.70	8,147.46	71.24	115.362		
6,900.00	6,887.61	7,923.30	4,988.31	24.16	48.87	-126.49	194.69	7,845.74	8,244.77	8,173.28	71.50	115.318		
7,000.00	6,987.31	7,926.71	4,988.32	24.52	48.92	-126.46	191.28	7,845.94	8,271.97	8,200.22	71.74	115.301		
7,100.00	7,087.01	7,947.00	4,988.45	24.88	49.20	-126.32	171.03	7,847.17	8,300.31	8,228.09	72.22	114.936		
7,200.00	7,186.71	7,947.00	4,988.45	25.24	49.20	-126.32	171.03	7,847.17	8,329.70	8,257.30	72.40	115.051		
7,300.00	7,286.41	7,947.00	4,988.45	25.60	49.20	-126.32	171.03	7,847.17	8,360.19	8,287.62	72.58	115.190		
7,400.00	7,386.10	7,947.00	4,988.45	25.96	49.20	-126.32	171.03	7,847.17	8,391.76	8,319.02	72.75	115.355		
7,500.00	7,485.80	7,947.00	4,988.45	26.33	49.20	-126.32	171.03	7,847.17	8,424.40	8,351.49	72.91	115.545		
7,600.00	7,585.50	7,954.79	4,988.52	26.69	49.31	-126.26	163.25	7,847.65	8,458.10	8,384.92	73.18	115.587		
7,700.00	7,685.20	7,972.28	4,988.64	27.05	49.56	-126.13	145.80	7,848.71	8,492.82	8,419.26	73.57	115.443		
7,800.00	7,784.90	7,989.25	4,988.75	27.41	49.80	-126.01	128.86	7,849.71	8,528.57	8,454.62	73.95	115.336		
7,860.70	7,845.41	7,999.31	4,988.80	27.63	49.94	-125.94	118.82	7,850.29	8,550.75	8,476.59	74.17	115.289		
7,900.00	7,884.61	8,005.33	4,988.83	27.77	50.03	-126.08	112.80	7,850.64	8,565.21	8,490.90	74.30	115.273		
8,000.00	7,984.46	8,016.86	4,988.88	28.13	50.19	-126.48	101.29	7,851.28	8,601.67	8,527.08	74.59	115.319		
8,100.00	8,084.42	8,023.11	4,988.90	28.49	50.28	-126.90	95.06	7,851.63	8,637.70	8,562.90	74.80	115.484		
8,157.59	8,142.00	8,024.39	4,988.91	28.69	50.30	86.93	93.77	7,851.70	8,658.23	8,583.36	74.87	115.637		
8,200.00	8,184.41	8,024.73	4,988.91	28.83	50.30	86.93	93.43	7,851.72	8,673.39	8,598.47	74.92	115.769		
8,300.00	8,284.41	8,025.51	4,988.91	29.17	50.31	86.94	92.66	7,851.76	8,709.85	8,634.82	75.02	116.094		
8,400.00	8,384.41	8,026.27	4,988.91	29.51	50.33	86.94	91.90	7,851.80	8,747.30	8,672.17	75.12	116.439		
8,507.63	8,492.04	8,027.06	4,988.92	29.87	50.34	86.95	91.11	7,851.85	8,788.69	8,713.47	75.23	116.831		
8,550.00	8,534.37	8,027.51	4,988.92	30.02	50.34	-2.35	90.66	7,851.87	8,803.84	8,728.58	75.26	116.976		
8,600.00	8,584.01	8,028.42	4,988.92	30.18	50.36	-2.29	89.75	7,851.92	8,818.15	8,742.84	75.30	117.102		
8,650.00	8,632.95	8,029.73	4,988.93	30.34	50.37	-2.24	88.45	7,851.99	8,828.49	8,753.15	75.34	117.178		
8,700.00	8,680.82	8,031.39	4,988.93	30.50	50.40	-2.20	86.78	7,852.08	8,834.82	8,759.44	75.38	117.204		
8,750.00	8,727.25	8,033.40	4,988.94	30.66	50.43	-2.18	84.78	7,852.19	8,837.08	8,761.66	75.41	117.182		
8,800.00	8,771.89	8,035.72	4,988.94	30.81	50.46	-2.17	82.46	7,852.32	8,835.27	8,759.82	75.44	117.114		
8,850.00	8,814.40	8,038.31	4,988.95	30.95	50.50	-2.18	79.87	7,852.46	8,829.39	8,753.92	75.46	117.001		
8,900.00	8,854.46	8,041.16	4,988.96	31.09	50.54	-2.19	77.03	7,852.61	8,819.48	8,744.00	75.48	116.845		
8,950.00	8,891.75	8,044.22	4,988.96	31.23	50.58	-2.23	73.98	7,852.77	8,805.61	8,730.12	75.49	116.647		
9,000.00	8,926.01	8,047.46	4,988.97	31.37	50.63	-2.28	70.74	7,852.94	8,787.86	8,712.37	75.49	116.408		
9,050.00	8,956.96	8,050.85	4,988.98	31.53	50.67	-2.35	67.35	7,853.12	8,766.35	8,690.86	75.49	116.129		
9,100.00	8,984.38	8,054.36	4,988.98	31.69	50.72	-2.45	63.84	7,853.30	8,741.20	8,665.72	75.48	115.811		
9,150.00	9,008.05	8,057.97	4,988.99	31.87	50.77	-2.57	60.25	7,853.49	8,712.59	8,637.12	75.46	115.456		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Sec 13-T21S-R27E - Lone Tree Draw 13 State Com 5H - Wellbore #1 - Wellbore #1													Offset Well Error:	0.50 ft
Survey Program: 233-GYRO-NS-CT, 4541-MWD+HDGM														
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Minimum Separation (ft)	Separation Factor	Warning			
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)				Between Centres (ft)	Between Ellipses (ft)	
9,200.00	9,027.79	8,061.63	4,988.99	32.07	50.83	-2.73	56.59	7,853.68	8,680.68	8,605.24	75.44	115.064		
9,250.00	9,043.45	9,250.00	4,988.90	32.29	67.68	-3.27	86.67	7,852.05	8,645.72	8,554.82	90.89	95.118		
9,300.00	9,054.92	9,300.00	4,988.91	32.53	68.39	-3.59	84.34	7,852.18	8,607.90	8,516.45	91.45	94.124		
9,350.00	9,062.10	8,052.81	4,988.98	32.79	50.70	-3.82	65.39	7,853.23	8,567.48	8,492.38	75.10	114.078		
9,400.00	9,064.95	8,054.21	4,988.98	33.06	50.72	-4.39	64.00	7,853.30	8,524.74	8,449.70	75.05	113.595		
9,407.63	9,065.00	8,054.42	4,988.98	33.10	50.72	-4.50	63.79	7,853.31	8,518.03	8,442.99	75.04	113.513		
9,500.00	9,065.00	8,056.99	4,988.98	33.68	50.76	-4.46	61.22	7,853.45	8,436.66	8,361.73	74.93	112.600		
9,600.00	9,065.00	8,059.78	4,988.98	34.41	50.80	-4.42	58.43	7,853.60	8,348.82	8,274.02	74.80	111.610		
9,700.00	9,065.00	8,062.57	4,988.98	35.24	50.84	-4.39	55.65	7,853.75	8,261.26	8,186.57	74.68	110.618		
9,800.00	9,065.00	8,065.36	4,988.98	36.17	50.88	-4.35	52.87	7,853.90	8,173.98	8,099.41	74.56	109.623		
9,900.00	9,065.00	8,068.14	4,988.97	37.19	50.92	-4.31	50.08	7,854.04	8,086.99	8,012.54	74.45	108.627		
10,000.00	9,065.00	8,070.93	4,988.97	38.30	50.96	-4.27	47.30	7,854.19	8,000.30	7,925.97	74.33	107.627		
10,100.00	9,065.00	8,073.72	4,988.97	39.48	51.00	-4.23	44.52	7,854.34	7,913.93	7,839.71	74.22	106.625		
10,200.00	9,065.00	8,076.51	4,988.96	40.72	51.04	-4.19	41.73	7,854.49	7,827.88	7,753.77	74.11	105.620		
10,300.00	9,065.00	8,079.30	4,988.95	42.03	51.08	-4.15	38.95	7,854.64	7,742.17	7,668.16	74.01	104.611		
10,400.00	9,065.00	8,082.08	4,988.95	43.40	51.12	-4.11	36.16	7,854.78	7,656.80	7,582.89	73.91	103.600		
10,500.00	9,065.00	8,084.87	4,988.94	44.82	51.16	-4.07	33.38	7,854.93	7,571.79	7,497.98	73.81	102.585		
10,600.00	9,065.00	8,087.66	4,988.93	46.29	51.20	-4.03	30.60	7,855.08	7,487.14	7,413.43	73.72	101.567		
10,700.00	9,065.00	8,090.45	4,988.92	47.79	51.23	-3.99	27.81	7,855.23	7,402.88	7,329.25	73.63	100.545		
10,800.00	9,065.00	8,093.23	4,988.91	49.34	51.27	-3.95	25.03	7,855.38	7,319.01	7,245.47	73.54	99.519		
10,900.00	9,065.00	8,096.02	4,988.89	50.92	51.31	-3.91	22.25	7,855.53	7,235.55	7,162.08	73.47	98.489		
11,000.00	9,065.00	8,098.81	4,988.88	52.54	51.35	-3.87	19.46	7,855.67	7,152.51	7,079.12	73.39	97.455		
11,100.00	9,065.00	8,101.60	4,988.87	54.18	51.39	-3.83	16.68	7,855.82	7,069.91	6,996.59	73.33	96.417		
11,200.00	9,065.00	8,104.38	4,988.85	55.85	51.43	-3.79	13.89	7,855.97	6,987.77	6,914.50	73.27	95.375		
11,300.00	9,065.00	8,107.17	4,988.83	57.54	51.47	-3.75	11.11	7,856.12	6,906.09	6,832.87	73.21	94.328		
11,400.00	9,065.00	8,109.96	4,988.82	59.26	51.51	-3.71	8.33	7,856.27	6,824.90	6,751.73	73.17	93.277		
11,500.00	9,065.00	8,112.75	4,988.80	61.00	51.55	-3.67	5.54	7,856.42	6,744.21	6,671.08	73.13	92.222		
11,600.00	9,065.00	11,600.00	4,988.52	62.75	101.08	-2.88	-49.87	7,859.18	6,664.02	6,548.26	115.76	57.567		
11,700.00	9,065.00	11,700.00	4,988.51	64.52	102.50	-2.83	-53.47	7,859.34	6,584.36	6,467.62	116.74	56.400		
11,800.00	9,065.00	11,800.00	4,988.51	66.31	103.93	-2.78	-57.07	7,859.51	6,505.27	6,387.54	117.72	55.260		
11,900.00	9,065.00	11,900.00	4,988.50	68.11	105.35	-2.72	-60.67	7,859.68	6,426.75	6,308.06	118.69	54.147		
12,000.00	9,065.00	12,000.00	4,988.49	69.93	106.77	-2.67	-64.27	7,859.85	6,348.84	6,229.18	119.65	53.060		
12,100.00	9,065.00	12,100.00	4,988.48	71.76	108.19	-2.62	-67.87	7,860.02	6,271.55	6,150.94	120.61	52.000		
12,200.00	9,065.00	12,200.00	4,988.47	73.60	109.62	-2.57	-71.46	7,860.19	6,194.90	6,073.35	121.55	50.965		
12,300.00	9,065.00	12,300.00	4,988.47	75.45	111.04	-2.52	-75.06	7,860.36	6,118.93	5,996.45	122.49	49.956		
12,400.00	9,065.00	12,400.00	4,988.46	77.31	112.46	-2.47	-78.66	7,860.53	6,043.66	5,920.25	123.41	48.971		
12,500.00	9,065.00	12,500.00	4,988.45	79.18	113.88	-2.42	-82.26	7,860.70	5,969.11	5,844.78	124.33	48.010		
12,600.00	9,065.00	8,254.28	4,988.48	81.05	53.56	-1.65	-135.83	7,863.08	5,895.32	5,820.71	74.60	79.022		
12,700.00	9,065.00	8,256.54	4,988.49	82.94	53.59	-1.62	-138.08	7,863.17	5,822.27	5,747.59	74.68	77.963		
12,800.00	9,065.00	8,258.79	4,988.50	84.83	53.62	-1.58	-140.33	7,863.26	5,750.04	5,675.27	74.77	76.904		
12,900.00	9,065.00	8,261.04	4,988.51	86.73	53.65	-1.55	-142.59	7,863.35	5,678.64	5,603.77	74.87	75.843		
13,000.00	9,065.00	8,263.30	4,988.51	88.64	53.68	-1.52	-144.84	7,863.45	5,608.12	5,533.13	74.99	74.784		
13,100.00	9,065.00	8,265.55	4,988.52	90.55	53.72	-1.49	-147.09	7,863.54	5,538.51	5,463.39	75.12	73.725		
13,200.00	9,065.00	8,267.81	4,988.52	92.47	53.75	-1.45	-149.34	7,863.63	5,469.84	5,394.57	75.27	72.668		
13,300.00	9,065.00	8,270.06	4,988.53	94.39	53.78	-1.42	-151.60	7,863.72	5,402.14	5,326.71	75.43	71.613		
13,400.00	9,065.00	8,272.32	4,988.53	96.32	53.81	-1.39	-153.85	7,863.81	5,335.46	5,259.85	75.61	70.563		
13,500.00	9,065.00	8,274.57	4,988.54	98.25	53.84	-1.36	-156.10	7,863.91	5,269.83	5,194.02	75.81	69.517		
13,600.00	9,065.00	8,276.82	4,988.54	100.19	53.88	-1.33	-158.35	7,864.00	5,205.29	5,129.28	76.02	68.476		
13,700.00	9,065.00	8,279.08	4,988.55	102.13	53.91	-1.29	-160.61	7,864.09	5,141.89	5,065.65	76.24	67.442		
13,800.00	9,065.00	8,281.33	4,988.55	104.08	53.94	-1.26	-162.86	7,864.18	5,079.66	5,003.18	76.48	66.416		
13,900.00	9,065.00	8,283.59	4,988.55	106.03	53.97	-1.23	-165.11	7,864.27	5,018.66	4,941.92	76.74	65.398		
14,000.00	9,065.00	8,285.84	4,988.56	107.98	54.00	-1.20	-167.36	7,864.37	4,958.91	4,881.90	77.01	64.391		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Sec 13-T21S-R27E - Lone Tree Draw 13 State Com 5H - Wellbore #1 - Wellbore #1													Offset Well Error:	0.50 ft
Survey Program: 233-GYRO-NS-CT, 4541-MWD+HDGM														
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Minimum Separation (ft)	Separation Factor	Warning			
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)				Between Centres (ft)	Between Ellipses (ft)	
14,100.00	9,065.00	8,288.10	4,988.56	109.94	54.04	-1.16	-169.62	7,864.46	4,900.48	4,823.18	77.30	63.394		
14,200.00	9,065.00	8,290.35	4,988.56	111.90	54.07	-1.13	-171.87	7,864.55	4,843.41	4,765.80	77.61	62.410		
14,300.00	9,065.00	8,292.60	4,988.56	113.86	54.10	-1.10	-174.12	7,864.64	4,787.75	4,709.82	77.93	61.439		
14,400.00	9,065.00	8,294.86	4,988.56	115.82	54.13	-1.07	-176.37	7,864.73	4,733.54	4,655.27	78.26	60.482		
14,500.00	9,065.00	8,297.11	4,988.56	117.79	54.16	-1.04	-178.63	7,864.83	4,680.84	4,602.22	78.62	59.541		
14,600.00	9,065.00	8,299.37	4,988.56	119.76	54.20	-1.00	-180.88	7,864.92	4,629.69	4,550.71	78.98	58.616		
14,700.00	9,065.00	8,301.62	4,988.56	121.74	54.23	-0.97	-183.13	7,865.01	4,580.16	4,500.80	79.37	57.709		
14,800.00	9,065.00	8,303.88	4,988.56	123.71	54.26	-0.94	-185.38	7,865.10	4,532.29	4,452.53	79.77	56.820		
14,900.00	9,065.00	8,306.13	4,988.56	125.69	54.29	-0.91	-187.63	7,865.19	4,486.14	4,405.96	80.18	55.951		
15,000.00	9,065.00	8,308.38	4,988.56	127.67	54.32	-0.87	-189.89	7,865.29	4,441.76	4,361.15	80.61	55.101		
15,100.00	9,065.00	8,310.64	4,988.55	129.65	54.36	-0.84	-192.14	7,865.38	4,399.21	4,318.15	81.06	54.273		
15,200.00	9,065.00	8,312.89	4,988.55	131.63	54.39	-0.81	-194.39	7,865.47	4,358.53	4,277.01	81.52	53.466		
15,300.00	9,065.00	8,315.15	4,988.55	133.62	54.42	-0.78	-196.64	7,865.56	4,319.79	4,237.79	82.00	52.681		
15,400.00	9,065.00	8,317.40	4,988.55	135.61	54.45	-0.74	-198.90	7,865.65	4,283.02	4,200.53	82.50	51.918		
15,500.00	9,065.00	8,319.66	4,988.54	137.60	54.48	-0.71	-201.15	7,865.75	4,248.29	4,165.28	83.01	51.178		
15,600.00	9,065.00	8,326.00	4,988.53	139.59	54.57	-0.62	-207.49	7,866.01	4,215.65	4,132.08	83.57	50.442		
15,700.00	9,065.00	8,326.00	4,988.53	141.58	54.57	-0.62	-207.49	7,866.01	4,185.14	4,101.03	84.11	49.760		
15,800.00	9,065.00	8,327.32	4,988.53	143.57	54.59	-0.60	-208.81	7,866.06	4,156.81	4,072.14	84.67	49.095		
15,900.00	9,065.00	8,334.43	4,988.52	145.57	54.69	-0.50	-215.91	7,866.35	4,130.70	4,045.40	85.30	48.426		
16,000.00	9,065.00	8,341.54	4,988.51	147.56	54.79	-0.40	-223.02	7,866.64	4,106.86	4,020.91	85.95	47.782		
16,100.00	9,065.00	8,348.65	4,988.52	149.56	54.89	-0.30	-230.12	7,866.93	4,085.32	3,998.70	86.62	47.163		
16,200.00	9,065.00	8,355.76	4,988.53	151.56	55.00	-0.20	-237.23	7,867.22	4,066.12	3,978.81	87.32	46.567		
16,300.00	9,065.00	8,362.87	4,988.54	153.56	55.10	-0.09	-244.33	7,867.51	4,049.30	3,961.26	88.04	45.994		
16,400.00	9,065.00	8,369.98	4,988.57	155.56	55.20	0.01	-251.44	7,867.80	4,034.88	3,946.10	88.79	45.445		
16,500.00	9,065.00	8,377.09	4,988.60	157.57	55.30	0.11	-258.54	7,868.09	4,022.89	3,933.33	89.56	44.920		
16,600.00	9,065.00	8,384.21	4,988.64	159.57	55.40	0.21	-265.64	7,868.38	4,013.35	3,923.00	90.36	44.417		
16,700.00	9,065.00	8,391.32	4,988.69	161.57	55.50	0.31	-272.75	7,868.67	4,006.28	3,915.10	91.18	43.938		
16,800.00	9,065.00	8,398.43	4,988.75	163.58	55.60	0.42	-279.85	7,868.96	4,001.70	3,909.66	92.03	43.481		
16,900.00	9,065.00	8,405.54	4,988.81	165.59	55.70	0.52	-286.96	7,869.25	3,999.60	3,906.69	92.91	43.048		
16,934.09	9,065.00	8,407.96	4,988.83	166.27	55.74	0.55	-289.38	7,869.35	3,999.45	3,906.24	93.21	42.906 CC		
17,000.00	9,065.00	8,412.65	4,988.88	167.60	55.80	0.62	-294.06	7,869.54	4,000.00	3,906.19	93.81	42.639		
17,100.00	9,065.00	8,419.76	4,988.95	169.60	55.90	0.72	-301.17	7,869.83	4,002.89	3,908.15	94.73	42.254		
17,200.00	9,065.00	8,426.87	4,989.04	171.61	56.01	0.82	-308.27	7,870.12	4,008.26	3,912.59	95.68	41.894		
17,300.00	9,065.00	8,433.98	4,989.13	173.62	56.11	0.92	-315.37	7,870.41	4,016.12	3,919.48	96.64	41.558		
17,400.00	9,065.00	17,400.00	4,988.88	175.63	183.85	0.46	-283.28	7,869.10	4,026.42	3,859.55	166.86	24.130 ES		
17,500.00	9,065.00	17,500.00	4,988.89	177.65	185.27	0.51	-286.26	7,869.22	4,039.21	3,870.14	169.08	23.889		
17,600.00	9,065.00	17,600.00	4,988.91	179.66	186.70	0.55	-289.24	7,869.35	4,054.44	3,883.03	171.40	23.654 SF		
17,700.00	9,065.00	8,433.22	4,989.10	181.67	56.10	0.91	-314.62	7,870.37	4,072.04	3,971.74	100.30	40.599		
17,800.00	9,065.00	8,435.19	4,989.12	183.69	56.12	0.94	-316.59	7,870.45	4,092.01	3,990.77	101.24	40.418		
17,900.00	9,065.00	8,437.12	4,989.14	185.70	56.15	0.97	-318.52	7,870.53	4,114.31	4,012.13	102.18	40.265		
18,000.00	9,065.00	8,439.03	4,989.16	187.72	56.18	1.00	-320.42	7,870.60	4,138.91	4,035.80	103.11	40.141		
18,100.00	9,065.00	8,440.89	4,989.18	189.73	56.20	1.02	-322.28	7,870.67	4,165.76	4,061.73	104.03	40.045		
18,200.00	9,065.00	8,442.73	4,989.20	191.75	56.23	1.05	-324.12	7,870.74	4,194.82	4,089.89	104.93	39.977		
18,300.00	9,065.00	8,444.53	4,989.22	193.77	56.26	1.08	-325.92	7,870.81	4,226.05	4,120.24	105.82	39.938		
18,400.00	9,065.00	8,446.30	4,989.23	195.78	56.28	1.10	-327.69	7,870.88	4,259.40	4,152.72	106.68	39.926		
18,500.00	9,065.00	8,448.05	4,989.25	197.80	56.31	1.13	-329.43	7,870.94	4,294.82	4,187.29	107.53	39.942		
18,600.00	9,065.00	8,449.76	4,989.27	199.82	56.33	1.15	-331.15	7,871.01	4,332.25	4,223.91	108.34	39.986		
18,700.00	9,065.00	8,451.45	4,989.28	201.84	56.35	1.17	-332.83	7,871.07	4,371.65	4,262.51	109.14	40.056		
18,800.00	9,065.00	8,453.10	4,989.30	203.86	56.38	1.20	-334.49	7,871.13	4,412.97	4,303.06	109.90	40.153		
18,900.00	9,065.00	8,454.74	4,989.31	205.88	56.40	1.22	-336.12	7,871.19	4,456.14	4,345.50	110.64	40.275		
19,000.00	9,065.00	8,456.34	4,989.33	207.90	56.42	1.24	-337.72	7,871.25	4,501.12	4,389.77	111.35	40.422		
19,100.00	9,065.00	8,457.92	4,989.34	209.92	56.45	1.27	-339.30	7,871.30	4,547.86	4,435.82	112.04	40.593		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design Sec 13-T21S-R27E - Lone Tree Draw 13 State Com 5H - Wellbore #1 - Wellbore #1													Offset Site Error:	5.00 ft
Survey Program: 233-GYRO-NS-CT, 4541-MWD+HDGM													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre	Offset Wellbore Centre	Between Centres	Between Ellipses	Minimum Separation	Separation Factor		
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)			
19,200.00	9,065.00	8,459.47	4,989.35	211.95	56.47	1.29	-340.85	7,871.36	4,596.29	4,483.60	112.69	40.787		
19,300.00	9,065.00	8,461.00	4,989.37	213.97	56.49	1.31	-342.38	7,871.41	4,646.37	4,533.06	113.31	41.005		
19,400.00	9,065.00	8,462.51	4,989.38	215.99	56.51	1.33	-343.88	7,871.47	4,698.05	4,584.14	113.91	41.244		
19,456.84	9,065.00	8,463.35	4,989.38	217.14	56.52	1.34	-344.73	7,871.50	4,728.12	4,613.88	114.23	41.389		

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Sec 13-T21S-R27E - Lone Tree Draw 13 State Com 8H - Original Hole - Actuals													Offset Well Error:	0.00 ft
Survey Program: 81-GYRO-NS, 7138-MWD+IGRF														
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
0.00	0.00	0.00	0.00	0.50	5.00	69.35	3,174.32	8,420.97	8,999.68					
100.00	100.00	34.43	34.43	0.52	5.00	69.35	3,174.27	8,420.97	8,999.38	8,993.86	5.52	1,630.933		
200.00	200.00	141.50	141.49	0.70	5.01	69.35	3,173.66	8,421.03	8,999.23	8,993.52	5.71	1,575.567		
283.82	283.82	211.52	211.52	0.94	5.03	69.35	3,173.37	8,421.06	8,999.14	8,993.17	5.97	1,507.776		
300.00	300.00	223.54	223.53	0.99	5.04	69.35	3,173.36	8,421.07	8,999.15	8,993.12	6.02	1,494.173		
400.00	400.00	303.94	303.93	1.31	5.08	69.35	3,173.63	8,421.12	8,999.32	8,992.93	6.39	1,409.347		
500.00	500.00	397.94	397.94	1.65	5.14	69.35	3,174.26	8,421.20	8,999.64	8,992.85	6.79	1,325.546		
600.00	600.00	497.17	497.16	1.99	5.24	69.34	3,175.01	8,421.26	8,999.96	8,992.73	7.23	1,245.489		
700.00	700.00	590.09	590.08	2.34	5.34	69.34	3,175.80	8,421.34	9,000.33	8,992.65	7.68	1,171.904		
800.00	800.00	681.44	681.42	2.69	5.46	69.33	3,176.67	8,421.46	9,000.80	8,992.65	8.15	1,104.144		
900.00	900.00	778.19	778.16	3.04	5.61	69.33	3,177.75	8,421.62	9,001.35	8,992.70	8.65	1,040.678		
1,000.00	1,000.00	886.39	886.36	3.40	5.79	69.32	3,179.19	8,421.68	9,001.87	8,992.68	9.18	980.085		
1,100.00	1,100.00	974.50	974.46	3.75	5.95	69.31	3,180.46	8,421.65	9,002.35	8,992.65	9.70	927.980		
1,200.00	1,200.00	1,056.99	1,056.93	4.11	6.11	69.30	3,181.89	8,421.73	9,003.05	8,992.84	10.22	881.115		
1,300.00	1,300.00	1,137.36	1,137.29	4.46	6.28	69.30	3,183.20	8,421.99	9,003.93	8,993.19	10.74	838.390		
1,400.00	1,400.00	1,224.80	1,224.72	4.82	6.47	69.29	3,184.38	8,422.59	9,005.05	8,993.77	11.29	797.947		
1,500.00	1,500.00	1,391.86	1,391.76	5.18	6.85	69.28	3,186.82	8,423.14	9,005.91	8,993.88	12.03	748.763		
1,600.00	1,600.00	1,472.00	1,471.90	5.53	7.05	69.27	3,188.10	8,423.09	9,006.42	8,993.84	12.58	715.981		
1,700.00	1,700.00	1,542.98	1,542.87	5.89	7.23	69.26	3,189.27	8,423.25	9,007.20	8,994.09	13.11	686.884		
1,800.00	1,800.00	1,617.31	1,617.18	6.25	7.42	69.26	3,190.45	8,423.67	9,008.29	8,994.63	13.66	659.469		
1,900.00	1,900.00	1,733.13	1,732.99	6.61	7.72	69.25	3,192.24	8,424.54	9,009.56	8,995.24	14.32	629.094		
2,000.00	2,000.00	1,852.86	1,852.70	6.96	8.04	69.24	3,194.35	8,424.90	9,010.47	8,995.46	15.00	600.585		
2,100.00	2,100.00	1,934.54	1,934.36	7.32	8.27	69.23	3,195.79	8,425.18	9,011.40	8,995.82	15.59	578.176		
2,200.00	2,200.00	2,042.77	2,042.57	7.68	8.58	69.22	3,197.96	8,425.52	9,012.41	8,996.16	16.25	554.665		
2,300.00	2,300.00	2,102.59	2,102.38	8.04	8.75	69.21	3,199.11	8,425.84	9,013.59	8,996.82	16.78	537.278		
2,400.00	2,400.00	2,251.52	2,251.28	8.39	9.18	69.19	3,202.02	8,426.51	9,014.70	8,997.14	17.57	513.154		
2,500.00	2,500.00	2,320.50	2,320.24	8.75	9.39	69.19	3,203.56	8,426.78	9,015.82	8,997.69	18.13	497.340		
2,600.00	2,599.99	2,378.70	2,378.43	9.09	9.56	-144.89	3,204.86	8,427.26	9,018.03	8,999.39	18.64	483.764		
2,700.00	2,699.96	2,552.42	2,552.10	9.42	10.08	-144.91	3,208.81	8,427.89	9,021.26	9,001.77	19.49	462.819		
2,800.00	2,799.86	2,615.51	2,615.17	9.75	10.28	-144.90	3,210.41	8,428.00	9,025.88	9,005.87	20.01	451.027		
2,900.00	2,899.68	2,697.00	2,696.63	10.08	10.53	-144.89	3,212.53	8,428.37	9,032.23	9,011.64	20.59	438.643		
2,945.33	2,944.88	2,746.09	2,745.70	10.23	10.68	-144.89	3,213.83	8,428.63	9,035.62	9,014.72	20.89	432.469		
3,000.00	2,999.39	2,807.12	2,806.70	10.41	10.87	-144.92	3,215.51	8,428.88	9,039.84	9,018.58	21.26	425.129		
3,100.00	3,099.08	2,886.00	2,885.56	10.75	11.11	-144.96	3,217.68	8,429.23	9,047.61	9,025.77	21.84	414.230		
3,200.00	3,198.78	2,948.33	2,947.86	11.08	11.31	-144.98	3,219.30	8,429.75	9,055.71	9,033.33	22.37	404.804		
3,300.00	3,298.48	3,111.62	3,111.10	11.42	11.83	-145.05	3,223.42	8,431.05	9,063.73	9,040.51	23.22	390.262		
3,400.00	3,398.18	3,191.01	3,190.46	11.76	12.08	-145.08	3,225.47	8,431.44	9,071.49	9,047.68	23.81	380.922		
3,500.00	3,497.88	3,276.83	3,276.25	12.10	12.35	-145.12	3,227.72	8,432.02	9,079.44	9,055.01	24.43	371.686		
3,600.00	3,597.58	3,371.85	3,371.23	12.45	12.66	-145.16	3,230.24	8,432.75	9,087.49	9,062.42	25.07	362.437		
3,700.00	3,697.27	3,700.00	3,611.98	12.79	13.72	-145.26	3,235.94	8,433.60	9,095.43	9,068.95	26.48	343.475		
3,800.00	3,796.97	3,691.11	3,690.40	13.14	13.69	-145.29	3,236.87	8,433.06	9,101.72	9,074.92	26.79	339.683		
3,900.00	3,896.67	3,731.50	3,730.79	13.48	13.83	-145.30	3,236.65	8,433.55	9,108.90	9,081.63	27.27	334.042		
4,000.00	3,896.37	4,000.00	3,820.92	13.83	14.70	-145.32	3,237.18	8,434.44	9,116.41	9,087.92	28.49	319.971		
4,100.00	4,096.07	3,889.56	3,888.82	14.18	14.34	-145.35	3,238.61	8,434.70	9,123.99	9,095.52	28.47	320.425		
4,200.00	4,195.76	3,955.85	3,955.09	14.53	14.56	-145.37	3,239.91	8,435.42	9,132.09	9,103.05	29.04	314.495		
4,300.00	4,295.46	4,054.24	4,053.46	14.88	14.88	-145.41	3,241.54	8,436.80	9,140.38	9,110.68	29.71	307.665		
4,400.00	4,395.16	4,217.33	4,216.53	15.23	15.42	-145.45	3,242.46	8,439.04	9,148.25	9,117.65	30.60	298.966		
4,500.00	4,494.86	10,619.00	7,792.46	15.58	65.29	-126.90	107.70	8,416.86	9,140.94	9,064.87	76.07	120.167		
4,600.00	4,594.56	4,600.00	7,794.24	15.93	42.02	-126.60	61.60	8,417.16	9,108.76	9,053.84	54.91	165.875		
4,700.00	4,694.25	4,700.00	7,797.42	16.29	40.53	-125.92	-41.87	8,417.55	9,077.54	9,023.48	54.06	167.914		
4,800.00	4,793.95	4,800.00	7,797.63	16.64	38.73	-125.86	-50.66	8,417.56	9,047.30	8,994.46	52.84	171.220		
4,900.00	4,893.65	4,900.00	7,797.84	17.00	36.92	-125.80	-59.46	8,417.57	9,018.05	8,966.44	51.61	174.745		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Sec 13-T21S-R27E - Lone Tree Draw 13 State Com 8H - Original Hole - Actuals													Offset Well Error:	0.00 ft
Survey Program: 81-GYRO-NS, 7138-MWD+IGRF														
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
5,000.00	4,993.35	5,000.00	7,798.05	17.35	35.11	-125.74	-68.26	8,417.58	8,989.81	8,939.45	50.36	178.509		
5,100.00	5,093.05	5,100.00	7,798.26	17.71	33.31	-125.69	-77.05	8,417.59	8,962.60	8,913.49	49.10	182.532		
5,200.00	5,192.75	10,829.42	7,798.78	18.06	69.04	-125.52	-102.61	8,417.57	8,936.35	8,852.58	83.77	106.682		
5,300.00	5,292.44	10,833.35	7,798.87	18.42	69.11	-125.49	-106.54	8,417.57	8,911.18	8,826.77	84.41	105.567		
5,400.00	5,392.14	10,837.34	7,798.96	18.77	69.18	-125.46	-110.53	8,417.57	8,887.07	8,802.01	85.06	104.485		
5,500.00	5,491.84	10,841.37	7,799.05	19.13	69.25	-125.44	-114.56	8,417.58	8,864.01	8,778.31	85.69	103.437		
5,600.00	5,591.54	10,845.46	7,799.15	19.49	69.33	-125.41	-118.65	8,417.58	8,842.02	8,755.69	86.33	102.423		
5,700.00	5,691.24	10,849.60	7,799.24	19.85	69.40	-125.38	-122.79	8,417.59	8,821.10	8,734.14	86.96	101.441		
5,800.00	5,790.93	10,853.80	7,799.35	20.20	69.48	-125.36	-126.98	8,417.60	8,801.27	8,713.68	87.58	100.492		
5,900.00	5,890.63	10,858.05	7,799.45	20.56	69.55	-125.33	-131.23	8,417.61	8,782.52	8,694.32	88.20	99.574		
6,000.00	5,990.33	10,862.36	7,799.57	20.92	69.63	-125.30	-135.54	8,417.62	8,764.87	8,676.06	88.81	98.688		
6,100.00	6,090.03	10,866.72	7,799.68	21.28	69.71	-125.27	-139.90	8,417.63	8,748.33	8,658.91	89.42	97.833		
6,200.00	6,189.73	10,871.15	7,799.80	21.64	69.79	-125.24	-144.33	8,417.65	8,732.89	8,642.87	90.02	97.009		
6,300.00	6,289.42	10,875.63	7,799.92	22.00	69.87	-125.21	-148.81	8,417.67	8,718.57	8,627.95	90.62	96.215		
6,400.00	6,389.12	10,880.18	7,800.05	22.36	69.95	-125.18	-153.35	8,417.69	8,705.37	8,614.17	91.20	95.451		
6,500.00	6,488.82	10,902.00	7,800.71	22.72	70.34	-125.04	-175.17	8,417.81	8,693.33	8,601.24	92.09	94.402		
6,600.00	6,588.52	10,902.00	7,800.71	23.08	70.34	-125.04	-175.17	8,417.81	8,682.37	8,589.79	92.58	93.784		
6,700.00	6,688.22	10,902.00	7,800.71	23.44	70.34	-125.04	-175.17	8,417.81	8,672.55	8,579.49	93.06	93.194		
6,800.00	6,787.91	10,902.00	7,800.71	23.80	70.34	-125.04	-175.17	8,417.81	8,663.87	8,570.34	93.53	92.632		
6,900.00	6,887.61	10,905.60	7,800.83	24.16	70.40	-125.01	-178.76	8,417.84	8,656.33	8,562.28	94.06	92.033		
7,000.00	6,987.31	10,915.14	7,801.14	24.52	70.58	-124.95	-188.30	8,417.90	8,649.94	8,555.26	94.68	91.359		
7,100.00	7,087.01	10,924.83	7,801.46	24.88	70.75	-124.89	-197.99	8,417.97	8,644.69	8,549.39	95.30	90.713		
7,200.00	7,186.71	10,934.68	7,801.79	25.24	70.93	-124.82	-207.82	8,418.03	8,640.59	8,544.68	95.91	90.093		
7,300.00	7,286.41	10,944.68	7,802.14	25.60	71.11	-124.76	-217.82	8,418.10	8,637.62	8,541.11	96.51	89.500		
7,400.00	7,386.10	10,954.84	7,802.50	25.96	71.29	-124.69	-227.97	8,418.16	8,635.81	8,538.70	97.11	88.932		
7,500.00	7,485.80	10,965.16	7,802.87	26.33	71.48	-124.62	-238.29	8,418.23	8,635.13	8,537.44	97.69	88.390		
7,508.57	7,494.34	10,966.05	7,802.91	26.36	71.49	-124.61	-239.18	8,418.24	8,635.13	8,537.39	97.74	88.345		
7,600.00	7,585.50	10,975.65	7,803.26	26.69	71.67	-124.55	-248.77	8,418.30	8,635.61	8,537.33	98.27	87.873		
7,700.00	7,685.20	10,986.31	7,803.67	27.05	71.86	-124.48	-259.43	8,418.36	8,637.23	8,538.38	98.85	87.380		
7,800.00	7,784.90	7,800.00	7,805.94	27.41	25.06	-124.07	-320.86	8,418.43	8,639.84	8,597.52	42.31	204.181		
7,860.70	7,845.41	7,860.70	7,806.16	27.63	25.07	-124.03	-326.98	8,418.44	8,642.04	8,598.47	43.57	198.352		
7,900.00	7,884.61	11,147.31	7,809.49	27.77	74.76	-123.44	-420.31	8,418.00	8,643.58	8,541.09	102.48	84.341		
8,000.00	7,984.46	11,173.01	7,810.41	28.13	75.23	-123.31	-446.00	8,417.71	8,647.17	8,543.88	103.29	83.716		
8,100.00	8,084.42	11,192.18	7,811.12	28.49	75.57	-123.23	-465.15	8,417.46	8,650.47	8,546.50	103.97	83.202		
8,157.59	8,142.00	11,200.18	7,811.41	28.69	75.72	90.88	-473.15	8,417.35	8,652.23	8,547.94	104.29	82.961		
8,200.00	8,184.41	8,200.00	7,809.91	28.83	25.17	90.61	-431.46	8,417.81	8,653.57	8,602.99	50.58	171.083		
8,300.00	8,284.41	8,300.00	7,810.04	29.17	25.21	90.63	-435.00	8,417.77	8,657.64	8,604.98	52.66	164.419		
8,400.00	8,384.41	8,400.00	7,810.16	29.51	25.52	90.65	-438.54	8,417.74	8,662.86	8,608.13	54.73	158.283		
8,507.63	8,492.04	8,507.63	7,810.30	29.87	27.31	90.68	-442.35	8,417.71	8,669.76	8,612.80	56.96	152.210		
8,550.00	8,534.37	8,550.00	7,810.35	30.02	28.06	1.31	-443.82	8,417.69	8,671.28	8,613.44	57.83	149.934		
8,600.00	8,584.01	11,197.68	7,811.33	30.18	75.67	1.50	-470.65	8,417.40	8,669.30	8,563.84	105.46	82.202		
8,650.00	8,632.95	11,198.71	7,811.37	30.34	75.69	1.52	-471.67	8,417.39	8,663.26	8,557.67	105.60	82.042		
8,700.00	8,680.82	11,199.66	7,811.41	30.50	75.71	1.55	-472.62	8,417.38	8,653.20	8,547.49	105.72	81.851		
8,750.00	8,727.25	11,200.52	7,811.44	30.66	75.72	1.60	-473.49	8,417.37	8,639.19	8,533.36	105.83	81.632		
8,800.00	8,771.89	11,201.30	7,811.47	30.81	75.74	1.66	-474.27	8,417.36	8,621.30	8,515.37	105.93	81.387		
8,850.00	8,814.40	11,201.98	7,811.50	30.95	75.75	1.74	-474.95	8,417.35	8,599.65	8,493.64	106.02	81.116		
8,900.00	8,854.46	11,202.56	7,811.52	31.09	75.76	1.83	-475.52	8,417.34	8,574.38	8,468.30	106.09	80.823		
8,950.00	8,891.75	11,203.02	7,811.54	31.23	75.77	1.95	-475.98	8,417.34	8,545.66	8,439.51	106.15	80.507		
9,000.00	8,926.01	11,203.37	7,811.55	31.37	75.77	2.10	-476.33	8,417.33	8,513.65	8,407.46	106.19	80.171		
9,050.00	8,956.96	11,203.59	7,811.56	31.53	75.78	2.29	-476.55	8,417.33	8,478.58	8,372.35	106.23	79.817		
9,100.00	8,984.38	11,203.69	7,811.57	31.69	75.78	2.54	-476.65	8,417.33	8,440.67	8,334.42	106.25	79.445		
9,150.00	9,008.05	11,203.66	7,811.57	31.87	75.78	2.87	-476.62	8,417.33	8,400.17	8,293.92	106.25	79.057		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Sec 13-T21S-R27E - Lone Tree Draw 13 State Com 8H - Original Hole - Actuals													Offset Well Error:	0.00 ft
Survey Program: 81-GYRO-NS, 7138-MWD+IGRF														
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
9,200.00	9,027.79	11,203.50	7,811.56	32.07	75.78	3.31	-476.46	8,417.33	8,357.36	8,251.11	106.25	78.655		
9,250.00	9,043.45	11,203.21	7,811.55	32.29	75.77	3.95	-476.17	8,417.34	8,312.53	8,206.29	106.24	78.241		
9,300.00	9,054.92	11,202.79	7,811.53	32.53	75.76	4.93	-475.75	8,417.34	8,266.00	8,159.77	106.23	77.815		
9,350.00	9,062.10	11,202.24	7,811.51	32.79	75.75	6.61	-475.20	8,417.35	8,218.08	8,111.88	106.20	77.379		
9,400.00	9,064.95	11,201.56	7,811.48	33.06	75.74	10.11	-474.53	8,417.35	8,169.13	8,062.95	106.18	76.936		
9,407.63	9,065.00	11,201.45	7,811.48	33.10	75.74	11.00	-474.41	8,417.36	8,161.59	8,055.41	106.18	76.867		
9,500.00	9,065.00	11,200.05	7,811.42	33.68	75.71	10.93	-473.02	8,417.37	8,070.24	7,964.11	106.13	76.042		
9,600.00	9,065.00	11,198.52	7,811.36	34.41	75.69	10.86	-471.49	8,417.39	7,971.37	7,865.30	106.07	75.149		
9,700.00	9,065.00	11,196.97	7,811.30	35.24	75.66	10.79	-469.94	8,417.41	7,872.53	7,766.51	106.02	74.256		
9,800.00	9,065.00	9,800.00	7,810.32	36.17	50.47	9.52	-443.02	8,417.70	7,773.71	7,692.67	81.04	95.921		
9,900.00	9,065.00	9,900.00	7,810.25	37.19	52.27	9.42	-440.99	8,417.72	7,674.92	7,592.12	82.81	92.685		
10,000.00	9,065.00	10,000.00	7,810.18	38.30	54.07	9.32	-438.96	8,417.74	7,576.17	7,491.60	84.57	89.585		
10,100.00	9,065.00	10,100.00	7,810.11	39.48	55.87	9.23	-436.93	8,417.76	7,477.44	7,391.11	86.33	86.611		
10,200.00	9,065.00	11,199.35	7,811.38	40.72	75.70	10.90	-472.32	8,417.36	7,378.78	7,272.85	105.94	69.653		
10,300.00	9,065.00	11,193.09	7,811.15	42.03	75.59	10.60	-466.06	8,417.45	7,280.14	7,174.34	105.80	68.810		
10,400.00	9,065.00	11,187.06	7,810.93	43.40	75.48	10.32	-460.04	8,417.53	7,181.53	7,075.86	105.67	67.962		
10,500.00	9,065.00	11,181.27	7,810.72	44.82	75.37	10.05	-454.25	8,417.61	7,082.96	6,977.41	105.54	67.110		
10,600.00	9,065.00	11,175.69	7,810.51	46.29	75.27	9.78	-448.67	8,417.68	6,984.42	6,879.00	105.42	66.253		
10,700.00	9,065.00	11,170.31	7,810.32	47.79	75.18	9.53	-443.30	8,417.74	6,885.93	6,780.63	105.30	65.392		
10,800.00	9,065.00	11,165.12	7,810.13	49.34	75.08	9.28	-438.12	8,417.80	6,787.48	6,682.29	105.19	64.528		
10,900.00	9,065.00	11,160.12	7,809.95	50.92	74.99	9.04	-433.12	8,417.86	6,689.07	6,584.00	105.08	63.660		
11,000.00	9,065.00	11,155.29	7,809.77	52.54	74.91	8.82	-428.29	8,417.91	6,590.71	6,485.74	104.97	62.788		
11,100.00	9,065.00	11,150.62	7,809.61	54.18	74.82	8.59	-423.62	8,417.96	6,492.40	6,387.54	104.86	61.914		
11,200.00	9,065.00	11,146.11	7,809.45	55.85	74.74	8.38	-419.11	8,418.01	6,394.14	6,289.38	104.76	61.036		
11,300.00	9,065.00	11,141.74	7,809.29	57.54	74.66	8.17	-414.75	8,418.05	6,295.93	6,191.27	104.66	60.156		
11,400.00	9,065.00	11,137.52	7,809.14	59.26	74.58	7.97	-410.53	8,418.09	6,197.78	6,093.21	104.56	59.273		
11,500.00	9,065.00	11,133.43	7,809.00	61.00	74.51	7.77	-406.44	8,418.13	6,099.68	5,995.21	104.47	58.387		
11,600.00	9,065.00	11,129.47	7,808.86	62.75	74.44	7.59	-402.49	8,418.16	6,001.65	5,897.27	104.38	57.499		
11,700.00	9,065.00	11,125.63	7,808.72	64.52	74.37	7.40	-398.65	8,418.20	5,903.68	5,799.39	104.29	56.609		
11,800.00	9,065.00	11,121.90	7,808.59	66.31	74.30	7.22	-394.93	8,418.23	5,805.78	5,701.58	104.20	55.717		
11,900.00	9,065.00	11,118.29	7,808.46	68.11	74.24	7.05	-391.32	8,418.26	5,707.96	5,603.84	104.12	54.822		
12,000.00	9,065.00	11,114.79	7,808.34	69.93	74.17	6.88	-387.81	8,418.28	5,610.21	5,506.17	104.03	53.927		
12,100.00	9,065.00	12,100.00	7,806.87	71.76	91.95	4.88	-346.14	8,418.44	5,512.53	5,391.10	121.43	45.398		
12,200.00	9,065.00	12,200.00	7,806.83	73.60	93.75	4.83	-345.07	8,418.44	5,414.93	5,291.77	123.16	43.966		
12,300.00	9,065.00	12,300.00	7,806.79	75.45	95.56	4.78	-344.00	8,418.44	5,317.42	5,192.53	124.89	42.575		
12,400.00	9,065.00	11,105.52	7,808.01	77.31	74.01	6.44	-378.55	8,418.34	5,220.03	5,116.24	103.79	50.294		
12,500.00	9,065.00	11,101.33	7,807.87	79.18	73.93	6.24	-374.37	8,418.37	5,122.73	5,019.03	103.69	49.402		
12,600.00	9,065.00	11,097.37	7,807.74	81.05	73.86	6.05	-370.41	8,418.40	5,025.53	4,921.92	103.60	48.507		
12,700.00	9,065.00	11,093.63	7,807.61	82.94	73.79	5.87	-366.67	8,418.42	4,928.43	4,824.92	103.52	47.610		
12,800.00	9,065.00	11,090.08	7,807.49	84.83	73.73	5.70	-363.12	8,418.45	4,831.46	4,728.03	103.43	46.711		
12,900.00	9,065.00	11,086.70	7,807.37	86.73	73.67	5.54	-359.75	8,418.46	4,734.61	4,631.26	103.35	45.811		
13,000.00	9,065.00	11,083.50	7,807.26	88.64	73.61	5.38	-356.54	8,418.48	4,637.89	4,534.62	103.27	44.908		
13,100.00	9,065.00	11,080.44	7,807.16	90.55	73.55	5.24	-353.49	8,418.49	4,541.32	4,438.11	103.20	44.005		
13,200.00	9,065.00	11,077.54	7,807.06	92.47	73.50	5.10	-350.59	8,418.51	4,444.89	4,341.76	103.13	43.100		
13,300.00	9,065.00	11,074.76	7,806.96	94.39	73.45	4.96	-347.81	8,418.52	4,348.62	4,245.56	103.06	42.195		
13,400.00	9,065.00	11,072.11	7,806.87	96.32	73.40	4.84	-345.16	8,418.53	4,252.53	4,149.54	102.99	41.289		
13,500.00	9,065.00	11,069.58	7,806.78	98.25	73.36	4.71	-342.63	8,418.53	4,156.62	4,053.69	102.93	40.383		
13,600.00	9,065.00	11,067.15	7,806.69	100.19	73.31	4.60	-340.21	8,418.54	4,060.91	3,958.04	102.87	39.476		
13,700.00	9,065.00	11,064.83	7,806.61	102.13	73.27	4.49	-337.89	8,418.55	3,965.40	3,862.59	102.81	38.570		
13,800.00	9,065.00	11,062.60	7,806.53	104.08	73.23	4.38	-335.66	8,418.55	3,870.12	3,767.37	102.75	37.664		
13,900.00	9,065.00	11,060.46	7,806.45	106.03	73.19	4.28	-333.52	8,418.56	3,775.09	3,672.39	102.70	36.758		
14,000.00	9,065.00	11,058.41	7,806.38	107.98	73.16	4.18	-331.47	8,418.56	3,680.32	3,577.67	102.65	35.853		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Sec 13-T21S-R27E - Lone Tree Draw 13 State Com 8H - Original Hole - Actuals													Offset Well Error:	0.00 ft
Survey Program: 81-GYRO-NS, 7138-MWD+IGRF														
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (ft)	Separation Factor	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)				
14,100.00	9,065.00	11,056.44	7,806.31	109.94	73.12	4.08	-329.50	8,418.56	3,585.83	3,483.23	102.60	34.949		
14,200.00	9,065.00	11,054.54	7,806.24	111.90	73.09	3.99	-327.60	8,418.57	3,491.65	3,389.09	102.56	34.046		
14,300.00	9,065.00	11,052.71	7,806.18	113.86	73.05	3.90	-325.78	8,418.57	3,397.80	3,295.29	102.51	33.145		
14,400.00	9,065.00	11,050.95	7,806.11	115.82	73.02	3.82	-324.02	8,418.57	3,304.31	3,201.84	102.48	32.245		
14,500.00	9,065.00	11,049.25	7,806.05	117.79	72.99	3.74	-322.32	8,418.57	3,211.21	3,108.77	102.44	31.347		
14,600.00	9,065.00	11,047.61	7,805.99	119.76	72.96	3.66	-320.68	8,418.57	3,118.54	3,016.14	102.41	30.452		
14,700.00	9,065.00	11,046.03	7,805.93	121.74	72.93	3.58	-319.10	8,418.57	3,026.34	2,923.96	102.38	29.560		
14,800.00	9,065.00	11,044.51	7,805.88	123.71	72.91	3.51	-317.58	8,418.57	2,934.64	2,832.29	102.36	28.671		
14,900.00	9,065.00	11,043.03	7,805.82	125.69	72.88	3.44	-316.10	8,418.57	2,843.51	2,741.17	102.34	27.786		
15,000.00	9,065.00	11,041.61	7,805.77	127.67	72.85	3.37	-314.68	8,418.57	2,752.99	2,650.67	102.32	26.906		
15,100.00	9,065.00	11,040.23	7,805.72	129.65	72.83	3.30	-313.30	8,418.57	2,663.15	2,560.84	102.31	26.030		
15,200.00	9,065.00	11,038.89	7,805.67	131.63	72.81	3.24	-311.96	8,418.57	2,574.05	2,471.75	102.30	25.161		
15,300.00	9,065.00	11,037.60	7,805.62	133.62	72.78	3.18	-310.67	8,418.57	2,485.79	2,383.49	102.30	24.299		
15,400.00	9,065.00	11,036.34	7,805.58	135.61	72.76	3.11	-309.42	8,418.57	2,398.44	2,296.14	102.30	23.445		
15,500.00	9,065.00	11,035.13	7,805.53	137.60	72.74	3.06	-308.20	8,418.57	2,312.12	2,209.82	102.31	22.600		
15,600.00	9,065.00	11,033.95	7,805.49	139.59	72.72	3.00	-307.03	8,418.56	2,226.95	2,124.64	102.31	21.766		
15,700.00	9,065.00	11,032.80	7,805.45	141.58	72.70	2.94	-305.88	8,418.56	2,143.05	2,040.74	102.32	20.945		
15,800.00	9,065.00	11,031.69	7,805.40	143.57	72.68	2.89	-304.77	8,418.56	2,060.60	1,958.28	102.32	20.139		
15,900.00	9,065.00	11,030.61	7,805.36	145.57	72.66	2.84	-303.69	8,418.56	1,979.76	1,877.45	102.31	19.350		
16,000.00	9,065.00	11,029.57	7,805.32	147.56	72.64	2.79	-302.65	8,418.56	1,900.74	1,798.45	102.29	18.582		
16,100.00	9,065.00	11,028.55	7,805.29	149.56	72.62	2.74	-301.63	8,418.55	1,823.79	1,721.54	102.24	17.837		
16,200.00	9,065.00	11,027.56	7,805.25	151.56	72.60	2.69	-300.64	8,418.55	1,749.16	1,647.00	102.17	17.121		
16,300.00	9,065.00	11,026.59	7,805.21	153.56	72.58	2.64	-299.68	8,418.55	1,677.19	1,575.14	102.04	16.436		
16,400.00	9,065.00	11,025.65	7,805.18	155.56	72.57	2.60	-298.74	8,418.55	1,608.20	1,506.35	101.85	15.789		
16,500.00	9,065.00	11,024.74	7,805.14	157.57	72.55	2.56	-297.83	8,418.55	1,542.62	1,441.04	101.58	15.186		
16,600.00	9,065.00	11,023.85	7,805.11	159.57	72.53	2.51	-296.94	8,418.54	1,480.90	1,379.69	101.21	14.632		
16,700.00	9,065.00	11,022.98	7,805.08	161.57	72.52	2.47	-296.07	8,418.54	1,423.53	1,322.81	100.72	14.134		
16,800.00	9,065.00	11,022.14	7,805.05	163.58	72.50	2.43	-295.23	8,418.54	1,371.05	1,270.96	100.09	13.698		
16,900.00	9,065.00	11,021.32	7,805.02	165.59	72.49	2.39	-294.40	8,418.54	1,324.07	1,224.73	99.33	13.330		
17,000.00	9,065.00	11,020.51	7,804.98	167.60	72.47	2.35	-293.60	8,418.53	1,283.17	1,184.70	98.47	13.031		
17,100.00	9,065.00	11,019.73	7,804.96	169.60	72.46	2.31	-292.82	8,418.53	1,248.95	1,151.39	97.57	12.801		
17,200.00	9,065.00	11,018.97	7,804.93	171.61	72.45	2.28	-292.06	8,418.53	1,221.98	1,125.22	96.76	12.629		
17,300.00	9,065.00	11,018.22	7,804.90	173.62	72.43	2.24	-291.31	8,418.53	1,202.75	1,106.50	96.24	12.497		
17,400.00	9,065.00	11,017.49	7,804.87	175.63	72.42	2.21	-290.58	8,418.52	1,191.62	1,095.36	96.26	12.380		
17,483.22	9,065.00	11,016.90	7,804.85	177.31	72.41	2.18	-289.99	8,418.52	1,188.71	1,091.89	96.82	12.278 CC		
17,500.00	9,065.00	11,016.78	7,804.84	177.65	72.41	2.17	-289.87	8,418.52	1,188.83	1,091.83	97.00	12.256 ES		
17,600.00	9,065.00	11,016.09	7,804.82	179.66	72.39	2.14	-289.18	8,418.52	1,194.43	1,095.93	98.51	12.126		
17,700.00	9,065.00	11,015.41	7,804.79	181.67	72.38	2.11	-288.50	8,418.52	1,208.31	1,107.68	100.63	12.008		
17,800.00	9,065.00	11,014.74	7,804.77	183.69	72.37	2.07	-287.84	8,418.51	1,230.19	1,127.09	103.10	11.931		
17,900.00	9,065.00	11,014.10	7,804.74	185.70	72.36	2.04	-287.19	8,418.51	1,259.65	1,153.99	105.66	11.921 SF		
18,000.00	9,065.00	11,013.46	7,804.72	187.72	72.35	2.01	-286.55	8,418.51	1,296.18	1,188.07	108.11	11.989		
18,100.00	9,065.00	11,012.84	7,804.69	189.73	72.34	1.98	-285.93	8,418.51	1,339.19	1,228.87	110.32	12.139		
18,200.00	9,065.00	11,012.23	7,804.67	191.75	72.32	1.95	-285.33	8,418.50	1,388.09	1,275.85	112.24	12.368		
18,300.00	9,065.00	11,011.64	7,804.65	193.77	72.31	1.92	-284.73	8,418.50	1,442.27	1,328.42	113.85	12.668		
18,400.00	9,065.00	11,011.06	7,804.62	195.78	72.30	1.90	-284.15	8,418.50	1,501.16	1,385.99	115.17	13.034		
18,500.00	9,065.00	11,010.49	7,804.60	197.80	72.29	1.87	-283.58	8,418.50	1,564.23	1,448.00	116.24	13.457		
18,600.00	9,065.00	11,009.93	7,804.58	199.82	72.28	1.84	-283.03	8,418.49	1,631.00	1,513.93	117.07	13.931		
18,700.00	9,065.00	11,009.39	7,804.56	201.84	72.27	1.82	-282.48	8,418.49	1,701.04	1,583.31	117.72	14.450		
18,800.00	9,065.00	11,008.85	7,804.54	203.86	72.26	1.79	-281.95	8,418.49	1,773.94	1,655.73	118.21	15.006		
18,900.00	9,065.00	11,008.33	7,804.52	205.88	72.25	1.76	-281.42	8,418.49	1,849.38	1,730.81	118.57	15.597		
19,000.00	9,065.00	11,007.81	7,804.50	207.90	72.24	1.74	-280.91	8,418.48	1,927.06	1,808.23	118.83	16.217		
19,100.00	9,065.00	11,007.31	7,804.48	209.92	72.24	1.72	-280.41	8,418.48	2,006.71	1,887.71	119.00	16.863		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Sec 13-T21S-R27E - Lone Tree Draw 13 State Com 8H - Original Hole - Actuals		Offset Site Error:		5.00 ft
Survey Program:													81-GYRO-NS, 7138-MWD+IGRF		Offset Well Error:		0.00 ft
Reference		Offset		Semi Major Axis			Distance							Warning			
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre	Between Centres	Between Ellipses	Minimum Separation	Separation Factor						
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)						
19,200.00	9,065.00	11,006.81	7,804.46	211.95	72.23	1.69	-279.91	8,418.48	2,088.12	1,969.01	119.11	17.531					
19,300.00	9,065.00	11,006.33	7,804.44	213.97	72.22	1.67	-279.43	8,418.48	2,171.08	2,051.91	119.17	18.218					
19,400.00	9,065.00	11,009.90	7,804.59	215.99	72.28	1.84	-283.00	8,418.51	2,255.41	2,136.14	119.27	18.910					
19,456.84	9,065.00	11,009.59	7,804.58	217.14	72.28	1.83	-282.69	8,418.50	2,303.91	2,184.64	119.27	19.317					

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Sec 13-T21S-R27E - Lone Tree Draw State 3H - Wellbore #1 - Wellbore #1													Offset Well Error:	0.50 ft
Survey Program: 100-GYRO-NS-CT, 4452-MWD+HDGM														
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		+N/-S (ft)	+E/-W (ft)						
0.00	0.00	0.00	0.00	0.50	5.02	65.24	3,164.82	6,862.71	7,557.53					
100.00	100.00	26.80	26.80	0.52	5.03	65.24	3,164.85	6,862.73	7,557.35	7,551.81	5.54	1,363.446		
200.00	200.00	100.00	100.00	0.70	5.03	65.24	3,165.28	6,862.92	7,557.80	7,552.07	5.73	1,319.261		
300.00	300.00	214.52	214.52	0.99	5.05	65.24	3,166.10	6,863.24	7,558.38	7,552.34	6.04	1,251.274		
400.00	400.00	278.79	278.78	1.31	5.08	65.23	3,166.82	6,863.40	7,559.03	7,552.64	6.39	1,182.739		
500.00	500.00	392.87	392.85	1.65	5.16	65.22	3,168.70	6,863.56	7,559.86	7,553.05	6.80	1,111.125		
600.00	600.00	507.43	507.39	1.99	5.26	65.21	3,170.29	6,863.51	7,560.41	7,553.15	7.25	1,042.277		
700.00	700.00	576.28	576.24	2.34	5.34	65.20	3,171.21	6,863.61	7,561.09	7,553.41	7.68	984.629		
800.00	800.00	675.47	675.41	2.69	5.47	65.19	3,172.92	6,863.85	7,562.03	7,553.87	8.16	926.895		
900.00	900.00	788.16	788.09	3.04	5.64	65.18	3,175.04	6,863.86	7,562.83	7,554.15	8.68	871.310		
1,000.00	1,000.00	858.77	858.68	3.40	5.75	65.17	3,176.19	6,864.00	7,563.71	7,554.56	9.15	826.591		
1,100.00	1,100.00	1,100.00	974.72	3.75	6.21	65.15	3,178.47	6,864.24	7,564.73	7,554.76	9.96	759.218		
1,200.00	1,200.00	1,193.64	1,193.49	4.11	6.41	65.12	3,182.07	6,862.45	7,564.49	7,553.97	10.52	719.236		
1,300.00	1,300.00	1,316.11	1,315.93	4.46	6.68	65.11	3,183.47	6,860.63	7,563.61	7,552.46	11.15	678.513		
1,400.00	1,400.00	1,401.53	1,401.35	4.82	6.88	65.10	3,184.09	6,859.51	7,562.73	7,551.03	11.70	646.181		
1,500.00	1,500.00	1,526.56	1,526.36	5.18	7.19	65.09	3,185.18	6,857.66	7,561.75	7,549.38	12.37	611.518		
1,600.00	1,600.00	1,627.23	1,627.01	5.53	7.45	65.07	3,186.40	6,855.83	7,560.61	7,547.63	12.98	582.527		
1,700.00	1,700.00	1,700.00	1,764.98	5.89	7.64	65.05	3,187.97	6,853.07	7,559.29	7,545.76	13.53	558.876		
1,800.00	1,800.00	8,057.99	4,987.40	6.25	51.13	91.19	-141.46	6,789.92	7,526.95	7,473.66	53.29	141.253		
1,900.00	1,900.00	8,057.78	4,987.40	6.61	51.13	91.19	-141.25	6,789.92	7,484.38	7,430.56	53.82	139.063		
2,000.00	2,000.00	8,057.57	4,987.40	6.96	51.12	91.19	-141.04	6,789.92	7,442.90	7,388.55	54.35	136.933		
2,100.00	2,100.00	8,057.36	4,987.40	7.32	51.12	91.19	-140.83	6,789.93	7,402.55	7,347.66	54.89	134.863		
2,200.00	2,200.00	8,057.15	4,987.40	7.68	51.12	91.19	-140.62	6,789.93	7,363.34	7,307.91	55.43	132.852		
2,300.00	2,300.00	8,056.93	4,987.40	8.04	51.11	91.18	-140.40	6,789.94	7,325.27	7,269.31	55.96	130.900		
2,400.00	2,400.00	8,056.72	4,987.40	8.39	51.11	91.18	-140.19	6,789.94	7,288.39	7,231.89	56.50	129.007		
2,500.00	2,500.00	8,056.50	4,987.41	8.75	51.11	91.18	-139.97	6,789.94	7,252.69	7,195.66	57.03	127.173		
2,600.00	2,599.99	8,056.76	4,987.40	9.09	51.11	-123.20	-140.23	6,789.94	7,218.65	7,161.10	57.55	125.426		
2,700.00	2,699.96	8,057.97	4,987.40	9.42	51.13	-123.47	-141.44	6,789.92	7,186.75	7,128.67	58.07	123.753		
2,800.00	2,799.86	8,060.14	4,987.39	9.75	51.16	-123.71	-143.61	6,789.87	7,157.02	7,098.41	58.61	122.119		
2,900.00	2,899.68	8,063.27	4,987.38	10.08	51.20	-123.92	-146.74	6,789.82	7,129.50	7,070.35	59.15	120.526		
2,945.33	2,944.88	8,065.01	4,987.38	10.23	51.22	-124.01	-148.48	6,789.78	7,117.76	7,058.36	59.40	119.819		
3,000.00	2,999.39	8,067.23	4,987.37	10.41	51.25	-123.99	-150.70	6,789.74	7,104.08	7,044.37	59.71	118.977		
3,100.00	3,099.08	8,080.00	4,987.34	10.75	51.43	-123.88	-163.47	6,789.51	7,080.08	7,019.70	60.38	117.255		
3,200.00	3,198.78	8,080.00	4,987.34	11.08	51.43	-123.88	-163.47	6,789.51	7,057.40	6,996.52	60.88	115.919		
3,300.00	3,298.48	8,080.00	4,987.34	11.42	51.43	-123.88	-163.47	6,789.51	7,036.07	6,974.69	61.38	114.634		
3,400.00	3,398.18	8,080.00	4,987.34	11.76	51.43	-123.88	-163.47	6,789.51	7,016.10	6,954.23	61.87	113.399		
3,500.00	3,497.88	8,080.00	4,987.34	12.10	51.43	-123.88	-163.47	6,789.51	6,997.50	6,935.15	62.36	112.215		
3,600.00	3,597.58	8,080.00	4,987.34	12.45	51.43	-123.88	-163.47	6,789.51	6,980.29	6,917.45	62.84	111.081		
3,700.00	3,697.27	8,080.00	4,987.34	12.79	51.43	-123.88	-163.47	6,789.51	6,964.47	6,901.15	63.32	109.997		
3,800.00	3,796.97	8,080.00	4,987.34	13.14	51.43	-123.88	-163.47	6,789.51	6,950.05	6,886.26	63.78	108.962		
3,900.00	3,896.67	8,080.00	4,987.34	13.48	51.43	-123.88	-163.47	6,789.51	6,937.04	6,872.80	64.25	107.975		
4,000.00	3,996.37	8,101.59	4,987.30	13.83	51.73	-123.70	-185.05	6,789.16	6,925.39	6,860.39	65.00	106.551		
4,100.00	4,096.07	8,104.78	4,987.29	14.18	51.77	-123.68	-188.25	6,789.11	6,915.21	6,849.72	65.49	105.596		
4,200.00	4,195.76	8,107.99	4,987.29	14.53	51.82	-123.65	-191.45	6,789.06	6,906.45	6,840.48	65.97	104.690		
4,300.00	4,295.46	8,111.21	4,987.29	14.88	51.86	-123.62	-194.67	6,789.02	6,899.14	6,832.69	66.45	103.832		
4,400.00	4,395.16	8,114.45	4,987.28	15.23	51.91	-123.60	-197.91	6,788.98	6,893.26	6,826.35	66.91	103.020		
4,500.00	4,494.86	8,117.70	4,987.28	15.58	51.95	-123.57	-201.16	6,788.94	6,888.83	6,821.46	67.37	102.256		
4,600.00	4,594.56	8,120.97	4,987.28	15.93	52.00	-123.54	-204.43	6,788.89	6,885.84	6,818.03	67.82	101.537		
4,700.00	4,694.25	8,124.25	4,987.28	16.29	52.04	-123.52	-207.71	6,788.86	6,884.31	6,816.05	68.25	100.863		
4,756.07	4,750.15	8,126.10	4,987.28	16.49	52.07	-123.50	-209.56	6,788.83	6,884.08	6,815.58	68.50	100.504		
4,800.00	4,793.95	8,127.55	4,987.28	16.64	52.09	-123.49	-211.01	6,788.82	6,884.22	6,815.54	68.68	100.233		
4,900.00	4,893.65	8,130.86	4,987.28	17.00	52.13	-123.46	-214.32	6,788.78	6,885.58	6,816.48	69.10	99.647		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Sec 13-T21S-R27E - Lone Tree Draw State 3H - Wellbore #1 - Wellbore #1													Offset Well Error:	0.50 ft
Survey Program: 100-GYRO-NS-CT, 4452-MWD+HDGM														
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
5,000.00	4,993.35	8,134.19	4,987.28	17.35	52.18	-123.43	-217.65	6,788.75	6,888.39	6,818.88	69.51	99.104		
5,100.00	5,093.05	8,137.53	4,987.28	17.71	52.23	-123.41	-220.99	6,788.71	6,892.65	6,822.74	69.90	98.603		
5,200.00	5,192.75	8,140.89	4,987.28	18.06	52.27	-123.38	-224.35	6,788.68	6,898.35	6,828.06	70.29	98.143		
5,300.00	5,292.44	8,144.26	4,987.29	18.42	52.32	-123.35	-227.72	6,788.65	6,905.49	6,834.83	70.66	97.724		
5,400.00	5,392.14	8,147.65	4,987.29	18.77	52.37	-123.32	-231.11	6,788.62	6,914.07	6,843.04	71.03	97.344		
5,500.00	5,491.84	8,151.06	4,987.29	19.13	52.41	-123.29	-234.52	6,788.59	6,924.07	6,852.69	71.38	97.004		
5,600.00	5,591.54	8,154.48	4,987.30	19.49	52.46	-123.26	-237.94	6,788.56	6,935.50	6,863.78	71.72	96.702		
5,700.00	5,691.24	8,175.00	4,987.34	19.85	52.74	-123.09	-258.46	6,788.44	6,948.39	6,876.11	72.29	96.124		
5,800.00	5,790.93	8,175.00	4,987.34	20.20	52.74	-123.09	-258.46	6,788.44	6,962.64	6,890.08	72.56	95.962		
5,900.00	5,890.63	8,175.00	4,987.34	20.56	52.74	-123.09	-258.46	6,788.44	6,978.28	6,905.47	72.82	95.835		
6,000.00	5,990.33	8,175.00	4,987.34	20.92	52.74	-123.09	-258.46	6,788.44	6,995.33	6,922.26	73.06	95.743		
6,100.00	6,090.03	8,175.00	4,987.34	21.28	52.74	-123.09	-258.46	6,788.44	7,013.75	6,940.45	73.30	95.686		
6,200.00	6,189.73	8,175.00	4,987.34	21.64	52.74	-123.09	-258.46	6,788.44	7,033.55	6,960.03	73.53	95.662		
6,300.00	6,289.42	8,180.66	4,987.35	22.00	52.82	-123.05	-264.12	6,788.41	7,054.71	6,980.90	73.82	95.569		
6,400.00	6,389.12	8,185.81	4,987.36	22.36	52.89	-123.00	-269.27	6,788.39	7,077.22	7,003.13	74.09	95.519		
6,500.00	6,488.82	8,190.97	4,987.38	22.72	52.97	-122.96	-274.43	6,788.37	7,101.05	7,026.70	74.36	95.501		
6,600.00	6,588.52	8,196.13	4,987.39	23.08	53.04	-122.92	-279.59	6,788.35	7,126.21	7,051.60	74.61	95.515		
6,700.00	6,688.22	8,201.31	4,987.41	23.44	53.11	-122.88	-284.76	6,788.33	7,152.67	7,077.82	74.85	95.559		
6,800.00	6,787.91	8,206.49	4,987.42	23.80	53.18	-122.83	-289.95	6,788.31	7,180.42	7,105.34	75.08	95.632		
6,900.00	6,887.61	8,211.68	4,987.44	24.16	53.25	-122.79	-295.14	6,788.30	7,209.45	7,134.14	75.31	95.735		
7,000.00	6,987.31	8,216.88	4,987.45	24.52	53.33	-122.75	-300.34	6,788.28	7,239.73	7,164.22	75.52	95.866		
7,100.00	7,087.01	8,222.09	4,987.47	24.88	53.40	-122.70	-305.54	6,788.27	7,271.27	7,195.54	75.72	96.025		
7,200.00	7,186.71	8,227.30	4,987.48	25.24	53.47	-122.66	-310.76	6,788.26	7,304.02	7,228.11	75.92	96.210		
7,300.00	7,286.41	8,232.53	4,987.50	25.60	53.54	-122.62	-315.99	6,788.24	7,338.00	7,261.89	76.10	96.422		
7,400.00	7,386.10	8,237.76	4,987.52	25.96	53.62	-122.57	-321.22	6,788.23	7,373.16	7,296.88	76.28	96.659		
7,500.00	7,485.80	8,243.01	4,987.53	26.33	53.69	-122.53	-326.46	6,788.22	7,409.51	7,333.06	76.45	96.921		
7,600.00	7,585.50	8,248.26	4,987.55	26.69	53.76	-122.49	-331.72	6,788.22	7,447.01	7,370.40	76.61	97.206		
7,700.00	7,685.20	8,253.52	4,987.57	27.05	53.83	-122.44	-336.98	6,788.21	7,485.66	7,408.89	76.76	97.515		
7,800.00	7,784.90	8,258.79	4,987.59	27.41	53.91	-122.40	-342.25	6,788.21	7,525.43	7,448.52	76.91	97.846		
7,860.70	7,845.41	8,261.99	4,987.60	27.63	53.95	-122.37	-345.45	6,788.20	7,550.12	7,473.12	77.00	98.058		
7,900.00	7,884.61	8,263.94	4,987.61	27.77	53.98	-122.58	-347.39	6,788.20	7,566.22	7,489.17	77.05	98.201		
8,000.00	7,984.46	8,270.00	4,987.63	28.13	54.06	-123.09	-353.46	6,788.20	7,607.04	7,529.86	77.19	98.552		
8,100.00	8,084.42	8,270.00	4,987.63	28.49	54.06	-123.65	-353.46	6,788.20	7,647.66	7,570.42	77.24	99.014		
8,157.59	8,142.00	8,270.43	4,987.63	28.69	54.07	90.11	-353.89	6,788.20	7,670.95	7,593.68	77.26	99.281		
8,200.00	8,184.41	8,270.63	4,987.63	28.83	54.07	90.11	-354.08	6,788.20	7,688.17	7,610.89	77.28	99.487		
8,300.00	8,284.41	8,271.09	4,987.63	29.17	54.08	90.12	-354.55	6,788.20	7,729.53	7,652.22	77.31	99.984		
8,400.00	8,384.41	8,271.55	4,987.63	29.51	54.09	90.12	-355.01	6,788.20	7,771.97	7,694.63	77.33	100.500		
8,507.63	8,492.04	8,272.05	4,987.64	29.87	54.09	90.13	-355.50	6,788.20	7,818.81	7,741.45	77.35	101.077		
8,550.00	8,534.37	8,272.22	4,987.64	30.02	54.09	0.73	-355.68	6,788.20	7,836.16	7,758.80	77.36	101.298		
8,600.00	8,584.01	8,272.36	4,987.64	30.18	54.10	0.71	-355.82	6,788.20	7,853.15	7,775.80	77.35	101.527		
8,650.00	8,632.95	8,272.44	4,987.64	30.34	54.10	0.70	-355.90	6,788.20	7,866.27	7,788.94	77.33	101.718		
8,700.00	8,680.82	8,272.45	4,987.64	30.50	54.10	0.68	-355.91	6,788.20	7,875.44	7,798.14	77.31	101.869		
8,750.00	8,727.25	8,272.40	4,987.64	30.66	54.10	0.68	-355.86	6,788.20	7,880.61	7,803.34	77.27	101.982		
8,800.00	8,771.89	8,272.28	4,987.64	30.81	54.10	0.68	-355.74	6,788.20	7,881.75	7,804.52	77.23	102.056		
8,850.00	8,814.40	8,272.10	4,987.64	30.95	54.09	0.68	-355.56	6,788.20	7,878.84	7,801.66	77.17	102.092		
8,900.00	8,854.46	8,271.86	4,987.63	31.09	54.09	0.68	-355.32	6,788.20	7,871.90	7,794.79	77.11	102.091		
8,950.00	8,891.75	8,271.55	4,987.63	31.23	54.09	0.70	-355.01	6,788.20	7,860.98	7,783.95	77.03	102.051		
9,000.00	8,926.01	8,271.19	4,987.63	31.37	54.08	0.71	-354.65	6,788.20	7,846.14	7,769.20	76.94	101.972		
9,050.00	8,956.96	8,270.78	4,987.63	31.53	54.07	0.73	-354.24	6,788.20	7,827.48	7,750.63	76.85	101.855		
9,100.00	8,984.38	8,270.31	4,987.63	31.69	54.07	0.76	-353.77	6,788.20	7,805.11	7,728.36	76.75	101.700		
9,150.00	9,008.05	8,270.00	4,987.63	31.87	54.06	0.80	-353.46	6,788.20	7,779.17	7,702.53	76.64	101.503		
9,200.00	9,027.79	8,270.00	4,987.63	32.07	54.06	0.85	-353.46	6,788.20	7,749.81	7,673.28	76.53	101.261		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Sec 13-T21S-R27E - Lone Tree Draw State 3H - Wellbore #1 - Wellbore #1													Offset Well Error:	0.50 ft
Survey Program: 100-GYRO-NS-CT, 4452-MWD+HDGM														
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (ft)	Separation Factor	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)				
9,250.00	9,043.45	8,270.00	4,987.63	32.29	54.06	0.92	-353.46	6,788.20	7,717.24	7,640.82	76.42	100.981		
9,300.00	9,054.92	8,270.00	4,987.63	32.53	54.06	1.01	-353.46	6,788.20	7,681.65	7,605.34	76.31	100.661		
9,350.00	9,062.10	8,270.00	4,987.63	32.79	54.06	1.12	-353.46	6,788.20	7,643.28	7,567.08	76.20	100.304		
9,400.00	9,064.95	8,267.83	4,987.62	33.06	54.03	1.24	-351.29	6,788.20	7,602.37	7,526.31	76.07	99.945		
9,407.63	9,065.00	8,267.76	4,987.62	33.10	54.03	1.26	-351.22	6,788.20	7,595.93	7,519.87	76.05	99.878		
9,500.00	9,065.00	8,266.91	4,987.62	33.68	54.02	1.25	-350.37	6,788.20	7,517.71	7,441.88	75.83	99.136		
9,600.00	9,065.00	8,265.98	4,987.61	34.41	54.01	1.24	-349.44	6,788.20	7,433.41	7,357.81	75.60	98.331		
9,700.00	9,065.00	8,265.04	4,987.61	35.24	53.99	1.22	-348.50	6,788.20	7,349.49	7,274.14	75.36	97.526		
9,800.00	9,065.00	8,264.10	4,987.61	36.17	53.98	1.21	-347.56	6,788.20	7,265.99	7,190.86	75.13	96.719		
9,900.00	9,065.00	8,263.15	4,987.60	37.19	53.97	1.19	-346.61	6,788.20	7,182.91	7,108.01	74.89	95.910		
10,000.00	9,065.00	8,262.19	4,987.60	38.30	53.95	1.18	-345.65	6,788.20	7,100.26	7,025.60	74.66	95.099		
10,100.00	9,065.00	8,261.22	4,987.60	39.48	53.94	1.17	-344.68	6,788.20	7,018.06	6,943.63	74.43	94.285		
10,200.00	9,065.00	8,260.25	4,987.59	40.72	53.93	1.15	-343.71	6,788.20	6,936.33	6,862.12	74.21	93.470		
10,300.00	9,065.00	8,259.27	4,987.59	42.03	53.91	1.14	-342.73	6,788.20	6,855.09	6,781.10	73.99	92.651		
10,400.00	9,065.00	8,258.28	4,987.59	43.40	53.90	1.13	-341.74	6,788.21	6,774.34	6,700.57	73.77	91.829		
10,500.00	9,065.00	8,257.28	4,987.58	44.82	53.89	1.11	-340.74	6,788.21	6,694.12	6,620.56	73.56	91.004		
10,600.00	9,065.00	8,256.28	4,987.58	46.29	53.87	1.10	-339.74	6,788.21	6,614.44	6,541.08	73.35	90.176		
10,700.00	9,065.00	8,255.27	4,987.58	47.79	53.86	1.08	-338.73	6,788.21	6,535.31	6,462.16	73.15	89.343		
10,800.00	9,065.00	8,254.25	4,987.57	49.34	53.84	1.07	-337.71	6,788.21	6,456.76	6,383.81	72.95	88.507		
10,900.00	9,065.00	8,253.22	4,987.57	50.92	53.83	1.05	-336.68	6,788.21	6,378.81	6,306.05	72.76	87.666		
11,000.00	9,065.00	8,252.19	4,987.56	52.54	53.82	1.04	-335.65	6,788.21	6,301.49	6,228.91	72.58	86.820		
11,100.00	9,065.00	8,251.14	4,987.56	54.18	53.80	1.02	-334.60	6,788.21	6,224.81	6,152.40	72.41	85.970		
11,200.00	9,065.00	8,250.09	4,987.56	55.85	53.79	1.01	-333.55	6,788.21	6,148.80	6,076.56	72.24	85.114		
11,300.00	9,065.00	8,249.03	4,987.55	57.54	53.77	0.99	-332.49	6,788.22	6,073.49	6,001.40	72.09	84.254		
11,400.00	9,065.00	8,247.96	4,987.55	59.26	53.76	0.98	-331.42	6,788.22	5,998.90	5,926.96	71.94	83.388		
11,500.00	9,065.00	8,246.89	4,987.55	61.00	53.74	0.96	-330.35	6,788.22	5,925.05	5,853.25	71.80	82.516		
11,600.00	9,065.00	8,245.80	4,987.54	62.75	53.73	0.95	-329.26	6,788.22	5,851.98	5,780.30	71.68	81.640		
11,700.00	9,065.00	8,244.71	4,987.54	64.52	53.71	0.93	-328.17	6,788.22	5,779.72	5,708.15	71.57	80.757		
11,800.00	9,065.00	8,243.60	4,987.54	66.31	53.70	0.92	-327.06	6,788.22	5,708.30	5,636.83	71.47	79.870		
11,900.00	9,065.00	8,242.49	4,987.53	68.11	53.68	0.90	-325.95	6,788.23	5,637.74	5,566.36	71.38	78.977		
12,000.00	9,065.00	8,241.37	4,987.53	69.93	53.67	0.88	-324.83	6,788.23	5,568.09	5,496.78	71.31	78.079		
12,100.00	9,065.00	8,240.24	4,987.52	71.76	53.65	0.87	-323.70	6,788.23	5,499.37	5,428.12	71.26	77.177		
12,200.00	9,065.00	8,239.10	4,987.52	73.60	53.63	0.85	-322.56	6,788.23	5,431.63	5,360.41	71.22	76.270		
12,300.00	9,065.00	8,237.95	4,987.52	75.45	53.62	0.84	-321.41	6,788.23	5,364.89	5,293.70	71.19	75.360		
12,400.00	9,065.00	8,236.79	4,987.51	77.31	53.60	0.82	-320.25	6,788.24	5,299.20	5,228.02	71.18	74.447		
12,500.00	9,065.00	8,235.62	4,987.51	79.18	53.59	0.80	-319.08	6,788.24	5,234.59	5,163.40	71.19	73.531		
12,600.00	9,065.00	8,234.45	4,987.51	81.05	53.57	0.79	-317.90	6,788.24	5,171.11	5,099.90	71.21	72.613		
12,700.00	9,065.00	8,233.26	4,987.50	82.94	53.55	0.77	-316.72	6,788.24	5,108.80	5,037.54	71.26	71.694		
12,800.00	9,065.00	8,232.06	4,987.50	84.83	53.54	0.75	-315.52	6,788.24	5,047.70	4,976.38	71.32	70.775		
12,900.00	9,065.00	8,230.85	4,987.49	86.73	53.52	0.73	-314.31	6,788.25	4,987.86	4,916.46	71.40	69.857		
13,000.00	9,065.00	8,229.63	4,987.49	88.64	53.50	0.72	-313.09	6,788.25	4,929.32	4,857.82	71.50	68.941		
13,100.00	9,065.00	8,228.40	4,987.49	90.55	53.49	0.70	-311.86	6,788.25	4,872.13	4,800.51	71.62	68.028		
13,200.00	9,065.00	8,227.16	4,987.48	92.47	53.47	0.68	-310.62	6,788.26	4,816.33	4,744.58	71.76	67.119		
13,300.00	9,065.00	8,225.91	4,987.48	94.39	53.45	0.66	-309.37	6,788.26	4,761.99	4,690.07	71.92	66.215		
13,400.00	9,065.00	8,224.65	4,987.47	96.32	53.43	0.65	-308.11	6,788.26	4,709.13	4,637.04	72.10	65.318		
13,500.00	9,065.00	8,223.38	4,987.47	98.25	53.42	0.63	-306.84	6,788.26	4,657.83	4,585.53	72.29	64.429		
13,600.00	9,065.00	8,222.10	4,987.47	100.19	53.40	0.61	-305.56	6,788.27	4,608.12	4,535.61	72.51	63.548		
13,700.00	9,065.00	8,220.80	4,987.46	102.13	53.38	0.59	-304.26	6,788.27	4,560.07	4,487.31	72.75	62.678		
13,800.00	9,065.00	8,219.50	4,987.46	104.08	53.36	0.57	-302.96	6,788.27	4,513.72	4,440.70	73.02	61.819		
13,900.00	9,065.00	8,218.18	4,987.46	106.03	53.34	0.55	-301.64	6,788.28	4,469.12	4,395.82	73.30	60.972		
14,000.00	9,065.00	8,216.85	4,987.45	107.98	53.32	0.54	-300.31	6,788.28	4,426.34	4,352.73	73.60	60.138		
14,100.00	9,065.00	8,215.51	4,987.45	109.94	53.31	0.52	-298.97	6,788.29	4,385.41	4,311.48	73.93	59.319		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Survey Program: 100-GYRO-NS-CT, 4452-MWD+HDGM													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Minimum Separation (ft)	Separation Factor	Warning			
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)						
14,200.00	9,065.00	8,214.16	4,987.44	111.90	53.29	0.50	-297.62	6,788.29	4,346.41	4,272.13	74.28	58.515		
14,300.00	9,065.00	8,212.79	4,987.44	113.86	53.27	0.48	-296.25	6,788.29	4,309.37	4,234.72	74.65	57.727		
14,400.00	9,065.00	8,211.42	4,987.44	115.82	53.25	0.46	-294.87	6,788.30	4,274.35	4,199.30	75.05	56.956		
14,500.00	9,065.00	8,210.03	4,987.43	117.79	53.23	0.44	-293.48	6,788.30	4,241.40	4,165.93	75.47	56.202		
14,600.00	9,065.00	8,208.62	4,987.43	119.76	53.21	0.42	-292.08	6,788.31	4,210.56	4,134.65	75.91	55.467		
14,700.00	9,065.00	8,207.21	4,987.42	121.74	53.19	0.40	-290.67	6,788.31	4,181.89	4,105.51	76.38	54.750		
14,800.00	9,065.00	8,205.78	4,987.42	123.71	53.17	0.38	-289.24	6,788.32	4,155.43	4,078.55	76.88	54.051		
14,900.00	9,065.00	8,204.34	4,987.41	125.69	53.15	0.36	-287.80	6,788.32	4,131.22	4,053.81	77.40	53.372		
15,000.00	9,065.00	8,202.88	4,987.41	127.67	53.13	0.34	-286.34	6,788.33	4,109.30	4,031.34	77.96	52.713		
15,100.00	9,065.00	8,201.41	4,987.41	129.65	53.11	0.32	-284.87	6,788.33	4,089.71	4,011.17	78.54	52.073		
15,200.00	9,065.00	8,199.93	4,987.40	131.63	53.09	0.29	-283.39	6,788.34	4,072.48	3,993.33	79.15	51.453		
15,300.00	9,065.00	8,198.43	4,987.40	133.62	53.07	0.27	-281.89	6,788.34	4,057.64	3,977.85	79.79	50.854		
15,400.00	9,065.00	8,196.92	4,987.39	135.61	53.05	0.25	-280.38	6,788.35	4,045.22	3,964.75	80.46	50.275		
15,500.00	9,065.00	8,195.40	4,987.39	137.60	53.03	0.23	-278.86	6,788.35	4,035.23	3,954.07	81.16	49.718		
15,600.00	9,065.00	8,193.86	4,987.39	139.59	53.01	0.21	-277.32	6,788.36	4,027.71	3,945.82	81.89	49.183		
15,700.00	9,065.00	8,192.30	4,987.38	141.58	52.98	0.19	-275.76	6,788.36	4,022.66	3,940.01	82.65	48.669		
15,800.00	9,065.00	8,193.69	4,987.39	143.57	53.00	0.21	-277.14	6,788.37	4,020.09	3,936.62	83.47	48.164		
15,853.32	9,065.00	8,192.80	4,987.39	144.64	52.99	0.19	-276.26	6,788.38	4,019.73	3,935.84	83.90	47.913 CC		
15,900.00	9,065.00	8,192.02	4,987.39	145.57	52.98	0.18	-275.47	6,788.38	4,020.00	3,935.72	84.28	47.699 ES		
16,000.00	9,065.00	8,190.29	4,987.38	147.56	52.95	0.16	-273.74	6,788.38	4,022.41	3,937.29	85.12	47.258		
16,100.00	9,065.00	8,188.49	4,987.38	149.56	52.93	0.13	-271.95	6,788.39	4,027.29	3,941.32	85.97	46.843		
16,200.00	9,065.00	8,186.63	4,987.37	151.56	52.90	0.10	-270.09	6,788.39	4,034.65	3,947.80	86.85	46.455		
16,300.00	9,065.00	8,184.70	4,987.36	153.56	52.88	0.08	-268.16	6,788.40	4,044.47	3,956.72	87.74	46.094		
16,400.00	9,065.00	8,182.70	4,987.36	155.56	52.85	0.05	-266.16	6,788.41	4,056.73	3,968.08	88.65	45.762		
16,500.00	9,065.00	8,180.62	4,987.35	157.57	52.82	0.02	-264.08	6,788.41	4,071.40	3,981.84	89.56	45.460		
16,600.00	9,065.00	8,178.46	4,987.35	159.57	52.79	-0.01	-261.92	6,788.42	4,088.48	3,998.00	90.48	45.188		
16,700.00	9,065.00	8,176.20	4,987.34	161.57	52.76	-0.04	-259.66	6,788.43	4,107.91	4,016.51	91.40	44.946		
16,800.00	9,065.00	8,173.86	4,987.33	163.58	52.73	-0.08	-257.32	6,788.44	4,129.67	4,037.36	92.31	44.737		
16,900.00	9,065.00	8,171.41	4,987.33	165.59	52.69	-0.11	-254.87	6,788.46	4,153.73	4,060.51	93.22	44.559		
17,000.00	9,065.00	8,168.86	4,987.32	167.60	52.66	-0.15	-252.32	6,788.47	4,180.04	4,085.92	94.12	44.413		
17,100.00	9,065.00	8,166.19	4,987.32	169.60	52.62	-0.19	-249.65	6,788.49	4,208.56	4,113.56	95.00	44.299		
17,200.00	9,065.00	8,163.41	4,987.31	171.61	52.58	-0.23	-246.87	6,788.50	4,239.25	4,143.38	95.87	44.217		
17,300.00	9,065.00	8,160.49	4,987.31	173.62	52.54	-0.27	-243.95	6,788.52	4,272.06	4,175.34	96.72	44.168		
17,400.00	9,065.00	8,157.44	4,987.30	175.63	52.50	-0.31	-240.90	6,788.54	4,306.94	4,209.39	97.55	44.150 SF		
17,500.00	9,065.00	8,154.24	4,987.30	177.65	52.46	-0.36	-237.70	6,788.57	4,343.84	4,245.48	98.36	44.163		
17,600.00	9,065.00	8,150.88	4,987.29	179.66	52.41	-0.41	-234.34	6,788.59	4,382.71	4,283.57	99.14	44.207		
17,700.00	9,065.00	8,147.34	4,987.29	181.67	52.36	-0.46	-230.80	6,788.62	4,423.50	4,323.61	99.90	44.281		
17,800.00	9,065.00	8,143.62	4,987.29	183.69	52.31	-0.51	-227.08	6,788.65	4,466.15	4,365.53	100.62	44.386		
17,900.00	9,065.00	8,139.70	4,987.28	185.70	52.26	-0.56	-223.16	6,788.69	4,510.62	4,409.30	101.32	44.519		
18,000.00	9,065.00	8,135.57	4,987.28	187.72	52.20	-0.62	-219.03	6,788.73	4,556.85	4,454.86	101.99	44.680		
18,100.00	9,065.00	8,131.19	4,987.28	189.73	52.14	-0.69	-214.65	6,788.78	4,604.78	4,502.15	102.63	44.869		
18,200.00	9,065.00	8,126.57	4,987.28	191.75	52.07	-0.75	-210.03	6,788.83	4,654.36	4,551.13	103.24	45.085		
18,300.00	9,065.00	8,121.66	4,987.28	193.77	52.01	-0.82	-205.12	6,788.89	4,705.55	4,601.73	103.81	45.326		
18,400.00	9,065.00	8,116.44	4,987.28	195.78	51.93	-0.90	-199.91	6,788.95	4,758.28	4,653.92	104.36	45.594		
18,500.00	9,065.00	8,110.89	4,987.29	197.80	51.86	-0.97	-194.36	6,789.02	4,812.51	4,707.63	104.88	45.886		
18,600.00	9,065.00	8,104.98	4,987.29	199.82	51.78	-1.06	-188.44	6,789.11	4,868.19	4,762.82	105.37	46.202		
18,700.00	9,065.00	8,098.65	4,987.30	201.84	51.69	-1.15	-182.12	6,789.20	4,925.27	4,819.44	105.83	46.541		
18,800.00	9,065.00	8,091.88	4,987.31	203.86	51.59	-1.25	-175.34	6,789.31	4,983.69	4,877.44	106.26	46.903		
18,900.00	9,065.00	8,084.61	4,987.33	205.88	51.49	-1.35	-168.07	6,789.43	5,043.42	4,936.77	106.66	47.287		
19,000.00	9,065.00	8,078.18	4,987.34	207.90	51.41	-1.44	-161.65	6,789.54	5,104.41	4,997.37	107.04	47.687		
19,100.00	9,065.00	8,073.59	4,987.35	209.92	51.34	-1.51	-157.06	6,789.62	5,166.61	5,059.19	107.42	48.099		
19,200.00	9,065.00	8,068.90	4,987.37	211.95	51.28	-1.57	-152.37	6,789.71	5,229.97	5,122.20	107.77	48.529		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design		Sec 13-T21S-R27E - Lone Tree Draw State 3H - Wellbore #1 - Wellbore #1											Offset Site Error:	5.00 ft
Survey Program:		100-GYRO-NS-CT, 4452-MWD+HDGM											Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor		
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)			
19,300.00	9,065.00	8,064.12	4,987.38	213.97	51.21	-1.64	-147.58	6,789.80	5,294.47	5,186.37	108.10	48.977		
19,400.00	9,065.00	8,059.22	4,987.40	215.99	51.14	-1.71	-142.69	6,789.89	5,360.05	5,251.64	108.41	49.441		
19,456.84	9,065.00	8,056.40	4,987.41	217.14	51.11	-1.75	-139.87	6,789.95	5,397.80	5,289.22	108.58	49.713		

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Survey Program: 100-GYRO-NS-CT, 2922-MWD+HDGM													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)						
0.00	0.00	0.00	0.00	0.50	5.02	66.72	3,319.90	7,715.44	8,399.58					
100.00	100.00	39.11	39.11	0.52	5.03	66.72	3,319.90	7,715.44	8,399.39	8,393.85	5.54	1,515.327		
200.00	200.00	139.31	139.31	0.70	5.03	66.72	3,319.98	7,715.50	8,399.48	8,393.74	5.73	1,464.796		
300.00	300.00	262.92	262.92	0.99	5.07	66.71	3,320.39	7,715.21	8,399.40	8,393.34	6.06	1,385.841		
400.00	400.00	400.00	468.21	1.31	5.16	66.71	3,319.75	7,713.55	8,398.53	8,392.06	6.47	1,298.021		
500.00	500.00	626.05	626.00	1.65	5.40	66.72	3,317.34	7,711.04	8,396.33	8,389.29	7.04	1,192.165		
600.00	600.00	700.00	699.93	1.99	5.50	66.73	3,316.39	7,709.93	8,394.40	8,386.92	7.49	1,121.131		
700.00	700.00	764.79	764.71	2.34	5.60	66.73	3,315.87	7,709.07	8,392.83	8,384.90	7.93	1,058.065		
800.00	800.00	876.22	876.13	2.69	5.78	66.73	3,315.29	7,707.56	8,391.38	8,382.92	8.47	991.262		
900.00	900.00	1,005.03	1,004.92	3.04	6.02	66.72	3,314.93	7,705.25	8,389.62	8,380.57	9.05	926.708		
1,000.00	1,000.00	1,070.73	1,070.61	3.40	6.15	66.72	3,314.89	7,704.05	8,387.91	8,378.38	9.54	879.517		
1,100.00	1,100.00	1,362.68	1,362.45	3.75	6.80	66.72	3,311.66	7,697.31	8,385.56	8,375.03	10.53	796.517		
1,200.00	1,200.00	1,441.87	1,441.57	4.11	7.00	66.73	3,309.35	7,695.12	8,381.87	8,370.79	11.07	756.919		
1,300.00	1,300.00	1,517.18	1,516.82	4.46	7.19	66.74	3,307.11	7,693.28	8,378.45	8,366.83	11.62	721.253		
1,400.00	1,400.00	1,591.17	1,590.77	4.82	7.38	66.75	3,304.95	7,691.70	8,375.34	8,363.18	12.16	688.686		
1,500.00	1,500.00	1,718.54	1,718.06	5.18	7.72	66.76	3,301.31	7,688.89	8,372.17	8,359.32	12.85	651.515		
1,600.00	1,600.00	1,790.71	1,790.18	5.53	7.92	66.77	3,299.31	7,687.30	8,369.05	8,355.65	13.40	624.471		
1,700.00	1,700.00	1,924.34	1,923.73	5.89	8.29	66.79	3,295.50	7,684.40	8,365.95	8,351.82	14.13	592.255		
1,800.00	1,800.00	2,098.27	2,097.50	6.25	8.80	66.81	3,290.11	7,679.64	8,362.25	8,347.28	14.97	558.480		
1,900.00	1,900.00	2,179.38	2,178.53	6.61	9.05	66.82	3,287.76	7,677.00	8,358.12	8,342.55	15.57	536.939		
2,000.00	2,000.00	2,247.14	2,246.24	6.96	9.25	66.82	3,285.85	7,674.98	8,354.28	8,338.16	16.12	518.139		
2,100.00	2,100.00	2,320.13	2,319.18	7.32	9.47	66.83	3,283.72	7,673.19	8,350.86	8,334.16	16.70	500.102		
2,200.00	2,200.00	2,424.39	2,423.36	7.68	9.79	66.84	3,280.57	7,670.69	8,347.47	8,330.10	17.37	480.618		
2,300.00	2,300.00	2,500.00	2,498.92	8.04	10.03	66.85	3,278.38	7,669.01	8,344.27	8,326.32	17.96	464.713		
2,400.00	2,400.00	2,599.56	2,598.42	8.39	10.34	66.87	3,275.61	7,666.90	8,341.23	8,322.61	18.62	448.028		
2,500.00	2,500.00	2,695.14	2,693.94	8.75	10.64	66.88	3,273.03	7,664.84	8,338.19	8,318.92	19.27	432.699		
2,600.00	2,599.99	2,775.00	2,773.76	9.09	10.89	-147.21	3,271.00	7,663.21	8,336.05	8,316.19	19.86	419.746		
2,668.38	2,668.35	2,818.61	2,817.35	9.32	10.96	-147.21	3,270.05	7,662.38	8,335.61	8,315.46	20.15	413.630		
2,700.00	2,699.96	2,839.60	2,838.33	9.42	10.99	-147.21	3,269.68	7,661.99	8,335.70	8,315.41	20.29	410.850		
2,800.00	2,799.86	2,905.94	2,904.65	9.75	11.10	-147.21	3,268.88	7,660.79	8,337.23	8,316.51	20.72	402.321		
2,900.00	2,899.68	2,994.03	2,992.73	10.08	11.14	-147.21	3,268.45	7,659.22	8,340.53	8,319.44	21.09	395.501		
2,945.33	2,944.88	3,275.19	3,273.47	10.23	11.23	-147.35	3,274.16	7,646.74	8,341.68	8,320.36	21.32	391.238		
3,000.00	2,999.39	3,336.94	3,334.99	10.41	11.26	-147.40	3,277.06	7,642.35	8,342.69	8,321.16	21.54	387.389		
3,100.00	3,099.08	3,438.29	3,435.97	10.75	11.33	-147.48	3,281.85	7,635.09	8,344.53	8,322.60	21.93	380.446		
3,200.00	3,198.78	3,537.64	3,534.96	11.08	11.40	-147.56	3,286.53	7,627.97	8,346.36	8,324.02	22.34	373.537		
3,300.00	3,298.48	3,635.05	3,632.01	11.42	11.48	-147.63	3,291.13	7,621.00	8,348.23	8,325.47	22.77	366.693		
3,400.00	3,398.18	3,733.30	3,729.90	11.76	11.57	-147.71	3,295.82	7,613.97	8,350.13	8,326.93	23.20	359.895		
3,500.00	3,497.88	3,832.46	3,828.67	12.10	11.68	-147.79	3,300.69	7,606.82	8,352.06	8,328.41	23.65	353.149		
3,600.00	3,597.58	3,928.47	3,924.32	12.45	11.79	-147.86	3,305.39	7,599.92	8,354.01	8,329.90	24.11	346.538		
3,700.00	3,697.27	3,990.34	3,985.96	12.79	11.86	-147.91	3,308.40	7,595.58	8,356.16	8,331.63	24.53	340.630		
3,800.00	3,796.97	4,056.00	4,051.41	13.14	11.95	-147.96	3,311.82	7,591.45	8,359.00	8,334.04	24.96	334.835		
3,900.00	3,896.67	4,260.56	4,255.42	13.48	12.24	-148.10	3,318.95	7,578.32	8,361.01	8,335.41	25.60	326.581		
4,000.00	3,996.37	4,280.97	4,275.78	13.83	12.27	-148.12	3,319.58	7,577.11	8,363.18	8,337.20	25.99	321.832		
4,100.00	4,096.07	4,340.00	4,334.69	14.18	12.36	-148.15	3,321.65	7,574.10	8,366.32	8,339.89	26.43	316.569		
4,200.00	4,195.76	11,175.18	7,738.39	14.53	55.69	-124.86	-211.50	7,458.31	8,340.23	8,274.44	65.78	126.780		
4,300.00	4,295.46	11,181.44	7,738.44	14.88	55.78	-124.81	-217.76	7,458.18	8,301.54	8,235.13	66.41	124.996		
4,400.00	4,395.16	11,187.68	7,738.49	15.23	55.86	-124.77	-224.00	7,458.06	8,263.88	8,196.83	67.04	123.261		
4,500.00	4,494.86	11,193.90	7,738.55	15.58	55.94	-124.72	-230.23	7,457.94	8,227.25	8,159.58	67.67	121.573		
4,600.00	4,594.56	11,259.34	7,738.66	15.93	56.82	-124.23	-295.64	7,456.64	8,191.66	8,122.59	69.06	118.613		
4,700.00	4,694.25	4,700.00	7,738.47	16.29	31.67	-124.30	-286.75	7,456.79	8,156.99	8,111.80	45.19	180.514		
4,800.00	4,793.95	4,800.00	7,738.46	16.64	30.30	-124.25	-293.12	7,456.66	8,123.52	8,079.15	44.38	183.063		
4,900.00	4,893.65	4,900.00	7,738.45	17.00	28.93	-124.20	-299.48	7,456.53	8,091.15	8,047.60	43.55	185.778		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Sec 13-T21S-R27E - Lone Tree Draw State 7H - Wellbore #1 - Wellbore #1													Offset Well Error:	0.50 ft
Survey Program: 100-GYRO-NS-CT, 2922-MWD+HDGM														
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
5,000.00	4,993.35	5,000.00	7,738.44	17.35	27.56	-124.16	-305.84	7,456.40	8,059.89	8,017.17	42.72	188.671		
5,100.00	5,093.05	5,100.00	7,738.43	17.71	26.18	-124.11	-312.20	7,456.27	8,029.74	7,987.87	41.87	191.758		
5,200.00	5,192.75	5,200.00	7,738.42	18.06	24.80	-124.06	-318.56	7,456.13	8,000.72	7,959.71	41.02	195.057		
5,300.00	5,292.44	5,300.00	7,738.41	18.42	23.42	-124.01	-324.92	7,456.00	7,972.85	7,932.70	40.15	198.586		
5,400.00	5,392.14	5,400.00	7,738.40	18.77	22.04	-123.97	-331.28	7,455.87	7,946.14	7,906.87	39.27	202.367		
5,500.00	5,491.84	11,290.00	7,738.41	19.13	57.24	-124.00	-326.30	7,455.98	7,920.60	7,846.25	74.34	106.545		
5,600.00	5,591.54	11,314.00	7,738.18	19.49	57.56	-123.82	-350.29	7,455.48	7,896.16	7,820.98	75.18	105.025		
5,700.00	5,691.24	11,316.76	7,738.17	19.85	57.60	-123.80	-353.06	7,455.42	7,872.98	7,797.24	75.74	103.946		
5,800.00	5,790.93	11,319.58	7,738.15	20.20	57.64	-123.78	-355.87	7,455.37	7,851.00	7,774.70	76.29	102.905		
5,900.00	5,890.63	11,322.44	7,738.13	20.56	57.68	-123.76	-358.73	7,455.31	7,830.23	7,753.39	76.84	101.901		
6,000.00	5,990.33	11,325.36	7,738.12	20.92	57.71	-123.74	-361.65	7,455.26	7,810.69	7,733.31	77.38	100.934		
6,100.00	6,090.03	11,328.33	7,738.10	21.28	57.76	-123.72	-364.61	7,455.20	7,792.38	7,714.46	77.92	100.003		
6,200.00	6,189.73	11,331.35	7,738.09	21.64	57.80	-123.70	-367.64	7,455.15	7,775.31	7,696.86	78.45	99.109		
6,300.00	6,289.42	11,334.42	7,738.08	22.00	57.84	-123.67	-370.71	7,455.09	7,759.49	7,680.51	78.98	98.250		
6,400.00	6,389.12	11,337.56	7,738.07	22.36	57.88	-123.65	-373.85	7,455.04	7,744.93	7,665.43	79.50	97.426		
6,500.00	6,488.82	11,340.75	7,738.06	22.72	57.92	-123.63	-377.04	7,454.98	7,731.63	7,651.62	80.01	96.637		
6,600.00	6,588.52	11,344.00	7,738.06	23.08	57.97	-123.60	-380.29	7,454.92	7,719.60	7,639.08	80.51	95.882		
6,700.00	6,688.22	11,347.32	7,738.05	23.44	58.01	-123.58	-383.60	7,454.87	7,708.84	7,627.83	81.01	95.162		
6,800.00	6,787.91	11,350.69	7,738.05	23.80	58.06	-123.55	-386.98	7,454.81	7,699.37	7,617.87	81.50	94.474		
6,900.00	6,887.61	11,354.14	7,738.05	24.16	58.10	-123.53	-390.42	7,454.76	7,691.18	7,609.20	81.98	93.820		
7,000.00	6,987.31	11,357.65	7,738.06	24.52	58.15	-123.50	-393.93	7,454.70	7,684.28	7,601.83	82.45	93.198		
7,100.00	7,087.01	11,361.23	7,738.06	24.88	58.20	-123.47	-397.51	7,454.65	7,678.68	7,595.76	82.92	92.608		
7,200.00	7,186.71	11,364.88	7,738.07	25.24	58.25	-123.45	-401.16	7,454.59	7,674.37	7,590.99	83.37	92.050		
7,300.00	7,286.41	11,368.60	7,738.08	25.60	58.30	-123.42	-404.89	7,454.54	7,671.36	7,587.54	83.82	91.523		
7,400.00	7,386.10	11,372.40	7,738.09	25.96	58.35	-123.39	-408.69	7,454.48	7,669.64	7,585.39	84.26	91.027		
7,482.59	7,468.45	11,389.00	7,738.18	26.26	58.58	-123.27	-425.28	7,454.26	7,669.23	7,584.44	84.80	90.444		
7,500.00	7,485.80	11,389.00	7,738.18	26.33	58.58	-123.27	-425.28	7,454.26	7,669.25	7,584.39	84.86	90.375		
7,600.00	7,585.50	11,389.00	7,738.18	26.69	58.58	-123.27	-425.28	7,454.26	7,670.13	7,584.90	85.23	89.997		
7,700.00	7,685.20	11,389.00	7,738.18	27.05	58.58	-123.27	-425.28	7,454.26	7,672.31	7,586.73	85.58	89.649		
7,800.00	7,784.90	11,389.00	7,738.18	27.41	58.58	-123.27	-425.28	7,454.26	7,675.80	7,589.87	85.93	89.329		
7,860.70	7,845.41	11,393.44	7,738.21	27.63	58.64	-123.23	-429.72	7,454.20	7,678.55	7,592.35	86.19	89.086		
7,900.00	7,884.61	11,396.90	7,738.23	27.77	58.68	-123.23	-433.18	7,454.16	7,680.47	7,594.10	86.37	88.925		
8,000.00	7,984.46	11,403.52	7,738.27	28.13	58.77	-123.24	-439.80	7,454.07	7,685.26	7,598.48	86.78	88.557		
8,100.00	8,084.42	11,407.12	7,738.28	28.49	58.82	-123.27	-443.40	7,454.02	7,689.92	7,602.78	87.14	88.247		
8,157.59	8,142.00	11,407.89	7,738.29	28.69	58.83	90.78	-444.17	7,454.01	7,692.54	7,605.22	87.32	88.097		
8,200.00	8,184.41	11,408.11	7,738.29	28.83	58.84	90.78	-444.39	7,454.01	7,694.57	7,607.13	87.44	87.999		
8,300.00	8,284.41	11,408.62	7,738.29	29.17	58.84	90.78	-444.90	7,454.00	7,700.27	7,612.56	87.72	87.787		
8,400.00	8,384.41	11,409.11	7,738.29	29.51	58.85	90.79	-445.39	7,453.99	7,707.27	7,619.29	87.98	87.601		
8,507.63	8,492.04	11,409.62	7,738.29	29.87	58.86	90.79	-445.90	7,453.99	7,716.25	7,627.99	88.26	87.430		
8,550.00	8,534.37	11,409.77	7,738.30	30.02	58.86	1.42	-446.05	7,453.99	7,718.63	7,630.27	88.36	87.356		
8,600.00	8,584.01	11,409.83	7,738.30	30.18	58.86	1.42	-446.11	7,453.98	7,717.71	7,629.24	88.47	87.234		
8,650.00	8,632.95	11,409.77	7,738.30	30.34	58.86	1.43	-446.05	7,453.99	7,712.76	7,624.18	88.58	87.074		
8,700.00	8,680.82	11,409.58	7,738.29	30.50	58.86	1.45	-445.86	7,453.99	7,703.81	7,615.14	88.67	86.880		
8,750.00	8,727.25	11,409.28	7,738.29	30.66	58.85	1.48	-445.56	7,453.99	7,690.91	7,602.16	88.76	86.652		
8,800.00	8,771.89	11,408.86	7,738.29	30.81	58.85	1.53	-445.14	7,454.00	7,674.15	7,585.32	88.83	86.393		
8,850.00	8,814.40	11,408.34	7,738.29	30.95	58.84	1.58	-444.62	7,454.00	7,653.63	7,564.74	88.89	86.104		
8,900.00	8,854.46	11,407.72	7,738.29	31.09	58.83	1.66	-444.00	7,454.01	7,629.46	7,540.53	88.94	85.786		
8,950.00	8,891.75	11,407.00	7,738.28	31.23	58.82	1.75	-443.28	7,454.02	7,601.81	7,512.84	88.97	85.442		
9,000.00	8,926.01	11,406.20	7,738.28	31.37	58.81	1.87	-442.48	7,454.03	7,570.85	7,481.86	88.99	85.072		
9,050.00	8,956.96	11,405.32	7,738.28	31.53	58.80	2.01	-441.60	7,454.04	7,536.77	7,447.76	89.00	84.679		
9,100.00	8,984.38	11,404.36	7,738.27	31.69	58.78	2.21	-440.64	7,454.06	7,499.79	7,410.78	89.00	84.263		
9,150.00	9,008.05	11,403.34	7,738.27	31.87	58.77	2.46	-439.62	7,454.07	7,460.15	7,371.15	89.00	83.826		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Sec 13-T21S-R27E - Lone Tree Draw State 7H - Wellbore #1 - Wellbore #1													Offset Well Error:	0.50 ft
Survey Program: 100-GYRO-NS-CT, 2922-MWD+HDGM														
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)						
9,200.00	9,027.79	11,402.26	7,738.26	32.07	58.76	2.80	-438.54	7,454.09	7,418.11	7,329.13	88.98	83.370		
9,250.00	9,043.45	11,401.12	7,738.26	32.29	58.74	3.28	-437.40	7,454.10	7,373.96	7,285.00	88.95	82.897		
9,300.00	9,054.92	11,399.94	7,738.25	32.53	58.72	4.00	-436.23	7,454.12	7,327.99	7,239.07	88.92	82.407		
9,350.00	9,062.10	11,398.73	7,738.24	32.79	58.71	5.18	-435.01	7,454.13	7,280.53	7,191.64	88.89	81.903		
9,400.00	9,064.95	11,397.48	7,738.24	33.06	58.69	7.45	-433.76	7,454.15	7,231.91	7,143.05	88.86	81.386		
9,407.63	9,065.00	11,397.29	7,738.23	33.10	58.69	7.99	-433.57	7,454.15	7,224.41	7,135.55	88.86	81.305		
9,500.00	9,065.00	11,394.97	7,738.22	33.68	58.66	7.88	-431.25	7,454.18	7,133.52	7,044.73	88.79	80.340		
9,600.00	9,065.00	11,392.47	7,738.21	34.41	58.62	7.77	-428.75	7,454.21	7,035.17	6,946.45	88.72	79.295		
9,700.00	9,065.00	11,389.98	7,738.19	35.24	58.59	7.66	-426.27	7,454.24	6,936.87	6,848.22	88.65	78.248		
9,800.00	9,065.00	11,389.00	7,738.18	36.17	58.58	7.62	-425.28	7,454.26	6,838.61	6,750.01	88.60	77.182		
9,900.00	9,065.00	11,389.00	7,738.18	37.19	58.58	7.62	-425.28	7,454.26	6,740.41	6,651.84	88.57	76.103		
10,000.00	9,065.00	11,389.00	7,738.18	38.30	58.58	7.62	-425.28	7,454.26	6,642.26	6,553.73	88.53	75.024		
10,100.00	9,065.00	11,382.72	7,738.14	39.48	58.49	7.34	-419.01	7,454.34	6,544.16	6,455.75	88.41	74.017		
10,200.00	9,065.00	11,380.93	7,738.13	40.72	58.47	7.26	-417.21	7,454.36	6,446.13	6,357.77	88.36	72.956		
10,300.00	9,065.00	11,379.10	7,738.12	42.03	58.44	7.18	-415.39	7,454.39	6,348.15	6,259.85	88.30	71.895		
10,400.00	9,065.00	11,377.25	7,738.11	43.40	58.42	7.10	-413.54	7,454.41	6,250.23	6,162.00	88.24	70.833		
10,500.00	9,065.00	11,375.38	7,738.10	44.82	58.39	7.01	-411.66	7,454.44	6,152.39	6,064.21	88.18	69.771		
10,600.00	9,065.00	11,373.48	7,738.10	46.29	58.37	6.93	-409.76	7,454.47	6,054.61	5,966.49	88.12	68.709		
10,700.00	9,065.00	11,371.55	7,738.09	47.79	58.34	6.84	-407.83	7,454.49	5,956.90	5,868.84	88.06	67.646		
10,800.00	9,065.00	11,369.59	7,738.08	49.34	58.31	6.76	-405.88	7,454.52	5,859.28	5,771.27	88.00	66.582		
10,900.00	9,065.00	11,367.61	7,738.08	50.92	58.29	6.67	-403.89	7,454.55	5,761.73	5,673.79	87.94	65.518		
11,000.00	9,065.00	11,365.60	7,738.07	52.54	58.26	6.58	-401.88	7,454.58	5,664.26	5,576.38	87.88	64.454		
11,100.00	9,065.00	11,363.55	7,738.07	54.18	58.23	6.49	-399.84	7,454.61	5,566.89	5,479.07	87.82	63.390		
11,200.00	9,065.00	11,361.48	7,738.06	55.85	58.20	6.39	-397.76	7,454.64	5,469.61	5,381.85	87.76	62.326		
11,300.00	9,065.00	11,359.37	7,738.06	57.54	58.18	6.30	-395.66	7,454.68	5,372.43	5,284.73	87.70	61.261		
11,400.00	9,065.00	11,357.24	7,738.05	59.26	58.15	6.21	-393.52	7,454.71	5,275.35	5,187.71	87.64	60.197		
11,500.00	9,065.00	11,355.07	7,738.05	61.00	58.12	6.11	-391.36	7,454.74	5,178.38	5,090.81	87.57	59.132		
11,600.00	9,065.00	11,352.87	7,738.05	62.75	58.09	6.01	-389.15	7,454.78	5,081.53	4,994.02	87.51	58.067		
11,700.00	9,065.00	11,350.63	7,738.05	64.52	58.06	5.91	-386.92	7,454.81	4,984.80	4,897.36	87.45	57.003		
11,800.00	9,065.00	11,348.36	7,738.05	66.31	58.03	5.81	-384.65	7,454.85	4,888.21	4,800.82	87.39	55.938		
11,900.00	9,065.00	11,346.06	7,738.05	68.11	57.99	5.71	-382.34	7,454.89	4,791.75	4,704.43	87.32	54.874		
12,000.00	9,065.00	11,343.71	7,738.06	69.93	57.96	5.60	-380.00	7,454.93	4,695.44	4,608.18	87.26	53.810		
12,100.00	9,065.00	11,341.34	7,738.06	71.76	57.93	5.50	-377.62	7,454.97	4,599.28	4,512.08	87.20	52.747		
12,200.00	9,065.00	11,338.92	7,738.07	73.60	57.90	5.39	-375.20	7,455.01	4,503.29	4,416.16	87.13	51.684		
12,300.00	9,065.00	11,336.46	7,738.07	75.45	57.87	5.28	-372.75	7,455.06	4,407.48	4,320.41	87.07	50.621		
12,400.00	9,065.00	11,333.96	7,738.08	77.31	57.83	5.17	-370.25	7,455.10	4,311.85	4,224.85	87.00	49.559		
12,500.00	9,065.00	11,331.43	7,738.09	79.18	57.80	5.05	-367.72	7,455.15	4,216.43	4,129.49	86.94	48.498		
12,600.00	9,065.00	11,328.85	7,738.10	81.05	57.76	4.94	-365.14	7,455.19	4,121.22	4,034.34	86.88	47.438		
12,700.00	9,065.00	11,326.23	7,738.11	82.94	57.73	4.82	-362.51	7,455.24	4,026.24	3,939.43	86.81	46.378		
12,800.00	9,065.00	11,323.56	7,738.13	84.83	57.69	4.70	-359.85	7,455.29	3,931.51	3,844.76	86.75	45.320		
12,900.00	9,065.00	11,320.85	7,738.14	86.73	57.65	4.58	-357.14	7,455.34	3,837.04	3,750.35	86.69	44.262		
13,000.00	9,065.00	11,318.09	7,738.16	88.64	57.62	4.46	-354.38	7,455.40	3,742.86	3,656.23	86.63	43.206		
13,100.00	9,065.00	11,315.28	7,738.18	90.55	57.58	4.33	-351.57	7,455.45	3,648.99	3,562.42	86.57	42.152		
13,200.00	9,065.00	11,312.43	7,738.20	92.47	57.54	4.20	-348.72	7,455.51	3,555.45	3,468.94	86.51	41.099		
13,300.00	9,065.00	11,309.52	7,738.22	94.39	57.50	4.07	-345.82	7,455.56	3,462.26	3,375.81	86.45	40.047		
13,400.00	9,065.00	11,306.57	7,738.24	96.32	57.46	3.94	-342.86	7,455.62	3,369.47	3,283.07	86.40	38.998		
13,500.00	9,065.00	11,303.56	7,738.27	98.25	57.42	3.80	-339.85	7,455.69	3,277.09	3,190.74	86.35	37.951		
13,600.00	9,065.00	11,300.50	7,738.30	100.19	57.38	3.67	-336.79	7,455.75	3,185.18	3,098.88	86.30	36.907		
13,700.00	9,065.00	11,297.38	7,738.33	102.13	57.34	3.53	-333.67	7,455.82	3,093.76	3,007.50	86.26	35.865		
13,800.00	9,065.00	11,294.20	7,738.36	104.08	57.29	3.38	-330.50	7,455.88	3,002.89	2,916.66	86.22	34.827		
13,900.00	9,065.00	11,290.97	7,738.40	106.03	57.25	3.24	-327.26	7,455.95	2,912.61	2,826.41	86.19	33.792		
14,000.00	9,065.00	11,288.04	7,738.43	107.98	57.21	3.11	-324.34	7,456.02	2,822.98	2,736.81	86.17	32.760		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Sec 13-T21S-R27E - Lone Tree Draw State 7H - Wellbore #1 - Wellbore #1													Offset Well Error:	0.50 ft
Survey Program: 100-GYRO-NS-CT, 2922-MWD+HDGM														
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)						
14,100.00	9,065.00	11,285.27	7,738.46	109.94	57.17	2.98	-321.57	7,456.08	2,734.07	2,647.90	86.17	31.730		
14,200.00	9,065.00	11,282.52	7,738.49	111.90	57.14	2.86	-318.82	7,456.14	2,645.94	2,559.77	86.17	30.707		
14,300.00	9,065.00	11,279.79	7,738.51	113.86	57.10	2.74	-316.09	7,456.20	2,558.69	2,472.50	86.18	29.689		
14,400.00	9,065.00	11,277.06	7,738.54	115.82	57.06	2.61	-313.36	7,456.26	2,472.40	2,386.18	86.21	28.678		
14,500.00	9,065.00	11,274.35	7,738.56	117.79	57.03	2.49	-310.66	7,456.32	2,387.17	2,300.92	86.26	27.676		
14,600.00	9,065.00	11,271.66	7,738.58	119.76	56.99	2.37	-307.96	7,456.37	2,303.13	2,216.82	86.31	26.683		
14,700.00	9,065.00	11,268.98	7,738.60	121.74	56.95	2.25	-305.28	7,456.43	2,220.41	2,134.02	86.39	25.702		
14,800.00	9,065.00	11,266.31	7,738.62	123.71	56.92	2.13	-302.61	7,456.49	2,139.16	2,052.67	86.49	24.734		
14,900.00	9,065.00	11,263.66	7,738.64	125.69	56.88	2.01	-299.96	7,456.54	2,059.56	1,972.95	86.60	23.782		
15,000.00	9,065.00	11,261.01	7,738.65	127.67	56.85	1.89	-297.32	7,456.60	1,981.80	1,895.06	86.74	22.848		
15,100.00	9,065.00	11,258.39	7,738.67	129.65	56.81	1.77	-294.69	7,456.66	1,906.11	1,819.21	86.90	21.935		
15,200.00	9,065.00	11,255.77	7,738.68	131.63	56.78	1.66	-292.08	7,456.71	1,832.75	1,745.68	87.08	21.048		
15,300.00	9,065.00	11,253.17	7,738.69	133.62	56.74	1.54	-289.48	7,456.76	1,762.01	1,674.74	87.27	20.190		
15,400.00	9,065.00	11,250.59	7,738.70	135.61	56.71	1.42	-286.90	7,456.82	1,694.22	1,606.73	87.49	19.365		
15,500.00	9,065.00	11,248.01	7,738.71	137.60	56.67	1.31	-284.32	7,456.87	1,629.74	1,542.02	87.72	18.579		
15,600.00	9,065.00	11,245.45	7,738.71	139.59	56.64	1.19	-281.76	7,456.92	1,568.98	1,481.01	87.97	17.836		
15,700.00	9,065.00	11,242.90	7,738.72	141.58	56.60	1.07	-279.21	7,456.98	1,512.39	1,424.17	88.22	17.143		
15,800.00	9,065.00	11,240.37	7,738.72	143.57	56.57	0.96	-276.68	7,457.03	1,460.46	1,371.97	88.50	16.503		
15,900.00	9,065.00	11,237.85	7,738.72	145.57	56.53	0.85	-274.16	7,457.08	1,413.71	1,324.92	88.79	15.922		
16,000.00	9,065.00	11,235.34	7,738.72	147.56	56.50	0.73	-271.65	7,457.13	1,372.64	1,283.53	89.12	15.403		
16,100.00	9,065.00	11,232.84	7,738.72	149.56	56.47	0.62	-269.15	7,457.18	1,337.81	1,248.30	89.51	14.947		
16,200.00	9,065.00	11,230.35	7,738.72	151.56	56.43	0.51	-266.67	7,457.23	1,309.69	1,219.70	89.99	14.554		
16,300.00	9,065.00	11,227.88	7,738.72	153.56	56.40	0.40	-264.20	7,457.28	1,288.73	1,198.12	90.61	14.223		
16,400.00	9,065.00	11,225.42	7,738.71	155.56	56.37	0.29	-261.74	7,457.33	1,275.29	1,183.89	91.40	13.953		
16,500.00	9,065.00	11,222.97	7,738.71	157.57	56.33	0.18	-259.29	7,457.38	1,269.60	1,177.21	92.39	13.742		
16,522.49	9,065.00	11,222.42	7,738.71	158.02	56.33	0.15	-258.74	7,457.39	1,269.40	1,176.76	92.64	13.703 CC, ES		
16,600.00	9,065.00	11,220.54	7,738.70	159.57	56.30	0.07	-256.85	7,457.43	1,271.76	1,178.20	93.56	13.593		
16,700.00	9,065.00	11,218.11	7,738.69	161.57	56.27	-0.04	-254.43	7,457.48	1,281.74	1,186.87	94.87	13.510		
16,800.00	9,065.00	11,215.70	7,738.68	163.58	56.24	-0.15	-252.02	7,457.52	1,299.35	1,203.10	96.26	13.499 SF		
16,900.00	9,065.00	11,213.30	7,738.67	165.59	56.20	-0.26	-249.62	7,457.57	1,324.30	1,226.67	97.63	13.564		
17,000.00	9,065.00	11,210.91	7,738.66	167.60	56.17	-0.37	-247.23	7,457.62	1,356.18	1,257.25	98.93	13.708		
17,100.00	9,065.00	11,208.53	7,738.65	169.60	56.14	-0.48	-244.85	7,457.66	1,394.50	1,294.40	100.10	13.931		
17,200.00	9,065.00	11,206.17	7,738.64	171.61	56.11	-0.58	-242.49	7,457.71	1,438.77	1,337.65	101.11	14.229		
17,300.00	9,065.00	11,203.81	7,738.62	173.62	56.08	-0.69	-240.13	7,457.76	1,488.44	1,386.48	101.96	14.599		
17,400.00	9,065.00	11,203.42	7,738.63	175.63	56.07	-0.71	-239.74	7,457.76	1,542.99	1,440.34	102.64	15.032		
17,500.00	9,065.00	11,200.42	7,738.60	177.65	56.03	-0.84	-236.74	7,457.82	1,601.93	1,498.77	103.16	15.528		
17,600.00	9,065.00	11,197.39	7,738.58	179.66	55.99	-0.98	-233.71	7,457.88	1,664.80	1,561.26	103.54	16.079		
17,700.00	9,065.00	11,194.35	7,738.55	181.67	55.95	-1.12	-230.67	7,457.94	1,731.15	1,627.35	103.80	16.678		
17,800.00	9,065.00	11,191.29	7,738.52	183.69	55.91	-1.25	-227.61	7,457.99	1,800.61	1,696.65	103.96	17.320		
17,900.00	9,065.00	11,188.21	7,738.50	185.70	55.87	-1.39	-224.53	7,458.05	1,872.84	1,768.79	104.04	18.001		
18,000.00	9,065.00	11,185.10	7,738.47	187.72	55.83	-1.53	-221.43	7,458.11	1,947.51	1,843.45	104.06	18.716		
18,100.00	9,065.00	11,181.98	7,738.45	189.73	55.78	-1.67	-218.30	7,458.17	2,024.37	1,920.35	104.02	19.462		
18,200.00	9,065.00	11,178.84	7,738.42	191.75	55.74	-1.81	-215.16	7,458.24	2,103.17	1,999.22	103.94	20.234		
18,300.00	9,065.00	11,175.67	7,738.39	193.77	55.70	-1.96	-212.00	7,458.30	2,183.70	2,079.86	103.84	21.030		
18,400.00	9,065.00	11,172.49	7,738.36	195.78	55.66	-2.10	-208.81	7,458.36	2,265.78	2,162.07	103.71	21.848		
18,500.00	9,065.00	11,169.28	7,738.34	197.80	55.61	-2.24	-205.61	7,458.42	2,349.24	2,245.68	103.56	22.685		
18,600.00	9,065.00	11,166.06	7,738.31	199.82	55.57	-2.39	-202.38	7,458.49	2,433.95	2,330.54	103.41	23.538		
18,700.00	9,065.00	11,162.81	7,738.28	201.84	55.53	-2.54	-199.14	7,458.55	2,519.77	2,416.53	103.24	24.406		
18,800.00	9,065.00	11,159.54	7,738.25	203.86	55.48	-2.68	-195.87	7,458.62	2,606.60	2,503.53	103.08	25.288		
18,900.00	9,065.00	11,156.25	7,738.22	205.88	55.44	-2.83	-192.58	7,458.68	2,694.34	2,591.43	102.91	26.182		
19,000.00	9,065.00	11,152.94	7,738.19	207.90	55.39	-2.98	-189.26	7,458.75	2,782.91	2,680.16	102.74	27.086		
19,100.00	9,065.00	11,149.60	7,738.16	209.92	55.35	-3.13	-185.93	7,458.82	2,872.22	2,769.64	102.58	28.000		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Sec 13-T21S-R27E - Lone Tree Draw State 7H - Wellbore #1 - Wellbore #1		Offset Site Error:		5.00 ft	
Survey Program:													100-GYRO-NS-CT, 2922-MWD+HDGM		Offset Well Error:		0.50 ft	
Reference		Offset		Semi Major Axis			Distance											
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor	Warning					
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)							
19,200.00	9,065.00	11,146.24	7,738.13	211.95	55.30	-3.28	-182.57	7,458.89	2,962.21	2,859.79	102.42	28.922						
19,300.00	9,065.00	11,142.86	7,738.10	213.97	55.26	-3.43	-179.19	7,458.96	3,052.82	2,950.56	102.26	29.852						
19,400.00	9,065.00	11,139.46	7,738.06	215.99	55.21	-3.59	-175.79	7,459.03	3,144.00	3,041.88	102.11	30.789						
19,456.84	9,065.00	11,137.51	7,738.05	217.14	55.19	-3.67	-173.85	7,459.07	3,196.06	3,094.03	102.03	31.324						

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Sec 13-T21S-R27E - Lone Tree Draw State Com 2H - ST01 - ST01													Offset Well Error:	0.50 ft
Survey Program: 80-GYRO-NS-CT, 4361-MWD+HDGM														
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)						
0.00	0.00	0.00	0.00	0.50	5.02	61.36	3,158.45	5,782.98	6,589.48					
100.00	100.00	45.00	45.00	0.52	5.03	61.36	3,158.44	5,783.00	6,589.30	6,583.76	5.54	1,188.766		
200.00	200.00	140.67	140.67	0.70	5.03	61.36	3,158.37	5,783.16	6,589.41	6,583.67	5.74	1,148.701		
300.00	300.00	236.04	236.04	0.99	5.07	61.36	3,158.26	5,783.38	6,589.56	6,583.51	6.05	1,088.660		
400.00	400.00	333.23	333.23	1.31	5.12	61.36	3,158.12	5,783.72	6,589.79	6,583.36	6.43	1,025.049		
500.00	500.00	426.72	426.72	1.65	5.19	61.37	3,157.92	5,784.12	6,590.07	6,583.23	6.84	963.698		
600.00	600.00	520.68	520.68	1.99	5.29	61.37	3,157.65	5,784.69	6,590.46	6,583.19	7.28	905.878		
700.00	700.00	611.59	611.58	2.34	5.39	61.38	3,157.28	5,785.40	6,590.95	6,583.22	7.73	852.536		
800.00	800.00	711.04	711.02	2.69	5.53	61.39	3,156.74	5,786.38	6,591.56	6,583.34	8.22	802.063		
900.00	900.00	806.58	806.56	3.04	5.68	61.40	3,155.88	5,787.48	6,592.14	6,583.42	8.72	756.048		
1,000.00	1,000.00	895.06	895.02	3.40	5.83	61.41	3,154.95	5,788.72	6,592.87	6,583.64	9.22	714.708		
1,100.00	1,100.00	985.91	985.85	3.75	6.00	61.42	3,153.85	5,790.26	6,593.77	6,584.02	9.75	676.414		
1,200.00	1,200.00	1,089.98	1,089.90	4.11	6.20	61.44	3,152.38	5,792.20	6,594.73	6,584.42	10.31	639.528		
1,300.00	1,300.00	1,201.91	1,201.78	4.46	6.45	61.47	3,150.30	5,794.35	6,595.54	6,584.63	10.91	604.600		
1,400.00	1,400.00	8,329.00	4,956.38	4.82	54.40	95.07	-487.01	5,492.56	6,589.22	6,536.85	52.37	125.822		
1,500.00	1,500.00	8,329.00	4,956.38	5.18	54.40	95.07	-487.01	5,492.56	6,535.01	6,482.06	52.95	123.425		
1,600.00	1,600.00	8,329.00	4,956.38	5.53	54.40	95.07	-487.01	5,492.56	6,481.89	6,428.36	53.53	121.085		
1,700.00	1,700.00	8,329.00	4,956.38	5.89	54.40	95.07	-487.01	5,492.56	6,429.89	6,375.77	54.12	118.803		
1,800.00	1,800.00	8,329.00	4,956.38	6.25	54.40	95.07	-487.01	5,492.56	6,379.03	6,324.31	54.72	116.580		
1,900.00	1,900.00	8,329.00	4,956.38	6.61	54.40	95.07	-487.01	5,492.56	6,329.34	6,274.02	55.32	114.417		
2,000.00	2,000.00	8,329.00	4,956.38	6.96	54.40	95.07	-487.01	5,492.56	6,280.85	6,224.93	55.92	112.314		
2,100.00	2,100.00	8,329.00	4,956.38	7.32	54.40	95.07	-487.01	5,492.56	6,233.59	6,177.06	56.53	110.272		
2,200.00	2,200.00	8,329.00	4,956.38	7.68	54.40	95.07	-487.01	5,492.56	6,187.58	6,130.44	57.14	108.291		
2,300.00	2,300.00	8,329.00	4,956.38	8.04	54.40	95.07	-487.01	5,492.56	6,142.86	6,085.11	57.75	106.371		
2,400.00	2,400.00	8,329.00	4,956.38	8.39	54.40	95.07	-487.01	5,492.56	6,099.45	6,041.09	58.36	104.511		
2,500.00	2,500.00	8,329.00	4,956.38	8.75	54.40	95.07	-487.01	5,492.56	6,057.38	5,998.40	58.97	102.713		
2,600.00	2,599.99	8,329.00	4,956.38	9.09	54.40	-119.39	-487.01	5,492.56	6,017.06	5,957.49	59.57	101.007		
2,700.00	2,699.96	8,329.00	4,956.38	9.42	54.40	-119.75	-487.01	5,492.56	5,978.94	5,918.79	60.15	99.395		
2,800.00	2,799.86	8,329.00	4,956.38	9.75	54.40	-120.09	-487.01	5,492.56	5,943.07	5,882.34	60.74	97.850		
2,900.00	2,899.68	8,329.00	4,956.38	10.08	54.40	-120.39	-487.01	5,492.56	5,909.50	5,848.18	61.32	96.371		
2,945.33	2,944.88	8,329.00	4,956.38	10.23	54.40	-120.53	-487.01	5,492.56	5,895.05	5,833.47	61.58	95.724		
3,000.00	2,999.39	8,356.23	4,956.66	10.41	54.77	-120.25	-514.13	5,490.07	5,878.14	5,815.89	62.26	94.415		
3,100.00	3,099.08	8,402.58	4,956.65	10.75	55.40	-119.77	-560.27	5,485.74	5,848.36	5,784.91	63.45	92.175		
3,200.00	3,198.78	8,435.34	4,956.29	11.08	55.85	-119.44	-592.88	5,482.61	5,820.10	5,755.64	64.46	90.290		
3,300.00	3,298.48	3,300.00	4,956.44	11.42	14.08	-119.86	-551.79	5,486.49	5,793.35	5,768.59	24.77	233.932		
3,400.00	3,398.18	3,400.00	4,956.44	11.76	14.13	-119.79	-558.65	5,485.85	5,768.32	5,744.57	23.75	242.893		
3,500.00	3,497.88	3,500.00	4,956.45	12.10	14.19	-119.72	-565.52	5,485.20	5,744.91	5,722.21	22.70	253.091		
3,600.00	3,597.58	3,600.00	4,956.45	12.45	14.24	-119.65	-572.39	5,484.56	5,723.14	5,701.53	21.61	264.891		
3,700.00	3,697.27	3,700.00	4,956.46	12.79	14.30	-119.58	-579.25	5,483.92	5,703.03	5,682.58	20.45	278.895		
3,800.00	3,796.97	8,441.39	4,956.23	13.14	55.93	-119.38	-598.91	5,482.06	5,684.55	5,616.67	67.88	83.740		
3,900.00	3,896.67	8,444.19	4,956.19	13.48	55.97	-119.35	-601.69	5,481.80	5,667.81	5,599.37	68.45	82.808		
4,000.00	3,996.37	8,446.97	4,956.15	13.83	56.01	-119.32	-604.46	5,481.55	5,652.79	5,583.79	69.00	81.929		
4,100.00	4,096.07	8,449.73	4,956.11	14.18	56.05	-119.29	-607.22	5,481.30	5,639.50	5,569.97	69.53	81.104		
4,200.00	4,195.76	8,452.48	4,956.08	14.53	56.08	-119.26	-609.95	5,481.05	5,627.95	5,557.89	70.06	80.332		
4,300.00	4,295.46	8,455.21	4,956.04	14.88	56.12	-119.24	-612.67	5,480.80	5,618.16	5,547.59	70.57	79.612		
4,400.00	4,395.16	8,457.92	4,956.00	15.23	56.16	-119.21	-615.37	5,480.56	5,610.13	5,539.06	71.07	78.943		
4,500.00	4,494.86	8,460.62	4,955.96	15.58	56.20	-119.18	-618.06	5,480.32	5,603.87	5,532.32	71.55	78.324		
4,600.00	4,594.56	8,463.30	4,955.92	15.93	56.23	-119.15	-620.73	5,480.08	5,599.38	5,527.37	72.01	77.756		
4,700.00	4,694.25	8,465.96	4,955.89	16.29	56.27	-119.13	-623.38	5,479.84	5,596.68	5,524.22	72.46	77.237		
4,800.00	4,793.95	8,468.61	4,955.85	16.64	56.31	-119.10	-626.02	5,479.61	5,595.76	5,522.87	72.89	76.766		
4,801.50	4,795.44	8,468.65	4,955.85	16.65	56.31	-119.10	-626.06	5,479.61	5,595.76	5,522.86	72.90	76.759		
4,900.00	4,893.65	8,471.24	4,955.81	17.00	56.34	-119.07	-628.64	5,479.38	5,596.63	5,523.32	73.31	76.343		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Sec 13-T21S-R27E - Lone Tree Draw State Com 2H - ST01 - ST01													Offset Well Error:	0.50 ft
Survey Program: 80-GYRO-NS-CT, 4361-MWD+HDGM														
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
5,000.00	4,993.35	8,473.85	4,955.77	17.35	56.38	-119.05	-631.24	5,479.16	5,599.28	5,525.57	73.71	75.967		
5,100.00	5,093.05	8,476.45	4,955.73	17.71	56.41	-119.02	-633.83	5,478.93	5,603.71	5,529.62	74.09	75.637		
5,200.00	5,192.75	8,479.04	4,955.69	18.06	56.45	-118.99	-636.40	5,478.71	5,609.92	5,535.47	74.45	75.352		
5,300.00	5,292.44	8,481.60	4,955.65	18.42	56.48	-118.97	-638.96	5,478.49	5,617.89	5,543.10	74.79	75.112		
5,400.00	5,392.14	8,484.15	4,955.61	18.77	56.52	-118.94	-641.50	5,478.27	5,627.64	5,552.52	75.12	74.916		
5,500.00	5,491.84	8,486.69	4,955.57	19.13	56.55	-118.91	-644.03	5,478.06	5,639.13	5,563.70	75.43	74.763		
5,600.00	5,591.54	8,489.21	4,955.53	19.49	56.59	-118.89	-646.54	5,477.85	5,652.37	5,576.65	75.72	74.651		
5,700.00	5,691.24	8,491.72	4,955.49	19.85	56.62	-118.86	-649.04	5,477.64	5,667.34	5,591.35	75.99	74.582		
5,800.00	5,790.93	8,494.21	4,955.45	20.20	56.66	-118.84	-651.52	5,477.43	5,684.03	5,607.79	76.24	74.552		
5,900.00	5,890.63	8,496.68	4,955.41	20.56	56.69	-118.81	-653.99	5,477.23	5,702.42	5,625.95	76.48	74.563		
6,000.00	5,990.33	8,518.00	4,955.05	20.92	56.98	-118.59	-675.23	5,475.51	5,722.57	5,645.61	76.96	74.362		
6,100.00	6,090.03	8,518.00	4,955.05	21.28	56.98	-118.59	-675.23	5,475.51	5,744.30	5,667.18	77.12	74.483		
6,200.00	6,189.73	8,518.00	4,955.05	21.64	56.98	-118.59	-675.23	5,475.51	5,767.68	5,690.41	77.27	74.639		
6,300.00	6,289.42	8,518.00	4,955.05	22.00	56.98	-118.59	-675.23	5,475.51	5,792.70	5,715.29	77.41	74.832		
6,400.00	6,389.12	8,518.00	4,955.05	22.36	56.98	-118.59	-675.23	5,475.51	5,819.32	5,741.80	77.53	75.060		
6,500.00	6,488.82	8,518.00	4,955.05	22.72	56.98	-118.59	-675.23	5,475.51	5,847.54	5,769.91	77.63	75.323		
6,600.00	6,588.52	8,527.33	4,955.21	23.08	57.11	-118.69	-665.93	5,476.25	5,877.32	5,799.47	77.85	75.499		
6,700.00	6,688.22	8,522.32	4,955.13	23.44	57.04	-118.64	-670.92	5,475.85	5,908.65	5,830.79	77.86	75.892		
6,800.00	6,787.91	8,518.69	4,955.04	23.80	56.99	-118.59	-675.92	5,475.46	5,941.49	5,863.62	77.87	76.299		
6,900.00	6,887.61	8,523.71	4,954.95	24.16	57.06	-118.54	-680.92	5,475.07	5,975.82	5,897.83	77.99	76.624		
7,000.00	6,987.31	8,528.72	4,954.86	24.52	57.13	-118.49	-685.91	5,474.67	6,011.62	5,933.53	78.09	76.980		
7,100.00	7,087.01	8,533.73	4,954.78	24.88	57.20	-118.43	-690.91	5,474.28	6,048.85	5,970.67	78.19	77.365		
7,200.00	7,186.71	8,538.74	4,954.69	25.24	57.27	-118.38	-695.90	5,473.89	6,087.50	6,009.23	78.27	77.778		
7,300.00	7,286.41	8,543.75	4,954.60	25.60	57.34	-118.33	-700.90	5,473.49	6,127.53	6,049.19	78.34	78.219		
7,400.00	7,386.10	8,548.76	4,954.51	25.96	57.40	-118.28	-705.89	5,473.10	6,168.91	6,090.52	78.40	78.686		
7,500.00	7,485.80	8,553.78	4,954.43	26.33	57.47	-118.23	-710.89	5,472.71	6,211.63	6,133.18	78.45	79.179		
7,600.00	7,585.50	8,558.79	4,954.34	26.69	57.54	-118.18	-715.88	5,472.31	6,255.65	6,177.16	78.49	79.697		
7,700.00	7,685.20	8,563.80	4,954.25	27.05	57.61	-118.13	-720.88	5,471.92	6,300.95	6,222.42	78.53	80.239		
7,800.00	7,784.90	8,568.81	4,954.16	27.41	57.68	-118.08	-725.88	5,471.53	6,347.49	6,268.94	78.55	80.804		
7,860.70	7,845.41	8,571.85	4,954.11	27.63	57.72	-118.04	-728.91	5,471.29	6,376.34	6,297.77	78.57	81.157		
7,900.00	7,884.61	8,573.65	4,954.08	27.77	57.75	-118.31	-730.70	5,471.15	6,395.17	6,316.60	78.57	81.393		
8,000.00	7,984.46	8,576.63	4,954.03	28.13	57.79	-119.00	-733.67	5,470.91	6,443.16	6,364.61	78.56	82.020		
8,100.00	8,084.42	8,577.33	4,954.02	28.49	57.80	-119.71	-734.37	5,470.86	6,491.24	6,412.74	78.50	82.690		
8,157.59	8,142.00	8,576.71	4,954.03	28.69	57.79	93.95	-733.74	5,470.91	6,518.94	6,440.49	78.45	83.099		
8,200.00	8,184.41	8,575.96	4,954.04	28.83	57.78	93.94	-733.01	5,470.97	6,539.46	6,461.06	78.40	83.409		
8,300.00	8,284.41	8,574.22	4,954.07	29.17	57.75	93.93	-731.27	5,471.10	6,588.66	6,510.37	78.29	84.155		
8,400.00	8,384.41	8,572.47	4,954.10	29.51	57.73	93.91	-729.53	5,471.24	6,639.00	6,560.82	78.18	84.921		
8,507.63	8,492.04	8,570.60	4,954.13	29.87	57.70	93.89	-727.65	5,471.39	6,694.42	6,616.37	78.05	85.766		
8,550.00	8,534.37	8,569.72	4,954.15	30.02	57.69	4.33	-726.78	5,471.46	6,715.24	6,637.25	78.00	86.097		
8,600.00	8,584.01	8,568.33	4,954.17	30.18	57.67	4.14	-725.39	5,471.57	6,736.51	6,658.60	77.91	86.463		
8,650.00	8,632.95	8,566.56	4,954.20	30.34	57.65	3.99	-723.64	5,471.70	6,754.09	6,676.27	77.81	86.799		
8,700.00	8,680.82	8,564.44	4,954.24	30.50	57.62	3.87	-721.52	5,471.87	6,767.86	6,690.16	77.70	87.104		
8,750.00	8,727.25	8,561.98	4,954.28	30.66	57.59	3.79	-719.06	5,472.06	6,777.76	6,700.19	77.57	87.376		
8,800.00	8,771.89	8,559.19	4,954.33	30.81	57.55	3.72	-716.28	5,472.28	6,783.72	6,706.29	77.43	87.615		
8,850.00	8,814.40	8,556.09	4,954.39	30.95	57.50	3.68	-713.20	5,472.53	6,785.71	6,708.44	77.27	87.821		
8,900.00	8,854.46	8,552.72	4,954.45	31.09	57.46	3.67	-709.84	5,472.79	6,783.71	6,706.61	77.10	87.991		
8,950.00	8,891.75	8,549.09	4,954.51	31.23	57.41	3.68	-706.22	5,473.07	6,777.73	6,700.82	76.91	88.124		
9,000.00	8,926.01	8,545.24	4,954.58	31.37	57.36	3.71	-702.38	5,473.38	6,767.82	6,691.10	76.71	88.221		
9,050.00	8,956.96	8,541.19	4,954.65	31.53	57.30	3.77	-698.35	5,473.69	6,754.02	6,677.51	76.51	88.278		
9,100.00	8,984.38	8,536.98	4,954.72	31.69	57.24	3.85	-694.14	5,474.03	6,736.43	6,660.13	76.29	88.296		
9,150.00	9,008.05	8,532.63	4,954.80	31.87	57.18	3.97	-689.81	5,474.37	6,715.14	6,639.06	76.07	88.272		
9,200.00	9,027.79	8,528.18	4,954.87	32.07	57.12	4.13	-685.37	5,474.72	6,690.28	6,614.43	75.85	88.206		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Sec 13-T21S-R27E - Lone Tree Draw State Com 2H - ST01 - ST01													Offset Well Error:	0.50 ft
Survey Program: 80-GYRO-NS-CT, 4361-MWD+HDGM														
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (ft)	Separation Factor	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)				
9,250.00	9,043.45	8,523.66	4,954.95	32.29	57.06	4.34	-680.87	5,475.07	6,662.00	6,586.38	75.62	88.097		
9,300.00	9,054.92	8,519.11	4,955.03	32.53	57.00	4.60	-676.34	5,475.43	6,630.47	6,555.08	75.39	87.944		
9,350.00	9,062.10	8,521.44	4,955.11	32.79	57.03	4.95	-671.80	5,475.78	6,595.90	6,520.65	75.25	87.652		
9,400.00	9,064.95	8,525.95	4,955.19	33.06	57.09	5.40	-667.30	5,476.14	6,558.49	6,483.35	75.14	87.286		
9,407.63	9,065.00	8,526.63	4,955.20	33.10	57.10	5.48	-666.62	5,476.19	6,552.55	6,477.43	75.13	87.222		
9,500.00	9,065.00	8,518.00	4,955.05	33.68	56.98	5.60	-675.23	5,475.51	6,480.51	6,405.80	74.72	86.736		
9,600.00	9,065.00	8,518.00	4,955.05	34.41	56.98	5.60	-675.23	5,475.51	6,403.11	6,328.73	74.38	86.088		
9,700.00	9,065.00	8,518.00	4,955.05	35.24	56.98	5.60	-675.23	5,475.51	6,326.34	6,252.30	74.04	85.441		
9,800.00	9,065.00	8,497.15	4,955.40	36.17	56.70	5.31	-654.45	5,477.19	6,250.16	6,176.70	73.46	85.081		
9,900.00	9,065.00	8,492.67	4,955.48	37.19	56.63	5.25	-649.98	5,477.56	6,174.69	6,101.61	73.08	84.494		
10,000.00	9,065.00	8,488.10	4,955.55	38.30	56.57	5.18	-645.43	5,477.94	6,099.92	6,027.22	72.70	83.906		
10,100.00	9,065.00	8,483.45	4,955.62	39.48	56.51	5.12	-640.80	5,478.33	6,025.88	5,953.56	72.32	83.318		
10,200.00	9,065.00	8,478.72	4,955.69	40.72	56.44	5.05	-636.09	5,478.74	5,952.59	5,880.64	71.95	82.729		
10,300.00	9,065.00	8,473.90	4,955.77	42.03	56.38	4.99	-631.29	5,479.15	5,880.08	5,808.49	71.59	82.138		
10,400.00	9,065.00	8,469.00	4,955.84	43.40	56.31	4.92	-626.40	5,479.58	5,808.38	5,737.15	71.23	81.545		
10,500.00	9,065.00	8,464.00	4,955.91	44.82	56.24	4.85	-621.43	5,480.02	5,737.51	5,666.63	70.88	80.949		
10,600.00	9,065.00	8,458.91	4,955.99	46.29	56.17	4.78	-616.36	5,480.47	5,667.51	5,596.98	70.54	80.350		
10,700.00	9,065.00	8,453.72	4,956.06	47.79	56.10	4.71	-611.19	5,480.93	5,598.42	5,528.22	70.20	79.747		
10,800.00	9,065.00	8,448.44	4,956.13	49.34	56.03	4.63	-605.93	5,481.41	5,530.26	5,460.38	69.88	79.140		
10,900.00	9,065.00	8,443.05	4,956.20	50.92	55.96	4.56	-600.56	5,481.91	5,463.08	5,393.51	69.57	78.529		
11,000.00	9,065.00	8,423.00	4,956.46	52.54	55.68	4.28	-580.60	5,483.79	5,396.93	5,327.83	69.10	78.108		
11,100.00	9,065.00	8,423.00	4,956.46	54.18	55.68	4.28	-580.60	5,483.79	5,331.77	5,262.89	68.88	77.410		
11,200.00	9,065.00	8,423.00	4,956.46	55.85	55.68	4.28	-580.60	5,483.79	5,267.70	5,199.03	68.67	76.705		
11,300.00	9,065.00	8,423.00	4,956.46	57.54	55.68	4.28	-580.60	5,483.79	5,204.77	5,136.28	68.49	75.994		
11,400.00	9,065.00	8,423.00	4,956.46	59.26	55.68	4.28	-580.60	5,483.79	5,143.00	5,074.68	68.32	75.276		
11,500.00	9,065.00	8,423.00	4,956.46	61.00	55.68	4.28	-580.60	5,483.79	5,082.46	5,014.29	68.17	74.552		
11,600.00	9,065.00	8,404.30	4,956.64	62.75	55.43	4.02	-561.99	5,485.57	5,023.11	4,955.29	67.82	74.062		
11,700.00	9,065.00	8,398.93	4,956.67	64.52	55.35	3.94	-556.65	5,486.08	4,965.08	4,897.43	67.65	73.391		
11,800.00	9,065.00	8,393.60	4,956.70	66.31	55.28	3.87	-551.33	5,486.59	4,908.40	4,840.90	67.50	72.713		
11,900.00	9,065.00	8,388.29	4,956.72	68.11	55.21	3.79	-546.05	5,487.09	4,853.11	4,785.73	67.38	72.027		
12,000.00	9,065.00	8,383.01	4,956.73	69.93	55.13	3.72	-540.80	5,487.58	4,799.24	4,731.97	67.28	71.335		
12,100.00	9,065.00	8,377.77	4,956.73	71.76	55.06	3.65	-535.57	5,488.07	4,746.87	4,679.67	67.20	70.636		
12,200.00	9,065.00	8,372.55	4,956.72	73.60	54.99	3.57	-530.38	5,488.56	4,696.03	4,628.87	67.15	69.932		
12,300.00	9,065.00	8,367.36	4,956.71	75.45	54.92	3.50	-525.21	5,489.04	4,646.77	4,579.64	67.13	69.223		
12,400.00	9,065.00	8,362.20	4,956.69	77.31	54.85	3.43	-520.07	5,489.52	4,599.14	4,532.01	67.13	68.510		
12,500.00	9,065.00	8,357.06	4,956.66	79.18	54.78	3.36	-514.96	5,489.99	4,553.21	4,486.05	67.16	67.795		
12,600.00	9,065.00	8,351.96	4,956.63	81.05	54.71	3.28	-509.88	5,490.46	4,509.01	4,441.79	67.22	67.077		
12,700.00	9,065.00	8,329.00	4,956.38	82.94	54.40	2.96	-487.01	5,492.56	4,466.67	4,399.57	67.10	66.566		
12,800.00	9,065.00	8,329.00	4,956.38	84.83	54.40	2.96	-487.01	5,492.56	4,426.07	4,358.79	67.28	65.787		
12,900.00	9,065.00	8,329.00	4,956.38	86.73	54.40	2.96	-487.01	5,492.56	4,387.38	4,319.89	67.49	65.010		
13,000.00	9,065.00	8,329.00	4,956.38	88.64	54.40	2.96	-487.01	5,492.56	4,350.64	4,282.91	67.73	64.239		
13,100.00	9,065.00	8,329.00	4,956.38	90.55	54.40	2.96	-487.01	5,492.56	4,315.90	4,247.90	68.00	63.473		
13,200.00	9,065.00	8,318.99	4,956.24	92.47	54.26	2.82	-477.05	5,493.48	4,283.20	4,215.01	68.18	62.819		
13,300.00	9,065.00	8,311.54	4,956.14	94.39	54.16	2.72	-469.64	5,494.20	4,252.58	4,184.15	68.43	62.142		
13,400.00	9,065.00	8,303.68	4,956.03	96.32	54.05	2.61	-461.82	5,494.97	4,224.09	4,155.38	68.71	61.474		
13,500.00	9,065.00	8,295.37	4,955.92	98.25	53.94	2.49	-453.55	5,495.82	4,197.77	4,128.74	69.02	60.817		
13,600.00	9,065.00	8,286.57	4,955.80	100.19	53.82	2.37	-444.80	5,496.75	4,173.65	4,104.29	69.36	60.170		
13,700.00	9,065.00	8,277.24	4,955.68	102.13	53.69	2.24	-435.52	5,497.76	4,151.78	4,082.04	69.74	59.535		
13,800.00	9,065.00	8,267.32	4,955.55	104.08	53.56	2.10	-425.67	5,498.88	4,132.18	4,062.04	70.14	58.913		
13,900.00	9,065.00	8,256.76	4,955.42	106.03	53.41	1.95	-415.18	5,500.10	4,114.90	4,044.32	70.58	58.304		
14,000.00	9,065.00	8,245.50	4,955.28	107.98	53.26	1.79	-404.00	5,501.46	4,099.94	4,028.90	71.04	57.711		
14,100.00	9,065.00	8,234.00	4,955.14	109.94	53.10	1.63	-392.59	5,502.90	4,087.34	4,015.79	71.55	57.128		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design		Sec 13-T21S-R27E - Lone Tree Draw State Com 2H - ST01 - ST01											Offset Site Error:		5.00 ft
Survey Program:		80-GYRO-NS-CT, 4361-MWD+HDGM											Offset Well Error:		0.50 ft
Reference		Offset		Semi Major Axis			Distance								
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor	Warning		
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)				
14,200.00	9,065.00	8,234.00	4,955.14	111.90	53.10	1.63	-392.59	5,502.90	4,077.13	4,004.92	72.21	56.465			
14,300.00	9,065.00	8,218.16	4,954.92	113.86	52.89	1.41	-376.88	5,504.92	4,069.30	3,996.56	72.74	55.942			
14,400.00	9,065.00	8,210.29	4,954.79	115.82	52.78	1.30	-369.08	5,505.94	4,063.91	3,990.51	73.39	55.371			
14,500.00	9,065.00	8,202.33	4,954.66	117.79	52.67	1.19	-361.19	5,506.97	4,060.94	3,986.86	74.08	54.817			
14,571.87	9,065.00	8,196.56	4,954.55	119.21	52.60	1.11	-355.47	5,507.72	4,060.31	3,985.72	74.60	54.430 CC			
14,600.00	9,065.00	8,194.29	4,954.50	119.76	52.56	1.08	-353.22	5,508.01	4,060.41	3,985.61	74.80	54.282 ES			
14,700.00	9,065.00	8,186.17	4,954.34	121.74	52.45	0.96	-345.17	5,509.08	4,062.31	3,986.76	75.55	53.768			
14,800.00	9,065.00	8,177.96	4,954.16	123.71	52.34	0.85	-337.04	5,510.16	4,066.64	3,990.31	76.33	53.276			
14,900.00	9,065.00	8,169.67	4,953.97	125.69	52.23	0.73	-328.82	5,511.26	4,073.40	3,996.26	77.14	52.808			
15,000.00	9,065.00	8,161.28	4,953.76	127.67	52.12	0.62	-320.51	5,512.38	4,082.56	4,004.60	77.96	52.366			
15,100.00	9,065.00	8,140.00	4,953.17	129.65	51.83	0.32	-299.43	5,515.25	4,094.15	4,015.46	78.69	52.028			
15,200.00	9,065.00	8,148.71	4,953.43	131.63	51.95	0.44	-308.05	5,514.07	4,108.04	4,028.34	79.71	51.540			
15,300.00	9,065.00	8,130.97	4,952.90	133.62	51.71	0.19	-290.49	5,516.47	4,124.32	4,043.82	80.50	51.236			
15,400.00	9,065.00	8,113.08	4,952.38	135.61	51.46	-0.06	-272.78	5,518.91	4,142.88	4,061.59	81.30	50.961			
15,500.00	9,065.00	8,095.04	4,951.87	137.60	51.22	-0.31	-254.90	5,521.38	4,163.70	4,081.60	82.10	50.714			
15,600.00	9,065.00	8,076.83	4,951.37	139.59	50.98	-0.56	-236.87	5,523.89	4,186.74	4,103.83	82.91	50.497			
15,700.00	9,065.00	8,058.45	4,950.87	141.58	50.73	-0.82	-218.68	5,526.43	4,211.97	4,128.25	83.72	50.310			
15,800.00	9,065.00	8,041.60	4,950.42	143.57	50.50	-1.05	-202.00	5,528.77	4,239.34	4,154.80	84.54	50.148			
15,900.00	9,065.00	8,029.32	4,950.10	145.57	50.33	-1.22	-189.84	5,530.47	4,268.83	4,183.44	85.38	49.997			
16,000.00	9,065.00	8,017.25	4,949.78	147.56	50.17	-1.39	-177.89	5,532.12	4,300.40	4,214.18	86.22	49.878			
16,100.00	9,065.00	8,005.40	4,949.46	149.56	50.01	-1.56	-166.15	5,533.72	4,334.00	4,246.96	87.04	49.793			
16,200.00	9,065.00	7,993.75	4,949.15	151.56	49.85	-1.72	-154.61	5,535.28	4,369.60	4,281.75	87.85	49.740			
16,300.00	9,065.00	7,982.30	4,948.84	153.56	49.70	-1.88	-143.28	5,536.81	4,407.15	4,318.51	88.64	49.719 SF			
16,400.00	9,065.00	7,971.06	4,948.53	155.56	49.55	-2.03	-132.13	5,538.29	4,446.58	4,357.17	89.41	49.731			
16,500.00	9,065.00	7,964.51	4,948.35	157.57	49.46	-2.12	-125.65	5,539.15	4,487.86	4,397.67	90.20	49.757			
16,600.00	9,065.00	7,948.72	4,947.91	159.57	49.25	-2.34	-109.99	5,541.19	4,530.95	4,440.06	90.89	49.849			
16,700.00	9,065.00	7,933.00	4,947.47	161.57	49.04	-2.56	-94.40	5,543.21	4,575.77	4,484.20	91.57	49.969			
16,800.00	9,065.00	7,917.33	4,947.05	163.58	48.83	-2.78	-78.88	5,545.22	4,622.28	4,530.05	92.23	50.119			
16,900.00	9,065.00	7,901.74	4,946.64	165.59	48.62	-3.00	-63.41	5,547.21	4,670.41	4,577.55	92.86	50.296			
17,000.00	9,065.00	7,886.20	4,946.24	167.60	48.41	-3.21	-48.01	5,549.20	4,720.13	4,626.66	93.47	50.500			
17,100.00	9,065.00	7,870.73	4,945.85	169.60	48.20	-3.43	-32.67	5,551.17	4,771.38	4,677.33	94.05	50.731			
17,200.00	9,065.00	7,856.00	4,945.48	171.61	48.00	-3.63	-18.06	5,553.04	4,824.11	4,729.49	94.62	50.985			
17,300.00	9,065.00	7,846.37	4,945.25	173.62	47.87	-3.77	-8.51	5,554.26	4,878.29	4,783.11	95.19	51.250			
17,400.00	9,065.00	7,837.30	4,945.02	175.63	47.75	-3.89	0.48	5,555.40	4,933.88	4,838.15	95.73	51.538			
17,500.00	9,065.00	7,828.39	4,944.80	177.65	47.63	-4.01	9.32	5,556.50	4,990.83	4,894.57	96.25	51.850			
17,600.00	9,065.00	7,819.63	4,944.57	179.66	47.51	-4.14	18.01	5,557.58	5,049.09	4,952.34	96.75	52.185			
17,700.00	9,065.00	7,811.01	4,944.35	181.67	47.40	-4.26	26.57	5,558.63	5,108.62	5,011.39	97.23	52.542			
17,800.00	9,065.00	7,802.53	4,944.12	183.69	47.28	-4.37	34.98	5,559.65	5,169.38	5,071.70	97.68	52.920			
17,900.00	9,065.00	7,794.19	4,943.90	185.70	47.17	-4.49	43.26	5,560.65	5,231.33	5,133.21	98.12	53.318			
18,000.00	9,065.00	7,785.98	4,943.68	187.72	47.06	-4.60	51.40	5,561.62	5,294.42	5,195.89	98.53	53.736			
18,100.00	9,065.00	7,777.90	4,943.46	189.73	46.95	-4.71	59.42	5,562.57	5,358.61	5,259.69	98.92	54.172			
18,200.00	9,065.00	7,761.00	4,943.00	191.75	46.73	-4.95	76.21	5,564.53	5,423.88	5,324.63	99.25	54.648			
18,300.00	9,065.00	7,763.02	4,943.05	193.77	46.75	-4.92	74.20	5,564.30	5,490.15	5,390.51	99.65	55.096			
18,400.00	9,065.00	7,749.24	4,942.67	195.78	46.57	-5.11	87.88	5,565.88	5,557.42	5,457.47	99.96	55.598			
18,500.00	9,065.00	7,735.57	4,942.30	197.80	46.39	-5.30	101.46	5,567.44	5,625.64	5,525.39	100.25	56.116			
18,600.00	9,065.00	7,722.01	4,941.95	199.82	46.21	-5.49	114.93	5,568.99	5,694.76	5,594.23	100.53	56.648			
18,700.00	9,065.00	7,708.55	4,941.61	201.84	46.03	-5.67	128.29	5,570.51	5,764.76	5,663.97	100.79	57.195			
18,800.00	9,065.00	7,695.21	4,941.28	203.86	45.85	-5.86	141.55	5,572.01	5,835.61	5,734.57	101.04	57.755			
18,900.00	9,065.00	7,681.96	4,940.96	205.88	45.67	-6.04	154.71	5,573.50	5,907.27	5,805.99	101.28	58.328			
19,000.00	9,065.00	7,668.82	4,940.66	207.90	45.50	-6.22	167.76	5,574.97	5,979.72	5,878.22	101.50	58.913			
19,100.00	9,065.00	7,658.65	4,940.43	209.92	45.36	-6.36	177.87	5,576.10	6,052.93	5,951.20	101.72	59.505			
19,200.00	9,065.00	7,649.08	4,940.22	211.95	45.23	-6.49	187.38	5,577.15	6,126.87	6,024.94	101.93	60.107			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design Sec 13-T21S-R27E - Lone Tree Draw State Com 2H - ST01 - ST01													Offset Site Error:	5.00 ft
Survey Program: 80-GYRO-NS-CT, 4361-MWD+HDGM													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
19,300.00	9,065.00	7,639.65	4,940.01	213.97	45.11	-6.62	196.75	5,578.19	6,201.53	6,099.40	102.13	60.720		
19,400.00	9,065.00	7,630.34	4,939.81	215.99	44.98	-6.75	206.00	5,579.20	6,276.88	6,174.56	102.32	61.345		
19,456.84	9,065.00	7,352.55	4,940.70	217.14	41.31	-10.54	481.88	5,611.19	6,319.91	6,217.80	102.11	61.892		

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Survey Program: 80-GYRO-NS-CT													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0.00	0.00	0.00	0.00	0.50	5.02	61.36	3,158.45	5,782.98	6,589.48					
100.00	100.00	45.00	45.00	0.52	5.03	61.36	3,158.44	5,783.00	6,589.30	6,583.76	5.54	1,188.766		
200.00	200.00	140.67	140.67	0.70	5.03	61.36	3,158.37	5,783.16	6,589.41	6,583.67	5.74	1,148.701		
300.00	300.00	236.04	236.04	0.99	5.07	61.36	3,158.26	5,783.38	6,589.56	6,583.51	6.05	1,088.660		
400.00	400.00	333.23	333.23	1.31	5.12	61.36	3,158.12	5,783.72	6,589.79	6,583.36	6.43	1,025.049		
500.00	500.00	426.72	426.72	1.65	5.19	61.37	3,157.92	5,784.12	6,590.07	6,583.23	6.84	963.698		
600.00	600.00	520.68	520.68	1.99	5.29	61.37	3,157.65	5,784.69	6,590.46	6,583.19	7.28	905.878		
700.00	700.00	611.59	611.58	2.34	5.39	61.38	3,157.28	5,785.40	6,590.95	6,583.22	7.73	852.536		
800.00	800.00	711.04	711.02	2.69	5.53	61.39	3,156.74	5,786.38	6,591.56	6,583.34	8.22	802.063		
900.00	900.00	806.58	806.56	3.04	5.68	61.40	3,155.88	5,787.48	6,592.14	6,583.42	8.72	756.048		
1,000.00	1,000.00	895.06	895.02	3.40	5.83	61.41	3,154.95	5,788.72	6,592.87	6,583.64	9.22	714.708		
1,100.00	1,100.00	985.91	985.85	3.75	6.00	61.42	3,153.85	5,790.26	6,593.77	6,584.02	9.75	676.414		
1,200.00	1,200.00	1,089.98	1,089.90	4.11	6.20	61.44	3,152.38	5,792.20	6,594.73	6,584.42	10.31	639.528		
1,300.00	1,300.00	1,201.91	1,201.78	4.46	6.45	61.47	3,150.30	5,794.35	6,595.54	6,584.63	10.91	604.600		
1,400.00	1,400.00	1,311.70	1,311.52	4.82	6.70	61.50	3,147.49	5,796.68	6,596.18	6,584.66	11.52	572.677		
1,500.00	1,500.00	1,417.07	1,416.81	5.18	6.95	61.53	3,144.32	5,799.04	6,596.71	6,584.58	12.13	543.780		
1,600.00	1,600.00	1,522.50	1,522.17	5.53	7.22	61.56	3,141.29	5,801.21	6,597.15	6,584.40	12.75	517.243		
1,700.00	1,700.00	1,612.96	1,612.59	5.89	7.46	61.59	3,139.16	5,802.80	6,597.58	6,584.24	13.35	494.341		
1,800.00	1,800.00	1,686.42	1,686.03	6.25	7.65	61.60	3,137.78	5,804.22	6,598.38	6,584.48	13.90	474.785		
1,900.00	1,900.00	1,775.44	1,775.02	6.61	7.89	61.62	3,136.46	5,806.03	6,599.46	6,584.97	14.49	455.303		
2,000.00	2,000.00	1,896.30	1,895.85	6.96	8.22	61.64	3,135.23	5,808.01	6,600.41	6,585.23	15.18	434.694		
2,100.00	2,100.00	1,999.85	1,999.39	7.32	8.51	61.65	3,134.46	5,809.34	6,601.19	6,585.36	15.83	416.974		
2,200.00	2,200.00	2,099.06	2,098.59	7.68	8.79	61.66	3,133.80	5,810.52	6,601.93	6,585.46	16.47	400.816		
2,300.00	2,300.00	2,190.76	2,190.28	8.04	9.06	61.67	3,132.99	5,811.83	6,602.76	6,585.67	17.09	386.253		
2,400.00	2,400.00	2,286.45	2,285.95	8.39	9.34	61.69	3,132.11	5,813.32	6,603.69	6,585.96	17.73	372.388		
2,500.00	2,500.00	2,385.94	2,385.43	8.75	9.64	61.70	3,131.22	5,814.89	6,604.66	6,586.27	18.39	359.197		
2,600.00	2,599.99	2,488.72	2,488.19	9.09	9.95	-152.36	3,130.44	5,816.41	6,606.38	6,587.34	19.04	347.018		
2,700.00	2,699.96	2,593.89	2,593.36	9.42	10.27	-152.35	3,129.79	5,817.82	6,609.58	6,589.90	19.68	335.797		
2,800.00	2,799.86	2,696.92	2,696.38	9.75	10.58	-152.33	3,129.07	5,819.16	6,614.26	6,593.93	20.33	325.387		
2,900.00	2,899.68	2,796.87	2,796.31	10.08	10.89	-152.32	3,128.36	5,820.44	6,620.46	6,599.49	20.97	315.763		
2,945.33	2,944.88	2,840.24	2,839.67	10.23	11.03	-152.31	3,128.00	5,821.02	6,623.78	6,602.53	21.25	311.682		
3,000.00	2,999.39	2,890.43	2,889.85	10.41	11.18	-152.32	3,127.57	5,821.74	6,628.00	6,606.41	21.59	306.996		
3,100.00	3,099.08	2,990.43	2,989.84	10.75	11.50	-152.34	3,126.73	5,823.22	6,635.78	6,613.54	22.24	298.409		
3,200.00	3,198.78	3,088.23	3,087.64	11.08	11.81	-152.36	3,126.08	5,824.55	6,643.55	6,620.67	22.88	290.352		
3,300.00	3,298.48	3,173.53	3,172.92	11.42	12.08	-152.38	3,125.63	5,825.76	6,651.43	6,627.94	23.49	283.186		
3,400.00	3,398.18	3,253.56	3,252.94	11.76	12.34	-152.39	3,125.33	5,827.07	6,659.57	6,635.49	24.08	276.558		
3,500.00	3,497.88	3,341.40	3,340.77	12.10	12.62	-152.41	3,125.18	5,828.70	6,668.00	6,643.30	24.70	269.957		
3,600.00	3,597.58	3,456.96	3,456.31	12.45	12.99	-152.44	3,125.31	5,830.63	6,676.42	6,651.01	25.41	262.718		
3,700.00	3,697.27	3,563.35	3,562.70	12.79	13.33	-152.47	3,125.65	5,831.99	6,684.57	6,658.47	26.10	256.134		
3,800.00	3,796.97	3,666.16	3,665.50	13.14	13.66	-152.50	3,126.15	5,833.15	6,692.69	6,665.92	26.77	249.973		
3,900.00	3,896.67	3,759.35	3,758.67	13.48	13.96	-152.53	3,126.88	5,834.08	6,700.83	6,673.41	27.42	244.381		
4,000.00	3,996.37	3,860.92	3,860.24	13.83	14.29	-152.57	3,127.93	5,835.00	6,709.01	6,680.91	28.10	238.794		
4,100.00	4,096.07	3,965.29	3,964.60	14.18	14.63	-152.60	3,128.99	5,835.90	6,717.15	6,688.37	28.78	233.374		
4,200.00	4,195.76	4,082.08	4,081.38	14.53	15.02	-152.65	3,130.05	5,836.71	6,725.08	6,695.57	29.51	227.863		
4,300.00	4,295.46	4,187.11	4,186.40	14.88	15.36	-152.68	3,130.95	5,837.32	6,732.90	6,702.70	30.21	222.890		
4,400.00	4,395.16	4,293.08	4,292.37	15.23	15.71	-152.72	3,131.83	5,837.81	6,740.61	6,709.70	30.91	218.102		
4,500.00	4,494.86	4,395.68	4,394.97	15.58	16.05	-152.75	3,132.67	5,838.22	6,748.26	6,716.67	31.59	213.589		
4,600.00	4,594.56	4,494.61	4,493.89	15.93	16.38	-152.79	3,133.43	5,838.62	6,755.89	6,723.62	32.27	209.339		
4,700.00	4,694.25	4,596.78	4,596.06	16.29	16.72	-152.82	3,134.22	5,839.03	6,763.53	6,730.57	32.96	205.187		
4,800.00	4,793.95	4,705.07	4,704.34	16.64	17.08	-152.86	3,135.05	5,839.37	6,771.08	6,737.41	33.67	201.072		
4,900.00	4,893.65	4,814.52	4,813.79	17.00	17.44	-152.90	3,135.86	5,839.54	6,778.49	6,744.10	34.39	197.092		
5,000.00	4,993.35	4,909.26	4,908.53	17.35	17.76	-152.93	3,136.67	5,839.60	6,785.87	6,750.81	35.06	193.544		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Sec 13-T21S-R27E - Lone Tree Draw State Com 2H - Wellbore #1 - Wellbore #1													Offset Well Error:	0.50 ft
Survey Program: 80-GYRO-NS-CT														
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
5,100.00	5,093.05	4,992.45	4,991.71	17.71	18.04	-152.96	3,137.59	5,839.68	6,793.41	6,757.72	35.69	190.338		
5,200.00	5,192.75	5,061.67	5,060.93	18.06	18.27	-152.99	3,138.56	5,839.90	6,801.29	6,765.02	36.27	187.500		
5,300.00	5,292.44	5,138.65	5,137.89	18.42	18.53	-153.02	3,139.85	5,840.41	6,809.59	6,772.71	36.88	184.627		
5,400.00	5,392.14	5,222.87	5,222.09	18.77	18.81	-153.05	3,141.44	5,841.11	6,818.16	6,780.64	37.52	181.730		
5,500.00	5,491.84	5,328.96	5,328.16	19.13	19.17	-153.10	3,143.58	5,842.08	6,826.87	6,788.64	38.23	178.571		
5,600.00	5,591.54	5,440.43	5,439.61	19.49	19.55	-153.14	3,145.73	5,842.81	6,835.30	6,796.34	38.96	175.430		
5,700.00	5,691.24	5,539.13	5,538.28	19.85	19.88	-153.19	3,147.71	5,843.38	6,843.71	6,804.06	39.65	172.596		
5,800.00	5,790.93	5,671.07	5,670.20	20.20	20.33	-153.24	3,149.86	5,844.10	6,851.92	6,811.46	40.46	169.360		
5,900.00	5,890.63	5,786.63	5,785.75	20.56	20.72	-153.27	3,150.72	5,844.92	6,859.85	6,818.64	41.21	166.476		
6,000.00	5,990.33	5,944.63	5,943.75	20.92	21.26	-153.31	3,149.92	5,845.97	6,867.11	6,825.01	42.10	163.103		
6,100.00	6,090.03	6,105.41	6,104.51	21.28	21.80	-153.34	3,147.80	5,846.18	6,873.50	6,830.49	43.01	159.824		
6,200.00	6,189.73	6,300.21	6,299.29	21.64	22.46	-153.39	3,145.51	5,844.09	6,879.06	6,835.04	44.02	156.272		
6,300.00	6,289.42	6,466.61	6,465.61	22.00	23.02	-153.44	3,143.67	5,839.25	6,882.76	6,837.83	44.93	153.176		
6,400.00	6,389.12	6,568.61	6,567.55	22.36	23.37	-153.47	3,141.52	5,836.67	6,886.48	6,840.84	45.64	150.903		
6,500.00	6,488.82	6,645.28	6,644.17	22.72	23.63	-153.48	3,139.66	5,834.84	6,890.18	6,843.93	46.25	148.965		
6,600.00	6,588.52	6,709.31	6,708.18	23.08	23.84	-153.50	3,138.33	5,833.60	6,894.43	6,847.60	46.83	147.222		
6,700.00	6,688.22	6,790.44	6,789.29	23.44	24.12	-153.52	3,136.92	5,832.22	6,899.05	6,851.59	47.46	145.355		
6,800.00	6,787.91	6,950.15	6,948.93	23.80	24.66	-153.56	3,134.24	5,828.50	6,903.02	6,854.66	48.36	142.743		
6,900.00	6,887.61	6,978.42	6,977.18	24.16	24.76	-153.57	3,133.80	5,827.76	6,907.29	6,858.47	48.82	141.494		
7,000.00	6,987.31	6,978.42	6,977.18	24.52	24.76	-153.57	3,133.80	5,827.76	6,912.93	6,863.76	49.17	140.588		
7,100.00	7,087.01	6,978.42	6,977.18	24.88	24.76	-153.57	3,133.80	5,827.76	6,920.02	6,870.50	49.52	139.747		
7,200.00	7,186.71	6,978.42	6,977.18	25.24	24.76	-153.57	3,133.80	5,827.76	6,928.54	6,878.69	49.86	138.970		
7,300.00	7,286.41	6,978.42	6,977.18	25.60	24.76	-153.57	3,133.80	5,827.76	6,938.50	6,888.31	50.19	138.256		
7,400.00	7,386.10	6,978.42	6,977.18	25.96	24.76	-153.57	3,133.80	5,827.76	6,949.88	6,899.37	50.51	137.603		
7,500.00	7,485.80	6,978.42	6,977.18	26.33	24.76	-153.57	3,133.80	5,827.76	6,962.68	6,911.86	50.82	137.010		
7,600.00	7,585.50	6,978.42	6,977.18	26.69	24.76	-153.57	3,133.80	5,827.76	6,976.88	6,925.76	51.12	136.474		
7,700.00	7,685.20	6,978.42	6,977.18	27.05	24.76	-153.57	3,133.80	5,827.76	6,992.49	6,941.08	51.42	135.994		
7,800.00	7,784.90	6,978.42	6,977.18	27.41	24.76	-153.57	3,133.80	5,827.76	7,009.49	6,957.79	51.70	135.570		
7,860.70	7,845.41	6,978.42	6,977.18	27.63	24.76	-153.57	3,133.80	5,827.76	7,020.49	6,968.61	51.87	135.338		
7,900.00	7,884.61	6,978.42	6,977.18	27.77	24.76	-153.62	3,133.80	5,827.76	7,027.70	6,975.72	51.98	135.196		
8,000.00	7,984.46	6,978.42	6,977.18	28.13	24.76	-153.73	3,133.80	5,827.76	7,045.40	6,993.15	52.25	134.842		
8,100.00	8,084.42	6,978.42	6,977.18	28.49	24.76	-153.85	3,133.80	5,827.76	7,062.16	7,009.65	52.51	134.499		
8,157.59	8,142.00	6,978.42	6,977.18	28.69	24.76	60.17	3,133.80	5,827.76	7,071.39	7,018.74	52.65	134.318		
8,200.00	8,184.41	6,978.42	6,977.18	28.83	24.76	60.17	3,133.80	5,827.76	7,078.19	7,025.45	52.74	134.197		
8,300.00	8,284.41	6,978.42	6,977.18	29.17	24.76	60.17	3,133.80	5,827.76	7,095.22	7,042.25	52.97	133.945		
8,400.00	8,384.41	6,978.42	6,977.18	29.51	24.76	60.17	3,133.80	5,827.76	7,113.60	7,060.41	53.19	133.739		
8,507.63	8,492.04	6,978.42	6,977.18	29.87	24.76	60.17	3,133.80	5,827.76	7,134.91	7,081.49	53.42	133.568		
8,550.00	8,534.37	6,978.42	6,977.18	30.02	24.76	-28.83	3,133.80	5,827.76	7,142.38	7,088.88	53.50	133.497		
8,600.00	8,584.01	6,978.42	6,977.18	30.18	24.76	-28.56	3,133.80	5,827.76	7,148.02	7,094.42	53.60	133.370		
8,650.00	8,632.95	6,978.42	6,977.18	30.34	24.76	-28.46	3,133.80	5,827.76	7,150.18	7,096.50	53.68	133.195		
8,700.00	8,680.82	6,978.42	6,977.18	30.50	24.76	-28.52	3,133.80	5,827.76	7,148.86	7,095.10	53.76	132.975		
8,750.00	8,727.25	6,978.42	6,977.18	30.66	24.76	-28.75	3,133.80	5,827.76	7,144.07	7,090.24	53.83	132.712		
8,800.00	8,771.89	6,978.42	6,977.18	30.81	24.76	-29.16	3,133.80	5,827.76	7,135.83	7,081.94	53.89	132.408		
8,850.00	8,814.40	6,978.42	6,977.18	30.95	24.76	-29.74	3,133.80	5,827.76	7,124.19	7,070.25	53.95	132.063		
8,900.00	8,854.46	6,978.42	6,977.18	31.09	24.76	-30.53	3,133.80	5,827.76	7,109.23	7,055.24	53.99	131.678		
8,950.00	8,891.75	6,978.42	6,977.18	31.23	24.76	-31.54	3,133.80	5,827.76	7,091.04	7,037.01	54.03	131.251		
9,000.00	8,926.01	6,978.42	6,977.18	31.37	24.76	-32.79	3,133.80	5,827.76	7,069.73	7,015.67	54.06	130.783		
9,050.00	8,956.96	6,978.42	6,977.18	31.53	24.76	-34.33	3,133.80	5,827.76	7,045.44	6,991.36	54.08	130.270		
9,100.00	8,984.38	6,978.42	6,977.18	31.69	24.76	-36.20	3,133.80	5,827.76	7,018.32	6,964.21	54.11	129.711		
9,150.00	9,008.05	6,978.42	6,977.18	31.87	24.76	-38.44	3,133.80	5,827.76	6,988.55	6,934.42	54.13	129.106		
9,200.00	9,027.79	6,978.42	6,977.18	32.07	24.76	-41.14	3,133.80	5,827.76	6,956.33	6,902.17	54.16	128.451		
9,250.00	9,043.45	6,978.42	6,977.18	32.29	24.76	-44.37	3,133.80	5,827.76	6,921.85	6,867.67	54.18	127.747		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Survey Program: 80-GYRO-NS-CT													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
9,300.00	9,054.92	6,978.42	6,977.18	32.53	24.76	-48.23	3,133.80	5,827.76	6,885.37	6,831.15	54.22	126.993		
9,350.00	9,062.10	6,978.42	6,977.18	32.79	24.76	-52.82	3,133.80	5,827.76	6,847.11	6,792.85	54.26	126.189		
9,400.00	9,064.95	6,978.42	6,977.18	33.06	24.76	-58.23	3,133.80	5,827.76	6,807.35	6,753.04	54.31	125.339		
9,407.63	9,065.00	6,978.42	6,977.18	33.10	24.76	-59.13	3,133.80	5,827.76	6,801.17	6,746.85	54.32	125.201		
9,500.00	9,065.00	6,978.42	6,977.18	33.68	24.76	-59.13	3,133.80	5,827.76	6,726.38	6,671.94	54.44	123.557		
9,600.00	9,065.00	6,978.42	6,977.18	34.41	24.76	-59.13	3,133.80	5,827.76	6,645.91	6,591.30	54.61	121.699		
9,700.00	9,065.00	6,978.42	6,977.18	35.24	24.76	-59.13	3,133.80	5,827.76	6,565.98	6,511.15	54.83	119.759		
9,800.00	9,065.00	6,978.42	6,977.18	36.17	24.76	-59.13	3,133.80	5,827.76	6,486.60	6,431.51	55.09	117.740		
9,900.00	9,065.00	6,978.42	6,977.18	37.19	24.76	-59.13	3,133.80	5,827.76	6,407.81	6,352.40	55.41	115.644		
10,000.00	9,065.00	6,978.42	6,977.18	38.30	24.76	-59.13	3,133.80	5,827.76	6,329.61	6,273.83	55.78	113.476		
10,100.00	9,065.00	6,978.42	6,977.18	39.48	24.76	-59.13	3,133.80	5,827.76	6,252.03	6,195.83	56.20	111.239		
10,200.00	9,065.00	6,978.42	6,977.18	40.72	24.76	-59.13	3,133.80	5,827.76	6,175.10	6,118.41	56.68	108.939		
10,300.00	9,065.00	6,978.42	6,977.18	42.03	24.76	-59.13	3,133.80	5,827.76	6,098.83	6,041.61	57.22	106.583		
10,400.00	9,065.00	6,978.42	6,977.18	43.40	24.76	-59.13	3,133.80	5,827.76	6,023.26	5,965.44	57.82	104.177		
10,500.00	9,065.00	6,978.42	6,977.18	44.82	24.76	-59.13	3,133.80	5,827.76	5,948.41	5,889.94	58.47	101.729		
10,600.00	9,065.00	6,978.42	6,977.18	46.29	24.76	-59.13	3,133.80	5,827.76	5,874.31	5,815.13	59.19	99.247		
10,700.00	9,065.00	6,978.42	6,977.18	47.79	24.76	-59.13	3,133.80	5,827.76	5,800.99	5,741.03	59.97	96.739		
10,800.00	9,065.00	6,978.42	6,977.18	49.34	24.76	-59.13	3,133.80	5,827.76	5,728.48	5,667.68	60.80	94.214		
10,900.00	9,065.00	6,978.42	6,977.18	50.92	24.76	-59.13	3,133.80	5,827.76	5,656.80	5,595.10	61.70	91.680		
11,000.00	9,065.00	6,978.42	6,977.18	52.54	24.76	-59.13	3,133.80	5,827.76	5,586.00	5,523.33	62.66	89.145		
11,100.00	9,065.00	6,978.42	6,977.18	54.18	24.76	-59.13	3,133.80	5,827.76	5,516.09	5,452.41	63.68	86.618		
11,200.00	9,065.00	6,978.42	6,977.18	55.85	24.76	-59.13	3,133.80	5,827.76	5,447.13	5,382.36	64.77	84.105		
11,300.00	9,065.00	6,978.42	6,977.18	57.54	24.76	-59.13	3,133.80	5,827.76	5,379.14	5,313.23	65.91	81.615		
11,400.00	9,065.00	6,978.42	6,977.18	59.26	24.76	-59.13	3,133.80	5,827.76	5,312.17	5,245.05	67.11	79.154		
11,500.00	9,065.00	6,978.42	6,977.18	61.00	24.76	-59.13	3,133.80	5,827.76	5,246.24	5,177.87	68.38	76.727		
11,600.00	9,065.00	6,978.42	6,977.18	62.75	24.76	-59.13	3,133.80	5,827.76	5,181.41	5,111.71	69.70	74.342		
11,700.00	9,065.00	6,978.42	6,977.18	64.52	24.76	-59.13	3,133.80	5,827.76	5,117.71	5,046.63	71.08	72.002		
11,800.00	9,065.00	6,978.42	6,977.18	66.31	24.76	-59.13	3,133.80	5,827.76	5,055.18	4,982.67	72.51	69.713		
11,900.00	9,065.00	6,978.42	6,977.18	68.11	24.76	-59.13	3,133.80	5,827.76	4,993.88	4,919.87	74.01	67.478		
12,000.00	9,065.00	6,978.42	6,977.18	69.93	24.76	-59.13	3,133.80	5,827.76	4,933.84	4,858.28	75.56	65.301		
12,100.00	9,065.00	6,978.42	6,977.18	71.76	24.76	-59.13	3,133.80	5,827.76	4,875.11	4,797.95	77.16	63.185		
12,200.00	9,065.00	6,978.42	6,977.18	73.60	24.76	-59.13	3,133.80	5,827.76	4,817.74	4,738.93	78.81	61.131		
12,300.00	9,065.00	6,978.42	6,977.18	75.45	24.76	-59.13	3,133.80	5,827.76	4,761.78	4,681.27	80.51	59.143		
12,400.00	9,065.00	6,978.42	6,977.18	77.31	24.76	-59.13	3,133.80	5,827.76	4,707.28	4,625.02	82.26	57.221		
12,500.00	9,065.00	6,978.42	6,977.18	79.18	24.76	-59.13	3,133.80	5,827.76	4,654.30	4,570.23	84.06	55.367		
12,600.00	9,065.00	6,978.42	6,977.18	81.05	24.76	-59.13	3,133.80	5,827.76	4,602.87	4,516.96	85.91	53.580		
12,700.00	9,065.00	6,978.42	6,977.18	82.94	24.76	-59.13	3,133.80	5,827.76	4,553.06	4,465.27	87.79	51.863		
12,800.00	9,065.00	6,978.42	6,977.18	84.83	24.76	-59.13	3,133.80	5,827.76	4,504.92	4,415.21	89.71	50.214		
12,900.00	9,065.00	6,978.42	6,977.18	86.73	24.76	-59.13	3,133.80	5,827.76	4,458.50	4,366.83	91.67	48.634		
13,000.00	9,065.00	6,978.42	6,977.18	88.64	24.76	-59.13	3,133.80	5,827.76	4,413.86	4,320.19	93.67	47.122		
13,100.00	9,065.00	6,978.42	6,977.18	90.55	24.76	-59.13	3,133.80	5,827.76	4,371.06	4,275.36	95.69	45.679		
13,200.00	9,065.00	6,978.42	6,977.18	92.47	24.76	-59.13	3,133.80	5,827.76	4,330.13	4,232.39	97.74	44.302		
13,300.00	9,065.00	6,978.42	6,977.18	94.39	24.76	-59.13	3,133.80	5,827.76	4,291.15	4,191.34	99.82	42.991		
13,400.00	9,065.00	6,978.42	6,977.18	96.32	24.76	-59.13	3,133.80	5,827.76	4,254.17	4,152.26	101.91	41.746		
13,500.00	9,065.00	6,978.42	6,977.18	98.25	24.76	-59.13	3,133.80	5,827.76	4,219.23	4,115.22	104.01	40.564		
13,600.00	9,065.00	6,978.42	6,977.18	100.19	24.76	-59.13	3,133.80	5,827.76	4,186.39	4,080.26	106.13	39.446		
13,700.00	9,065.00	6,978.42	6,977.18	102.13	24.76	-59.13	3,133.80	5,827.76	4,155.69	4,047.44	108.25	38.389		
13,800.00	9,065.00	6,978.42	6,977.18	104.08	24.76	-59.13	3,133.80	5,827.76	4,127.19	4,016.82	110.38	37.392		
13,900.00	9,065.00	6,978.42	6,977.18	106.03	24.76	-59.13	3,133.80	5,827.76	4,100.93	3,988.44	112.49	36.454		
14,000.00	9,065.00	6,978.42	6,977.18	107.98	24.76	-59.13	3,133.80	5,827.76	4,076.96	3,962.36	114.60	35.574		
14,100.00	9,065.00	6,978.42	6,977.18	109.94	24.76	-59.13	3,133.80	5,827.76	4,055.31	3,938.61	116.70	34.750		
14,200.00	9,065.00	6,978.42	6,977.18	111.90	24.76	-59.13	3,133.80	5,827.76	4,036.02	3,917.25	118.78	33.980		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Sec 13-T21S-R27E - Lone Tree Draw State Com 2H - Wellbore #1 - Wellbore #1													Offset Well Error:	0.50 ft
Survey Program: 80-GYRO-NS-CT														
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
14,300.00	9,065.00	6,978.42	6,977.18	113.86	24.76	-59.13	3,133.80	5,827.76	4,019.13	3,898.31	120.83	33.264		
14,400.00	9,065.00	6,978.42	6,977.18	115.82	24.76	-59.13	3,133.80	5,827.76	4,004.67	3,881.82	122.85	32.599		
14,500.00	9,065.00	6,978.42	6,977.18	117.79	24.76	-59.13	3,133.80	5,827.76	3,992.66	3,867.82	124.83	31.984		
14,600.00	9,065.00	6,978.42	6,977.18	119.76	24.76	-59.13	3,133.80	5,827.76	3,983.12	3,856.34	126.78	31.418		
14,700.00	9,065.00	6,978.42	6,977.18	121.74	24.76	-59.13	3,133.80	5,827.76	3,976.08	3,847.40	128.68	30.898		
14,800.00	9,065.00	6,978.42	6,977.18	123.71	24.76	-59.13	3,133.80	5,827.76	3,971.54	3,841.01	130.53	30.425		
14,900.00	9,065.00	6,978.42	6,977.18	125.69	24.76	-59.13	3,133.80	5,827.76	3,969.52	3,837.19	132.33	29.996		
14,930.29	9,065.00	6,978.42	6,977.18	126.29	24.76	-59.13	3,133.80	5,827.76	3,969.40	3,836.54	132.87	29.875 CC		
15,000.00	9,065.00	6,978.42	6,977.18	127.67	24.76	-59.13	3,133.80	5,827.76	3,970.02	3,835.94	134.08	29.610 ES		
15,100.00	9,065.00	6,978.42	6,977.18	129.65	24.76	-59.13	3,133.80	5,827.76	3,973.03	3,837.27	135.76	29.266		
15,200.00	9,065.00	6,978.42	6,977.18	131.63	24.76	-59.13	3,133.80	5,827.76	3,978.56	3,841.18	137.37	28.962		
15,300.00	9,065.00	6,978.42	6,977.18	133.62	24.76	-59.13	3,133.80	5,827.76	3,986.58	3,847.66	138.92	28.696		
15,400.00	9,065.00	6,978.42	6,977.18	135.61	24.76	-59.13	3,133.80	5,827.76	3,997.10	3,856.70	140.40	28.469		
15,500.00	9,065.00	6,978.42	6,977.18	137.60	24.76	-59.13	3,133.80	5,827.76	4,010.08	3,868.27	141.81	28.277		
15,600.00	9,065.00	6,978.42	6,977.18	139.59	24.76	-59.13	3,133.80	5,827.76	4,025.50	3,882.35	143.15	28.121		
15,700.00	9,065.00	6,978.42	6,977.18	141.58	24.76	-59.13	3,133.80	5,827.76	4,043.34	3,898.93	144.41	27.999		
15,800.00	9,065.00	6,978.42	6,977.18	143.57	24.76	-59.13	3,133.80	5,827.76	4,063.57	3,917.96	145.60	27.909		
15,900.00	9,065.00	6,978.42	6,977.18	145.57	24.76	-59.13	3,133.80	5,827.76	4,086.14	3,939.42	146.71	27.851		
16,000.00	9,065.00	6,978.42	6,977.18	147.56	24.76	-59.13	3,133.80	5,827.76	4,111.02	3,963.26	147.75	27.823 SF		
16,100.00	9,065.00	6,978.42	6,977.18	149.56	24.76	-59.13	3,133.80	5,827.76	4,138.16	3,989.44	148.72	27.825		
16,200.00	9,065.00	6,978.42	6,977.18	151.56	24.76	-59.13	3,133.80	5,827.76	4,167.53	4,017.92	149.61	27.855		
16,300.00	9,065.00	6,978.42	6,977.18	153.56	24.76	-59.13	3,133.80	5,827.76	4,199.08	4,048.64	150.44	27.913		
16,400.00	9,065.00	6,978.42	6,977.18	155.56	24.76	-59.13	3,133.80	5,827.76	4,232.75	4,081.57	151.19	27.997		
16,500.00	9,065.00	6,978.42	6,977.18	157.57	24.76	-59.13	3,133.80	5,827.76	4,268.51	4,116.64	151.87	28.106		
16,600.00	9,065.00	6,978.42	6,977.18	159.57	24.76	-59.13	3,133.80	5,827.76	4,306.29	4,153.80	152.49	28.240		
16,700.00	9,065.00	6,978.42	6,977.18	161.57	24.76	-59.13	3,133.80	5,827.76	4,346.04	4,192.99	153.04	28.397		
16,800.00	9,065.00	6,978.42	6,977.18	163.58	24.76	-59.13	3,133.80	5,827.76	4,387.71	4,234.17	153.54	28.578		
16,900.00	9,065.00	6,978.42	6,977.18	165.59	24.76	-59.13	3,133.80	5,827.76	4,431.24	4,277.27	153.97	28.780		
17,000.00	9,065.00	6,978.42	6,977.18	167.60	24.76	-59.13	3,133.80	5,827.76	4,476.59	4,322.24	154.35	29.003		
17,100.00	9,065.00	6,978.42	6,977.18	169.60	24.76	-59.13	3,133.80	5,827.76	4,523.69	4,369.02	154.67	29.247		
17,200.00	9,065.00	6,978.42	6,977.18	171.61	24.76	-59.13	3,133.80	5,827.76	4,572.50	4,417.56	154.94	29.511		
17,300.00	9,065.00	6,978.42	6,977.18	173.62	24.76	-59.13	3,133.80	5,827.76	4,622.95	4,467.79	155.17	29.793		
17,400.00	9,065.00	6,978.42	6,977.18	175.63	24.76	-59.13	3,133.80	5,827.76	4,675.00	4,519.66	155.35	30.094		
17,500.00	9,065.00	6,978.42	6,977.18	177.65	24.76	-59.13	3,133.80	5,827.76	4,728.59	4,573.11	155.48	30.413		
17,600.00	9,065.00	6,978.42	6,977.18	179.66	24.76	-59.13	3,133.80	5,827.76	4,783.67	4,628.10	155.58	30.748		
17,700.00	9,065.00	6,978.42	6,977.18	181.67	24.76	-59.13	3,133.80	5,827.76	4,840.19	4,684.56	155.63	31.100		
17,800.00	9,065.00	6,978.42	6,977.18	183.69	24.76	-59.13	3,133.80	5,827.76	4,898.10	4,742.45	155.65	31.468		
17,900.00	9,065.00	6,978.42	6,977.18	185.70	24.76	-59.13	3,133.80	5,827.76	4,957.35	4,801.71	155.64	31.851		
18,000.00	9,065.00	6,978.42	6,977.18	187.72	24.76	-59.13	3,133.80	5,827.76	5,017.90	4,862.29	155.60	32.248		
18,100.00	9,065.00	6,978.42	6,977.18	189.73	24.76	-59.13	3,133.80	5,827.76	5,079.69	4,924.16	155.53	32.660		
18,200.00	9,065.00	6,978.42	6,977.18	191.75	24.76	-59.13	3,133.80	5,827.76	5,142.68	4,987.24	155.44	33.085		
18,300.00	9,065.00	6,978.42	6,977.18	193.77	24.76	-59.13	3,133.80	5,827.76	5,206.83	5,051.52	155.32	33.524		
18,400.00	9,065.00	6,978.42	6,977.18	195.78	24.76	-59.13	3,133.80	5,827.76	5,272.10	5,116.93	155.17	33.975		
18,500.00	9,065.00	6,978.42	6,977.18	197.80	24.76	-59.13	3,133.80	5,827.76	5,338.45	5,183.43	155.01	34.439		
18,600.00	9,065.00	6,978.42	6,977.18	199.82	24.76	-59.13	3,133.80	5,827.76	5,405.82	5,250.99	154.83	34.914		
18,700.00	9,065.00	6,978.42	6,977.18	201.84	24.76	-59.13	3,133.80	5,827.76	5,474.20	5,319.57	154.63	35.401		
18,800.00	9,065.00	6,978.42	6,977.18	203.86	24.76	-59.13	3,133.80	5,827.76	5,543.54	5,389.12	154.42	35.899		
18,900.00	9,065.00	6,978.42	6,977.18	205.88	24.76	-59.13	3,133.80	5,827.76	5,613.80	5,459.61	154.19	36.407		
19,000.00	9,065.00	6,978.42	6,977.18	207.90	24.76	-59.13	3,133.80	5,827.76	5,684.95	5,531.00	153.96	36.926		
19,100.00	9,065.00	6,978.42	6,977.18	209.92	24.76	-59.13	3,133.80	5,827.76	5,756.97	5,603.26	153.71	37.455		
19,200.00	9,065.00	6,978.42	6,977.18	211.95	24.76	-59.13	3,133.80	5,827.76	5,829.80	5,676.36	153.45	37.993		
19,300.00	9,065.00	6,978.42	6,977.18	213.97	24.76	-59.13	3,133.80	5,827.76	5,903.43	5,750.26	153.18	38.540		

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design	Sec 13-T21S-R27E - Lone Tree Draw State Com 2H - Wellbore #1 - Wellbore #1											Offset Site Error:	5.00 ft
Survey Program:	80-GYRO-NS-CT											Offset Well Error:	0.50 ft
Reference	Offset		Semi Major Axis		Distance								
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor	Warning
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)		
19,400.00	9,065.00	6,978.42	6,977.18	215.99	24.76	-59.13	3,133.80	5,827.76	5,977.83	5,824.93	152.90	39.096	
19,456.84	9,065.00	6,978.42	6,977.18	217.14	24.76	-59.13	3,133.80	5,827.76	6,020.45	5,867.71	152.74	39.417	

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Survey Program: 10-INC-ONLY													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0.00	0.00	0.00	0.00	0.50	5.02	89.87	15.65	7,023.26	7,023.75					
100.00	100.00	19.10	19.10	0.52	5.03	89.87	15.65	7,023.26	7,023.28	7,017.73	5.54	1,266.702		
200.00	200.00	119.10	119.10	0.70	5.28	89.87	15.65	7,023.26	7,023.28	7,017.29	5.99	1,173.368		
300.00	300.00	219.10	219.10	0.99	5.92	89.87	15.65	7,023.26	7,023.28	7,016.37	6.91	1,016.871		
400.00	400.00	319.10	319.10	1.31	6.83	89.87	15.65	7,023.26	7,023.28	7,015.14	8.14	862.960		
500.00	500.00	419.10	419.10	1.65	7.92	89.87	15.65	7,023.26	7,023.28	7,013.71	9.57	734.203		
600.00	600.00	519.10	519.10	1.99	9.13	89.87	15.65	7,023.26	7,023.28	7,012.16	11.12	631.791		
700.00	700.00	619.10	619.10	2.34	10.41	89.87	15.65	7,023.26	7,023.28	7,010.53	12.75	550.979		
800.00	800.00	719.10	719.10	2.69	11.74	89.87	15.65	7,023.26	7,023.28	7,008.85	14.43	486.687		
900.00	900.00	819.10	819.10	3.04	13.11	89.87	15.65	7,023.26	7,023.28	7,007.13	16.15	434.831		
1,000.00	1,000.00	919.10	919.10	3.40	14.50	89.87	15.65	7,023.26	7,023.28	7,005.38	17.90	392.379		
1,100.00	1,100.00	1,019.10	1,019.10	3.75	15.91	89.87	15.65	7,023.26	7,023.28	7,003.61	19.67	357.123		
1,200.00	1,200.00	1,119.10	1,119.10	4.11	17.34	89.87	15.65	7,023.26	7,023.28	7,001.83	21.45	327.456		
1,300.00	1,300.00	1,219.10	1,219.10	4.46	18.78	89.87	15.65	7,023.26	7,023.28	7,000.04	23.24	302.191		
1,400.00	1,400.00	1,319.10	1,319.10	4.82	20.22	89.87	15.65	7,023.26	7,023.28	6,998.24	25.04	280.446		
1,500.00	1,500.00	1,419.10	1,419.10	5.18	21.68	89.87	15.65	7,023.26	7,023.28	6,996.43	26.85	261.550		
1,600.00	1,600.00	1,519.10	1,519.10	5.53	23.13	89.87	15.65	7,023.26	7,023.28	6,994.61	28.67	244.990		
1,700.00	1,700.00	1,619.10	1,619.10	5.89	24.60	89.87	15.65	7,023.26	7,023.28	6,992.79	30.49	230.366		
1,800.00	1,800.00	1,719.10	1,719.10	6.25	26.06	89.87	15.65	7,023.26	7,023.28	6,990.97	32.31	217.363		
1,900.00	1,900.00	1,819.10	1,819.10	6.61	27.53	89.87	15.65	7,023.26	7,023.28	6,989.14	34.14	205.729		
2,000.00	2,000.00	1,919.10	1,919.10	6.96	29.01	89.87	15.65	7,023.26	7,023.28	6,987.31	35.97	195.262		
2,100.00	2,100.00	2,019.10	2,019.10	7.32	30.48	89.87	15.65	7,023.26	7,023.28	6,985.48	37.80	185.797		
2,200.00	2,200.00	2,119.10	2,119.10	7.68	31.96	89.87	15.65	7,023.26	7,023.28	6,983.64	39.64	177.198		
2,300.00	2,300.00	2,219.10	2,219.10	8.04	33.44	89.87	15.65	7,023.26	7,023.28	6,981.81	41.47	169.352		
2,400.00	2,400.00	2,319.10	2,319.10	8.39	34.92	89.87	15.65	7,023.26	7,023.28	6,979.97	43.31	162.165		
2,500.00	2,500.00	2,419.10	2,419.10	8.75	36.40	89.87	15.65	7,023.26	7,023.28	6,978.13	45.15	155.559		
2,600.00	2,599.99	2,519.09	2,519.09	9.09	37.88	-124.21	15.65	7,023.26	7,023.77	6,976.80	46.97	149.530		
2,700.00	2,699.96	2,619.06	2,619.06	9.42	39.36	-124.21	15.65	7,023.26	7,025.24	6,976.46	48.78	144.015		
2,800.00	2,799.86	2,718.96	2,718.96	9.75	40.85	-124.22	15.65	7,023.26	7,027.70	6,977.10	50.59	138.909		
2,900.00	2,899.68	2,818.78	2,818.78	10.08	42.33	-124.23	15.65	7,023.26	7,031.13	6,978.73	52.40	134.170		
2,945.33	2,944.88	2,863.98	2,863.98	10.23	43.00	-124.24	15.65	7,023.26	7,033.02	6,979.79	53.23	132.134		
3,000.00	2,999.39	2,918.49	2,918.49	10.41	43.81	-124.27	15.65	7,023.26	7,035.41	6,981.19	54.22	129.762		
3,100.00	3,099.08	3,018.18	3,018.18	10.75	45.29	-124.32	15.65	7,023.26	7,039.80	6,983.76	56.03	125.635		
3,200.00	3,198.78	3,117.88	3,117.88	11.08	46.78	-124.37	15.65	7,023.26	7,044.19	6,986.33	57.85	121.762		
3,300.00	3,298.48	3,217.58	3,217.58	11.42	48.26	-124.43	15.65	7,023.26	7,048.58	6,988.91	59.67	118.120		
3,400.00	3,398.18	3,317.28	3,317.28	11.76	49.74	-124.48	15.65	7,023.26	7,052.98	6,991.49	61.50	114.690		
3,500.00	3,497.88	3,416.98	3,416.98	12.10	51.23	-124.53	15.65	7,023.26	7,057.39	6,994.07	63.32	111.454		
3,600.00	3,597.58	3,516.68	3,516.68	12.45	52.71	-124.58	15.65	7,023.26	7,061.80	6,996.66	65.15	108.397		
3,700.00	3,697.27	3,616.37	3,616.37	12.79	54.20	-124.63	15.65	7,023.26	7,066.22	6,999.25	66.98	105.503		
3,800.00	3,796.97	3,716.07	3,716.07	13.14	55.68	-124.68	15.65	7,023.26	7,070.65	7,001.84	68.81	102.762		
3,900.00	3,896.67	3,815.77	3,815.77	13.48	57.17	-124.74	15.65	7,023.26	7,075.08	7,004.44	70.64	100.160		
4,000.00	3,996.37	3,915.47	3,915.47	13.83	58.66	-124.79	15.65	7,023.26	7,079.51	7,007.04	72.47	97.688		
4,100.00	4,096.07	4,015.17	4,015.17	14.18	60.14	-124.84	15.65	7,023.26	7,083.96	7,009.65	74.30	95.337		
4,200.00	4,195.76	4,114.86	4,114.86	14.53	61.63	-124.89	15.65	7,023.26	7,088.40	7,012.26	76.14	93.097		
4,300.00	4,295.46	4,214.56	4,214.56	14.88	63.12	-124.94	15.65	7,023.26	7,092.86	7,014.88	77.98	90.962		
4,400.00	4,395.16	4,314.26	4,314.26	15.23	64.60	-124.99	15.65	7,023.26	7,097.32	7,017.50	79.81	88.924		
4,500.00	4,494.86	4,413.96	4,413.96	15.58	66.09	-125.04	15.65	7,023.26	7,101.78	7,020.13	81.65	86.977		
4,600.00	4,594.56	4,513.66	4,513.66	15.93	67.58	-125.10	15.65	7,023.26	7,106.25	7,022.76	83.49	85.114		
4,700.00	4,694.25	4,613.35	4,613.35	16.29	69.07	-125.15	15.65	7,023.26	7,110.73	7,025.40	85.33	83.332		
4,800.00	4,793.95	4,713.05	4,713.05	16.64	70.55	-125.20	15.65	7,023.26	7,115.21	7,028.04	87.17	81.623		
4,900.00	4,893.65	4,812.75	4,812.75	17.00	72.04	-125.25	15.65	7,023.26	7,119.70	7,030.68	89.01	79.985		
5,000.00	4,993.35	4,912.45	4,912.45	17.35	73.53	-125.30	15.65	7,023.26	7,124.19	7,033.33	90.85	78.413		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Survey Program: 10-INC-ONLY													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
5,100.00	5,093.05	5,012.15	5,012.15	17.71	75.02	-125.35	15.65	7,023.26	7,128.69	7,035.99	92.70	76.903		
5,200.00	5,192.75	5,111.85	5,111.85	18.06	76.51	-125.40	15.65	7,023.26	7,133.19	7,038.65	94.54	75.452		
5,300.00	5,292.44	5,211.54	5,211.54	18.42	78.00	-125.45	15.65	7,023.26	7,137.70	7,041.32	96.38	74.055		
5,400.00	5,392.14	5,311.24	5,311.24	18.77	79.49	-125.50	15.65	7,023.26	7,142.22	7,043.99	98.23	72.711		
5,500.00	5,491.84	5,410.94	5,410.94	19.13	80.97	-125.55	15.65	7,023.26	7,146.74	7,046.67	100.07	71.415		
5,600.00	5,591.54	5,510.64	5,510.64	19.49	82.46	-125.60	15.65	7,023.26	7,151.26	7,049.35	101.92	70.167		
5,700.00	5,691.24	5,610.34	5,610.34	19.85	83.95	-125.65	15.65	7,023.26	7,155.80	7,052.03	103.76	68.963		
5,800.00	5,790.93	5,710.03	5,710.03	20.20	85.44	-125.70	15.65	7,023.26	7,160.33	7,054.72	105.61	67.800		
5,900.00	5,890.63	5,809.73	5,809.73	20.56	86.93	-125.75	15.65	7,023.26	7,164.88	7,057.42	107.46	66.677		
6,000.00	5,990.33	5,909.43	5,909.43	20.92	88.42	-125.80	15.65	7,023.26	7,169.43	7,060.12	109.30	65.592		
6,100.00	6,090.03	6,009.13	6,009.13	21.28	89.91	-125.86	15.65	7,023.26	7,173.98	7,062.83	111.15	64.543		
6,200.00	6,189.73	6,108.83	6,108.83	21.64	91.40	-125.91	15.65	7,023.26	7,178.54	7,065.54	113.00	63.528		
6,300.00	6,289.42	6,208.52	6,208.52	22.00	92.89	-125.96	15.65	7,023.26	7,183.11	7,068.26	114.85	62.546		
6,400.00	6,389.12	6,308.22	6,308.22	22.36	94.38	-126.01	15.65	7,023.26	7,187.68	7,070.98	116.69	61.595		
6,500.00	6,488.82	6,407.92	6,407.92	22.72	95.87	-126.06	15.65	7,023.26	7,192.25	7,073.71	118.54	60.673		
6,600.00	6,588.52	6,507.62	6,507.62	23.08	97.36	-126.11	15.65	7,023.26	7,196.83	7,076.44	120.39	59.779		
6,700.00	6,688.22	6,607.32	6,607.32	23.44	98.85	-126.15	15.65	7,023.26	7,201.42	7,079.18	122.24	58.913		
6,800.00	6,787.91	6,707.01	6,707.01	23.80	100.34	-126.20	15.65	7,023.26	7,206.01	7,081.93	124.09	58.072		
6,900.00	6,887.61	6,806.71	6,806.71	24.16	101.83	-126.25	15.65	7,023.26	7,210.61	7,084.67	125.94	57.255		
7,000.00	6,987.31	6,906.41	6,906.41	24.52	103.32	-126.30	15.65	7,023.26	7,215.22	7,087.43	127.79	56.463		
7,100.00	7,087.01	7,006.11	7,006.11	24.88	104.81	-126.35	15.65	7,023.26	7,219.82	7,090.19	129.64	55.693		
7,200.00	7,186.71	7,105.81	7,105.81	25.24	106.30	-126.40	15.65	7,023.26	7,224.44	7,092.95	131.49	54.944		
7,300.00	7,286.41	7,205.51	7,205.51	25.60	107.79	-126.45	15.65	7,023.26	7,229.06	7,095.72	133.34	54.216		
7,400.00	7,386.10	7,305.20	7,305.20	25.96	109.28	-126.50	15.65	7,023.26	7,233.68	7,098.50	135.19	53.508		
7,500.00	7,485.80	7,404.90	7,404.90	26.33	110.77	-126.55	15.65	7,023.26	7,238.31	7,101.28	137.04	52.820		
7,600.00	7,585.50	7,504.60	7,504.60	26.69	112.26	-126.60	15.65	7,023.26	7,242.95	7,104.06	138.89	52.149		
7,700.00	7,685.20	7,604.30	7,604.30	27.05	113.75	-126.65	15.65	7,023.26	7,247.59	7,106.85	140.74	51.496		
7,800.00	7,784.90	7,704.00	7,704.00	27.41	115.24	-126.70	15.65	7,023.26	7,252.24	7,109.65	142.59	50.860		
7,860.70	7,845.41	7,764.51	7,764.51	27.63	116.15	-126.73	15.65	7,023.26	7,255.06	7,111.35	143.72	50.482		
7,900.00	7,884.61	7,803.71	7,803.71	27.77	116.73	-126.77	15.65	7,023.26	7,256.77	7,112.33	144.44	50.240		
8,000.00	7,984.46	7,903.56	7,903.56	28.13	118.22	-126.84	15.65	7,023.26	7,260.03	7,113.73	146.29	49.626		
8,100.00	8,084.42	8,003.52	8,003.52	28.49	119.72	-126.88	15.65	7,023.26	7,261.72	7,113.57	148.14	49.018		
8,157.59	8,142.00	8,061.10	8,061.10	28.69	120.58	87.19	15.65	7,023.26	7,261.98	7,112.77	149.21	48.671		
8,200.00	8,184.41	8,103.51	8,103.51	28.83	121.21	87.19	15.65	7,023.26	7,261.98	7,111.99	149.98	48.419		
8,300.00	8,284.41	8,203.51	8,203.51	29.17	122.71	87.19	15.65	7,023.26	7,261.98	7,110.16	151.82	47.834		
8,400.00	8,384.41	8,303.51	8,303.51	29.51	124.20	87.19	15.65	7,023.26	7,261.98	7,108.33	153.65	47.263		
8,507.63	8,492.04	8,411.14	8,411.14	29.87	125.81	87.19	15.65	7,023.26	7,261.98	7,106.35	155.62	46.664		
8,550.00	8,534.37	8,453.47	8,453.47	30.02	126.45	-2.18	15.65	7,023.26	7,260.41	7,104.01	156.40	46.423		
8,600.00	8,584.01	8,503.11	8,503.11	30.18	127.19	-2.21	15.65	7,023.26	7,254.55	7,097.25	157.30	46.118		
8,650.00	8,632.95	8,552.05	8,552.05	30.34	127.92	-2.25	15.65	7,023.26	7,244.39	7,086.20	158.20	45.794		
8,700.00	8,680.82	8,599.92	8,599.92	30.50	128.64	-2.32	15.65	7,023.26	7,230.01	7,070.94	159.06	45.454		
8,750.00	8,727.25	8,646.35	8,646.35	30.66	129.33	-2.40	15.65	7,023.26	7,211.51	7,051.61	159.90	45.100		
8,800.00	8,771.89	8,690.99	8,690.99	30.81	130.00	-2.52	15.65	7,023.26	7,189.04	7,028.34	160.70	44.736		
8,850.00	8,814.40	8,733.50	8,733.50	30.95	130.63	-2.67	15.65	7,023.26	7,162.76	7,001.31	161.46	44.363		
8,900.00	8,854.46	8,773.56	8,773.56	31.09	131.23	-2.86	15.65	7,023.26	7,132.89	6,970.72	162.16	43.986		
8,950.00	8,891.75	8,810.85	8,810.85	31.23	131.79	-3.11	15.65	7,023.26	7,099.64	6,936.82	162.82	43.605		
9,000.00	8,926.01	8,845.11	8,845.11	31.37	132.30	-3.43	15.65	7,023.26	7,063.27	6,899.85	163.41	43.224		
9,050.00	8,956.96	8,876.06	8,876.06	31.53	132.77	-3.85	15.65	7,023.26	7,024.05	6,860.10	163.95	42.844		
9,100.00	8,984.38	8,903.48	8,903.48	31.69	133.18	-4.42	15.65	7,023.26	6,982.29	6,817.88	164.41	42.468		
9,150.00	9,008.05	8,927.15	8,927.15	31.87	133.53	-5.23	15.65	7,023.26	6,938.30	6,773.49	164.81	42.098		
9,200.00	9,027.79	8,946.89	8,946.89	32.07	133.82	-6.45	15.65	7,023.26	6,892.41	6,727.27	165.14	41.737		
9,250.00	9,043.45	8,962.55	8,962.55	32.29	134.06	-8.44	15.65	7,023.26	6,844.98	6,679.59	165.40	41.385		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Survey Program: 10-INC-ONLY													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
9,300.00	9,054.92	8,974.02	8,974.02	32.53	134.23	-12.27	15.65	7,023.26	6,796.37	6,630.79	165.59	41.044		
9,350.00	9,062.10	8,981.20	8,981.20	32.79	134.34	-22.17	15.65	7,023.26	6,746.95	6,581.25	165.70	40.717		
9,400.00	9,064.95	8,984.05	8,984.05	33.06	134.38	-72.10	15.65	7,023.26	6,697.09	6,531.34	165.75	40.404		
9,407.63	9,065.00	8,984.10	8,984.10	33.10	134.38	-90.00	15.65	7,023.26	6,689.47	6,523.71	165.75	40.358		
9,500.00	9,065.00	8,984.10	8,984.10	33.68	134.38	-90.00	15.65	7,023.26	6,597.17	6,431.41	165.76	39.799		
9,600.00	9,065.00	8,984.10	8,984.10	34.41	134.38	-90.00	15.65	7,023.26	6,497.26	6,331.49	165.77	39.195		
9,700.00	9,065.00	8,984.10	8,984.10	35.24	134.38	-90.00	15.65	7,023.26	6,397.35	6,231.58	165.78	38.590		
9,800.00	9,065.00	8,984.10	8,984.10	36.17	134.38	-90.00	15.65	7,023.26	6,297.45	6,131.66	165.79	37.984		
9,900.00	9,065.00	8,984.10	8,984.10	37.19	134.38	-90.00	15.65	7,023.26	6,197.55	6,031.74	165.80	37.379		
10,000.00	9,065.00	8,984.10	8,984.10	38.30	134.38	-90.00	15.65	7,023.26	6,097.65	5,931.83	165.82	36.773		
10,100.00	9,065.00	8,984.10	8,984.10	39.48	134.38	-90.00	15.65	7,023.26	5,997.75	5,831.92	165.83	36.167		
10,200.00	9,065.00	8,984.10	8,984.10	40.72	134.38	-90.00	15.65	7,023.26	5,897.86	5,732.01	165.85	35.561		
10,300.00	9,065.00	8,984.10	8,984.10	42.03	134.38	-90.00	15.65	7,023.26	5,797.97	5,632.10	165.87	34.955		
10,400.00	9,065.00	8,984.10	8,984.10	43.40	134.38	-90.00	15.65	7,023.26	5,698.09	5,532.19	165.89	34.348		
10,500.00	9,065.00	8,984.10	8,984.10	44.82	134.38	-90.00	15.65	7,023.26	5,598.20	5,432.29	165.91	33.742		
10,600.00	9,065.00	8,984.10	8,984.10	46.29	134.38	-90.00	15.65	7,023.26	5,498.33	5,332.39	165.94	33.135		
10,700.00	9,065.00	8,984.10	8,984.10	47.79	134.38	-90.00	15.65	7,023.26	5,398.46	5,232.49	165.96	32.528		
10,800.00	9,065.00	8,984.10	8,984.10	49.34	134.38	-90.00	15.65	7,023.26	5,298.59	5,132.60	165.99	31.921		
10,900.00	9,065.00	8,984.10	8,984.10	50.92	134.38	-90.00	15.65	7,023.26	5,198.73	5,032.71	166.02	31.314		
11,000.00	9,065.00	8,984.10	8,984.10	52.54	134.38	-90.00	15.65	7,023.26	5,098.87	4,932.82	166.05	30.706		
11,100.00	9,065.00	8,984.10	8,984.10	54.18	134.38	-90.00	15.65	7,023.26	4,999.02	4,832.93	166.09	30.099		
11,200.00	9,065.00	8,984.10	8,984.10	55.85	134.38	-90.00	15.65	7,023.26	4,899.18	4,733.05	166.12	29.491		
11,300.00	9,065.00	8,984.10	8,984.10	57.54	134.38	-90.00	15.65	7,023.26	4,799.34	4,633.17	166.16	28.883		
11,400.00	9,065.00	8,984.10	8,984.10	59.26	134.38	-90.00	15.65	7,023.26	4,699.51	4,533.30	166.21	28.275		
11,500.00	9,065.00	8,984.10	8,984.10	61.00	134.38	-90.00	15.65	7,023.26	4,599.68	4,433.43	166.25	27.667		
11,600.00	9,065.00	8,984.10	8,984.10	62.75	134.38	-90.00	15.65	7,023.26	4,499.87	4,333.57	166.30	27.059		
11,700.00	9,065.00	8,984.10	8,984.10	64.52	134.38	-90.00	15.65	7,023.26	4,400.06	4,233.71	166.35	26.451		
11,800.00	9,065.00	8,984.10	8,984.10	66.31	134.38	-90.00	15.65	7,023.26	4,300.26	4,133.86	166.40	25.843		
11,900.00	9,065.00	8,984.10	8,984.10	68.11	134.38	-90.00	15.65	7,023.26	4,200.47	4,034.01	166.46	25.234		
12,000.00	9,065.00	8,984.10	8,984.10	69.93	134.38	-90.00	15.65	7,023.26	4,100.69	3,934.17	166.52	24.626		
12,100.00	9,065.00	8,984.10	8,984.10	71.76	134.38	-90.00	15.65	7,023.26	4,000.92	3,834.34	166.59	24.017		
12,200.00	9,065.00	8,984.10	8,984.10	73.60	134.38	-90.00	15.65	7,023.26	3,901.17	3,734.51	166.66	23.408		
12,300.00	9,065.00	8,984.10	8,984.10	75.45	134.38	-90.00	15.65	7,023.26	3,801.42	3,634.69	166.73	22.800		
12,400.00	9,065.00	8,984.10	8,984.10	77.31	134.38	-90.00	15.65	7,023.26	3,701.70	3,534.88	166.81	22.191		
12,500.00	9,065.00	8,984.10	8,984.10	79.18	134.38	-90.00	15.65	7,023.26	3,601.98	3,435.08	166.90	21.582		
12,600.00	9,065.00	8,984.10	8,984.10	81.05	134.38	-90.00	15.65	7,023.26	3,502.28	3,335.29	166.99	20.973		
12,700.00	9,065.00	8,984.10	8,984.10	82.94	134.38	-90.00	15.65	7,023.26	3,402.60	3,235.51	167.09	20.363		
12,800.00	9,065.00	8,984.10	8,984.10	84.83	134.38	-90.00	15.65	7,023.26	3,302.94	3,135.74	167.20	19.754		
12,900.00	9,065.00	8,984.10	8,984.10	86.73	134.38	-90.00	15.65	7,023.26	3,203.30	3,035.98	167.32	19.144		
13,000.00	9,065.00	8,984.10	8,984.10	88.64	134.38	-90.00	15.65	7,023.26	3,103.69	2,936.23	167.45	18.535		
13,100.00	9,065.00	8,984.10	8,984.10	90.55	134.38	-90.00	15.65	7,023.26	3,004.09	2,836.50	167.59	17.925		
13,200.00	9,065.00	8,984.10	8,984.10	92.47	134.38	-90.00	15.65	7,023.26	2,904.53	2,736.78	167.75	17.315		
13,300.00	9,065.00	8,984.10	8,984.10	94.39	134.38	-90.00	15.65	7,023.26	2,805.00	2,637.08	167.92	16.705		
13,400.00	9,065.00	8,984.10	8,984.10	96.32	134.38	-90.00	15.65	7,023.26	2,705.50	2,537.40	168.10	16.094		
13,500.00	9,065.00	8,984.10	8,984.10	98.25	134.38	-90.00	15.65	7,023.26	2,606.04	2,437.73	168.31	15.483		
13,600.00	9,065.00	8,984.10	8,984.10	100.19	134.38	-90.00	15.65	7,023.26	2,506.63	2,338.08	168.54	14.872		
13,700.00	9,065.00	8,984.10	8,984.10	102.13	134.38	-90.00	15.65	7,023.26	2,407.26	2,238.46	168.80	14.261		
13,800.00	9,065.00	8,984.10	8,984.10	104.08	134.38	-90.00	15.65	7,023.26	2,307.95	2,138.86	169.09	13.649		
13,900.00	9,065.00	8,984.10	8,984.10	106.03	134.38	-90.00	15.65	7,023.26	2,208.69	2,039.28	169.41	13.037		
14,000.00	9,065.00	8,984.10	8,984.10	107.98	134.38	-90.00	15.65	7,023.26	2,109.51	1,939.73	169.78	12.425		
14,100.00	9,065.00	8,984.10	8,984.10	109.94	134.38	-90.00	15.65	7,023.26	2,010.42	1,840.21	170.21	11.812		
14,200.00	9,065.00	8,984.10	8,984.10	111.90	134.38	-90.00	15.65	7,023.26	1,911.41	1,740.72	170.69	11.198		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Survey Program: 10-INC-ONLY													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
14,300.00	9,065.00	8,984.10	8,984.10	113.86	134.38	-90.00	15.65	7,023.26	1,812.51	1,641.26	171.25	10.584		
14,400.00	9,065.00	8,984.10	8,984.10	115.82	134.38	-90.00	15.65	7,023.26	1,713.75	1,541.85	171.90	9.969		
14,500.00	9,065.00	8,984.10	8,984.10	117.79	134.38	-90.00	15.65	7,023.26	1,615.13	1,442.47	172.66	9.354		
14,600.00	9,065.00	8,984.10	8,984.10	119.76	134.38	-90.00	15.65	7,023.26	1,516.69	1,343.13	173.56	8.739		
14,700.00	9,065.00	8,984.10	8,984.10	121.74	134.38	-90.00	15.65	7,023.26	1,418.48	1,243.84	174.64	8.122		
14,800.00	9,065.00	8,984.10	8,984.10	123.71	134.38	-90.00	15.65	7,023.26	1,320.53	1,144.60	175.93	7.506		
14,900.00	9,065.00	8,984.10	8,984.10	125.69	134.38	-90.00	15.65	7,023.26	1,222.91	1,045.41	177.50	6.890		
15,000.00	9,065.00	8,984.10	8,984.10	127.67	134.38	-90.00	15.65	7,023.26	1,125.72	946.29	179.43	6.274		
15,100.00	9,065.00	8,984.10	8,984.10	129.65	134.38	-90.00	15.65	7,023.26	1,029.06	847.23	181.82	5.660		
15,200.00	9,065.00	8,984.10	8,984.10	131.63	134.38	-90.00	15.65	7,023.26	933.10	748.26	184.84	5.048		
15,300.00	9,065.00	8,984.10	8,984.10	133.62	134.38	-90.00	15.65	7,023.26	838.09	649.41	188.68	4.442 Alert		
15,400.00	9,065.00	8,984.10	8,984.10	135.61	134.38	-90.00	15.65	7,023.26	744.39	550.73	193.65	3.844 Alert		
15,500.00	9,065.00	8,984.10	8,984.10	137.60	134.38	-90.00	15.65	7,023.26	652.56	452.36	200.20	3.260 Alert		
15,600.00	9,065.00	8,984.10	8,984.10	139.59	134.38	-90.00	15.65	7,023.26	563.52	354.60	208.92	2.697 Alert		
15,700.00	9,065.00	8,984.10	8,984.10	141.58	134.38	-90.00	15.65	7,023.26	478.82	258.17	220.65	2.170 Minor Risk		
15,800.00	9,065.00	8,984.10	8,984.10	143.57	134.38	-90.00	15.65	7,023.26	401.23	164.98	236.25	1.698 Minor Risk		
15,900.00	9,065.00	8,984.10	8,984.10	145.57	134.38	-90.00	15.65	7,023.26	335.72	80.05	255.67	1.313 Major Risk		
16,000.00	9,065.00	8,984.10	8,984.10	147.56	134.38	-90.00	15.65	7,023.26	290.56	15.62	274.95	1.057 Major Risk		
16,091.41	9,065.00	8,984.10	8,984.10	149.39	134.38	-90.00	15.65	7,023.26	275.81	-7.96	283.77	0.972 Collision, CC, ES, SF		
16,100.00	9,065.00	8,984.10	8,984.10	149.56	134.38	-90.00	15.65	7,023.26	275.94	-7.92	283.87	0.972 Collision		
16,200.00	9,065.00	8,984.10	8,984.10	151.56	134.38	-90.00	15.65	7,023.26	296.42	20.57	275.85	1.075 Major Risk		
16,300.00	9,065.00	8,984.10	8,984.10	153.56	134.38	-90.00	15.65	7,023.26	345.81	87.42	258.39	1.338 Major Risk		
16,400.00	9,065.00	8,984.10	8,984.10	155.56	134.38	-90.00	15.65	7,023.26	413.89	172.98	240.90	1.718 Minor Risk		
16,500.00	9,065.00	8,984.10	8,984.10	157.57	134.38	-90.00	15.65	7,023.26	492.97	266.24	226.73	2.174 Minor Risk		
16,600.00	9,065.00	8,984.10	8,984.10	159.57	134.38	-90.00	15.65	7,023.26	578.57	362.63	215.94	2.679 Alert		
16,700.00	9,065.00	8,984.10	8,984.10	161.57	134.38	-90.00	15.65	7,023.26	668.17	460.40	207.78	3.216 Alert		
16,800.00	9,065.00	8,984.10	8,984.10	163.58	134.38	-90.00	15.65	7,023.26	760.38	558.82	201.56	3.773 Alert		
16,900.00	9,065.00	8,984.10	8,984.10	165.59	134.38	-90.00	15.65	7,023.26	854.34	657.60	196.74	4.342 Alert		
17,000.00	9,065.00	8,984.10	8,984.10	167.60	134.38	-90.00	15.65	7,023.26	949.53	756.57	192.96	4.921 Alert		
17,100.00	9,065.00	8,984.10	8,984.10	169.60	134.38	-90.00	15.65	7,023.26	1,045.63	855.68	189.95	5.505		
17,200.00	9,065.00	8,984.10	8,984.10	171.61	134.38	-90.00	15.65	7,023.26	1,142.39	954.88	187.51	6.092		
17,300.00	9,065.00	8,984.10	8,984.10	173.62	134.38	-90.00	15.65	7,023.26	1,239.67	1,054.14	185.52	6.682		
17,400.00	9,065.00	8,984.10	8,984.10	175.63	134.38	-90.00	15.65	7,023.26	1,337.34	1,153.46	183.88	7.273		
17,500.00	9,065.00	8,984.10	8,984.10	177.65	134.38	-90.00	15.65	7,023.26	1,435.34	1,252.83	182.51	7.864		
17,600.00	9,065.00	8,984.10	8,984.10	179.66	134.38	-90.00	15.65	7,023.26	1,533.60	1,352.24	181.36	8.456		
17,700.00	9,065.00	8,984.10	8,984.10	181.67	134.38	-90.00	15.65	7,023.26	1,632.07	1,451.68	180.39	9.048		
17,800.00	9,065.00	8,984.10	8,984.10	183.69	134.38	-90.00	15.65	7,023.26	1,730.71	1,551.15	179.56	9.639		
17,900.00	9,065.00	8,984.10	8,984.10	185.70	134.38	-90.00	15.65	7,023.26	1,829.50	1,650.66	178.85	10.229		
18,000.00	9,065.00	8,984.10	8,984.10	187.72	134.38	-90.00	15.65	7,023.26	1,928.42	1,750.18	178.24	10.819		
18,100.00	9,065.00	8,984.10	8,984.10	189.73	134.38	-90.00	15.65	7,023.26	2,027.44	1,849.73	177.71	11.409		
18,200.00	9,065.00	8,984.10	8,984.10	191.75	134.38	-90.00	15.65	7,023.26	2,126.56	1,949.30	177.25	11.997		
18,300.00	9,065.00	8,984.10	8,984.10	193.77	134.38	-90.00	15.65	7,023.26	2,225.75	2,048.89	176.86	12.585		
18,400.00	9,065.00	8,984.10	8,984.10	195.78	134.38	-90.00	15.65	7,023.26	2,325.01	2,148.50	176.51	13.172		
18,500.00	9,065.00	8,984.10	8,984.10	197.80	134.38	-90.00	15.65	7,023.26	2,424.33	2,248.12	176.21	13.758		
18,600.00	9,065.00	8,984.10	8,984.10	199.82	134.38	-90.00	15.65	7,023.26	2,523.71	2,347.76	175.95	14.343		
18,700.00	9,065.00	8,984.10	8,984.10	201.84	134.38	-90.00	15.65	7,023.26	2,623.13	2,447.41	175.72	14.928		
18,800.00	9,065.00	8,984.10	8,984.10	203.86	134.38	-90.00	15.65	7,023.26	2,722.60	2,547.08	175.52	15.511		
18,900.00	9,065.00	8,984.10	8,984.10	205.88	134.38	-90.00	15.65	7,023.26	2,822.10	2,646.75	175.35	16.094		
19,000.00	9,065.00	8,984.10	8,984.10	207.90	134.38	-90.00	15.65	7,023.26	2,921.64	2,746.44	175.20	16.676		
19,100.00	9,065.00	8,984.10	8,984.10	209.92	134.38	-90.00	15.65	7,023.26	3,021.21	2,846.14	175.07	17.257		
19,200.00	9,065.00	8,984.10	8,984.10	211.95	134.38	-90.00	15.65	7,023.26	3,120.81	2,945.85	174.96	17.837		
19,300.00	9,065.00	8,984.10	8,984.10	213.97	134.38	-90.00	15.65	7,023.26	3,220.43	3,045.56	174.86	18.417		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design												Sec 13-T21S-R27E - Lone Tree State #001 - Wellbore #1 - Wellbore #1		Offset Site Error:		5.00 ft	
Survey Program:		10-INC-ONLY										Offset Well Error:		0.50 ft			
Reference				Offset		Semi Major Axis		Distance						Warning			
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor					
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S	+E/-W	(ft)	(ft)	(ft)	(ft)					
							(ft)	(ft)									
19,400.00	9,065.00	8,984.10	8,984.10	215.99	134.38	-90.00	15.65	7,023.26	3,320.07	3,145.29	174.78	18.995					
19,456.84	9,065.00	8,984.10	8,984.10	217.14	134.38	-90.00	15.65	7,023.26	3,376.72	3,201.98	174.74	19.324					

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 10-INC-ONLY													Offset Well Error:	10.00 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0.00	0.00	0.00	0.00	0.50	10.00	32.76	2,626.81	1,690.28	3,123.70					
100.00	100.00	81.10	81.10	0.52	10.10	32.76	2,626.81	1,690.28	3,123.64	3,113.02	10.62	294.109		
200.00	200.00	181.10	181.10	0.70	10.58	32.76	2,626.81	1,690.28	3,123.64	3,112.36	11.28	276.812		
300.00	300.00	281.10	281.10	0.99	11.41	32.76	2,626.81	1,690.28	3,123.64	3,111.25	12.39	252.051		
400.00	400.00	381.10	381.10	1.31	12.51	32.76	2,626.81	1,690.28	3,123.64	3,109.83	13.81	226.119		
500.00	500.00	481.10	481.10	1.65	13.82	32.76	2,626.81	1,690.28	3,123.64	3,108.18	15.46	202.033		
600.00	600.00	581.10	581.10	1.99	15.28	32.76	2,626.81	1,690.28	3,123.64	3,106.37	17.27	180.852		
700.00	700.00	681.10	681.10	2.34	16.86	32.76	2,626.81	1,690.28	3,123.64	3,104.44	19.20	162.668		
800.00	800.00	781.10	781.10	2.69	18.53	32.76	2,626.81	1,690.28	3,123.64	3,102.42	21.22	147.190		
900.00	900.00	881.10	881.10	3.04	20.26	32.76	2,626.81	1,690.28	3,123.64	3,100.33	23.31	134.018		
1,000.00	1,000.00	981.10	981.10	3.40	22.05	32.76	2,626.81	1,690.28	3,123.64	3,098.20	25.44	122.765		
1,100.00	1,100.00	1,081.10	1,081.10	3.75	23.87	32.76	2,626.81	1,690.28	3,123.64	3,096.02	27.62	113.094		
1,200.00	1,200.00	1,181.10	1,181.10	4.11	25.72	32.76	2,626.81	1,690.28	3,123.64	3,093.82	29.83	104.727		
1,300.00	1,300.00	1,281.10	1,281.10	4.46	27.59	32.76	2,626.81	1,690.28	3,123.64	3,091.58	32.06	97.438		
1,400.00	1,400.00	1,381.10	1,381.10	4.82	29.49	32.76	2,626.81	1,690.28	3,123.64	3,089.33	34.31	91.044		
1,500.00	1,500.00	1,481.10	1,481.10	5.18	31.40	32.76	2,626.81	1,690.28	3,123.64	3,087.07	36.58	85.400		
1,600.00	1,600.00	1,581.10	1,581.10	5.53	33.32	32.76	2,626.81	1,690.28	3,123.64	3,084.78	38.86	80.387		
1,700.00	1,700.00	1,681.10	1,681.10	5.89	35.26	32.76	2,626.81	1,690.28	3,123.64	3,082.49	41.15	75.909		
1,800.00	1,800.00	1,781.10	1,781.10	6.25	37.20	32.76	2,626.81	1,690.28	3,123.64	3,080.19	43.45	71.887		
1,900.00	1,900.00	1,881.10	1,881.10	6.61	39.16	32.76	2,626.81	1,690.28	3,123.64	3,077.88	45.76	68.259		
2,000.00	2,000.00	1,981.10	1,981.10	6.96	41.12	32.76	2,626.81	1,690.28	3,123.64	3,075.56	48.08	64.969		
2,100.00	2,100.00	2,081.10	2,081.10	7.32	43.08	32.76	2,626.81	1,690.28	3,123.64	3,073.24	50.40	61.975		
2,200.00	2,200.00	2,181.10	2,181.10	7.68	45.05	32.76	2,626.81	1,690.28	3,123.64	3,070.91	52.73	59.239		
2,300.00	2,300.00	2,281.10	2,281.10	8.04	47.03	32.76	2,626.81	1,690.28	3,123.64	3,068.58	55.06	56.729		
2,400.00	2,400.00	2,381.10	2,381.10	8.39	49.01	32.76	2,626.81	1,690.28	3,123.64	3,066.24	57.40	54.420		
2,500.00	2,500.00	2,481.10	2,481.10	8.75	50.99	32.76	2,626.81	1,690.28	3,123.64	3,063.90	59.74	52.288		
2,600.00	2,599.99	2,581.09	2,581.09	9.09	52.97	178.68	2,626.81	1,690.28	3,124.51	3,062.45	62.07	50.342		
2,700.00	2,699.96	2,681.06	2,681.06	9.42	54.96	178.68	2,626.81	1,690.28	3,127.13	3,062.75	64.38	48.573		
2,800.00	2,799.86	2,780.96	2,780.96	9.75	56.95	178.68	2,626.81	1,690.28	3,131.49	3,064.79	66.70	46.951		
2,900.00	2,899.68	2,880.78	2,880.78	10.08	58.94	178.69	2,626.81	1,690.28	3,137.60	3,068.58	69.02	45.461		
2,945.33	2,944.88	2,925.98	2,925.98	10.23	59.84	178.69	2,626.81	1,690.28	3,140.94	3,070.87	70.07	44.826		
3,000.00	2,999.39	2,980.49	2,980.49	10.41	60.93	178.69	2,626.81	1,690.28	3,145.18	3,073.84	71.34	44.088		
3,100.00	3,099.08	3,080.18	3,080.18	10.75	62.92	178.69	2,626.81	1,690.28	3,152.94	3,079.28	73.66	42.802		
3,200.00	3,198.78	3,179.88	3,179.88	11.08	64.91	178.69	2,626.81	1,690.28	3,160.70	3,084.71	75.99	41.594		
3,300.00	3,298.48	3,279.58	3,279.58	11.42	66.91	178.70	2,626.81	1,690.28	3,168.47	3,090.15	78.32	40.455		
3,400.00	3,398.18	3,379.28	3,379.28	11.76	68.90	178.70	2,626.81	1,690.28	3,176.23	3,095.58	80.65	39.381		
3,500.00	3,497.88	3,478.98	3,478.98	12.10	70.90	178.70	2,626.81	1,690.28	3,183.99	3,101.00	82.99	38.366		
3,600.00	3,597.58	3,578.68	3,578.68	12.45	72.89	178.71	2,626.81	1,690.28	3,191.75	3,106.43	85.33	37.405		
3,700.00	3,697.27	3,678.37	3,678.37	12.79	74.89	178.71	2,626.81	1,690.28	3,199.52	3,111.85	87.67	36.495		
3,800.00	3,796.97	3,778.07	3,778.07	13.14	76.89	178.71	2,626.81	1,690.28	3,207.28	3,117.27	90.01	35.632		
3,900.00	3,896.67	3,877.77	3,877.77	13.48	78.89	178.72	2,626.81	1,690.28	3,215.04	3,122.69	92.36	34.811		
4,000.00	3,896.37	3,977.47	3,977.47	13.83	80.89	178.72	2,626.81	1,690.28	3,222.81	3,128.10	94.70	34.031		
4,100.00	4,096.07	4,077.17	4,077.17	14.18	82.90	178.72	2,626.81	1,690.28	3,230.57	3,133.52	97.05	33.287		
4,200.00	4,195.76	4,176.86	4,176.86	14.53	84.90	178.73	2,626.81	1,690.28	3,238.33	3,138.93	99.40	32.579		
4,300.00	4,295.46	4,276.56	4,276.56	14.88	86.90	178.73	2,626.81	1,690.28	3,246.09	3,144.34	101.75	31.902		
4,400.00	4,395.16	4,376.26	4,376.26	15.23	88.91	178.73	2,626.81	1,690.28	3,253.86	3,149.75	104.10	31.256		
4,500.00	4,494.86	4,475.96	4,475.96	15.58	90.91	178.73	2,626.81	1,690.28	3,261.62	3,155.16	106.46	30.638		
4,600.00	4,594.56	4,575.66	4,575.66	15.93	92.92	178.74	2,626.81	1,690.28	3,269.38	3,160.57	108.81	30.047		
4,700.00	4,694.25	4,675.35	4,675.35	16.29	94.92	178.74	2,626.81	1,690.28	3,277.14	3,165.98	111.17	29.480		
4,800.00	4,793.95	4,775.05	4,775.05	16.64	96.93	178.74	2,626.81	1,690.28	3,284.91	3,171.38	113.52	28.936		
4,900.00	4,893.65	4,874.75	4,874.75	17.00	98.94	178.75	2,626.81	1,690.28	3,292.67	3,176.79	115.88	28.414		
5,000.00	4,993.35	4,974.45	4,974.45	17.35	100.94	178.75	2,626.81	1,690.28	3,300.43	3,182.19	118.24	27.913		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 10-INC-ONLY													Offset Well Error:	10.00 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
5,100.00	5,093.05	5,074.15	5,074.15	17.71	102.95	178.75	2,626.81	1,690.28	3,308.20	3,187.60	120.60	27.432		
5,200.00	5,192.75	5,173.85	5,173.85	18.06	104.96	178.76	2,626.81	1,690.28	3,315.96	3,193.00	122.96	26.968		
5,300.00	5,292.44	5,273.54	5,273.54	18.42	106.97	178.76	2,626.81	1,690.28	3,323.72	3,198.40	125.32	26.522		
5,400.00	5,392.14	5,373.24	5,373.24	18.77	108.97	178.76	2,626.81	1,690.28	3,331.48	3,203.80	127.68	26.093		
5,500.00	5,491.84	5,472.94	5,472.94	19.13	110.98	178.76	2,626.81	1,690.28	3,339.25	3,209.20	130.04	25.678		
5,600.00	5,591.54	5,572.64	5,572.64	19.49	112.99	178.77	2,626.81	1,690.28	3,347.01	3,214.61	132.40	25.279		
5,700.00	5,691.24	5,672.34	5,672.34	19.85	115.00	178.77	2,626.81	1,690.28	3,354.77	3,220.00	134.77	24.893		
5,800.00	5,790.93	5,772.03	5,772.03	20.20	117.01	178.77	2,626.81	1,690.28	3,362.53	3,225.40	137.13	24.521		
5,900.00	5,890.63	5,871.73	5,871.73	20.56	119.02	178.78	2,626.81	1,690.28	3,370.30	3,230.80	139.50	24.161		
6,000.00	5,990.33	5,971.43	5,971.43	20.92	121.03	178.78	2,626.81	1,690.28	3,378.06	3,236.20	141.86	23.813		
6,100.00	6,090.03	6,071.13	6,071.13	21.28	123.04	178.78	2,626.81	1,690.28	3,385.82	3,241.60	144.23	23.476		
6,200.00	6,189.73	6,170.83	6,170.83	21.64	125.05	178.78	2,626.81	1,690.28	3,393.59	3,246.99	146.59	23.150		
6,300.00	6,289.42	6,270.52	6,270.52	22.00	127.06	178.79	2,626.81	1,690.28	3,401.35	3,252.39	148.96	22.834		
6,400.00	6,389.12	6,370.22	6,370.22	22.36	129.07	178.79	2,626.81	1,690.28	3,409.11	3,257.79	151.32	22.529		
6,500.00	6,488.82	6,469.92	6,469.92	22.72	131.09	178.79	2,626.81	1,690.28	3,416.87	3,263.18	153.69	22.232		
6,600.00	6,588.52	6,569.62	6,569.62	23.08	133.10	178.80	2,626.81	1,690.28	3,424.64	3,268.58	156.06	21.945		
6,700.00	6,688.22	6,669.32	6,669.32	23.44	135.11	178.80	2,626.81	1,690.28	3,432.40	3,273.97	158.43	21.666		
6,800.00	6,787.91	6,769.01	6,769.01	23.80	137.12	178.80	2,626.81	1,690.28	3,440.16	3,279.37	160.79	21.395		
6,900.00	6,887.61	6,868.71	6,868.71	24.16	139.13	178.80	2,626.81	1,690.28	3,447.93	3,284.76	163.16	21.132		
7,000.00	6,987.31	6,968.41	6,968.41	24.52	141.14	178.81	2,626.81	1,690.28	3,455.69	3,290.16	165.53	20.876		
7,100.00	7,087.01	7,068.11	7,068.11	24.88	143.16	178.81	2,626.81	1,690.28	3,463.45	3,295.55	167.90	20.628		
7,200.00	7,186.71	7,167.81	7,167.81	25.24	145.17	178.81	2,626.81	1,690.28	3,471.21	3,300.95	170.27	20.387		
7,300.00	7,286.41	7,267.51	7,267.51	25.60	147.18	178.81	2,626.81	1,690.28	3,478.98	3,306.34	172.64	20.152		
7,400.00	7,386.10	7,367.20	7,367.20	25.96	149.19	178.82	2,626.81	1,690.28	3,486.74	3,311.73	175.01	19.923		
7,500.00	7,485.80	7,466.90	7,466.90	26.33	151.21	178.82	2,626.81	1,690.28	3,494.50	3,317.12	177.38	19.701		
7,600.00	7,585.50	7,566.60	7,566.60	26.69	153.22	178.82	2,626.81	1,690.28	3,502.27	3,322.52	179.75	19.484		
7,700.00	7,685.20	7,666.30	7,666.30	27.05	155.23	178.82	2,626.81	1,690.28	3,510.03	3,327.91	182.12	19.273		
7,800.00	7,784.90	7,766.00	7,766.00	27.41	157.25	178.83	2,626.81	1,690.28	3,517.79	3,333.30	184.49	19.068		
7,900.00	7,884.61	7,865.71	7,865.71	27.77	159.26	178.83	2,626.81	1,690.28	3,525.55	3,338.69	186.86	18.866		
8,000.00	7,984.31	7,965.41	7,965.41	28.13	161.28	178.83	2,626.81	1,690.28	3,533.31	3,344.08	189.23	18.668		
8,100.00	8,084.02	8,065.12	8,065.12	28.49	163.29	178.84	2,626.81	1,690.28	3,541.07	3,349.47	191.61	18.472		
8,157.59	8,142.00	8,123.10	8,123.10	28.69	164.46	32.91	2,626.81	1,690.28	3,548.83	3,354.86	193.97	18.279		
8,200.00	8,184.41	8,165.51	8,165.51	28.83	165.31	32.91	2,626.81	1,690.28	3,556.59	3,360.25	196.33	18.089		
8,300.00	8,284.41	8,265.51	8,265.51	29.17	167.33	32.91	2,626.81	1,690.28	3,564.35	3,365.64	198.69	17.897		
8,400.00	8,384.41	8,365.51	8,365.51	29.51	169.35	32.91	2,626.81	1,690.28	3,572.11	3,371.03	201.05	17.705		
8,507.63	8,492.04	8,473.14	8,473.14	29.87	171.37	32.91	2,626.81	1,690.28	3,579.87	3,376.42	203.41	17.513		
8,550.00	8,534.37	8,515.47	8,515.47	30.02	172.38	-56.55	2,626.81	1,690.28	3,587.63	3,381.81	205.77	17.321		
8,600.00	8,584.01	8,565.11	8,565.11	30.18	173.38	-56.90	2,626.81	1,690.28	3,595.39	3,387.20	208.13	17.129		
8,650.00	8,632.95	8,614.05	8,614.05	30.34	174.37	-57.51	2,626.81	1,690.28	3,603.15	3,392.59	210.49	16.937		
8,700.00	8,680.82	8,661.92	8,661.92	30.50	175.34	-58.38	2,626.81	1,690.28	3,610.91	3,397.98	212.85	16.745		
8,750.00	8,727.25	8,708.35	8,708.35	30.66	176.28	-59.51	2,626.81	1,690.28	3,618.67	3,403.37	215.21	16.553		
8,800.00	8,771.89	8,752.99	8,752.99	30.81	177.18	-60.89	2,626.81	1,690.28	3,626.43	3,408.76	217.57	16.361		
8,850.00	8,814.40	8,795.50	8,795.50	30.95	178.04	-62.52	2,626.81	1,690.28	3,634.19	3,414.15	219.93	16.169		
8,900.00	8,854.46	8,835.56	8,835.56	31.09	178.85	-64.38	2,626.81	1,690.28	3,641.95	3,419.54	222.29	15.977		
8,950.00	8,891.75	8,872.85	8,872.85	31.23	179.60	-66.47	2,626.81	1,690.28	3,649.71	3,424.93	224.65	15.785		
9,000.00	8,926.01	8,907.11	8,907.11	31.37	180.29	-68.75	2,626.81	1,690.28	3,657.47	3,430.32	227.01	15.593		
9,050.00	8,956.96	8,938.06	8,938.06	31.53	180.92	-71.21	2,626.81	1,690.28	3,665.23	3,435.71	229.37	15.401		
9,100.00	8,984.38	8,965.48	8,965.48	31.69	181.47	-73.80	2,626.81	1,690.28	3,672.99	3,441.10	231.73	15.209		
9,150.00	9,008.05	8,989.15	8,989.15	31.87	181.95	-76.48	2,626.81	1,690.28	3,680.75	3,446.49	234.09	15.017		
9,200.00	9,027.79	9,008.89	9,008.89	32.07	182.35	-79.21	2,626.81	1,690.28	3,688.51	3,451.88	236.45	14.825		
9,250.00	9,043.45	9,024.55	9,024.55	32.29	182.67	-81.94	2,626.81	1,690.28	3,696.27	3,457.27	238.81	14.633		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 10-INC-ONLY													Offset Well Error:	10.00 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
9,300.00	9,054.92	9,036.02	9,036.02	32.53	182.90	-84.61	2,626.81	1,690.28	3,299.49	3,084.43	215.07	15.342		
9,350.00	9,062.10	9,043.20	9,043.20	32.79	183.04	-87.19	2,626.81	1,690.28	3,277.50	3,062.06	215.44	15.213		
9,400.00	9,064.95	9,046.05	9,046.05	33.06	183.10	-89.64	2,626.81	1,690.28	3,255.92	3,040.17	215.75	15.091		
9,407.63	9,065.00	9,046.10	9,046.10	33.10	183.10	-90.00	2,626.81	1,690.28	3,252.68	3,036.89	215.79	15.073		
9,500.00	9,065.00	9,046.10	9,046.10	33.68	183.10	-90.00	2,626.81	1,690.28	3,214.58	2,998.25	216.33	14.860		
9,600.00	9,065.00	9,046.10	9,046.10	34.41	183.10	-90.00	2,626.81	1,690.28	3,175.85	2,958.83	217.03	14.633		
9,700.00	9,065.00	9,046.10	9,046.10	35.24	183.10	-90.00	2,626.81	1,690.28	3,139.83	2,921.99	217.84	14.413		
9,800.00	9,065.00	9,046.10	9,046.10	36.17	183.10	-90.00	2,626.81	1,690.28	3,106.61	2,887.84	218.77	14.200		
9,900.00	9,065.00	9,046.10	9,046.10	37.19	183.10	-90.00	2,626.81	1,690.28	3,076.29	2,856.48	219.81	13.995		
10,000.00	9,065.00	9,046.10	9,046.10	38.30	183.10	-90.00	2,626.81	1,690.28	3,048.94	2,827.99	220.95	13.799		
10,100.00	9,065.00	9,046.10	9,046.10	39.48	183.10	-90.00	2,626.81	1,690.28	3,024.66	2,802.47	222.18	13.613		
10,200.00	9,065.00	9,046.10	9,046.10	40.72	183.10	-90.00	2,626.81	1,690.28	3,003.51	2,780.01	223.50	13.439		
10,300.00	9,065.00	9,046.10	9,046.10	42.03	183.10	-90.00	2,626.81	1,690.28	2,985.56	2,760.68	224.88	13.276		
10,400.00	9,065.00	9,046.10	9,046.10	43.40	183.10	-90.00	2,626.81	1,690.28	2,970.87	2,744.55	226.32	13.127		
10,500.00	9,065.00	9,046.10	9,046.10	44.82	183.10	-90.00	2,626.81	1,690.28	2,959.49	2,731.68	227.81	12.991		
10,600.00	9,065.00	9,046.10	9,046.10	46.29	183.10	-90.00	2,626.81	1,690.28	2,951.45	2,722.12	229.34	12.870		
10,700.00	9,065.00	9,046.10	9,046.10	47.79	183.10	-90.00	2,626.81	1,690.28	2,946.79	2,715.91	230.88	12.763		
10,787.48	9,065.00	9,046.10	9,046.10	49.15	183.10	-90.00	2,626.81	1,690.28	2,945.49	2,713.25	232.25	12.683 CC		
10,800.00	9,065.00	9,046.10	9,046.10	49.34	183.10	-90.00	2,626.81	1,690.28	2,945.52	2,713.08	232.44	12.672 ES		
10,900.00	9,065.00	9,046.10	9,046.10	50.92	183.10	-90.00	2,626.81	1,690.28	2,947.64	2,713.64	234.00	12.597		
11,000.00	9,065.00	9,046.10	9,046.10	52.54	183.10	-90.00	2,626.81	1,690.28	2,953.15	2,717.60	235.55	12.538		
11,100.00	9,065.00	9,046.10	9,046.10	54.18	183.10	-90.00	2,626.81	1,690.28	2,962.03	2,724.95	237.07	12.494		
11,200.00	9,065.00	9,046.10	9,046.10	55.85	183.10	-90.00	2,626.81	1,690.28	2,974.24	2,735.67	238.57	12.467		
11,300.00	9,065.00	9,046.10	9,046.10	57.54	183.10	-90.00	2,626.81	1,690.28	2,989.75	2,749.72	240.03	12.456 SF		
11,400.00	9,065.00	9,046.10	9,046.10	59.26	183.10	-90.00	2,626.81	1,690.28	3,008.51	2,767.05	241.45	12.460		
11,500.00	9,065.00	9,046.10	9,046.10	61.00	183.10	-90.00	2,626.81	1,690.28	3,030.45	2,787.62	242.82	12.480		
11,600.00	9,065.00	9,046.10	9,046.10	62.75	183.10	-90.00	2,626.81	1,690.28	3,055.51	2,811.36	244.14	12.515		
11,700.00	9,065.00	9,046.10	9,046.10	64.52	183.10	-90.00	2,626.81	1,690.28	3,083.60	2,838.20	245.40	12.565		
11,800.00	9,065.00	9,046.10	9,046.10	66.31	183.10	-90.00	2,626.81	1,690.28	3,114.66	2,868.06	246.61	12.630		
11,900.00	9,065.00	9,046.10	9,046.10	68.11	183.10	-90.00	2,626.81	1,690.28	3,148.59	2,900.84	247.75	12.709		
12,000.00	9,065.00	9,046.10	9,046.10	69.93	183.10	-90.00	2,626.81	1,690.28	3,185.30	2,936.47	248.83	12.801		
12,100.00	9,065.00	9,046.10	9,046.10	71.76	183.10	-90.00	2,626.81	1,690.28	3,224.69	2,974.84	249.85	12.907		
12,200.00	9,065.00	9,046.10	9,046.10	73.60	183.10	-90.00	2,626.81	1,690.28	3,266.67	3,015.87	250.80	13.025		
12,300.00	9,065.00	9,046.10	9,046.10	75.45	183.10	-90.00	2,626.81	1,690.28	3,311.14	3,059.44	251.70	13.155		
12,400.00	9,065.00	9,046.10	9,046.10	77.31	183.10	-90.00	2,626.81	1,690.28	3,358.00	3,105.46	252.54	13.297		
12,500.00	9,065.00	9,046.10	9,046.10	79.18	183.10	-90.00	2,626.81	1,690.28	3,407.15	3,153.83	253.32	13.450		
12,600.00	9,065.00	9,046.10	9,046.10	81.05	183.10	-90.00	2,626.81	1,690.28	3,458.49	3,204.45	254.04	13.614		
12,700.00	9,065.00	9,046.10	9,046.10	82.94	183.10	-90.00	2,626.81	1,690.28	3,511.93	3,257.22	254.71	13.788		
12,800.00	9,065.00	9,046.10	9,046.10	84.83	183.10	-90.00	2,626.81	1,690.28	3,567.37	3,312.04	255.33	13.971		
12,900.00	9,065.00	9,046.10	9,046.10	86.73	183.10	-90.00	2,626.81	1,690.28	3,624.73	3,368.82	255.91	14.164		
13,000.00	9,065.00	9,046.10	9,046.10	88.64	183.10	-90.00	2,626.81	1,690.28	3,683.91	3,427.47	256.43	14.366		
13,100.00	9,065.00	9,046.10	9,046.10	90.55	183.10	-90.00	2,626.81	1,690.28	3,744.82	3,487.90	256.92	14.576		
13,200.00	9,065.00	9,046.10	9,046.10	92.47	183.10	-90.00	2,626.81	1,690.28	3,807.38	3,550.02	257.36	14.794		
13,300.00	9,065.00	9,046.10	9,046.10	94.39	183.10	-90.00	2,626.81	1,690.28	3,871.52	3,613.75	257.77	15.019		
13,400.00	9,065.00	9,046.10	9,046.10	96.32	183.10	-90.00	2,626.81	1,690.28	3,937.15	3,679.01	258.14	15.252		
13,500.00	9,065.00	9,046.10	9,046.10	98.25	183.10	-90.00	2,626.81	1,690.28	4,004.21	3,745.73	258.48	15.491		
13,600.00	9,065.00	9,046.10	9,046.10	100.19	183.10	-90.00	2,626.81	1,690.28	4,072.62	3,813.83	258.79	15.737		
13,700.00	9,065.00	9,046.10	9,046.10	102.13	183.10	-90.00	2,626.81	1,690.28	4,142.31	3,883.24	259.07	15.989		
13,800.00	9,065.00	9,046.10	9,046.10	104.08	183.10	-90.00	2,626.81	1,690.28	4,213.22	3,953.89	259.32	16.247		
13,900.00	9,065.00	9,046.10	9,046.10	106.03	183.10	-90.00	2,626.81	1,690.28	4,285.29	4,025.74	259.55	16.510		
14,000.00	9,065.00	9,046.10	9,046.10	107.98	183.10	-90.00	2,626.81	1,690.28	4,358.46	4,098.70	259.76	16.779		
14,100.00	9,065.00	9,046.10	9,046.10	109.94	183.10	-90.00	2,626.81	1,690.28	4,432.69	4,172.74	259.95	17.052		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 10-INC-ONLY													Offset Well Error:	10.00 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
14,200.00	9,065.00	9,046.10	9,046.10	111.90	183.10	-90.00	2,626.81	1,690.28	4,507.91	4,247.79	260.12	17.330		
14,300.00	9,065.00	9,046.10	9,046.10	113.86	183.10	-90.00	2,626.81	1,690.28	4,584.07	4,323.81	260.27	17.613		
14,400.00	9,065.00	9,046.10	9,046.10	115.82	183.10	-90.00	2,626.81	1,690.28	4,661.14	4,400.74	260.40	17.900		
14,500.00	9,065.00	9,046.10	9,046.10	117.79	183.10	-90.00	2,626.81	1,690.28	4,739.06	4,478.54	260.52	18.191		
14,600.00	9,065.00	9,046.10	9,046.10	119.76	183.10	-90.00	2,626.81	1,690.28	4,817.80	4,557.18	260.63	18.485		
14,700.00	9,065.00	9,046.10	9,046.10	121.74	183.10	-90.00	2,626.81	1,690.28	4,897.32	4,636.60	260.72	18.784		
14,800.00	9,065.00	9,046.10	9,046.10	123.71	183.10	-90.00	2,626.81	1,690.28	4,977.57	4,716.77	260.80	19.086		
14,900.00	9,065.00	9,046.10	9,046.10	125.69	183.10	-90.00	2,626.81	1,690.28	5,058.53	4,797.66	260.87	19.391		
15,000.00	9,065.00	9,046.10	9,046.10	127.67	183.10	-90.00	2,626.81	1,690.28	5,140.16	4,879.22	260.94	19.699		
15,100.00	9,065.00	9,046.10	9,046.10	129.65	183.10	-90.00	2,626.81	1,690.28	5,222.43	4,961.44	260.99	20.010		
15,200.00	9,065.00	9,046.10	9,046.10	131.63	183.10	-90.00	2,626.81	1,690.28	5,305.31	5,044.27	261.04	20.324		
15,300.00	9,065.00	9,046.10	9,046.10	133.62	183.10	-90.00	2,626.81	1,690.28	5,388.76	5,127.69	261.08	20.641		
15,400.00	9,065.00	9,046.10	9,046.10	135.61	183.10	-90.00	2,626.81	1,690.28	5,472.78	5,211.67	261.11	20.960		
15,500.00	9,065.00	9,046.10	9,046.10	137.60	183.10	-90.00	2,626.81	1,690.28	5,557.32	5,296.18	261.14	21.281		
15,600.00	9,065.00	9,046.10	9,046.10	139.59	183.10	-90.00	2,626.81	1,690.28	5,642.36	5,381.21	261.16	21.605		
15,700.00	9,065.00	9,046.10	9,046.10	141.58	183.10	-90.00	2,626.81	1,690.28	5,727.90	5,466.72	261.17	21.931		
15,800.00	9,065.00	9,046.10	9,046.10	143.57	183.10	-90.00	2,626.81	1,690.28	5,813.89	5,552.70	261.19	22.260		
15,900.00	9,065.00	9,046.10	9,046.10	145.57	183.10	-90.00	2,626.81	1,690.28	5,900.32	5,639.13	261.19	22.590		
16,000.00	9,065.00	9,046.10	9,046.10	147.56	183.10	-90.00	2,626.81	1,690.28	5,987.18	5,725.98	261.20	22.922		
16,100.00	9,065.00	9,046.10	9,046.10	149.56	183.10	-90.00	2,626.81	1,690.28	6,074.44	5,813.24	261.20	23.256		
16,200.00	9,065.00	9,046.10	9,046.10	151.56	183.10	-90.00	2,626.81	1,690.28	6,162.09	5,900.89	261.20	23.591		
16,300.00	9,065.00	9,046.10	9,046.10	153.56	183.10	-90.00	2,626.81	1,690.28	6,250.10	5,988.91	261.20	23.929		
16,400.00	9,065.00	9,046.10	9,046.10	155.56	183.10	-90.00	2,626.81	1,690.28	6,338.48	6,077.29	261.19	24.268		
16,500.00	9,065.00	9,046.10	9,046.10	157.57	183.10	-90.00	2,626.81	1,690.28	6,427.19	6,166.01	261.18	24.608		
16,600.00	9,065.00	9,046.10	9,046.10	159.57	183.10	-90.00	2,626.81	1,690.28	6,516.23	6,255.06	261.17	24.950		
16,700.00	9,065.00	9,046.10	9,046.10	161.57	183.10	-90.00	2,626.81	1,690.28	6,605.59	6,344.43	261.16	25.293		
16,800.00	9,065.00	9,046.10	9,046.10	163.58	183.10	-90.00	2,626.81	1,690.28	6,695.25	6,434.10	261.15	25.637		
16,900.00	9,065.00	9,046.10	9,046.10	165.59	183.10	-90.00	2,626.81	1,690.28	6,785.19	6,524.05	261.14	25.983		
17,000.00	9,065.00	9,046.10	9,046.10	167.60	183.10	-90.00	2,626.81	1,690.28	6,875.42	6,614.29	261.12	26.330		
17,100.00	9,065.00	9,046.10	9,046.10	169.60	183.10	-90.00	2,626.81	1,690.28	6,965.91	6,704.80	261.11	26.678		
17,200.00	9,065.00	9,046.10	9,046.10	171.61	183.10	-90.00	2,626.81	1,690.28	7,056.65	6,795.56	261.09	27.027		
17,300.00	9,065.00	9,046.10	9,046.10	173.62	183.10	-90.00	2,626.81	1,690.28	7,147.65	6,886.57	261.08	27.377		
17,400.00	9,065.00	9,046.10	9,046.10	175.63	183.10	-90.00	2,626.81	1,690.28	7,238.88	6,977.82	261.06	27.729		
17,500.00	9,065.00	9,046.10	9,046.10	177.65	183.10	-90.00	2,626.81	1,690.28	7,330.34	7,069.29	261.05	28.081		
17,600.00	9,065.00	9,046.10	9,046.10	179.66	183.10	-90.00	2,626.81	1,690.28	7,422.02	7,160.99	261.03	28.434		
17,700.00	9,065.00	9,046.10	9,046.10	181.67	183.10	-90.00	2,626.81	1,690.28	7,513.91	7,252.90	261.01	28.788		
17,800.00	9,065.00	9,046.10	9,046.10	183.69	183.10	-90.00	2,626.81	1,690.28	7,606.01	7,345.01	261.00	29.142		
17,900.00	9,065.00	9,046.10	9,046.10	185.70	183.10	-90.00	2,626.81	1,690.28	7,698.30	7,437.32	260.98	29.498		
18,000.00	9,065.00	9,046.10	9,046.10	187.72	183.10	-90.00	2,626.81	1,690.28	7,790.79	7,529.83	260.96	29.854		
18,100.00	9,065.00	9,046.10	9,046.10	189.73	183.10	-90.00	2,626.81	1,690.28	7,883.46	7,622.51	260.95	30.211		
18,200.00	9,065.00	9,046.10	9,046.10	191.75	183.10	-90.00	2,626.81	1,690.28	7,976.30	7,715.37	260.93	30.569		
18,300.00	9,065.00	9,046.10	9,046.10	193.77	183.10	-90.00	2,626.81	1,690.28	8,069.32	7,808.40	260.91	30.927		
18,400.00	9,065.00	9,046.10	9,046.10	195.78	183.10	-90.00	2,626.81	1,690.28	8,162.50	7,901.60	260.90	31.286		
18,500.00	9,065.00	9,046.10	9,046.10	197.80	183.10	-90.00	2,626.81	1,690.28	8,255.84	7,994.95	260.89	31.645		
18,600.00	9,065.00	9,046.10	9,046.10	199.82	183.10	-90.00	2,626.81	1,690.28	8,349.34	8,088.46	260.87	32.006		
18,700.00	9,065.00	9,046.10	9,046.10	201.84	183.10	-90.00	2,626.81	1,690.28	8,442.98	8,182.12	260.86	32.366		
18,800.00	9,065.00	9,046.10	9,046.10	203.86	183.10	-90.00	2,626.81	1,690.28	8,536.77	8,275.92	260.84	32.727		
18,900.00	9,065.00	9,046.10	9,046.10	205.88	183.10	-90.00	2,626.81	1,690.28	8,630.70	8,369.86	260.83	33.089		
19,000.00	9,065.00	9,046.10	9,046.10	207.90	183.10	-90.00	2,626.81	1,690.28	8,724.76	8,463.94	260.82	33.451		
19,100.00	9,065.00	9,046.10	9,046.10	209.92	183.10	-90.00	2,626.81	1,690.28	8,818.95	8,558.14	260.81	33.814		
19,200.00	9,065.00	9,046.10	9,046.10	211.95	183.10	-90.00	2,626.81	1,690.28	8,913.27	8,652.47	260.80	34.177		
19,300.00	9,065.00	9,046.10	9,046.10	213.97	183.10	-90.00	2,626.81	1,690.28	9,007.71	8,746.92	260.79	34.540		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design												Sec 14-T21S-R27E - Allied State Com 1 (Active) - Wellbore #1 - Wellbore #1		Offset Site Error:		0.00 ft	
Survey Program:												10-INC-ONLY		Offset Well Error:		10.00 ft	
Reference		Offset		Semi Major Axis			Distance						Warning				
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor					
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)						
19,400.00	9,065.00	9,046.10	9,046.10	215.99	183.10	-90.00	2,626.81	1,690.28	9,102.28	8,841.49	260.78	34.904					
19,456.84	9,065.00	9,046.10	9,046.10	217.14	183.10	-90.00	2,626.81	1,690.28	9,156.08	8,895.30	260.78	35.111					

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 10-INC-ONLY													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0.00	0.00	0.00	0.00	0.50	0.50	164.39	-1,348.45	376.73	1,400.12					
100.00	100.00	90.10	90.10	0.52	1.30	164.39	-1,348.45	376.73	1,400.09	1,398.27	1.82	770.382		
200.00	200.00	190.10	190.10	0.70	2.74	164.39	-1,348.45	376.73	1,400.09	1,396.64	3.45	406.376		
300.00	300.00	290.10	290.10	0.99	4.22	164.39	-1,348.45	376.73	1,400.09	1,394.88	5.21	268.632		
400.00	400.00	390.10	390.10	1.31	5.71	164.39	-1,348.45	376.73	1,400.09	1,393.07	7.02	199.342		
500.00	500.00	490.10	490.10	1.65	7.21	164.39	-1,348.45	376.73	1,400.09	1,391.24	8.85	158.137		
600.00	600.00	590.10	590.10	1.99	8.70	164.39	-1,348.45	376.73	1,400.09	1,389.40	10.69	130.938		
700.00	700.00	690.10	690.10	2.34	10.20	164.39	-1,348.45	376.73	1,400.09	1,387.55	12.54	111.676		
800.00	800.00	790.10	790.10	2.69	11.69	164.39	-1,348.45	376.73	1,400.09	1,385.71	14.38	97.334		
900.00	900.00	890.10	890.10	3.04	13.19	164.39	-1,348.45	376.73	1,400.09	1,383.86	16.23	86.245		
1,000.00	1,000.00	990.10	990.10	3.40	14.69	164.39	-1,348.45	376.73	1,400.09	1,382.01	18.08	77.419		
1,100.00	1,100.00	1,090.10	1,090.10	3.75	16.18	164.39	-1,348.45	376.73	1,400.09	1,380.15	19.94	70.228		
1,200.00	1,200.00	1,190.10	1,190.10	4.11	17.68	164.39	-1,348.45	376.73	1,400.09	1,378.30	21.79	64.257		
1,300.00	1,300.00	1,290.10	1,290.10	4.46	19.18	164.39	-1,348.45	376.73	1,400.09	1,376.45	23.64	59.220		
1,400.00	1,400.00	1,390.10	1,390.10	4.82	20.68	164.39	-1,348.45	376.73	1,400.09	1,374.59	25.50	54.915		
1,500.00	1,500.00	1,490.10	1,490.10	5.18	22.17	164.39	-1,348.45	376.73	1,400.09	1,372.74	27.35	51.193		
1,600.00	1,600.00	1,590.10	1,590.10	5.53	23.67	164.39	-1,348.45	376.73	1,400.09	1,370.89	29.20	47.942		
1,700.00	1,700.00	1,690.10	1,690.10	5.89	25.17	164.39	-1,348.45	376.73	1,400.09	1,369.03	31.06	45.080		
1,800.00	1,800.00	1,790.10	1,790.10	6.25	26.66	164.39	-1,348.45	376.73	1,400.09	1,367.18	32.91	42.540		
1,900.00	1,900.00	1,890.10	1,890.10	6.61	28.16	164.39	-1,348.45	376.73	1,400.09	1,365.32	34.77	40.270		
2,000.00	2,000.00	1,990.10	1,990.10	6.96	29.66	164.39	-1,348.45	376.73	1,400.09	1,363.47	36.62	38.230		
2,100.00	2,100.00	2,090.10	2,090.10	7.32	31.16	164.39	-1,348.45	376.73	1,400.09	1,361.61	38.48	36.387		
2,200.00	2,200.00	2,190.10	2,190.10	7.68	32.65	164.39	-1,348.45	376.73	1,400.09	1,359.76	40.33	34.714		
2,300.00	2,300.00	2,290.10	2,290.10	8.04	34.15	164.39	-1,348.45	376.73	1,400.09	1,357.90	42.19	33.187		
2,400.00	2,400.00	2,390.10	2,390.10	8.39	35.65	164.39	-1,348.45	376.73	1,400.09	1,356.05	44.04	31.789		
2,500.00	2,500.00	2,490.10	2,490.10	8.75	37.15	164.39	-1,348.45	376.73	1,400.09	1,354.19	45.90	30.504		
2,600.00	2,599.99	2,590.09	2,590.09	9.09	38.64	-49.72	-1,348.45	376.73	1,399.53	1,351.79	47.74	29.317		
2,700.00	2,699.96	2,690.06	2,690.06	9.42	40.14	-49.81	-1,348.45	376.73	1,397.83	1,348.27	49.56	28.204		
2,800.00	2,799.86	2,789.96	2,789.96	9.75	41.64	-49.97	-1,348.45	376.73	1,395.02	1,343.64	51.39	27.148		
2,900.00	2,899.68	2,889.78	2,889.78	10.08	43.13	-50.19	-1,348.45	376.73	1,391.10	1,337.89	53.21	26.143		
2,945.33	2,944.88	2,934.98	2,934.98	10.23	43.81	-50.32	-1,348.45	376.73	1,388.96	1,334.92	54.04	25.703		
3,000.00	2,999.39	2,989.49	2,989.49	10.41	44.62	-50.45	-1,348.45	376.73	1,386.25	1,331.21	55.04	25.187		
3,100.00	3,099.08	3,089.18	3,089.18	10.75	46.12	-50.70	-1,348.45	376.73	1,381.31	1,324.44	56.87	24.291		
3,200.00	3,198.78	3,188.88	3,188.88	11.08	47.61	-50.95	-1,348.45	376.73	1,376.40	1,317.70	58.69	23.450		
3,300.00	3,298.48	3,288.58	3,288.58	11.42	49.10	-51.20	-1,348.45	376.73	1,371.51	1,310.98	60.53	22.660		
3,400.00	3,398.18	3,388.28	3,388.28	11.76	50.60	-51.45	-1,348.45	376.73	1,366.65	1,304.29	62.36	21.916		
3,500.00	3,497.88	3,487.98	3,487.98	12.10	52.09	-51.71	-1,348.45	376.73	1,361.81	1,297.62	64.19	21.214		
3,600.00	3,597.58	3,587.68	3,587.68	12.45	53.58	-51.96	-1,348.45	376.73	1,357.01	1,290.98	66.03	20.552		
3,700.00	3,697.27	3,687.37	3,687.37	12.79	55.08	-52.22	-1,348.45	376.73	1,352.23	1,284.36	67.87	19.925		
3,800.00	3,796.97	3,787.07	3,787.07	13.14	56.57	-52.48	-1,348.45	376.73	1,347.48	1,277.77	69.70	19.331		
3,900.00	3,896.67	3,886.77	3,886.77	13.48	58.06	-52.75	-1,348.45	376.73	1,342.75	1,271.21	71.54	18.768		
4,000.00	3,996.37	3,986.47	3,986.47	13.83	59.56	-53.01	-1,348.45	376.73	1,338.06	1,264.67	73.38	18.234		
4,100.00	4,096.07	4,086.17	4,086.17	14.18	61.05	-53.28	-1,348.45	376.73	1,333.39	1,258.17	75.22	17.726		
4,200.00	4,195.76	4,185.86	4,185.86	14.53	62.54	-53.54	-1,348.45	376.73	1,328.75	1,251.69	77.07	17.242		
4,300.00	4,295.46	4,285.56	4,285.56	14.88	64.03	-53.81	-1,348.45	376.73	1,324.14	1,245.24	78.91	16.781		
4,400.00	4,395.16	4,385.26	4,385.26	15.23	65.53	-54.09	-1,348.45	376.73	1,319.57	1,238.81	80.75	16.341		
4,500.00	4,494.86	4,484.96	4,484.96	15.58	67.02	-54.36	-1,348.45	376.73	1,315.02	1,232.42	82.60	15.921		
4,600.00	4,594.56	4,584.66	4,584.66	15.93	68.51	-54.63	-1,348.45	376.73	1,310.50	1,226.06	84.44	15.520		
4,700.00	4,694.25	4,684.35	4,684.35	16.29	70.01	-54.91	-1,348.45	376.73	1,306.01	1,219.73	86.29	15.136		
4,800.00	4,793.95	4,784.05	4,784.05	16.64	71.50	-55.19	-1,348.45	376.73	1,301.55	1,213.42	88.13	14.768		
4,900.00	4,893.65	4,883.75	4,883.75	17.00	72.99	-55.47	-1,348.45	376.73	1,297.13	1,207.15	89.98	14.416		
5,000.00	4,993.35	4,983.45	4,983.45	17.35	74.49	-55.75	-1,348.45	376.73	1,292.73	1,200.91	91.82	14.078		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 10-INC-ONLY													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
5,100.00	5,093.05	5,083.15	5,083.15	17.71	75.98	-56.04	-1,348.45	376.73	1,288.37	1,194.70	93.67	13.754		
5,200.00	5,192.75	5,182.85	5,182.85	18.06	77.47	-56.33	-1,348.45	376.73	1,284.04	1,188.52	95.52	13.443		
5,300.00	5,292.44	5,282.54	5,282.54	18.42	78.97	-56.61	-1,348.45	376.73	1,279.74	1,182.38	97.37	13.143		
5,400.00	5,392.14	5,382.24	5,382.24	18.77	80.46	-56.91	-1,348.45	376.73	1,275.48	1,176.26	99.22	12.856		
5,500.00	5,491.84	5,481.94	5,481.94	19.13	81.95	-57.20	-1,348.45	376.73	1,271.25	1,170.18	101.07	12.578		
5,600.00	5,591.54	5,581.64	5,581.64	19.49	83.44	-57.49	-1,348.45	376.73	1,267.05	1,164.13	102.91	12.312		
5,700.00	5,691.24	5,681.34	5,681.34	19.85	84.94	-57.79	-1,348.45	376.73	1,262.88	1,158.12	104.76	12.054		
5,800.00	5,790.93	5,781.03	5,781.03	20.20	86.43	-58.09	-1,348.45	376.73	1,258.75	1,152.14	106.61	11.807		
5,900.00	5,890.63	5,880.73	5,880.73	20.56	87.92	-58.39	-1,348.45	376.73	1,254.66	1,146.19	108.47	11.567		
6,000.00	5,990.33	5,980.43	5,980.43	20.92	89.42	-58.69	-1,348.45	376.73	1,250.59	1,140.28	110.32	11.336		
6,100.00	6,090.03	6,080.13	6,080.13	21.28	90.91	-58.99	-1,348.45	376.73	1,246.57	1,134.40	112.17	11.113		
6,200.00	6,189.73	6,179.83	6,179.83	21.64	92.40	-59.30	-1,348.45	376.73	1,242.58	1,128.56	114.02	10.898		
6,300.00	6,289.42	6,279.52	6,279.52	22.00	93.90	-59.61	-1,348.45	376.73	1,238.62	1,122.75	115.87	10.690		
6,400.00	6,389.12	6,379.22	6,379.22	22.36	95.39	-59.92	-1,348.45	376.73	1,234.70	1,116.98	117.72	10.488		
6,500.00	6,488.82	6,478.92	6,478.92	22.72	96.88	-60.23	-1,348.45	376.73	1,230.82	1,111.25	119.57	10.293		
6,600.00	6,588.52	6,578.62	6,578.62	23.08	98.38	-60.54	-1,348.45	376.73	1,226.98	1,105.55	121.43	10.105		
6,700.00	6,688.22	6,678.32	6,678.32	23.44	99.87	-60.86	-1,348.45	376.73	1,223.17	1,099.89	123.28	9.922		
6,800.00	6,787.91	6,778.01	6,778.01	23.80	101.36	-61.18	-1,348.45	376.73	1,219.40	1,094.26	125.13	9.745		
6,900.00	6,887.61	6,877.71	6,877.71	24.16	102.86	-61.50	-1,348.45	376.73	1,215.66	1,088.68	126.98	9.573		
7,000.00	6,987.31	6,977.41	6,977.41	24.52	104.35	-61.82	-1,348.45	376.73	1,211.97	1,083.13	128.84	9.407		
7,100.00	7,087.01	7,077.11	7,077.11	24.88	105.84	-62.14	-1,348.45	376.73	1,208.31	1,077.62	130.69	9.246		
7,200.00	7,186.71	7,176.81	7,176.81	25.24	107.33	-62.47	-1,348.45	376.73	1,204.70	1,072.15	132.55	9.089		
7,300.00	7,286.41	7,276.51	7,276.51	25.60	108.83	-62.80	-1,348.45	376.73	1,201.12	1,066.72	134.40	8.937		
7,400.00	7,386.10	7,376.20	7,376.20	25.96	110.32	-63.13	-1,348.45	376.73	1,197.58	1,061.33	136.25	8.789		
7,500.00	7,485.80	7,475.90	7,475.90	26.33	111.81	-63.46	-1,348.45	376.73	1,194.08	1,055.97	138.11	8.646		
7,600.00	7,585.50	7,575.60	7,575.60	26.69	113.31	-63.79	-1,348.45	376.73	1,190.62	1,050.66	139.96	8.507		
7,700.00	7,685.20	7,675.30	7,675.30	27.05	114.80	-64.13	-1,348.45	376.73	1,187.21	1,045.39	141.82	8.371		
7,800.00	7,784.90	7,775.00	7,775.00	27.41	116.29	-64.46	-1,348.45	376.73	1,183.83	1,040.16	143.67	8.240		
7,860.70	7,845.41	7,835.51	7,835.51	27.63	117.20	-64.67	-1,348.45	376.73	1,181.80	1,037.00	144.80	8.162		
7,900.00	7,884.61	7,874.71	7,874.71	27.77	117.79	-64.78	-1,348.45	376.73	1,180.58	1,035.06	145.53	8.112		
8,000.00	7,984.46	7,974.56	7,974.56	28.13	119.28	-64.99	-1,348.45	376.73	1,178.27	1,030.89	147.38	7.995		
8,100.00	8,084.42	8,074.52	8,074.52	28.49	120.78	-65.09	-1,348.45	376.73	1,177.08	1,027.85	149.23	7.888		
8,157.59	8,142.00	8,132.10	8,132.10	28.69	121.64	148.97	-1,348.45	376.73	1,176.90	1,026.61	150.30	7.831		
8,200.00	8,184.41	8,174.51	8,174.51	28.83	122.28	148.97	-1,348.45	376.73	1,176.90	1,025.83	151.07	7.790		
8,300.00	8,284.41	8,274.51	8,274.51	29.17	123.77	148.97	-1,348.45	376.73	1,176.90	1,023.99	152.91	7.697		
8,400.00	8,384.41	8,374.51	8,374.51	29.51	125.27	148.97	-1,348.45	376.73	1,176.90	1,022.15	154.75	7.605		
8,507.63	8,492.04	8,482.14	8,482.14	29.87	126.88	148.97	-1,348.45	376.73	1,176.90	1,020.18	156.73	7.509		
8,550.00	8,534.37	8,524.47	8,524.47	30.02	127.52	59.73	-1,348.45	376.73	1,176.11	1,018.61	157.50	7.467		
8,600.00	8,584.01	8,574.11	8,574.11	30.18	128.26	60.23	-1,348.45	376.73	1,173.16	1,014.75	158.41	7.406		
8,650.00	8,632.95	8,623.05	8,623.05	30.34	128.99	61.10	-1,348.45	376.73	1,168.09	1,008.79	159.31	7.332		
8,700.00	8,680.82	8,670.92	8,670.92	30.50	129.71	62.34	-1,348.45	376.73	1,161.04	1,000.85	160.19	7.248		
8,750.00	8,727.25	8,717.35	8,717.35	30.66	130.41	63.91	-1,348.45	376.73	1,152.17	991.13	161.04	7.155		
8,800.00	8,771.89	8,761.99	8,761.99	30.81	131.07	65.81	-1,348.45	376.73	1,141.70	979.84	161.86	7.054		
8,850.00	8,814.40	8,804.50	8,804.50	30.95	131.71	67.99	-1,348.45	376.73	1,129.91	967.26	162.64	6.947		
8,900.00	8,854.46	8,844.56	8,844.56	31.09	132.31	70.41	-1,348.45	376.73	1,117.10	953.71	163.39	6.837		
8,950.00	8,891.75	8,881.85	8,881.85	31.23	132.87	73.00	-1,348.45	376.73	1,103.62	939.53	164.09	6.726		
9,000.00	8,926.01	8,916.11	8,916.11	31.37	133.38	75.68	-1,348.45	376.73	1,089.85	925.09	164.75	6.615		
9,050.00	8,956.96	8,947.06	8,947.06	31.53	133.85	78.37	-1,348.45	376.73	1,076.18	910.81	165.37	6.508		
9,100.00	8,984.38	8,974.48	8,974.48	31.69	134.26	80.96	-1,348.45	376.73	1,063.03	897.08	165.95	6.406		
9,150.00	9,008.05	8,998.15	8,998.15	31.87	134.61	83.36	-1,348.45	376.73	1,050.79	884.31	166.48	6.312		
9,200.00	9,027.79	9,017.89	9,017.89	32.07	134.91	85.49	-1,348.45	376.73	1,039.87	872.89	166.98	6.228		
9,250.00	9,043.45	9,033.55	9,033.55	32.29	135.14	87.27	-1,348.45	376.73	1,030.61	863.17	167.43	6.155		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 10-INC-ONLY													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
9,300.00	9,054.92	9,045.02	9,045.02	32.53	135.31	88.63	-1,348.45	376.73	1,023.31	855.47	167.84	6.097		
9,350.00	9,062.10	9,052.20	9,052.20	32.79	135.42	89.55	-1,348.45	376.73	1,018.23	850.02	168.21	6.053		
9,400.00	9,064.95	9,055.05	9,055.05	33.06	135.46	89.98	-1,348.45	376.73	1,015.52	847.00	168.52	6.026		
9,407.63	9,065.00	9,055.10	9,055.10	33.10	135.46	90.00	-1,348.45	376.73	1,015.32	846.76	168.56	6.023		
9,430.26	9,065.00	9,055.10	9,055.10	33.24	135.46	90.00	-1,348.45	376.73	1,015.07	846.37	168.70	6.017 CC, ES		
9,500.00	9,065.00	9,055.10	9,055.10	33.68	135.46	90.00	-1,348.45	376.73	1,017.46	848.35	169.11	6.017 SF		
9,600.00	9,065.00	9,055.10	9,055.10	34.41	135.46	90.00	-1,348.45	376.73	1,029.16	859.41	169.76	6.063		
9,700.00	9,065.00	9,055.10	9,055.10	35.24	135.46	90.00	-1,348.45	376.73	1,050.30	879.88	170.42	6.163		
9,800.00	9,065.00	9,055.10	9,055.10	36.17	135.46	90.00	-1,348.45	376.73	1,080.31	909.25	171.06	6.315		
9,900.00	9,065.00	9,055.10	9,055.10	37.19	135.46	90.00	-1,348.45	376.73	1,118.49	946.83	171.66	6.516		
10,000.00	9,065.00	9,055.10	9,055.10	38.30	135.46	90.00	-1,348.45	376.73	1,164.03	991.84	172.19	6.760		
10,100.00	9,065.00	9,055.10	9,055.10	39.48	135.46	90.00	-1,348.45	376.73	1,216.11	1,043.46	172.65	7.044		
10,200.00	9,065.00	9,055.10	9,055.10	40.72	135.46	90.00	-1,348.45	376.73	1,273.92	1,100.88	173.04	7.362		
10,300.00	9,065.00	9,055.10	9,055.10	42.03	135.46	90.00	-1,348.45	376.73	1,336.72	1,163.35	173.36	7.711		
10,400.00	9,065.00	9,055.10	9,055.10	43.40	135.46	90.00	-1,348.45	376.73	1,403.84	1,230.21	173.63	8.085		
10,500.00	9,065.00	9,055.10	9,055.10	44.82	135.46	90.00	-1,348.45	376.73	1,474.69	1,300.84	173.85	8.483		
10,600.00	9,065.00	9,055.10	9,055.10	46.29	135.46	90.00	-1,348.45	376.73	1,548.76	1,374.73	174.03	8.899		
10,700.00	9,065.00	9,055.10	9,055.10	47.79	135.46	90.00	-1,348.45	376.73	1,625.61	1,451.43	174.17	9.333		
10,800.00	9,065.00	9,055.10	9,055.10	49.34	135.46	90.00	-1,348.45	376.73	1,704.86	1,530.57	174.29	9.782		
10,900.00	9,065.00	9,055.10	9,055.10	50.92	135.46	90.00	-1,348.45	376.73	1,786.20	1,611.81	174.38	10.243		
11,000.00	9,065.00	9,055.10	9,055.10	52.54	135.46	90.00	-1,348.45	376.73	1,869.34	1,694.88	174.46	10.715		
11,100.00	9,065.00	9,055.10	9,055.10	54.18	135.46	90.00	-1,348.45	376.73	1,954.07	1,779.55	174.52	11.197		
11,200.00	9,065.00	9,055.10	9,055.10	55.85	135.46	90.00	-1,348.45	376.73	2,040.18	1,865.61	174.57	11.687		
11,300.00	9,065.00	9,055.10	9,055.10	57.54	135.46	90.00	-1,348.45	376.73	2,127.51	1,952.89	174.61	12.184		
11,400.00	9,065.00	9,055.10	9,055.10	59.26	135.46	90.00	-1,348.45	376.73	2,215.90	2,041.26	174.65	12.688		
11,500.00	9,065.00	9,055.10	9,055.10	61.00	135.46	90.00	-1,348.45	376.73	2,305.25	2,130.58	174.67	13.197		
11,600.00	9,065.00	9,055.10	9,055.10	62.75	135.46	90.00	-1,348.45	376.73	2,395.44	2,220.74	174.70	13.712		
11,700.00	9,065.00	9,055.10	9,055.10	64.52	135.46	90.00	-1,348.45	376.73	2,486.38	2,311.66	174.72	14.231		
11,800.00	9,065.00	9,055.10	9,055.10	66.31	135.46	90.00	-1,348.45	376.73	2,577.99	2,403.25	174.74	14.754		
11,900.00	9,065.00	9,055.10	9,055.10	68.11	135.46	90.00	-1,348.45	376.73	2,670.20	2,495.45	174.75	15.280		
12,000.00	9,065.00	9,055.10	9,055.10	69.93	135.46	90.00	-1,348.45	376.73	2,762.95	2,588.19	174.77	15.809		
12,100.00	9,065.00	9,055.10	9,055.10	71.76	135.46	90.00	-1,348.45	376.73	2,856.20	2,681.42	174.78	16.341		
12,200.00	9,065.00	9,055.10	9,055.10	73.60	135.46	90.00	-1,348.45	376.73	2,949.88	2,775.09	174.80	16.876		
12,300.00	9,065.00	9,055.10	9,055.10	75.45	135.46	90.00	-1,348.45	376.73	3,043.97	2,869.16	174.81	17.413		
12,400.00	9,065.00	9,055.10	9,055.10	77.31	135.46	90.00	-1,348.45	376.73	3,138.42	2,963.60	174.82	17.952		
12,500.00	9,065.00	9,055.10	9,055.10	79.18	135.46	90.00	-1,348.45	376.73	3,233.21	3,058.37	174.84	18.493		
12,600.00	9,065.00	9,055.10	9,055.10	81.05	135.46	90.00	-1,348.45	376.73	3,328.30	3,153.45	174.85	19.035		
12,700.00	9,065.00	9,055.10	9,055.10	82.94	135.46	90.00	-1,348.45	376.73	3,423.67	3,248.81	174.87	19.579		
12,800.00	9,065.00	9,055.10	9,055.10	84.83	135.46	90.00	-1,348.45	376.73	3,519.30	3,344.42	174.88	20.124		
12,900.00	9,065.00	9,055.10	9,055.10	86.73	135.46	90.00	-1,348.45	376.73	3,615.17	3,440.27	174.90	20.670		
13,000.00	9,065.00	9,055.10	9,055.10	88.64	135.46	90.00	-1,348.45	376.73	3,711.25	3,536.33	174.92	21.217		
13,100.00	9,065.00	9,055.10	9,055.10	90.55	135.46	90.00	-1,348.45	376.73	3,807.54	3,632.60	174.94	21.765		
13,200.00	9,065.00	9,055.10	9,055.10	92.47	135.46	90.00	-1,348.45	376.73	3,904.01	3,729.05	174.96	22.314		
13,300.00	9,065.00	9,055.10	9,055.10	94.39	135.46	90.00	-1,348.45	376.73	4,000.65	3,825.68	174.98	22.864		
13,400.00	9,065.00	9,055.10	9,055.10	96.32	135.46	90.00	-1,348.45	376.73	4,097.46	3,922.46	175.00	23.414		
13,500.00	9,065.00	9,055.10	9,055.10	98.25	135.46	90.00	-1,348.45	376.73	4,194.42	4,019.40	175.02	23.965		
13,600.00	9,065.00	9,055.10	9,055.10	100.19	135.46	90.00	-1,348.45	376.73	4,291.51	4,116.47	175.04	24.517		
13,700.00	9,065.00	9,055.10	9,055.10	102.13	135.46	90.00	-1,348.45	376.73	4,388.74	4,213.67	175.07	25.069		
13,800.00	9,065.00	9,055.10	9,055.10	104.08	135.46	90.00	-1,348.45	376.73	4,486.09	4,310.99	175.09	25.621		
13,900.00	9,065.00	9,055.10	9,055.10	106.03	135.46	90.00	-1,348.45	376.73	4,583.55	4,408.43	175.12	26.174		
14,000.00	9,065.00	9,055.10	9,055.10	107.98	135.46	90.00	-1,348.45	376.73	4,681.12	4,505.97	175.15	26.727		
14,100.00	9,065.00	9,055.10	9,055.10	109.94	135.46	90.00	-1,348.45	376.73	4,778.79	4,603.61	175.18	27.280		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 10-INC-ONLY													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
14,200.00	9,065.00	9,055.10	9,055.10	111.90	135.46	90.00	-1,348.45	376.73	4,876.55	4,701.35	175.21	27.833		
14,300.00	9,065.00	9,055.10	9,055.10	113.86	135.46	90.00	-1,348.45	376.73	4,974.41	4,799.17	175.24	28.387		
14,400.00	9,065.00	9,055.10	9,055.10	115.82	135.46	90.00	-1,348.45	376.73	5,072.34	4,897.07	175.27	28.940		
14,500.00	9,065.00	9,055.10	9,055.10	117.79	135.46	90.00	-1,348.45	376.73	5,170.36	4,995.06	175.30	29.494		
14,600.00	9,065.00	9,055.10	9,055.10	119.76	135.46	90.00	-1,348.45	376.73	5,268.45	5,093.11	175.34	30.048		
14,700.00	9,065.00	9,055.10	9,055.10	121.74	135.46	90.00	-1,348.45	376.73	5,366.61	5,191.24	175.37	30.602		
14,800.00	9,065.00	9,055.10	9,055.10	123.71	135.46	90.00	-1,348.45	376.73	5,464.84	5,289.43	175.41	31.155		
14,900.00	9,065.00	9,055.10	9,055.10	125.69	135.46	90.00	-1,348.45	376.73	5,563.13	5,387.69	175.44	31.709		
15,000.00	9,065.00	9,055.10	9,055.10	127.67	135.46	90.00	-1,348.45	376.73	5,661.48	5,486.00	175.48	32.263		
15,100.00	9,065.00	9,055.10	9,055.10	129.65	135.46	90.00	-1,348.45	376.73	5,759.89	5,584.37	175.52	32.816		
15,200.00	9,065.00	9,055.10	9,055.10	131.63	135.46	90.00	-1,348.45	376.73	5,858.35	5,682.79	175.56	33.370		
15,300.00	9,065.00	9,055.10	9,055.10	133.62	135.46	90.00	-1,348.45	376.73	5,956.86	5,781.26	175.60	33.923		
15,400.00	9,065.00	9,055.10	9,055.10	135.61	135.46	90.00	-1,348.45	376.73	6,055.42	5,879.78	175.64	34.476		
15,500.00	9,065.00	9,055.10	9,055.10	137.60	135.46	90.00	-1,348.45	376.73	6,154.03	5,978.35	175.68	35.029		
15,600.00	9,065.00	9,055.10	9,055.10	139.59	135.46	90.00	-1,348.45	376.73	6,252.68	6,076.95	175.73	35.582		
15,700.00	9,065.00	9,055.10	9,055.10	141.58	135.46	90.00	-1,348.45	376.73	6,351.38	6,175.60	175.77	36.134		
15,800.00	9,065.00	9,055.10	9,055.10	143.57	135.46	90.00	-1,348.45	376.73	6,450.11	6,274.29	175.82	36.686		
15,900.00	9,065.00	9,055.10	9,055.10	145.57	135.46	90.00	-1,348.45	376.73	6,548.88	6,373.02	175.86	37.238		
16,000.00	9,065.00	9,055.10	9,055.10	147.56	135.46	90.00	-1,348.45	376.73	6,647.69	6,471.78	175.91	37.790		
16,100.00	9,065.00	9,055.10	9,055.10	149.56	135.46	90.00	-1,348.45	376.73	6,746.54	6,570.58	175.96	38.342		
16,200.00	9,065.00	9,055.10	9,055.10	151.56	135.46	90.00	-1,348.45	376.73	6,845.42	6,669.41	176.01	38.893		
16,300.00	9,065.00	9,055.10	9,055.10	153.56	135.46	90.00	-1,348.45	376.73	6,944.33	6,768.27	176.06	39.443		
16,400.00	9,065.00	9,055.10	9,055.10	155.56	135.46	90.00	-1,348.45	376.73	7,043.27	6,867.16	176.11	39.994		
16,500.00	9,065.00	9,055.10	9,055.10	157.57	135.46	90.00	-1,348.45	376.73	7,142.24	6,966.08	176.16	40.544		
16,600.00	9,065.00	9,055.10	9,055.10	159.57	135.46	90.00	-1,348.45	376.73	7,241.24	7,065.02	176.21	41.094		
16,700.00	9,065.00	9,055.10	9,055.10	161.57	135.46	90.00	-1,348.45	376.73	7,340.26	7,164.00	176.27	41.643		
16,800.00	9,065.00	9,055.10	9,055.10	163.58	135.46	90.00	-1,348.45	376.73	7,439.31	7,262.99	176.32	42.192		
16,900.00	9,065.00	9,055.10	9,055.10	165.59	135.46	90.00	-1,348.45	376.73	7,538.39	7,362.02	176.38	42.741		
17,000.00	9,065.00	9,055.10	9,055.10	167.60	135.46	90.00	-1,348.45	376.73	7,637.49	7,461.06	176.43	43.289		
17,100.00	9,065.00	9,055.10	9,055.10	169.60	135.46	90.00	-1,348.45	376.73	7,736.62	7,560.13	176.49	43.837		
17,200.00	9,065.00	9,055.10	9,055.10	171.61	135.46	90.00	-1,348.45	376.73	7,835.76	7,659.22	176.55	44.384		
17,300.00	9,065.00	9,055.10	9,055.10	173.62	135.46	90.00	-1,348.45	376.73	7,934.93	7,758.33	176.60	44.931		
17,400.00	9,065.00	9,055.10	9,055.10	175.63	135.46	90.00	-1,348.45	376.73	8,034.12	7,857.46	176.66	45.477		
17,500.00	9,065.00	9,055.10	9,055.10	177.65	135.46	90.00	-1,348.45	376.73	8,133.33	7,956.61	176.72	46.023		
17,600.00	9,065.00	9,055.10	9,055.10	179.66	135.46	90.00	-1,348.45	376.73	8,232.56	8,055.77	176.78	46.569		
17,700.00	9,065.00	9,055.10	9,055.10	181.67	135.46	90.00	-1,348.45	376.73	8,331.80	8,154.96	176.84	47.114		
17,800.00	9,065.00	9,055.10	9,055.10	183.69	135.46	90.00	-1,348.45	376.73	8,431.07	8,254.16	176.91	47.658		
17,900.00	9,065.00	9,055.10	9,055.10	185.70	135.46	90.00	-1,348.45	376.73	8,530.35	8,353.38	176.97	48.202		
18,000.00	9,065.00	9,055.10	9,055.10	187.72	135.46	90.00	-1,348.45	376.73	8,629.64	8,452.61	177.03	48.746		
18,100.00	9,065.00	9,055.10	9,055.10	189.73	135.46	90.00	-1,348.45	376.73	8,728.96	8,551.86	177.10	49.289		
18,200.00	9,065.00	9,055.10	9,055.10	191.75	135.46	90.00	-1,348.45	376.73	8,828.29	8,651.12	177.16	49.831		
18,300.00	9,065.00	9,055.10	9,055.10	193.77	135.46	90.00	-1,348.45	376.73	8,927.63	8,750.40	177.23	50.373		
18,400.00	9,065.00	9,055.10	9,055.10	195.78	135.46	90.00	-1,348.45	376.73	9,026.99	8,849.69	177.30	50.915		
18,500.00	9,065.00	9,055.10	9,055.10	197.80	135.46	90.00	-1,348.45	376.73	9,126.36	8,949.00	177.36	51.456		
18,600.00	9,065.00	9,055.10	9,055.10	199.82	135.46	90.00	-1,348.45	376.73	9,225.75	9,048.32	177.43	51.996		
18,700.00	9,065.00	9,055.10	9,055.10	201.84	135.46	90.00	-1,348.45	376.73	9,325.15	9,147.65	177.50	52.536		
18,800.00	9,065.00	9,055.10	9,055.10	203.86	135.46	90.00	-1,348.45	376.73	9,424.56	9,246.99	177.57	53.075		
18,900.00	9,065.00	9,055.10	9,055.10	205.88	135.46	90.00	-1,348.45	376.73	9,523.99	9,346.34	177.64	53.614		
19,000.00	9,065.00	9,055.10	9,055.10	207.90	135.46	90.00	-1,348.45	376.73	9,623.42	9,445.71	177.71	54.152		
19,100.00	9,065.00	9,055.10	9,055.10	209.92	135.46	90.00	-1,348.45	376.73	9,722.87	9,545.09	177.78	54.689		
19,200.00	9,065.00	9,055.10	9,055.10	211.95	135.46	90.00	-1,348.45	376.73	9,822.33	9,644.47	177.86	55.226		
19,300.00	9,065.00	9,055.10	9,055.10	213.97	135.46	90.00	-1,348.45	376.73	9,921.80	9,743.87	177.93	55.763		

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 10-INC-ONLY													Offset Well Error:	10.00 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0.00	0.00	0.00	0.00	0.50	10.00	14.42	1,447.91	372.37	1,495.08					
100.00	100.00	87.10	87.10	0.52	10.12	14.42	1,447.91	372.37	1,495.02	1,484.39	10.64	140.527		
200.00	200.00	187.10	187.10	0.70	10.62	14.42	1,447.91	372.37	1,495.02	1,483.70	11.32	132.014		
300.00	300.00	287.10	287.10	0.99	11.46	14.42	1,447.91	372.37	1,495.02	1,482.57	12.45	120.065		
400.00	400.00	387.10	387.10	1.31	12.58	14.42	1,447.91	372.37	1,495.02	1,481.14	13.89	107.653		
500.00	500.00	487.10	487.10	1.65	13.90	14.42	1,447.91	372.37	1,495.02	1,479.48	15.55	96.173		
600.00	600.00	587.10	587.10	1.99	15.37	14.42	1,447.91	372.37	1,495.02	1,477.66	17.36	86.099		
700.00	700.00	687.10	687.10	2.34	16.96	14.42	1,447.91	372.37	1,495.02	1,475.72	19.30	77.460		
800.00	800.00	787.10	787.10	2.69	18.63	14.42	1,447.91	372.37	1,495.02	1,473.70	21.32	70.109		
900.00	900.00	887.10	887.10	3.04	20.37	14.42	1,447.91	372.37	1,495.02	1,471.61	23.41	63.853		
1,000.00	1,000.00	987.10	987.10	3.40	22.15	14.42	1,447.91	372.37	1,495.02	1,469.47	25.55	58.508		
1,100.00	1,100.00	1,087.10	1,087.10	3.75	23.98	14.42	1,447.91	372.37	1,495.02	1,467.29	27.73	53.913		
1,200.00	1,200.00	1,187.10	1,187.10	4.11	25.83	14.42	1,447.91	372.37	1,495.02	1,465.09	29.94	49.936		
1,300.00	1,300.00	1,287.10	1,287.10	4.46	27.71	14.42	1,447.91	372.37	1,495.02	1,462.85	32.17	46.471		
1,400.00	1,400.00	1,387.10	1,387.10	4.82	29.60	14.42	1,447.91	372.37	1,495.02	1,460.60	34.42	43.430		
1,500.00	1,500.00	1,487.10	1,487.10	5.18	31.51	14.42	1,447.91	372.37	1,495.02	1,458.33	36.69	40.745		
1,600.00	1,600.00	1,587.10	1,587.10	5.53	33.44	14.42	1,447.91	372.37	1,495.02	1,456.05	38.97	38.360		
1,700.00	1,700.00	1,687.10	1,687.10	5.89	35.38	14.42	1,447.91	372.37	1,495.02	1,453.76	41.27	36.228		
1,800.00	1,800.00	1,787.10	1,787.10	6.25	37.32	14.42	1,447.91	372.37	1,495.02	1,451.46	43.57	34.314		
1,900.00	1,900.00	1,887.10	1,887.10	6.61	39.27	14.42	1,447.91	372.37	1,495.02	1,449.14	45.88	32.586		
2,000.00	2,000.00	1,987.10	1,987.10	6.96	41.23	14.42	1,447.91	372.37	1,495.02	1,446.83	48.20	31.019		
2,100.00	2,100.00	2,087.10	2,087.10	7.32	43.20	14.42	1,447.91	372.37	1,495.02	1,444.50	50.52	29.592		
2,200.00	2,200.00	2,187.10	2,187.10	7.68	45.17	14.42	1,447.91	372.37	1,495.02	1,442.18	52.85	28.289		
2,300.00	2,300.00	2,287.10	2,287.10	8.04	47.15	14.42	1,447.91	372.37	1,495.02	1,439.84	55.18	27.093		
2,400.00	2,400.00	2,387.10	2,387.10	8.39	49.12	14.42	1,447.91	372.37	1,495.02	1,437.51	57.52	25.992		
2,500.00	2,500.00	2,487.10	2,487.10	8.75	51.11	14.42	1,447.91	372.37	1,495.02	1,435.17	59.86	24.976 CC		
2,600.00	2,599.99	2,587.09	2,587.09	9.09	53.09	160.35	1,447.91	372.37	1,495.85	1,433.66	62.19	24.054 ES		
2,700.00	2,699.96	2,687.06	2,687.06	9.42	55.08	160.38	1,447.91	372.37	1,498.31	1,433.81	64.50	23.229		
2,800.00	2,799.86	2,786.96	2,786.96	9.75	57.07	160.42	1,447.91	372.37	1,502.42	1,435.60	66.82	22.485		
2,900.00	2,899.68	2,886.78	2,886.78	10.08	59.06	160.48	1,447.91	372.37	1,508.18	1,439.04	69.14	21.814		
2,945.33	2,944.88	2,931.98	2,931.98	10.23	59.96	160.51	1,447.91	372.37	1,511.33	1,441.13	70.19	21.532		
3,000.00	2,999.39	2,986.49	2,986.49	10.41	61.05	160.57	1,447.91	372.37	1,515.33	1,443.87	71.46	21.205		
3,100.00	3,099.08	3,086.18	3,086.18	10.75	63.04	160.66	1,447.91	372.37	1,522.66	1,448.87	73.79	20.636		
3,200.00	3,198.78	3,185.88	3,185.88	11.08	65.03	160.76	1,447.91	372.37	1,529.99	1,453.87	76.11	20.101		
3,300.00	3,298.48	3,285.58	3,285.58	11.42	67.03	160.85	1,447.91	372.37	1,537.32	1,458.88	78.44	19.598		
3,400.00	3,398.18	3,385.28	3,385.28	11.76	69.02	160.95	1,447.91	372.37	1,544.66	1,463.88	80.78	19.122		
3,500.00	3,497.88	3,484.98	3,484.98	12.10	71.02	161.04	1,447.91	372.37	1,552.01	1,468.89	83.11	18.673		
3,600.00	3,597.58	3,584.68	3,584.68	12.45	73.01	161.13	1,447.91	372.37	1,559.35	1,473.90	85.45	18.248		
3,700.00	3,697.27	3,684.37	3,684.37	12.79	75.01	161.23	1,447.91	372.37	1,566.71	1,478.91	87.80	17.845		
3,800.00	3,796.97	3,784.07	3,784.07	13.14	77.01	161.32	1,447.91	372.37	1,574.06	1,483.92	90.14	17.463		
3,900.00	3,896.67	3,883.77	3,883.77	13.48	79.01	161.41	1,447.91	372.37	1,581.42	1,488.94	92.48	17.100		
4,000.00	3,996.37	3,983.47	3,983.47	13.83	81.02	161.50	1,447.91	372.37	1,588.78	1,493.95	94.83	16.754		
4,100.00	4,096.07	4,083.17	4,083.17	14.18	83.02	161.58	1,447.91	372.37	1,596.15	1,498.97	97.18	16.425		
4,200.00	4,195.76	4,182.86	4,182.86	14.53	85.02	161.67	1,447.91	372.37	1,603.52	1,504.00	99.53	16.111		
4,300.00	4,295.46	4,282.56	4,282.56	14.88	87.02	161.76	1,447.91	372.37	1,610.90	1,509.02	101.88	15.811		
4,400.00	4,395.16	4,382.26	4,382.26	15.23	89.03	161.85	1,447.91	372.37	1,618.28	1,514.04	104.23	15.526		
4,500.00	4,494.86	4,481.96	4,481.96	15.58	91.03	161.93	1,447.91	372.37	1,625.66	1,519.07	106.58	15.252		
4,600.00	4,594.56	4,581.66	4,581.66	15.93	93.04	162.02	1,447.91	372.37	1,633.04	1,524.10	108.94	14.990		
4,700.00	4,694.25	4,681.35	4,681.35	16.29	95.04	162.10	1,447.91	372.37	1,640.43	1,529.14	111.30	14.739		
4,800.00	4,793.95	4,781.05	4,781.05	16.64	97.05	162.18	1,447.91	372.37	1,647.83	1,534.17	113.65	14.499		
4,900.00	4,893.65	4,880.75	4,880.75	17.00	99.06	162.26	1,447.91	372.37	1,655.22	1,539.21	116.01	14.268		
5,000.00	4,993.35	4,980.45	4,980.45	17.35	101.06	162.35	1,447.91	372.37	1,662.62	1,544.25	118.37	14.046		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 10-INC-ONLY													Offset Well Error:	10.00 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
5,100.00	5,093.05	5,080.15	5,080.15	17.71	103.07	162.43	1,447.91	372.37	1,670.02	1,549.30	120.73	13.833		
5,200.00	5,192.75	5,179.85	5,179.85	18.06	105.08	162.51	1,447.91	372.37	1,677.43	1,554.34	123.09	13.628		
5,300.00	5,292.44	5,279.54	5,279.54	18.42	107.09	162.59	1,447.91	372.37	1,684.84	1,559.39	125.45	13.430		
5,400.00	5,392.14	5,379.24	5,379.24	18.77	109.10	162.66	1,447.91	372.37	1,692.25	1,564.44	127.81	13.240		
5,500.00	5,491.84	5,478.94	5,478.94	19.13	111.10	162.74	1,447.91	372.37	1,699.67	1,569.49	130.17	13.057		
5,600.00	5,591.54	5,578.64	5,578.64	19.49	113.11	162.82	1,447.91	372.37	1,707.08	1,574.55	132.54	12.880		
5,700.00	5,691.24	5,678.34	5,678.34	19.85	115.12	162.90	1,447.91	372.37	1,714.51	1,579.61	134.90	12.710		
5,800.00	5,790.93	5,778.03	5,778.03	20.20	117.13	162.97	1,447.91	372.37	1,721.93	1,584.67	137.26	12.545		
5,900.00	5,890.63	5,877.73	5,877.73	20.56	119.14	163.05	1,447.91	372.37	1,729.36	1,589.73	139.63	12.386		
6,000.00	5,990.33	5,977.43	5,977.43	20.92	121.15	163.12	1,447.91	372.37	1,736.79	1,594.80	141.99	12.232		
6,100.00	6,090.03	6,077.13	6,077.13	21.28	123.16	163.20	1,447.91	372.37	1,744.22	1,599.86	144.36	12.083		
6,200.00	6,189.73	6,176.83	6,176.83	21.64	125.17	163.27	1,447.91	372.37	1,751.66	1,604.93	146.72	11.939		
6,300.00	6,289.42	6,276.52	6,276.52	22.00	127.19	163.34	1,447.91	372.37	1,759.10	1,610.01	149.09	11.799		
6,400.00	6,389.12	6,376.22	6,376.22	22.36	129.20	163.41	1,447.91	372.37	1,766.54	1,615.08	151.46	11.664		
6,500.00	6,488.82	6,475.92	6,475.92	22.72	131.21	163.49	1,447.91	372.37	1,773.98	1,620.16	153.82	11.533		
6,600.00	6,588.52	6,575.62	6,575.62	23.08	133.22	163.56	1,447.91	372.37	1,781.43	1,625.24	156.19	11.405		
6,700.00	6,688.22	6,675.32	6,675.32	23.44	135.23	163.63	1,447.91	372.37	1,788.88	1,630.32	158.56	11.282		
6,800.00	6,787.91	6,775.01	6,775.01	23.80	137.24	163.70	1,447.91	372.37	1,796.33	1,635.41	160.93	11.162		
6,900.00	6,887.61	6,874.71	6,874.71	24.16	139.25	163.77	1,447.91	372.37	1,803.79	1,640.49	163.30	11.046		
7,000.00	6,987.31	6,974.41	6,974.41	24.52	141.27	163.84	1,447.91	372.37	1,811.25	1,645.58	165.66	10.933		
7,100.00	7,087.01	7,074.11	7,074.11	24.88	143.28	163.90	1,447.91	372.37	1,818.71	1,650.68	168.03	10.823		
7,200.00	7,186.71	7,173.81	7,173.81	25.24	145.29	163.97	1,447.91	372.37	1,826.17	1,655.77	170.40	10.717		
7,300.00	7,286.41	7,273.51	7,273.51	25.60	147.30	164.04	1,447.91	372.37	1,833.64	1,660.87	172.77	10.613		
7,400.00	7,386.10	7,373.20	7,373.20	25.96	149.32	164.10	1,447.91	372.37	1,841.11	1,665.96	175.14	10.512		
7,500.00	7,485.80	7,472.90	7,472.90	26.33	151.33	164.17	1,447.91	372.37	1,848.58	1,671.06	177.51	10.414		
7,600.00	7,585.50	7,572.60	7,572.60	26.69	153.34	164.24	1,447.91	372.37	1,856.05	1,676.17	179.88	10.318		
7,700.00	7,685.20	7,672.30	7,672.30	27.05	155.35	164.30	1,447.91	372.37	1,863.52	1,681.27	182.25	10.225		
7,800.00	7,784.90	7,772.00	7,772.00	27.41	157.37	164.36	1,447.91	372.37	1,871.00	1,686.38	184.62	10.134		
7,860.70	7,845.41	7,832.51	7,832.51	27.63	158.59	164.40	1,447.91	372.37	1,875.54	1,689.48	186.06	10.080		
7,900.00	7,884.61	7,871.71	7,871.71	27.77	159.38	164.44	1,447.91	372.37	1,878.29	1,691.29	187.00	10.045		
8,000.00	7,984.46	7,971.56	7,971.56	28.13	161.40	164.50	1,447.91	372.37	1,883.52	1,694.15	189.37	9.946		
8,100.00	8,084.42	8,071.52	8,071.52	28.49	163.42	164.54	1,447.91	372.37	1,886.24	1,694.49	191.74	9.837		
8,157.59	8,142.00	8,129.10	8,129.10	28.69	164.58	18.62	1,447.91	372.37	1,886.65	1,693.55	193.10	9.770		
8,200.00	8,184.41	8,171.51	8,171.51	28.83	165.44	18.62	1,447.91	372.37	1,886.65	1,692.55	194.11	9.720		
8,300.00	8,284.41	8,271.51	8,271.51	29.17	167.45	18.62	1,447.91	372.37	1,886.65	1,690.19	196.47	9.603		
8,400.00	8,384.41	8,371.51	8,371.51	29.51	169.47	18.62	1,447.91	372.37	1,886.65	1,687.83	198.83	9.489		
8,507.63	8,492.04	8,479.14	8,479.14	29.87	171.65	18.62	1,447.91	372.37	1,886.65	1,685.29	201.37	9.369		
8,550.00	8,534.37	8,521.47	8,521.47	30.02	172.50	-70.84	1,447.91	372.37	1,886.14	1,683.77	202.37	9.320		
8,600.00	8,584.01	8,571.11	8,571.11	30.18	173.51	-71.19	1,447.91	372.37	1,884.22	1,680.68	203.53	9.258		
8,650.00	8,632.95	8,620.05	8,620.05	30.34	174.49	-71.79	1,447.91	372.37	1,880.93	1,676.24	204.68	9.189		
8,700.00	8,680.82	8,667.92	8,667.92	30.50	175.46	-72.63	1,447.91	372.37	1,876.35	1,670.54	205.81	9.117		
8,750.00	8,727.25	8,714.35	8,714.35	30.66	176.40	-73.69	1,447.91	372.37	1,870.61	1,663.71	206.90	9.041		
8,800.00	8,771.89	8,758.99	8,758.99	30.81	177.30	-74.95	1,447.91	372.37	1,863.86	1,655.91	207.95	8.963		
8,850.00	8,814.40	8,801.50	8,801.50	30.95	178.16	-76.36	1,447.91	372.37	1,856.29	1,647.33	208.96	8.884		
8,900.00	8,854.46	8,841.56	8,841.56	31.09	178.97	-77.90	1,447.91	372.37	1,848.09	1,638.18	209.91	8.804		
8,950.00	8,891.75	8,878.85	8,878.85	31.23	179.72	-79.53	1,447.91	372.37	1,839.50	1,628.68	210.81	8.726		
9,000.00	8,926.01	8,913.11	8,913.11	31.37	180.41	-81.18	1,447.91	372.37	1,830.75	1,619.08	211.66	8.649		
9,050.00	8,956.96	8,944.06	8,944.06	31.53	181.04	-82.82	1,447.91	372.37	1,822.07	1,609.62	212.45	8.576		
9,100.00	8,984.38	8,971.48	8,971.48	31.69	181.59	-84.39	1,447.91	372.37	1,813.73	1,600.55	213.18	8.508		
9,150.00	9,008.05	8,995.15	8,995.15	31.87	182.07	-85.84	1,447.91	372.37	1,805.94	1,592.09	213.85	8.445		
9,200.00	9,027.79	9,014.89	9,014.89	32.07	182.47	-87.13	1,447.91	372.37	1,798.93	1,584.47	214.46	8.388		
9,250.00	9,043.45	9,030.55	9,030.55	32.29	182.79	-88.21	1,447.91	372.37	1,792.90	1,577.88	215.01	8.339		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 10-INC-ONLY													Offset Well Error:	10.00 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
9,300.00	9,054.92	9,042.02	9,042.02	32.53	183.02	-89.06	1,447.91	372.37	1,787.99	1,572.50	215.50	8.297		
9,350.00	9,062.10	9,049.20	9,049.20	32.79	183.16	-89.66	1,447.91	372.37	1,784.36	1,568.44	215.92	8.264		
9,400.00	9,064.95	9,052.05	9,052.05	33.06	183.22	-89.98	1,447.91	372.37	1,782.07	1,565.81	216.26	8.240		
9,407.63	9,065.00	9,052.10	9,052.10	33.10	183.22	-90.00	1,447.91	372.37	1,781.85	1,565.54	216.31	8.238		
9,456.68	9,065.00	9,052.10	9,052.10	33.41	183.22	-90.00	1,447.91	372.37	1,781.17	1,564.55	216.62	8.222		
9,500.00	9,065.00	9,052.10	9,052.10	33.68	183.22	-90.00	1,447.91	372.37	1,781.70	1,564.80	216.90	8.214		
9,600.00	9,065.00	9,052.10	9,052.10	34.41	183.22	-90.00	1,447.91	372.37	1,786.93	1,569.30	217.62	8.211 SF		
9,700.00	9,065.00	9,052.10	9,052.10	35.24	183.22	-90.00	1,447.91	372.37	1,797.71	1,579.29	218.42	8.231		
9,800.00	9,065.00	9,052.10	9,052.10	36.17	183.22	-90.00	1,447.91	372.37	1,813.96	1,594.69	219.26	8.273		
9,900.00	9,065.00	9,052.10	9,052.10	37.19	183.22	-90.00	1,447.91	372.37	1,835.51	1,615.38	220.13	8.338		
10,000.00	9,065.00	9,052.10	9,052.10	38.30	183.22	-90.00	1,447.91	372.37	1,862.20	1,641.18	221.01	8.426		
10,100.00	9,065.00	9,052.10	9,052.10	39.48	183.22	-90.00	1,447.91	372.37	1,893.79	1,671.90	221.88	8.535		
10,200.00	9,065.00	9,052.10	9,052.10	40.72	183.22	-90.00	1,447.91	372.37	1,930.05	1,707.32	222.73	8.665		
10,300.00	9,065.00	9,052.10	9,052.10	42.03	183.22	-90.00	1,447.91	372.37	1,970.73	1,747.18	223.55	8.816		
10,400.00	9,065.00	9,052.10	9,052.10	43.40	183.22	-90.00	1,447.91	372.37	2,015.55	1,791.23	224.32	8.985		
10,500.00	9,065.00	9,052.10	9,052.10	44.82	183.22	-90.00	1,447.91	372.37	2,064.24	1,839.20	225.05	9.173		
10,600.00	9,065.00	9,052.10	9,052.10	46.29	183.22	-90.00	1,447.91	372.37	2,116.54	1,890.82	225.72	9.377		
10,700.00	9,065.00	9,052.10	9,052.10	47.79	183.22	-90.00	1,447.91	372.37	2,172.19	1,945.84	226.35	9.597		
10,800.00	9,065.00	9,052.10	9,052.10	49.34	183.22	-90.00	1,447.91	372.37	2,230.94	2,004.01	226.93	9.831		
10,900.00	9,065.00	9,052.10	9,052.10	50.92	183.22	-90.00	1,447.91	372.37	2,292.54	2,065.08	227.46	10.079		
11,000.00	9,065.00	9,052.10	9,052.10	52.54	183.22	-90.00	1,447.91	372.37	2,356.78	2,128.83	227.95	10.339		
11,100.00	9,065.00	9,052.10	9,052.10	54.18	183.22	-90.00	1,447.91	372.37	2,423.44	2,195.05	228.39	10.611		
11,200.00	9,065.00	9,052.10	9,052.10	55.85	183.22	-90.00	1,447.91	372.37	2,492.34	2,263.54	228.80	10.893		
11,300.00	9,065.00	9,052.10	9,052.10	57.54	183.22	-90.00	1,447.91	372.37	2,563.28	2,334.11	229.17	11.185		
11,400.00	9,065.00	9,052.10	9,052.10	59.26	183.22	-90.00	1,447.91	372.37	2,636.11	2,406.61	229.50	11.486		
11,500.00	9,065.00	9,052.10	9,052.10	61.00	183.22	-90.00	1,447.91	372.37	2,710.67	2,480.87	229.80	11.796		
11,600.00	9,065.00	9,052.10	9,052.10	62.75	183.22	-90.00	1,447.91	372.37	2,786.83	2,556.75	230.08	12.112		
11,700.00	9,065.00	9,052.10	9,052.10	64.52	183.22	-90.00	1,447.91	372.37	2,864.45	2,634.12	230.33	12.436		
11,800.00	9,065.00	9,052.10	9,052.10	66.31	183.22	-90.00	1,447.91	372.37	2,943.42	2,712.86	230.56	12.766		
11,900.00	9,065.00	9,052.10	9,052.10	68.11	183.22	-90.00	1,447.91	372.37	3,023.64	2,792.87	230.77	13.103		
12,000.00	9,065.00	9,052.10	9,052.10	69.93	183.22	-90.00	1,447.91	372.37	3,105.01	2,874.05	230.96	13.444		
12,100.00	9,065.00	9,052.10	9,052.10	71.76	183.22	-90.00	1,447.91	372.37	3,187.43	2,956.30	231.13	13.791		
12,200.00	9,065.00	9,052.10	9,052.10	73.60	183.22	-90.00	1,447.91	372.37	3,270.84	3,039.55	231.29	14.142		
12,300.00	9,065.00	9,052.10	9,052.10	75.45	183.22	-90.00	1,447.91	372.37	3,355.15	3,123.72	231.43	14.497		
12,400.00	9,065.00	9,052.10	9,052.10	77.31	183.22	-90.00	1,447.91	372.37	3,440.31	3,208.74	231.57	14.857		
12,500.00	9,065.00	9,052.10	9,052.10	79.18	183.22	-90.00	1,447.91	372.37	3,526.24	3,294.55	231.69	15.220		
12,600.00	9,065.00	9,052.10	9,052.10	81.05	183.22	-90.00	1,447.91	372.37	3,612.90	3,381.10	231.80	15.586		
12,700.00	9,065.00	9,052.10	9,052.10	82.94	183.22	-90.00	1,447.91	372.37	3,700.23	3,468.33	231.91	15.956		
12,800.00	9,065.00	9,052.10	9,052.10	84.83	183.22	-90.00	1,447.91	372.37	3,788.19	3,556.19	232.00	16.328		
12,900.00	9,065.00	9,052.10	9,052.10	86.73	183.22	-90.00	1,447.91	372.37	3,876.73	3,644.64	232.09	16.703		
13,000.00	9,065.00	9,052.10	9,052.10	88.64	183.22	-90.00	1,447.91	372.37	3,965.82	3,733.64	232.18	17.081		
13,100.00	9,065.00	9,052.10	9,052.10	90.55	183.22	-90.00	1,447.91	372.37	4,055.41	3,823.16	232.26	17.461		
13,200.00	9,065.00	9,052.10	9,052.10	92.47	183.22	-90.00	1,447.91	372.37	4,145.48	3,913.15	232.33	17.843		
13,300.00	9,065.00	9,052.10	9,052.10	94.39	183.22	-90.00	1,447.91	372.37	4,236.00	4,003.60	232.40	18.227		
13,400.00	9,065.00	9,052.10	9,052.10	96.32	183.22	-90.00	1,447.91	372.37	4,326.93	4,094.47	232.47	18.613		
13,500.00	9,065.00	9,052.10	9,052.10	98.25	183.22	-90.00	1,447.91	372.37	4,418.26	4,185.73	232.53	19.001		
13,600.00	9,065.00	9,052.10	9,052.10	100.19	183.22	-90.00	1,447.91	372.37	4,509.95	4,277.37	232.59	19.390		
13,700.00	9,065.00	9,052.10	9,052.10	102.13	183.22	-90.00	1,447.91	372.37	4,601.99	4,369.35	232.65	19.781		
13,800.00	9,065.00	9,052.10	9,052.10	104.08	183.22	-90.00	1,447.91	372.37	4,694.36	4,461.66	232.70	20.173		
13,900.00	9,065.00	9,052.10	9,052.10	106.03	183.22	-90.00	1,447.91	372.37	4,787.03	4,554.28	232.75	20.567		
14,000.00	9,065.00	9,052.10	9,052.10	107.98	183.22	-90.00	1,447.91	372.37	4,879.99	4,647.19	232.80	20.962		
14,100.00	9,065.00	9,052.10	9,052.10	109.94	183.22	-90.00	1,447.91	372.37	4,973.23	4,740.38	232.85	21.358		

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 10-INC-ONLY													Offset Well Error:	10.00 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
14,200.00	9,065.00	9,052.10	9,052.10	111.90	183.22	-90.00	1,447.91	372.37	5,066.72	4,833.82	232.90	21.755		
14,300.00	9,065.00	9,052.10	9,052.10	113.86	183.22	-90.00	1,447.91	372.37	5,160.46	4,927.51	232.95	22.153		
14,400.00	9,065.00	9,052.10	9,052.10	115.82	183.22	-90.00	1,447.91	372.37	5,254.43	5,021.44	232.99	22.552		
14,500.00	9,065.00	9,052.10	9,052.10	117.79	183.22	-90.00	1,447.91	372.37	5,348.61	5,115.58	233.04	22.952		
14,600.00	9,065.00	9,052.10	9,052.10	119.76	183.22	-90.00	1,447.91	372.37	5,443.01	5,209.93	233.08	23.353		
14,700.00	9,065.00	9,052.10	9,052.10	121.74	183.22	-90.00	1,447.91	372.37	5,537.60	5,304.48	233.12	23.754		
14,800.00	9,065.00	9,052.10	9,052.10	123.71	183.22	-90.00	1,447.91	372.37	5,632.38	5,399.21	233.16	24.156		
14,900.00	9,065.00	9,052.10	9,052.10	125.69	183.22	-90.00	1,447.91	372.37	5,727.33	5,494.12	233.21	24.559		
15,000.00	9,065.00	9,052.10	9,052.10	127.67	183.22	-90.00	1,447.91	372.37	5,822.46	5,589.21	233.25	24.962		
15,100.00	9,065.00	9,052.10	9,052.10	129.65	183.22	-90.00	1,447.91	372.37	5,917.74	5,684.45	233.29	25.366		
15,200.00	9,065.00	9,052.10	9,052.10	131.63	183.22	-90.00	1,447.91	372.37	6,013.18	5,779.85	233.33	25.771		
15,300.00	9,065.00	9,052.10	9,052.10	133.62	183.22	-90.00	1,447.91	372.37	6,108.76	5,875.39	233.37	26.176		
15,400.00	9,065.00	9,052.10	9,052.10	135.61	183.22	-90.00	1,447.91	372.37	6,204.49	5,971.07	233.41	26.582		
15,500.00	9,065.00	9,052.10	9,052.10	137.60	183.22	-90.00	1,447.91	372.37	6,300.34	6,066.89	233.45	26.988		
15,600.00	9,065.00	9,052.10	9,052.10	139.59	183.22	-90.00	1,447.91	372.37	6,396.33	6,162.83	233.49	27.394		
15,700.00	9,065.00	9,052.10	9,052.10	141.58	183.22	-90.00	1,447.91	372.37	6,492.43	6,258.89	233.54	27.801		
15,800.00	9,065.00	9,052.10	9,052.10	143.57	183.22	-90.00	1,447.91	372.37	6,588.65	6,355.07	233.58	28.208		
15,900.00	9,065.00	9,052.10	9,052.10	145.57	183.22	-90.00	1,447.91	372.37	6,684.98	6,451.36	233.62	28.615		
16,000.00	9,065.00	9,052.10	9,052.10	147.56	183.22	-90.00	1,447.91	372.37	6,781.42	6,547.76	233.66	29.023		
16,100.00	9,065.00	9,052.10	9,052.10	149.56	183.22	-90.00	1,447.91	372.37	6,877.96	6,644.26	233.70	29.430		
16,200.00	9,065.00	9,052.10	9,052.10	151.56	183.22	-90.00	1,447.91	372.37	6,974.59	6,740.85	233.74	29.839		
16,300.00	9,065.00	9,052.10	9,052.10	153.56	183.22	-90.00	1,447.91	372.37	7,071.32	6,837.54	233.79	30.247		
16,400.00	9,065.00	9,052.10	9,052.10	155.56	183.22	-90.00	1,447.91	372.37	7,168.14	6,934.32	233.83	30.655		
16,500.00	9,065.00	9,052.10	9,052.10	157.57	183.22	-90.00	1,447.91	372.37	7,265.05	7,031.18	233.87	31.064		
16,600.00	9,065.00	9,052.10	9,052.10	159.57	183.22	-90.00	1,447.91	372.37	7,362.04	7,128.12	233.92	31.473		
16,700.00	9,065.00	9,052.10	9,052.10	161.57	183.22	-90.00	1,447.91	372.37	7,459.11	7,225.15	233.96	31.882		
16,800.00	9,065.00	9,052.10	9,052.10	163.58	183.22	-90.00	1,447.91	372.37	7,556.25	7,322.25	234.00	32.291		
16,900.00	9,065.00	9,052.10	9,052.10	165.59	183.22	-90.00	1,447.91	372.37	7,653.47	7,419.42	234.05	32.700		
17,000.00	9,065.00	9,052.10	9,052.10	167.60	183.22	-90.00	1,447.91	372.37	7,750.76	7,516.67	234.09	33.109		
17,100.00	9,065.00	9,052.10	9,052.10	169.60	183.22	-90.00	1,447.91	372.37	7,848.12	7,613.98	234.14	33.519		
17,200.00	9,065.00	9,052.10	9,052.10	171.61	183.22	-90.00	1,447.91	372.37	7,945.54	7,711.35	234.19	33.928		
17,300.00	9,065.00	9,052.10	9,052.10	173.62	183.22	-90.00	1,447.91	372.37	8,043.03	7,808.79	234.23	34.338		
17,400.00	9,065.00	9,052.10	9,052.10	175.63	183.22	-90.00	1,447.91	372.37	8,140.57	7,906.29	234.28	34.747		
17,500.00	9,065.00	9,052.10	9,052.10	177.65	183.22	-90.00	1,447.91	372.37	8,238.18	8,003.85	234.33	35.157		
17,600.00	9,065.00	9,052.10	9,052.10	179.66	183.22	-90.00	1,447.91	372.37	8,335.84	8,101.47	234.38	35.566		
17,700.00	9,065.00	9,052.10	9,052.10	181.67	183.22	-90.00	1,447.91	372.37	8,433.56	8,199.13	234.43	35.975		
17,800.00	9,065.00	9,052.10	9,052.10	183.69	183.22	-90.00	1,447.91	372.37	8,531.33	8,296.86	234.47	36.385		
17,900.00	9,065.00	9,052.10	9,052.10	185.70	183.22	-90.00	1,447.91	372.37	8,629.15	8,394.63	234.52	36.794		
18,000.00	9,065.00	9,052.10	9,052.10	187.72	183.22	-90.00	1,447.91	372.37	8,727.02	8,492.45	234.57	37.204		
18,100.00	9,065.00	9,052.10	9,052.10	189.73	183.22	-90.00	1,447.91	372.37	8,824.94	8,590.32	234.63	37.613		
18,200.00	9,065.00	9,052.10	9,052.10	191.75	183.22	-90.00	1,447.91	372.37	8,922.91	8,688.23	234.68	38.022		
18,300.00	9,065.00	9,052.10	9,052.10	193.77	183.22	-90.00	1,447.91	372.37	9,020.92	8,786.19	234.73	38.431		
18,400.00	9,065.00	9,052.10	9,052.10	195.78	183.22	-90.00	1,447.91	372.37	9,118.97	8,884.19	234.78	38.840		
18,500.00	9,065.00	9,052.10	9,052.10	197.80	183.22	-90.00	1,447.91	372.37	9,217.06	8,982.23	234.83	39.249		
18,600.00	9,065.00	9,052.10	9,052.10	199.82	183.22	-90.00	1,447.91	372.37	9,315.20	9,080.31	234.89	39.658		
18,700.00	9,065.00	9,052.10	9,052.10	201.84	183.22	-90.00	1,447.91	372.37	9,413.37	9,178.43	234.94	40.067		
18,800.00	9,065.00	9,052.10	9,052.10	203.86	183.22	-90.00	1,447.91	372.37	9,511.58	9,276.59	235.00	40.475		
18,900.00	9,065.00	9,052.10	9,052.10	205.88	183.22	-90.00	1,447.91	372.37	9,609.83	9,374.78	235.05	40.884		
19,000.00	9,065.00	9,052.10	9,052.10	207.90	183.22	-90.00	1,447.91	372.37	9,708.12	9,473.01	235.11	41.292		
19,100.00	9,065.00	9,052.10	9,052.10	209.92	183.22	-90.00	1,447.91	372.37	9,806.44	9,571.27	235.16	41.700		
19,200.00	9,065.00	9,052.10	9,052.10	211.95	183.22	-90.00	1,447.91	372.37	9,904.79	9,669.57	235.22	42.108		

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 0-MWD+IFR1													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0.00	0.00	12.40	12.40	0.50	0.50	-0.13	1,618.68	-3.59	1,618.69					
100.00	100.00	112.40	112.40	0.52	0.53	-0.13	1,618.68	-3.59	1,618.69	1,617.64	1.05	1,543.386		
200.00	200.00	212.40	212.40	0.70	0.73	-0.13	1,618.68	-3.59	1,618.69	1,617.25	1.44	1,127.145		
300.00	300.00	312.40	312.40	0.99	1.03	-0.13	1,618.68	-3.59	1,618.69	1,616.67	2.01	804.018		
400.00	400.00	412.40	412.40	1.31	1.35	-0.13	1,618.68	-3.59	1,618.69	1,616.03	2.66	608.674		
500.00	500.00	512.40	512.40	1.65	1.69	-0.13	1,618.68	-3.59	1,618.69	1,615.35	3.33	485.425		
600.00	600.00	612.40	612.40	1.99	2.03	-0.13	1,618.68	-3.59	1,618.69	1,614.66	4.02	402.232		
700.00	700.00	712.40	712.40	2.34	2.38	-0.13	1,618.68	-3.59	1,618.69	1,613.97	4.72	342.792		
800.00	800.00	812.40	812.40	2.69	2.73	-0.13	1,618.68	-3.59	1,618.69	1,613.26	5.42	298.382		
900.00	900.00	912.40	912.40	3.04	3.09	-0.13	1,618.68	-3.59	1,618.69	1,612.56	6.13	264.019		
1,000.00	1,000.00	1,012.40	1,012.40	3.40	3.44	-0.13	1,618.68	-3.59	1,618.69	1,611.85	6.84	236.675		
1,100.00	1,100.00	1,112.40	1,112.40	3.75	3.80	-0.13	1,618.68	-3.59	1,618.69	1,611.14	7.55	214.417		
1,200.00	1,200.00	1,212.40	1,212.40	4.11	4.15	-0.13	1,618.68	-3.59	1,618.69	1,610.43	8.26	195.957		
1,300.00	1,300.00	1,312.40	1,312.40	4.46	4.51	-0.13	1,618.68	-3.59	1,618.69	1,609.71	8.97	180.405		
1,400.00	1,400.00	1,412.40	1,412.40	4.82	4.86	-0.13	1,618.68	-3.59	1,618.69	1,609.00	9.69	167.128		
1,500.00	1,500.00	1,512.40	1,512.40	5.18	5.22	-0.13	1,618.68	-3.59	1,618.69	1,608.29	10.40	155.662		
1,600.00	1,600.00	1,612.40	1,612.40	5.53	5.58	-0.13	1,618.68	-3.59	1,618.69	1,607.57	11.11	145.663		
1,700.00	1,700.00	1,712.40	1,712.40	5.89	5.94	-0.13	1,618.68	-3.59	1,618.69	1,606.86	11.83	136.867		
1,800.00	1,800.00	1,812.40	1,812.40	6.25	6.29	-0.13	1,618.68	-3.59	1,618.69	1,606.15	12.54	129.069		
1,900.00	1,900.00	1,912.40	1,912.40	6.61	6.65	-0.13	1,618.68	-3.59	1,618.69	1,605.43	13.26	122.109		
1,911.95	1,911.95	1,924.35	1,924.35	6.65	6.69	-0.13	1,618.68	-3.59	1,618.69	1,605.35	13.34	121.327	CC	
2,000.00	2,000.00	2,009.71	2,009.71	6.96	7.00	-0.13	1,618.69	-3.59	1,618.70	1,604.74	13.96	115.941	ES	
2,100.00	2,100.00	2,088.03	2,088.03	7.32	7.28	-0.13	1,619.35	-3.73	1,619.53	1,604.94	14.60	110.945		
2,200.00	2,200.00	2,166.32	2,166.29	7.68	7.56	-0.14	1,621.05	-4.08	1,621.71	1,606.48	15.23	106.471		
2,300.00	2,300.00	2,244.54	2,244.46	8.04	7.84	-0.16	1,623.79	-4.65	1,625.22	1,609.36	15.86	102.457		
2,400.00	2,400.00	2,322.67	2,322.50	8.39	8.12	-0.19	1,627.58	-5.44	1,630.07	1,613.58	16.49	98.849		
2,500.00	2,500.00	2,400.00	2,399.68	8.75	8.39	-0.23	1,632.35	-6.43	1,636.25	1,619.14	17.11	95.618		
2,600.00	2,599.99	2,478.50	2,477.95	9.09	8.67	145.62	1,638.24	-7.65	1,644.48	1,626.76	17.72	92.804		
2,700.00	2,699.96	2,556.02	2,555.14	9.42	8.95	145.55	1,645.08	-9.07	1,655.47	1,637.16	18.31	90.434		
2,800.00	2,799.86	2,633.14	2,631.85	9.75	9.23	145.48	1,652.90	-10.70	1,669.19	1,650.30	18.89	88.368		
2,900.00	2,899.68	2,709.78	2,707.97	10.08	9.50	145.42	1,661.67	-12.52	1,685.64	1,666.17	19.47	86.582		
2,945.33	2,944.88	2,744.34	2,742.25	10.23	9.62	145.39	1,665.95	-13.41	1,693.99	1,674.26	19.73	85.856		
3,000.00	2,999.39	2,785.89	2,783.43	10.41	9.77	145.42	1,671.37	-14.54	1,704.58	1,684.54	20.04	85.040		
3,100.00	3,099.08	2,861.59	2,858.35	10.75	10.04	145.46	1,681.99	-16.74	1,724.94	1,704.33	20.62	83.673		
3,200.00	3,198.78	2,936.88	2,932.71	11.08	10.31	145.49	1,693.51	-19.14	1,746.56	1,725.38	21.18	82.452		
3,300.00	3,298.48	3,011.73	3,006.48	11.42	10.58	145.51	1,705.91	-21.71	1,769.44	1,747.69	21.75	81.368		
3,400.00	3,398.18	3,086.12	3,079.63	11.76	10.85	145.53	1,719.17	-24.47	1,793.55	1,771.24	22.31	80.408		
3,500.00	3,497.88	3,173.18	3,165.05	12.10	11.16	145.55	1,735.61	-27.88	1,818.69	1,795.76	22.93	79.300		
3,600.00	3,597.58	3,269.93	3,259.97	12.45	11.51	145.56	1,753.98	-31.70	1,843.94	1,820.32	23.62	78.069		
3,700.00	3,697.27	3,366.69	3,354.89	12.79	11.86	145.57	1,772.34	-35.51	1,869.20	1,844.89	24.31	76.901		
3,800.00	3,796.97	3,463.45	3,449.82	13.14	12.21	145.59	1,790.71	-39.33	1,894.45	1,869.45	25.00	75.790		
3,900.00	3,896.67	3,560.21	3,544.74	13.48	12.57	145.60	1,809.07	-43.14	1,919.70	1,894.02	25.69	74.732		
4,000.00	3,896.37	3,656.97	3,639.66	13.83	12.93	145.61	1,827.44	-46.96	1,944.96	1,918.58	26.38	73.725		
4,100.00	4,096.07	3,753.72	3,734.58	14.18	13.28	145.63	1,845.80	-50.77	1,970.21	1,943.14	27.08	72.765		
4,200.00	4,195.76	3,850.48	3,829.50	14.53	13.64	145.64	1,864.17	-54.59	1,995.47	1,967.69	27.77	71.849		
4,300.00	4,295.46	3,947.24	3,924.43	14.88	14.00	145.65	1,882.53	-58.40	2,020.72	1,992.25	28.47	70.973		
4,400.00	4,395.16	4,044.00	4,019.35	15.23	14.36	145.66	1,900.90	-62.22	2,045.98	2,016.80	29.17	70.137		
4,500.00	4,494.86	4,140.75	4,114.27	15.58	14.72	145.68	1,919.26	-66.03	2,071.23	2,041.36	29.87	69.336		
4,600.00	4,594.56	4,237.51	4,209.19	15.93	15.08	145.69	1,937.63	-69.85	2,096.48	2,065.91	30.57	68.569		
4,700.00	4,694.25	4,334.27	4,304.12	16.29	15.44	145.70	1,955.99	-73.66	2,121.74	2,090.46	31.28	67.835		
4,800.00	4,793.95	4,431.03	4,399.04	16.64	15.81	145.71	1,974.36	-77.48	2,146.99	2,115.01	31.98	67.130		
4,900.00	4,893.65	4,527.79	4,493.96	17.00	16.17	145.72	1,992.72	-81.29	2,172.25	2,139.56	32.69	66.454		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 0-MWD+IFR1													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
5,000.00	4,993.35	4,624.54	4,588.88	17.35	16.54	145.73	2,011.09	-85.11	2,197.50	2,164.11	33.39	65.804		
5,100.00	5,093.05	4,721.30	4,683.81	17.71	16.90	145.74	2,029.45	-88.92	2,222.76	2,188.66	34.10	65.180		
5,200.00	5,192.75	4,818.06	4,778.73	18.06	17.27	145.75	2,047.82	-92.74	2,248.01	2,213.20	34.81	64.579		
5,300.00	5,292.44	4,914.82	4,873.65	18.42	17.63	145.76	2,066.18	-96.55	2,273.27	2,237.75	35.52	64.001		
5,400.00	5,392.14	5,011.57	4,968.57	18.77	18.00	145.77	2,084.55	-100.37	2,298.52	2,262.29	36.23	63.444		
5,500.00	5,491.84	5,108.33	5,063.49	19.13	18.36	145.78	2,102.91	-104.18	2,323.78	2,286.84	36.94	62.908		
5,600.00	5,591.54	5,205.09	5,158.42	19.49	18.73	145.79	2,121.28	-108.00	2,349.03	2,311.38	37.65	62.390		
5,700.00	5,691.24	5,301.85	5,253.34	19.85	19.10	145.79	2,139.64	-111.81	2,374.29	2,335.92	38.36	61.891		
5,800.00	5,790.93	5,401.40	5,348.26	20.20	19.48	145.80	2,158.01	-115.63	2,399.54	2,360.46	39.09	61.392		
5,900.00	5,890.63	5,504.64	5,443.18	20.56	19.87	145.81	2,176.37	-119.45	2,424.80	2,384.97	39.82	60.889		
6,000.00	5,990.33	5,592.12	5,538.11	20.92	20.20	145.82	2,194.73	-123.26	2,450.05	2,409.55	40.50	60.492		
6,100.00	6,090.03	5,688.88	5,633.03	21.28	20.57	145.83	2,213.10	-127.08	2,475.31	2,434.09	41.22	60.057		
6,200.00	6,189.73	5,785.64	5,727.95	21.64	20.94	145.84	2,231.46	-130.89	2,500.56	2,458.63	41.93	59.636		
6,300.00	6,289.42	5,882.39	5,822.87	22.00	21.31	145.84	2,249.83	-134.71	2,525.82	2,483.17	42.65	59.228		
6,400.00	6,389.12	5,979.15	5,917.79	22.36	21.68	145.85	2,268.19	-138.52	2,551.07	2,507.71	43.36	58.832		
6,500.00	6,488.82	6,075.91	6,012.72	22.72	22.05	145.86	2,286.56	-142.34	2,576.33	2,532.25	44.08	58.450		
6,600.00	6,588.52	6,172.67	6,107.64	23.08	22.42	145.87	2,304.92	-146.15	2,601.59	2,556.79	44.79	58.078		
6,700.00	6,688.22	6,269.42	6,202.56	23.44	22.79	145.87	2,323.29	-149.97	2,626.84	2,581.33	45.51	57.718		
6,800.00	6,787.91	6,366.18	6,297.48	23.80	23.16	145.88	2,341.65	-153.78	2,652.10	2,605.87	46.23	57.369		
6,900.00	6,887.61	6,462.94	6,392.41	24.16	23.53	145.89	2,360.02	-157.60	2,677.35	2,630.41	46.95	57.029		
7,000.00	6,987.31	6,559.70	6,487.33	24.52	23.90	145.89	2,378.38	-161.41	2,702.61	2,654.94	47.67	56.700		
7,100.00	7,087.01	6,656.45	6,582.25	24.88	24.27	145.90	2,396.75	-165.23	2,727.86	2,679.48	48.38	56.380		
7,200.00	7,186.71	6,753.21	6,677.17	25.24	24.64	145.91	2,415.11	-169.04	2,753.12	2,704.02	49.10	56.069		
7,300.00	7,286.41	6,849.97	6,772.09	25.60	25.01	145.91	2,433.48	-172.86	2,778.37	2,728.55	49.82	55.766		
7,400.00	7,386.10	6,946.73	6,867.02	25.96	25.38	145.92	2,451.84	-176.67	2,803.63	2,753.09	50.54	55.472		
7,500.00	7,485.80	7,043.49	6,961.94	26.33	25.75	145.93	2,470.21	-180.49	2,828.89	2,777.62	51.26	55.185		
7,600.00	7,585.50	7,140.24	7,056.86	26.69	26.12	145.93	2,488.57	-184.30	2,854.14	2,802.16	51.98	54.906		
7,700.00	7,685.20	7,237.00	7,151.78	27.05	26.50	145.94	2,506.94	-188.12	2,879.40	2,826.70	52.70	54.635		
7,800.00	7,784.90	7,333.76	7,246.71	27.41	26.87	145.94	2,525.30	-191.93	2,904.65	2,851.23	53.42	54.370		
7,860.70	7,845.41	7,407.51	7,304.33	27.63	27.15	145.95	2,536.45	-194.25	2,919.99	2,866.07	53.92	54.155		
7,900.00	7,884.61	7,430.56	7,341.67	27.77	27.24	146.03	2,543.67	-195.75	2,929.75	2,875.60	54.15	54.109		
8,000.00	7,984.46	7,527.78	7,437.05	28.13	27.61	146.21	2,562.13	-199.58	2,953.12	2,898.26	54.87	53.823		
8,100.00	8,084.42	7,625.46	7,532.87	28.49	27.99	146.34	2,580.67	-203.43	2,974.38	2,918.79	55.59	53.506		
8,157.59	8,142.00	7,681.89	7,588.24	28.69	28.21	0.48	2,591.38	-205.66	2,985.65	2,929.65	56.00	53.314		
8,200.00	8,184.41	7,723.50	7,629.06	28.83	28.37	0.44	2,599.28	-207.30	2,993.69	2,937.39	56.30	53.171		
8,300.00	8,284.41	7,821.61	7,725.30	29.17	28.74	0.36	2,617.90	-211.17	3,012.66	2,955.65	57.01	52.840		
8,400.00	8,384.41	7,919.71	7,821.54	29.51	29.12	0.29	2,636.52	-215.04	3,031.64	2,973.91	57.73	52.517		
8,507.63	8,492.04	8,025.29	7,925.12	29.87	29.53	0.21	2,656.56	-219.20	3,052.06	2,993.57	58.49	52.177		
8,550.00	8,534.37	8,066.77	7,965.81	30.02	29.69	-88.41	2,664.43	-220.84	3,060.08	3,001.28	58.79	52.047		
8,600.00	8,584.01	8,115.25	8,013.37	30.18	29.87	-87.60	2,673.63	-222.75	3,069.43	3,010.29	59.14	51.897		
8,650.00	8,632.95	8,162.88	8,060.10	30.34	30.06	-86.89	2,682.67	-224.63	3,078.64	3,019.16	59.49	51.753		
8,700.00	8,680.82	8,209.30	8,105.64	30.50	30.24	-86.26	2,691.48	-226.46	3,087.69	3,027.86	59.82	51.615		
8,750.00	8,727.25	8,254.16	8,149.64	30.66	30.41	-85.71	2,700.00	-228.22	3,096.56	3,036.41	60.15	51.484		
8,800.00	8,771.89	8,302.89	8,191.78	30.81	30.60	-85.22	2,708.15	-229.92	3,105.27	3,044.79	60.48	51.342		
8,850.00	8,814.40	8,337.83	8,231.73	30.95	30.73	-84.78	2,715.88	-231.52	3,113.84	3,053.07	60.76	51.246		
8,900.00	8,854.46	8,379.36	8,272.48	31.09	30.89	-84.41	2,723.76	-232.91	3,122.28	3,061.21	61.07	51.123		
8,950.00	8,891.75	8,428.20	8,320.39	31.23	31.07	-84.16	2,733.05	-231.32	3,130.54	3,069.11	61.43	50.959		
9,000.00	8,926.01	8,481.00	8,371.82	31.37	31.27	-83.99	2,743.05	-224.94	3,138.52	3,076.70	61.82	50.770		
9,050.00	8,956.96	8,538.80	8,427.18	31.53	31.46	-83.89	2,753.85	-212.46	3,146.16	3,083.92	62.24	50.550		
9,100.00	8,984.38	8,602.94	8,486.82	31.69	31.67	-83.90	2,765.52	-192.04	3,153.37	3,090.68	62.70	50.297		
9,150.00	9,008.05	8,675.12	8,550.76	31.87	31.88	-84.01	2,778.09	-161.11	3,160.05	3,096.86	63.19	50.005		
9,200.00	9,027.79	8,757.41	8,618.32	32.07	32.10	-84.24	2,791.45	-116.19	3,166.07	3,102.33	63.74	49.672		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 0-MWD+IFR1													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
9,250.00	9,043.45	8,852.07	8,687.27	32.29	32.31	-84.57	2,805.18	-52.97	3,171.26	3,106.92	64.34	49.289		
9,300.00	9,054.92	9,300.00	8,740.72	32.53	33.68	-84.82	2,815.94	15.07	3,175.38	3,109.13	66.25	47.933		
9,350.00	9,062.10	9,084.63	8,806.13	32.79	32.99	-85.37	2,829.37	143.59	3,178.23	3,112.41	65.81	48.291		
9,400.00	9,064.95	9,220.16	8,836.46	33.06	33.63	-85.66	2,836.03	275.19	3,179.51	3,112.75	66.76	47.623		
9,407.63	9,065.00	9,241.51	8,838.42	33.10	33.74	-85.69	2,836.53	296.44	3,179.56	3,112.64	66.92	47.512		
9,500.00	9,065.00	9,361.59	8,840.00	33.68	34.45	-85.72	2,837.55	416.48	3,179.16	3,110.95	68.21	46.606		
9,600.00	9,065.00	9,461.59	8,840.00	34.41	35.16	-85.72	2,838.14	516.47	3,178.66	3,109.01	69.65	45.639		
9,700.00	9,065.00	9,561.59	8,840.00	35.24	35.96	-85.72	2,838.74	616.47	3,178.15	3,106.86	71.29	44.582		
9,800.00	9,065.00	9,661.59	8,840.00	36.17	36.87	-85.72	2,839.33	716.47	3,177.64	3,104.53	73.12	43.459		
9,900.00	9,065.00	9,761.59	8,840.00	37.19	37.86	-85.71	2,839.92	816.47	3,177.14	3,102.01	75.13	42.291		
10,000.00	9,065.00	9,861.59	8,840.00	38.30	38.93	-85.71	2,840.52	916.46	3,176.63	3,099.33	77.30	41.096		
10,100.00	9,065.00	9,961.58	8,840.00	39.48	40.08	-85.71	2,841.11	1,016.46	3,176.13	3,096.51	79.62	39.891		
10,200.00	9,065.00	10,061.58	8,840.00	40.72	41.29	-85.71	2,841.70	1,116.46	3,175.62	3,093.54	82.08	38.690		
10,300.00	9,065.00	10,161.58	8,840.00	42.03	42.57	-85.71	2,842.30	1,216.45	3,175.12	3,090.45	84.66	37.503		
10,400.00	9,065.00	10,261.58	8,840.00	43.40	43.91	-85.71	2,842.89	1,316.45	3,174.61	3,087.25	87.36	36.338		
10,500.00	9,065.00	10,361.58	8,840.00	44.82	45.30	-85.71	2,843.48	1,416.45	3,174.10	3,083.94	90.17	35.203		
10,600.00	9,065.00	10,461.58	8,840.00	46.29	46.74	-85.71	2,844.08	1,516.44	3,173.60	3,080.53	93.06	34.101		
10,700.00	9,065.00	10,561.58	8,840.00	47.79	48.23	-85.71	2,844.67	1,616.44	3,173.09	3,077.04	96.05	33.036		
10,800.00	9,065.00	10,661.58	8,840.00	49.34	49.75	-85.71	2,845.27	1,716.44	3,172.59	3,073.47	99.11	32.010		
10,900.00	9,065.00	10,761.57	8,840.00	50.92	51.31	-85.71	2,845.86	1,816.43	3,172.08	3,069.84	102.25	31.024		
11,000.00	9,065.00	10,861.57	8,840.00	52.54	52.90	-85.71	2,846.45	1,916.43	3,171.58	3,066.13	105.44	30.078		
11,100.00	9,065.00	10,961.57	8,840.00	54.18	54.52	-85.71	2,847.05	2,016.43	3,171.07	3,062.37	108.70	29.172		
11,200.00	9,065.00	11,061.57	8,840.00	55.85	56.17	-85.71	2,847.64	2,116.43	3,170.56	3,058.55	112.01	28.305		
11,300.00	9,065.00	11,161.57	8,840.00	57.54	57.85	-85.71	2,848.23	2,216.42	3,170.06	3,054.68	115.38	27.476		
11,400.00	9,065.00	11,261.57	8,840.00	59.26	59.55	-85.70	2,848.83	2,316.42	3,169.55	3,050.77	118.78	26.684		
11,500.00	9,065.00	11,361.57	8,840.00	61.00	61.27	-85.70	2,849.42	2,416.42	3,169.05	3,046.82	122.23	25.927		
11,600.00	9,065.00	11,461.57	8,840.00	62.75	63.01	-85.70	2,850.01	2,516.41	3,168.54	3,042.82	125.72	25.204		
11,700.00	9,065.00	11,561.56	8,840.00	64.52	64.76	-85.70	2,850.61	2,616.41	3,168.04	3,038.80	129.24	24.513		
11,800.00	9,065.00	11,661.56	8,840.00	66.31	66.54	-85.70	2,851.20	2,716.41	3,167.53	3,034.74	132.79	23.854		
11,900.00	9,065.00	11,761.56	8,840.00	68.11	68.33	-85.70	2,851.79	2,816.40	3,167.02	3,030.65	136.37	23.223		
12,000.00	9,065.00	11,861.56	8,840.00	69.93	70.13	-85.70	2,852.39	2,916.40	3,166.52	3,026.53	139.98	22.621		
12,100.00	9,065.00	11,961.56	8,840.00	71.76	71.95	-85.70	2,852.98	3,016.40	3,166.01	3,022.39	143.62	22.045		
12,200.00	9,065.00	12,061.56	8,840.00	73.60	73.77	-85.70	2,853.57	3,116.40	3,165.51	3,018.23	147.28	21.493		
12,300.00	9,065.00	12,161.56	8,840.00	75.45	75.61	-85.70	2,854.17	3,216.39	3,165.00	3,014.04	150.96	20.966		
12,400.00	9,065.00	12,261.56	8,840.00	77.31	77.46	-85.70	2,854.76	3,316.39	3,164.50	3,009.84	154.66	20.461		
12,500.00	9,065.00	12,361.55	8,840.00	79.18	79.32	-85.70	2,855.35	3,416.39	3,163.99	3,005.61	158.38	19.977		
12,600.00	9,065.00	12,461.55	8,840.00	81.05	81.19	-85.70	2,855.95	3,516.38	3,163.48	3,001.37	162.12	19.514		
12,700.00	9,065.00	12,561.55	8,840.00	82.94	83.07	-85.70	2,856.54	3,616.38	3,162.98	2,997.11	165.87	19.069		
12,800.00	9,065.00	12,661.55	8,840.00	84.83	84.95	-85.69	2,857.13	3,716.38	3,162.47	2,992.84	169.64	18.643		
12,900.00	9,065.00	12,761.55	8,840.00	86.73	86.84	-85.69	2,857.73	3,816.37	3,161.97	2,988.55	173.42	18.233		
13,000.00	9,065.00	12,861.55	8,840.00	88.64	88.74	-85.69	2,858.32	3,916.37	3,161.46	2,984.25	177.22	17.840		
13,100.00	9,065.00	12,961.55	8,840.00	90.55	90.65	-85.69	2,858.91	4,016.37	3,160.96	2,979.93	181.02	17.462		
13,200.00	9,065.00	13,061.54	8,840.00	92.47	92.56	-85.69	2,859.51	4,116.36	3,160.45	2,975.61	184.84	17.098		
13,300.00	9,065.00	13,161.54	8,840.00	94.39	94.48	-85.69	2,860.10	4,216.36	3,159.94	2,971.27	188.68	16.748		
13,400.00	9,065.00	13,261.54	8,840.00	96.32	96.40	-85.69	2,860.69	4,316.36	3,159.44	2,966.92	192.52	16.411		
13,500.00	9,065.00	13,361.54	8,840.00	98.25	98.32	-85.69	2,861.29	4,416.36	3,158.93	2,962.56	196.37	16.087		
13,600.00	9,065.00	13,461.54	8,840.00	100.19	100.26	-85.69	2,861.88	4,516.35	3,158.43	2,958.20	200.23	15.774		
13,700.00	9,065.00	13,561.54	8,840.00	102.13	102.19	-85.69	2,862.47	4,616.35	3,157.92	2,953.82	204.10	15.473		
13,800.00	9,065.00	13,661.54	8,840.00	104.08	104.13	-85.69	2,863.07	4,716.35	3,157.42	2,949.44	207.97	15.182		
13,900.00	9,065.00	13,761.54	8,840.00	106.03	106.08	-85.69	2,863.66	4,816.34	3,156.91	2,945.05	211.86	14.901		
14,000.00	9,065.00	13,861.53	8,840.00	107.98	108.03	-85.69	2,864.25	4,916.34	3,156.40	2,940.65	215.75	14.630		
14,100.00	9,065.00	13,961.53	8,840.00	109.94	109.98	-85.69	2,864.85	5,016.34	3,155.90	2,936.25	219.65	14.368		

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 0-MWD+IFR1													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
14,200.00	9,065.00	14,061.53	8,840.00	111.90	111.93	-85.69	2,865.44	5,116.33	3,155.39	2,931.84	223.56	14.115		
14,300.00	9,065.00	14,161.53	8,840.00	113.86	113.89	-85.68	2,866.03	5,216.33	3,154.89	2,927.42	227.47	13.870		
14,400.00	9,065.00	14,261.53	8,840.00	115.82	115.85	-85.68	2,866.63	5,316.33	3,154.38	2,923.00	231.38	13.633		
14,500.00	9,065.00	14,361.53	8,840.00	117.79	117.82	-85.68	2,867.22	5,416.33	3,153.88	2,918.57	235.31	13.403		
14,600.00	9,065.00	14,461.53	8,840.00	119.76	119.78	-85.68	2,867.81	5,516.32	3,153.37	2,914.13	239.24	13.181		
14,700.00	9,065.00	14,561.53	8,840.00	121.74	121.75	-85.68	2,868.41	5,616.32	3,152.86	2,909.69	243.17	12.966		
14,800.00	9,065.00	14,661.52	8,840.00	123.71	123.73	-85.68	2,869.00	5,716.32	3,152.36	2,905.25	247.11	12.757		
14,900.00	9,065.00	14,761.52	8,840.00	125.69	125.70	-85.68	2,869.59	5,816.31	3,151.85	2,900.80	251.05	12.555		
15,000.00	9,065.00	14,861.52	8,840.00	127.67	127.68	-85.68	2,870.19	5,916.31	3,151.35	2,896.35	255.00	12.358		
15,100.00	9,065.00	14,961.52	8,840.00	129.65	129.66	-85.68	2,870.78	6,016.31	3,150.84	2,891.89	258.95	12.168		
15,200.00	9,065.00	15,061.52	8,840.00	131.63	131.64	-85.68	2,871.37	6,116.30	3,150.34	2,887.43	262.91	11.983		
15,300.00	9,065.00	15,161.52	8,840.00	133.62	133.62	-85.68	2,871.97	6,216.30	3,149.83	2,882.97	266.86	11.803		
15,400.00	9,065.00	15,261.52	8,840.00	135.61	135.60	-85.68	2,872.56	6,316.30	3,149.32	2,878.50	270.83	11.629		
15,500.00	9,065.00	15,361.52	8,840.00	137.60	137.59	-85.68	2,873.15	6,416.29	3,148.82	2,874.02	274.79	11.459		
15,600.00	9,065.00	15,461.51	8,840.00	139.59	139.58	-85.68	2,873.75	6,516.29	3,148.31	2,869.55	278.76	11.294		
15,700.00	9,065.00	15,561.51	8,840.00	141.58	141.57	-85.67	2,874.34	6,616.29	3,147.81	2,865.07	282.74	11.133		
15,800.00	9,065.00	15,661.51	8,840.00	143.57	143.56	-85.67	2,874.94	6,716.29	3,147.30	2,860.59	286.71	10.977		
15,900.00	9,065.00	15,761.51	8,840.00	145.57	145.55	-85.67	2,875.53	6,816.28	3,146.80	2,856.10	290.69	10.825		
16,000.00	9,065.00	15,861.51	8,840.00	147.56	147.55	-85.67	2,876.12	6,916.28	3,146.29	2,851.62	294.67	10.677		
16,100.00	9,065.00	15,961.51	8,840.00	149.56	149.54	-85.67	2,876.72	7,016.28	3,145.78	2,847.13	298.66	10.533		
16,200.00	9,065.00	16,061.51	8,840.00	151.56	151.54	-85.67	2,877.31	7,116.27	3,145.28	2,842.63	302.65	10.393		
16,300.00	9,065.00	16,161.51	8,840.00	153.56	153.54	-85.67	2,877.90	7,216.27	3,144.77	2,838.14	306.63	10.256		
16,400.00	9,065.00	16,261.50	8,840.00	155.56	155.54	-85.67	2,878.50	7,316.27	3,144.27	2,833.64	310.63	10.122		
16,500.00	9,065.00	16,361.50	8,840.00	157.57	157.54	-85.67	2,879.09	7,416.26	3,143.76	2,829.14	314.62	9.992		
16,600.00	9,065.00	16,461.50	8,840.00	159.57	159.54	-85.67	2,879.68	7,516.26	3,143.26	2,824.64	318.62	9.865		
16,700.00	9,065.00	16,561.50	8,840.00	161.57	161.55	-85.67	2,880.28	7,616.26	3,142.75	2,820.13	322.62	9.741		
16,800.00	9,065.00	16,661.50	8,840.00	163.58	163.55	-85.67	2,880.87	7,716.26	3,142.24	2,815.63	326.62	9.621		
16,900.00	9,065.00	16,761.50	8,840.00	165.59	165.56	-85.67	2,881.46	7,816.25	3,141.74	2,811.12	330.62	9.503		
17,000.00	9,065.00	16,861.50	8,840.00	167.60	167.56	-85.67	2,882.06	7,916.25	3,141.23	2,806.61	334.62	9.387		
17,100.00	9,065.00	16,961.49	8,840.00	169.60	169.57	-85.66	2,882.65	8,016.25	3,140.73	2,802.10	338.63	9.275		
17,200.00	9,065.00	17,061.49	8,840.00	171.61	171.58	-85.66	2,883.24	8,116.24	3,140.22	2,797.58	342.64	9.165		
17,300.00	9,065.00	17,161.49	8,840.00	173.62	173.59	-85.66	2,883.84	8,216.24	3,139.72	2,793.07	346.65	9.057		
17,400.00	9,065.00	17,261.49	8,840.00	175.63	175.60	-85.66	2,884.43	8,316.24	3,139.21	2,788.55	350.66	8.952		
17,500.00	9,065.00	17,361.49	8,840.00	177.65	177.61	-85.66	2,885.02	8,416.23	3,138.70	2,784.03	354.67	8.850		
17,600.00	9,065.00	17,461.49	8,840.00	179.66	179.62	-85.66	2,885.62	8,516.23	3,138.20	2,779.51	358.69	8.749		
17,700.00	9,065.00	17,561.49	8,840.00	181.67	181.63	-85.66	2,886.21	8,616.23	3,137.69	2,774.99	362.70	8.651		
17,800.00	9,065.00	17,661.49	8,840.00	183.69	183.65	-85.66	2,886.80	8,716.22	3,137.19	2,770.47	366.72	8.555		
17,900.00	9,065.00	17,761.48	8,840.00	185.70	185.66	-85.66	2,887.40	8,816.22	3,136.68	2,765.94	370.74	8.461		
18,000.00	9,065.00	17,861.48	8,840.00	187.72	187.67	-85.66	2,887.99	8,916.22	3,136.18	2,761.41	374.76	8.368		
18,100.00	9,065.00	17,961.48	8,840.00	189.73	189.69	-85.66	2,888.58	9,016.22	3,135.67	2,756.89	378.78	8.278		
18,200.00	9,065.00	18,061.48	8,840.00	191.75	191.70	-85.66	2,889.18	9,116.21	3,135.17	2,752.36	382.81	8.190		
18,300.00	9,065.00	18,161.48	8,840.00	193.77	193.72	-85.66	2,889.77	9,216.21	3,134.66	2,747.83	386.83	8.103		
18,400.00	9,065.00	18,261.48	8,840.00	195.78	195.74	-85.66	2,890.36	9,316.21	3,134.15	2,743.30	390.86	8.019		
18,500.00	9,065.00	18,361.48	8,840.00	197.80	197.76	-85.66	2,890.96	9,416.20	3,133.65	2,738.76	394.88	7.936		
18,600.00	9,065.00	18,461.48	8,840.00	199.82	199.77	-85.65	2,891.55	9,516.20	3,133.14	2,734.23	398.91	7.854		
18,700.00	9,065.00	18,561.47	8,840.00	201.84	201.79	-85.65	2,892.14	9,616.20	3,132.64	2,729.70	402.94	7.774		
18,800.00	9,065.00	18,661.47	8,840.00	203.86	203.81	-85.65	2,892.74	9,716.19	3,132.13	2,725.16	406.97	7.696		
18,900.00	9,065.00	18,761.47	8,840.00	205.88	205.83	-85.65	2,893.33	9,816.19	3,131.63	2,720.62	411.00	7.620		
19,000.00	9,065.00	18,861.47	8,840.00	207.90	207.85	-85.65	2,893.92	9,916.19	3,131.12	2,716.09	415.03	7.544		
19,100.00	9,065.00	18,961.47	8,840.00	209.92	209.87	-85.65	2,894.52	10,016.19	3,130.61	2,711.55	419.07	7.470		
19,200.00	9,065.00	19,061.47	8,840.00	211.95	211.90	-85.65	2,895.11	10,116.18	3,130.11	2,707.01	423.10	7.398		
19,300.00	9,065.00	19,161.47	8,840.00	213.97	213.92	-85.65	2,895.70	10,216.18	3,129.60	2,702.47	427.13	7.327		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design	Sec 14-T21S-R27E - Lone Tree Draw 14-13 State Com 331H - Wellbore #1 - Permit Plan 1											Offset Site Error:	0.00 ft
Survey Program:	0-MWD+IFR1											Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
19,400.00	9,065.00	19,261.47	8,840.00	215.99	215.94	-85.65	2,896.30	10,316.18	3,129.10	2,697.93	431.17	7.257	
19,456.84	9,065.00	19,318.31	8,840.00	217.14	217.09	-85.65	2,896.63	10,373.02	3,128.81	2,695.35	433.46	7.218 SF	

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design		Sec 14-T21S-R27E - Lone Tree Draw 14-13 State Com 332H - Wellbore #1 - Permit Plan 1											Offset Site Error:		0.00 ft
Survey Program:		0-MWD+IFR1											Offset Well Error:		0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor			
0.00	0.00	11.10	11.10	0.50	0.50	-0.13	1,558.67	-3.41	1,558.68						
100.00	100.00	111.10	111.10	0.52	0.53	-0.13	1,558.67	-3.41	1,558.68	1,557.63	1.05	1,488.369			
200.00	200.00	211.10	211.10	0.70	0.73	-0.13	1,558.67	-3.41	1,558.68	1,557.24	1.43	1,087.937			
300.00	300.00	311.10	311.10	0.99	1.02	-0.13	1,558.67	-3.41	1,558.68	1,556.67	2.01	775.778			
400.00	400.00	411.10	411.10	1.31	1.35	-0.13	1,558.67	-3.41	1,558.68	1,556.02	2.66	587.064			
500.00	500.00	511.10	511.10	1.65	1.68	-0.13	1,558.67	-3.41	1,558.68	1,555.35	3.33	468.053			
600.00	600.00	611.10	611.10	1.99	2.03	-0.13	1,558.67	-3.41	1,558.68	1,554.66	4.02	387.755			
700.00	700.00	711.10	711.10	2.34	2.38	-0.13	1,558.67	-3.41	1,558.68	1,553.96	4.72	330.402			
800.00	800.00	811.10	811.10	2.69	2.73	-0.13	1,558.67	-3.41	1,558.68	1,553.26	5.42	287.563			
900.00	900.00	911.10	911.10	3.04	3.08	-0.13	1,558.67	-3.41	1,558.68	1,552.55	6.13	254.421			
1,000.00	1,000.00	1,011.10	1,011.10	3.40	3.44	-0.13	1,558.67	-3.41	1,558.68	1,551.84	6.83	228.054			
1,100.00	1,100.00	1,111.10	1,111.10	3.75	3.79	-0.13	1,558.67	-3.41	1,558.68	1,551.13	7.54	206.594			
1,200.00	1,200.00	1,211.10	1,211.10	4.11	4.15	-0.13	1,558.67	-3.41	1,558.68	1,550.42	8.26	188.798			
1,300.00	1,300.00	1,311.10	1,311.10	4.46	4.50	-0.13	1,558.67	-3.41	1,558.68	1,549.71	8.97	173.806			
1,400.00	1,400.00	1,411.10	1,411.10	4.82	4.86	-0.13	1,558.67	-3.41	1,558.68	1,549.00	9.68	161.009			
1,500.00	1,500.00	1,511.10	1,511.10	5.18	5.22	-0.13	1,558.67	-3.41	1,558.68	1,548.28	10.39	149.958			
1,600.00	1,600.00	1,611.10	1,611.10	5.53	5.57	-0.13	1,558.67	-3.41	1,558.68	1,547.57	11.11	140.322			
1,700.00	1,700.00	1,711.10	1,711.10	5.89	5.93	-0.13	1,558.67	-3.41	1,558.68	1,546.85	11.82	131.844			
1,800.00	1,800.00	1,811.10	1,811.10	6.25	6.29	-0.13	1,558.67	-3.41	1,558.68	1,546.14	12.54	124.330			
1,900.00	1,900.00	1,911.10	1,911.10	6.61	6.65	-0.13	1,558.67	-3.41	1,558.68	1,545.43	13.25	117.624			
2,000.00	2,000.00	2,011.10	2,011.10	6.96	7.00	-0.13	1,558.67	-3.41	1,558.68	1,544.71	13.97	111.602			
2,100.00	2,100.00	2,111.10	2,111.10	7.32	7.36	-0.13	1,558.67	-3.41	1,558.68	1,544.00	14.68	106.165			
2,200.00	2,200.00	2,211.10	2,211.10	7.68	7.72	-0.13	1,558.67	-3.41	1,558.68	1,543.28	15.40	101.233			
2,300.00	2,300.00	2,311.10	2,311.10	8.04	8.08	-0.13	1,558.67	-3.41	1,558.68	1,542.56	16.11	96.737			
2,400.00	2,400.00	2,411.10	2,411.10	8.39	8.43	-0.13	1,558.67	-3.41	1,558.68	1,541.85	16.83	92.624			
2,500.00	2,500.00	2,511.10	2,511.10	8.75	8.79	-0.13	1,558.67	-3.41	1,558.68	1,541.13	17.54	88.845 CC, ES			
2,600.00	2,599.99	2,611.09	2,611.09	9.09	9.15	145.81	1,558.67	-3.41	1,559.40	1,541.16	18.24	85.479			
2,700.00	2,699.96	2,708.94	2,708.94	9.42	9.50	145.85	1,558.68	-3.41	1,561.57	1,542.65	18.92	82.536			
2,800.00	2,799.86	2,789.66	2,789.66	9.75	9.79	145.89	1,559.28	-3.76	1,565.93	1,546.40	19.54	80.158			
2,900.00	2,899.68	2,870.21	2,870.19	10.08	10.07	145.92	1,560.87	-4.66	1,572.96	1,552.81	20.15	78.066			
2,945.33	2,944.88	2,906.65	2,906.60	10.23	10.20	145.93	1,561.91	-5.25	1,577.02	1,556.59	20.43	77.204			
3,000.00	2,999.39	2,950.53	2,950.45	10.41	10.36	145.96	1,563.44	-6.11	1,582.43	1,561.67	20.76	76.223			
3,100.00	3,099.08	3,030.66	3,030.48	10.75	10.65	146.02	1,566.97	-8.12	1,593.26	1,571.89	21.37	74.558			
3,200.00	3,198.78	3,110.59	3,110.23	11.08	10.93	146.05	1,571.46	-10.67	1,605.29	1,583.32	21.98	73.047			
3,300.00	3,298.48	3,190.27	3,189.67	11.42	11.21	146.06	1,576.90	-13.76	1,618.53	1,595.95	22.58	71.679			
3,400.00	3,398.18	3,273.66	3,272.71	11.76	11.51	146.05	1,583.59	-17.56	1,632.93	1,609.73	23.20	70.386			
3,500.00	3,497.88	3,372.56	3,371.15	12.10	11.86	146.04	1,591.89	-22.27	1,647.71	1,623.82	23.89	68.968			
3,600.00	3,597.58	3,471.46	3,469.59	12.45	12.22	146.02	1,600.19	-26.99	1,662.49	1,637.90	24.58	67.625			
3,700.00	3,697.27	3,570.37	3,568.03	12.79	12.57	146.00	1,608.48	-31.70	1,677.26	1,651.99	25.28	66.351			
3,800.00	3,796.97	3,669.27	3,666.47	13.14	12.93	145.99	1,616.78	-36.41	1,692.04	1,666.07	25.97	65.142			
3,900.00	3,896.67	3,768.17	3,764.91	13.48	13.28	145.97	1,625.08	-41.12	1,706.82	1,680.15	26.67	63.993			
4,000.00	3,996.37	3,867.07	3,863.35	13.83	13.63	145.96	1,633.37	-45.83	1,721.60	1,694.23	27.37	62.899			
4,100.00	4,096.07	3,965.97	3,961.79	14.18	13.99	145.94	1,641.67	-50.54	1,736.38	1,708.31	28.07	61.857			
4,200.00	4,195.76	4,064.87	4,060.22	14.53	14.34	145.93	1,649.97	-55.26	1,751.16	1,722.39	28.77	60.863			
4,300.00	4,295.46	4,163.77	4,158.66	14.88	14.70	145.91	1,658.26	-59.97	1,765.94	1,736.47	29.47	59.915			
4,400.00	4,395.16	4,262.67	4,257.10	15.23	15.06	145.90	1,666.56	-64.68	1,780.72	1,750.54	30.18	59.009			
4,500.00	4,494.86	4,361.57	4,355.54	15.58	15.41	145.89	1,674.86	-69.39	1,795.50	1,764.62	30.88	58.143			
4,600.00	4,594.56	4,460.47	4,453.98	15.93	15.77	145.87	1,683.15	-74.10	1,810.28	1,778.69	31.59	57.313			
4,700.00	4,694.25	4,559.37	4,552.42	16.29	16.13	145.86	1,691.45	-78.81	1,825.06	1,792.77	32.29	56.519			
4,800.00	4,793.95	4,658.27	4,650.86	16.64	16.48	145.85	1,699.75	-83.53	1,839.84	1,806.84	33.00	55.757			
4,900.00	4,893.65	4,757.18	4,749.30	17.00	16.84	145.83	1,708.04	-88.24	1,854.62	1,820.92	33.70	55.026			
5,000.00	4,993.35	4,856.08	4,847.74	17.35	17.20	145.82	1,716.34	-92.95	1,869.40	1,834.99	34.41	54.324			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 0-MWD+IFR1													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
5,100.00	5,093.05	4,954.98	4,946.18	17.71	17.56	145.81	1,724.64	-97.66	1,884.18	1,849.06	35.12	53.649		
5,200.00	5,192.75	5,053.88	5,044.62	18.06	17.91	145.80	1,732.93	-102.37	1,898.96	1,863.13	35.83	53.001		
5,300.00	5,292.44	5,152.78	5,143.06	18.42	18.27	145.78	1,741.23	-107.08	1,913.74	1,877.20	36.54	52.376		
5,400.00	5,392.14	5,251.68	5,241.50	18.77	18.63	145.77	1,749.53	-111.80	1,928.52	1,891.27	37.25	51.775		
5,500.00	5,491.84	5,350.58	5,339.94	19.13	18.99	145.76	1,757.82	-116.51	1,943.30	1,905.34	37.96	51.195		
5,600.00	5,591.54	5,449.48	5,438.38	19.49	19.35	145.75	1,766.12	-121.22	1,958.08	1,919.41	38.67	50.637		
5,700.00	5,691.24	5,548.38	5,536.82	19.85	19.70	145.74	1,774.42	-125.93	1,972.86	1,933.48	39.38	50.097		
5,800.00	5,790.93	5,647.28	5,635.26	20.20	20.06	145.72	1,782.71	-130.64	1,987.65	1,947.55	40.09	49.577		
5,900.00	5,890.63	5,746.18	5,733.70	20.56	20.42	145.71	1,791.01	-135.36	2,002.43	1,961.62	40.80	49.074		
6,000.00	5,990.33	5,845.08	5,832.14	20.92	20.78	145.70	1,799.31	-140.07	2,017.21	1,975.69	41.52	48.588		
6,100.00	6,090.03	5,943.99	5,930.58	21.28	21.14	145.69	1,807.60	-144.78	2,031.99	1,989.76	42.23	48.118		
6,200.00	6,189.73	6,042.89	6,029.02	21.64	21.50	145.68	1,815.90	-149.49	2,046.77	2,003.83	42.94	47.663		
6,300.00	6,289.42	6,141.79	6,127.45	22.00	21.86	145.67	1,824.20	-154.20	2,061.55	2,017.90	43.66	47.223		
6,400.00	6,389.12	6,240.69	6,225.89	22.36	22.22	145.66	1,832.49	-158.91	2,076.33	2,031.96	44.37	46.796		
6,500.00	6,488.82	6,339.59	6,324.33	22.72	22.57	145.65	1,840.79	-163.63	2,091.11	2,046.03	45.08	46.383		
6,600.00	6,588.52	6,438.49	6,422.77	23.08	22.93	145.64	1,849.09	-168.34	2,105.90	2,060.10	45.80	45.982		
6,700.00	6,688.22	6,537.39	6,521.21	23.44	23.29	145.63	1,857.38	-173.05	2,120.68	2,074.16	46.51	45.593		
6,800.00	6,787.91	6,636.29	6,619.65	23.80	23.65	145.62	1,865.68	-177.76	2,135.46	2,088.23	47.23	45.216		
6,900.00	6,887.61	6,735.19	6,718.09	24.16	24.01	145.61	1,873.98	-182.47	2,150.24	2,102.30	47.94	44.850		
7,000.00	6,987.31	6,834.09	6,816.53	24.52	24.37	145.60	1,882.27	-187.18	2,165.02	2,116.36	48.66	44.494		
7,100.00	7,087.01	6,932.99	6,914.97	24.88	24.73	145.59	1,890.57	-191.90	2,179.80	2,130.43	49.37	44.149		
7,200.00	7,186.71	7,031.89	7,013.41	25.24	25.09	145.58	1,898.87	-196.61	2,194.59	2,144.50	50.09	43.813		
7,300.00	7,286.41	7,130.80	7,111.85	25.60	25.45	145.57	1,907.16	-201.32	2,209.37	2,158.56	50.81	43.486		
7,400.00	7,386.10	7,229.70	7,210.29	25.96	25.81	145.56	1,915.46	-206.03	2,224.15	2,172.63	51.52	43.168		
7,500.00	7,485.80	7,328.60	7,308.73	26.33	26.17	145.56	1,923.76	-210.74	2,238.93	2,186.69	52.24	42.859		
7,600.00	7,585.50	7,427.50	7,407.17	26.69	26.53	145.55	1,932.05	-215.45	2,253.71	2,200.76	52.96	42.558		
7,700.00	7,685.20	7,526.40	7,505.61	27.05	26.89	145.54	1,940.35	-220.17	2,268.50	2,214.82	53.67	42.265		
7,800.00	7,784.90	7,631.36	7,610.08	27.41	27.27	145.53	1,949.14	-225.16	2,283.27	2,228.85	54.42	41.956		
7,860.70	7,845.41	7,757.20	7,735.54	27.63	27.73	145.55	1,957.57	-229.94	2,291.22	2,236.05	55.17	41.530		
7,900.00	7,884.61	7,839.15	7,817.39	27.77	28.02	145.62	1,961.12	-231.96	2,295.28	2,239.64	55.64	41.255		
8,000.00	7,984.46	8,017.36	7,995.56	28.13	28.66	145.77	1,963.67	-233.41	2,300.99	2,244.34	56.65	40.621		
8,100.00	8,084.42	8,117.32	8,095.52	28.49	29.01	145.83	1,963.67	-233.41	2,303.32	2,245.96	57.35	40.159		
8,157.59	8,142.00	8,174.90	8,153.10	28.69	29.21	-0.08	1,963.67	-233.41	2,303.68	2,245.92	57.76	39.885		
8,200.00	8,184.41	8,217.31	8,195.51	28.83	29.37	-0.08	1,963.67	-233.41	2,303.68	2,245.62	58.05	39.682		
8,300.00	8,284.41	8,317.31	8,295.51	29.17	29.72	-0.08	1,963.67	-233.41	2,303.68	2,244.93	58.75	39.213		
8,303.26	8,287.67	8,320.57	8,298.77	29.18	29.73	-0.08	1,963.67	-233.41	2,303.68	2,244.91	58.77	39.198		
8,400.00	8,384.41	8,415.46	8,393.43	29.51	30.05	0.04	1,963.70	-228.29	2,303.71	2,244.29	59.42	38.770		
8,507.63	8,492.04	8,515.79	8,491.19	29.87	30.38	0.59	1,963.83	-206.30	2,303.99	2,243.87	60.12	38.325		
8,550.00	8,534.37	8,553.23	8,526.46	30.02	30.51	-88.48	1,963.91	-193.77	2,304.23	2,243.85	60.38	38.162		
8,600.00	8,584.01	8,596.59	8,566.18	30.18	30.64	-88.13	1,964.01	-176.41	2,304.58	2,243.89	60.68	37.977		
8,650.00	8,632.95	8,639.15	8,603.79	30.34	30.78	-87.80	1,964.13	-156.50	2,304.97	2,243.99	60.98	37.799		
8,700.00	8,680.82	8,680.99	8,639.22	30.50	30.91	-87.48	1,964.26	-134.25	2,305.40	2,244.13	61.27	37.628		
8,750.00	8,727.25	8,722.19	8,672.43	30.66	31.04	-87.17	1,964.41	-109.88	2,305.85	2,244.30	61.55	37.464		
8,800.00	8,771.89	8,762.83	8,703.38	30.81	31.17	-86.89	1,964.57	-83.57	2,306.31	2,244.49	61.82	37.305		
8,850.00	8,814.40	8,802.95	8,732.04	30.95	31.29	-86.63	1,964.74	-55.50	2,306.76	2,244.67	62.09	37.149		
8,900.00	8,854.46	8,842.63	8,758.38	31.09	31.42	-86.38	1,964.91	-25.84	2,307.20	2,244.84	62.37	36.994		
8,950.00	8,891.75	8,881.91	8,782.37	31.23	31.56	-86.16	1,965.10	5.26	2,307.61	2,244.96	62.64	36.838		
9,000.00	8,926.01	8,920.85	8,804.00	31.37	31.70	-85.97	1,965.29	37.63	2,307.97	2,245.04	62.93	36.676		
9,050.00	8,956.96	8,959.50	8,823.24	31.53	31.85	-85.80	1,965.49	71.14	2,308.28	2,245.05	63.23	36.508		
9,100.00	8,984.38	8,997.90	8,840.08	31.69	32.00	-85.65	1,965.70	105.64	2,308.53	2,244.98	63.54	36.330		
9,150.00	9,008.05	9,036.09	8,854.50	31.87	32.16	-85.53	1,965.91	140.99	2,308.70	2,244.82	63.89	36.138		
9,200.00	9,027.79	9,074.11	8,866.48	32.07	32.34	-85.44	1,966.12	177.07	2,308.80	2,244.54	64.26	35.931		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 0-MWD+IFR1													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
9,250.00	9,043.45	9,112.00	8,876.02	32.29	32.52	-85.38	1,966.34	213.73	2,308.81	2,244.16	64.65	35.710		
9,300.00	9,054.92	9,150.00	8,883.13	32.53	32.71	-85.35	1,966.56	251.05	2,308.74	2,243.66	65.08	35.474		
9,350.00	9,062.10	9,187.55	8,887.70	32.79	32.91	-85.34	1,966.79	288.31	2,308.58	2,243.04	65.54	35.223		
9,400.00	9,064.95	9,225.28	8,889.84	33.06	33.12	-85.37	1,967.01	325.97	2,308.33	2,242.31	66.03	34.961		
9,407.63	9,065.00	9,231.03	8,889.95	33.10	33.15	-85.37	1,967.05	331.73	2,308.29	2,242.18	66.10	34.920		
9,500.00	9,065.00	9,320.87	8,890.00	33.68	33.71	-85.37	1,967.58	421.56	2,307.82	2,240.58	67.24	34.322		
9,600.00	9,065.00	9,420.87	8,890.00	34.41	34.43	-85.37	1,968.18	521.56	2,307.31	2,238.62	68.69	33.590		
9,700.00	9,065.00	9,520.86	8,890.00	35.24	35.26	-85.37	1,968.78	621.56	2,306.81	2,236.46	70.35	32.791		
9,800.00	9,065.00	9,620.86	8,890.00	36.17	36.18	-85.37	1,969.37	721.55	2,306.31	2,234.11	72.20	31.943		
9,900.00	9,065.00	9,720.86	8,890.00	37.19	37.19	-85.37	1,969.97	821.55	2,305.81	2,231.58	74.23	31.063		
10,000.00	9,065.00	9,820.86	8,890.00	38.30	38.29	-85.37	1,970.57	921.55	2,305.31	2,228.88	76.42	30.165		
10,100.00	9,065.00	9,920.86	8,890.00	39.48	39.46	-85.37	1,971.16	1,021.54	2,304.80	2,226.04	78.77	29.260		
10,200.00	9,065.00	10,020.86	8,890.00	40.72	40.70	-85.37	1,971.76	1,121.54	2,304.30	2,223.05	81.25	28.361		
10,300.00	9,065.00	10,120.86	8,890.00	42.03	42.01	-85.37	1,972.36	1,221.54	2,303.80	2,219.94	83.86	27.473		
10,400.00	9,065.00	10,220.86	8,890.00	43.40	43.37	-85.37	1,972.95	1,321.53	2,303.30	2,216.72	86.58	26.604		
10,500.00	9,065.00	10,320.85	8,890.00	44.82	44.78	-85.36	1,973.55	1,421.53	2,302.80	2,213.39	89.40	25.758		
10,600.00	9,065.00	10,420.85	8,890.00	46.29	46.24	-85.36	1,974.15	1,521.53	2,302.29	2,209.97	92.32	24.938		
10,700.00	9,065.00	10,520.85	8,890.00	47.79	47.74	-85.36	1,974.74	1,621.52	2,301.79	2,206.47	95.33	24.147		
10,800.00	9,065.00	10,620.85	8,890.00	49.34	49.29	-85.36	1,975.34	1,721.52	2,301.29	2,202.88	98.41	23.386		
10,900.00	9,065.00	10,720.85	8,890.00	50.92	50.87	-85.36	1,975.94	1,821.52	2,300.79	2,199.23	101.56	22.655		
11,000.00	9,065.00	10,820.85	8,890.00	52.54	52.48	-85.36	1,976.53	1,921.52	2,300.29	2,195.51	104.77	21.955		
11,100.00	9,065.00	10,920.85	8,890.00	54.18	54.12	-85.36	1,977.13	2,021.51	2,299.78	2,191.73	108.05	21.285		
11,200.00	9,065.00	11,020.84	8,890.00	55.85	55.78	-85.36	1,977.73	2,121.51	2,299.28	2,187.90	111.38	20.644		
11,300.00	9,065.00	11,120.84	8,890.00	57.54	57.48	-85.36	1,978.32	2,221.51	2,298.78	2,184.03	114.75	20.032		
11,400.00	9,065.00	11,220.84	8,890.00	59.26	59.19	-85.36	1,978.92	2,321.50	2,298.28	2,180.10	118.17	19.448		
11,500.00	9,065.00	11,320.84	8,890.00	61.00	60.92	-85.35	1,979.52	2,421.50	2,297.78	2,176.14	121.64	18.891		
11,600.00	9,065.00	11,420.84	8,890.00	62.75	62.68	-85.35	1,980.12	2,521.50	2,297.27	2,172.14	125.13	18.358		
11,700.00	9,065.00	11,520.84	8,890.00	64.52	64.45	-85.35	1,980.71	2,621.49	2,296.77	2,168.10	128.67	17.850		
11,800.00	9,065.00	11,620.84	8,890.00	66.31	66.24	-85.35	1,981.31	2,721.49	2,296.27	2,164.04	132.23	17.365		
11,900.00	9,065.00	11,720.84	8,890.00	68.11	68.04	-85.35	1,981.91	2,821.49	2,295.77	2,159.94	135.83	16.902		
12,000.00	9,065.00	11,820.83	8,890.00	69.93	69.85	-85.35	1,982.50	2,921.49	2,295.27	2,155.82	139.45	16.460		
12,100.00	9,065.00	11,920.83	8,890.00	71.76	71.68	-85.35	1,983.10	3,021.48	2,294.76	2,151.67	143.09	16.037		
12,200.00	9,065.00	12,020.83	8,890.00	73.60	73.52	-85.35	1,983.70	3,121.48	2,294.26	2,147.50	146.76	15.633		
12,300.00	9,065.00	12,120.83	8,890.00	75.45	75.37	-85.35	1,984.29	3,221.48	2,293.76	2,143.31	150.45	15.246		
12,400.00	9,065.00	12,220.83	8,890.00	77.31	77.23	-85.35	1,984.89	3,321.47	2,293.26	2,139.10	154.16	14.876		
12,500.00	9,065.00	12,320.83	8,890.00	79.18	79.09	-85.34	1,985.49	3,421.47	2,292.75	2,134.87	157.89	14.522		
12,600.00	9,065.00	12,420.83	8,890.00	81.05	80.97	-85.34	1,986.08	3,521.47	2,292.25	2,130.62	161.63	14.182		
12,700.00	9,065.00	12,520.83	8,890.00	82.94	82.86	-85.34	1,986.68	3,621.46	2,291.75	2,126.36	165.39	13.856		
12,800.00	9,065.00	12,620.82	8,890.00	84.83	84.75	-85.34	1,987.28	3,721.46	2,291.25	2,122.08	169.17	13.544		
12,900.00	9,065.00	12,720.82	8,890.00	86.73	86.65	-85.34	1,987.87	3,821.46	2,290.75	2,117.79	172.96	13.245		
13,000.00	9,065.00	12,820.82	8,890.00	88.64	88.55	-85.34	1,988.47	3,921.45	2,290.24	2,113.49	176.76	12.957		
13,100.00	9,065.00	12,920.82	8,890.00	90.55	90.47	-85.34	1,989.07	4,021.45	2,289.74	2,109.17	180.57	12.680		
13,200.00	9,065.00	13,020.82	8,890.00	92.47	92.39	-85.34	1,989.66	4,121.45	2,289.24	2,104.84	184.40	12.415		
13,300.00	9,065.00	13,120.82	8,890.00	94.39	94.31	-85.34	1,990.26	4,221.45	2,288.74	2,100.50	188.23	12.159		
13,400.00	9,065.00	13,220.82	8,890.00	96.32	96.24	-85.33	1,990.86	4,321.44	2,288.24	2,096.16	192.08	11.913		
13,500.00	9,065.00	13,320.82	8,890.00	98.25	98.17	-85.33	1,991.45	4,421.44	2,287.73	2,091.80	195.94	11.676		
13,600.00	9,065.00	13,420.81	8,890.00	100.19	100.11	-85.33	1,992.05	4,521.44	2,287.23	2,087.43	199.80	11.447		
13,700.00	9,065.00	13,520.81	8,890.00	102.13	102.05	-85.33	1,992.65	4,621.43	2,286.73	2,083.06	203.68	11.227		
13,800.00	9,065.00	13,620.81	8,890.00	104.08	104.00	-85.33	1,993.25	4,721.43	2,286.23	2,078.67	207.56	11.015		
13,900.00	9,065.00	13,720.81	8,890.00	106.03	105.95	-85.33	1,993.84	4,821.43	2,285.73	2,074.28	211.45	10.810		
14,000.00	9,065.00	13,820.81	8,890.00	107.98	107.90	-85.33	1,994.44	4,921.42	2,285.22	2,069.88	215.34	10.612		
14,100.00	9,065.00	13,920.81	8,890.00	109.94	109.86	-85.33	1,995.04	5,021.42	2,284.72	2,065.48	219.24	10.421		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 0-MWD+IFR1													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
14,200.00	9,065.00	14,020.81	8,890.00	111.90	111.82	-85.33	1,995.63	5,121.42	2,284.22	2,061.07	223.15	10.236		
14,300.00	9,065.00	14,120.81	8,890.00	113.86	113.78	-85.33	1,996.23	5,221.42	2,283.72	2,056.65	227.07	10.057		
14,400.00	9,065.00	14,220.80	8,890.00	115.82	115.74	-85.32	1,996.83	5,321.41	2,283.22	2,052.23	230.99	9.885		
14,500.00	9,065.00	14,320.80	8,890.00	117.79	117.71	-85.32	1,997.42	5,421.41	2,282.71	2,047.80	234.91	9.717		
14,600.00	9,065.00	14,420.80	8,890.00	119.76	119.68	-85.32	1,998.02	5,521.41	2,282.21	2,043.37	238.84	9.555		
14,700.00	9,065.00	14,520.80	8,890.00	121.74	121.66	-85.32	1,998.62	5,621.40	2,281.71	2,038.93	242.78	9.398		
14,800.00	9,065.00	14,620.80	8,890.00	123.71	123.63	-85.32	1,999.21	5,721.40	2,281.21	2,034.49	246.72	9.246		
14,900.00	9,065.00	14,720.80	8,890.00	125.69	125.61	-85.32	1,999.81	5,821.40	2,280.71	2,030.04	250.67	9.099		
15,000.00	9,065.00	14,820.80	8,890.00	127.67	127.59	-85.32	2,000.41	5,921.39	2,280.20	2,025.59	254.62	8.955		
15,100.00	9,065.00	14,920.80	8,890.00	129.65	129.58	-85.32	2,001.00	6,021.39	2,279.70	2,021.13	258.57	8.817		
15,200.00	9,065.00	15,020.79	8,890.00	131.63	131.56	-85.32	2,001.60	6,121.39	2,279.20	2,016.67	262.53	8.682		
15,300.00	9,065.00	15,120.79	8,890.00	133.62	133.55	-85.32	2,002.20	6,221.38	2,278.70	2,012.21	266.49	8.551		
15,400.00	9,065.00	15,220.79	8,890.00	135.61	135.53	-85.31	2,002.79	6,321.38	2,278.20	2,007.74	270.45	8.424		
15,500.00	9,065.00	15,320.79	8,890.00	137.60	137.52	-85.31	2,003.39	6,421.38	2,277.69	2,003.27	274.42	8.300		
15,600.00	9,065.00	15,420.79	8,890.00	139.59	139.52	-85.31	2,003.99	6,521.38	2,277.19	1,998.80	278.39	8.180		
15,700.00	9,065.00	15,520.79	8,890.00	141.58	141.51	-85.31	2,004.58	6,621.37	2,276.69	1,994.32	282.37	8.063		
15,800.00	9,065.00	15,620.79	8,890.00	143.57	143.50	-85.31	2,005.18	6,721.37	2,276.19	1,989.84	286.34	7.949		
15,900.00	9,065.00	15,720.79	8,890.00	145.57	145.50	-85.31	2,005.78	6,821.37	2,275.69	1,985.36	290.32	7.838		
16,000.00	9,065.00	15,820.78	8,890.00	147.56	147.50	-85.31	2,006.38	6,921.36	2,275.18	1,980.88	294.31	7.731		
16,100.00	9,065.00	15,920.78	8,890.00	149.56	149.50	-85.31	2,006.97	7,021.36	2,274.68	1,976.39	298.29	7.626		
16,200.00	9,065.00	16,020.78	8,890.00	151.56	151.50	-85.31	2,007.57	7,121.36	2,274.18	1,971.90	302.28	7.523		
16,300.00	9,065.00	16,120.78	8,890.00	153.56	153.50	-85.31	2,008.17	7,221.35	2,273.68	1,967.41	306.27	7.424		
16,400.00	9,065.00	16,220.78	8,890.00	155.56	155.50	-85.30	2,008.76	7,321.35	2,273.18	1,962.91	310.26	7.327		
16,500.00	9,065.00	16,320.78	8,890.00	157.57	157.50	-85.30	2,009.36	7,421.35	2,272.67	1,958.41	314.26	7.232		
16,600.00	9,065.00	16,420.78	8,890.00	159.57	159.51	-85.30	2,009.96	7,521.35	2,272.17	1,953.91	318.26	7.139		
16,700.00	9,065.00	16,520.78	8,890.00	161.57	161.51	-85.30	2,010.55	7,621.34	2,271.67	1,949.41	322.26	7.049		
16,800.00	9,065.00	16,620.77	8,890.00	163.58	163.52	-85.30	2,011.15	7,721.34	2,271.17	1,944.91	326.26	6.961		
16,900.00	9,065.00	16,720.77	8,890.00	165.59	165.53	-85.30	2,011.75	7,821.34	2,270.67	1,940.40	330.26	6.875		
17,000.00	9,065.00	16,820.77	8,890.00	167.60	167.53	-85.30	2,012.34	7,921.33	2,270.16	1,935.90	334.27	6.791		
17,100.00	9,065.00	16,920.77	8,890.00	169.60	169.54	-85.30	2,012.94	8,021.33	2,269.66	1,931.39	338.27	6.710		
17,200.00	9,065.00	17,020.77	8,890.00	171.61	171.55	-85.30	2,013.54	8,121.33	2,269.16	1,926.88	342.28	6.630		
17,300.00	9,065.00	17,120.77	8,890.00	173.62	173.57	-85.29	2,014.13	8,221.32	2,268.66	1,922.37	346.29	6.551		
17,400.00	9,065.00	17,220.77	8,890.00	175.63	175.58	-85.29	2,014.73	8,321.32	2,268.16	1,917.85	350.30	6.475		
17,500.00	9,065.00	17,320.77	8,890.00	177.65	177.59	-85.29	2,015.33	8,421.32	2,267.65	1,913.34	354.32	6.400		
17,600.00	9,065.00	17,420.76	8,890.00	179.66	179.60	-85.29	2,015.92	8,521.31	2,267.15	1,908.82	358.33	6.327		
17,700.00	9,065.00	17,520.76	8,890.00	181.67	181.62	-85.29	2,016.52	8,621.31	2,266.65	1,904.30	362.35	6.255		
17,800.00	9,065.00	17,620.76	8,890.00	183.69	183.63	-85.29	2,017.12	8,721.31	2,266.15	1,899.78	366.37	6.185		
17,900.00	9,065.00	17,720.76	8,890.00	185.70	185.65	-85.29	2,017.71	8,821.31	2,265.65	1,895.26	370.39	6.117		
18,000.00	9,065.00	17,820.76	8,890.00	187.72	187.66	-85.29	2,018.31	8,921.30	2,265.14	1,890.74	374.41	6.050		
18,100.00	9,065.00	17,920.76	8,890.00	189.73	189.68	-85.29	2,018.91	9,021.30	2,264.64	1,886.21	378.43	5.984		
18,200.00	9,065.00	18,020.76	8,890.00	191.75	191.70	-85.29	2,019.51	9,121.30	2,264.14	1,881.69	382.45	5.920		
18,300.00	9,065.00	18,120.75	8,890.00	193.77	193.72	-85.28	2,020.10	9,221.29	2,263.64	1,877.16	386.47	5.857		
18,400.00	9,065.00	18,220.75	8,890.00	195.78	195.74	-85.28	2,020.70	9,321.29	2,263.14	1,872.64	390.50	5.795		
18,500.00	9,065.00	18,320.75	8,890.00	197.80	197.76	-85.28	2,021.30	9,421.29	2,262.63	1,868.11	394.53	5.735		
18,600.00	9,065.00	18,420.75	8,890.00	199.82	199.78	-85.28	2,021.89	9,521.28	2,262.13	1,863.58	398.55	5.676		
18,700.00	9,065.00	18,520.75	8,890.00	201.84	201.80	-85.28	2,022.49	9,621.28	2,261.63	1,859.05	402.58	5.618		
18,800.00	9,065.00	18,620.75	8,890.00	203.86	203.82	-85.28	2,023.09	9,721.28	2,261.13	1,854.52	406.61	5.561		
18,900.00	9,065.00	18,720.75	8,890.00	205.88	205.84	-85.28	2,023.68	9,821.28	2,260.63	1,849.98	410.64	5.505		
19,000.00	9,065.00	18,820.75	8,890.00	207.90	207.86	-85.28	2,024.28	9,921.27	2,260.12	1,845.45	414.67	5.450		
19,100.00	9,065.00	18,920.74	8,890.00	209.92	209.88	-85.28	2,024.88	10,021.27	2,259.62	1,840.92	418.71	5.397		
19,200.00	9,065.00	19,020.74	8,890.00	211.95	211.90	-85.27	2,025.47	10,121.27	2,259.12	1,836.38	422.74	5.344		
19,300.00	9,065.00	19,120.74	8,890.00	213.97	213.93	-85.27	2,026.07	10,221.26	2,258.62	1,831.84	426.77	5.292		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design		Sec 14-T21S-R27E - Lone Tree Draw 14-13 State Com 332H - Wellbore #1 - Permit Plan 1										Offset Site Error:		0.00 ft
Survey Program:		0-MWD+IFR1										Offset Well Error:		0.50 ft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre	Between Centres	Between Ellipses	Minimum Separation	Separation Factor			
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)			
19,400.00	9,065.00	19,220.74	8,890.00	215.99	215.95	-85.27	2,026.67	10,321.26	2,258.12	1,827.31	430.81	5.242		
19,456.84	9,065.00	19,277.58	8,890.00	217.14	217.10	-85.27	2,027.01	10,378.10	2,257.83	1,824.73	433.10	5.213 SF		

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design		Sec 14-T21S-R27E - Lone Tree Draw 14-13 State Com 333H - Wellbore #1 - Permit Plan 1											Offset Site Error:		0.00 ft
Survey Program:		0-MWD+IFR1											Offset Well Error:		0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor			
0.00	0.00	0.90	0.90	0.50	0.50	-0.11	59.98	-0.11	59.98						
100.00	100.00	100.90	100.90	0.52	0.52	-0.11	59.98	-0.11	59.98	58.94	1.04	57.876			
200.00	200.00	200.90	200.90	0.70	0.70	-0.11	59.98	-0.11	59.98	58.57	1.41	42.646			
300.00	300.00	300.90	300.90	0.99	0.99	-0.11	59.98	-0.11	59.98	58.00	1.98	30.332			
400.00	400.00	400.90	400.90	1.31	1.31	-0.11	59.98	-0.11	59.98	57.36	2.62	22.883			
500.00	500.00	500.90	500.90	1.65	1.65	-0.11	59.98	-0.11	59.98	56.68	3.30	18.202			
600.00	600.00	600.90	600.90	1.99	1.99	-0.11	59.98	-0.11	59.98	56.00	3.98	15.054			
700.00	700.00	700.90	700.90	2.34	2.34	-0.11	59.98	-0.11	59.98	55.30	4.68	12.811			
800.00	800.00	800.90	800.90	2.69	2.69	-0.11	59.98	-0.11	59.98	54.60	5.38	11.140			
900.00	900.00	900.90	900.90	3.04	3.05	-0.11	59.98	-0.11	59.98	53.89	6.09	9.849			
1,000.00	1,000.00	1,000.90	1,000.90	3.40	3.40	-0.11	59.98	-0.11	59.98	53.18	6.80	8.823			
1,100.00	1,100.00	1,100.90	1,100.90	3.75	3.76	-0.11	59.98	-0.11	59.98	52.47	7.51	7.988			
1,200.00	1,200.00	1,200.90	1,200.90	4.11	4.11	-0.11	59.98	-0.11	59.98	51.76	8.22	7.297			
1,300.00	1,300.00	1,300.90	1,300.90	4.46	4.47	-0.11	59.98	-0.11	59.98	51.05	8.93	6.716			
1,400.00	1,400.00	1,400.90	1,400.90	4.82	4.82	-0.11	59.98	-0.11	59.98	50.34	9.64	6.219			
1,500.00	1,500.00	1,500.90	1,500.90	5.18	5.18	-0.11	59.98	-0.11	59.98	49.62	10.36	5.791			
1,600.00	1,600.00	1,600.90	1,600.90	5.53	5.54	-0.11	59.98	-0.11	59.98	48.91	11.07	5.418			
1,700.00	1,700.00	1,700.90	1,700.90	5.89	5.89	-0.11	59.98	-0.11	59.98	48.19	11.79	5.089			
1,800.00	1,800.00	1,800.90	1,800.90	6.25	6.25	-0.11	59.98	-0.11	59.98	47.48	12.50	4.798 Alert			
1,900.00	1,900.00	1,900.90	1,900.90	6.61	6.61	-0.11	59.98	-0.11	59.98	46.77	13.21	4.539 Alert			
2,000.00	2,000.00	2,000.90	2,000.90	6.96	6.97	-0.11	59.98	-0.11	59.98	46.05	13.93	4.306 Alert, CC, ES			
2,100.00	2,100.00	2,099.87	2,099.86	7.32	7.32	-0.28	60.83	-0.30	60.84	46.20	14.64	4.156 Alert			
2,200.00	2,200.00	2,198.79	2,198.75	7.68	7.67	-0.79	63.34	-0.87	63.39	48.04	15.35	4.131 Alert			
2,300.00	2,300.00	2,297.59	2,297.46	8.04	8.03	-1.54	67.52	-1.82	67.63	51.58	16.05	4.215 Alert			
2,400.00	2,400.00	2,396.21	2,395.90	8.39	8.38	-2.45	73.33	-3.14	73.57	56.83	16.74	4.394 Alert			
2,500.00	2,500.00	2,494.60	2,493.99	8.75	8.73	-3.42	80.79	-4.83	81.23	63.79	17.43	4.659 Alert			
2,600.00	2,599.99	2,592.64	2,591.58	9.09	9.08	141.82	89.84	-6.88	91.27	73.17	18.10	5.042			
2,700.00	2,699.96	2,690.13	2,688.46	9.42	9.43	141.70	100.46	-9.29	104.35	85.61	18.75	5.566			
2,800.00	2,799.86	2,786.95	2,784.47	9.75	9.78	141.96	112.60	-12.05	120.46	101.07	19.39	6.213			
2,900.00	2,899.68	2,882.95	2,879.46	10.08	10.12	142.44	126.20	-15.13	139.56	119.53	20.02	6.969			
2,945.33	2,944.88	2,926.16	2,922.13	10.23	10.27	142.71	132.82	-16.63	149.20	128.89	20.31	7.346			
3,000.00	2,999.39	2,978.05	2,973.31	10.41	10.46	143.06	141.19	-18.53	161.44	140.78	20.65	7.817			
3,100.00	3,099.08	3,072.41	3,066.16	10.75	10.80	143.51	157.57	-22.25	185.06	163.78	21.27	8.699			
3,200.00	3,198.78	3,166.01	3,157.98	11.08	11.13	143.78	175.29	-26.26	210.24	188.36	21.89	9.605			
3,300.00	3,298.48	3,261.40	3,251.31	11.42	11.48	143.94	194.48	-30.62	236.62	214.07	22.55	10.495			
3,400.00	3,398.18	3,357.84	3,345.66	11.76	11.83	144.06	213.95	-35.04	263.06	239.84	23.23	11.325			
3,500.00	3,497.88	3,454.27	3,440.01	12.10	12.18	144.16	233.43	-39.45	289.51	265.60	23.91	12.107			
3,600.00	3,597.58	3,550.71	3,534.36	12.45	12.54	144.25	252.90	-43.87	315.96	291.36	24.60	12.844			
3,700.00	3,697.27	3,647.15	3,628.71	12.79	12.89	144.32	272.38	-48.29	342.41	317.12	25.29	13.540			
3,800.00	3,796.97	3,743.59	3,723.05	13.14	13.25	144.38	291.85	-52.70	368.86	342.88	25.98	14.198			
3,900.00	3,896.67	3,840.03	3,817.40	13.48	13.61	144.43	311.33	-57.12	395.31	368.64	26.67	14.821			
4,000.00	3,996.37	3,936.46	3,911.75	13.83	13.97	144.48	330.80	-61.54	421.76	394.39	27.37	15.411			
4,100.00	4,096.07	4,032.90	4,006.10	14.18	14.33	144.52	350.28	-65.96	448.21	420.15	28.06	15.971			
4,200.00	4,195.76	4,129.34	4,100.44	14.53	14.69	144.55	369.75	-70.37	474.66	445.90	28.76	16.503			
4,300.00	4,295.46	4,225.78	4,194.79	14.88	15.05	144.59	389.23	-74.79	501.12	471.65	29.46	17.009			
4,400.00	4,395.16	4,322.22	4,289.14	15.23	15.42	144.62	408.70	-79.21	527.57	497.40	30.16	17.490			
4,500.00	4,494.86	4,418.65	4,383.49	15.58	15.78	144.64	428.17	-83.63	554.02	523.15	30.87	17.949			
4,600.00	4,594.56	4,515.09	4,477.83	15.93	16.14	144.67	447.65	-88.04	580.47	548.90	31.57	18.387			
4,700.00	4,694.25	4,611.53	4,572.18	16.29	16.51	144.69	467.12	-92.46	606.92	574.65	32.27	18.805			
4,800.00	4,793.95	4,707.97	4,666.53	16.64	16.88	144.71	486.60	-96.88	633.37	600.39	32.98	19.205			
4,900.00	4,893.65	4,804.40	4,760.88	17.00	17.24	144.73	506.07	-101.29	659.83	626.14	33.69	19.587			
5,000.00	4,993.35	4,900.84	4,855.23	17.35	17.61	144.74	525.55	-105.71	686.28	651.88	34.39	19.953			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 0-MWD+IFR1													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
5,100.00	5,093.05	4,997.28	4,949.57	17.71	17.98	144.76	545.02	-110.13	712.73	677.63	35.10	20.304		
5,200.00	5,192.75	5,106.28	5,043.92	18.06	18.39	144.77	564.50	-114.55	739.18	703.32	35.86	20.613		
5,300.00	5,292.44	5,209.84	5,138.27	18.42	18.79	144.79	583.97	-118.96	765.63	729.04	36.60	20.920		
5,400.00	5,392.14	5,286.59	5,232.62	18.77	19.08	144.80	603.45	-123.38	792.09	754.85	37.23	21.273		
5,500.00	5,491.84	5,383.03	5,326.96	19.13	19.45	144.81	622.92	-127.80	818.54	780.59	37.95	21.572		
5,600.00	5,591.54	5,479.47	5,421.31	19.49	19.82	144.82	642.40	-132.22	844.99	806.33	38.66	21.858		
5,700.00	5,691.24	5,575.91	5,515.66	19.85	20.19	144.83	661.87	-136.63	871.44	832.07	39.37	22.134		
5,800.00	5,790.93	5,672.34	5,610.01	20.20	20.56	144.84	681.34	-141.05	897.90	857.81	40.08	22.400		
5,900.00	5,890.63	5,768.78	5,704.35	20.56	20.93	144.85	700.82	-145.47	924.35	883.55	40.80	22.656		
6,000.00	5,990.33	5,865.22	5,798.70	20.92	21.31	144.86	720.29	-149.89	950.80	909.29	41.51	22.903		
6,100.00	6,090.03	5,961.66	5,893.05	21.28	21.68	144.87	739.77	-154.30	977.25	935.02	42.23	23.142		
6,200.00	6,189.73	6,058.10	5,987.40	21.64	22.05	144.88	759.24	-158.72	1,003.70	960.76	42.94	23.372		
6,300.00	6,289.42	6,154.53	6,081.75	22.00	22.42	144.89	778.72	-163.14	1,030.16	986.50	43.66	23.594		
6,400.00	6,389.12	6,250.97	6,176.09	22.36	22.79	144.89	798.19	-167.55	1,056.61	1,012.23	44.38	23.809		
6,500.00	6,488.82	6,347.41	6,270.44	22.72	23.17	144.90	817.67	-171.97	1,083.06	1,037.97	45.10	24.017		
6,600.00	6,588.52	6,443.85	6,364.79	23.08	23.54	144.91	837.14	-176.39	1,109.51	1,063.70	45.81	24.218		
6,700.00	6,688.22	6,540.29	6,459.14	23.44	23.91	144.91	856.62	-180.81	1,135.97	1,089.44	46.53	24.413		
6,800.00	6,787.91	6,636.72	6,553.48	23.80	24.28	144.92	876.09	-185.22	1,162.42	1,115.17	47.25	24.601		
6,900.00	6,887.61	6,733.16	6,647.83	24.16	24.66	144.92	895.56	-189.64	1,188.87	1,140.90	47.97	24.784		
7,000.00	6,987.31	6,829.60	6,742.18	24.52	25.03	144.93	915.04	-194.06	1,215.32	1,166.64	48.69	24.961		
7,100.00	7,087.01	6,926.04	6,836.53	24.88	25.41	144.93	934.51	-198.48	1,241.78	1,192.37	49.41	25.133		
7,200.00	7,186.71	7,022.47	6,930.87	25.24	25.78	144.94	953.99	-202.89	1,268.23	1,218.10	50.13	25.299		
7,300.00	7,286.41	7,118.91	7,025.22	25.60	26.15	144.94	973.46	-207.31	1,294.68	1,243.83	50.85	25.461		
7,400.00	7,386.10	7,215.35	7,119.57	25.96	26.53	144.95	992.94	-211.73	1,321.13	1,269.56	51.57	25.618		
7,500.00	7,485.80	7,361.69	7,263.27	26.33	27.09	144.98	1,019.86	-217.83	1,345.83	1,293.14	52.69	25.542		
7,600.00	7,585.50	7,511.43	7,411.30	26.69	27.65	145.06	1,041.84	-222.82	1,366.82	1,313.06	53.76	25.423		
7,700.00	7,685.20	7,663.39	7,562.30	27.05	28.21	145.20	1,058.34	-226.56	1,384.03	1,329.26	54.77	25.268		
7,800.00	7,784.90	7,817.14	7,715.65	27.41	28.76	145.38	1,069.06	-228.99	1,397.39	1,341.67	55.72	25.079		
7,860.70	7,845.41	7,911.14	7,809.57	27.63	29.08	145.52	1,072.64	-229.81	1,403.58	1,347.33	56.26	24.950		
7,900.00	7,884.61	7,972.22	7,870.64	27.77	29.29	145.64	1,073.76	-230.06	1,406.66	1,350.07	56.59	24.858		
8,000.00	7,984.46	8,086.94	7,985.36	28.13	29.68	145.82	1,073.98	-230.11	1,411.29	1,353.97	57.32	24.621		
8,100.00	8,084.42	8,186.89	8,085.32	28.49	30.02	145.91	1,073.98	-230.11	1,413.62	1,355.60	58.02	24.365		
8,157.59	8,142.00	8,244.48	8,142.90	28.69	30.22	0.00	1,073.98	-230.11	1,413.98	1,355.56	58.42	24.206		
8,200.00	8,184.41	8,286.89	8,185.31	28.83	30.36	0.00	1,073.98	-230.11	1,413.98	1,355.27	58.71	24.086		
8,206.90	8,191.31	8,306.21	8,192.21	28.85	30.43	0.00	1,073.98	-230.11	1,413.98	1,355.18	58.80	24.049		
8,300.00	8,284.41	8,386.55	8,284.96	29.17	30.70	0.01	1,073.98	-229.65	1,413.98	1,354.60	59.39	23.810		
8,400.00	8,384.41	8,483.35	8,380.91	29.51	31.02	0.50	1,074.05	-217.64	1,414.12	1,354.07	60.05	23.550		
8,507.63	8,492.04	8,580.26	8,473.56	29.87	31.32	1.63	1,074.22	-189.64	1,414.93	1,354.18	60.75	23.293		
8,550.00	8,534.37	8,615.98	8,506.32	30.02	31.42	-87.14	1,074.31	-175.43	1,415.58	1,354.57	61.01	23.202		
8,600.00	8,584.01	8,657.26	8,543.00	30.18	31.54	-86.47	1,074.42	-156.50	1,416.50	1,355.18	61.32	23.101		
8,650.00	8,632.95	8,697.71	8,577.52	30.34	31.66	-85.81	1,074.54	-135.43	1,417.56	1,355.95	61.61	23.008		
8,700.00	8,680.82	8,737.43	8,609.90	30.50	31.76	-85.18	1,074.68	-112.43	1,418.74	1,356.84	61.90	22.920		
8,750.00	8,727.25	8,776.51	8,640.11	30.66	31.87	-84.58	1,074.83	-87.67	1,419.98	1,357.81	62.17	22.839		
8,800.00	8,771.89	8,815.00	8,668.16	30.81	31.97	-84.01	1,074.99	-61.32	1,421.27	1,358.83	62.44	22.762		
8,850.00	8,814.40	8,853.00	8,694.05	30.95	32.07	-83.48	1,075.15	-33.52	1,422.57	1,359.88	62.70	22.690		
8,900.00	8,854.46	8,890.55	8,717.77	31.09	32.17	-82.99	1,075.33	-4.41	1,423.85	1,360.90	62.95	22.618		
8,950.00	8,891.75	8,927.72	8,739.33	31.23	32.27	-82.54	1,075.51	25.86	1,425.07	1,361.86	63.21	22.546		
9,000.00	8,926.01	8,964.55	8,758.70	31.37	32.38	-82.13	1,075.69	57.17	1,426.21	1,362.75	63.47	22.471		
9,050.00	8,956.96	9,000.00	8,775.42	31.53	32.50	-81.78	1,075.88	88.43	1,427.25	1,363.51	63.73	22.394		
9,100.00	8,984.38	9,037.40	8,790.92	31.69	32.63	-81.46	1,076.08	122.46	1,428.15	1,364.12	64.03	22.304		
9,150.00	9,008.05	9,073.50	8,803.74	31.87	32.77	-81.20	1,076.28	156.19	1,428.90	1,364.55	64.35	22.206		
9,200.00	9,027.79	9,109.44	8,814.38	32.07	32.92	-80.99	1,076.49	190.51	1,429.48	1,364.79	64.69	22.098		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 0-MWD+IFR1													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
9,250.00	9,043.45	9,145.24	8,822.81	32.29	33.07	-80.83	1,076.69	225.31	1,429.88	1,364.82	65.06	21.978		
9,300.00	9,054.92	9,180.96	8,829.05	32.53	33.25	-80.73	1,076.90	260.47	1,430.08	1,364.62	65.47	21.845		
9,350.00	9,062.10	9,216.62	8,833.07	32.79	33.42	-80.69	1,077.11	295.89	1,430.09	1,364.18	65.90	21.700		
9,400.00	9,064.95	9,252.25	8,834.89	33.06	33.61	-80.70	1,077.33	331.47	1,429.89	1,363.52	66.37	21.545		
9,407.63	9,065.00	9,257.69	8,834.97	33.10	33.64	-80.71	1,077.36	336.91	1,429.84	1,363.40	66.44	21.520		
9,500.00	9,065.00	9,347.67	8,835.00	33.68	34.19	-80.70	1,077.90	426.88	1,429.37	1,361.79	67.58	21.150		
9,600.00	9,065.00	9,447.67	8,835.00	34.41	34.90	-80.70	1,078.49	526.88	1,428.87	1,359.85	69.03	20.700		
9,700.00	9,065.00	9,547.66	8,835.00	35.24	35.71	-80.70	1,079.09	626.88	1,428.38	1,357.70	70.68	20.210		
9,800.00	9,065.00	9,647.66	8,835.00	36.17	36.63	-80.69	1,079.68	726.88	1,427.88	1,355.37	72.51	19.692		
9,900.00	9,065.00	9,747.66	8,835.00	37.19	37.63	-80.69	1,080.28	826.87	1,427.38	1,352.86	74.52	19.154		
10,000.00	9,065.00	9,847.66	8,835.00	38.30	38.72	-80.69	1,080.87	926.87	1,426.88	1,350.19	76.69	18.605		
10,100.00	9,065.00	9,947.66	8,835.00	39.48	39.88	-80.68	1,081.47	1,026.87	1,426.38	1,347.37	79.01	18.052		
10,200.00	9,065.00	10,047.66	8,835.00	40.72	41.11	-80.68	1,082.07	1,126.86	1,425.89	1,344.42	81.47	17.502		
10,300.00	9,065.00	10,147.66	8,835.00	42.03	42.41	-80.68	1,082.66	1,226.86	1,425.39	1,341.34	84.05	16.960		
10,400.00	9,065.00	10,247.66	8,835.00	43.40	43.76	-80.67	1,083.26	1,326.86	1,424.89	1,338.15	86.74	16.428		
10,500.00	9,065.00	10,347.65	8,835.00	44.82	45.17	-80.67	1,083.85	1,426.85	1,424.39	1,334.86	89.53	15.910		
10,600.00	9,065.00	10,447.65	8,835.00	46.29	46.62	-80.67	1,084.45	1,526.85	1,423.89	1,331.48	92.41	15.408		
10,700.00	9,065.00	10,547.65	8,835.00	47.79	48.12	-80.66	1,085.05	1,626.85	1,423.40	1,328.01	95.38	14.923		
10,800.00	9,065.00	10,647.65	8,835.00	49.34	49.65	-80.66	1,085.64	1,726.84	1,422.90	1,324.47	98.43	14.456		
10,900.00	9,065.00	10,747.65	8,835.00	50.92	51.22	-80.66	1,086.24	1,826.84	1,422.40	1,320.85	101.55	14.007		
11,000.00	9,065.00	10,847.65	8,835.00	52.54	52.83	-80.65	1,086.83	1,926.84	1,421.90	1,317.18	104.73	13.577		
11,100.00	9,065.00	10,947.65	8,835.00	54.18	54.46	-80.65	1,087.43	2,026.84	1,421.40	1,313.44	107.96	13.166		
11,200.00	9,065.00	11,047.64	8,835.00	55.85	56.12	-80.65	1,088.03	2,126.83	1,420.91	1,309.65	111.26	12.772		
11,300.00	9,065.00	11,147.64	8,835.00	57.54	57.81	-80.64	1,088.62	2,226.83	1,420.41	1,305.81	114.59	12.395		
11,400.00	9,065.00	11,247.64	8,835.00	59.26	59.51	-80.64	1,089.22	2,326.83	1,419.91	1,301.93	117.98	12.035		
11,500.00	9,065.00	11,347.64	8,835.00	61.00	61.24	-80.64	1,089.81	2,426.82	1,419.41	1,298.01	121.40	11.692		
11,600.00	9,065.00	11,447.64	8,835.00	62.75	62.99	-80.63	1,090.41	2,526.82	1,418.91	1,294.05	124.86	11.364		
11,700.00	9,065.00	11,547.64	8,835.00	64.52	64.76	-80.63	1,091.01	2,626.82	1,418.42	1,290.06	128.36	11.051		
11,800.00	9,065.00	11,647.64	8,835.00	66.31	66.54	-80.63	1,091.60	2,726.81	1,417.92	1,286.03	131.88	10.751		
11,900.00	9,065.00	11,747.64	8,835.00	68.11	68.33	-80.62	1,092.20	2,826.81	1,417.42	1,281.98	135.44	10.465		
12,000.00	9,065.00	11,847.63	8,835.00	69.93	70.14	-80.62	1,092.79	2,926.81	1,416.92	1,277.90	139.02	10.192		
12,100.00	9,065.00	11,947.63	8,835.00	71.76	71.97	-80.62	1,093.39	3,026.81	1,416.43	1,273.80	142.63	9.931		
12,200.00	9,065.00	12,047.63	8,835.00	73.60	73.80	-80.61	1,093.98	3,126.80	1,415.93	1,269.67	146.26	9.681		
12,300.00	9,065.00	12,147.63	8,835.00	75.45	75.65	-80.61	1,094.58	3,226.80	1,415.43	1,265.52	149.91	9.442		
12,400.00	9,065.00	12,247.63	8,835.00	77.31	77.50	-80.61	1,095.18	3,326.80	1,414.93	1,261.35	153.58	9.213		
12,500.00	9,065.00	12,347.63	8,835.00	79.18	79.37	-80.60	1,095.77	3,426.79	1,414.43	1,257.16	157.27	8.994		
12,600.00	9,065.00	12,447.63	8,835.00	81.05	81.24	-80.60	1,096.37	3,526.79	1,413.94	1,252.96	160.98	8.783		
12,700.00	9,065.00	12,547.63	8,835.00	82.94	83.12	-80.60	1,096.96	3,626.79	1,413.44	1,248.74	164.70	8.582		
12,800.00	9,065.00	12,647.62	8,835.00	84.83	85.01	-80.59	1,097.56	3,726.78	1,412.94	1,244.50	168.44	8.389		
12,900.00	9,065.00	12,747.62	8,835.00	86.73	86.91	-80.59	1,098.16	3,826.78	1,412.44	1,240.26	172.19	8.203		
13,000.00	9,065.00	12,847.62	8,835.00	88.64	88.81	-80.59	1,098.75	3,926.78	1,411.94	1,235.99	175.95	8.025		
13,100.00	9,065.00	12,947.62	8,835.00	90.55	90.72	-80.58	1,099.35	4,026.77	1,411.45	1,231.72	179.73	7.853		
13,200.00	9,065.00	13,047.62	8,835.00	92.47	92.63	-80.58	1,099.94	4,126.77	1,410.95	1,227.43	183.51	7.689		
13,300.00	9,065.00	13,147.62	8,835.00	94.39	94.55	-80.58	1,100.54	4,226.77	1,410.45	1,223.14	187.31	7.530		
13,400.00	9,065.00	13,247.62	8,835.00	96.32	96.48	-80.57	1,101.14	4,326.77	1,409.95	1,218.83	191.12	7.377		
13,500.00	9,065.00	13,347.62	8,835.00	98.25	98.41	-80.57	1,101.73	4,426.76	1,409.46	1,214.52	194.94	7.230		
13,600.00	9,065.00	13,447.61	8,835.00	100.19	100.34	-80.57	1,102.33	4,526.76	1,408.96	1,210.19	198.76	7.089		
13,700.00	9,065.00	13,547.61	8,835.00	102.13	102.28	-80.56	1,102.92	4,626.76	1,408.46	1,205.86	202.60	6.952		
13,800.00	9,065.00	13,647.61	8,835.00	104.08	104.23	-80.56	1,103.52	4,726.75	1,407.96	1,201.52	206.44	6.820		
13,900.00	9,065.00	13,747.61	8,835.00	106.03	106.17	-80.56	1,104.12	4,826.75	1,407.46	1,197.17	210.29	6.693		
14,000.00	9,065.00	13,847.61	8,835.00	107.98	108.13	-80.55	1,104.71	4,926.75	1,406.97	1,192.82	214.15	6.570		
14,100.00	9,065.00	13,947.61	8,835.00	109.94	110.08	-80.55	1,105.31	5,026.74	1,406.47	1,188.45	218.01	6.451		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 0-MWD+IFR1													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
14,200.00	9,065.00	14,047.61	8,835.00	111.90	112.04	-80.55	1,105.90	5,126.74	1,405.97	1,184.09	221.89	6.336		
14,300.00	9,065.00	14,147.61	8,835.00	113.86	114.00	-80.54	1,106.50	5,226.74	1,405.47	1,179.71	225.76	6.225		
14,400.00	9,065.00	14,247.60	8,835.00	115.82	115.96	-80.54	1,107.09	5,326.74	1,404.98	1,175.33	229.64	6.118		
14,500.00	9,065.00	14,347.60	8,835.00	117.79	117.93	-80.54	1,107.69	5,426.73	1,404.48	1,170.95	233.53	6.014		
14,600.00	9,065.00	14,447.60	8,835.00	119.76	119.90	-80.53	1,108.29	5,526.73	1,403.98	1,166.55	237.42	5.913		
14,700.00	9,065.00	14,547.60	8,835.00	121.74	121.87	-80.53	1,108.88	5,626.73	1,403.48	1,162.16	241.32	5.816		
14,800.00	9,065.00	14,647.60	8,835.00	123.71	123.84	-80.53	1,109.48	5,726.72	1,402.98	1,157.76	245.23	5.721		
14,900.00	9,065.00	14,747.60	8,835.00	125.69	125.82	-80.52	1,110.07	5,826.72	1,402.49	1,153.35	249.13	5.629		
15,000.00	9,065.00	14,847.60	8,835.00	127.67	127.80	-80.52	1,110.67	5,926.72	1,401.99	1,148.95	253.04	5.541		
15,100.00	9,065.00	14,947.60	8,835.00	129.65	129.78	-80.52	1,111.27	6,026.71	1,401.49	1,144.53	256.96	5.454		
15,200.00	9,065.00	15,047.59	8,835.00	131.63	131.76	-80.51	1,111.86	6,126.71	1,400.99	1,140.12	260.88	5.370		
15,300.00	9,065.00	15,147.59	8,835.00	133.62	133.75	-80.51	1,112.46	6,226.71	1,400.50	1,135.70	264.80	5.289		
15,400.00	9,065.00	15,247.59	8,835.00	135.61	135.73	-80.51	1,113.05	6,326.70	1,400.00	1,131.27	268.73	5.210		
15,500.00	9,065.00	15,347.59	8,835.00	137.60	137.72	-80.50	1,113.65	6,426.70	1,399.50	1,126.84	272.66	5.133		
15,600.00	9,065.00	15,447.59	8,835.00	139.59	139.71	-80.50	1,114.25	6,526.70	1,399.00	1,122.41	276.59	5.058		
15,700.00	9,065.00	15,547.59	8,835.00	141.58	141.70	-80.50	1,114.84	6,626.70	1,398.50	1,117.98	280.52	4.985 Alert		
15,800.00	9,065.00	15,647.59	8,835.00	143.57	143.70	-80.49	1,115.44	6,726.69	1,398.01	1,113.54	284.46	4.915 Alert		
15,900.00	9,065.00	15,747.59	8,835.00	145.57	145.69	-80.49	1,116.03	6,826.69	1,397.51	1,109.10	288.41	4.846 Alert		
16,000.00	9,065.00	15,847.58	8,835.00	147.56	147.69	-80.49	1,116.63	6,926.69	1,397.01	1,104.66	292.35	4.779 Alert		
16,100.00	9,065.00	15,947.58	8,835.00	149.56	149.68	-80.48	1,117.23	7,026.68	1,396.51	1,100.22	296.30	4.713 Alert		
16,200.00	9,065.00	16,047.58	8,835.00	151.56	151.68	-80.48	1,117.82	7,126.68	1,396.02	1,095.77	300.25	4.650 Alert		
16,300.00	9,065.00	16,147.58	8,835.00	153.56	153.68	-80.48	1,118.42	7,226.68	1,395.52	1,091.32	304.20	4.588 Alert		
16,400.00	9,065.00	16,247.58	8,835.00	155.56	155.68	-80.47	1,119.01	7,326.67	1,395.02	1,086.87	308.15	4.527 Alert		
16,500.00	9,065.00	16,347.58	8,835.00	157.57	157.69	-80.47	1,119.61	7,426.67	1,394.52	1,082.42	312.11	4.468 Alert		
16,600.00	9,065.00	16,447.58	8,835.00	159.57	159.69	-80.47	1,120.20	7,526.67	1,394.03	1,077.96	316.07	4.411 Alert		
16,700.00	9,065.00	16,547.58	8,835.00	161.57	161.69	-80.46	1,120.80	7,626.66	1,393.53	1,073.50	320.03	4.354 Alert		
16,800.00	9,065.00	16,647.57	8,835.00	163.58	163.70	-80.46	1,121.40	7,726.66	1,393.03	1,069.04	323.99	4.300 Alert		
16,900.00	9,065.00	16,747.57	8,835.00	165.59	165.71	-80.46	1,121.99	7,826.66	1,392.53	1,064.58	327.95	4.246 Alert		
17,000.00	9,065.00	16,847.57	8,835.00	167.60	167.71	-80.45	1,122.59	7,926.66	1,392.04	1,060.12	331.92	4.194 Alert		
17,100.00	9,065.00	16,947.57	8,835.00	169.60	169.72	-80.45	1,123.18	8,026.65	1,391.54	1,055.65	335.89	4.143 Alert		
17,200.00	9,065.00	17,047.57	8,835.00	171.61	171.73	-80.45	1,123.78	8,126.65	1,391.04	1,051.18	339.86	4.093 Alert		
17,300.00	9,065.00	17,147.57	8,835.00	173.62	173.74	-80.44	1,124.38	8,226.65	1,390.54	1,046.71	343.83	4.044 Alert		
17,400.00	9,065.00	17,247.57	8,835.00	175.63	175.75	-80.44	1,124.97	8,326.64	1,390.04	1,042.24	347.80	3.997 Alert		
17,500.00	9,065.00	17,347.56	8,835.00	177.65	177.76	-80.43	1,125.57	8,426.64	1,389.55	1,037.77	351.78	3.950 Alert		
17,600.00	9,065.00	17,447.56	8,835.00	179.66	179.78	-80.43	1,126.16	8,526.64	1,389.05	1,033.30	355.75	3.905 Alert		
17,700.00	9,065.00	17,547.56	8,835.00	181.67	181.79	-80.43	1,126.76	8,626.63	1,388.55	1,028.82	359.73	3.860 Alert		
17,800.00	9,065.00	17,647.56	8,835.00	183.69	183.80	-80.42	1,127.36	8,726.63	1,388.05	1,024.35	363.71	3.816 Alert		
17,900.00	9,065.00	17,747.56	8,835.00	185.70	185.82	-80.42	1,127.95	8,826.63	1,387.56	1,019.87	367.69	3.774 Alert		
18,000.00	9,065.00	17,847.56	8,835.00	187.72	187.83	-80.42	1,128.55	8,926.63	1,387.06	1,015.39	371.67	3.732 Alert		
18,100.00	9,065.00	17,947.56	8,835.00	189.73	189.85	-80.41	1,129.14	9,026.62	1,386.56	1,010.91	375.65	3.691 Alert		
18,200.00	9,065.00	18,047.56	8,835.00	191.75	191.87	-80.41	1,129.74	9,126.62	1,386.06	1,006.43	379.63	3.651 Alert		
18,300.00	9,065.00	18,147.55	8,835.00	193.77	193.88	-80.41	1,130.34	9,226.62	1,385.57	1,001.95	383.62	3.612 Alert		
18,400.00	9,065.00	18,247.55	8,835.00	195.78	195.90	-80.40	1,130.93	9,326.61	1,385.07	997.47	387.60	3.573 Alert		
18,500.00	9,065.00	18,347.55	8,835.00	197.80	197.92	-80.40	1,131.53	9,426.61	1,384.57	992.98	391.59	3.536 Alert		
18,600.00	9,065.00	18,447.55	8,835.00	199.82	199.94	-80.40	1,132.12	9,526.61	1,384.07	988.50	395.58	3.499 Alert		
18,700.00	9,065.00	18,547.55	8,835.00	201.84	201.96	-80.39	1,132.72	9,626.60	1,383.58	984.01	399.57	3.463 Alert		
18,800.00	9,065.00	18,647.55	8,835.00	203.86	203.98	-80.39	1,133.31	9,726.60	1,383.08	979.52	403.56	3.427 Alert		
18,900.00	9,065.00	18,747.55	8,835.00	205.88	206.00	-80.39	1,133.91	9,826.60	1,382.58	975.03	407.55	3.392 Alert		
19,000.00	9,065.00	18,847.55	8,835.00	207.90	208.02	-80.38	1,134.51	9,926.59	1,382.08	970.54	411.54	3.358 Alert		
19,100.00	9,065.00	18,947.54	8,835.00	209.92	210.04	-80.38	1,135.10	10,026.59	1,381.59	966.05	415.53	3.325 Alert		
19,200.00	9,065.00	19,047.54	8,835.00	211.95	212.06	-80.38	1,135.70	10,126.59	1,381.09	961.56	419.52	3.292 Alert		
19,300.00	9,065.00	19,147.54	8,835.00	213.97	214.09	-80.37	1,136.29	10,226.59	1,380.59	957.07	423.52	3.260 Alert		

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design		Sec 14-T21S-R27E - Lone Tree Draw 14-13 State Com 333H - Wellbore #1 - Permit Plan 1										Offset Site Error:		0.00 ft
Survey Program:		0-MWD+IFR1										Offset Well Error:		0.50 ft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre	Between Centres	Between Ellipses	Minimum Separation	Separation Factor			
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)			
19,400.00	9,065.00	19,247.54	8,835.00	215.99	216.11	-80.37	1,136.89	10,326.58	1,380.09	952.58	427.51	3.228	Alert	
19,456.84	9,065.00	19,304.38	8,835.00	217.14	217.26	-80.37	1,137.23	10,383.42	1,379.81	950.03	429.79	3.210	Alert, SF	

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 0-MWD+IFR1													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0.00	0.00	0.60	0.60	0.50	0.50	-0.10	30.01	-0.05	30.01					
100.00	100.00	100.60	100.60	0.52	0.52	-0.10	30.01	-0.05	30.01	28.97	1.04	28.965		
200.00	200.00	200.60	200.60	0.70	0.70	-0.10	30.01	-0.05	30.01	28.60	1.41	21.349		
300.00	300.00	300.60	300.60	0.99	0.99	-0.10	30.01	-0.05	30.01	28.03	1.98	15.183		
400.00	400.00	400.60	400.60	1.31	1.31	-0.10	30.01	-0.05	30.01	27.39	2.62	11.454		
500.00	500.00	500.60	500.60	1.65	1.65	-0.10	30.01	-0.05	30.01	26.72	3.29	9.110		
600.00	600.00	600.60	600.60	1.99	1.99	-0.10	30.01	-0.05	30.01	26.03	3.98	7.534		
700.00	700.00	700.60	700.60	2.34	2.34	-0.10	30.01	-0.05	30.01	25.33	4.68	6.411		
800.00	800.00	800.60	800.60	2.69	2.69	-0.10	30.01	-0.05	30.01	24.63	5.38	5.575		
900.00	900.00	900.60	900.60	3.04	3.05	-0.10	30.01	-0.05	30.01	23.92	6.09	4.928 Alert		
1,000.00	1,000.00	1,000.60	1,000.60	3.40	3.40	-0.10	30.01	-0.05	30.01	23.21	6.80	4.415 Alert		
1,100.00	1,100.00	1,100.60	1,100.60	3.75	3.75	-0.10	30.01	-0.05	30.01	22.50	7.51	3.997 Alert		
1,200.00	1,200.00	1,200.60	1,200.60	4.11	4.11	-0.10	30.01	-0.05	30.01	21.79	8.22	3.652 Alert		
1,300.00	1,300.00	1,300.60	1,300.60	4.46	4.47	-0.10	30.01	-0.05	30.01	21.08	8.93	3.360 Alert		
1,400.00	1,400.00	1,400.60	1,400.60	4.82	4.82	-0.10	30.01	-0.05	30.01	20.37	9.64	3.112 Alert		
1,500.00	1,500.00	1,500.60	1,500.60	5.18	5.18	-0.10	30.01	-0.05	30.01	19.65	10.36	2.898 Alert		
1,600.00	1,600.00	1,600.60	1,600.60	5.53	5.54	-0.10	30.01	-0.05	30.01	18.94	11.07	2.711 Alert		
1,700.00	1,700.00	1,700.60	1,700.60	5.89	5.89	-0.10	30.01	-0.05	30.01	18.23	11.78	2.547 Alert		
1,800.00	1,800.00	1,800.60	1,800.60	6.25	6.25	-0.10	30.01	-0.05	30.01	17.51	12.50	2.401 Minor Risk		
1,900.00	1,900.00	1,900.60	1,900.60	6.61	6.61	-0.10	30.01	-0.05	30.01	16.80	13.21	2.271 Minor Risk		
2,000.00	2,000.00	2,000.60	2,000.60	6.96	6.97	-0.10	30.01	-0.05	30.01	16.08	13.93	2.155 Minor Risk		
2,100.00	2,100.00	2,100.60	2,100.60	7.32	7.32	-0.10	30.01	-0.05	30.01	15.37	14.64	2.049 Minor Risk		
2,200.00	2,200.00	2,200.60	2,200.60	7.68	7.68	-0.10	30.01	-0.05	30.01	14.65	15.36	1.954 Minor Risk		
2,300.00	2,300.00	2,300.60	2,300.60	8.04	8.04	-0.10	30.01	-0.05	30.01	13.94	16.07	1.867 Minor Risk		
2,400.00	2,400.00	2,400.60	2,400.60	8.39	8.40	-0.10	30.01	-0.05	30.01	13.22	16.79	1.787 Minor Risk		
2,500.00	2,500.00	2,500.60	2,500.60	8.75	8.75	-0.10	30.01	-0.05	30.01	12.50	17.51	1.714 Minor Risk, CC, ES		
2,600.00	2,599.99	2,600.59	2,600.59	9.09	9.11	146.74	30.01	-0.05	30.74	12.53	18.21	1.688 Minor Risk		
2,700.00	2,699.96	2,700.56	2,700.56	9.42	9.47	149.22	30.01	-0.05	32.96	14.07	18.89	1.745 Minor Risk		
2,800.00	2,799.86	2,800.46	2,800.46	9.75	9.83	152.68	30.01	-0.05	36.77	17.20	19.58	1.878 Minor Risk		
2,900.00	2,899.68	2,900.28	2,900.28	10.08	10.18	156.46	30.01	-0.05	42.29	22.03	20.26	2.087 Minor Risk		
2,945.33	2,944.88	2,945.48	2,945.48	10.23	10.35	158.13	30.01	-0.05	45.37	24.80	20.58	2.205 Minor Risk		
3,000.00	2,999.39	3,000.01	2,999.99	10.41	10.54	159.97	30.01	-0.05	49.34	28.39	20.95	2.355 Minor Risk		
3,100.00	3,099.08	3,100.32	3,099.68	10.75	10.90	162.66	30.01	-0.05	56.70	35.05	21.65	2.619 Alert		
3,200.00	3,198.78	3,200.62	3,199.38	11.08	11.26	164.72	30.01	-0.05	64.15	41.81	22.34	2.872 Alert		
3,300.00	3,298.48	3,300.92	3,299.08	11.42	11.62	166.36	30.01	-0.05	71.68	48.64	23.04	3.111 Alert		
3,400.00	3,398.18	3,401.22	3,398.78	11.76	11.98	167.68	30.01	-0.05	79.24	55.51	23.74	3.339 Alert		
3,500.00	3,497.88	3,501.52	3,498.48	12.10	12.34	168.78	30.01	-0.05	86.85	62.41	24.43	3.554 Alert		
3,600.00	3,597.58	3,601.82	3,598.18	12.45	12.70	169.69	30.01	-0.05	94.47	69.34	25.13	3.759 Alert		
3,700.00	3,697.27	3,702.13	3,697.87	12.79	13.06	170.47	30.01	-0.05	102.12	76.29	25.84	3.953 Alert		
3,800.00	3,796.97	3,802.43	3,797.57	13.14	13.42	171.14	30.01	-0.05	109.79	83.25	26.54	4.137 Alert		
3,900.00	3,896.67	3,902.73	3,897.27	13.48	13.78	171.73	30.01	-0.05	117.47	90.23	27.24	4.312 Alert		
4,000.00	3,996.37	3,996.97	3,996.97	13.83	14.11	172.24	30.01	-0.05	125.16	97.23	27.92	4.482 Alert		
4,100.00	4,096.07	4,096.55	4,096.55	14.18	14.47	172.34	30.41	-0.76	132.90	104.27	28.62	4.643 Alert		
4,200.00	4,195.76	4,196.10	4,196.06	14.53	14.81	171.72	31.66	-2.97	140.74	111.42	29.32	4.801 Alert		
4,300.00	4,295.46	4,295.54	4,295.41	14.88	15.16	170.51	33.76	-6.68	148.73	118.71	30.01	4.956 Alert		
4,400.00	4,395.16	4,394.83	4,394.52	15.23	15.51	168.79	36.70	-11.89	156.96	126.26	30.71	5.112		
4,500.00	4,494.86	4,505.75	4,493.68	15.58	15.90	166.84	40.22	-18.12	165.50	134.05	31.45	5.263		
4,600.00	4,594.56	4,606.27	4,592.90	15.93	16.26	165.07	43.77	-24.39	174.22	142.07	32.15	5.419		
4,700.00	4,694.25	4,706.79	4,692.12	16.29	16.61	163.46	47.31	-30.66	183.08	150.23	32.85	5.573		
4,800.00	4,793.95	4,807.30	4,791.34	16.64	16.96	162.01	50.85	-36.92	192.08	158.52	33.56	5.724		
4,900.00	4,893.65	4,907.82	4,890.56	17.00	17.32	160.69	54.39	-43.19	201.18	166.92	34.26	5.872		
5,000.00	4,993.35	5,008.34	4,989.79	17.35	17.68	159.48	57.94	-49.46	210.38	175.42	34.97	6.016		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Sec 14-T21S-R27E - Lone Tree Draw 14-13 State Com 334H - Wellbore #1 - Permit Plan 1													Offset Well Error:	0.50 ft
Survey Program: 0-MWD+IFR1														
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
5,100.00	5,093.05	5,108.86	5,089.01	17.71	18.03	158.37	61.48	-55.73	219.67	184.00	35.68	6.157		
5,200.00	5,192.75	5,209.38	5,188.23	18.06	18.39	157.36	65.02	-62.00	229.04	192.65	36.39	6.295		
5,300.00	5,292.44	5,309.89	5,287.45	18.42	18.75	156.42	68.57	-68.26	238.47	201.37	37.09	6.429		
5,400.00	5,392.14	5,389.59	5,386.67	18.77	19.03	155.56	72.11	-74.53	247.95	210.22	37.73	6.572		
5,500.00	5,491.84	5,489.07	5,485.89	19.13	19.38	154.76	75.65	-80.80	257.49	219.05	38.44	6.699		
5,600.00	5,591.54	5,588.55	5,585.11	19.49	19.74	154.01	79.19	-87.07	267.08	227.93	39.14	6.823		
5,700.00	5,691.24	5,688.03	5,684.33	19.85	20.09	153.32	82.74	-93.33	276.70	236.85	39.85	6.943		
5,800.00	5,790.93	5,787.51	5,783.55	20.20	20.45	152.67	86.28	-99.60	286.37	245.81	40.56	7.060		
5,900.00	5,890.63	5,887.00	5,882.77	20.56	20.80	152.07	89.82	-105.87	296.07	254.80	41.27	7.174		
6,000.00	5,990.33	5,986.48	5,981.99	20.92	21.16	151.51	93.36	-112.14	305.80	263.82	41.98	7.284		
6,100.00	6,090.03	6,085.96	6,081.21	21.28	21.51	150.98	96.91	-118.41	315.55	272.86	42.69	7.391		
6,200.00	6,189.73	6,185.44	6,180.44	21.64	21.87	150.48	100.45	-124.67	325.33	281.93	43.40	7.496		
6,300.00	6,289.42	6,284.92	6,279.66	22.00	22.22	150.01	103.99	-130.94	335.14	291.03	44.11	7.597		
6,400.00	6,389.12	6,384.40	6,378.88	22.36	22.58	149.56	107.53	-137.21	344.97	300.14	44.83	7.696		
6,500.00	6,488.82	6,483.89	6,478.10	22.72	22.93	149.15	111.08	-143.48	354.81	309.27	45.54	7.792		
6,600.00	6,588.52	6,583.37	6,577.32	23.08	23.29	148.75	114.62	-149.74	364.67	318.42	46.25	7.885		
6,700.00	6,688.22	6,682.85	6,676.54	23.44	23.65	148.38	118.16	-156.01	374.55	327.59	46.96	7.975		
6,800.00	6,787.91	6,782.33	6,775.76	23.80	24.00	148.02	121.70	-162.28	384.45	336.77	47.68	8.064		
6,900.00	6,887.61	6,881.81	6,874.98	24.16	24.36	147.68	125.25	-168.55	394.35	345.96	48.39	8.149		
7,000.00	6,987.31	6,981.30	6,974.20	24.52	24.72	147.36	128.79	-174.81	404.27	355.17	49.10	8.233		
7,100.00	7,087.01	7,080.78	7,073.42	24.88	25.07	147.06	132.33	-181.08	414.21	364.39	49.82	8.314		
7,200.00	7,186.71	7,180.26	7,172.64	25.24	25.43	146.77	135.88	-187.35	424.15	373.62	50.53	8.394		
7,300.00	7,286.41	7,279.74	7,271.87	25.60	25.79	146.49	139.42	-193.62	434.11	382.86	51.25	8.471		
7,400.00	7,386.10	7,379.22	7,371.09	25.96	26.15	146.22	142.96	-199.89	444.07	392.11	51.96	8.546		
7,500.00	7,485.80	7,478.70	7,470.31	26.33	26.50	145.97	146.50	-206.15	454.04	401.36	52.68	8.619		
7,600.00	7,585.50	7,578.19	7,569.53	26.69	26.86	145.72	150.05	-212.42	464.02	410.63	53.39	8.690		
7,700.00	7,685.20	7,677.67	7,668.75	27.05	27.22	145.49	153.59	-218.69	474.01	419.90	54.11	8.760		
7,800.00	7,784.90	7,781.04	7,771.88	27.41	27.59	145.31	157.03	-224.77	483.78	428.92	54.86	8.819		
7,860.70	7,845.41	7,845.62	7,836.38	27.63	27.82	145.33	158.55	-227.46	489.11	433.79	55.32	8.842		
7,900.00	7,884.61	7,887.48	7,878.22	27.77	27.97	145.42	159.25	-228.70	492.12	436.50	55.61	8.849		
8,000.00	7,984.46	7,994.19	7,984.92	28.13	28.35	145.68	160.01	-230.05	497.32	440.96	56.36	8.824		
8,100.00	8,084.42	8,105.71	8,085.02	28.49	28.75	145.89	160.01	-230.05	499.65	442.54	57.11	8.748		
8,157.59	8,142.00	8,151.87	8,142.60	28.69	28.91	-0.01	160.01	-230.05	500.01	442.53	57.48	8.699		
8,200.00	8,184.41	8,205.72	8,185.01	28.83	29.10	-0.01	160.01	-230.05	500.01	442.20	57.81	8.649		
8,300.00	8,284.41	8,294.28	8,285.01	29.17	29.42	-0.01	160.01	-230.05	500.01	441.54	58.47	8.552		
8,302.89	8,287.30	8,302.83	8,287.90	29.18	29.45	-0.01	160.01	-230.05	500.01	441.50	58.51	8.546		
8,400.00	8,384.41	8,393.72	8,384.40	29.51	29.76	0.22	160.03	-228.09	500.04	440.89	59.15	8.454		
8,507.63	8,492.04	8,496.88	8,485.88	29.87	30.10	2.25	160.23	-210.38	500.66	440.81	59.84	8.366		
8,550.00	8,534.37	8,535.70	8,523.00	30.02	30.23	-85.92	160.35	-199.03	501.34	441.24	60.10	8.342		
8,600.00	8,584.01	8,580.72	8,564.97	30.18	30.38	-84.53	160.53	-182.77	502.41	442.04	60.37	8.322		
8,650.00	8,632.95	8,624.98	8,604.85	30.34	30.52	-83.19	160.74	-163.61	503.74	443.11	60.63	8.309		
8,700.00	8,680.82	8,668.52	8,642.54	30.50	30.66	-81.91	160.98	-141.82	505.27	444.42	60.85	8.304		
8,750.00	8,727.25	8,711.44	8,677.95	30.66	30.79	-80.69	161.25	-117.60	506.96	445.93	61.03	8.306		
8,800.00	8,771.89	8,753.78	8,711.02	30.81	30.93	-79.54	161.54	-91.17	508.77	447.58	61.19	8.315		
8,850.00	8,814.40	8,795.61	8,741.69	30.95	31.06	-78.47	161.85	-62.74	510.64	449.32	61.32	8.328		
8,900.00	8,854.46	8,836.99	8,769.90	31.09	31.20	-77.48	162.18	-32.48	512.53	451.11	61.42	8.344		
8,950.00	8,891.75	8,877.97	8,795.62	31.23	31.34	-76.57	162.53	-0.60	514.38	452.87	61.51	8.362		
9,000.00	8,926.01	8,918.59	8,818.80	31.37	31.49	-75.75	162.90	32.75	516.16	454.56	61.60	8.379		
9,050.00	8,956.96	8,958.90	8,839.41	31.53	31.64	-75.02	163.28	67.38	517.82	456.12	61.70	8.393		
9,100.00	8,984.38	8,998.95	8,857.43	31.69	31.81	-74.39	163.67	103.14	519.33	457.51	61.82	8.401		
9,150.00	9,008.05	9,038.79	8,872.83	31.87	31.98	-73.86	164.08	139.87	520.65	458.67	61.98	8.401		
9,200.00	9,027.79	9,078.44	8,885.58	32.07	32.16	-73.43	164.49	177.40	521.75	459.57	62.18	8.391		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 0-MWD+IFR1													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
9,250.00	9,043.45	9,117.95	8,895.68	32.29	32.36	-73.09	164.91	215.59	522.62	460.18	62.44	8.370		
9,300.00	9,054.92	9,157.36	8,903.11	32.53	32.56	-72.86	165.34	254.29	523.24	460.47	62.76	8.337		
9,350.00	9,062.10	9,196.71	8,907.85	32.79	32.77	-72.73	165.77	293.34	523.58	460.43	63.15	8.290		
9,400.00	9,064.95	9,236.03	8,909.91	33.06	32.99	-72.71	166.20	332.59	523.65	460.04	63.61	8.232		
9,407.63	9,065.00	9,242.03	8,909.98	33.10	33.03	-72.71	166.26	338.59	523.63	459.95	63.69	8.222		
9,440.52	9,065.00	9,273.75	8,910.00	33.31	33.22	-72.71	166.61	370.31	523.63	459.56	64.07	8.173		
9,500.00	9,065.00	9,333.23	8,910.00	33.68	33.61	-72.71	167.27	429.79	523.63	458.83	64.80	8.081		
9,600.00	9,065.00	9,433.23	8,910.00	34.41	34.34	-72.71	168.37	529.79	523.63	457.43	66.19	7.910		
9,700.00	9,065.00	9,533.23	8,910.00	35.24	35.18	-72.71	169.47	629.78	523.63	455.83	67.79	7.724		
9,800.00	9,065.00	9,633.23	8,910.00	36.17	36.11	-72.71	170.57	729.77	523.63	454.05	69.58	7.526		
9,900.00	9,065.00	9,733.23	8,910.00	37.19	37.13	-72.71	171.67	829.77	523.63	452.09	71.53	7.320		
10,000.00	9,065.00	9,833.23	8,910.00	38.30	38.23	-72.71	172.77	929.76	523.62	449.97	73.65	7.110		
10,100.00	9,065.00	9,933.23	8,910.00	39.48	39.41	-72.71	173.87	1,029.76	523.62	447.71	75.91	6.898		
10,200.00	9,065.00	10,033.23	8,910.00	40.72	40.66	-72.71	174.97	1,129.75	523.62	445.32	78.30	6.687		
10,300.00	9,065.00	10,133.23	8,910.00	42.03	41.97	-72.71	176.07	1,229.74	523.62	442.80	80.82	6.479		
10,400.00	9,065.00	10,233.23	8,910.00	43.40	43.34	-72.71	177.16	1,329.74	523.62	440.18	83.44	6.275		
10,500.00	9,065.00	10,333.23	8,910.00	44.82	44.76	-72.71	178.26	1,429.73	523.62	437.45	86.17	6.077		
10,600.00	9,065.00	10,433.23	8,910.00	46.29	46.22	-72.71	179.36	1,529.73	523.62	434.64	88.98	5.884		
10,700.00	9,065.00	10,533.23	8,910.00	47.79	47.73	-72.71	180.46	1,629.72	523.62	431.74	91.88	5.699		
10,800.00	9,065.00	10,633.23	8,910.00	49.34	49.28	-72.71	181.56	1,729.71	523.62	428.76	94.85	5.520		
10,900.00	9,065.00	10,733.23	8,910.00	50.92	50.86	-72.71	182.66	1,829.71	523.62	425.72	97.90	5.349		
11,000.00	9,065.00	10,833.23	8,910.00	52.54	52.48	-72.71	183.76	1,929.70	523.62	422.62	101.00	5.184		
11,100.00	9,065.00	10,933.23	8,910.00	54.18	54.12	-72.71	184.86	2,029.70	523.62	419.46	104.16	5.027		
11,200.00	9,065.00	11,033.23	8,910.00	55.85	55.79	-72.71	185.96	2,129.69	523.62	416.25	107.37	4.877	Alert	
11,300.00	9,065.00	11,133.23	8,910.00	57.54	57.49	-72.71	187.06	2,229.68	523.61	412.99	110.63	4.733	Alert	
11,400.00	9,065.00	11,233.23	8,910.00	59.26	59.20	-72.71	188.16	2,329.68	523.61	409.69	113.93	4.596	Alert	
11,500.00	9,065.00	11,333.23	8,910.00	61.00	60.94	-72.71	189.26	2,429.67	523.61	406.35	117.27	4.465	Alert	
11,600.00	9,065.00	11,433.23	8,910.00	62.75	62.70	-72.71	190.36	2,529.66	523.61	402.97	120.64	4.340	Alert	
11,700.00	9,065.00	11,533.23	8,910.00	64.52	64.47	-72.71	191.46	2,629.66	523.61	399.56	124.05	4.221	Alert	
11,800.00	9,065.00	11,633.23	8,910.00	66.31	66.26	-72.71	192.56	2,729.65	523.61	396.12	127.49	4.107	Alert	
11,900.00	9,065.00	11,733.23	8,910.00	68.11	68.06	-72.71	193.66	2,829.65	523.61	392.65	130.96	3.998	Alert	
12,000.00	9,065.00	11,833.23	8,910.00	69.93	69.88	-72.71	194.76	2,929.64	523.61	389.16	134.45	3.894	Alert	
12,100.00	9,065.00	11,933.23	8,910.00	71.76	71.71	-72.71	195.86	3,029.63	523.61	385.64	137.97	3.795	Alert	
12,200.00	9,065.00	12,033.23	8,910.00	73.60	73.55	-72.71	196.96	3,129.63	523.61	382.10	141.51	3.700	Alert	
12,300.00	9,065.00	12,133.23	8,910.00	75.45	75.40	-72.71	198.06	3,229.62	523.61	378.54	145.07	3.609	Alert	
12,400.00	9,065.00	12,233.23	8,910.00	77.31	77.26	-72.71	199.16	3,329.62	523.61	374.96	148.64	3.523	Alert	
12,500.00	9,065.00	12,333.24	8,910.00	79.18	79.13	-72.71	200.26	3,429.61	523.61	371.37	152.24	3.439	Alert	
12,600.00	9,065.00	12,433.24	8,910.00	81.05	81.01	-72.71	201.36	3,529.60	523.61	367.75	155.85	3.360	Alert	
12,700.00	9,065.00	12,533.24	8,910.00	82.94	82.89	-72.71	202.46	3,629.60	523.60	364.12	159.48	3.283	Alert	
12,800.00	9,065.00	12,633.24	8,910.00	84.83	84.78	-72.71	203.56	3,729.59	523.60	360.48	163.12	3.210	Alert	
12,900.00	9,065.00	12,733.24	8,910.00	86.73	86.68	-72.71	204.66	3,829.59	523.60	356.82	166.78	3.139	Alert	
13,000.00	9,065.00	12,833.24	8,910.00	88.64	88.59	-72.71	205.76	3,929.58	523.60	353.15	170.45	3.072	Alert	
13,100.00	9,065.00	12,933.24	8,910.00	90.55	90.50	-72.71	206.86	4,029.57	523.60	349.47	174.13	3.007	Alert	
13,200.00	9,065.00	13,033.24	8,910.00	92.47	92.42	-72.71	207.96	4,129.57	523.60	345.78	177.82	2.945	Alert	
13,300.00	9,065.00	13,133.24	8,910.00	94.39	94.35	-72.71	209.06	4,229.56	523.60	342.08	181.52	2.885	Alert	
13,400.00	9,065.00	13,233.24	8,910.00	96.32	96.28	-72.71	210.16	4,329.56	523.60	338.37	185.23	2.827	Alert	
13,500.00	9,065.00	13,333.24	8,910.00	98.25	98.21	-72.71	211.26	4,429.55	523.60	334.65	188.95	2.771	Alert	
13,600.00	9,065.00	13,433.24	8,910.00	100.19	100.15	-72.71	212.36	4,529.54	523.60	330.92	192.68	2.717	Alert	
13,700.00	9,065.00	13,533.24	8,910.00	102.13	102.09	-72.71	213.46	4,629.54	523.60	327.18	196.42	2.666	Alert	
13,800.00	9,065.00	13,633.24	8,910.00	104.08	104.03	-72.71	214.56	4,729.53	523.60	323.43	200.16	2.616	Alert	
13,900.00	9,065.00	13,733.24	8,910.00	106.03	105.98	-72.71	215.66	4,829.53	523.60	319.68	203.91	2.568	Alert	
14,000.00	9,065.00	13,833.24	8,910.00	107.98	107.94	-72.71	216.76	4,929.52	523.59	315.92	207.67	2.521	Alert	

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 0-MWD+IFR1													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)						
14,100.00	9,065.00	13,933.24	8,910.00	109.94	109.89	-72.71	217.86	5,029.51	523.59	312.16	211.44	2.476	Minor Risk	
14,200.00	9,065.00	14,033.24	8,910.00	111.90	111.85	-72.71	218.95	5,129.51	523.59	308.39	215.21	2.433	Minor Risk	
14,300.00	9,065.00	14,133.24	8,910.00	113.86	113.82	-72.71	220.05	5,229.50	523.59	304.61	218.99	2.391	Minor Risk	
14,400.00	9,065.00	14,233.24	8,910.00	115.82	115.78	-72.71	221.15	5,329.50	523.59	300.82	222.77	2.350	Minor Risk	
14,500.00	9,065.00	14,333.24	8,910.00	117.79	117.75	-72.71	222.25	5,429.49	523.59	297.04	228.56	2.311	Minor Risk	
14,600.00	9,065.00	14,433.24	8,910.00	119.76	119.72	-72.71	223.35	5,529.48	523.59	293.24	230.35	2.273	Minor Risk	
14,700.00	9,065.00	14,533.24	8,910.00	121.74	121.70	-72.71	224.45	5,629.48	523.59	289.44	234.15	2.236	Minor Risk	
14,800.00	9,065.00	14,633.24	8,910.00	123.71	123.67	-72.71	225.55	5,729.47	523.59	285.64	237.95	2.200	Minor Risk	
14,900.00	9,065.00	14,733.24	8,910.00	125.69	125.65	-72.71	226.65	5,829.47	523.59	281.83	241.75	2.166	Minor Risk	
15,000.00	9,065.00	14,833.24	8,910.00	127.67	127.63	-72.71	227.75	5,929.46	523.59	278.02	245.57	2.132	Minor Risk	
15,100.00	9,065.00	14,933.24	8,910.00	129.65	129.61	-72.71	228.85	6,029.45	523.59	274.21	249.38	2.100	Minor Risk	
15,200.00	9,065.00	15,033.24	8,910.00	131.63	131.60	-72.71	229.95	6,129.45	523.59	270.39	253.20	2.068	Minor Risk	
15,300.00	9,065.00	15,133.24	8,910.00	133.62	133.58	-72.71	231.05	6,229.44	523.58	266.57	257.02	2.037	Minor Risk	
15,400.00	9,065.00	15,233.24	8,910.00	135.61	135.57	-72.71	232.15	6,329.44	523.58	262.74	260.84	2.007	Minor Risk	
15,500.00	9,065.00	15,333.24	8,910.00	137.60	137.56	-72.71	233.25	6,429.43	523.58	258.91	264.67	1.978	Minor Risk	
15,600.00	9,065.00	15,433.24	8,910.00	139.59	139.55	-72.71	234.35	6,529.42	523.58	255.08	268.50	1.950	Minor Risk	
15,700.00	9,065.00	15,533.24	8,910.00	141.58	141.54	-72.71	235.45	6,629.42	523.58	251.24	272.34	1.923	Minor Risk	
15,800.00	9,065.00	15,633.24	8,910.00	143.57	143.54	-72.71	236.55	6,729.41	523.58	247.40	276.18	1.896	Minor Risk	
15,900.00	9,065.00	15,733.24	8,910.00	145.57	145.53	-72.71	237.65	6,829.40	523.58	243.56	280.02	1.870	Minor Risk	
16,000.00	9,065.00	15,833.24	8,910.00	147.56	147.53	-72.71	238.75	6,929.40	523.58	239.72	283.86	1.845	Minor Risk	
16,100.00	9,065.00	15,933.24	8,910.00	149.56	149.53	-72.71	239.85	7,029.39	523.58	235.87	287.70	1.820	Minor Risk	
16,200.00	9,065.00	16,033.24	8,910.00	151.56	151.53	-72.71	240.95	7,129.39	523.58	232.03	291.55	1.796	Minor Risk	
16,300.00	9,065.00	16,133.24	8,910.00	153.56	153.53	-72.71	242.05	7,229.38	523.58	228.17	295.40	1.772	Minor Risk	
16,400.00	9,065.00	16,233.24	8,910.00	155.56	155.53	-72.71	243.15	7,329.37	523.58	224.32	299.26	1.750	Minor Risk	
16,500.00	9,065.00	16,333.24	8,910.00	157.57	157.53	-72.71	244.25	7,429.37	523.58	220.47	303.11	1.727	Minor Risk	
16,600.00	9,065.00	16,433.24	8,910.00	159.57	159.53	-72.71	245.35	7,529.36	523.58	216.61	306.97	1.706	Minor Risk	
16,700.00	9,065.00	16,533.24	8,910.00	161.57	161.54	-72.71	246.45	7,629.36	523.57	212.75	310.82	1.684	Minor Risk	
16,800.00	9,065.00	16,633.24	8,910.00	163.58	163.55	-72.71	247.55	7,729.35	523.57	208.89	314.69	1.664	Minor Risk	
16,900.00	9,065.00	16,733.24	8,910.00	165.59	165.55	-72.71	248.65	7,829.34	523.57	205.03	318.55	1.644	Minor Risk	
17,000.00	9,065.00	16,833.24	8,910.00	167.60	167.56	-72.71	249.75	7,929.34	523.57	201.16	322.41	1.624	Minor Risk	
17,100.00	9,065.00	16,933.24	8,910.00	169.60	169.57	-72.71	250.85	8,029.33	523.57	197.29	326.28	1.605	Minor Risk	
17,200.00	9,065.00	17,033.24	8,910.00	171.61	171.58	-72.71	251.95	8,129.33	523.57	193.43	330.15	1.586	Minor Risk	
17,300.00	9,065.00	17,133.24	8,910.00	173.62	173.59	-72.71	253.05	8,229.32	523.57	189.56	334.01	1.568	Minor Risk	
17,400.00	9,065.00	17,233.24	8,910.00	175.63	175.60	-72.71	254.15	8,329.31	523.57	185.68	337.89	1.550	Minor Risk	
17,500.00	9,065.00	17,333.24	8,910.00	177.65	177.61	-72.71	255.25	8,429.31	523.57	181.81	341.76	1.532	Minor Risk	
17,600.00	9,065.00	17,433.24	8,910.00	179.66	179.63	-72.71	256.35	8,529.30	523.57	177.94	345.63	1.515	Minor Risk	
17,700.00	9,065.00	17,533.24	8,910.00	181.67	181.64	-72.71	257.45	8,629.30	523.57	174.06	349.51	1.498	Major Risk	
17,800.00	9,065.00	17,633.24	8,910.00	183.69	183.65	-72.71	258.55	8,729.29	523.57	170.18	353.38	1.482	Major Risk	
17,900.00	9,065.00	17,733.24	8,910.00	185.70	185.67	-72.71	259.65	8,829.28	523.57	166.30	357.26	1.465	Major Risk	
18,000.00	9,065.00	17,833.24	8,910.00	187.72	187.68	-72.71	260.75	8,929.28	523.56	162.42	361.14	1.450	Major Risk	
18,100.00	9,065.00	17,933.24	8,910.00	189.73	189.70	-72.71	261.84	9,029.27	523.56	158.54	365.02	1.434	Major Risk	
18,200.00	9,065.00	18,033.24	8,910.00	191.75	191.72	-72.71	262.94	9,129.27	523.56	154.66	368.90	1.419	Major Risk	
18,300.00	9,065.00	18,133.24	8,910.00	193.77	193.73	-72.71	264.04	9,229.26	523.56	150.78	372.78	1.404	Major Risk	
18,400.00	9,065.00	18,233.24	8,910.00	195.78	195.75	-72.71	265.14	9,329.25	523.56	146.89	376.67	1.390	Major Risk	
18,500.00	9,065.00	18,333.24	8,910.00	197.80	197.77	-72.71	266.24	9,429.25	523.56	143.01	380.55	1.376	Major Risk	
18,600.00	9,065.00	18,433.24	8,910.00	199.82	199.79	-72.71	267.34	9,529.24	523.56	139.12	384.44	1.362	Major Risk	
18,700.00	9,065.00	18,533.24	8,910.00	201.84	201.81	-72.71	268.44	9,629.24	523.56	135.23	388.33	1.348	Major Risk	
18,800.00	9,065.00	18,633.24	8,910.00	203.86	203.83	-72.71	269.54	9,729.23	523.56	131.34	392.21	1.335	Major Risk	
18,900.00	9,065.00	18,733.24	8,910.00	205.88	205.85	-72.71	270.64	9,829.22	523.56	127.46	396.10	1.322	Major Risk	
19,000.00	9,065.00	18,833.24	8,910.00	207.90	207.87	-72.71	271.74	9,929.22	523.56	123.56	399.99	1.309	Major Risk	
19,100.00	9,065.00	18,933.24	8,910.00	209.92	209.89	-72.71	272.84	10,029.21	523.56	119.67	403.88	1.296	Major Risk	
19,200.00	9,065.00	19,033.24	8,910.00	211.95	211.91	-72.71	273.94	10,129.21	523.56	115.78	407.78	1.284	Major Risk	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design		Sec 14-T21S-R27E - Lone Tree Draw 14-13 State Com 334H - Wellbore #1 - Permit Plan 1										Offset Site Error:	0.00 ft
Survey Program: 0-MWD+IFR1												Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis		Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
19,300.00	9,065.00	19,133.24	8,910.00	213.97	213.94	-72.71	275.04	10,229.20	523.56	111.89	411.67	1.272	Major Risk
19,400.00	9,065.00	19,233.24	8,910.00	215.99	215.96	-72.71	276.14	10,329.19	523.55	107.99	415.56	1.260	Major Risk
19,456.84	9,065.00	19,290.08	8,910.00	217.14	217.11	-72.71	276.77	10,386.03	523.55	105.78	417.77	1.253	Major Risk, SF

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 431-MWD+HDGM													Offset Well Error:	0.50 ft
Reference														
		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0.00	0.00	16.11	16.11	0.50	0.50	-177.08	-1,644.23	-83.74	1,646.37					
100.00	100.00	114.38	114.38	0.52	0.54	-177.09	-1,644.31	-83.60	1,646.44	1,645.38	1.05	1,562.369		
200.00	200.00	212.64	212.64	0.70	0.62	-177.10	-1,644.50	-83.25	1,646.61	1,645.29	1.32	1,249.515		
300.00	300.00	310.89	310.89	0.99	0.73	-177.12	-1,644.81	-82.69	1,646.89	1,645.18	1.71	961.667		
400.00	400.00	409.15	409.14	1.31	0.85	-177.15	-1,645.23	-81.93	1,647.28	1,645.12	2.16	761.840		
500.00	500.00	503.07	503.06	1.65	1.11	-177.18	-1,645.83	-81.09	1,647.88	1,645.12	2.75	598.801		
600.00	600.00	606.45	606.43	1.99	1.45	-177.21	-1,646.66	-80.31	1,648.65	1,645.21	3.44	479.758		
700.00	700.00	706.81	706.78	2.34	1.79	-177.24	-1,647.29	-79.56	1,649.24	1,645.11	4.13	399.617		
800.00	800.00	807.86	807.83	2.69	2.14	-177.26	-1,647.83	-78.99	1,649.75	1,644.92	4.83	341.696		
900.00	900.00	903.65	903.62	3.04	2.47	-177.27	-1,648.57	-78.62	1,650.50	1,644.98	5.51	299.289		
1,000.00	1,000.00	1,017.48	1,017.44	3.40	2.87	-177.30	-1,648.95	-77.79	1,650.79	1,644.52	6.27	263.464		
1,100.00	1,100.00	1,120.47	1,120.43	3.75	3.23	-177.32	-1,648.75	-77.14	1,650.56	1,643.58	6.98	236.526		
1,200.00	1,200.00	1,222.40	1,222.35	4.11	3.58	-177.35	-1,648.52	-76.22	1,650.30	1,642.61	7.69	214.600		
1,300.00	1,300.00	1,330.06	1,330.00	4.46	3.96	-177.40	-1,647.98	-74.77	1,649.73	1,641.31	8.42	195.878		
1,400.00	1,400.00	1,431.44	1,431.37	4.82	4.31	-177.44	-1,647.14	-73.57	1,648.85	1,639.71	9.13	180.551		
1,500.00	1,500.00	1,525.82	1,525.74	5.18	4.65	-177.49	-1,646.50	-72.26	1,648.11	1,638.29	9.82	167.805		
1,600.00	1,600.00	1,630.98	1,630.89	5.53	5.02	-177.53	-1,645.80	-71.03	1,647.39	1,636.84	10.55	156.169		
1,700.00	1,700.00	1,726.73	1,726.63	5.89	5.35	-177.56	-1,645.18	-69.98	1,646.70	1,635.46	11.24	146.452		
1,800.00	1,800.00	1,830.34	1,830.24	6.25	5.72	-177.61	-1,644.45	-68.58	1,645.94	1,633.97	11.97	137.525		
1,900.00	1,900.00	1,929.01	1,928.89	6.61	6.07	-177.66	-1,643.73	-67.20	1,645.15	1,632.47	12.68	129.786		
2,000.00	2,000.00	2,033.44	2,033.31	6.96	6.44	-177.71	-1,642.94	-65.83	1,644.35	1,630.95	13.40	122.689		
2,100.00	2,100.00	2,145.25	2,145.11	7.32	6.83	-177.72	-1,641.35	-65.25	1,642.90	1,628.75	14.15	116.121		
2,200.00	2,200.00	2,245.68	2,245.52	7.68	7.18	-177.72	-1,639.49	-65.28	1,641.05	1,626.20	14.85	110.501		
2,300.00	2,300.00	2,344.16	2,343.98	8.04	7.51	-177.71	-1,637.82	-65.57	1,639.36	1,623.81	15.55	105.448		
2,400.00	2,400.00	2,444.27	2,444.08	8.39	7.86	-177.69	-1,636.10	-65.92	1,637.66	1,621.42	16.25	100.788		
2,500.00	2,500.00	2,542.29	2,542.09	8.75	8.20	-177.68	-1,634.48	-66.14	1,636.02	1,619.07	16.95	96.545		
2,600.00	2,599.99	2,636.93	2,636.72	9.09	8.53	-31.79	-1,633.12	-66.11	1,633.84	1,616.23	17.62	92.736		
2,700.00	2,699.96	2,736.12	2,735.90	9.42	8.87	-31.87	-1,631.98	-65.68	1,630.46	1,612.16	18.29	89.131		
2,800.00	2,799.86	2,836.06	2,835.84	9.75	9.22	-31.96	-1,630.76	-65.95	1,625.54	1,606.57	18.97	85.689		
2,900.00	2,899.68	2,944.42	2,944.18	10.08	9.60	-32.11	-1,629.40	-66.15	1,619.14	1,599.46	19.68	82.284		
2,945.33	2,944.88	3,022.65	3,022.38	10.23	9.87	-32.23	-1,627.23	-66.55	1,615.06	1,594.97	20.09	80.379		
3,000.00	2,999.39	3,083.52	3,083.20	10.41	10.09	-32.30	-1,624.82	-66.87	1,609.33	1,588.84	20.49	78.560		
3,100.00	3,099.08	3,185.91	3,185.49	10.75	10.45	-32.44	-1,620.34	-67.14	1,598.40	1,577.22	21.18	75.479		
3,200.00	3,198.78	3,287.27	3,286.75	11.08	10.80	-32.58	-1,615.84	-67.49	1,587.43	1,565.56	21.87	72.594		
3,300.00	3,298.48	3,380.39	3,379.78	11.42	11.13	-32.70	-1,611.78	-67.77	1,576.55	1,554.02	22.54	69.960		
3,400.00	3,398.18	3,581.61	3,580.42	11.76	11.84	-32.89	-1,597.48	-70.89	1,563.28	1,539.79	23.49	66.555		
3,500.00	3,497.88	3,745.73	3,743.19	12.10	12.43	-32.99	-1,576.87	-74.51	1,544.47	1,520.17	24.30	63.568		
3,600.00	3,597.58	3,937.19	3,931.25	12.45	13.14	-33.08	-1,541.54	-79.44	1,519.18	1,494.10	25.08	60.565		
3,700.00	3,697.27	4,046.78	4,038.12	12.79	13.55	-33.02	-1,517.96	-85.02	1,491.44	1,465.67	25.77	57.884		
3,800.00	3,796.97	4,121.91	4,111.41	13.14	13.83	-32.97	-1,501.94	-89.27	1,463.93	1,437.50	26.43	55.385		
3,900.00	3,896.67	4,223.95	4,211.17	13.48	14.23	-32.89	-1,481.25	-94.87	1,437.45	1,410.34	27.12	53.010		
4,000.00	3,996.37	4,328.58	4,313.30	13.83	14.63	-32.86	-1,458.99	-99.51	1,409.94	1,382.14	27.80	50.711		
4,100.00	4,096.07	4,411.19	4,393.98	14.18	14.96	-32.83	-1,441.59	-103.07	1,382.65	1,354.17	28.49	48.539		
4,200.00	4,195.76	4,515.41	4,495.89	14.53	15.37	-32.81	-1,420.25	-107.45	1,355.95	1,326.78	29.18	46.476		
4,300.00	4,295.46	4,617.57	4,595.65	14.88	15.78	-32.83	-1,398.46	-110.70	1,328.36	1,298.50	29.87	44.478		
4,400.00	4,395.16	4,703.36	4,679.47	15.23	16.12	-32.86	-1,380.33	-113.00	1,300.97	1,270.41	30.56	42.574		
4,500.00	4,494.86	4,789.49	4,763.77	15.58	16.47	-32.90	-1,362.88	-115.40	1,274.41	1,243.16	31.25	40.778		
4,600.00	4,594.56	4,898.96	4,870.96	15.93	16.91	-32.95	-1,340.84	-118.26	1,248.03	1,216.08	31.95	39.068		
4,700.00	4,694.25	4,990.41	4,960.39	16.29	17.28	-33.07	-1,321.78	-119.36	1,220.88	1,188.24	32.64	37.401		
4,800.00	4,793.95	5,070.68	5,039.05	16.64	17.61	-33.18	-1,305.80	-120.10	1,194.66	1,161.32	33.35	35.826		
4,900.00	4,893.65	5,153.38	5,120.32	17.00	17.94	-33.28	-1,290.49	-121.23	1,169.81	1,135.76	34.05	34.355		
5,000.00	4,993.35	5,242.60	5,208.13	17.35	18.30	-33.39	-1,274.78	-122.62	1,145.86	1,111.11	34.75	32.971		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Sec 14-T21S-R27E - Lone Tree Draw 14-13 State Com 335H - Wellbore #1 - Wellbore #1													Offset Well Error:	0.50 ft
Survey Program: 431-MWD+HDGM														
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
5,100.00	5,093.05	5,341.13	5,305.16	17.71	18.70	-33.49	-1,257.76	-124.63	1,122.26	1,086.80	35.46	31.651		
5,200.00	5,192.75	5,432.72	5,395.32	18.06	19.07	-33.61	-1,241.70	-126.22	1,098.42	1,062.25	36.16	30.373		
5,300.00	5,292.44	5,519.16	5,480.59	18.42	19.41	-33.72	-1,227.64	-127.62	1,075.78	1,038.91	36.87	29.176		
5,400.00	5,392.14	5,639.52	5,599.29	18.77	19.90	-33.98	-1,207.74	-128.01	1,053.04	1,015.47	37.57	28.032		
5,500.00	5,491.84	5,740.91	5,698.85	19.13	20.31	-34.28	-1,188.60	-127.05	1,027.82	989.55	38.27	26.860		
5,600.00	5,591.54	5,838.75	5,795.02	19.49	20.71	-34.55	-1,170.61	-126.69	1,003.16	964.19	38.97	25.741		
5,700.00	5,691.24	5,954.64	5,908.69	19.85	21.19	-34.80	-1,148.04	-127.78	977.45	937.81	39.64	24.657		
5,800.00	5,790.93	6,034.30	5,986.72	20.20	21.53	-34.87	-1,132.23	-130.23	951.38	911.00	40.38	23.559		
5,900.00	5,890.63	6,127.45	6,078.20	20.56	21.91	-34.90	-1,115.12	-134.12	926.72	885.62	41.10	22.548		
6,000.00	5,990.33	6,238.31	6,186.93	20.92	22.38	-34.92	-1,093.98	-138.94	901.40	859.63	41.78	21.576		
6,100.00	6,090.03	6,349.71	6,295.77	21.28	22.85	-34.92	-1,070.82	-143.95	874.36	831.92	42.44	20.602		
6,200.00	6,189.73	6,441.45	6,385.29	21.64	23.25	-34.90	-1,051.30	-148.56	846.83	803.66	43.17	19.618		
6,300.00	6,289.42	6,541.27	6,482.72	22.00	23.68	-34.93	-1,029.99	-152.74	819.25	775.39	43.86	18.678		
6,400.00	6,389.12	6,610.73	6,550.78	22.36	23.97	-35.01	-1,016.30	-154.86	793.22	748.55	44.67	17.756		
6,500.00	6,488.82	6,696.69	6,635.41	22.72	24.32	-35.19	-1,001.36	-156.51	769.56	724.14	45.42	16.943		
6,600.00	6,588.52	6,801.99	6,739.15	23.08	24.76	-35.55	-983.27	-156.98	746.16	700.06	46.11	16.184		
6,700.00	6,688.22	6,922.82	6,857.64	23.44	25.27	-35.97	-959.68	-157.73	720.48	673.78	46.71	15.426		
6,800.00	6,787.91	7,003.59	6,936.79	23.80	25.61	-36.29	-943.60	-158.20	694.39	646.89	47.50	14.619		
6,900.00	6,887.61	7,098.36	7,029.86	24.16	26.01	-36.66	-925.72	-158.90	669.39	621.17	48.22	13.881		
7,000.00	6,987.31	7,204.19	7,133.66	24.52	26.46	-37.03	-905.20	-160.59	643.87	594.98	48.88	13.171		
7,100.00	7,087.01	7,297.12	7,224.74	24.88	26.86	-37.38	-886.77	-162.14	617.94	568.32	49.62	12.453		
7,200.00	7,186.71	7,374.44	7,300.78	25.24	27.18	-37.71	-872.86	-163.18	593.84	543.39	50.45	11.771		
7,300.00	7,286.41	7,473.92	7,398.94	25.60	27.59	-38.19	-856.72	-164.22	571.55	520.40	51.15	11.173		
7,400.00	7,386.10	7,561.84	7,485.70	25.96	27.95	-38.62	-842.52	-165.26	549.38	497.46	51.92	10.581		
7,500.00	7,485.80	7,641.76	7,564.86	26.33	28.27	-39.00	-831.67	-166.55	529.76	477.05	52.70	10.052		
7,600.00	7,585.50	7,733.97	7,656.54	26.69	28.62	-39.38	-822.01	-168.44	513.12	459.69	53.43	9.603		
7,700.00	7,685.20	7,828.42	7,750.46	27.05	28.98	-39.97	-812.00	-169.00	496.59	442.43	54.16	9.169		
7,800.00	7,784.90	7,915.16	7,836.84	27.41	29.30	-40.73	-804.25	-167.76	481.97	427.09	54.88	8.782		
7,860.70	7,845.41	7,967.29	7,888.82	27.63	29.49	-41.29	-800.66	-166.14	474.47	419.17	55.31	8.579		
7,900.00	7,884.61	8,005.06	7,926.51	27.77	29.62	-41.63	-798.42	-165.12	470.16	414.57	55.59	8.458		
8,000.00	7,984.46	8,104.07	8,025.37	28.13	29.97	-42.08	-793.18	-164.98	460.89	404.59	56.30	8.187		
8,100.00	8,084.42	8,200.94	8,122.11	28.49	30.32	-42.16	-788.19	-166.32	453.51	396.51	57.00	7.956		
8,157.59	8,142.00	8,254.37	8,175.49	28.69	30.50	171.95	-786.01	-166.90	450.77	393.38	57.39	7.854		
8,200.00	8,184.41	8,296.97	8,218.06	28.83	30.65	171.99	-784.44	-167.42	449.15	391.47	57.69	7.786		
8,300.00	8,284.41	8,393.67	8,314.67	29.17	30.98	171.86	-780.85	-166.97	445.54	387.18	58.36	7.634		
8,400.00	8,384.41	8,487.22	8,407.43	29.51	31.30	170.45	-776.94	-166.46	443.13	384.10	59.03	7.507		
8,428.62	8,413.04	8,509.89	8,429.44	29.60	31.37	169.74	-775.83	-151.12	442.91	383.72	59.19	7.483		
8,507.63	8,492.04	8,570.35	8,486.41	29.87	31.55	167.15	-773.14	-131.23	444.80	385.25	59.55	7.470		
8,550.00	8,534.37	8,599.70	8,512.97	30.02	31.63	76.08	-771.94	-118.81	447.25	387.61	59.64	7.499		
8,600.00	8,584.01	8,630.00	8,539.42	30.18	31.72	74.23	-770.93	-104.07	451.14	391.56	59.59	7.571		
8,650.00	8,632.95	8,660.53	8,564.93	30.34	31.79	72.35	-770.36	-87.32	456.23	396.81	59.42	7.679		
8,700.00	8,680.82	8,690.09	8,588.45	30.50	31.85	70.53	-770.39	-69.43	462.50	403.39	59.11	7.824		
8,750.00	8,727.25	8,725.00	8,614.96	30.66	31.92	68.61	-771.00	-46.72	469.50	410.63	58.87	7.976		
8,800.00	8,771.89	8,758.41	8,638.89	30.81	31.97	66.87	-771.70	-23.43	476.68	418.15	58.53	8.144		
8,850.00	8,814.40	8,798.59	8,665.66	30.95	32.04	65.03	-772.10	6.52	483.49	425.13	58.36	8.284		
8,900.00	8,854.46	8,843.13	8,693.35	31.09	32.10	63.30	-771.87	41.40	489.36	431.06	58.30	8.393		
8,950.00	8,891.75	8,885.21	8,718.00	31.23	32.16	61.91	-770.93	75.50	493.83	435.62	58.21	8.483		
9,000.00	8,926.01	8,921.49	8,737.84	31.37	32.22	60.92	-770.16	105.86	497.54	439.56	57.98	8.582		
9,050.00	8,956.96	8,959.35	8,756.82	31.53	32.28	60.10	-769.27	138.58	500.45	442.61	57.84	8.653		
9,100.00	8,984.38	8,999.77	8,775.23	31.69	32.36	59.46	-768.07	174.55	502.30	444.46	57.84	8.684		
9,150.00	9,008.05	9,045.99	8,794.58	31.87	32.52	59.09	-766.36	216.49	502.69	444.58	58.11	8.650		
9,200.00	9,027.79	9,086.13	8,810.22	32.07	32.75	59.09	-764.52	253.41	501.33	443.00	58.33	8.594		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Sec 14-T21S-R27E - Lone Tree Draw 14-13 State Com 335H - Wellbore #1 - Wellbore #1													Offset Well Error:	0.50 ft
Survey Program: 431-MWD+HDGM														
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
9,250.00	9,043.45	9,122.57	8,822.91	32.29	33.02	59.35	-762.96	287.53	498.99	440.41	58.59	8.517		
9,300.00	9,054.92	9,158.46	8,833.77	32.53	33.34	59.84	-761.57	321.70	495.84	436.87	58.97	8.409		
9,350.00	9,062.10	9,195.84	8,843.43	32.79	33.72	60.57	-760.23	357.78	491.83	432.28	59.55	8.259		
9,400.00	9,064.95	9,239.87	8,853.10	33.06	34.20	61.71	-758.63	400.70	486.70	426.23	60.47	8.049		
9,407.63	9,065.00	9,246.80	8,854.51	33.10	34.28	61.92	-758.35	407.49	485.77	425.15	60.63	8.012		
9,500.00	9,065.00	9,328.21	8,868.20	33.68	35.29	63.22	-754.59	487.63	475.61	413.06	62.55	7.604		
9,600.00	9,065.00	9,427.34	8,878.14	34.41	36.69	63.98	-747.34	585.98	465.55	400.78	64.78	7.187		
9,700.00	9,065.00	9,520.11	8,885.10	35.24	38.12	64.42	-740.08	678.21	456.24	389.25	66.99	6.811		
9,800.00	9,065.00	9,610.04	8,890.42	36.17	39.63	64.77	-734.38	767.79	448.95	379.63	69.32	6.477		
9,900.00	9,065.00	9,699.48	8,894.08	37.19	41.22	65.01	-729.89	857.05	443.68	371.92	71.76	6.183		
10,000.00	9,065.00	9,784.72	8,895.64	38.30	42.82	65.13	-727.76	942.24	441.61	367.41	74.20	5.951		
10,100.00	9,065.00	9,883.45	8,896.59	39.48	44.77	65.24	-726.69	1,040.96	441.23	364.12	77.11	5.722		
10,200.00	9,065.00	9,983.70	8,898.08	40.72	46.84	65.42	-725.74	1,141.19	440.74	360.49	80.25	5.492		
10,223.54	9,065.00	10,005.71	8,898.37	41.03	47.31	65.46	-725.59	1,163.20	440.70	359.72	80.97	5.442		
10,300.00	9,065.00	10,080.07	8,898.84	42.03	48.90	65.55	-725.38	1,237.55	441.07	357.67	83.39	5.289		
10,400.00	9,065.00	10,186.84	8,899.01	43.40	51.26	65.55	-723.81	1,344.32	440.66	353.80	86.86	5.073		
10,500.00	9,065.00	10,290.98	8,899.43	44.82	53.63	65.52	-721.15	1,448.42	439.17	348.82	90.35	4.861 Alert		
10,600.00	9,065.00	10,395.10	8,900.36	46.29	56.06	65.49	-717.54	1,552.47	436.64	342.71	93.93	4.649 Alert		
10,700.00	9,065.00	10,493.75	8,902.71	47.79	58.41	65.65	-714.24	1,651.04	433.62	336.05	97.57	4.444 Alert		
10,800.00	9,065.00	10,595.26	8,904.89	49.34	60.87	65.82	-711.31	1,752.48	431.11	329.74	101.37	4.253 Alert		
10,900.00	9,065.00	10,699.82	8,909.26	50.92	63.44	66.23	-707.99	1,856.89	427.51	322.01	105.50	4.052 Alert		
11,000.00	9,065.00	10,800.75	8,913.77	52.54	65.96	66.65	-704.16	1,957.65	423.25	313.65	109.60	3.862 Alert		
11,100.00	9,065.00	10,900.59	8,917.67	54.18	68.47	66.97	-700.08	2,057.33	418.96	305.27	113.69	3.685 Alert		
11,200.00	9,065.00	10,996.97	8,920.49	55.85	70.92	67.17	-696.12	2,153.59	415.05	297.40	117.66	3.528 Alert		
11,300.00	9,065.00	11,096.55	8,923.49	57.54	73.48	67.43	-692.70	2,253.06	411.74	289.94	121.80	3.380 Alert		
11,400.00	9,065.00	11,183.44	8,926.43	59.26	75.73	67.78	-689.17	2,339.89	409.86	284.18	125.68	3.261 Alert		
11,403.70	9,065.00	11,186.61	8,926.52	59.32	75.81	67.80	-691.17	2,343.05	409.86	284.03	125.82	3.257 Alert		
11,500.00	9,065.00	11,281.57	8,929.30	61.00	78.29	68.24	-691.70	2,437.98	410.28	280.24	130.03	3.155 Alert		
11,600.00	9,065.00	11,390.05	8,933.78	62.75	81.13	68.88	-691.60	2,546.36	409.71	274.78	134.93	3.036 Alert		
11,644.86	9,065.00	11,427.96	8,935.49	63.55	82.13	69.12	-691.48	2,584.22	409.32	272.56	136.75	2.993 Alert		
11,700.00	9,065.00	11,474.29	8,937.11	64.52	83.36	69.39	-692.12	2,630.53	409.91	270.99	138.93	2.951 Alert		
11,800.00	9,065.00	11,572.84	8,939.17	66.31	85.97	69.82	-694.52	2,729.03	412.50	269.09	143.41	2.876 Alert		
11,900.00	9,065.00	11,669.04	8,939.84	68.11	88.53	70.07	-696.70	2,825.20	415.42	267.75	147.67	2.813 Alert		
12,000.00	9,065.00	11,775.41	8,940.02	69.93	91.37	70.24	-698.72	2,931.55	418.19	265.85	152.34	2.745 Alert		
12,100.00	9,065.00	11,880.53	8,939.49	71.76	94.20	70.23	-698.81	3,036.66	419.48	262.67	156.81	2.675 Alert		
12,200.00	9,065.00	11,985.68	8,937.16	73.60	97.03	69.89	-696.87	3,141.76	419.54	258.56	160.98	2.606 Alert		
12,255.97	9,065.00	12,039.35	8,936.25	74.63	98.48	69.76	-695.94	3,195.42	419.53	256.33	163.19	2.571 Alert		
12,300.00	9,065.00	12,082.49	8,935.74	75.45	99.65	69.69	-695.32	3,238.55	419.57	254.58	164.99	2.543 Alert		
12,400.00	9,065.00	12,180.70	8,934.54	77.31	102.32	69.54	-694.31	3,336.75	420.06	250.96	169.09	2.484 Minor Risk		
12,500.00	9,065.00	12,283.91	8,932.81	79.18	105.13	69.31	-693.09	3,439.93	420.58	247.26	173.31	2.427 Minor Risk		
12,600.00	9,065.00	12,389.48	8,932.65	81.05	108.01	69.23	-690.69	3,545.47	419.52	241.77	177.75	2.360 Minor Risk		
12,700.00	9,065.00	12,488.63	8,934.18	82.94	110.72	69.38	-688.67	3,644.59	418.10	235.86	182.24	2.294 Minor Risk		
12,800.00	9,065.00	12,585.57	8,936.79	84.83	113.38	69.72	-687.62	3,741.49	417.18	230.31	186.87	2.232 Minor Risk		
12,886.38	9,065.00	12,669.87	8,938.67	86.47	115.70	69.98	-687.22	3,825.77	417.02	226.15	190.88	2.185 Minor Risk		
12,900.00	9,065.00	12,683.36	8,938.96	86.73	116.07	70.03	-687.18	3,839.26	417.02	225.51	191.52	2.177 Minor Risk		
13,000.00	9,065.00	12,790.16	8,941.73	88.64	119.01	70.41	-686.51	3,946.02	416.61	220.04	196.57	2.119 Minor Risk		
13,100.00	9,065.00	12,894.49	8,945.84	90.55	121.89	70.89	-684.25	4,050.24	414.29	212.65	201.64	2.055 Minor Risk		
13,200.00	9,065.00	12,998.05	8,950.72	92.47	124.75	71.46	-681.48	4,153.65	411.28	204.49	206.79	1.989 Minor Risk		
13,300.00	9,065.00	13,093.64	8,954.65	94.39	127.39	71.91	-678.68	4,249.11	408.25	196.62	211.64	1.929 Minor Risk		
13,400.00	9,065.00	13,185.96	8,956.51	96.32	129.95	72.12	-676.83	4,341.39	406.77	190.65	216.12	1.882 Minor Risk		
13,500.00	9,065.00	13,287.21	8,956.54	98.25	132.76	72.10	-675.17	4,442.63	406.25	185.61	220.65	1.841 Minor Risk		
13,600.00	9,065.00	13,387.71	8,956.02	100.19	135.55	71.98	-672.95	4,543.11	405.36	180.32	225.04	1.801 Minor Risk		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Sec 14-T21S-R27E - Lone Tree Draw 14-13 State Com 335H - Wellbore #1 - Wellbore #1													Offset Well Error:	0.50 ft
Survey Program: 431-MWD+HDGM														
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
13,700.00	9,065.00	13,490.79	8,957.05	102.13	138.42	72.07	-670.72	4,646.15	404.04	174.29	229.75	1.759	Minor Risk	
13,800.00	9,065.00	13,590.59	8,959.59	104.08	141.20	72.37	-668.66	4,745.90	402.33	167.71	234.62	1.715	Minor Risk	
13,900.00	9,065.00	13,688.61	8,961.66	106.03	143.93	72.63	-666.92	4,843.88	401.06	161.66	239.40	1.675	Minor Risk	
14,000.00	9,065.00	13,792.70	8,964.80	107.98	146.83	73.02	-664.81	4,947.90	399.28	154.76	244.52	1.633	Minor Risk	
14,100.00	9,065.00	13,890.23	8,968.51	109.94	149.56	73.49	-662.71	5,045.34	397.18	147.62	249.56	1.592	Minor Risk	
14,166.28	9,065.00	13,950.41	8,970.46	111.23	151.24	73.76	-662.14	5,105.48	396.67	143.96	252.71	1.570	Minor Risk	
14,200.00	9,065.00	13,983.64	8,971.38	111.90	152.17	73.90	-662.10	5,138.70	396.72	142.32	254.40	1.559	Minor Risk	
14,300.00	9,065.00	14,084.60	8,974.17	113.86	155.00	74.32	-661.73	5,239.62	396.68	137.17	259.51	1.529	Minor Risk	
14,400.00	9,065.00	14,186.02	8,976.43	115.82	157.84	74.65	-661.11	5,341.01	396.55	132.00	264.56	1.499	Major Risk	
14,500.00	9,065.00	14,288.62	8,979.08	117.79	160.71	75.01	-659.70	5,443.57	395.60	125.93	269.67	1.467	Major Risk	
14,600.00	9,065.00	14,390.28	8,981.31	119.76	163.57	75.30	-657.94	5,545.19	394.43	119.75	274.68	1.436	Major Risk	
14,700.00	9,065.00	14,489.98	8,983.56	121.74	166.36	75.57	-655.65	5,644.84	392.71	113.09	279.62	1.404	Major Risk	
14,800.00	9,065.00	14,591.03	8,985.77	123.71	169.20	75.86	-653.71	5,745.85	391.38	106.75	284.62	1.375	Major Risk	
14,900.00	9,065.00	14,690.08	8,988.31	125.69	171.98	76.17	-651.40	5,844.83	389.57	99.96	289.61	1.345	Major Risk	
14,968.28	9,065.00	14,752.67	8,989.79	127.04	173.74	76.38	-650.47	5,907.40	388.94	96.11	292.83	1.328	Major Risk	
15,000.00	9,065.00	14,780.47	8,990.49	127.67	174.52	76.49	-650.48	5,935.18	389.10	94.83	294.27	1.322	Major Risk	
15,100.00	9,065.00	14,877.11	8,993.00	129.65	177.25	76.93	-651.91	6,031.79	391.00	91.73	299.27	1.307	Major Risk	
15,200.00	9,065.00	14,978.65	8,994.98	131.63	180.11	77.28	-652.96	6,133.30	392.65	88.21	304.43	1.290	Major Risk	
15,300.00	9,065.00	15,077.43	8,996.79	133.62	182.89	77.60	-653.87	6,232.06	394.22	84.80	309.42	1.274	Major Risk	
15,400.00	9,065.00	15,180.34	8,999.03	135.61	185.80	77.99	-654.89	6,334.94	395.80	81.12	314.69	1.258	Major Risk	
15,500.00	9,065.00	15,284.14	9,001.77	137.60	188.72	78.41	-654.94	6,438.70	396.40	76.38	320.02	1.239	Major Risk	
15,600.00	9,065.00	15,387.31	9,004.98	139.59	191.64	78.88	-654.17	6,541.82	396.12	70.78	325.34	1.218	Major Risk	
15,700.00	9,065.00	15,488.96	9,008.08	141.58	194.50	79.31	-652.76	6,643.41	395.26	64.70	330.56	1.196	Major Risk	
15,800.00	9,065.00	15,588.08	9,010.54	143.57	197.30	79.65	-651.16	6,742.48	394.31	58.70	335.61	1.175	Major Risk	
15,900.00	9,065.00	15,688.23	9,012.70	145.57	200.13	79.95	-649.86	6,842.61	393.73	53.07	340.66	1.156	Major Risk	
16,000.00	9,065.00	15,797.67	9,017.77	147.56	203.21	80.64	-646.78	6,951.87	391.22	44.96	346.26	1.130	Major Risk	
16,100.00	9,065.00	15,892.64	9,021.92	149.56	205.89	81.19	-643.57	7,046.70	388.30	36.87	351.43	1.105	Major Risk	
16,164.46	9,065.00	15,949.53	9,023.09	150.85	207.50	81.35	-642.57	7,103.56	387.67	33.26	354.41	1.094	Major Risk, CC	
16,200.00	9,065.00	15,983.58	9,023.38	151.56	208.46	81.39	-642.32	7,137.62	387.75	31.67	356.08	1.089	Major Risk	
16,300.00	9,065.00	16,080.19	9,023.80	153.56	211.19	81.47	-642.10	7,234.22	388.56	27.78	360.77	1.077	Major Risk	
16,400.00	9,065.00	16,179.24	9,023.85	155.56	214.00	81.52	-642.64	7,333.27	390.16	24.62	365.54	1.067	Major Risk	
16,500.00	9,065.00	16,280.12	9,023.36	157.57	216.86	81.47	-642.62	7,434.15	391.31	20.97	370.34	1.057	Major Risk	
16,600.00	9,065.00	16,381.00	9,022.55	159.57	219.71	81.38	-642.88	7,535.03	392.78	17.69	375.09	1.047	Major Risk	
16,700.00	9,065.00	16,485.29	9,021.31	161.57	222.67	81.21	-641.96	7,639.31	393.17	13.26	379.91	1.035	Major Risk	
16,772.00	9,065.00	16,557.12	9,020.66	163.02	224.70	81.11	-640.96	7,711.13	393.05	9.80	383.25	1.026	Major Risk	
16,800.00	9,065.00	16,584.23	9,020.56	163.58	225.47	81.10	-640.67	7,738.23	393.08	8.54	384.54	1.022	Major Risk	
16,900.00	9,065.00	16,683.35	9,021.16	165.59	228.28	81.19	-640.11	7,837.35	393.52	4.14	389.39	1.011	Major Risk	
17,000.00	9,065.00	16,783.98	9,023.35	167.60	231.13	81.53	-639.73	7,937.95	393.91	-0.61	394.52	0.998	Collision	
17,100.00	9,065.00	16,883.65	9,025.63	169.60	233.96	81.87	-639.28	8,037.59	394.22	-5.40	399.62	0.986	Collision	
17,200.00	9,065.00	16,984.46	9,027.43	171.61	236.82	82.14	-638.75	8,138.39	394.54	-10.16	404.71	0.975	Collision	
17,300.00	9,065.00	17,084.87	9,029.79	173.62	239.66	82.49	-638.09	8,238.77	394.67	-15.17	409.84	0.963	Collision	
17,400.00	9,065.00	17,184.32	9,032.92	175.63	242.49	82.95	-637.56	8,338.17	394.83	-20.19	415.02	0.951	Collision	
17,500.00	9,065.00	17,284.41	9,035.86	177.65	245.33	83.38	-637.05	8,438.21	395.07	-25.12	420.19	0.940	Collision	
17,600.00	9,065.00	17,385.10	9,038.62	179.66	248.18	83.79	-636.41	8,538.87	395.22	-30.13	425.35	0.929	Collision	
17,700.00	9,065.00	17,486.28	9,041.05	181.67	251.06	84.14	-635.46	8,640.01	395.13	-35.36	430.49	0.918	Collision	
17,800.00	9,065.00	17,587.08	9,043.07	183.69	253.92	84.43	-634.28	8,740.78	394.85	-40.70	435.55	0.907	Collision	
17,900.00	9,065.00	17,687.75	9,044.47	185.70	256.77	84.62	-632.58	8,841.43	394.13	-46.40	440.54	0.895	Collision	
17,940.82	9,065.00	17,726.24	9,044.54	186.52	257.87	84.63	-632.05	8,879.91	394.01	-48.42	442.43	0.891	Collision	
18,000.00	9,065.00	17,782.53	9,044.03	187.72	259.47	84.56	-631.61	8,936.20	394.25	-50.87	445.12	0.886	Collision	
18,100.00	9,065.00	17,881.10	9,043.04	189.73	262.27	84.43	-631.56	9,034.76	395.39	-54.40	449.80	0.879	Collision	
18,200.00	9,065.00	17,984.23	9,044.80	191.75	265.20	84.70	-631.13	9,137.87	395.91	-59.06	454.97	0.870	Collision	
18,300.00	9,065.00	18,085.11	9,048.08	193.77	268.06	85.18	-630.67	9,238.69	396.26	-63.90	460.16	0.861	Collision	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 431-MWD+HDGM													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
18,392.80	9,065.00	18,178.36	9,051.00	195.64	270.71	85.60	-629.73	9,331.90	396.11	-68.82	464.94	0.852	Collision	
18,400.00	9,065.00	18,185.31	9,051.19	195.78	270.91	85.63	-629.67	9,338.85	396.12	-69.18	465.29	0.851	Collision	
18,500.00	9,065.00	18,282.90	9,053.52	197.80	273.69	85.97	-629.20	9,436.41	396.55	-73.68	470.23	0.843	Collision	
18,600.00	9,065.00	18,383.74	9,055.38	199.82	276.55	86.24	-628.93	9,537.23	397.26	-78.01	475.27	0.836	Collision	
18,700.00	9,065.00	18,482.21	9,056.28	201.84	279.35	86.38	-628.35	9,635.69	397.72	-82.40	480.12	0.828	Collision	
18,800.00	9,065.00	18,583.91	9,055.88	203.86	282.25	86.33	-628.15	9,737.39	398.64	-86.39	485.03	0.822	Collision	
18,900.00	9,065.00	18,683.39	9,055.27	205.88	285.08	86.24	-627.30	9,836.86	398.93	-90.89	489.82	0.814	Collision	
19,000.00	9,065.00	18,786.76	9,056.14	207.90	288.02	86.37	-626.56	9,940.23	399.27	-95.61	494.88	0.807	Collision	
19,100.00	9,065.00	18,890.91	9,058.03	209.92	290.98	86.64	-624.67	10,044.34	398.44	-101.55	499.99	0.797	Collision	
19,200.00	9,065.00	18,988.90	9,059.52	211.95	293.76	86.84	-622.57	10,142.30	397.32	-107.57	504.89	0.787	Collision	
19,300.00	9,065.00	19,091.13	9,061.01	213.97	296.67	87.05	-620.44	10,244.50	396.26	-113.65	509.91	0.777	Collision	
19,373.50	9,065.00	19,164.57	9,062.04	215.45	298.75	87.19	-618.68	10,317.90	395.26	-118.28	513.54	0.770	Collision, ES, SF	
19,400.00	9,065.00	19,158.00	9,061.95	215.99	298.57	87.18	-618.84	10,311.34	396.28	-116.03	512.32	0.774	Collision	
19,456.84	9,065.00	19,158.00	9,061.95	217.14	298.57	87.18	-618.84	10,311.34	404.25	-98.67	502.92	0.804	Collision	

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 438-MWD+HDGM, 9290-MWD+HDGM													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)						
0.00	0.00	14.70	14.70	0.50	0.50	-176.33	-1,663.40	-106.75	1,666.82					
100.00	100.00	111.43	111.43	0.52	0.53	-176.33	-1,663.53	-106.62	1,666.95	1,665.89	1.05	1,584.344		
200.00	200.00	208.16	208.16	0.70	0.61	-176.34	-1,663.86	-106.30	1,667.27	1,665.96	1.31	1,269.136		
300.00	300.00	304.89	304.89	0.99	0.72	-176.36	-1,664.40	-105.79	1,667.79	1,666.08	1.71	977.772		
400.00	400.00	401.61	401.60	1.31	0.84	-176.39	-1,665.14	-105.09	1,668.51	1,666.35	2.15	775.103		
500.00	500.00	497.70	497.68	1.65	1.08	-176.42	-1,666.08	-104.23	1,669.43	1,666.71	2.72	612.830		
600.00	600.00	597.47	597.44	1.99	1.41	-176.45	-1,667.23	-103.34	1,670.53	1,667.13	3.40	491.988		
700.00	700.00	695.00	694.96	2.34	1.74	-176.48	-1,668.36	-102.72	1,671.64	1,667.56	4.07	410.228		
800.00	800.00	793.91	793.86	2.69	2.08	-176.49	-1,669.63	-102.28	1,672.89	1,668.12	4.77	350.896		
900.00	900.00	895.91	895.85	3.04	2.44	-176.52	-1,670.91	-101.61	1,674.11	1,668.64	5.48	305.672		
1,000.00	1,000.00	992.05	991.98	3.40	2.78	-176.55	-1,672.26	-100.68	1,675.45	1,669.28	6.17	271.579		
1,100.00	1,100.00	1,113.87	1,113.78	3.75	3.20	-176.61	-1,673.33	-99.25	1,676.27	1,669.32	6.95	241.303		
1,200.00	1,200.00	1,232.39	1,232.30	4.11	3.59	-176.58	-1,672.59	-100.01	1,675.66	1,667.97	7.69	217.797		
1,300.00	1,300.00	1,343.41	1,343.28	4.46	3.95	-176.49	-1,670.95	-102.38	1,674.31	1,665.90	8.41	199.031		
1,400.00	1,400.00	1,444.47	1,444.28	4.82	4.29	-176.39	-1,669.04	-105.23	1,672.61	1,663.50	9.11	183.677		
1,500.00	1,500.00	1,532.31	1,532.08	5.18	4.59	-176.31	-1,667.73	-107.62	1,671.29	1,661.53	9.76	171.214		
1,600.00	1,600.00	1,630.54	1,630.26	5.53	4.92	-176.21	-1,666.63	-110.30	1,670.34	1,659.89	10.45	159.777		
1,700.00	1,700.00	1,732.97	1,732.65	5.89	5.28	-176.11	-1,665.46	-113.11	1,669.39	1,658.23	11.16	149.535		
1,800.00	1,800.00	1,837.76	1,837.39	6.25	5.64	-176.01	-1,664.00	-116.04	1,668.18	1,656.30	11.88	140.377		
1,900.00	1,900.00	1,936.35	1,935.93	6.61	5.98	-175.92	-1,662.46	-118.59	1,666.82	1,654.23	12.58	132.456		
2,000.00	2,000.00	2,029.43	2,028.98	6.96	6.30	-175.84	-1,661.37	-120.86	1,665.82	1,652.55	13.27	125.562		
2,100.00	2,100.00	2,126.44	2,125.95	7.32	6.64	-175.75	-1,660.48	-123.32	1,665.09	1,651.12	13.96	119.235		
2,200.00	2,200.00	2,225.92	2,225.39	7.68	6.99	-175.65	-1,659.67	-126.11	1,664.49	1,649.82	14.67	113.442		
2,300.00	2,300.00	2,328.05	2,327.48	8.04	7.35	-175.55	-1,658.76	-129.01	1,663.81	1,648.42	15.39	108.106		
2,400.00	2,400.00	2,431.42	2,430.80	8.39	7.72	-175.45	-1,657.68	-131.93	1,662.99	1,646.88	16.11	103.206		
2,500.00	2,500.00	2,533.45	2,532.78	8.75	8.08	-175.34	-1,656.38	-135.03	1,661.96	1,645.13	16.83	98.737		
2,600.00	2,599.99	2,630.55	2,629.82	9.09	8.43	-29.33	-1,655.16	-137.98	1,660.20	1,642.68	17.52	94.769		
2,700.00	2,699.96	2,726.59	2,725.82	9.42	8.77	-29.29	-1,654.20	-140.87	1,657.18	1,638.99	18.19	91.122		
2,800.00	2,799.86	2,831.78	2,830.96	9.75	9.14	-29.28	-1,653.10	-143.83	1,652.57	1,633.68	18.89	87.488		
2,900.00	2,899.68	2,930.55	2,929.68	10.08	9.49	-29.31	-1,651.94	-146.79	1,646.32	1,626.75	19.57	84.118		
2,945.33	2,944.88	2,962.85	2,961.96	10.23	9.61	-29.33	-1,651.72	-147.74	1,643.20	1,623.37	19.84	82.832		
3,000.00	2,999.39	3,004.01	3,003.10	10.41	9.75	-29.35	-1,651.76	-148.75	1,639.66	1,619.50	20.17	81.310		
3,100.00	3,099.08	3,091.99	3,091.07	10.75	10.07	-29.41	-1,652.61	-150.57	1,634.02	1,613.21	20.81	78.518		
3,200.00	3,198.78	3,189.93	3,188.97	11.08	10.41	-29.47	-1,653.94	-152.63	1,628.77	1,607.28	21.49	75.779		
3,300.00	3,298.48	3,277.14	3,276.16	11.42	10.72	-29.55	-1,655.47	-153.79	1,623.87	1,601.74	22.13	73.363		
3,400.00	3,398.18	3,364.24	3,363.23	11.76	11.02	-29.70	-1,657.89	-153.26	1,619.84	1,597.07	22.77	71.136		
3,500.00	3,497.88	3,505.78	3,504.70	12.10	11.50	-29.98	-1,661.16	-151.13	1,615.44	1,591.84	23.60	68.446		
3,600.00	3,597.58	3,608.64	3,607.55	12.45	11.85	-30.17	-1,661.77	-149.80	1,609.22	1,584.93	24.29	66.240		
3,700.00	3,697.27	3,704.78	3,703.68	12.79	12.18	-30.35	-1,662.30	-148.38	1,602.96	1,578.00	24.97	64.208		
3,800.00	3,796.97	3,802.79	3,801.68	13.14	12.52	-30.54	-1,662.99	-146.95	1,596.86	1,571.22	25.65	62.268		
3,900.00	3,896.67	3,901.87	3,900.75	13.48	12.86	-30.73	-1,663.76	-145.65	1,590.88	1,564.55	26.33	60.419		
4,000.00	3,996.37	4,001.75	4,000.62	13.83	13.20	-30.91	-1,664.49	-144.68	1,584.88	1,557.86	27.02	58.653		
4,100.00	4,096.07	4,104.40	4,103.27	14.18	13.56	-31.10	-1,665.23	-143.69	1,578.88	1,551.16	27.72	56.953		
4,200.00	4,195.76	4,202.73	4,201.59	14.53	13.90	-31.27	-1,665.70	-142.97	1,572.68	1,544.26	28.41	55.354		
4,300.00	4,295.46	4,298.59	4,297.44	14.88	14.23	-31.44	-1,666.46	-142.37	1,566.81	1,537.71	29.09	53.854		
4,400.00	4,395.16	4,400.99	4,399.84	15.23	14.59	-31.60	-1,667.31	-142.05	1,560.99	1,531.19	29.80	52.381		
4,500.00	4,494.86	4,501.59	4,500.44	15.58	14.94	-31.76	-1,667.93	-141.81	1,554.98	1,524.48	30.50	50.979		
4,600.00	4,594.56	4,601.60	4,600.44	15.93	15.29	-31.92	-1,668.56	-141.60	1,549.00	1,517.80	31.20	49.642		
4,700.00	4,694.25	4,700.02	4,698.86	16.29	15.64	-32.07	-1,669.18	-141.62	1,543.04	1,511.14	31.90	48.370		
4,800.00	4,793.95	4,799.64	4,798.48	16.64	15.99	-32.23	-1,669.87	-141.66	1,537.16	1,504.56	32.60	47.147		
4,900.00	4,893.65	4,902.29	4,901.13	17.00	16.35	-32.38	-1,670.50	-141.80	1,531.20	1,497.88	33.32	45.959		
5,000.00	4,993.35	4,986.66	4,985.49	17.35	16.65	-32.49	-1,671.29	-142.35	1,525.60	1,491.64	33.97	44.912		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 438-MWD+HDGM, 9290-MWD+HDGM													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
5,100.00	5,093.05	5,084.28	5,083.08	17.71	16.99	-32.58	-1,672.89	-144.14	1,520.74	1,486.07	34.67	43.867		
5,200.00	5,192.75	5,183.32	5,182.09	18.06	17.34	-32.66	-1,674.48	-146.27	1,515.86	1,480.49	35.37	42.857		
5,300.00	5,292.44	5,282.08	5,280.81	18.42	17.69	-32.74	-1,676.15	-148.45	1,511.06	1,474.99	36.07	41.888		
5,400.00	5,392.14	5,379.00	5,377.69	18.77	18.04	-32.81	-1,677.91	-150.71	1,506.39	1,469.62	36.77	40.967		
5,500.00	5,491.84	5,479.30	5,477.91	19.13	18.39	-32.84	-1,679.80	-154.11	1,501.82	1,464.34	37.48	40.069		
5,600.00	5,591.54	5,574.54	5,573.01	19.49	18.73	-32.82	-1,681.68	-158.74	1,497.38	1,459.21	38.17	39.226		
5,700.00	5,691.24	5,666.05	5,664.38	19.85	19.06	-32.79	-1,683.90	-163.28	1,493.38	1,454.53	38.85	38.437		
5,800.00	5,790.93	5,767.29	5,765.49	20.20	19.42	-32.78	-1,686.62	-167.86	1,489.64	1,450.07	39.57	37.647		
5,900.00	5,890.63	5,867.66	5,865.73	20.56	19.78	-32.78	-1,689.24	-172.24	1,485.82	1,445.54	40.28	36.886		
6,000.00	5,990.33	5,968.39	5,966.35	20.92	20.14	-32.79	-1,691.84	-176.29	1,481.96	1,440.97	41.00	36.149		
6,100.00	6,090.03	6,073.08	6,070.94	21.28	20.51	-32.81	-1,694.40	-180.09	1,477.96	1,436.24	41.73	35.421		
6,200.00	6,189.73	6,180.75	6,178.51	21.64	20.90	-32.84	-1,696.41	-184.06	1,473.36	1,430.90	42.47	34.695		
6,300.00	6,289.42	6,276.36	6,274.05	22.00	21.24	-32.87	-1,698.16	-187.41	1,468.75	1,425.59	43.16	34.027		
6,400.00	6,389.12	6,368.65	6,366.26	22.36	21.57	-32.90	-1,700.22	-190.51	1,464.52	1,420.68	43.85	33.399		
6,500.00	6,488.82	6,460.22	6,457.75	22.72	21.90	-32.94	-1,702.86	-193.36	1,460.95	1,416.42	44.53	32.807		
6,600.00	6,588.52	6,558.67	6,556.10	23.08	22.25	-32.99	-1,705.96	-196.33	1,457.63	1,412.39	45.24	32.220		
6,700.00	6,688.22	6,656.96	6,654.28	23.44	22.60	-33.01	-1,709.19	-199.92	1,454.46	1,408.52	45.95	31.654		
6,800.00	6,787.91	6,766.63	6,763.80	23.80	23.00	-33.02	-1,712.62	-204.47	1,451.18	1,404.48	46.70	31.074		
6,900.00	6,887.61	6,879.48	6,876.59	24.16	23.40	-33.11	-1,714.97	-207.04	1,446.77	1,399.31	47.46	30.483		
7,000.00	6,987.31	6,984.78	6,981.86	24.52	23.78	-33.22	-1,716.65	-208.69	1,441.88	1,393.69	48.19	29.918		
7,100.00	7,087.01	7,086.71	7,083.78	24.88	24.14	-33.35	-1,717.93	-209.80	1,436.65	1,387.74	48.91	29.371		
7,200.00	7,186.71	7,212.28	7,209.32	25.24	24.58	-33.64	-1,718.39	-208.01	1,430.52	1,380.82	49.69	28.787		
7,300.00	7,286.41	7,300.49	7,297.48	25.60	24.87	-33.92	-1,718.32	-204.80	1,423.95	1,373.59	50.36	28.276		
7,400.00	7,386.10	7,390.23	7,387.18	25.96	25.18	-34.18	-1,718.91	-202.32	1,418.16	1,367.13	51.03	27.791		
7,500.00	7,485.80	7,489.78	7,486.70	26.33	25.52	-34.43	-1,719.91	-200.59	1,412.75	1,361.02	51.73	27.309		
7,600.00	7,585.50	7,590.04	7,586.96	26.69	25.87	-34.65	-1,720.90	-199.51	1,407.34	1,354.90	52.44	26.838		
7,700.00	7,685.20	7,689.76	7,686.67	27.05	26.22	-34.84	-1,721.86	-199.21	1,401.92	1,348.77	53.15	26.378		
7,800.00	7,784.90	7,784.87	7,781.78	27.41	26.56	-35.02	-1,722.86	-199.00	1,396.61	1,342.77	53.84	25.938		
7,860.70	7,845.41	7,835.84	7,832.74	27.63	26.74	-35.12	-1,723.71	-198.83	1,393.76	1,339.51	54.24	25.694		
7,900.00	7,884.61	7,871.83	7,868.72	27.77	26.86	-35.18	-1,724.50	-198.68	1,392.29	1,337.78	54.51	25.541		
8,000.00	7,984.46	7,990.18	7,987.04	28.13	27.27	-35.38	-1,725.93	-196.93	1,389.03	1,333.76	55.28	25.129		
8,090.06	8,074.48	8,072.85	8,069.70	28.45	27.56	-35.48	-1,726.96	-195.56	1,388.02	1,332.13	55.89	24.837 CC		
8,100.00	8,084.42	8,083.63	8,080.47	28.49	27.60	-35.49	-1,727.11	-195.36	1,388.03	1,332.07	55.96	24.805		
8,157.59	8,142.00	8,146.05	8,142.87	28.69	27.81	178.51	-1,727.82	-193.82	1,388.37	1,332.00	56.37	24.629		
8,200.00	8,184.41	8,191.01	8,187.82	28.83	27.97	178.46	-1,728.21	-192.59	1,388.77	1,332.10	56.67	24.506		
8,300.00	8,284.41	8,285.25	8,282.04	29.17	28.30	178.40	-1,728.96	-191.09	1,389.62	1,332.28	57.34	24.235		
8,400.00	8,384.41	8,374.19	8,370.96	29.51	28.61	178.39	-1,730.57	-190.88	1,391.41	1,333.42	58.00	23.992		
8,507.63	8,492.04	8,479.66	8,476.41	29.87	28.98	178.41	-1,732.82	-191.38	1,393.70	1,334.96	58.74	23.728		
8,550.00	8,534.37	8,520.78	8,517.51	30.02	29.13	89.03	-1,733.76	-191.80	1,394.63	1,335.60	59.03	23.627		
8,600.00	8,584.01	8,567.20	8,563.91	30.18	29.30	89.16	-1,734.89	-192.31	1,395.74	1,336.39	59.36	23.515		
8,650.00	8,632.95	8,612.68	8,609.37	30.34	29.46	89.43	-1,736.10	-192.61	1,396.97	1,337.29	59.68	23.408		
8,700.00	8,680.82	8,654.26	8,650.94	30.50	29.61	89.78	-1,737.34	-192.80	1,398.43	1,338.44	59.98	23.313		
8,750.00	8,727.25	8,693.66	8,690.32	30.66	29.75	90.20	-1,738.71	-193.04	1,400.30	1,340.02	60.28	23.231		
8,800.00	8,771.89	8,731.20	8,727.82	30.81	29.88	90.66	-1,740.19	-193.32	1,402.72	1,342.16	60.56	23.164		
8,850.00	8,814.40	8,766.45	8,763.04	30.95	30.01	91.12	-1,741.76	-193.65	1,405.84	1,345.02	60.82	23.114		
8,900.00	8,854.46	8,799.54	8,796.08	31.09	30.13	91.53	-1,743.39	-194.00	1,409.82	1,348.74	61.08	23.082		
8,950.00	8,891.75	8,833.03	8,829.53	31.23	30.25	91.95	-1,745.17	-194.40	1,414.78	1,353.44	61.34	23.065		
9,000.00	8,926.01	8,865.46	8,861.91	31.37	30.36	92.32	-1,746.93	-194.80	1,420.80	1,359.20	61.60	23.065		
9,050.00	8,956.96	8,894.66	8,891.06	31.53	30.47	92.52	-1,748.54	-195.18	1,428.03	1,366.17	61.86	23.087		
9,100.00	8,984.38	8,920.03	8,916.39	31.69	30.56	92.52	-1,749.96	-195.51	1,436.60	1,374.49	62.10	23.132		
9,150.00	9,008.05	8,941.38	8,937.70	31.87	30.64	92.26	-1,751.17	-195.82	1,446.63	1,384.28	62.35	23.203		
9,200.00	9,027.79	9,614.46	9,283.16	32.07	33.16	98.98	-1,763.44	152.64	1,447.63	1,383.32	64.31	22.512		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design			Sec 14-T21S-R27E - Lone Tree Draw 14-13 State Com 336H - ST01 - ST01											Offset Site Error:		0.00 ft
Survey Program:			438-MWD+HDGM, 9290-MWD+HDGM											Offset Well Error:		0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor				
9,250.00	9,043.45	9,665.04	9,286.36	32.29	33.59	98.73	-1,762.41	203.11	1,445.14	1,380.12	65.02	22.226				
9,300.00	9,054.92	9,720.18	9,289.87	32.53	34.15	98.56	-1,761.13	258.13	1,443.26	1,377.39	65.86	21.912				
9,350.00	9,062.10	9,779.20	9,293.25	32.79	34.79	98.51	-1,759.54	317.03	1,441.83	1,375.05	66.78	21.591				
9,400.00	9,064.95	9,850.23	9,295.65	33.06	35.66	98.59	-1,757.08	387.97	1,440.48	1,372.57	67.92	21.210				
9,407.63	9,065.00	9,861.06	9,295.81	33.10	35.79	98.61	-1,756.64	398.80	1,440.27	1,372.18	68.09	21.153				
9,500.00	9,065.00	9,968.24	9,298.08	33.68	37.29	98.73	-1,751.53	505.83	1,437.22	1,367.10	70.12	20.497				
9,600.00	9,065.00	10,063.82	9,301.25	34.41	38.81	98.88	-1,746.35	601.22	1,433.46	1,361.15	72.31	19.823				
9,700.00	9,065.00	10,136.78	9,303.30	35.24	40.04	98.97	-1,743.33	674.08	1,430.89	1,356.56	74.33	19.250				
9,800.00	9,065.00	10,225.84	9,305.04	36.17	41.64	99.05	-1,741.04	763.09	1,429.72	1,352.91	76.82	18.612				
9,864.33	9,065.00	10,277.90	9,306.32	36.83	42.62	99.10	-1,739.99	815.13	1,429.41	1,350.98	78.42	18.227				
9,900.00	9,065.00	10,305.30	9,307.47	37.19	43.15	99.15	-1,739.59	842.50	1,429.51	1,350.22	79.29	18.029				
10,000.00	9,065.00	10,393.63	9,313.02	38.30	44.90	99.37	-1,738.77	930.65	1,430.68	1,348.62	82.05	17.436				
10,100.00	9,065.00	10,499.54	9,320.62	39.48	47.08	99.67	-1,737.76	1,036.28	1,432.01	1,346.71	85.31	16.786				
10,200.00	9,065.00	10,606.04	9,326.56	40.72	49.37	99.90	-1,736.37	1,142.61	1,432.76	1,344.02	88.74	16.145				
10,300.00	9,065.00	10,688.73	9,329.18	42.03	51.21	100.00	-1,735.86	1,225.25	1,433.80	1,341.99	91.81	15.617				
10,400.00	9,065.00	10,774.66	9,330.93	43.40	53.16	100.06	-1,736.69	1,311.16	1,436.18	1,341.12	95.06	15.109				
10,500.00	9,065.00	10,880.92	9,333.24	44.82	55.64	100.13	-1,738.09	1,417.38	1,438.95	1,340.07	98.88	14.552				
10,600.00	9,065.00	10,979.06	9,335.38	46.29	57.97	100.20	-1,738.83	1,515.50	1,441.17	1,338.56	102.60	14.046				
10,700.00	9,065.00	11,097.73	9,338.02	47.79	60.84	100.29	-1,739.49	1,634.13	1,443.23	1,336.32	106.91	13.499				
10,800.00	9,065.00	11,199.55	9,340.48	49.34	63.35	100.38	-1,739.05	1,735.92	1,444.32	1,333.44	110.88	13.026				
10,900.00	9,065.00	11,303.08	9,343.26	50.92	65.94	100.49	-1,738.32	1,839.41	1,445.20	1,330.25	114.96	12.572				
11,000.00	9,065.00	11,399.65	9,346.17	52.54	68.38	100.60	-1,737.61	1,935.94	1,446.11	1,327.20	118.91	12.162				
11,100.00	9,065.00	11,495.30	9,347.73	54.18	70.82	100.65	-1,737.40	2,031.57	1,447.28	1,324.37	122.91	11.776				
11,200.00	9,065.00	11,588.75	9,348.55	55.85	73.22	100.68	-1,737.70	2,125.01	1,448.84	1,321.93	126.90	11.417				
11,300.00	9,065.00	11,683.81	9,349.45	57.54	75.69	100.70	-1,738.42	2,220.07	1,450.83	1,319.85	130.99	11.076				
11,400.00	9,065.00	11,788.91	9,350.51	59.26	78.44	100.72	-1,739.16	2,325.17	1,452.79	1,317.41	135.38	10.731				
11,500.00	9,065.00	11,897.30	9,351.64	61.00	81.29	100.76	-1,739.42	2,433.55	1,454.31	1,314.42	139.89	10.396				
11,600.00	9,065.00	12,004.08	9,353.15	62.75	84.12	100.81	-1,738.92	2,540.31	1,455.19	1,310.80	144.39	10.078				
11,700.00	9,065.00	12,104.42	9,355.26	64.52	86.79	100.89	-1,738.12	2,640.62	1,455.88	1,307.16	148.72	9.789				
11,800.00	9,065.00	12,210.30	9,358.38	66.31	89.62	101.01	-1,736.99	2,746.45	1,456.48	1,303.27	153.21	9.506				
11,900.00	9,065.00	12,338.48	9,362.00	68.11	93.06	101.16	-1,734.18	2,874.55	1,455.99	1,297.71	158.27	9.199				
12,000.00	9,065.00	12,462.58	9,365.26	69.93	96.39	101.32	-1,728.90	2,998.49	1,453.38	1,290.17	163.21	8.905				
12,100.00	9,065.00	12,556.64	9,367.38	71.76	98.93	101.43	-1,724.20	3,092.41	1,450.01	1,282.55	167.46	8.659				
12,200.00	9,065.00	12,633.93	9,368.13	73.60	101.02	101.47	-1,721.67	3,169.65	1,448.04	1,276.70	171.34	8.451				
12,300.00	9,065.00	12,734.79	9,368.29	75.45	103.77	101.49	-1,718.91	3,270.47	1,446.46	1,270.62	175.84	8.226				
12,371.01	9,065.00	12,786.05	9,368.22	76.77	105.16	101.49	-1,718.00	3,321.72	1,445.98	1,267.45	178.53	8.099				
12,400.00	9,065.00	12,812.00	9,368.17	77.31	105.87	101.49	-1,717.82	3,347.68	1,446.07	1,266.32	179.76	8.045				
12,500.00	9,065.00	12,895.65	9,368.11	79.18	108.16	101.48	-1,717.77	3,431.33	1,447.05	1,263.21	183.83	7.871				
12,600.00	9,065.00	12,981.40	9,368.90	81.05	110.52	101.50	-1,718.25	3,517.07	1,448.86	1,260.91	187.95	7.709				
12,700.00	9,065.00	13,079.64	9,371.29	82.94	113.22	101.57	-1,719.19	3,615.28	1,451.35	1,258.95	192.41	7.543				
12,800.00	9,065.00	13,199.62	9,374.11	84.83	116.53	101.67	-1,719.54	3,735.22	1,453.21	1,255.71	197.49	7.358				
12,900.00	9,065.00	13,300.48	9,376.28	86.73	119.31	101.75	-1,718.98	3,836.06	1,454.18	1,252.14	202.04	7.197				
13,000.00	9,065.00	13,384.73	9,378.07	88.64	121.65	101.81	-1,719.04	3,920.28	1,455.76	1,249.63	206.13	7.062				
13,100.00	9,065.00	13,495.53	9,381.17	90.55	124.72	101.92	-1,718.93	4,031.04	1,457.30	1,246.33	210.97	6.908				
13,200.00	9,065.00	13,585.79	9,383.81	92.47	127.22	102.01	-1,719.07	4,121.26	1,459.12	1,243.90	215.22	6.780				
13,300.00	9,065.00	13,709.51	9,387.36	94.39	130.66	102.14	-1,718.45	4,244.92	1,460.29	1,239.88	220.41	6.625				
13,400.00	9,065.00	13,807.66	9,389.47	96.32	133.39	102.23	-1,717.03	4,343.05	1,460.42	1,235.50	224.92	6.493				
13,500.00	9,065.00	13,896.65	9,389.75	98.25	135.87	102.23	-1,717.00	4,432.03	1,461.51	1,232.28	229.23	6.376				
13,600.00	9,065.00	13,989.38	9,387.96	100.19	138.45	102.15	-1,717.62	4,524.74	1,462.84	1,229.12	233.71	6.259				
13,700.00	9,065.00	14,077.03	9,387.97	102.13	140.90	102.13	-1,718.83	4,612.37	1,465.24	1,227.24	238.00	6.157				
13,800.00	9,065.00	14,182.72	9,389.83	104.08	143.86	102.18	-1,719.80	4,718.05	1,467.58	1,224.80	242.78	6.045				
13,900.00	9,065.00	14,308.30	9,394.35	106.03	147.37	102.34	-1,719.70	4,843.54	1,469.45	1,221.41	248.04	5.924				

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Sec 14-T21S-R27E - Lone Tree Draw 14-13 State Com 336H - ST01 - ST01													Offset Well Error:	0.50 ft
Survey Program: 438-MWD+HDGM, 9290-MWD+HDGM														
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
14,000.00	9,065.00	14,422.34	9,400.37	107.98	150.55	102.59	-1,716.90	4,957.38	1,469.23	1,216.38	252.86	5.811		
14,100.00	9,065.00	14,529.97	9,406.14	109.94	153.56	102.82	-1,713.65	5,064.81	1,468.54	1,211.05	257.49	5.703		
14,200.00	9,065.00	14,636.83	9,410.94	111.90	156.54	103.03	-1,710.04	5,171.50	1,467.31	1,205.19	262.12	5.598		
14,300.00	9,065.00	14,734.40	9,415.06	113.86	159.27	103.21	-1,706.62	5,268.92	1,465.93	1,199.39	266.54	5.500		
14,400.00	9,065.00	14,824.86	9,417.80	115.82	161.80	103.32	-1,704.12	5,359.31	1,465.00	1,194.17	270.83	5.409		
14,472.70	9,065.00	14,888.94	9,418.09	117.25	163.60	103.34	-1,703.15	5,423.38	1,464.79	1,190.81	273.98	5.346		
14,500.00	9,065.00	14,913.64	9,417.79	117.79	164.30	103.32	-1,702.98	5,448.07	1,464.82	1,189.62	275.19	5.323		
14,600.00	9,065.00	15,009.57	9,417.90	119.76	167.00	103.33	-1,702.26	5,543.99	1,465.18	1,185.43	279.75	5.237		
14,700.00	9,065.00	15,119.84	9,419.19	121.74	170.10	103.38	-1,700.85	5,654.25	1,465.28	1,180.62	284.65	5.148		
14,800.00	9,065.00	15,234.58	9,421.64	123.71	173.33	103.48	-1,698.24	5,768.93	1,464.65	1,175.05	289.60	5.058		
14,900.00	9,065.00	15,345.03	9,425.68	125.69	176.43	103.66	-1,694.04	5,879.23	1,462.86	1,168.54	294.32	4.970 Alert		
15,000.00	9,065.00	15,451.52	9,429.72	127.67	179.42	103.85	-1,689.56	5,985.55	1,460.74	1,161.81	298.93	4.887 Alert		
15,100.00	9,065.00	15,533.53	9,432.36	129.65	181.72	103.97	-1,686.31	6,067.45	1,458.78	1,155.75	303.02	4.814 Alert		
15,200.00	9,065.00	15,621.10	9,433.91	131.63	184.19	104.04	-1,684.51	6,154.98	1,458.25	1,150.95	307.30	4.745 Alert		
15,300.00	9,065.00	15,733.86	9,435.54	133.62	187.37	104.11	-1,682.21	6,267.71	1,457.71	1,145.49	312.22	4.669 Alert		
15,400.00	9,065.00	15,828.86	9,436.42	135.61	190.05	104.16	-1,679.74	6,362.67	1,456.50	1,139.78	316.72	4.599 Alert		
15,500.00	9,065.00	15,931.47	9,435.79	137.60	192.95	104.14	-1,677.94	6,465.26	1,455.72	1,134.23	321.49	4.528 Alert		
15,583.57	9,065.00	16,000.24	9,435.47	139.26	194.89	104.13	-1,676.78	6,534.02	1,455.17	1,130.14	325.03	4.477 Alert		
15,600.00	9,065.00	16,012.65	9,435.48	139.59	195.24	104.13	-1,676.65	6,546.43	1,455.19	1,129.51	325.69	4.468 Alert		
15,700.00	9,065.00	16,105.19	9,436.07	141.58	197.86	104.15	-1,676.26	6,638.97	1,455.98	1,125.84	330.14	4.410 Alert		
15,800.00	9,065.00	16,216.02	9,436.83	143.57	201.00	104.17	-1,675.38	6,749.79	1,456.45	1,121.34	335.11	4.346 Alert		
15,900.00	9,065.00	16,294.72	9,437.85	145.57	203.22	104.21	-1,674.68	6,828.48	1,457.03	1,117.89	339.14	4.296 Alert		
16,000.00	9,065.00	16,373.91	9,440.00	147.56	205.47	104.28	-1,675.20	6,907.64	1,459.37	1,116.31	343.06	4.254 Alert		
16,100.00	9,065.00	16,471.85	9,443.99	149.56	208.24	104.41	-1,676.39	7,005.49	1,462.62	1,115.10	347.51	4.209 Alert		
16,200.00	9,065.00	16,574.14	9,449.21	151.56	211.14	104.59	-1,676.91	7,107.65	1,465.45	1,113.42	352.03	4.163 Alert		
16,300.00	9,065.00	16,674.51	9,455.01	153.56	213.98	104.79	-1,677.40	7,207.85	1,468.45	1,112.01	356.44	4.120 Alert		
16,400.00	9,065.00	16,778.16	9,461.30	155.56	216.91	105.02	-1,677.55	7,311.30	1,471.22	1,110.30	360.92	4.076 Alert		
16,500.00	9,065.00	16,885.60	9,467.39	157.57	219.95	105.24	-1,677.45	7,418.57	1,473.67	1,108.16	365.52	4.032 Alert		
16,600.00	9,065.00	17,003.21	9,471.95	159.57	223.29	105.40	-1,676.85	7,536.09	1,475.28	1,104.78	370.50	3.982 Alert		
16,700.00	9,065.00	17,105.07	9,473.09	161.57	226.18	105.43	-1,676.52	7,637.93	1,476.33	1,101.14	375.19	3.935 Alert		
16,800.00	9,065.00	17,207.29	9,471.03	163.58	229.08	105.35	-1,676.44	7,740.13	1,476.77	1,096.68	380.09	3.885 Alert		
16,900.00	9,065.00	17,281.73	9,470.20	165.59	231.20	105.30	-1,677.09	7,814.56	1,478.37	1,094.31	384.06	3.849 Alert		
17,000.00	9,065.00	17,376.62	9,472.14	167.60	233.89	105.35	-1,678.11	7,909.42	1,481.00	1,092.50	388.50	3.812 Alert		
17,100.00	9,065.00	17,488.69	9,476.30	169.60	237.08	105.49	-1,678.30	8,021.41	1,483.20	1,089.83	393.36	3.771 Alert		
17,200.00	9,065.00	17,580.54	9,479.32	171.61	239.69	105.59	-1,678.67	8,113.21	1,485.51	1,087.89	397.62	3.736 Alert		
17,300.00	9,065.00	17,692.01	9,481.81	173.62	242.86	105.66	-1,679.35	8,224.65	1,487.78	1,085.21	402.57	3.696 Alert		
17,400.00	9,065.00	17,802.99	9,483.62	175.63	246.01	105.72	-1,678.94	8,335.61	1,488.90	1,081.40	407.50	3.654 Alert		
17,500.00	9,065.00	17,849.00	9,484.32	177.65	247.32	105.74	-1,678.74	8,381.62	1,490.91	1,080.63	410.28	3.634 Alert		
17,600.00	9,065.00	17,908.28	9,491.55	179.66	248.92	106.01	-1,678.60	8,440.34	1,495.85	1,083.21	412.64	3.625 Alert		
17,700.00	9,065.00	18,102.64	9,518.70	181.67	254.25	106.98	-1,678.76	8,631.18	1,501.77	1,082.88	418.90	3.585 Alert		
17,800.00	9,065.00	18,243.21	9,519.49	183.69	258.25	107.01	-1,677.31	8,771.74	1,502.12	1,077.52	424.60	3.538 Alert		
17,900.00	9,065.00	18,350.53	9,520.83	185.70	261.29	107.08	-1,674.00	8,879.00	1,500.60	1,071.32	429.28	3.496 Alert		
18,000.00	9,065.00	18,456.47	9,521.94	187.72	264.30	107.15	-1,670.10	8,984.86	1,498.43	1,064.51	433.92	3.453 Alert		
18,100.00	9,065.00	18,549.23	9,522.94	189.73	266.93	107.21	-1,666.64	9,077.55	1,496.25	1,057.95	438.30	3.414 Alert		
18,200.00	9,065.00	18,637.48	9,525.82	191.75	269.43	107.34	-1,663.58	9,165.70	1,494.95	1,052.53	442.42	3.379 Alert		
18,300.00	9,065.00	18,733.66	9,530.29	193.77	272.15	107.53	-1,660.16	9,261.71	1,493.99	1,047.42	446.57	3.346 Alert		
18,400.00	9,065.00	18,835.34	9,535.73	195.78	275.03	107.76	-1,656.74	9,363.19	1,493.46	1,042.70	450.76	3.313 Alert		
18,500.00	9,065.00	18,946.63	9,542.21	197.80	278.18	108.04	-1,651.69	9,474.18	1,491.94	1,036.91	455.03	3.279 Alert		
18,600.00	9,065.00	19,049.92	9,548.99	199.82	281.10	108.34	-1,646.61	9,577.12	1,490.36	1,031.31	459.05	3.247 Alert		
18,700.00	9,065.00	19,154.20	9,556.52	201.84	284.04	108.67	-1,640.74	9,680.96	1,488.35	1,025.37	462.97	3.215 Alert		
18,748.45	9,065.00	19,172.00	9,557.83	202.82	284.54	108.73	-1,639.72	9,698.68	1,487.67	1,023.33	464.34	3.204 Alert, ES		
18,800.00	9,065.00	19,172.00	9,557.83	203.86	284.54	108.73	-1,639.72	9,698.68	1,488.56	1,023.51	465.05	3.201 Alert, SF		

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design		Sec 14-T21S-R27E - Lone Tree Draw 14-13 State Com 336H - ST01 - ST01											Offset Site Error:		0.00 ft
Survey Program:		438-MWD+HDGM, 9290-MWD+HDGM											Offset Well Error:		0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning	
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor			
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)				
18,900.00	9,065.00	19,172.00	9,557.83	205.88	284.54	108.73	-1,639.72	9,698.68	1,495.37	1,030.48	464.89	3.217	Alert		
19,000.00	9,065.00	19,172.00	9,557.83	207.90	284.54	108.73	-1,639.72	9,698.68	1,508.79	1,046.04	462.74	3.261	Alert		
19,100.00	9,065.00	19,172.00	9,557.83	209.92	284.54	108.73	-1,639.72	9,698.68	1,528.64	1,069.89	458.75	3.332	Alert		
19,200.00	9,065.00	19,172.00	9,557.83	211.95	284.54	108.73	-1,639.72	9,698.68	1,554.69	1,101.59	453.10	3.431	Alert		
19,300.00	9,065.00	19,172.00	9,557.83	213.97	284.54	108.73	-1,639.72	9,698.68	1,586.62	1,140.59	446.03	3.557	Alert		
19,400.00	9,065.00	19,172.00	9,557.83	215.99	284.54	108.73	-1,639.72	9,698.68	1,624.09	1,186.31	437.79	3.710	Alert		
19,456.84	9,065.00	19,172.00	9,557.83	217.14	284.54	108.73	-1,639.72	9,698.68	1,647.72	1,215.04	432.68	3.808	Alert		

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Sec 14-T21S-R27E - Lone Tree Draw 14-13 State Com 336H - Wellbore #1 - Wellbore #1													Offset Well Error:	0.50 ft
Survey Program: 438-MWD+HDGM														
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0.00	0.00	14.70	14.70	0.50	0.50	-176.33	-1,663.40	-106.75	1,666.82					
100.00	100.00	111.43	111.43	0.52	0.53	-176.33	-1,663.53	-106.62	1,666.95	1,665.89	1.05	1,584.345		
200.00	200.00	208.16	208.16	0.70	0.61	-176.34	-1,663.86	-106.30	1,667.27	1,665.96	1.31	1,269.137		
300.00	300.00	304.89	304.89	0.99	0.72	-176.36	-1,664.40	-105.79	1,667.79	1,666.08	1.71	977.772		
400.00	400.00	401.61	401.60	1.31	0.84	-176.39	-1,665.14	-105.09	1,668.51	1,666.35	2.15	775.104		
500.00	500.00	497.70	497.68	1.65	1.08	-176.42	-1,666.08	-104.23	1,669.43	1,666.71	2.72	612.830		
600.00	600.00	597.47	597.44	1.99	1.41	-176.45	-1,667.23	-103.34	1,670.53	1,667.13	3.40	491.988		
700.00	700.00	695.00	694.96	2.34	1.74	-176.48	-1,668.36	-102.72	1,671.64	1,667.56	4.07	410.228		
800.00	800.00	793.91	793.86	2.69	2.08	-176.49	-1,669.63	-102.28	1,672.89	1,668.12	4.77	350.896		
900.00	900.00	895.91	895.85	3.04	2.44	-176.52	-1,670.91	-101.61	1,674.11	1,668.64	5.48	305.673		
1,000.00	1,000.00	992.05	991.98	3.40	2.78	-176.55	-1,672.26	-100.68	1,675.45	1,669.28	6.17	271.579		
1,100.00	1,100.00	1,113.87	1,113.78	3.75	3.20	-176.61	-1,673.33	-99.25	1,676.27	1,669.32	6.95	241.303		
1,200.00	1,200.00	1,232.39	1,232.30	4.11	3.59	-176.58	-1,672.59	-100.01	1,675.66	1,667.97	7.69	217.797		
1,300.00	1,300.00	1,343.41	1,343.28	4.46	3.95	-176.49	-1,670.95	-102.38	1,674.31	1,665.90	8.41	199.031		
1,400.00	1,400.00	1,444.47	1,444.28	4.82	4.29	-176.39	-1,669.04	-105.23	1,672.61	1,663.50	9.11	183.677		
1,500.00	1,500.00	1,532.31	1,532.08	5.18	4.59	-176.31	-1,667.73	-107.62	1,671.29	1,661.53	9.76	171.214		
1,600.00	1,600.00	1,630.54	1,630.26	5.53	4.92	-176.21	-1,666.63	-110.30	1,670.34	1,659.89	10.45	159.777		
1,700.00	1,700.00	1,732.97	1,732.65	5.89	5.28	-176.11	-1,665.46	-113.11	1,669.39	1,658.23	11.16	149.535		
1,800.00	1,800.00	1,837.76	1,837.39	6.25	5.64	-176.01	-1,664.00	-116.04	1,668.18	1,656.30	11.88	140.377		
1,900.00	1,900.00	1,936.35	1,935.93	6.61	5.98	-175.92	-1,662.46	-118.59	1,666.82	1,654.23	12.58	132.456		
2,000.00	2,000.00	2,029.43	2,028.98	6.96	6.30	-175.84	-1,661.37	-120.86	1,665.82	1,652.55	13.27	125.562		
2,100.00	2,100.00	2,126.44	2,125.95	7.32	6.64	-175.75	-1,660.48	-123.32	1,665.09	1,651.12	13.96	119.235		
2,200.00	2,200.00	2,225.92	2,225.39	7.68	6.99	-175.65	-1,659.67	-126.11	1,664.49	1,649.82	14.67	113.442		
2,300.00	2,300.00	2,328.05	2,327.48	8.04	7.35	-175.55	-1,658.76	-129.01	1,663.81	1,648.42	15.39	108.106		
2,400.00	2,400.00	2,431.42	2,430.80	8.39	7.72	-175.45	-1,657.68	-131.93	1,662.99	1,646.88	16.11	103.206		
2,500.00	2,500.00	2,533.45	2,532.78	8.75	8.08	-175.34	-1,656.38	-135.03	1,661.96	1,645.13	16.83	98.737		
2,600.00	2,599.99	2,630.55	2,629.82	9.09	8.43	-29.33	-1,655.16	-137.98	1,660.20	1,642.68	17.52	94.769		
2,700.00	2,699.96	2,726.59	2,725.82	9.42	8.77	-29.29	-1,654.20	-140.87	1,657.18	1,638.99	18.19	91.122		
2,800.00	2,799.86	2,831.78	2,830.96	9.75	9.14	-29.28	-1,653.10	-143.83	1,652.57	1,633.68	18.89	87.488		
2,900.00	2,899.68	2,930.55	2,929.68	10.08	9.49	-29.31	-1,651.94	-146.79	1,646.32	1,626.75	19.57	84.118		
2,945.33	2,944.88	2,962.85	2,961.96	10.23	9.61	-29.33	-1,651.72	-147.74	1,643.20	1,623.37	19.84	82.833		
3,000.00	2,999.39	3,004.01	3,003.10	10.41	9.75	-29.35	-1,651.76	-148.75	1,639.66	1,619.50	20.17	81.310		
3,100.00	3,099.08	3,091.99	3,091.07	10.75	10.07	-29.41	-1,652.61	-150.57	1,634.02	1,613.21	20.81	78.518		
3,200.00	3,198.78	3,189.93	3,188.97	11.08	10.41	-29.47	-1,653.94	-152.63	1,628.77	1,607.28	21.49	75.779		
3,300.00	3,298.48	3,277.14	3,276.16	11.42	10.72	-29.55	-1,655.47	-153.79	1,623.87	1,601.74	22.13	73.363		
3,400.00	3,398.18	3,364.24	3,363.23	11.76	11.02	-29.70	-1,657.89	-153.26	1,619.84	1,597.07	22.77	71.136		
3,500.00	3,497.88	3,505.78	3,504.70	12.10	11.50	-29.98	-1,661.16	-151.13	1,615.44	1,591.84	23.60	68.446		
3,600.00	3,597.58	3,608.64	3,607.55	12.45	11.85	-30.17	-1,661.77	-149.80	1,609.22	1,584.93	24.29	66.240		
3,700.00	3,697.27	3,704.78	3,703.68	12.79	12.18	-30.35	-1,662.30	-148.38	1,602.96	1,578.00	24.97	64.208		
3,800.00	3,796.97	3,802.79	3,801.68	13.14	12.52	-30.54	-1,662.99	-146.95	1,596.86	1,571.22	25.65	62.268		
3,900.00	3,896.67	3,901.87	3,900.75	13.48	12.86	-30.73	-1,663.76	-145.65	1,590.88	1,564.55	26.33	60.419		
4,000.00	3,996.37	4,001.75	4,000.62	13.83	13.20	-30.91	-1,664.49	-144.68	1,584.88	1,557.86	27.02	58.653		
4,100.00	4,096.07	4,104.40	4,103.27	14.18	13.56	-31.10	-1,665.23	-143.69	1,578.88	1,551.16	27.72	56.953		
4,200.00	4,195.76	4,202.73	4,201.59	14.53	13.90	-31.27	-1,665.70	-142.97	1,572.68	1,544.26	28.41	55.354		
4,300.00	4,295.46	4,298.59	4,297.44	14.88	14.23	-31.44	-1,666.46	-142.37	1,566.81	1,537.71	29.09	53.854		
4,400.00	4,395.16	4,400.99	4,399.84	15.23	14.59	-31.60	-1,667.31	-142.05	1,560.99	1,531.19	29.80	52.381		
4,500.00	4,494.86	4,501.59	4,500.44	15.58	14.94	-31.76	-1,667.93	-141.81	1,554.98	1,524.48	30.50	50.979		
4,600.00	4,594.56	4,601.60	4,600.44	15.93	15.29	-31.92	-1,668.56	-141.60	1,549.00	1,517.80	31.20	49.642		
4,700.00	4,694.25	4,700.02	4,698.86	16.29	15.64	-32.07	-1,669.18	-141.62	1,543.04	1,511.14	31.90	48.370		
4,800.00	4,793.95	4,799.64	4,798.48	16.64	15.99	-32.23	-1,669.87	-141.66	1,537.16	1,504.56	32.60	47.147		
4,900.00	4,893.65	4,902.29	4,901.13	17.00	16.35	-32.38	-1,670.50	-141.80	1,531.20	1,497.88	33.32	45.959		
5,000.00	4,993.35	4,986.66	4,985.49	17.35	16.65	-32.49	-1,671.29	-142.35	1,525.60	1,491.64	33.97	44.912		

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 438-MWD+HDGM													Offset Well Error:	0.50 ft
Reference														
		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
5,100.00	5,093.05	5,084.28	5,083.08	17.71	16.99	-32.58	-1,672.89	-144.14	1,520.74	1,486.07	34.67	43.868		
5,200.00	5,192.75	5,183.32	5,182.09	18.06	17.34	-32.66	-1,674.48	-146.27	1,515.86	1,480.49	35.37	42.857		
5,300.00	5,292.44	5,282.08	5,280.81	18.42	17.69	-32.74	-1,676.15	-148.45	1,511.06	1,474.99	36.07	41.888		
5,400.00	5,392.14	5,379.00	5,377.69	18.77	18.04	-32.81	-1,677.91	-150.71	1,506.39	1,469.62	36.77	40.967		
5,500.00	5,491.84	5,479.30	5,477.91	19.13	18.39	-32.84	-1,679.80	-154.11	1,501.82	1,464.34	37.48	40.069		
5,600.00	5,591.54	5,574.54	5,573.01	19.49	18.73	-32.82	-1,681.68	-158.74	1,497.38	1,459.21	38.17	39.226		
5,700.00	5,691.24	5,666.05	5,664.38	19.85	19.06	-32.79	-1,683.90	-163.28	1,493.38	1,454.53	38.85	38.437		
5,800.00	5,790.93	5,767.29	5,765.49	20.20	19.42	-32.78	-1,686.62	-167.86	1,489.64	1,450.07	39.57	37.647		
5,900.00	5,890.63	5,867.66	5,865.73	20.56	19.78	-32.78	-1,689.24	-172.24	1,485.82	1,445.54	40.28	36.886		
6,000.00	5,990.33	5,968.39	5,966.35	20.92	20.14	-32.79	-1,691.84	-176.29	1,481.96	1,440.97	41.00	36.149		
6,100.00	6,090.03	6,073.08	6,070.94	21.28	20.51	-32.81	-1,694.40	-180.09	1,477.96	1,436.24	41.73	35.421		
6,200.00	6,189.73	6,180.75	6,178.51	21.64	20.90	-32.84	-1,696.41	-184.06	1,473.36	1,430.90	42.47	34.695		
6,300.00	6,289.42	6,276.36	6,274.05	22.00	21.24	-32.87	-1,698.16	-187.41	1,468.75	1,425.59	43.16	34.027		
6,400.00	6,389.12	6,368.65	6,366.26	22.36	21.57	-32.90	-1,700.22	-190.51	1,464.52	1,420.68	43.85	33.399		
6,500.00	6,488.82	6,460.22	6,457.75	22.72	21.90	-32.94	-1,702.86	-193.36	1,460.95	1,416.42	44.53	32.807		
6,600.00	6,588.52	6,558.67	6,556.10	23.08	22.25	-32.99	-1,705.96	-196.33	1,457.63	1,412.39	45.24	32.220		
6,700.00	6,688.22	6,656.96	6,654.28	23.44	22.60	-33.01	-1,709.19	-199.92	1,454.46	1,408.52	45.95	31.654		
6,800.00	6,787.91	6,766.63	6,763.80	23.80	23.00	-33.02	-1,712.62	-204.47	1,451.18	1,404.48	46.70	31.074		
6,900.00	6,887.61	6,879.48	6,876.59	24.16	23.40	-33.11	-1,714.97	-207.04	1,446.77	1,399.31	47.46	30.483		
7,000.00	6,987.31	6,984.78	6,981.86	24.52	23.78	-33.22	-1,716.65	-208.69	1,441.88	1,393.69	48.19	29.918		
7,100.00	7,087.01	7,086.71	7,083.78	24.88	24.14	-33.35	-1,717.93	-209.80	1,436.65	1,387.74	48.91	29.371		
7,200.00	7,186.71	7,212.28	7,209.32	25.24	24.58	-33.64	-1,718.39	-208.01	1,430.52	1,380.82	49.69	28.787		
7,300.00	7,286.41	7,300.49	7,297.48	25.60	24.87	-33.92	-1,718.32	-204.80	1,423.95	1,373.59	50.36	28.276		
7,400.00	7,386.10	7,390.23	7,387.18	25.96	25.18	-34.18	-1,718.91	-202.32	1,418.16	1,367.13	51.03	27.791		
7,500.00	7,485.80	7,489.78	7,486.70	26.33	25.52	-34.43	-1,719.91	-200.59	1,412.75	1,361.02	51.73	27.310		
7,600.00	7,585.50	7,590.04	7,586.96	26.69	25.87	-34.65	-1,720.90	-199.51	1,407.34	1,354.90	52.44	26.838		
7,700.00	7,685.20	7,689.76	7,686.67	27.05	26.22	-34.84	-1,721.86	-199.21	1,401.92	1,348.77	53.15	26.378		
7,800.00	7,784.90	7,784.87	7,781.78	27.41	26.56	-35.02	-1,722.86	-199.00	1,396.61	1,342.77	53.84	25.938		
7,900.00	7,884.61	7,885.84	7,882.74	27.77	26.86	-35.12	-1,723.71	-198.83	1,393.76	1,339.51	54.24	25.694		
8,000.00	7,984.46	7,981.83	7,978.72	28.13	27.17	-35.18	-1,724.50	-198.68	1,392.29	1,337.78	54.51	25.541		
8,100.00	8,084.22	8,083.63	8,080.47	28.49	27.50	-35.38	-1,725.93	-198.93	1,389.03	1,333.76	55.28	25.129		
8,200.00	8,184.01	8,181.01	8,178.82	28.83	27.77	-35.48	-1,726.96	-195.56	1,388.02	1,332.13	55.89	24.837 CC		
8,300.00	8,284.41	8,285.25	8,282.04	29.17	28.30	-35.49	-1,727.11	-195.36	1,388.03	1,332.07	55.96	24.805		
8,400.00	8,384.41	8,374.19	8,370.96	29.51	28.61	-35.49	-1,727.82	-193.82	1,388.37	1,332.10	56.37	24.629 ES		
8,500.00	8,484.04	8,479.66	8,476.41	29.87	28.98	-35.49	-1,728.21	-192.59	1,388.77	1,332.10	56.67	24.506		
8,600.00	8,584.01	8,585.25	8,582.04	29.17	28.30	-35.49	-1,728.96	-191.09	1,389.62	1,332.28	57.34	24.235		
8,700.00	8,684.01	8,674.19	8,670.96	29.51	28.61	-35.49	-1,730.57	-190.88	1,391.41	1,333.42	58.00	23.992		
8,800.00	8,784.01	8,774.19	8,770.96	29.87	28.98	-35.49	-1,732.82	-191.38	1,393.70	1,334.96	58.74	23.728		
8,900.00	8,884.01	8,874.19	8,870.96	30.23	29.33	-35.49	-1,733.76	-191.80	1,394.63	1,335.60	59.03	23.627		
9,000.00	8,984.01	8,974.19	8,970.96	30.59	29.69	-35.49	-1,734.89	-192.31	1,395.74	1,336.39	59.36	23.515		
9,100.00	9,084.01	9,074.19	9,070.96	30.95	30.05	-35.49	-1,736.10	-192.61	1,396.97	1,337.29	59.68	23.408		
9,200.00	9,184.01	9,174.19	9,170.96	31.31	30.41	-35.49	-1,737.34	-192.80	1,398.43	1,338.44	59.98	23.313		
9,300.00	9,284.01	9,274.19	9,270.96	31.67	30.77	-35.49	-1,738.71	-193.04	1,400.30	1,340.02	60.28	23.231		
9,400.00	9,384.01	9,374.19	9,370.96	32.03	31.13	-35.49	-1,740.19	-193.32	1,402.72	1,342.16	60.56	23.164		
9,500.00	9,484.01	9,474.19	9,470.96	32.39	31.49	-35.49	-1,741.76	-193.65	1,405.84	1,345.02	60.82	23.114		
9,600.00	9,584.01	9,574.19	9,570.96	32.75	31.85	-35.49	-1,743.39	-194.00	1,409.82	1,348.74	61.08	23.082		
9,700.00	9,684.01	9,674.19	9,670.96	33.11	32.21	-35.49	-1,745.17	-194.40	1,414.78	1,353.44	61.34	23.065 SF		
9,800.00	9,784.01	9,774.19	9,770.96	33.47	32.57	-35.49	-1,746.93	-194.80	1,420.80	1,359.20	61.60	23.065		
9,900.00	9,884.01	9,874.19	9,870.96	33.83	32.93	-35.49	-1,748.54	-195.18	1,428.03	1,366.17	61.86	23.087		
10,000.00	9,984.01	9,974.19	9,970.96	34.19	33.29	-35.49	-1,749.96	-195.51	1,436.60	1,374.49	62.10	23.132		
10,100.00	10,084.01	10,074.19	10,070.96	34.55	33.65	-35.49	-1,751.17	-195.82	1,446.63	1,384.28	62.35	23.203		
10,200.00	10,184.01	10,174.19	10,170.96	34.91	34.01	-35.49	-1,752.18	-196.10	1,458.19	1,395.60	62.59	23.298		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design		Sec 14-T21S-R27E - Lone Tree Draw 14-13 State Com 336H - Wellbore #1 - Wellbore #1											Offset Site Error:		0.00 ft
Survey Program:		438-MWD+HDGM											Offset Well Error:		0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning	
Measured Depth Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor			
9,250.00	9,043.45	8,972.64	8,968.90	32.29	30.75	90.89	-1,752.98	-196.33	1,471.30	1,408.47	62.83	23.419			
9,300.00	9,054.92	8,982.37	8,978.61	32.53	30.78	89.75	-1,753.55	-196.51	1,485.94	1,422.88	63.06	23.564			
9,350.00	9,062.10	8,988.10	8,984.33	32.79	30.81	88.28	-1,753.89	-196.61	1,502.04	1,438.75	63.29	23.733			
9,400.00	9,064.95	8,989.83	8,986.06	33.06	30.81	86.49	-1,753.99	-196.64	1,519.48	1,455.97	63.51	23.926			
9,407.63	9,065.00	8,989.74	8,985.97	33.10	30.81	86.19	-1,753.98	-196.64	1,522.24	1,458.71	63.54	23.958			
9,500.00	9,065.00	8,988.13	8,984.36	33.68	30.81	86.12	-1,753.89	-196.61	1,558.31	1,494.36	63.95	24.367			
9,600.00	9,065.00	8,986.40	8,982.64	34.41	30.80	86.05	-1,753.79	-196.58	1,602.44	1,538.01	64.43	24.869			
9,700.00	9,065.00	8,984.70	8,980.94	35.24	30.79	85.98	-1,753.69	-196.55	1,651.46	1,586.52	64.94	25.432			
9,800.00	9,065.00	8,983.01	8,979.26	36.17	30.79	85.92	-1,753.59	-196.52	1,704.93	1,639.49	65.44	26.053			
9,900.00	9,065.00	8,981.35	8,977.60	37.19	30.78	85.85	-1,753.49	-196.49	1,762.46	1,696.53	65.94	26.730			
10,000.00	9,065.00	8,979.71	8,975.96	38.30	30.78	85.78	-1,753.39	-196.46	1,823.66	1,757.24	66.42	27.458			
10,100.00	9,065.00	8,978.08	8,974.34	39.48	30.77	85.72	-1,753.30	-196.43	1,888.18	1,821.30	66.88	28.234			
10,200.00	9,065.00	8,976.48	8,972.74	40.72	30.76	85.65	-1,753.20	-196.40	1,955.68	1,888.36	67.31	29.054			
10,300.00	9,065.00	8,974.89	8,971.15	42.03	30.76	85.59	-1,753.11	-196.37	2,025.86	1,958.14	67.72	29.915			
10,400.00	9,065.00	8,973.33	8,969.59	43.40	30.75	85.52	-1,753.02	-196.34	2,098.47	2,030.37	68.10	30.813			
10,500.00	9,065.00	8,971.78	8,968.04	44.82	30.75	85.46	-1,752.93	-196.32	2,173.25	2,104.79	68.46	31.745			
10,600.00	9,065.00	8,970.25	8,966.51	46.29	30.74	85.40	-1,752.84	-196.29	2,249.99	2,181.20	68.79	32.708			
10,700.00	9,065.00	8,968.73	8,965.00	47.79	30.74	85.34	-1,752.75	-196.27	2,328.49	2,259.40	69.10	33.699			
10,800.00	9,065.00	8,967.24	8,963.51	49.34	30.73	85.28	-1,752.66	-196.24	2,408.59	2,339.21	69.38	34.715			
10,900.00	9,065.00	8,965.76	8,962.03	50.92	30.73	85.22	-1,752.58	-196.21	2,490.13	2,420.48	69.65	35.754			
11,000.00	9,065.00	8,964.29	8,960.57	52.54	30.72	85.16	-1,752.49	-196.19	2,572.96	2,503.07	69.89	36.814			
11,100.00	9,065.00	8,962.85	8,959.13	54.18	30.71	85.10	-1,752.41	-196.17	2,656.98	2,586.87	70.12	37.893			
11,200.00	9,065.00	8,961.42	8,957.70	55.85	30.71	85.04	-1,752.32	-196.14	2,742.07	2,671.74	70.33	38.989			
11,300.00	9,065.00	8,960.00	8,956.29	57.54	30.70	84.99	-1,752.24	-196.12	2,828.14	2,757.61	70.53	40.100			
11,400.00	9,065.00	8,958.60	8,954.89	59.26	30.70	84.93	-1,752.16	-196.10	2,915.09	2,844.38	70.71	41.226			
11,500.00	9,065.00	8,957.22	8,953.51	61.00	30.69	84.87	-1,752.08	-196.07	3,002.86	2,931.97	70.88	42.364			
11,600.00	9,065.00	8,955.85	8,952.15	62.75	30.69	84.82	-1,752.00	-196.05	3,091.37	3,020.32	71.04	43.513			
11,700.00	9,065.00	8,954.50	8,950.79	64.52	30.68	84.76	-1,751.92	-196.03	3,180.55	3,109.36	71.20	44.674			
11,800.00	9,065.00	8,953.16	8,949.46	66.31	30.68	84.71	-1,751.85	-196.01	3,270.37	3,199.03	71.34	45.843			
11,900.00	9,065.00	8,951.83	8,948.13	68.11	30.67	84.66	-1,751.77	-195.99	3,360.75	3,289.28	71.47	47.022			
12,000.00	9,065.00	8,950.52	8,946.83	69.93	30.67	84.60	-1,751.69	-195.96	3,451.67	3,380.07	71.60	48.208			
12,100.00	9,065.00	8,949.23	8,945.53	71.76	30.67	84.55	-1,751.62	-195.94	3,543.08	3,471.36	71.72	49.402			
12,200.00	9,065.00	8,947.94	8,944.25	73.60	30.66	84.50	-1,751.54	-195.92	3,634.94	3,563.10	71.83	50.602			
12,300.00	9,065.00	8,946.67	8,942.98	75.45	30.66	84.45	-1,751.47	-195.90	3,727.21	3,655.27	71.94	51.808			
12,400.00	9,065.00	8,945.42	8,941.73	77.31	30.65	84.40	-1,751.40	-195.88	3,819.88	3,747.83	72.05	53.019			
12,500.00	9,065.00	8,944.17	8,940.49	79.18	30.65	84.35	-1,751.33	-195.86	3,912.90	3,840.76	72.15	54.236			
12,600.00	9,065.00	8,942.94	8,939.26	81.05	30.64	84.30	-1,751.26	-195.85	4,006.27	3,934.02	72.24	55.456			
12,700.00	9,065.00	8,941.72	8,938.04	82.94	30.64	84.25	-1,751.19	-195.83	4,099.94	4,027.61	72.33	56.681			
12,800.00	9,065.00	8,940.52	8,936.84	84.83	30.63	84.20	-1,751.12	-195.81	4,193.91	4,121.48	72.42	57.909			
12,900.00	9,065.00	8,939.32	8,935.65	86.73	30.63	84.15	-1,751.05	-195.79	4,288.14	4,215.64	72.51	59.141			
13,000.00	9,065.00	8,938.14	8,934.47	88.64	30.63	84.10	-1,750.98	-195.77	4,382.64	4,310.05	72.59	60.375			
13,100.00	9,065.00	8,936.97	8,933.30	90.55	30.62	84.06	-1,750.92	-195.75	4,477.37	4,404.70	72.67	61.612			
13,200.00	9,065.00	8,935.82	8,932.15	92.47	30.62	84.01	-1,750.85	-195.74	4,572.32	4,499.58	72.75	62.851			
13,300.00	9,065.00	8,934.67	8,931.00	94.39	30.61	83.96	-1,750.79	-195.72	4,667.49	4,594.67	72.82	64.093			
13,400.00	9,065.00	8,933.54	8,929.87	96.32	30.61	83.92	-1,750.72	-195.70	4,762.85	4,689.96	72.90	65.336			
13,500.00	9,065.00	8,932.41	8,928.75	98.25	30.61	83.87	-1,750.66	-195.69	4,858.40	4,785.43	72.97	66.580			
13,600.00	9,065.00	8,931.30	8,927.64	100.19	30.60	83.83	-1,750.59	-195.67	4,954.13	4,881.09	73.04	67.826			
13,700.00	9,065.00	8,930.20	8,926.54	102.13	30.60	83.78	-1,750.53	-195.65	5,050.02	4,976.91	73.11	69.073			
13,800.00	9,065.00	8,929.11	8,925.45	104.08	30.59	83.74	-1,750.47	-195.64	5,146.07	5,072.89	73.18	70.321			
13,900.00	9,065.00	8,928.03	8,924.37	106.03	30.59	83.70	-1,750.41	-195.62	5,242.26	5,169.01	73.25	71.570			
14,000.00	9,065.00	8,926.96	8,923.30	107.98	30.59	83.65	-1,750.35	-195.61	5,338.59	5,265.28	73.31	72.820			
14,100.00	9,065.00	8,925.90	8,922.24	109.94	30.58	83.61	-1,750.29	-195.59	5,435.06	5,361.68	73.38	74.069			

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design		Sec 14-T21S-R27E - Lone Tree Draw 14-13 State Com 336H - Wellbore #1 - Wellbore #1										Offset Site Error:		0.00 ft
Survey Program:		438-MWD+HDGM										Offset Well Error:		0.50 ft
Reference		Offset		Semi Major Axis			Distance							
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor	Warning	
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)			
14,200.00	9,065.00	8,924.85	8,921.19	111.90	30.58	83.57	-1,750.23	-195.58	5,531.65	5,458.21	73.44	75.319		
14,300.00	9,065.00	8,923.81	8,920.16	113.86	30.57	83.53	-1,750.17	-195.56	5,628.36	5,554.86	73.51	76.570		
14,400.00	9,065.00	8,922.78	8,919.13	115.82	30.57	83.48	-1,750.11	-195.55	5,725.18	5,651.61	73.57	77.820		
14,500.00	9,065.00	8,921.76	8,918.11	117.79	30.57	83.44	-1,750.05	-195.53	5,822.11	5,748.48	73.63	79.070		
14,600.00	9,065.00	8,920.75	8,917.10	119.76	30.56	83.40	-1,750.00	-195.52	5,919.15	5,845.45	73.70	80.319		
14,700.00	9,065.00	8,919.74	8,916.10	121.74	30.56	83.36	-1,749.94	-195.51	6,016.28	5,942.52	73.76	81.569		
14,800.00	9,065.00	8,918.75	8,915.11	123.71	30.56	83.32	-1,749.88	-195.49	6,113.50	6,039.68	73.82	82.818		
14,900.00	9,065.00	8,917.77	8,914.13	125.69	30.55	83.28	-1,749.83	-195.48	6,210.81	6,136.93	73.88	84.066		
15,000.00	9,065.00	8,916.80	8,913.16	127.67	30.55	83.24	-1,749.77	-195.47	6,308.20	6,234.26	73.94	85.314		
15,100.00	9,065.00	8,908.00	8,904.38	129.65	30.52	82.89	-1,749.28	-195.35	6,405.68	6,331.70	73.97	86.593		
15,200.00	9,065.00	8,908.00	8,904.38	131.63	30.52	82.89	-1,749.28	-195.35	6,503.23	6,429.19	74.04	87.836		
15,300.00	9,065.00	8,908.00	8,904.38	133.62	30.52	82.89	-1,749.28	-195.35	6,600.85	6,526.75	74.10	89.077		
15,400.00	9,065.00	8,908.00	8,904.38	135.61	30.52	82.89	-1,749.28	-195.35	6,698.54	6,624.37	74.17	90.317		
15,500.00	9,065.00	8,908.00	8,904.38	137.60	30.52	82.89	-1,749.28	-195.35	6,796.30	6,722.07	74.23	91.556		
15,600.00	9,065.00	8,908.00	8,904.38	139.59	30.52	82.89	-1,749.28	-195.35	6,894.12	6,819.83	74.30	92.793		
15,700.00	9,065.00	8,911.02	8,907.39	141.58	30.53	83.01	-1,749.45	-195.39	6,992.01	6,917.64	74.37	94.016		
15,800.00	9,065.00	8,909.79	8,906.17	143.57	30.52	82.96	-1,749.38	-195.37	7,089.95	7,015.52	74.43	95.256		
15,900.00	9,065.00	8,908.57	8,904.95	145.57	30.52	82.91	-1,749.31	-195.36	7,187.95	7,113.46	74.49	96.495		
16,000.00	9,065.00	8,907.35	8,903.73	147.56	30.51	82.86	-1,749.24	-195.34	7,286.00	7,211.45	74.55	97.733		
16,100.00	9,065.00	8,906.14	8,902.52	149.56	30.51	82.81	-1,749.18	-195.32	7,384.11	7,309.50	74.61	98.969		
16,200.00	9,065.00	8,904.92	8,901.30	151.56	30.51	82.77	-1,749.11	-195.31	7,482.27	7,407.60	74.67	100.203		
16,300.00	9,065.00	8,903.71	8,900.09	153.56	30.50	82.72	-1,749.04	-195.29	7,580.47	7,505.74	74.73	101.436		
16,400.00	9,065.00	8,902.50	8,898.89	155.56	30.50	82.67	-1,748.97	-195.28	7,678.72	7,603.93	74.79	102.668		
16,500.00	9,065.00	8,901.29	8,897.68	157.57	30.49	82.62	-1,748.91	-195.26	7,777.02	7,702.16	74.85	103.897		
16,600.00	9,065.00	8,900.09	8,896.48	159.57	30.49	82.57	-1,748.84	-195.25	7,875.36	7,800.44	74.91	105.125		
16,700.00	9,065.00	8,898.89	8,895.28	161.57	30.48	82.52	-1,748.77	-195.23	7,973.73	7,898.76	74.98	106.350		
16,800.00	9,065.00	8,897.69	8,894.08	163.58	30.48	82.48	-1,748.71	-195.21	8,072.15	7,997.11	75.04	107.574		
16,900.00	9,065.00	8,896.49	8,892.89	165.59	30.48	82.43	-1,748.64	-195.20	8,170.61	8,095.51	75.10	108.796		
17,000.00	9,065.00	8,895.30	8,891.69	167.60	30.47	82.38	-1,748.57	-195.18	8,269.10	8,193.94	75.16	110.017		
17,100.00	9,065.00	8,894.11	8,890.50	169.60	30.47	82.33	-1,748.51	-195.17	8,367.63	8,292.41	75.23	111.235		
17,200.00	9,065.00	8,892.92	8,889.32	171.61	30.46	82.28	-1,748.44	-195.15	8,466.20	8,390.91	75.29	112.451		
17,300.00	9,065.00	8,891.73	8,888.13	173.62	30.46	82.24	-1,748.37	-195.14	8,564.79	8,489.44	75.35	113.664		
17,400.00	9,065.00	8,890.54	8,886.95	175.63	30.45	82.19	-1,748.31	-195.12	8,663.42	8,588.00	75.42	114.876		
17,500.00	9,065.00	8,889.36	8,885.77	177.65	30.45	82.14	-1,748.24	-195.11	8,762.08	8,686.60	75.48	116.086		
17,600.00	9,065.00	8,888.18	8,884.59	179.66	30.45	82.09	-1,748.18	-195.09	8,860.77	8,785.23	75.54	117.293		
17,700.00	9,065.00	8,887.00	8,883.42	181.67	30.44	82.05	-1,748.11	-195.08	8,959.49	8,883.88	75.61	118.498		
17,800.00	9,065.00	8,885.83	8,882.24	183.69	30.44	82.00	-1,748.05	-195.06	9,058.23	8,982.56	75.67	119.701		
17,900.00	9,065.00	8,884.66	8,881.07	185.70	30.43	81.95	-1,747.98	-195.05	9,157.01	9,081.27	75.74	120.901		
18,000.00	9,065.00	8,883.49	8,879.90	187.72	30.43	81.90	-1,747.92	-195.03	9,255.81	9,180.00	75.81	122.099		
18,100.00	9,065.00	8,882.32	8,878.74	189.73	30.43	81.86	-1,747.85	-195.02	9,354.63	9,278.76	75.87	123.295		
18,200.00	9,065.00	8,881.15	8,877.57	191.75	30.42	81.81	-1,747.79	-195.00	9,453.48	9,377.54	75.94	124.488		
18,300.00	9,065.00	8,879.99	8,876.41	193.77	30.42	81.76	-1,747.73	-194.99	9,552.35	9,476.35	76.01	125.679		
18,400.00	9,065.00	8,878.83	8,875.25	195.78	30.41	81.72	-1,747.66	-194.97	9,651.25	9,575.17	76.07	126.867		
18,500.00	9,065.00	8,877.67	8,874.10	197.80	30.41	81.67	-1,747.60	-194.96	9,750.17	9,674.03	76.14	128.053		
18,600.00	9,065.00	8,876.52	8,872.94	199.82	30.40	81.63	-1,747.53	-194.94	9,849.11	9,772.90	76.21	129.236		
18,700.00	9,065.00	8,875.36	8,871.79	201.84	30.40	81.58	-1,747.47	-194.93	9,948.07	9,871.79	76.28	130.417		

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 0-MWD+IFR1													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0.00	0.00	11.70	11.70	0.50	0.50	-0.13	1,588.66	-3.49	1,588.67					
100.00	100.00	111.70	111.70	0.52	0.53	-0.13	1,588.66	-3.49	1,588.67	1,587.62	1.05	1,515.977		
200.00	200.00	211.70	211.70	0.70	0.73	-0.13	1,588.66	-3.49	1,588.67	1,587.23	1.43	1,107.656		
300.00	300.00	311.70	311.70	0.99	1.02	-0.13	1,588.66	-3.49	1,588.67	1,586.66	2.01	789.966		
400.00	400.00	411.70	411.70	1.31	1.35	-0.13	1,588.66	-3.49	1,588.67	1,586.01	2.66	597.909		
500.00	500.00	511.70	511.70	1.65	1.69	-0.13	1,588.66	-3.49	1,588.67	1,585.33	3.33	476.765		
600.00	600.00	611.70	611.70	1.99	2.03	-0.13	1,588.66	-3.49	1,588.67	1,584.65	4.02	395.011		
700.00	700.00	711.70	711.70	2.34	2.38	-0.13	1,588.66	-3.49	1,588.67	1,583.95	4.72	336.609		
800.00	800.00	811.70	811.70	2.69	2.73	-0.13	1,588.66	-3.49	1,588.67	1,583.24	5.42	292.982		
900.00	900.00	911.70	911.70	3.04	3.08	-0.13	1,588.66	-3.49	1,588.67	1,582.54	6.13	259.227		
1,000.00	1,000.00	1,011.70	1,011.70	3.40	3.44	-0.13	1,588.66	-3.49	1,588.67	1,581.83	6.84	232.369		
1,100.00	1,100.00	1,111.70	1,111.70	3.75	3.79	-0.13	1,588.66	-3.49	1,588.67	1,581.12	7.55	210.509		
1,200.00	1,200.00	1,211.70	1,211.70	4.11	4.15	-0.13	1,588.66	-3.49	1,588.67	1,580.41	8.26	192.381		
1,300.00	1,300.00	1,311.70	1,311.70	4.46	4.51	-0.13	1,588.66	-3.49	1,588.67	1,579.70	8.97	177.108		
1,400.00	1,400.00	1,411.70	1,411.70	4.82	4.86	-0.13	1,588.66	-3.49	1,588.67	1,578.98	9.68	164.070		
1,500.00	1,500.00	1,511.70	1,511.70	5.18	5.22	-0.13	1,588.66	-3.49	1,588.67	1,578.27	10.40	152.812		
1,600.00	1,600.00	1,611.70	1,611.70	5.53	5.58	-0.13	1,588.66	-3.49	1,588.67	1,577.56	11.11	142.994		
1,700.00	1,700.00	1,711.70	1,711.70	5.89	5.93	-0.13	1,588.66	-3.49	1,588.67	1,576.84	11.82	134.357		
1,800.00	1,800.00	1,811.70	1,811.70	6.25	6.29	-0.13	1,588.66	-3.49	1,588.67	1,576.13	12.54	126.700		
1,900.00	1,900.00	1,911.70	1,911.70	6.61	6.65	-0.13	1,588.66	-3.49	1,588.67	1,575.41	13.25	119.867		
2,000.00	2,000.00	2,011.70	2,011.70	6.96	7.01	-0.13	1,588.66	-3.49	1,588.67	1,574.70	13.97	113.732		
2,100.00	2,100.00	2,111.70	2,111.70	7.32	7.36	-0.13	1,588.66	-3.49	1,588.67	1,573.98	14.68	108.192		
2,200.00	2,200.00	2,211.70	2,211.70	7.68	7.72	-0.13	1,588.66	-3.49	1,588.67	1,573.27	15.40	103.166		
2,300.00	2,300.00	2,311.70	2,311.70	8.04	8.08	-0.13	1,588.66	-3.49	1,588.67	1,572.55	16.11	98.586		
2,302.97	2,302.97	2,314.67	2,314.67	8.05	8.09	-0.13	1,588.66	-3.49	1,588.67	1,572.53	16.14	98.456 CC		
2,400.00	2,400.00	2,398.64	2,398.64	8.39	8.39	-0.13	1,588.86	-3.54	1,588.92	1,572.14	16.78	94.675 ES		
2,500.00	2,500.00	2,477.45	2,477.44	8.75	8.67	-0.14	1,590.04	-3.85	1,590.41	1,572.99	17.42	91.301		
2,600.00	2,599.99	2,556.20	2,556.15	9.09	8.95	145.76	1,592.25	-4.42	1,593.95	1,575.91	18.04	88.373		
2,700.00	2,699.96	2,634.78	2,634.66	9.42	9.23	145.73	1,595.51	-5.27	1,600.26	1,581.62	18.64	85.871		
2,800.00	2,799.86	2,713.12	2,712.87	9.75	9.51	145.71	1,599.80	-6.38	1,609.33	1,590.10	19.23	83.677		
2,900.00	2,899.68	2,791.11	2,790.68	10.08	9.79	145.69	1,605.09	-7.76	1,621.15	1,601.32	19.83	81.765		
2,945.33	2,944.88	2,826.33	2,825.78	10.23	9.92	145.68	1,607.82	-8.47	1,627.41	1,607.31	20.10	80.984		
3,000.00	2,999.39	2,868.71	2,868.00	10.41	10.07	145.72	1,611.37	-9.39	1,635.49	1,615.07	20.42	80.102		
3,100.00	3,099.08	2,945.99	2,944.92	10.75	10.34	145.77	1,618.64	-11.28	1,651.27	1,630.27	21.00	78.616		
3,200.00	3,198.78	3,022.95	3,021.40	11.08	10.62	145.81	1,626.87	-13.42	1,668.34	1,646.75	21.59	77.283		
3,300.00	3,298.48	3,100.00	3,097.86	11.42	10.89	145.84	1,636.10	-15.82	1,686.68	1,664.52	22.17	76.082		
3,400.00	3,398.18	3,175.79	3,172.93	11.76	11.17	145.87	1,646.16	-18.43	1,706.30	1,683.55	22.74	75.027		
3,500.00	3,497.88	3,251.62	3,247.90	12.10	11.44	145.88	1,657.18	-21.30	1,727.16	1,703.85	23.31	74.084		
3,600.00	3,597.58	3,327.03	3,322.30	12.45	11.71	145.88	1,669.09	-24.39	1,749.28	1,725.40	23.88	73.251		
3,700.00	3,697.27	3,411.50	3,394.87	12.79	12.01	145.88	1,681.65	-27.66	1,772.63	1,748.15	24.47	72.428		
3,800.00	3,796.97	3,502.18	3,490.30	13.14	12.33	145.87	1,698.87	-32.13	1,796.66	1,771.52	25.14	71.472		
3,900.00	3,896.67	3,605.11	3,585.72	13.48	12.70	145.86	1,716.09	-36.61	1,820.69	1,794.84	25.85	70.438		
4,000.00	3,996.37	3,708.04	3,681.15	13.83	13.08	145.85	1,733.31	-41.08	1,844.72	1,818.16	26.56	69.454		
4,100.00	4,096.07	3,789.03	3,776.57	14.18	13.37	145.84	1,750.53	-45.56	1,868.75	1,841.56	27.19	68.718		
4,200.00	4,195.76	3,886.10	3,872.00	14.53	13.72	145.83	1,767.75	-50.03	1,892.79	1,864.90	27.89	67.868		
4,300.00	4,295.46	3,983.17	3,967.42	14.88	14.08	145.82	1,784.97	-54.51	1,916.82	1,888.23	28.59	67.056		
4,400.00	4,395.16	4,080.23	4,062.84	15.23	14.44	145.81	1,802.19	-58.98	1,940.85	1,911.57	29.28	66.280		
4,500.00	4,494.86	4,177.30	4,158.27	15.58	14.79	145.80	1,819.41	-63.46	1,964.88	1,934.90	29.98	65.536		
4,600.00	4,594.56	4,274.37	4,253.69	15.93	15.15	145.79	1,836.63	-67.93	1,988.92	1,958.23	30.68	64.824		
4,700.00	4,694.25	4,371.44	4,349.12	16.29	15.51	145.79	1,853.84	-72.41	2,012.95	1,981.56	31.38	64.141		
4,800.00	4,793.95	4,468.51	4,444.54	16.64	15.87	145.78	1,871.06	-76.88	2,036.98	2,004.89	32.09	63.485		
4,900.00	4,893.65	4,565.58	4,539.97	17.00	16.23	145.77	1,888.28	-81.36	2,061.01	2,028.22	32.79	62.855		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 0-MWD+IFR1													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
5,000.00	4,993.35	4,662.65	4,635.39	17.35	16.59	145.76	1,905.50	-85.83	2,085.04	2,051.55	33.49	62.251		
5,100.00	5,093.05	4,759.72	4,730.82	17.71	16.95	145.75	1,922.72	-90.31	2,109.08	2,074.88	34.20	61.669		
5,200.00	5,192.75	4,856.79	4,826.24	18.06	17.31	145.75	1,939.94	-94.78	2,133.11	2,098.20	34.91	61.109		
5,300.00	5,292.44	4,953.85	4,921.66	18.42	17.67	145.74	1,957.16	-99.26	2,157.14	2,121.53	35.61	60.570		
5,400.00	5,392.14	5,050.92	5,017.09	18.77	18.04	145.73	1,974.38	-103.73	2,181.17	2,144.85	36.32	60.051		
5,500.00	5,491.84	5,147.99	5,112.51	19.13	18.40	145.72	1,991.60	-108.21	2,205.21	2,168.18	37.03	59.550		
5,600.00	5,591.54	5,245.06	5,207.94	19.49	18.76	145.72	2,008.82	-112.68	2,229.24	2,191.50	37.74	59.067		
5,700.00	5,691.24	5,342.13	5,303.36	19.85	19.13	145.71	2,026.04	-117.16	2,253.27	2,214.82	38.45	58.601		
5,800.00	5,790.93	5,439.20	5,398.79	20.20	19.49	145.70	2,043.26	-121.63	2,277.30	2,238.14	39.16	58.150		
5,900.00	5,890.63	5,536.27	5,494.21	20.56	19.86	145.70	2,060.48	-126.11	2,301.34	2,261.46	39.87	57.715		
6,000.00	5,990.33	5,633.34	5,589.64	20.92	20.22	145.69	2,077.70	-130.58	2,325.37	2,284.78	40.59	57.294		
6,100.00	6,090.03	5,730.41	5,685.06	21.28	20.59	145.68	2,094.92	-135.06	2,349.40	2,308.10	41.30	56.887		
6,200.00	6,189.73	5,827.47	5,780.48	21.64	20.95	145.68	2,112.14	-139.53	2,373.44	2,331.42	42.01	56.493		
6,300.00	6,289.42	5,924.54	5,875.91	22.00	21.32	145.67	2,129.36	-144.01	2,397.47	2,354.74	42.73	56.112		
6,400.00	6,389.12	6,021.61	5,971.33	22.36	21.69	145.67	2,146.57	-148.48	2,421.50	2,378.06	43.44	55.742		
6,500.00	6,488.82	6,118.68	6,066.76	22.72	22.05	145.66	2,163.79	-152.96	2,445.53	2,401.38	44.16	55.384		
6,600.00	6,588.52	6,215.75	6,162.18	23.08	22.42	145.65	2,181.01	-157.43	2,469.57	2,424.70	44.87	55.037		
6,700.00	6,688.22	6,312.82	6,257.61	23.44	22.79	145.65	2,198.23	-161.91	2,493.60	2,448.01	45.59	54.700		
6,800.00	6,787.91	6,409.89	6,353.03	23.80	23.15	145.64	2,215.45	-166.38	2,517.63	2,471.33	46.30	54.373		
6,900.00	6,887.61	6,506.96	6,448.46	24.16	23.52	145.64	2,232.67	-170.86	2,541.67	2,494.65	47.02	54.055		
7,000.00	6,987.31	6,604.03	6,543.88	24.52	23.89	145.63	2,249.89	-175.33	2,565.70	2,517.96	47.74	53.746		
7,100.00	7,087.01	6,701.09	6,639.31	24.88	24.26	145.63	2,267.11	-179.81	2,589.73	2,541.28	48.45	53.447		
7,200.00	7,186.71	6,801.84	6,734.73	25.24	24.64	145.62	2,284.33	-184.28	2,613.76	2,564.58	49.19	53.140		
7,300.00	7,286.41	6,904.77	6,830.15	25.60	25.03	145.62	2,301.55	-188.76	2,637.80	2,587.87	49.93	52.834		
7,400.00	7,386.10	7,007.70	6,925.58	25.96	25.42	145.61	2,318.77	-193.23	2,661.83	2,611.16	50.67	52.535		
7,500.00	7,485.80	7,089.37	7,021.00	26.33	25.73	145.61	2,335.99	-197.71	2,685.86	2,634.54	51.33	52.327		
7,600.00	7,585.50	7,186.44	7,116.43	26.69	26.10	145.60	2,353.21	-202.19	2,709.90	2,657.85	52.05	52.066		
7,700.00	7,685.20	7,283.51	7,211.85	27.05	26.47	145.60	2,370.43	-206.66	2,733.93	2,681.16	52.77	51.811		
7,800.00	7,784.90	7,380.58	7,307.28	27.41	26.84	145.59	2,387.65	-211.14	2,757.96	2,704.48	53.49	51.563		
7,860.70	7,845.41	7,439.50	7,365.20	27.63	27.06	145.59	2,398.10	-213.85	2,772.55	2,718.63	53.92	51.416		
7,900.00	7,884.61	7,477.68	7,402.74	27.77	27.21	145.67	2,404.87	-215.61	2,781.83	2,727.63	54.21	51.319		
8,000.00	7,984.46	8,000.00	7,595.28	28.13	29.17	145.80	2,436.04	-223.71	2,802.18	2,745.48	56.70	49.420		
8,100.00	8,084.42	8,074.08	7,994.60	28.49	29.40	145.84	2,471.09	-232.82	2,812.57	2,755.03	57.54	48.878		
8,157.59	8,142.00	8,233.21	8,153.70	28.69	29.95	-0.07	2,473.66	-233.49	2,813.67	2,755.40	58.27	48.287		
8,200.00	8,184.41	8,275.63	8,196.11	28.83	30.10	-0.07	2,473.66	-233.49	2,813.67	2,755.10	58.56	48.047		
8,300.00	8,284.41	8,375.63	8,296.11	29.17	30.44	-0.07	2,473.66	-233.49	2,813.67	2,754.42	59.25	47.489		
8,400.00	8,384.41	8,475.63	8,396.11	29.51	30.79	-0.07	2,473.66	-233.49	2,813.67	2,753.73	59.94	46.944		
8,411.42	8,395.83	8,487.04	8,407.53	29.55	30.83	-0.07	2,473.66	-233.49	2,813.67	2,753.65	60.01	46.883		
8,507.63	8,492.04	8,582.87	8,503.36	29.87	31.16	-0.07	2,473.66	-233.26	2,813.67	2,752.99	60.67	46.373		
8,550.00	8,534.37	8,624.21	8,544.60	30.02	31.30	-89.41	2,473.68	-230.59	2,813.66	2,752.71	60.96	46.159		
8,600.00	8,584.01	8,672.89	8,592.77	30.18	31.45	-89.39	2,473.72	-223.65	2,813.64	2,752.36	61.28	45.914		
8,650.00	8,632.95	8,721.48	8,640.08	30.34	31.61	-89.37	2,473.79	-212.67	2,813.60	2,751.99	61.60	45.673		
8,700.00	8,680.82	8,769.97	8,686.21	30.50	31.76	-89.36	2,473.88	-197.76	2,813.53	2,751.61	61.92	45.439		
8,750.00	8,727.25	8,818.39	8,730.85	30.66	31.91	-89.35	2,473.99	-179.03	2,813.44	2,751.21	62.23	45.211		
8,800.00	8,771.89	8,866.74	8,773.68	30.81	32.05	-89.34	2,474.12	-156.63	2,813.34	2,750.80	62.53	44.989		
8,850.00	8,814.40	8,915.05	8,814.44	30.95	32.19	-89.35	2,474.28	-130.74	2,813.21	2,750.37	62.84	44.771		
8,900.00	8,854.46	8,963.30	8,852.83	31.09	32.33	-89.35	2,474.45	-101.53	2,813.06	2,749.92	63.14	44.555		
8,950.00	8,891.75	9,011.53	8,888.62	31.23	32.46	-89.36	2,474.64	-69.21	2,812.89	2,749.45	63.44	44.339		
9,000.00	8,926.01	9,059.74	8,921.54	31.37	32.60	-89.38	2,474.85	-34.02	2,812.71	2,748.96	63.75	44.118		
9,050.00	8,956.96	9,107.95	8,951.39	31.53	32.74	-89.40	2,475.08	3.82	2,812.51	2,748.43	64.08	43.889		
9,100.00	8,984.38	9,156.16	8,977.96	31.69	32.89	-89.42	2,475.32	44.03	2,812.30	2,747.87	64.43	43.648		
9,150.00	9,008.05	9,204.39	9,001.06	31.87	33.06	-89.45	2,475.57	86.35	2,812.08	2,747.27	64.81	43.393		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 0-MWD+IFR1													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
9,200.00	9,027.79	9,252.65	9,020.53	32.07	33.24	-89.48	2,475.83	130.49	2,811.84	2,746.63	65.21	43.119		
9,250.00	9,043.45	9,300.96	9,036.23	32.29	33.44	-89.52	2,476.10	176.16	2,811.60	2,745.95	65.65	42.827		
9,300.00	9,054.92	9,349.31	9,048.05	32.53	33.65	-89.56	2,476.38	223.04	2,811.35	2,745.22	66.12	42.517		
9,350.00	9,062.10	9,397.74	9,055.87	32.79	33.89	-89.60	2,476.67	270.81	2,811.09	2,744.46	66.63	42.189		
9,400.00	9,064.95	9,446.24	9,059.64	33.06	34.14	-89.65	2,476.96	319.15	2,810.83	2,743.66	67.17	41.848		
9,407.63	9,065.00	9,453.65	9,059.85	33.10	34.18	-89.66	2,477.00	326.55	2,810.79	2,743.54	67.25	41.795		
9,500.00	9,065.00	9,545.64	9,060.00	33.68	34.73	-89.66	2,477.55	418.54	2,810.33	2,741.93	68.39	41.091		
9,600.00	9,065.00	9,645.64	9,060.00	34.41	35.42	-89.66	2,478.14	518.54	2,809.82	2,740.00	69.83	40.240		
9,700.00	9,065.00	9,745.64	9,060.00	35.24	36.22	-89.66	2,478.74	618.54	2,809.32	2,737.85	71.47	39.310		
9,800.00	9,065.00	9,845.64	9,060.00	36.17	37.12	-89.66	2,479.34	718.54	2,808.81	2,735.51	73.30	38.321		
9,900.00	9,065.00	9,945.64	9,060.00	37.19	38.10	-89.66	2,479.93	818.53	2,808.31	2,733.00	75.31	37.292		
10,000.00	9,065.00	10,045.64	9,060.00	38.30	39.17	-89.66	2,480.53	918.53	2,807.80	2,730.32	77.48	36.239		
10,100.00	9,065.00	10,145.63	9,060.00	39.48	40.32	-89.66	2,481.12	1,018.53	2,807.30	2,727.49	79.80	35.177		
10,200.00	9,065.00	10,245.63	9,060.00	40.72	41.53	-89.66	2,481.72	1,118.52	2,806.79	2,724.53	82.27	34.118		
10,300.00	9,065.00	10,345.63	9,060.00	42.03	42.81	-89.66	2,482.32	1,218.52	2,806.29	2,721.43	84.85	33.072		
10,400.00	9,065.00	10,445.63	9,060.00	43.40	44.14	-89.66	2,482.91	1,318.52	2,805.78	2,718.23	87.56	32.045		
10,500.00	9,065.00	10,545.63	9,060.00	44.82	45.53	-89.66	2,483.51	1,418.51	2,805.28	2,714.91	90.36	31.044		
10,600.00	9,065.00	10,645.63	9,060.00	46.29	46.97	-89.66	2,484.10	1,518.51	2,804.78	2,711.51	93.27	30.072		
10,700.00	9,065.00	10,745.63	9,060.00	47.79	48.45	-89.66	2,484.70	1,618.51	2,804.27	2,708.01	96.26	29.133		
10,800.00	9,065.00	10,845.63	9,060.00	49.34	49.97	-89.66	2,485.30	1,718.50	2,803.77	2,704.44	99.32	28.229		
10,900.00	9,065.00	10,945.62	9,060.00	50.92	51.53	-89.66	2,485.89	1,818.50	2,803.26	2,700.80	102.46	27.359		
11,000.00	9,065.00	11,045.62	9,060.00	52.54	53.12	-89.66	2,486.49	1,918.50	2,802.76	2,697.09	105.67	26.525		
11,100.00	9,065.00	11,145.62	9,060.00	54.18	54.74	-89.66	2,487.08	2,018.50	2,802.25	2,693.32	108.93	25.725		
11,200.00	9,065.00	11,245.62	9,060.00	55.85	56.39	-89.66	2,487.68	2,118.49	2,801.75	2,689.50	112.25	24.960		
11,300.00	9,065.00	11,345.62	9,060.00	57.54	58.06	-89.66	2,488.27	2,218.49	2,801.24	2,685.63	115.62	24.229		
11,400.00	9,065.00	11,445.62	9,060.00	59.26	59.76	-89.66	2,488.87	2,318.49	2,800.74	2,681.71	119.03	23.530		
11,500.00	9,065.00	11,545.62	9,060.00	61.00	61.48	-89.66	2,489.47	2,418.48	2,800.23	2,677.75	122.48	22.862		
11,600.00	9,065.00	11,645.62	9,060.00	62.75	63.21	-89.66	2,490.06	2,518.48	2,799.73	2,673.75	125.98	22.224		
11,700.00	9,065.00	11,745.61	9,060.00	64.52	64.97	-89.66	2,490.66	2,618.48	2,799.22	2,669.72	129.50	21.615		
11,800.00	9,065.00	11,845.61	9,060.00	66.31	66.74	-89.66	2,491.25	2,718.47	2,798.72	2,665.66	133.06	21.033		
11,900.00	9,065.00	11,945.61	9,060.00	68.11	68.53	-89.66	2,491.85	2,818.47	2,798.21	2,661.56	136.65	20.477		
12,000.00	9,065.00	12,045.61	9,060.00	69.93	70.33	-89.66	2,492.45	2,918.47	2,797.71	2,657.44	140.27	19.945		
12,100.00	9,065.00	12,145.61	9,060.00	71.76	72.15	-89.66	2,493.04	3,018.46	2,797.21	2,653.29	143.91	19.437		
12,200.00	9,065.00	12,245.61	9,060.00	73.60	73.97	-89.66	2,493.64	3,118.46	2,796.70	2,649.12	147.58	18.951		
12,300.00	9,065.00	12,345.61	9,060.00	75.45	75.81	-89.66	2,494.23	3,218.46	2,796.20	2,644.93	151.27	18.485		
12,400.00	9,065.00	12,445.61	9,060.00	77.31	77.66	-89.66	2,494.83	3,318.46	2,795.69	2,640.72	154.98	18.040		
12,500.00	9,065.00	12,545.60	9,060.00	79.18	79.52	-89.66	2,495.43	3,418.45	2,795.19	2,636.48	158.70	17.613		
12,600.00	9,065.00	12,645.60	9,060.00	81.05	81.38	-89.66	2,496.02	3,518.45	2,794.68	2,632.24	162.45	17.204		
12,700.00	9,065.00	12,745.60	9,060.00	82.94	83.26	-89.66	2,496.62	3,618.45	2,794.18	2,627.97	166.21	16.811		
12,800.00	9,065.00	12,845.60	9,060.00	84.83	85.14	-89.66	2,497.21	3,718.44	2,793.67	2,623.69	169.98	16.435		
12,900.00	9,065.00	12,945.60	9,060.00	86.73	87.03	-89.66	2,497.81	3,818.44	2,793.17	2,619.39	173.77	16.073		
13,000.00	9,065.00	13,045.60	9,060.00	88.64	88.93	-89.66	2,498.40	3,918.44	2,792.66	2,615.08	177.58	15.726		
13,100.00	9,065.00	13,145.60	9,060.00	90.55	90.84	-89.66	2,499.00	4,018.43	2,792.16	2,610.76	181.40	15.393		
13,200.00	9,065.00	13,245.60	9,060.00	92.47	92.75	-89.66	2,499.60	4,118.43	2,791.65	2,606.43	185.22	15.072		
13,300.00	9,065.00	13,345.59	9,060.00	94.39	94.66	-89.66	2,500.19	4,218.43	2,791.15	2,602.09	189.06	14.763		
13,400.00	9,065.00	13,445.59	9,060.00	96.32	96.58	-89.66	2,500.79	4,318.43	2,790.64	2,597.73	192.91	14.466		
13,500.00	9,065.00	13,545.59	9,060.00	98.25	98.51	-89.66	2,501.38	4,418.42	2,790.14	2,593.37	196.77	14.180		
13,600.00	9,065.00	13,645.59	9,060.00	100.19	100.44	-89.66	2,501.98	4,518.42	2,789.64	2,589.00	200.64	13.904		
13,700.00	9,065.00	13,745.59	9,060.00	102.13	102.38	-89.66	2,502.58	4,618.42	2,789.13	2,584.61	204.52	13.638		
13,800.00	9,065.00	13,845.59	9,060.00	104.08	104.32	-89.66	2,503.17	4,718.41	2,788.63	2,580.22	208.40	13.381		
13,900.00	9,065.00	13,945.59	9,060.00	106.03	106.26	-89.66	2,503.77	4,818.41	2,788.12	2,575.83	212.30	13.133		
14,000.00	9,065.00	14,045.59	9,060.00	107.98	108.21	-89.66	2,504.36	4,918.41	2,787.62	2,571.42	216.20	12.894		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 0-MWD+IFR1													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
14,100.00	9,065.00	14,145.58	9,060.00	109.94	110.16	-89.66	2,504.96	5,018.40	2,787.11	2,567.01	220.10	12.663		
14,200.00	9,065.00	14,245.58	9,060.00	111.90	112.11	-89.66	2,505.56	5,118.40	2,786.61	2,562.59	224.02	12.439		
14,300.00	9,065.00	14,345.58	9,060.00	113.86	114.07	-89.66	2,506.15	5,218.40	2,786.10	2,558.17	227.94	12.223		
14,400.00	9,065.00	14,445.58	9,060.00	115.82	116.03	-89.66	2,506.75	5,318.39	2,785.60	2,553.73	231.86	12.014		
14,500.00	9,065.00	14,545.58	9,060.00	117.79	117.99	-89.66	2,507.34	5,418.39	2,785.09	2,549.30	235.80	11.811		
14,600.00	9,065.00	14,645.58	9,060.00	119.76	119.96	-89.66	2,507.94	5,518.39	2,784.59	2,544.86	239.73	11.615		
14,700.00	9,065.00	14,745.58	9,060.00	121.74	121.93	-89.66	2,508.53	5,618.39	2,784.08	2,540.41	243.67	11.425		
14,800.00	9,065.00	14,845.57	9,060.00	123.71	123.90	-89.66	2,509.13	5,718.38	2,783.58	2,535.96	247.62	11.241		
14,900.00	9,065.00	14,945.57	9,060.00	125.69	125.87	-89.66	2,509.73	5,818.38	2,783.08	2,531.50	251.57	11.063		
15,000.00	9,065.00	15,045.57	9,060.00	127.67	127.85	-89.66	2,510.32	5,918.38	2,782.57	2,527.04	255.53	10.889		
15,100.00	9,065.00	15,145.57	9,060.00	129.65	129.83	-89.66	2,510.92	6,018.37	2,782.07	2,522.58	259.49	10.721		
15,200.00	9,065.00	15,245.57	9,060.00	131.63	131.81	-89.66	2,511.51	6,118.37	2,781.56	2,518.11	263.45	10.558		
15,300.00	9,065.00	15,345.57	9,060.00	133.62	133.79	-89.66	2,512.11	6,218.37	2,781.06	2,513.63	267.42	10.400		
15,400.00	9,065.00	15,445.57	9,060.00	135.61	135.78	-89.66	2,512.71	6,318.36	2,780.55	2,509.16	271.39	10.245		
15,500.00	9,065.00	15,545.57	9,060.00	137.60	137.76	-89.66	2,513.30	6,418.36	2,780.05	2,504.68	275.37	10.096		
15,600.00	9,065.00	15,645.56	9,060.00	139.59	139.75	-89.66	2,513.90	6,518.36	2,779.54	2,500.20	279.35	9.950		
15,700.00	9,065.00	15,745.56	9,060.00	141.58	141.74	-89.66	2,514.49	6,618.36	2,779.04	2,495.71	283.33	9.809		
15,800.00	9,065.00	15,845.56	9,060.00	143.57	143.73	-89.66	2,515.09	6,718.35	2,778.53	2,491.22	287.31	9.671		
15,900.00	9,065.00	15,945.56	9,060.00	145.57	145.72	-89.66	2,515.69	6,818.35	2,778.03	2,486.73	291.30	9.537		
16,000.00	9,065.00	16,045.56	9,060.00	147.56	147.72	-89.66	2,516.28	6,918.35	2,777.52	2,482.23	295.29	9.406		
16,100.00	9,065.00	16,145.56	9,060.00	149.56	149.71	-89.66	2,516.88	7,018.34	2,777.02	2,477.73	299.29	9.279		
16,200.00	9,065.00	16,245.56	9,060.00	151.56	151.71	-89.66	2,517.47	7,118.34	2,776.51	2,473.23	303.28	9.155		
16,300.00	9,065.00	16,345.56	9,060.00	153.56	153.71	-89.66	2,518.07	7,218.34	2,776.01	2,468.73	307.28	9.034		
16,400.00	9,065.00	16,445.55	9,060.00	155.56	155.71	-89.66	2,518.66	7,318.33	2,775.51	2,464.22	311.28	8.916		
16,500.00	9,065.00	16,545.55	9,060.00	157.57	157.71	-89.66	2,519.26	7,418.33	2,775.00	2,459.72	315.28	8.802		
16,600.00	9,065.00	16,645.55	9,060.00	159.57	159.71	-89.66	2,519.86	7,518.33	2,774.50	2,455.21	319.29	8.690		
16,700.00	9,065.00	16,745.55	9,060.00	161.57	161.71	-89.66	2,520.45	7,618.32	2,773.99	2,450.69	323.30	8.580		
16,800.00	9,065.00	16,845.55	9,060.00	163.58	163.72	-89.66	2,521.05	7,718.32	2,773.49	2,446.18	327.31	8.474		
16,900.00	9,065.00	16,945.55	9,060.00	165.59	165.72	-89.65	2,521.64	7,818.32	2,772.98	2,441.66	331.32	8.370		
17,000.00	9,065.00	17,045.55	9,060.00	167.60	167.73	-89.65	2,522.24	7,918.32	2,772.48	2,437.14	335.33	8.268		
17,100.00	9,065.00	17,145.55	9,060.00	169.60	169.74	-89.65	2,522.84	8,018.31	2,771.97	2,432.62	339.35	8.169		
17,200.00	9,065.00	17,245.54	9,060.00	171.61	171.74	-89.65	2,523.43	8,118.31	2,771.47	2,428.10	343.37	8.071		
17,300.00	9,065.00	17,345.54	9,060.00	173.62	173.75	-89.65	2,524.03	8,218.31	2,770.96	2,423.58	347.39	7.977		
17,400.00	9,065.00	17,445.54	9,060.00	175.63	175.76	-89.65	2,524.62	8,318.30	2,770.46	2,419.05	351.41	7.884		
17,500.00	9,065.00	17,545.54	9,060.00	177.65	177.77	-89.65	2,525.22	8,418.30	2,769.95	2,414.53	355.43	7.793		
17,600.00	9,065.00	17,645.54	9,060.00	179.66	179.78	-89.65	2,525.81	8,518.30	2,769.45	2,410.00	359.45	7.705		
17,700.00	9,065.00	17,745.54	9,060.00	181.67	181.80	-89.65	2,526.41	8,618.29	2,768.95	2,405.47	363.48	7.618		
17,800.00	9,065.00	17,845.54	9,060.00	183.69	183.81	-89.65	2,527.01	8,718.29	2,768.44	2,400.94	367.50	7.533		
17,900.00	9,065.00	17,945.54	9,060.00	185.70	185.82	-89.65	2,527.60	8,818.29	2,767.94	2,396.40	371.53	7.450		
18,000.00	9,065.00	18,045.53	9,060.00	187.72	187.84	-89.65	2,528.20	8,918.29	2,767.43	2,391.87	375.56	7.369		
18,100.00	9,065.00	18,145.53	9,060.00	189.73	189.85	-89.65	2,528.79	9,018.28	2,766.93	2,387.33	379.59	7.289		
18,200.00	9,065.00	18,245.53	9,060.00	191.75	191.87	-89.65	2,529.39	9,118.28	2,766.42	2,382.80	383.63	7.211		
18,300.00	9,065.00	18,345.53	9,060.00	193.77	193.88	-89.65	2,529.99	9,218.28	2,765.92	2,378.26	387.66	7.135		
18,400.00	9,065.00	18,445.53	9,060.00	195.78	195.90	-89.65	2,530.58	9,318.27	2,765.41	2,373.72	391.69	7.060		
18,500.00	9,065.00	18,545.53	9,060.00	197.80	197.92	-89.65	2,531.18	9,418.27	2,764.91	2,369.18	395.73	6.987		
18,600.00	9,065.00	18,645.53	9,060.00	199.82	199.94	-89.65	2,531.77	9,518.27	2,764.40	2,364.64	399.77	6.915		
18,700.00	9,065.00	18,745.53	9,060.00	201.84	201.95	-89.65	2,532.37	9,618.26	2,763.90	2,360.09	403.80	6.845		
18,800.00	9,065.00	18,845.52	9,060.00	203.86	203.97	-89.65	2,532.97	9,718.26	2,763.39	2,355.55	407.84	6.776		
18,900.00	9,065.00	18,945.52	9,060.00	205.88	205.99	-89.65	2,533.56	9,818.26	2,762.89	2,351.01	411.88	6.708		
19,000.00	9,065.00	19,045.52	9,060.00	207.90	208.01	-89.65	2,534.16	9,918.25	2,762.38	2,346.46	415.92	6.642		
19,100.00	9,065.00	19,145.52	9,060.00	209.92	210.03	-89.65	2,534.75	10,018.25	2,761.88	2,341.91	419.97	6.576		
19,200.00	9,065.00	19,245.52	9,060.00	211.95	212.06	-89.65	2,535.35	10,118.25	2,761.38	2,337.37	424.01	6.513		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design		Sec 14-T21S-R27E - Lone Tree Draw 14-13 State Com 621H - Wellbore #1 - Permit Plan 1										Offset Site Error:	0.00 ft
Survey Program: 0-MWD+IFR1												Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance						
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor	Warning
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)		
19,300.00	9,065.00	19,345.52	9,060.00	213.97	214.08	-89.65	2,535.94	10,218.25	2,760.87	2,332.82	428.05	6.450	
19,400.00	9,065.00	19,445.52	9,060.00	215.99	216.10	-89.65	2,536.54	10,318.24	2,760.37	2,328.27	432.10	6.388	
19,456.84	9,065.00	19,502.36	9,060.00	217.14	217.25	-89.65	2,536.88	10,375.08	2,760.08	2,325.68	434.40	6.354 SF	

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 10-INC-ONLY													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0.00	0.00	0.00	0.00	0.50	0.50	113.77	-1,351.10	3,068.29	3,352.95					
100.00	100.00	51.10	51.10	0.52	0.79	113.77	-1,351.10	3,068.29	3,352.59	3,351.28	1.31	2,557.741		
200.00	200.00	151.10	151.10	0.70	2.17	113.77	-1,351.10	3,068.29	3,352.59	3,349.72	2.87	1,166.697		
300.00	300.00	251.10	251.10	0.99	3.65	113.77	-1,351.10	3,068.29	3,352.59	3,347.96	4.63	723.708		
400.00	400.00	351.10	351.10	1.31	5.13	113.77	-1,351.10	3,068.29	3,352.59	3,346.15	6.44	520.440		
500.00	500.00	451.10	451.10	1.65	6.63	113.77	-1,351.10	3,068.29	3,352.59	3,344.32	8.27	405.346		
600.00	600.00	551.10	551.10	1.99	8.12	113.77	-1,351.10	3,068.29	3,352.59	3,342.48	10.11	331.626		
700.00	700.00	651.10	651.10	2.34	9.61	113.77	-1,351.10	3,068.29	3,352.59	3,340.64	11.95	280.470		
800.00	800.00	751.10	751.10	2.69	11.11	113.77	-1,351.10	3,068.29	3,352.59	3,338.79	13.80	242.930		
900.00	900.00	851.10	851.10	3.04	12.61	113.77	-1,351.10	3,068.29	3,352.59	3,336.94	15.65	214.225		
1,000.00	1,000.00	951.10	951.10	3.40	14.10	113.77	-1,351.10	3,068.29	3,352.59	3,335.09	17.50	191.571		
1,100.00	1,100.00	1,051.10	1,051.10	3.75	15.60	113.77	-1,351.10	3,068.29	3,352.59	3,333.24	19.35	173.241		
1,200.00	1,200.00	1,151.10	1,151.10	4.11	17.10	113.77	-1,351.10	3,068.29	3,352.59	3,331.39	21.20	158.106		
1,300.00	1,300.00	1,251.10	1,251.10	4.46	18.59	113.77	-1,351.10	3,068.29	3,352.59	3,329.53	23.06	145.400		
1,400.00	1,400.00	1,351.10	1,351.10	4.82	20.09	113.77	-1,351.10	3,068.29	3,352.59	3,327.68	24.91	134.582		
1,500.00	1,500.00	1,451.10	1,451.10	5.18	21.59	113.77	-1,351.10	3,068.29	3,352.59	3,325.83	26.77	125.260		
1,600.00	1,600.00	1,551.10	1,551.10	5.53	23.09	113.77	-1,351.10	3,068.29	3,352.59	3,323.97	28.62	117.145		
1,700.00	1,700.00	1,651.10	1,651.10	5.89	24.58	113.77	-1,351.10	3,068.29	3,352.59	3,322.12	30.47	110.016		
1,800.00	1,800.00	1,751.10	1,751.10	6.25	26.08	113.77	-1,351.10	3,068.29	3,352.59	3,320.26	32.33	103.705		
1,900.00	1,900.00	1,851.10	1,851.10	6.61	27.58	113.77	-1,351.10	3,068.29	3,352.59	3,318.41	34.18	98.078		
2,000.00	2,000.00	1,951.10	1,951.10	6.96	29.08	113.77	-1,351.10	3,068.29	3,352.59	3,316.55	36.04	93.030		
2,100.00	2,100.00	2,051.10	2,051.10	7.32	30.57	113.77	-1,351.10	3,068.29	3,352.59	3,314.70	37.89	88.476		
2,200.00	2,200.00	2,151.10	2,151.10	7.68	32.07	113.77	-1,351.10	3,068.29	3,352.59	3,312.84	39.75	84.347		
2,300.00	2,300.00	2,251.10	2,251.10	8.04	33.57	113.77	-1,351.10	3,068.29	3,352.59	3,310.99	41.60	80.585		
2,400.00	2,400.00	2,351.10	2,351.10	8.39	35.07	113.77	-1,351.10	3,068.29	3,352.59	3,309.13	43.46	77.145		
2,500.00	2,500.00	2,451.10	2,451.10	8.75	36.56	113.77	-1,351.10	3,068.29	3,352.59	3,307.28	45.31	73.987		
2,600.00	2,599.99	2,551.09	2,551.09	9.09	38.06	-100.32	-1,351.10	3,068.29	3,352.75	3,305.60	47.15	71.105		
2,700.00	2,699.96	2,651.06	2,651.06	9.42	39.56	-100.36	-1,351.10	3,068.29	3,353.22	3,304.24	48.98	68.468		
2,800.00	2,799.86	2,750.96	2,750.96	9.75	41.05	-100.43	-1,351.10	3,068.29	3,354.01	3,303.21	50.80	66.025		
2,900.00	2,899.68	2,850.78	2,850.78	10.08	42.55	-100.52	-1,351.10	3,068.29	3,355.12	3,302.49	52.62	63.757		
2,945.33	2,944.88	2,895.98	2,895.98	10.23	43.22	-100.57	-1,351.10	3,068.29	3,355.73	3,302.28	53.45	62.782		
3,000.00	2,999.39	2,950.49	2,950.49	10.41	44.04	-100.64	-1,351.10	3,068.29	3,356.51	3,302.07	54.45	61.645		
3,100.00	3,099.08	3,050.18	3,050.18	10.75	45.53	-100.77	-1,351.10	3,068.29	3,357.96	3,301.69	56.28	59.669		
3,200.00	3,198.78	3,149.88	3,149.88	11.08	47.03	-100.90	-1,351.10	3,068.29	3,359.43	3,301.32	58.11	57.816		
3,300.00	3,298.48	3,249.58	3,249.58	11.42	48.52	-101.03	-1,351.10	3,068.29	3,360.91	3,300.97	59.94	56.074		
3,400.00	3,398.18	3,349.28	3,349.28	11.76	50.01	-101.16	-1,351.10	3,068.29	3,362.41	3,300.64	61.77	54.435		
3,500.00	3,497.88	3,448.98	3,448.98	12.10	51.51	-101.29	-1,351.10	3,068.29	3,363.92	3,300.32	63.60	52.889		
3,600.00	3,597.58	3,548.68	3,548.68	12.45	53.00	-101.42	-1,351.10	3,068.29	3,365.45	3,300.01	65.44	51.428		
3,700.00	3,697.27	3,648.37	3,648.37	12.79	54.49	-101.55	-1,351.10	3,068.29	3,367.00	3,299.73	67.28	50.047		
3,800.00	3,796.97	3,748.07	3,748.07	13.14	55.99	-101.68	-1,351.10	3,068.29	3,368.57	3,299.46	69.12	48.739		
3,900.00	3,896.67	3,847.77	3,847.77	13.48	57.48	-101.81	-1,351.10	3,068.29	3,370.16	3,299.20	70.95	47.497		
4,000.00	3,996.37	3,947.47	3,947.47	13.83	58.97	-101.93	-1,351.10	3,068.29	3,371.76	3,298.96	72.80	46.318		
4,100.00	4,096.07	4,047.17	4,047.17	14.18	60.46	-102.06	-1,351.10	3,068.29	3,373.38	3,298.74	74.64	45.197		
4,200.00	4,195.76	4,146.86	4,146.86	14.53	61.96	-102.19	-1,351.10	3,068.29	3,375.01	3,298.53	76.48	44.130		
4,300.00	4,295.46	4,246.56	4,246.56	14.88	63.45	-102.32	-1,351.10	3,068.29	3,376.67	3,298.34	78.32	43.112		
4,400.00	4,395.16	4,346.26	4,346.26	15.23	64.94	-102.45	-1,351.10	3,068.29	3,378.34	3,298.17	80.17	42.142		
4,500.00	4,494.86	4,445.96	4,445.96	15.58	66.44	-102.58	-1,351.10	3,068.29	3,380.02	3,298.01	82.01	41.214		
4,600.00	4,594.56	4,545.66	4,545.66	15.93	67.93	-102.70	-1,351.10	3,068.29	3,381.73	3,297.87	83.86	40.328		
4,700.00	4,694.25	4,645.35	4,645.35	16.29	69.42	-102.83	-1,351.10	3,068.29	3,383.45	3,297.75	85.70	39.479		
4,800.00	4,793.95	4,745.05	4,745.05	16.64	70.92	-102.96	-1,351.10	3,068.29	3,385.19	3,297.64	87.55	38.666		
4,900.00	4,893.65	4,844.75	4,844.75	17.00	72.41	-103.09	-1,351.10	3,068.29	3,386.94	3,297.55	89.40	37.887		
5,000.00	4,993.35	4,944.45	4,944.45	17.35	73.90	-103.22	-1,351.10	3,068.29	3,388.71	3,297.47	91.24	37.139		

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 10-INC-ONLY													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
5,100.00	5,093.05	5,044.15	5,044.15	17.71	75.40	-103.34	-1,351.10	3,068.29	3,390.50	3,297.41	93.09	36.421		
5,200.00	5,192.75	5,143.85	5,143.85	18.06	76.89	-103.47	-1,351.10	3,068.29	3,392.31	3,297.37	94.94	35.731		
5,300.00	5,292.44	5,243.54	5,243.54	18.42	78.38	-103.60	-1,351.10	3,068.29	3,394.13	3,297.34	96.79	35.067		
5,400.00	5,392.14	5,343.24	5,343.24	18.77	79.87	-103.72	-1,351.10	3,068.29	3,395.97	3,297.33	98.64	34.428		
5,500.00	5,491.84	5,442.94	5,442.94	19.13	81.37	-103.85	-1,351.10	3,068.29	3,397.82	3,297.34	100.49	33.813		
5,600.00	5,591.54	5,542.64	5,542.64	19.49	82.86	-103.98	-1,351.10	3,068.29	3,399.70	3,297.36	102.34	33.220		
5,700.00	5,691.24	5,642.34	5,642.34	19.85	84.35	-104.10	-1,351.10	3,068.29	3,401.59	3,297.40	104.19	32.648		
5,800.00	5,790.93	5,742.03	5,742.03	20.20	85.85	-104.23	-1,351.10	3,068.29	3,403.49	3,297.45	106.04	32.096		
5,900.00	5,890.63	5,841.73	5,841.73	20.56	87.34	-104.36	-1,351.10	3,068.29	3,405.41	3,297.52	107.89	31.563		
6,000.00	5,990.33	5,941.43	5,941.43	20.92	88.83	-104.48	-1,351.10	3,068.29	3,407.35	3,297.61	109.74	31.049		
6,100.00	6,090.03	6,041.13	6,041.13	21.28	90.33	-104.61	-1,351.10	3,068.29	3,409.31	3,297.71	111.59	30.551		
6,200.00	6,189.73	6,140.83	6,140.83	21.64	91.82	-104.73	-1,351.10	3,068.29	3,411.28	3,297.84	113.45	30.070		
6,300.00	6,289.42	6,240.52	6,240.52	22.00	93.31	-104.86	-1,351.10	3,068.29	3,413.27	3,297.97	115.30	29.604		
6,400.00	6,389.12	6,340.22	6,340.22	22.36	94.81	-104.99	-1,351.10	3,068.29	3,415.28	3,298.12	117.15	29.153		
6,500.00	6,488.82	6,439.92	6,439.92	22.72	96.30	-105.11	-1,351.10	3,068.29	3,417.30	3,298.29	119.00	28.716		
6,600.00	6,588.52	6,539.62	6,539.62	23.08	97.79	-105.24	-1,351.10	3,068.29	3,419.34	3,298.48	120.86	28.292		
6,700.00	6,688.22	6,639.32	6,639.32	23.44	99.29	-105.36	-1,351.10	3,068.29	3,421.39	3,298.68	122.71	27.882		
6,800.00	6,787.91	6,739.01	6,739.01	23.80	100.78	-105.49	-1,351.10	3,068.29	3,423.46	3,298.90	124.56	27.484		
6,900.00	6,887.61	6,838.71	6,838.71	24.16	102.27	-105.61	-1,351.10	3,068.29	3,425.55	3,299.13	126.42	27.097		
7,000.00	6,987.31	6,938.41	6,938.41	24.52	103.76	-105.74	-1,351.10	3,068.29	3,427.65	3,299.38	128.27	26.722		
7,100.00	7,087.01	7,038.11	7,038.11	24.88	105.26	-105.86	-1,351.10	3,068.29	3,429.77	3,299.65	130.12	26.358		
7,200.00	7,186.71	7,137.81	7,137.81	25.24	106.75	-105.99	-1,351.10	3,068.29	3,431.91	3,299.93	131.98	26.004		
7,300.00	7,286.41	7,237.51	7,237.51	25.60	108.24	-106.11	-1,351.10	3,068.29	3,434.06	3,300.23	133.83	25.659		
7,400.00	7,386.10	7,337.20	7,337.20	25.96	109.74	-106.23	-1,351.10	3,068.29	3,436.23	3,300.54	135.69	25.325		
7,500.00	7,485.80	7,436.90	7,436.90	26.33	111.23	-106.36	-1,351.10	3,068.29	3,438.41	3,300.87	137.54	24.999		
7,600.00	7,585.50	7,536.60	7,536.60	26.69	112.72	-106.48	-1,351.10	3,068.29	3,440.61	3,301.22	139.40	24.682		
7,700.00	7,685.20	7,636.30	7,636.30	27.05	114.22	-106.60	-1,351.10	3,068.29	3,442.83	3,301.58	141.25	24.374		
7,800.00	7,784.90	7,736.00	7,736.00	27.41	115.71	-106.73	-1,351.10	3,068.29	3,445.06	3,301.96	143.10	24.074		
7,860.70	7,845.41	7,796.51	7,796.51	27.63	116.62	-106.80	-1,351.10	3,068.29	3,446.43	3,302.20	144.23	23.895		
7,900.00	7,884.61	7,835.71	7,835.71	27.77	117.20	-106.86	-1,351.10	3,068.29	3,447.26	3,302.30	144.96	23.781		
8,000.00	7,984.46	7,935.56	7,935.56	28.13	118.70	-106.97	-1,351.10	3,068.29	3,448.84	3,302.02	146.81	23.491		
8,100.00	8,084.42	8,035.52	8,035.52	28.49	120.20	-107.03	-1,351.10	3,068.29	3,449.66	3,300.99	148.67	23.204		
8,157.59	8,142.00	8,093.10	8,093.10	28.69	121.06	107.04	-1,351.10	3,068.29	3,449.79	3,300.06	149.73	23.040		
8,200.00	8,184.41	8,135.51	8,135.51	28.83	121.69	107.04	-1,351.10	3,068.29	3,449.79	3,299.28	150.51	22.921		
8,300.00	8,284.41	8,235.51	8,235.51	29.17	123.19	107.04	-1,351.10	3,068.29	3,449.79	3,297.45	152.34	22.645		
8,400.00	8,384.41	8,335.51	8,335.51	29.51	124.69	107.04	-1,351.10	3,068.29	3,449.79	3,295.61	154.18	22.375		
8,507.63	8,492.04	8,443.14	8,443.14	29.87	126.30	107.04	-1,351.10	3,068.29	3,449.79	3,293.63	156.15	22.092		
8,550.00	8,534.37	8,485.47	8,485.47	30.02	126.93	17.73	-1,351.10	3,068.29	3,448.30	3,291.37	156.93	21.973		
8,600.00	8,584.01	8,535.11	8,535.11	30.18	127.68	17.93	-1,351.10	3,068.29	3,442.71	3,284.87	157.84	21.811		
8,650.00	8,632.95	8,584.05	8,584.05	30.34	128.41	18.29	-1,351.10	3,068.29	3,433.03	3,274.29	158.73	21.628		
8,700.00	8,680.82	8,631.92	8,631.92	30.50	129.13	18.82	-1,351.10	3,068.29	3,419.32	3,259.71	159.61	21.423		
8,750.00	8,727.25	8,678.35	8,678.35	30.66	129.82	19.54	-1,351.10	3,068.29	3,401.70	3,241.25	160.45	21.201		
8,800.00	8,771.89	8,722.99	8,722.99	30.81	130.49	20.48	-1,351.10	3,068.29	3,380.31	3,219.06	161.26	20.962		
8,850.00	8,814.40	8,765.50	8,765.50	30.95	131.13	21.67	-1,351.10	3,068.29	3,355.32	3,193.30	162.02	20.709		
8,900.00	8,854.46	8,805.56	8,805.56	31.09	131.73	23.18	-1,351.10	3,068.29	3,326.93	3,164.19	162.74	20.443		
8,950.00	8,891.75	8,842.85	8,842.85	31.23	132.29	25.07	-1,351.10	3,068.29	3,295.37	3,131.96	163.41	20.167		
9,000.00	8,926.01	8,877.11	8,877.11	31.37	132.80	27.45	-1,351.10	3,068.29	3,260.88	3,096.86	164.01	19.882		
9,050.00	8,956.96	8,908.06	8,908.06	31.53	133.26	30.45	-1,351.10	3,068.29	3,223.73	3,059.17	164.56	19.590		
9,100.00	8,984.38	8,935.48	8,935.48	31.69	133.67	34.25	-1,351.10	3,068.29	3,184.23	3,019.19	165.05	19.293		
9,150.00	9,008.05	8,959.15	8,959.15	31.87	134.03	39.12	-1,351.10	3,068.29	3,142.69	2,977.22	165.47	18.993		
9,200.00	9,027.79	8,978.89	8,978.89	32.07	134.32	45.36	-1,351.10	3,068.29	3,099.43	2,933.61	165.82	18.691		
9,250.00	9,043.45	8,994.55	8,994.55	32.29	134.56	53.34	-1,351.10	3,068.29	3,054.80	2,888.69	166.11	18.390		

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 10-INC-ONLY													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
9,300.00	9,054.92	9,006.02	9,006.02	32.53	134.73	63.30	-1,351.10	3,068.29	3,009.15	2,842.81	166.33	18.091		
9,350.00	9,062.10	9,013.20	9,013.20	32.79	134.84	75.12	-1,351.10	3,068.29	2,962.82	2,796.34	166.48	17.796		
9,400.00	9,064.95	9,016.05	9,016.05	33.06	134.88	88.02	-1,351.10	3,068.29	2,916.20	2,749.62	166.57	17.507		
9,407.63	9,065.00	9,016.10	9,016.10	33.10	134.88	90.00	-1,351.10	3,068.29	2,909.08	2,742.50	166.58	17.464		
9,500.00	9,065.00	9,016.10	9,016.10	33.68	134.88	90.00	-1,351.10	3,068.29	2,823.10	2,656.42	166.68	16.938		
9,600.00	9,065.00	9,016.10	9,016.10	34.41	134.88	90.00	-1,351.10	3,068.29	2,730.48	2,563.67	166.81	16.369		
9,700.00	9,065.00	9,016.10	9,016.10	35.24	134.88	90.00	-1,351.10	3,068.29	2,638.41	2,471.42	166.99	15.800		
9,800.00	9,065.00	9,016.10	9,016.10	36.17	134.88	90.00	-1,351.10	3,068.29	2,546.94	2,379.73	167.21	15.232		
9,900.00	9,065.00	9,016.10	9,016.10	37.19	134.88	90.00	-1,351.10	3,068.29	2,456.13	2,288.65	167.48	14.665		
10,000.00	9,065.00	9,016.10	9,016.10	38.30	134.88	90.00	-1,351.10	3,068.29	2,366.06	2,198.24	167.82	14.099		
10,100.00	9,065.00	9,016.10	9,016.10	39.48	134.88	90.00	-1,351.10	3,068.29	2,276.82	2,108.60	168.22	13.535		
10,200.00	9,065.00	9,016.10	9,016.10	40.72	134.88	90.00	-1,351.10	3,068.29	2,188.51	2,019.80	168.71	12.972		
10,300.00	9,065.00	9,016.10	9,016.10	42.03	134.88	90.00	-1,351.10	3,068.29	2,101.25	1,931.95	169.30	12.412		
10,400.00	9,065.00	9,016.10	9,016.10	43.40	134.88	90.00	-1,351.10	3,068.29	2,015.17	1,845.18	169.99	11.854		
10,500.00	9,065.00	9,016.10	9,016.10	44.82	134.88	90.00	-1,351.10	3,068.29	1,930.44	1,759.62	170.82	11.301		
10,600.00	9,065.00	9,016.10	9,016.10	46.29	134.88	90.00	-1,351.10	3,068.29	1,847.23	1,675.45	171.78	10.753		
10,700.00	9,065.00	9,016.10	9,016.10	47.79	134.88	90.00	-1,351.10	3,068.29	1,765.77	1,592.86	172.91	10.212		
10,800.00	9,065.00	9,016.10	9,016.10	49.34	134.88	90.00	-1,351.10	3,068.29	1,686.30	1,512.08	174.23	9.679		
10,900.00	9,065.00	9,016.10	9,016.10	50.92	134.88	90.00	-1,351.10	3,068.29	1,609.13	1,433.38	175.74	9.156		
11,000.00	9,065.00	9,016.10	9,016.10	52.54	134.88	90.00	-1,351.10	3,068.29	1,534.59	1,357.11	177.48	8.646		
11,100.00	9,065.00	9,016.10	9,016.10	54.18	134.88	90.00	-1,351.10	3,068.29	1,463.09	1,283.64	179.45	8.153		
11,200.00	9,065.00	9,016.10	9,016.10	55.85	134.88	90.00	-1,351.10	3,068.29	1,395.10	1,213.43	181.67	7.679		
11,300.00	9,065.00	9,016.10	9,016.10	57.54	134.88	90.00	-1,351.10	3,068.29	1,331.16	1,147.03	184.13	7.229		
11,400.00	9,065.00	9,016.10	9,016.10	59.26	134.88	90.00	-1,351.10	3,068.29	1,271.87	1,085.05	186.82	6.808		
11,500.00	9,065.00	9,016.10	9,016.10	61.00	134.88	90.00	-1,351.10	3,068.29	1,217.92	1,028.21	189.71	6.420		
11,600.00	9,065.00	9,016.10	9,016.10	62.75	134.88	90.00	-1,351.10	3,068.29	1,170.05	977.30	192.75	6.070		
11,700.00	9,065.00	9,016.10	9,016.10	64.52	134.88	90.00	-1,351.10	3,068.29	1,129.02	933.17	195.85	5.765		
11,800.00	9,065.00	9,016.10	9,016.10	66.31	134.88	90.00	-1,351.10	3,068.29	1,095.61	896.70	198.91	5.508		
11,900.00	9,065.00	9,016.10	9,016.10	68.11	134.88	90.00	-1,351.10	3,068.29	1,070.53	868.72	201.81	5.305		
12,000.00	9,065.00	9,016.10	9,016.10	69.93	134.88	90.00	-1,351.10	3,068.29	1,054.37	849.95	204.42	5.158		
12,100.00	9,065.00	9,016.10	9,016.10	71.76	134.88	90.00	-1,351.10	3,068.29	1,047.56	840.93	206.62	5.070		
12,121.63	9,065.00	9,016.10	9,016.10	72.15	134.88	90.00	-1,351.10	3,068.29	1,047.33	840.30	207.04	5.059 CC, ES		
12,200.00	9,065.00	9,016.10	9,016.10	73.60	134.88	90.00	-1,351.10	3,068.29	1,050.26	841.94	208.32	5.041 SF		
12,300.00	9,065.00	9,016.10	9,016.10	75.45	134.88	90.00	-1,351.10	3,068.29	1,062.41	852.93	209.48	5.072		
12,400.00	9,065.00	9,016.10	9,016.10	77.31	134.88	90.00	-1,351.10	3,068.29	1,083.69	873.60	210.09	5.158		
12,500.00	9,065.00	9,016.10	9,016.10	79.18	134.88	90.00	-1,351.10	3,068.29	1,113.58	903.38	210.20	5.298		
12,600.00	9,065.00	9,016.10	9,016.10	81.05	134.88	90.00	-1,351.10	3,068.29	1,151.41	941.53	209.88	5.486		
12,700.00	9,065.00	9,016.10	9,016.10	82.94	134.88	90.00	-1,351.10	3,068.29	1,196.42	987.20	209.22	5.719		
12,800.00	9,065.00	9,016.10	9,016.10	84.83	134.88	90.00	-1,351.10	3,068.29	1,247.83	1,039.53	208.30	5.991		
12,900.00	9,065.00	9,016.10	9,016.10	86.73	134.88	90.00	-1,351.10	3,068.29	1,304.90	1,097.69	207.21	6.298		
13,000.00	9,065.00	9,016.10	9,016.10	88.64	134.88	90.00	-1,351.10	3,068.29	1,366.91	1,160.90	206.01	6.635		
13,100.00	9,065.00	9,016.10	9,016.10	90.55	134.88	90.00	-1,351.10	3,068.29	1,433.22	1,228.46	204.75	7.000		
13,200.00	9,065.00	9,016.10	9,016.10	92.47	134.88	90.00	-1,351.10	3,068.29	1,503.26	1,299.77	203.49	7.388		
13,300.00	9,065.00	9,016.10	9,016.10	94.39	134.88	90.00	-1,351.10	3,068.29	1,576.53	1,374.30	202.23	7.796		
13,400.00	9,065.00	9,016.10	9,016.10	96.32	134.88	90.00	-1,351.10	3,068.29	1,652.61	1,451.59	201.02	8.221		
13,500.00	9,065.00	9,016.10	9,016.10	98.25	134.88	90.00	-1,351.10	3,068.29	1,731.13	1,531.28	199.85	8.662		
13,600.00	9,065.00	9,016.10	9,016.10	100.19	134.88	90.00	-1,351.10	3,068.29	1,811.76	1,613.02	198.74	9.116		
13,700.00	9,065.00	9,016.10	9,016.10	102.13	134.88	90.00	-1,351.10	3,068.29	1,894.24	1,696.56	197.68	9.582		
13,800.00	9,065.00	9,016.10	9,016.10	104.08	134.88	90.00	-1,351.10	3,068.29	1,978.34	1,781.65	196.69	10.058		
13,900.00	9,065.00	9,016.10	9,016.10	106.03	134.88	90.00	-1,351.10	3,068.29	2,063.85	1,868.10	195.76	10.543		
14,000.00	9,065.00	9,016.10	9,016.10	107.98	134.88	90.00	-1,351.10	3,068.29	2,150.62	1,955.74	194.88	11.035		
14,100.00	9,065.00	9,016.10	9,016.10	109.94	134.88	90.00	-1,351.10	3,068.29	2,238.49	2,044.42	194.07	11.535		

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 10-INC-ONLY													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
14,200.00	9,065.00	9,016.10	9,016.10	111.90	134.88	90.00	-1,351.10	3,068.29	2,327.34	2,134.04	193.30	12.040		
14,300.00	9,065.00	9,016.10	9,016.10	113.86	134.88	90.00	-1,351.10	3,068.29	2,417.06	2,224.48	192.59	12.551		
14,400.00	9,065.00	9,016.10	9,016.10	115.82	134.88	90.00	-1,351.10	3,068.29	2,507.56	2,315.64	191.92	13.066		
14,500.00	9,065.00	9,016.10	9,016.10	117.79	134.88	90.00	-1,351.10	3,068.29	2,598.76	2,407.46	191.29	13.585		
14,600.00	9,065.00	9,016.10	9,016.10	119.76	134.88	90.00	-1,351.10	3,068.29	2,690.58	2,499.87	190.71	14.108		
14,700.00	9,065.00	9,016.10	9,016.10	121.74	134.88	90.00	-1,351.10	3,068.29	2,782.96	2,592.80	190.16	14.635		
14,800.00	9,065.00	9,016.10	9,016.10	123.71	134.88	90.00	-1,351.10	3,068.29	2,875.86	2,686.20	189.65	15.164		
14,900.00	9,065.00	9,016.10	9,016.10	125.69	134.88	90.00	-1,351.10	3,068.29	2,969.21	2,780.04	189.18	15.696		
15,000.00	9,065.00	9,016.10	9,016.10	127.67	134.88	90.00	-1,351.10	3,068.29	3,062.99	2,874.26	188.73	16.230		
15,100.00	9,065.00	9,016.10	9,016.10	129.65	134.88	90.00	-1,351.10	3,068.29	3,157.15	2,968.84	188.31	16.766		
15,200.00	9,065.00	9,016.10	9,016.10	131.63	134.88	90.00	-1,351.10	3,068.29	3,251.65	3,063.74	187.92	17.304		
15,300.00	9,065.00	9,016.10	9,016.10	133.62	134.88	90.00	-1,351.10	3,068.29	3,346.48	3,158.93	187.55	17.843		
15,400.00	9,065.00	9,016.10	9,016.10	135.61	134.88	90.00	-1,351.10	3,068.29	3,441.60	3,254.39	187.20	18.384		
15,500.00	9,065.00	9,016.10	9,016.10	137.60	134.88	90.00	-1,351.10	3,068.29	3,536.99	3,350.11	186.88	18.927		
15,600.00	9,065.00	9,016.10	9,016.10	139.59	134.88	90.00	-1,351.10	3,068.29	3,632.62	3,446.05	186.58	19.470		
15,700.00	9,065.00	9,016.10	9,016.10	141.58	134.88	90.00	-1,351.10	3,068.29	3,728.49	3,542.20	186.29	20.014		
15,800.00	9,065.00	9,016.10	9,016.10	143.57	134.88	90.00	-1,351.10	3,068.29	3,824.56	3,638.54	186.02	20.560		
15,900.00	9,065.00	9,016.10	9,016.10	145.57	134.88	90.00	-1,351.10	3,068.29	3,920.84	3,735.07	185.77	21.106		
16,000.00	9,065.00	9,016.10	9,016.10	147.56	134.88	90.00	-1,351.10	3,068.29	4,017.29	3,831.76	185.53	21.653		
16,100.00	9,065.00	9,016.10	9,016.10	149.56	134.88	90.00	-1,351.10	3,068.29	4,113.92	3,928.61	185.31	22.200		
16,200.00	9,065.00	9,016.10	9,016.10	151.56	134.88	90.00	-1,351.10	3,068.29	4,210.70	4,025.60	185.10	22.748		
16,300.00	9,065.00	9,016.10	9,016.10	153.56	134.88	90.00	-1,351.10	3,068.29	4,307.63	4,122.72	184.90	23.297		
16,400.00	9,065.00	9,016.10	9,016.10	155.56	134.88	90.00	-1,351.10	3,068.29	4,404.69	4,219.97	184.72	23.845		
16,500.00	9,065.00	9,016.10	9,016.10	157.57	134.88	90.00	-1,351.10	3,068.29	4,501.89	4,317.34	184.55	24.394		
16,600.00	9,065.00	9,016.10	9,016.10	159.57	134.88	90.00	-1,351.10	3,068.29	4,599.20	4,414.82	184.38	24.944		
16,700.00	9,065.00	9,016.10	9,016.10	161.57	134.88	90.00	-1,351.10	3,068.29	4,696.63	4,512.40	184.23	25.493		
16,800.00	9,065.00	9,016.10	9,016.10	163.58	134.88	90.00	-1,351.10	3,068.29	4,794.17	4,610.08	184.09	26.043		
16,900.00	9,065.00	9,016.10	9,016.10	165.59	134.88	90.00	-1,351.10	3,068.29	4,891.80	4,707.85	183.95	26.593		
17,000.00	9,065.00	9,016.10	9,016.10	167.60	134.88	90.00	-1,351.10	3,068.29	4,989.53	4,805.70	183.82	27.143		
17,100.00	9,065.00	9,016.10	9,016.10	169.60	134.88	90.00	-1,351.10	3,068.29	5,087.34	4,903.63	183.71	27.693		
17,200.00	9,065.00	9,016.10	9,016.10	171.61	134.88	90.00	-1,351.10	3,068.29	5,185.24	5,001.64	183.60	28.243		
17,300.00	9,065.00	9,016.10	9,016.10	173.62	134.88	90.00	-1,351.10	3,068.29	5,283.22	5,099.73	183.49	28.793		
17,400.00	9,065.00	9,016.10	9,016.10	175.63	134.88	90.00	-1,351.10	3,068.29	5,381.27	5,197.87	183.40	29.342		
17,500.00	9,065.00	9,016.10	9,016.10	177.65	134.88	90.00	-1,351.10	3,068.29	5,479.39	5,296.09	183.31	29.892		
17,600.00	9,065.00	9,016.10	9,016.10	179.66	134.88	90.00	-1,351.10	3,068.29	5,577.58	5,394.36	183.22	30.442		
17,700.00	9,065.00	9,016.10	9,016.10	181.67	134.88	90.00	-1,351.10	3,068.29	5,675.83	5,492.69	183.14	30.991		
17,800.00	9,065.00	9,016.10	9,016.10	183.69	134.88	90.00	-1,351.10	3,068.29	5,774.15	5,591.07	183.07	31.541		
17,900.00	9,065.00	9,016.10	9,016.10	185.70	134.88	90.00	-1,351.10	3,068.29	5,872.51	5,689.51	183.00	32.090		
18,000.00	9,065.00	9,016.10	9,016.10	187.72	134.88	90.00	-1,351.10	3,068.29	5,970.94	5,788.00	182.94	32.638		
18,100.00	9,065.00	9,016.10	9,016.10	189.73	134.88	90.00	-1,351.10	3,068.29	6,069.41	5,886.53	182.89	33.187		
18,200.00	9,065.00	9,016.10	9,016.10	191.75	134.88	90.00	-1,351.10	3,068.29	6,167.94	5,985.10	182.83	33.735		
18,300.00	9,065.00	9,016.10	9,016.10	193.77	134.88	90.00	-1,351.10	3,068.29	6,266.51	6,083.72	182.79	34.283		
18,400.00	9,065.00	9,016.10	9,016.10	195.78	134.88	90.00	-1,351.10	3,068.29	6,365.12	6,182.38	182.74	34.831		
18,500.00	9,065.00	9,016.10	9,016.10	197.80	134.88	90.00	-1,351.10	3,068.29	6,463.78	6,281.08	182.70	35.378		
18,600.00	9,065.00	9,016.10	9,016.10	199.82	134.88	90.00	-1,351.10	3,068.29	6,562.48	6,379.81	182.67	35.926		
18,700.00	9,065.00	9,016.10	9,016.10	201.84	134.88	90.00	-1,351.10	3,068.29	6,661.22	6,478.58	182.64	36.472		
18,800.00	9,065.00	9,016.10	9,016.10	203.86	134.88	90.00	-1,351.10	3,068.29	6,759.99	6,577.38	182.61	37.019		
18,900.00	9,065.00	9,016.10	9,016.10	205.88	134.88	90.00	-1,351.10	3,068.29	6,858.80	6,676.21	182.59	37.565		
19,000.00	9,065.00	9,016.10	9,016.10	207.90	134.88	90.00	-1,351.10	3,068.29	6,957.65	6,775.08	182.57	38.110		
19,100.00	9,065.00	9,016.10	9,016.10	209.92	134.88	90.00	-1,351.10	3,068.29	7,056.52	6,873.97	182.55	38.655		
19,200.00	9,065.00	9,016.10	9,016.10	211.95	134.88	90.00	-1,351.10	3,068.29	7,155.43	6,972.89	182.54	39.200		
19,300.00	9,065.00	9,016.10	9,016.10	213.97	134.88	90.00	-1,351.10	3,068.29	7,254.37	7,071.84	182.53	39.744		

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design												Sec 14-T21S-R27E - Lonetree 14 State Com #001 - Wellbore #1 - Wellbore #1		Offset Site Error:		0.00 ft			
Survey Program:												10-INC-ONLY				Offset Well Error:		0.50 ft	
Reference		Offset		Semi Major Axis			Distance						Warning						
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor							
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)								
19,400.00	9,065.00	9,016.10	9,016.10	215.99	134.88	90.00	-1,351.10	3,068.29	7,353.33	7,170.82	182.52	40.288							
19,456.84	9,065.00	9,016.10	9,016.10	217.14	134.88	90.00	-1,351.10	3,068.29	7,409.60	7,227.09	182.52	40.597							

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 5-INC-ONLY													Offset Well Error:	150.00 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0.00	0.00	0.00	0.00	0.50	150.00	30.68	2,294.61	1,361.46	2,668.20					
100.00	100.00	78.10	78.10	0.52	150.00	30.68	2,294.61	1,361.46	2,668.11	2,517.59	150.52	17.726		
200.00	200.00	178.10	178.10	0.70	150.02	30.68	2,294.61	1,361.46	2,668.11	2,517.38	150.72	17.702		
300.00	300.00	278.10	278.10	0.99	150.05	30.68	2,294.61	1,361.46	2,668.11	2,517.07	151.04	17.665		
400.00	400.00	378.10	378.10	1.31	150.10	30.68	2,294.61	1,361.46	2,668.11	2,516.70	151.41	17.622		
500.00	500.00	478.10	478.10	1.65	150.16	30.68	2,294.61	1,361.46	2,668.11	2,516.30	151.81	17.575		
600.00	600.00	578.10	578.10	1.99	150.24	30.68	2,294.61	1,361.46	2,668.11	2,515.88	152.23	17.527 CC, ES		
700.00	700.00	563.00	562.89	2.34	150.23	30.68	2,294.61	1,361.46	2,670.59	2,518.17	152.43	17.521 SF		
800.00	800.00	563.00	562.89	2.69	150.23	30.68	2,294.61	1,361.46	2,676.77	2,524.34	152.43	17.561		
900.00	900.00	563.00	562.89	3.04	150.23	30.68	2,294.61	1,361.46	2,686.66	2,534.44	152.23	17.649		
1,000.00	1,000.00	563.00	562.89	3.40	150.23	30.68	2,294.61	1,361.46	2,700.22	2,548.40	151.82	17.786		
1,100.00	1,100.00	563.00	562.89	3.75	150.23	30.68	2,294.61	1,361.46	2,717.40	2,566.18	151.22	17.970		
1,200.00	1,200.00	563.00	562.89	4.11	150.23	30.68	2,294.61	1,361.46	2,738.12	2,587.68	150.43	18.201		
1,300.00	1,300.00	563.00	562.89	4.46	150.23	30.68	2,294.61	1,361.46	2,762.30	2,612.83	149.48	18.480		
1,400.00	1,400.00	563.00	562.89	4.82	150.23	30.68	2,294.61	1,361.46	2,789.87	2,641.51	148.35	18.805		
1,500.00	1,500.00	563.00	562.89	5.18	150.23	30.68	2,294.61	1,361.46	2,820.71	2,673.62	147.09	19.177		
1,600.00	1,600.00	563.00	562.89	5.53	150.23	30.68	2,294.61	1,361.46	2,854.72	2,709.04	145.69	19.595		
1,700.00	1,700.00	563.00	562.89	5.89	150.23	30.68	2,294.61	1,361.46	2,891.80	2,747.63	144.17	20.058		
1,800.00	1,800.00	563.00	562.89	6.25	150.23	30.68	2,294.61	1,361.46	2,931.81	2,789.27	142.55	20.567		
1,900.00	1,900.00	563.00	562.89	6.61	150.23	30.68	2,294.61	1,361.46	2,974.66	2,833.82	140.84	21.121		
2,000.00	2,000.00	563.00	562.89	6.96	150.23	30.68	2,294.61	1,361.46	3,020.20	2,881.14	139.06	21.719		
2,100.00	2,100.00	563.00	562.89	7.32	150.23	30.68	2,294.61	1,361.46	3,068.33	2,931.12	137.22	22.361		
2,200.00	2,200.00	563.00	562.89	7.68	150.23	30.68	2,294.61	1,361.46	3,118.93	2,983.60	135.33	23.047		
2,300.00	2,300.00	563.00	562.89	8.04	150.23	30.68	2,294.61	1,361.46	3,171.87	3,038.47	133.40	23.777		
2,400.00	2,400.00	563.00	562.89	8.39	150.23	30.68	2,294.61	1,361.46	3,227.04	3,095.59	131.45	24.549		
2,500.00	2,500.00	563.00	562.89	8.75	150.23	30.68	2,294.61	1,361.46	3,284.33	3,154.84	129.49	25.364		
2,600.00	2,599.99	563.00	562.89	9.09	150.23	176.56	2,294.61	1,361.46	3,344.32	3,216.80	127.52	26.225		
2,700.00	2,699.96	563.00	562.89	9.42	150.23	176.51	2,294.61	1,361.46	3,407.54	3,281.96	125.58	27.135		
2,800.00	2,799.86	563.00	562.89	9.75	150.23	176.46	2,294.61	1,361.46	3,473.79	3,350.11	123.68	28.087		
2,900.00	2,899.68	563.00	562.89	10.08	150.23	176.40	2,294.61	1,361.46	3,542.89	3,421.05	121.84	29.079		
2,945.33	2,944.88	563.00	562.89	10.23	150.23	176.37	2,294.61	1,361.46	3,575.09	3,454.07	121.02	29.540		
3,000.00	2,999.39	563.00	562.89	10.41	150.23	176.37	2,294.61	1,361.46	3,614.46	3,494.41	120.05	30.108		
3,100.00	3,099.08	563.00	562.89	10.75	150.23	176.37	2,294.61	1,361.46	3,687.47	3,569.18	118.29	31.173		
3,200.00	3,198.78	563.00	562.89	11.08	150.23	176.37	2,294.61	1,361.46	3,761.73	3,645.16	116.57	32.270		
3,300.00	3,298.48	563.00	562.89	11.42	150.23	176.37	2,294.61	1,361.46	3,837.16	3,722.27	114.88	33.400		
3,400.00	3,398.18	563.00	562.89	11.76	150.23	176.37	2,294.61	1,361.46	3,913.69	3,800.45	113.24	34.562		
3,500.00	3,497.88	563.00	562.89	12.10	150.23	176.37	2,294.61	1,361.46	3,991.25	3,879.62	111.63	35.754		
3,600.00	3,597.58	563.00	562.89	12.45	150.23	176.37	2,294.61	1,361.46	4,069.80	3,959.74	110.06	36.977		
3,700.00	3,697.27	563.00	562.89	12.79	150.23	176.37	2,294.61	1,361.46	4,149.27	4,040.73	108.54	38.230		
3,800.00	3,796.97	563.00	562.89	13.14	150.23	176.37	2,294.61	1,361.46	4,229.61	4,122.56	107.05	39.511		
3,900.00	3,896.67	563.00	562.89	13.48	150.23	176.37	2,294.61	1,361.46	4,310.77	4,205.16	105.61	40.820		
4,000.00	3,996.37	563.00	562.89	13.83	150.23	176.37	2,294.61	1,361.46	4,392.71	4,288.51	104.20	42.156		
4,100.00	4,096.07	563.00	562.89	14.18	150.23	176.37	2,294.61	1,361.46	4,475.38	4,372.54	102.84	43.519		
4,200.00	4,195.76	563.00	562.89	14.53	150.23	176.37	2,294.61	1,361.46	4,558.75	4,457.24	101.51	44.908		
4,300.00	4,295.46	563.00	562.89	14.88	150.23	176.37	2,294.61	1,361.46	4,642.77	4,542.55	100.23	46.322		
4,400.00	4,395.16	563.00	562.89	15.23	150.23	176.37	2,294.61	1,361.46	4,727.42	4,628.44	98.98	47.760		
4,500.00	4,494.86	563.00	562.89	15.58	150.23	176.37	2,294.61	1,361.46	4,812.66	4,714.88	97.78	49.222		
4,600.00	4,594.56	563.00	562.89	15.93	150.23	176.37	2,294.61	1,361.46	4,898.45	4,801.85	96.60	50.706		
4,700.00	4,694.25	563.00	562.89	16.29	150.23	176.37	2,294.61	1,361.46	4,984.77	4,889.30	95.47	52.213		
4,800.00	4,793.95	563.00	562.89	16.64	150.23	176.37	2,294.61	1,361.46	5,071.60	4,977.23	94.37	53.741		
4,900.00	4,893.65	563.00	562.89	17.00	150.23	176.37	2,294.61	1,361.46	5,158.90	5,065.60	93.31	55.289		
5,000.00	4,993.35	563.00	562.89	17.35	150.23	176.37	2,294.61	1,361.46	5,246.66	5,154.38	92.28	56.857		

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design		Sec 14-T21S-R27E - Magnolia State 2 (P&A) - Wellbore #1 - Wellbore #1											Offset Site Error:		0.00 ft
Survey Program:		5-INC-ONLY											Offset Well Error:		150.00 ft
Reference		Offset		Semi Major Axis			Distance						Warning		
Measured Depth Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor			
5,100.00	5,093.05	563.00	562.89	17.71	150.23	176.37	2,294.61	1,361.46	5,334.85	5,243.57	91.28	58.444			
5,200.00	5,192.75	563.00	562.89	18.06	150.23	176.37	2,294.61	1,361.46	5,423.45	5,333.13	90.32	60.049			
5,300.00	5,292.44	563.00	562.89	18.42	150.23	176.37	2,294.61	1,361.46	5,512.43	5,423.05	89.38	61.671			
5,400.00	5,392.14	563.00	562.89	18.77	150.23	176.37	2,294.61	1,361.46	5,601.79	5,513.31	88.48	63.309			
5,500.00	5,491.84	563.00	562.89	19.13	150.23	176.37	2,294.61	1,361.46	5,691.51	5,603.90	87.61	64.964			
5,600.00	5,591.54	563.00	562.89	19.49	150.23	176.37	2,294.61	1,361.46	5,781.56	5,694.79	86.77	66.633			
5,700.00	5,691.24	563.00	562.89	19.85	150.23	176.37	2,294.61	1,361.46	5,871.93	5,785.98	85.95	68.316			
5,800.00	5,790.93	563.00	562.89	20.20	150.23	176.37	2,294.61	1,361.46	5,962.61	5,877.44	85.17	70.012			
5,900.00	5,890.63	563.00	562.89	20.56	150.23	176.37	2,294.61	1,361.46	6,053.58	5,969.18	84.40	71.721			
6,000.00	5,990.33	563.00	562.89	20.92	150.23	176.37	2,294.61	1,361.46	6,144.84	6,061.17	83.67	73.441			
6,100.00	6,090.03	563.00	562.89	21.28	150.23	176.37	2,294.61	1,361.46	6,236.36	6,153.40	82.96	75.172			
6,200.00	6,189.73	563.00	562.89	21.64	150.23	176.37	2,294.61	1,361.46	6,328.14	6,245.86	82.28	76.912			
6,300.00	6,289.42	563.00	562.89	22.00	150.23	176.37	2,294.61	1,361.46	6,420.16	6,338.55	81.62	78.662			
6,400.00	6,389.12	563.00	562.89	22.36	150.23	176.37	2,294.61	1,361.46	6,512.42	6,431.44	80.98	80.420			
6,500.00	6,488.82	563.00	562.89	22.72	150.23	176.37	2,294.61	1,361.46	6,604.91	6,524.54	80.37	82.186			
6,600.00	6,588.52	563.00	562.89	23.08	150.23	176.37	2,294.61	1,361.46	6,697.61	6,617.84	79.77	83.958			
6,700.00	6,688.22	563.00	562.89	23.44	150.23	176.37	2,294.61	1,361.46	6,790.52	6,711.31	79.20	85.735			
6,800.00	6,787.91	563.00	562.89	23.80	150.23	176.37	2,294.61	1,361.46	6,883.62	6,804.97	78.65	87.518			
6,900.00	6,887.61	563.00	562.89	24.16	150.23	176.37	2,294.61	1,361.46	6,976.92	6,898.80	78.13	89.305			
7,000.00	6,987.31	563.00	562.89	24.52	150.23	176.37	2,294.61	1,361.46	7,070.40	6,992.79	77.62	91.095			
7,100.00	7,087.01	563.00	562.89	24.88	150.23	176.37	2,294.61	1,361.46	7,164.06	7,086.93	77.13	92.887			
7,200.00	7,186.71	563.00	562.89	25.24	150.23	176.37	2,294.61	1,361.46	7,257.89	7,181.23	76.66	94.681			
7,300.00	7,286.41	563.00	562.89	25.60	150.23	176.37	2,294.61	1,361.46	7,351.88	7,275.67	76.20	96.476			
7,400.00	7,386.10	563.00	562.89	25.96	150.23	176.37	2,294.61	1,361.46	7,446.02	7,370.25	75.77	98.271			
7,500.00	7,485.80	563.00	562.89	26.33	150.23	176.37	2,294.61	1,361.46	7,540.32	7,464.96	75.35	100.066			
7,600.00	7,585.50	563.00	562.89	26.69	150.23	176.37	2,294.61	1,361.46	7,634.76	7,559.80	74.95	101.859			
7,700.00	7,685.20	563.00	562.89	27.05	150.23	176.37	2,294.61	1,361.46	7,729.34	7,654.77	74.57	103.650			
7,800.00	7,784.90	563.00	562.89	27.41	150.23	176.37	2,294.61	1,361.46	7,824.06	7,749.85	74.21	105.438			
7,860.70	7,845.41	563.00	562.89	27.63	150.23	176.37	2,294.61	1,361.46	7,881.61	7,807.62	73.99	106.521			
7,900.00	7,884.61	563.00	562.89	27.77	150.23	176.48	2,294.61	1,361.46	7,918.84	7,844.99	73.85	107.227			
8,000.00	7,984.46	563.00	562.89	28.13	150.23	176.73	2,294.61	1,361.46	8,013.06	7,939.58	73.48	109.056			
8,100.00	8,084.42	563.00	562.89	28.49	150.23	176.94	2,294.61	1,361.46	8,106.52	8,033.45	73.07	110.936			
8,157.59	8,142.00	563.00	562.89	28.69	150.23	31.13	2,294.61	1,361.46	8,159.99	8,087.16	72.83	112.044			
8,200.00	8,184.41	563.00	562.89	28.83	150.23	31.13	2,294.61	1,361.46	8,199.28	8,126.64	72.65	112.865			
8,300.00	8,284.41	563.00	562.89	29.17	150.23	31.13	2,294.61	1,361.46	8,292.05	8,219.82	72.23	114.797			
8,400.00	8,384.41	563.00	562.89	29.51	150.23	31.13	2,294.61	1,361.46	8,384.99	8,313.16	71.83	116.727			
8,507.63	8,492.04	563.00	562.89	29.87	150.23	31.13	2,294.61	1,361.46	8,485.20	8,413.77	71.42	118.801			
8,550.00	8,534.37	563.00	562.89	30.02	150.23	-49.92	2,294.61	1,361.46	8,524.36	8,453.11	71.25	119.638			
8,600.00	8,584.01	563.00	562.89	30.18	150.23	-42.30	2,294.61	1,361.46	8,569.57	8,498.55	71.02	120.672			
8,650.00	8,632.95	563.00	562.89	30.34	150.23	-36.53	2,294.61	1,361.46	8,613.37	8,542.62	70.75	121.747			
8,700.00	8,680.82	563.00	562.89	30.50	150.23	-32.13	2,294.61	1,361.46	8,655.46	8,585.01	70.45	122.857			
8,750.00	8,727.25	563.00	562.89	30.66	150.23	-28.73	2,294.61	1,361.46	8,695.54	8,625.41	70.13	123.993			
8,800.00	8,771.89	563.00	562.89	30.81	150.23	-26.07	2,294.61	1,361.46	8,733.35	8,663.56	69.78	125.149			
8,850.00	8,814.40	563.00	562.89	30.95	150.23	-23.96	2,294.61	1,361.46	8,768.61	8,699.19	69.42	126.313			
8,900.00	8,854.46	563.00	562.89	31.09	150.23	-22.28	2,294.61	1,361.46	8,801.10	8,732.06	69.04	127.476			
8,950.00	8,891.75	563.00	562.89	31.23	150.23	-20.94	2,294.61	1,361.46	8,830.60	8,761.95	68.65	128.627			
9,000.00	8,926.01	563.00	562.89	31.37	150.23	-19.86	2,294.61	1,361.46	8,856.92	8,788.66	68.26	129.751			
9,050.00	8,956.96	563.00	562.89	31.53	150.23	-19.00	2,294.61	1,361.46	8,879.88	8,812.01	67.87	130.835			
9,100.00	8,984.38	563.00	562.89	31.69	150.23	-18.32	2,294.61	1,361.46	8,899.34	8,831.86	67.49	131.865			
9,150.00	9,008.05	563.00	562.89	31.87	150.23	-17.80	2,294.61	1,361.46	8,915.18	8,848.06	67.12	132.827			
9,200.00	9,027.79	563.00	562.89	32.07	150.23	-17.42	2,294.61	1,361.46	8,927.28	8,860.52	66.77	133.705			
9,250.00	9,043.45	563.00	562.89	32.29	150.23	-17.17	2,294.61	1,361.46	8,935.59	8,869.14	66.44	134.485			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 5-INC-ONLY													Offset Well Error:	150.00 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
9,300.00	9,054.92	563.00	562.89	32.53	150.23	-17.04	2,294.61	1,361.46	8,940.03	8,873.88	66.15	135.155		
9,350.00	9,062.10	563.00	562.89	32.79	150.23	-17.03	2,294.61	1,361.46	8,940.59	8,874.70	65.88	135.704		
9,400.00	9,064.95	563.00	562.89	33.06	150.23	-17.12	2,294.61	1,361.46	8,937.26	8,871.60	65.66	136.124		
9,407.63	9,065.00	563.00	562.89	33.10	150.23	-17.15	2,294.61	1,361.46	8,936.41	8,870.78	65.63	136.173		
9,500.00	9,065.00	563.00	562.89	33.68	150.23	-17.15	2,294.61	1,361.46	8,926.05	8,860.76	65.29	136.714		
9,600.00	9,065.00	563.00	562.89	34.41	150.23	-17.15	2,294.61	1,361.46	8,915.91	8,850.88	65.02	137.115		
9,700.00	9,065.00	563.00	562.89	35.24	150.23	-17.15	2,294.61	1,361.46	8,906.87	8,842.01	64.86	137.319		
9,800.00	9,065.00	563.00	562.89	36.17	150.23	-17.15	2,294.61	1,361.46	8,898.95	8,834.15	64.80	137.324		
9,900.00	9,065.00	563.00	562.89	37.19	150.23	-17.15	2,294.61	1,361.46	8,892.15	8,827.31	64.84	137.130		
10,000.00	9,065.00	563.00	562.89	38.30	150.23	-17.15	2,294.61	1,361.46	8,886.47	8,821.49	64.99	136.743		
10,100.00	9,065.00	563.00	562.89	39.48	150.23	-17.15	2,294.61	1,361.46	8,881.91	8,816.69	65.23	136.167		
10,200.00	9,065.00	563.00	562.89	40.72	150.23	-17.15	2,294.61	1,361.46	8,878.48	8,812.91	65.57	135.412		
10,300.00	9,065.00	563.00	562.89	42.03	150.23	-17.15	2,294.61	1,361.46	8,876.17	8,810.17	66.00	134.488		
10,400.00	9,065.00	563.00	562.89	43.40	150.23	-17.15	2,294.61	1,361.46	8,874.99	8,808.46	66.53	133.407		
10,455.03	9,065.00	563.00	562.89	44.18	150.23	-17.15	2,294.61	1,361.46	8,874.81	8,807.96	66.86	132.744		
10,500.00	9,065.00	563.00	562.89	44.82	150.23	-17.15	2,294.61	1,361.46	8,874.93	8,807.79	67.14	132.183		
10,600.00	9,065.00	563.00	562.89	46.29	150.23	-17.15	2,294.61	1,361.46	8,876.00	8,808.16	67.84	130.830		
10,700.00	9,065.00	563.00	562.89	47.79	150.23	-17.15	2,294.61	1,361.46	8,878.20	8,809.57	68.63	129.363		
10,800.00	9,065.00	563.00	562.89	49.34	150.23	-17.15	2,294.61	1,361.46	8,881.52	8,812.02	69.50	127.797		
10,900.00	9,065.00	563.00	562.89	50.92	150.23	-17.15	2,294.61	1,361.46	8,885.96	8,815.52	70.44	126.147		
11,000.00	9,065.00	563.00	562.89	52.54	150.23	-17.15	2,294.61	1,361.46	8,891.53	8,820.07	71.46	124.428		
11,100.00	9,065.00	563.00	562.89	54.18	150.23	-17.15	2,294.61	1,361.46	8,898.22	8,825.67	72.55	122.654		
11,200.00	9,065.00	563.00	562.89	55.85	150.23	-17.15	2,294.61	1,361.46	8,906.03	8,832.32	73.70	120.838		
11,300.00	9,065.00	563.00	562.89	57.54	150.23	-17.15	2,294.61	1,361.46	8,914.95	8,840.03	74.92	118.993		
11,400.00	9,065.00	563.00	562.89	59.26	150.23	-17.15	2,294.61	1,361.46	8,924.98	8,848.79	76.20	117.131		
11,500.00	9,065.00	563.00	562.89	61.00	150.23	-17.15	2,294.61	1,361.46	8,936.12	8,858.59	77.53	115.262		
11,600.00	9,065.00	563.00	562.89	62.75	150.23	-17.15	2,294.61	1,361.46	8,948.37	8,869.46	78.91	113.396		
11,700.00	9,065.00	563.00	562.89	64.52	150.23	-17.15	2,294.61	1,361.46	8,961.71	8,881.37	80.34	111.542		
11,800.00	9,065.00	563.00	562.89	66.31	150.23	-17.15	2,294.61	1,361.46	8,976.15	8,894.33	81.82	109.708		
11,900.00	9,065.00	563.00	562.89	68.11	150.23	-17.15	2,294.61	1,361.46	8,991.68	8,908.34	83.33	107.899		
12,000.00	9,065.00	563.00	562.89	69.93	150.23	-17.15	2,294.61	1,361.46	9,008.29	8,923.40	84.89	106.121		
12,100.00	9,065.00	563.00	562.89	71.76	150.23	-17.15	2,294.61	1,361.46	9,025.98	8,939.50	86.47	104.379		
12,200.00	9,065.00	563.00	562.89	73.60	150.23	-17.15	2,294.61	1,361.46	9,044.74	8,956.65	88.09	102.677		
12,300.00	9,065.00	563.00	562.89	75.45	150.23	-17.15	2,294.61	1,361.46	9,064.56	8,974.83	89.73	101.018		
12,400.00	9,065.00	563.00	562.89	77.31	150.23	-17.15	2,294.61	1,361.46	9,085.44	8,994.04	91.40	99.404		
12,500.00	9,065.00	563.00	562.89	79.18	150.23	-17.15	2,294.61	1,361.46	9,107.37	9,014.29	93.09	97.838		
12,600.00	9,065.00	563.00	562.89	81.05	150.23	-17.15	2,294.61	1,361.46	9,130.35	9,035.55	94.79	96.319		
12,700.00	9,065.00	563.00	562.89	82.94	150.23	-17.15	2,294.61	1,361.46	9,154.36	9,057.84	96.51	94.851		
12,800.00	9,065.00	563.00	562.89	84.83	150.23	-17.15	2,294.61	1,361.46	9,179.39	9,081.14	98.25	93.432		
12,900.00	9,065.00	563.00	562.89	86.73	150.23	-17.15	2,294.61	1,361.46	9,205.45	9,105.45	99.99	92.063		
13,000.00	9,065.00	563.00	562.89	88.64	150.23	-17.15	2,294.61	1,361.46	9,232.51	9,130.77	101.74	90.743		
13,100.00	9,065.00	563.00	562.89	90.55	150.23	-17.15	2,294.61	1,361.46	9,260.57	9,157.07	103.50	89.473		
13,200.00	9,065.00	563.00	562.89	92.47	150.23	-17.15	2,294.61	1,361.46	9,289.63	9,184.37	105.26	88.251		
13,300.00	9,065.00	563.00	562.89	94.39	150.23	-17.15	2,294.61	1,361.46	9,319.67	9,212.64	107.03	87.077		
13,400.00	9,065.00	563.00	562.89	96.32	150.23	-17.15	2,294.61	1,361.46	9,350.68	9,241.89	108.79	85.951		
13,500.00	9,065.00	563.00	562.89	98.25	150.23	-17.15	2,294.61	1,361.46	9,382.65	9,272.10	110.55	84.870		
13,600.00	9,065.00	563.00	562.89	100.19	150.23	-17.15	2,294.61	1,361.46	9,415.58	9,303.27	112.31	83.833		
13,700.00	9,065.00	563.00	562.89	102.13	150.23	-17.15	2,294.61	1,361.46	9,449.45	9,335.39	114.07	82.840		
13,800.00	9,065.00	563.00	562.89	104.08	150.23	-17.15	2,294.61	1,361.46	9,484.26	9,368.44	115.82	81.890		
13,900.00	9,065.00	563.00	562.89	106.03	150.23	-17.15	2,294.61	1,361.46	9,519.99	9,402.43	117.56	80.980		
14,000.00	9,065.00	563.00	562.89	107.98	150.23	-17.15	2,294.61	1,361.46	9,556.63	9,437.34	119.29	80.111		
14,100.00	9,065.00	563.00	562.89	109.94	150.23	-17.15	2,294.61	1,361.46	9,594.17	9,473.16	121.02	79.280		

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

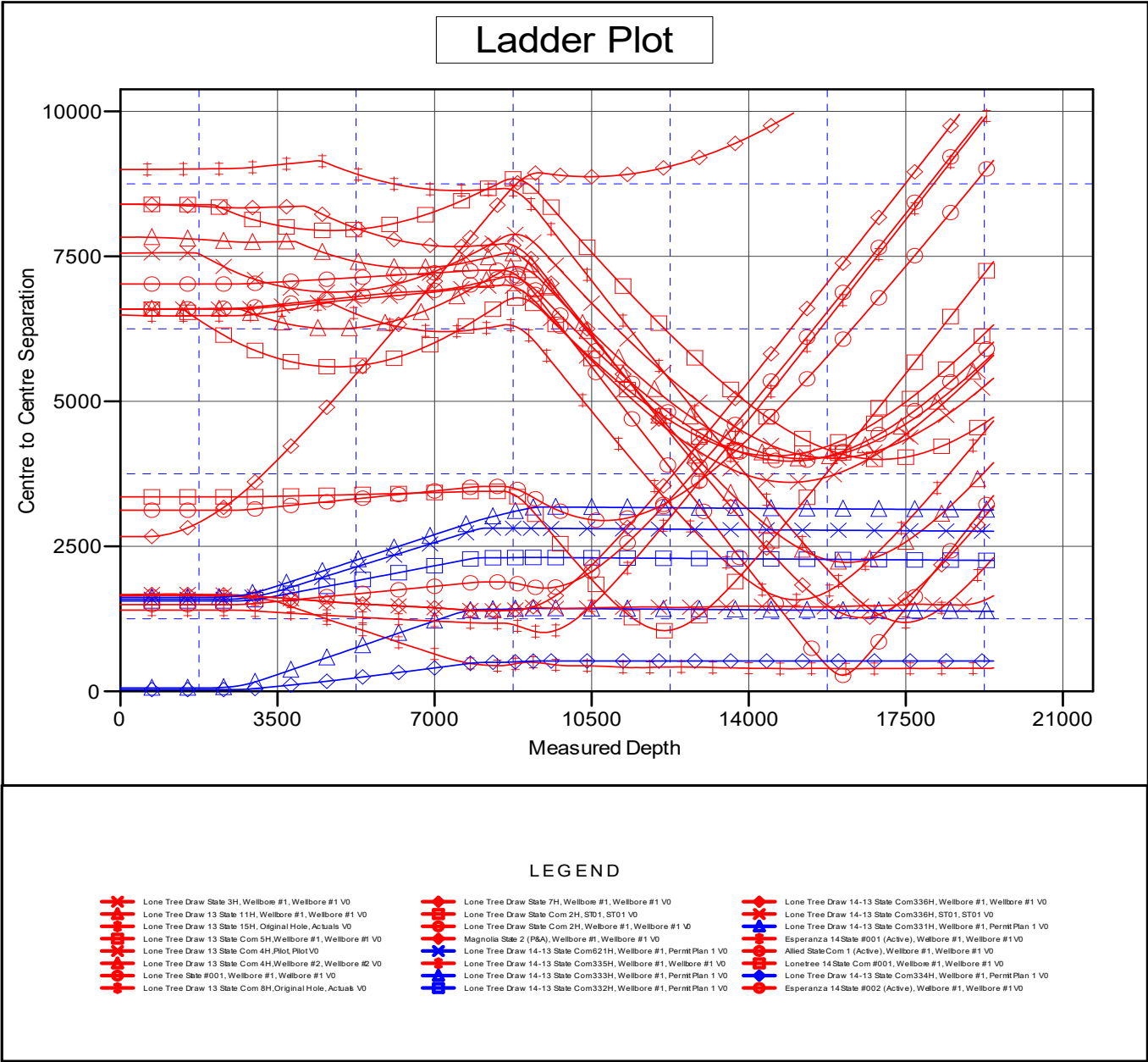
Offset Design Sec 14-T21S-R27E - Magnolia State 2 (P&A) - Wellbore #1 - Wellbore #1													Offset Site Error:		0.00 ft	
Survey Program: 5-INC-ONLY													Offset Well Error:		150.00 ft	
Reference		Offset		Semi Major Axis			Distance							Warning		
Measured Depth Depth (ft)	Vertical Depth (ft)	Measured Depth Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor				
14,200.00	9,065.00	563.00	562.89	111.90	150.23	-17.15	2,294.61	1,361.46	9,632.61	9,509.88	122.73	78.486				
14,300.00	9,065.00	563.00	562.89	113.86	150.23	-17.15	2,294.61	1,361.46	9,671.93	9,547.49	124.43	77.728				
14,400.00	9,065.00	563.00	562.89	115.82	150.23	-17.15	2,294.61	1,361.46	9,712.11	9,585.99	126.12	77.006				
14,500.00	9,065.00	563.00	562.89	117.79	150.23	-17.15	2,294.61	1,361.46	9,753.16	9,625.36	127.80	76.316				
14,600.00	9,065.00	563.00	562.89	119.76	150.23	-17.15	2,294.61	1,361.46	9,795.06	9,665.59	129.46	75.660				
14,700.00	9,065.00	563.00	562.89	121.74	150.23	-17.15	2,294.61	1,361.46	9,837.79	9,706.68	131.11	75.034				
14,800.00	9,065.00	563.00	562.89	123.71	150.23	-17.15	2,294.61	1,361.46	9,881.35	9,748.61	132.74	74.439				
14,900.00	9,065.00	563.00	562.89	125.69	150.23	-17.15	2,294.61	1,361.46	9,925.73	9,791.37	134.36	73.872				
15,000.00	9,065.00	563.00	562.89	127.67	150.23	-17.15	2,294.61	1,361.46	9,970.91	9,834.95	135.97	73.334				

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Reference Depths are relative to RKB @ 3268.90ft
Offset Depths are relative to Offset Datum
Central Meridian is -104.333334

Coordinates are relative to: Lone Tree Draw 14-13 State Com 623H
Coordinate System is US State Plane 1983, New Mexico Eastern Zone
Grid Convergence at Surface is: 0.09°



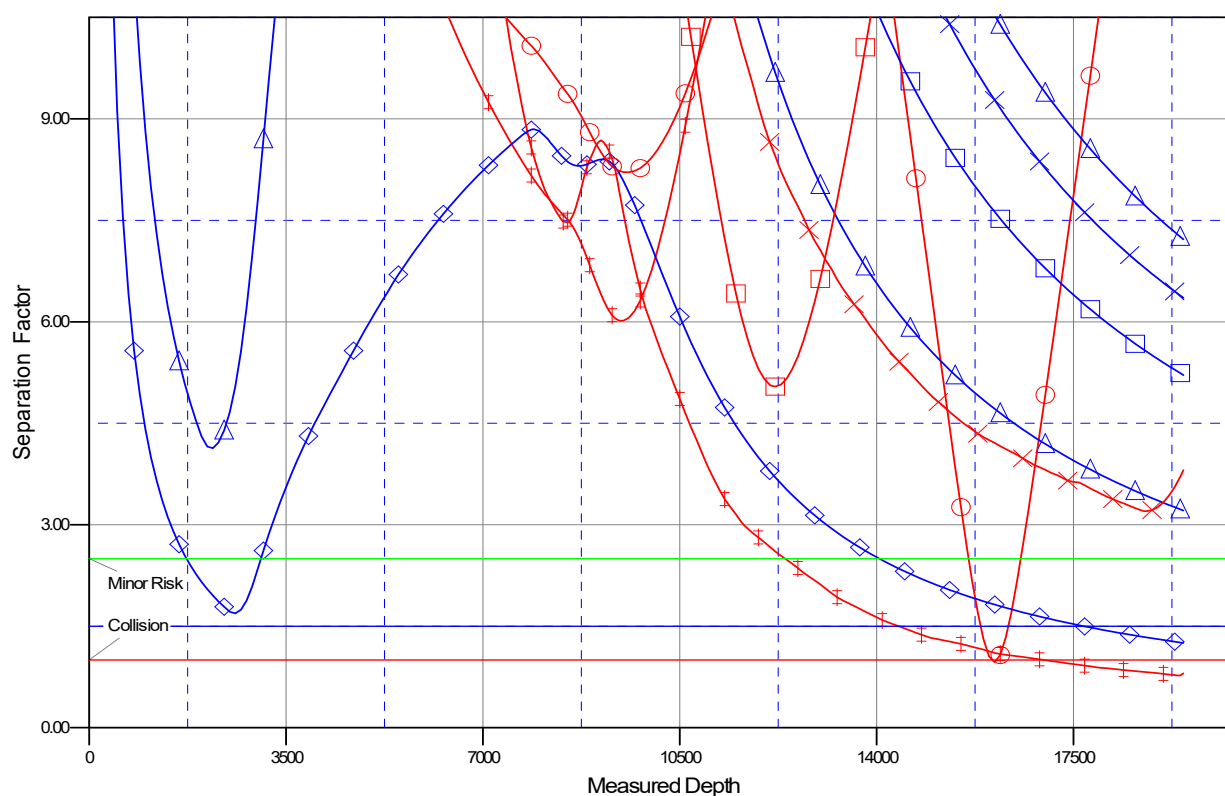
Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Reference Depths are relative to RKB @ 3268.90ft
Offset Depths are relative to Offset Datum
Central Meridian is -104.333334

Coordinates are relative to: Lone Tree Draw 14-13 State Com 623H
Coordinate System is US State Plane 1983, New Mexico Eastern Zone
Grid Convergence at Surface is: 0.09°

Separation Factor Plot



LEGEND

- Lone Tree Draw State 3H, Wellbore #1, Wellbore #1 V0 - Lone Tree Draw 13 State 11H, Wellbore #1, Wellbore #1 V0 - Lone Tree Draw 13 State 15H, Original Hole, Actuals V0 - Lone Tree Draw 13 State Com 5H, Wellbore #1, Wellbore #1 V0 - Lone Tree Draw 13 State Com 4H, Pilot Plot V0 - Lone Tree Draw 13 State Com 4H, Wellbore #2, Wellbore #2 V0 - Lone Tree State #001, Wellbore #1, Wellbore #1 V0 - Lone Tree Draw 13 State Com 8H, Original Hole, Actuals V0	- Lone Tree Draw State 7H, Wellbore #1, Wellbore #1 V0 - Lone Tree Draw State Com 2H, ST01, ST01 V0 - Lone Tree Draw State Com 2H, Wellbore #1, Wellbore #1 V0 - Magnolia State 2 (P&A), Wellbore #1, Wellbore #1 V0 - Lone Tree Draw 14-13 State Com 621H, Wellbore #1, Permit Plan 1 V0 - Lone Tree Draw 14-13 State Com 335H, Wellbore #1, Wellbore #1 V0 - Lone Tree Draw 14-13 State Com 333H, Wellbore #1, Permit Plan 1 V0 - Lone Tree Draw 14-13 State Com 332H, Wellbore #1, Permit Plan 1 V0	- Lone Tree Draw 14-13 State Com 336H, Wellbore #1, Wellbore #1 V0 - Lone Tree Draw 14-13 State Com 336H, ST01, ST01 V0 - Lone Tree Draw 14-13 State Com 331H, Wellbore #1, Permit Plan 1 V0 - Esperanza 14 State #001 (Active), Wellbore #1, Wellbore #1 V0 - Allied State Com 1 (Active), Wellbore #1, Wellbore #1 V0 - Lone Tree 14 State Com #001, Wellbore #1, Wellbore #1 V0 - Lone Tree Draw 14-13 State Com 334H, Wellbore #1, Permit Plan 1 V0 - Esperanza 14 State #002 (Active), Wellbore #1, Wellbore #1 V0

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

WCDSC Permian NM

Eddy County (NAD 83 NM Eastern)

Sec 14-T21S-R27E

Lone Tree Draw 14-13 State Com 623H

Wellbore #1

Permit Plan 1

Anticollision Report

07 October, 2019

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Reference	Permit Plan 1
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria
Interpolation Method:	Stations
Depth Range:	Unlimited
Results Limited by:	Maximum center-center distance of 10,000.00 ft
Warning Levels Evaluated at:	2.00 Sigma
Error Model:	ISCWSA
Scan Method:	Closest Approach 3D
Error Surface:	Pedal Curve
Casing Method:	Not applied

Survey Tool Program	Date	10/4/2019
From (ft)	To (ft)	Survey (Wellbore)
0.00	19,456.84	Permit Plan 1 (Wellbore #1)
		Tool Name
		MWD+IFR1
		Description
		OWSG MWD + IFR1

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
Sec 13-T21S-R27E						
Lone Tree Draw 13 State 11H - Wellbore #1 - Wellbore #	16,199.10	9,793.78	2,223.93	2,137.85	25.835	CC
Lone Tree Draw 13 State 11H - Wellbore #1 - Wellbore #	16,200.00	9,793.80	2,223.94	2,137.84	25.833	ES
Lone Tree Draw 13 State 11H - Wellbore #1 - Wellbore #	16,900.00	9,813.32	2,331.69	2,237.96	24.878	SF
Lone Tree Draw 13 State 15H - Original Hole - Actuals	15,067.09	10,513.23	1,577.38	1,498.34	19.959	CC, ES
Lone Tree Draw 13 State 15H - Original Hole - Actuals	15,600.00	10,525.69	1,664.92	1,577.81	19.113	SF
Lone Tree Draw 13 State Com 4H - Pilot - Pilot	14,920.92	7,876.00	3,603.45	3,456.25	24.479	CC
Lone Tree Draw 13 State Com 4H - Pilot - Pilot	15,000.00	7,876.00	3,604.32	3,455.64	24.242	ES
Lone Tree Draw 13 State Com 4H - Pilot - Pilot	15,800.00	7,876.00	3,709.13	3,548.78	23.132	SF
Lone Tree Draw 13 State Com 4H - Wellbore #2 - Wellbo	15,226.38	8,204.00	4,011.30	3,932.22	50.724	CC, ES
Lone Tree Draw 13 State Com 4H - Wellbore #2 - Wellbo	17,000.00	8,161.83	4,385.34	4,290.05	46.023	SF
Lone Tree Draw 13 State Com 5H - Wellbore #1 - Wellbo	16,934.09	8,407.96	3,999.45	3,906.24	42.906	CC
Lone Tree Draw 13 State Com 5H - Wellbore #1 - Wellbo	17,400.00	17,400.00	4,026.42	3,859.55	24.130	ES
Lone Tree Draw 13 State Com 5H - Wellbore #1 - Wellbo	17,600.00	17,600.00	4,054.44	3,883.03	23.654	SF
Lone Tree Draw 13 State Com 8H - Original Hole - Actua	17,483.22	11,016.90	1,188.71	1,091.89	12.278	CC
Lone Tree Draw 13 State Com 8H - Original Hole - Actua	17,500.00	11,016.78	1,188.83	1,091.83	12.256	ES
Lone Tree Draw 13 State Com 8H - Original Hole - Actua	17,900.00	11,014.10	1,259.65	1,153.99	11.921	SF
Lone Tree Draw State 3H - Wellbore #1 - Wellbore #1	15,853.32	8,192.80	4,019.73	3,935.84	47.913	CC
Lone Tree Draw State 3H - Wellbore #1 - Wellbore #1	15,900.00	8,192.02	4,020.00	3,935.72	47.699	ES
Lone Tree Draw State 3H - Wellbore #1 - Wellbore #1	17,400.00	8,157.44	4,306.94	4,209.39	44.150	SF
Lone Tree Draw State 7H - Wellbore #1 - Wellbore #1	16,522.49	11,222.42	1,269.40	1,176.76	13.703	CC, ES
Lone Tree Draw State 7H - Wellbore #1 - Wellbore #1	16,800.00	11,215.70	1,299.35	1,203.10	13.499	SF
Lone Tree Draw State Com 2H - ST01 - ST01	14,571.87	8,196.56	4,060.31	3,985.72	54.430	CC
Lone Tree Draw State Com 2H - ST01 - ST01	14,600.00	8,194.29	4,060.41	3,985.61	54.282	ES
Lone Tree Draw State Com 2H - ST01 - ST01	16,300.00	7,982.30	4,407.15	4,318.51	49.719	SF
Lone Tree Draw State Com 2H - Wellbore #1 - Wellbore	14,930.29	6,978.42	3,969.40	3,836.54	29.875	CC
Lone Tree Draw State Com 2H - Wellbore #1 - Wellbore	15,000.00	6,978.42	3,970.02	3,835.94	29.610	ES
Lone Tree Draw State Com 2H - Wellbore #1 - Wellbore	16,000.00	6,978.42	4,111.02	3,963.26	27.823	SF
Lone Tree State #001 - Wellbore #1 - Wellbore #1	16,091.41	8,984.10	275.81	-7.96	0.972	Collision, CC, ES, SF

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Summary

Site Name Offset Well - Wellbore - Design	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Between Ellipses (ft)	Separation Factor	Warning
Sec 14-T21S-R27E						
Allied State Com 1 (Active) - Wellbore #1 - Wellbore #1	10,787.48	9,046.10	2,945.49	2,713.25	12.683	CC
Allied State Com 1 (Active) - Wellbore #1 - Wellbore #1	10,800.00	9,046.10	2,945.52	2,713.08	12.672	ES
Allied State Com 1 (Active) - Wellbore #1 - Wellbore #1	11,300.00	9,046.10	2,989.75	2,749.72	12.456	SF
Esperanza 14 State #001 (Active) - Wellbore #1 - Wellbo	9,430.26	9,055.10	1,015.07	846.37	6.017	CC, ES
Esperanza 14 State #001 (Active) - Wellbore #1 - Wellbo	9,500.00	9,055.10	1,017.46	848.35	6.017	SF
Esperanza 14 State #002 (Active) - Wellbore #1 - Wellbo	2,500.00	2,487.10	1,495.02	1,435.17	24.976	CC
Esperanza 14 State #002 (Active) - Wellbore #1 - Wellbo	2,600.00	2,587.09	1,495.85	1,433.66	24.054	ES
Esperanza 14 State #002 (Active) - Wellbore #1 - Wellbo	9,600.00	9,052.10	1,786.93	1,569.30	8.211	SF
Lone Tree Draw 14-13 State Com 331H - Wellbore #1 - P	1,911.95	1,924.35	1,618.69	1,605.35	121.327	CC
Lone Tree Draw 14-13 State Com 331H - Wellbore #1 - P	2,000.00	2,009.71	1,618.70	1,604.74	115.941	ES
Lone Tree Draw 14-13 State Com 331H - Wellbore #1 - P	19,456.84	19,318.31	3,128.81	2,695.35	7.218	SF
Lone Tree Draw 14-13 State Com 332H - Wellbore #1 - P	2,500.00	2,511.10	1,558.68	1,541.13	88.845	CC, ES
Lone Tree Draw 14-13 State Com 332H - Wellbore #1 - P	19,456.84	19,277.58	2,257.83	1,824.73	5.213	SF
Lone Tree Draw 14-13 State Com 333H - Wellbore #1 - P	2,000.00	2,000.90	59.98	46.05	4.306	Alert, CC, ES
Lone Tree Draw 14-13 State Com 333H - Wellbore #1 - P	19,456.84	19,304.38	1,379.81	950.03	3.210	Alert, SF
Lone Tree Draw 14-13 State Com 334H - Wellbore #1 - P	2,500.00	2,500.60	30.01	12.50	1.714	Minor Risk, CC, ES
Lone Tree Draw 14-13 State Com 334H - Wellbore #1 - P	19,456.84	19,290.08	523.55	105.78	1.253	Major Risk, SF
Lone Tree Draw 14-13 State Com 335H - Wellbore #1 - W	16,164.46	15,949.53	387.67	33.26	1.094	Major Risk, CC
Lone Tree Draw 14-13 State Com 335H - Wellbore #1 - W	19,373.50	19,164.57	395.26	-118.28	0.770	Collision, ES, SF
Lone Tree Draw 14-13 State Com 336H - ST01 - ST01	8,090.06	8,072.85	1,388.02	1,332.13	24.837	CC
Lone Tree Draw 14-13 State Com 336H - ST01 - ST01	18,748.45	19,172.00	1,487.67	1,023.33	3.204	Alert, ES
Lone Tree Draw 14-13 State Com 336H - ST01 - ST01	18,800.00	19,172.00	1,488.56	1,023.51	3.201	Alert, SF
Lone Tree Draw 14-13 State Com 336H - Wellbore #1 - W	8,090.06	8,072.85	1,388.02	1,332.13	24.837	CC
Lone Tree Draw 14-13 State Com 336H - Wellbore #1 - W	8,157.59	8,146.05	1,388.37	1,332.00	24.629	ES
Lone Tree Draw 14-13 State Com 336H - Wellbore #1 - W	8,950.00	8,833.03	1,414.78	1,353.44	23.065	SF
Lone Tree Draw 14-13 State Com 621H - Wellbore #1 - P	2,302.97	2,314.67	1,588.67	1,572.53	98.456	CC
Lone Tree Draw 14-13 State Com 621H - Wellbore #1 - P	2,400.00	2,398.64	1,588.92	1,572.14	94.675	ES
Lone Tree Draw 14-13 State Com 621H - Wellbore #1 - P	19,456.84	19,502.36	2,760.08	2,325.68	6.354	SF
Lonetree 14 State Com #001 - Wellbore #1 - Wellbore #1	12,121.63	9,016.10	1,047.33	840.30	5.059	CC, ES
Lonetree 14 State Com #001 - Wellbore #1 - Wellbore #1	12,200.00	9,016.10	1,050.26	841.94	5.041	SF
Magnolia State 2 (P&A) - Wellbore #1 - Wellbore #1	600.00	578.10	2,668.11	2,515.88	17.527	CC, ES
Magnolia State 2 (P&A) - Wellbore #1 - Wellbore #1	700.00	563.00	2,670.59	2,518.17	17.521	SF

Offset Design												Sec 13-T21S-R27E - Lone Tree Draw 13 State 11H - Wellbore #1 - Wellbore #1		Offset Site Error: 5.00 ft	
Survey Program: 111-GYRO-NS-CT, 6243-MWD+HDMG												Offset Well Error: 0.50 ft			
Reference		Offset		Semi Major Axis			Distance						Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor			
0.00	0.00	0.00	0.00	0.50	5.02	66.15	3,166.53	7,162.61	7,831.55						
100.00	100.00	28.67	28.67	0.52	5.03	66.15	3,166.53	7,162.64	7,831.38	7,825.84	5.54	1,412.879			
200.00	200.00	95.20	95.20	0.70	5.03	66.15	3,166.52	7,162.94	7,831.78	7,826.05	5.73	1,367.103			
300.00	300.00	222.11	222.11	0.99	5.05	66.15	3,166.50	7,163.53	7,832.20	7,826.16	6.04	1,296.446			
400.00	400.00	283.13	283.13	1.31	5.08	66.16	3,166.12	7,164.04	7,832.72	7,826.33	6.39	1,225.690			
500.00	500.00	596.71	596.61	1.65	5.36	66.20	3,159.29	7,164.09	7,831.28	7,824.27	7.01	1,117.904			
600.00	600.00	672.12	672.00	1.99	5.46	66.21	3,157.51	7,163.39	7,829.47	7,822.03	7.45	1,051.264			
700.00	700.00	794.71	794.55	2.34	5.64	66.23	3,154.63	7,162.24	7,827.66	7,819.68	7.98	981.145			
800.00	800.00	890.81	890.62	2.69	5.81	66.24	3,152.48	7,161.20	7,825.77	7,817.28	8.49	921.742			
900.00	900.00	996.24	996.02	3.04	6.00	66.25	3,150.32	7,159.93	7,823.85	7,814.81	9.04	865.842			
1,000.00	1,000.00	1,139.59	1,139.32	3.40	6.30	66.26	3,147.45	7,157.86	7,821.75	7,812.08	9.68	808.278			
1,100.00	1,100.00	1,307.90	1,307.55	3.75	6.67	66.28	3,143.46	7,154.10	7,818.72	7,808.32	10.40	751.752			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Survey Program: 111-GYRO-NS-CT, 6243-MWD+HDGM													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)						
1,200.00	1,200.00	1,455.55	1,455.09	4.11	7.03	66.28	3,140.65	7,149.36	7,815.01	7,803.91	11.10	703.876		
1,300.00	1,300.00	1,562.11	1,561.56	4.46	7.31	66.29	3,138.10	7,145.78	7,810.97	7,799.25	11.72	666.310		
1,400.00	1,400.00	1,655.00	1,654.37	4.82	7.55	66.30	3,135.93	7,142.60	7,806.90	7,794.58	12.32	633.818		
1,500.00	1,500.00	1,735.10	1,734.41	5.18	7.77	66.30	3,134.22	7,139.99	7,803.05	7,790.17	12.88	605.596		
1,600.00	1,600.00	1,830.03	1,829.28	5.53	8.04	66.31	3,132.15	7,137.04	7,799.34	7,785.84	13.50	577.859		
1,700.00	1,700.00	1,994.47	1,993.58	5.89	8.51	66.32	3,128.08	7,132.04	7,795.75	7,781.44	14.31	544.915		
1,800.00	1,800.00	2,145.10	2,144.00	6.25	8.96	66.34	3,122.36	7,126.56	7,790.88	7,775.78	15.09	516.195		
1,900.00	1,900.00	2,254.35	2,253.08	6.61	9.30	66.36	3,118.03	7,122.18	7,785.60	7,769.83	15.77	493.702		
2,000.00	2,000.00	2,355.85	2,354.42	6.96	9.63	66.37	3,114.14	7,118.06	7,780.34	7,763.92	16.43	473.580		
2,100.00	2,100.00	2,474.46	2,472.84	7.32	10.01	66.39	3,109.76	7,113.00	7,774.96	7,757.82	17.14	453.574		
2,200.00	2,200.00	2,561.06	2,559.30	7.68	10.29	66.39	3,106.68	7,109.20	7,769.51	7,751.75	17.76	437.391		
2,300.00	2,300.00	2,637.45	2,635.58	8.04	10.54	66.41	3,103.62	7,106.19	7,764.30	7,745.94	18.36	422.941		
2,400.00	2,400.00	2,771.30	2,769.21	8.39	10.98	66.43	3,098.11	7,101.04	7,759.16	7,740.03	19.13	405.618		
2,500.00	2,500.00	2,880.62	2,878.35	8.75	11.34	66.44	3,093.98	7,096.18	7,753.58	7,733.75	19.83	391.039		
2,600.00	2,599.99	2,965.19	2,962.78	9.09	11.63	-147.65	3,090.93	7,092.42	7,748.79	7,728.36	20.44	379.161		
2,700.00	2,699.96	3,046.69	3,044.14	9.42	11.90	-147.67	3,087.80	7,089.08	7,745.71	7,724.69	21.02	368.443		
2,800.00	2,799.86	3,153.45	3,150.74	9.75	12.26	-147.68	3,083.88	7,084.71	7,744.18	7,722.49	21.69	357.024		
2,862.94	2,862.70	3,222.92	3,220.11	9.96	12.50	-147.69	3,081.59	7,081.69	7,743.91	7,721.79	22.12	350.087		
2,900.00	2,899.68	3,257.94	3,255.08	10.08	12.62	-147.70	3,080.47	7,080.13	7,744.02	7,721.66	22.35	346.413		
2,945.33	2,944.88	3,298.72	3,295.80	10.23	12.76	-147.70	3,079.13	7,078.37	7,744.44	7,721.80	22.64	342.122		
3,000.00	2,999.39	3,354.21	3,351.21	10.41	12.95	-147.71	3,077.25	7,076.01	7,745.16	7,722.16	23.00	336.794		
3,100.00	3,099.08	3,461.17	3,458.00	10.75	13.32	-147.74	3,073.81	7,071.26	7,746.37	7,722.70	23.68	327.189		
3,200.00	3,198.78	3,557.59	3,554.28	11.08	13.65	-147.76	3,070.96	7,066.89	7,747.60	7,723.28	24.32	318.517		
3,300.00	3,298.48	3,654.29	3,650.84	11.42	13.98	-147.78	3,068.19	7,062.50	7,748.86	7,723.89	24.98	310.252		
3,400.00	3,398.18	3,745.37	3,741.80	11.76	14.30	-147.81	3,065.86	7,058.32	7,750.20	7,724.59	25.61	302.593		
3,500.00	3,497.88	3,835.71	3,832.02	12.10	14.61	-147.83	3,063.59	7,054.28	7,751.68	7,725.43	26.25	295.314		
3,600.00	3,597.58	3,929.21	3,925.41	12.45	14.93	-147.86	3,061.68	7,050.01	7,753.26	7,726.36	26.90	288.255		
3,700.00	3,697.27	4,023.20	4,019.28	12.79	15.25	-147.89	3,059.73	7,045.81	7,754.91	7,727.36	27.55	281.493		
3,800.00	3,796.97	4,110.82	4,106.80	13.14	15.56	-147.91	3,057.77	7,042.05	7,756.66	7,728.48	28.18	275.228		
3,900.00	3,896.67	4,445.73	4,442.24	13.48	15.86	-127.66	201.05	7,114.41	7,755.76	7,697.22	58.53	132.500		
4,000.00	3,996.37	9,450.79	6,794.18	13.83	48.53	-127.62	195.99	7,114.63	7,722.60	7,663.46	59.14	130.585		
4,100.00	4,096.07	9,455.67	6,794.11	14.18	48.60	-127.58	191.12	7,114.84	7,690.59	7,630.86	59.74	128.735		
4,200.00	4,195.76	9,460.37	6,794.05	14.53	48.66	-127.54	186.42	7,115.05	7,659.76	7,599.42	60.34	126.949		
4,300.00	4,295.46	9,464.91	6,793.98	14.88	48.72	-127.51	181.90	7,115.25	7,630.11	7,569.18	60.93	125.226		
4,400.00	4,395.16	9,469.28	6,793.91	15.23	48.77	-127.47	177.53	7,115.45	7,601.65	7,540.13	61.52	123.563		
4,500.00	4,494.86	9,473.50	6,793.84	15.58	48.83	-127.44	173.31	7,115.64	7,574.41	7,512.31	62.11	121.961		
4,600.00	4,594.56	9,477.58	6,793.77	15.93	48.88	-127.41	169.23	7,115.82	7,548.39	7,485.71	62.68	120.418		
4,700.00	4,694.25	9,481.53	6,793.70	16.29	48.94	-127.38	165.29	7,116.01	7,523.61	7,460.35	63.26	118.933		
4,800.00	4,793.95	9,485.35	6,793.63	16.64	48.99	-127.35	161.48	7,116.18	7,500.08	7,436.25	63.83	117.504		
4,900.00	4,893.65	9,489.04	6,793.56	17.00	49.04	-127.32	157.79	7,116.35	7,477.80	7,413.41	64.39	116.132		
5,000.00	4,893.35	9,492.62	6,793.49	17.35	49.08	-127.29	154.22	7,116.52	7,456.80	7,391.86	64.95	114.814		
5,100.00	5,093.05	9,496.00	6,793.42	17.71	49.13	-127.27	150.84	7,116.68	7,437.09	7,371.59	65.50	113.551		
5,200.00	5,192.75	9,496.00	6,793.42	18.06	49.13	-127.27	150.84	7,116.68	7,418.67	7,352.67	65.99	112.414		
5,300.00	5,292.44	9,496.00	6,793.42	18.42	49.13	-127.27	150.84	7,116.68	7,401.55	7,335.06	66.49	111.323		
5,400.00	5,392.14	9,496.00	6,793.42	18.77	49.13	-127.27	150.84	7,116.68	7,385.75	7,318.78	66.97	110.280		
5,500.00	5,491.84	9,496.00	6,793.42	19.13	49.13	-127.27	150.84	7,116.68	7,371.27	7,303.82	67.45	109.283		
5,600.00	5,591.54	9,496.00	6,793.42	19.49	49.13	-127.27	150.84	7,116.68	7,358.12	7,290.20	67.92	108.331		
5,700.00	5,691.24	9,496.00	6,793.42	19.85	49.13	-127.27	150.84	7,116.68	7,346.31	7,277.93	68.39	107.425		
5,800.00	5,790.93	9,496.00	6,793.42	20.20	49.13	-127.27	150.84	7,116.68	7,335.85	7,267.00	68.84	106.562		
5,900.00	5,890.63	9,496.00	6,793.42	20.56	49.13	-127.27	150.84	7,116.68	7,326.73	7,257.44	69.29	105.744		
6,000.00	5,990.33	9,496.00	6,793.42	20.92	49.13	-127.27	150.84	7,116.68	7,318.97	7,249.24	69.73	104.969		
6,100.00	6,090.03	9,496.00	6,793.42	21.28	49.13	-127.27	150.84	7,116.68	7,312.57	7,242.41	70.15	104.236		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Survey Program: 111-GYRO-NS-CT, 6243-MWD+HDGM													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
6,200.00	6,189.73	9,496.00	6,793.42	21.64	49.13	-127.27	150.84	7,116.68	7,307.53	7,236.96	70.57	103.545		
6,300.00	6,289.42	9,518.74	6,792.99	22.00	49.43	-127.09	128.13	7,117.79	7,303.78	7,232.49	71.29	102.457		
6,400.00	6,389.12	9,520.85	6,792.96	22.36	49.46	-127.07	126.02	7,117.90	7,301.46	7,229.74	71.72	101.812		
6,500.00	6,488.82	9,523.01	6,792.93	22.72	49.49	-127.05	123.87	7,118.00	7,300.51	7,228.37	72.13	101.207		
6,519.52	6,508.28	9,523.43	6,792.92	22.79	49.49	-127.05	123.45	7,118.03	7,300.48	7,228.27	72.22	101.094		
6,600.00	6,588.52	9,525.20	6,792.89	23.08	49.52	-127.04	121.68	7,118.12	7,300.93	7,228.38	72.54	100.641		
6,700.00	6,688.22	9,527.43	6,792.86	23.44	49.55	-127.02	119.45	7,118.23	7,302.71	7,229.77	72.94	100.114		
6,800.00	6,787.91	9,529.70	6,792.83	23.80	49.58	-127.00	117.18	7,118.35	7,305.86	7,232.53	73.33	99.625		
6,900.00	6,887.61	9,532.02	6,792.80	24.16	49.61	-126.98	114.87	7,118.47	7,310.38	7,236.67	73.71	99.173		
7,000.00	6,987.31	9,534.38	6,792.76	24.52	49.64	-126.96	112.52	7,118.59	7,316.26	7,242.18	74.08	98.757		
7,100.00	7,087.01	9,536.78	6,792.73	24.88	49.67	-126.95	110.11	7,118.72	7,323.50	7,249.06	74.44	98.378		
7,200.00	7,186.71	9,539.24	6,792.70	25.24	49.70	-126.93	107.66	7,118.85	7,332.09	7,257.30	74.79	98.033		
7,300.00	7,286.41	9,541.74	6,792.67	25.60	49.74	-126.91	105.17	7,118.99	7,342.04	7,266.91	75.13	97.723		
7,400.00	7,386.10	9,544.28	6,792.64	25.96	49.77	-126.89	102.62	7,119.12	7,353.33	7,277.87	75.46	97.446		
7,500.00	7,485.80	9,546.89	6,792.61	26.33	49.81	-126.87	100.03	7,119.27	7,365.96	7,290.18	75.78	97.203		
7,600.00	7,585.50	9,549.54	6,792.59	26.69	49.84	-126.85	97.38	7,119.41	7,379.92	7,303.83	76.09	96.992		
7,700.00	7,685.20	9,552.24	6,792.56	27.05	49.88	-126.82	94.68	7,119.56	7,395.20	7,318.81	76.39	96.813		
7,800.00	7,784.90	9,555.01	6,792.53	27.41	49.91	-126.80	91.92	7,119.71	7,411.80	7,335.12	76.68	96.665		
7,860.70	7,845.41	9,556.71	6,792.52	27.63	49.94	-126.79	90.21	7,119.81	7,422.51	7,345.67	76.85	96.590		
7,900.00	7,884.61	9,557.74	6,792.51	27.77	49.95	-126.87	89.19	7,119.87	7,429.59	7,352.64	76.95	96.547		
8,000.00	7,984.46	9,559.62	6,792.50	28.13	49.98	-127.07	87.31	7,119.97	7,447.42	7,370.21	77.21	96.461		
8,100.00	8,084.42	9,560.40	6,792.49	28.49	49.99	-127.28	86.53	7,120.02	7,464.99	7,387.56	77.43	96.406		
8,157.59	8,142.00	9,560.34	6,792.49	28.69	49.99	86.68	86.59	7,120.01	7,474.99	7,397.45	77.55	96.395		
8,200.00	8,184.41	9,560.15	6,792.49	28.83	49.98	86.68	86.78	7,120.00	7,482.44	7,404.82	77.62	96.396		
8,300.00	8,284.41	9,559.71	6,792.49	29.17	49.98	86.67	87.23	7,119.98	7,500.93	7,423.14	77.79	96.420		
8,400.00	8,384.41	9,559.25	6,792.50	29.51	49.97	86.67	87.68	7,119.95	7,520.70	7,442.75	77.96	96.472		
8,507.63	8,492.04	9,558.75	6,792.50	29.87	49.96	86.67	88.18	7,119.92	7,543.41	7,465.28	78.12	96.558		
8,550.00	8,534.37	9,558.59	6,792.50	30.02	49.96	-2.67	88.34	7,119.91	7,551.21	7,473.03	78.18	96.583		
8,600.00	8,584.01	9,558.51	6,792.50	30.18	49.96	-2.64	88.43	7,119.91	7,556.74	7,478.49	78.25	96.573		
8,650.00	8,632.95	9,558.54	6,792.50	30.34	49.96	-2.64	88.39	7,119.91	7,558.26	7,479.95	78.31	96.517		
8,700.00	8,680.82	9,558.69	6,792.50	30.50	49.96	-2.65	88.25	7,119.92	7,555.74	7,477.38	78.36	96.418		
8,750.00	8,727.25	9,558.95	6,792.50	30.66	49.97	-2.67	87.98	7,119.94	7,549.22	7,470.81	78.41	96.277		
8,800.00	8,771.89	9,559.34	6,792.50	30.81	49.97	-2.72	87.59	7,119.96	7,538.73	7,460.28	78.45	96.096		
8,850.00	8,814.40	9,559.85	6,792.49	30.95	49.98	-2.79	87.08	7,119.99	7,524.32	7,445.84	78.48	95.876		
8,900.00	8,854.46	9,560.48	6,792.49	31.09	49.99	-2.88	86.46	7,120.02	7,506.10	7,427.60	78.50	95.617		
8,950.00	8,891.75	9,561.22	6,792.48	31.23	50.00	-3.00	85.72	7,120.06	7,484.17	7,405.66	78.51	95.322		
9,000.00	8,926.01	9,562.07	6,792.48	31.37	50.01	-3.15	84.86	7,120.11	7,458.66	7,380.15	78.52	94.992		
9,050.00	8,956.96	9,563.04	6,792.47	31.53	50.02	-3.34	83.90	7,120.17	7,429.74	7,351.23	78.52	94.627		
9,100.00	8,984.38	9,564.10	6,792.46	31.69	50.04	-3.59	82.83	7,120.23	7,397.59	7,319.08	78.51	94.230		
9,150.00	9,008.05	9,565.27	6,792.45	31.87	50.05	-3.90	81.67	7,120.29	7,362.40	7,283.91	78.49	93.801		
9,200.00	9,027.79	9,566.52	6,792.44	32.07	50.07	-4.30	80.42	7,120.37	7,324.41	7,245.94	78.47	93.342		
9,250.00	9,043.45	9,567.85	6,792.44	32.29	50.09	-4.84	79.09	7,120.44	7,283.86	7,205.42	78.44	92.853		
9,300.00	9,054.92	9,569.25	6,792.43	32.53	50.11	-5.57	77.69	7,120.52	7,241.02	7,162.60	78.42	92.338		
9,350.00	9,062.10	9,570.71	6,792.42	32.79	50.12	-6.62	76.24	7,120.61	7,196.19	7,117.79	78.39	91.796		
9,400.00	9,064.95	9,572.22	6,792.41	33.06	50.14	-8.24	74.74	7,120.70	7,149.66	7,071.29	78.37	91.230		
9,407.63	9,065.00	9,572.45	6,792.41	33.10	50.15	-8.56	74.50	7,120.71	7,142.43	7,064.06	78.37	91.139		
9,500.00	9,065.00	9,575.30	6,792.39	33.68	50.19	-8.49	71.66	7,120.88	7,054.78	6,976.46	78.32	90.076		
9,600.00	9,065.00	9,578.43	6,792.38	34.41	50.23	-8.41	68.53	7,121.06	6,960.03	6,881.76	78.27	88.925		
9,700.00	9,065.00	9,591.00	6,792.34	35.24	50.40	-8.09	55.99	7,121.82	6,865.43	6,787.09	78.34	87.638		
9,800.00	9,065.00	9,591.00	6,792.34	36.17	50.40	-8.09	55.99	7,121.82	6,770.97	6,692.72	78.25	86.535		
9,900.00	9,065.00	9,591.00	6,792.34	37.19	50.40	-8.09	55.99	7,121.82	6,676.67	6,598.52	78.15	85.431		
10,000.00	9,065.00	9,591.00	6,792.34	38.30	50.40	-8.09	55.99	7,121.82	6,582.54	6,504.48	78.06	84.327		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Sec 13-T21S-R27E - Lone Tree Draw 13 State 11H - Wellbore #1 - Wellbore #1													Offset Well Error:	0.50 ft
Survey Program: 111-GYRO-NS-CT, 6243-MWD+HDGM														
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
10,100.00	9,065.00	9,591.00	6,792.34	39.48	50.40	-8.09	55.99	7,121.82	6,488.59	6,410.62	77.97	83.223		
10,200.00	9,065.00	9,598.89	6,792.32	40.72	50.50	-7.89	48.11	7,122.30	6,394.81	6,316.84	77.98	82.010		
10,300.00	9,065.00	9,602.50	6,792.31	42.03	50.55	-7.80	44.51	7,122.52	6,301.23	6,223.30	77.93	80.858		
10,400.00	9,065.00	9,606.10	6,792.29	43.40	50.60	-7.71	40.92	7,122.74	6,207.84	6,129.95	77.88	79.708		
10,500.00	9,065.00	9,609.68	6,792.27	44.82	50.65	-7.62	37.34	7,122.95	6,114.65	6,036.82	77.84	78.558		
10,600.00	9,065.00	9,613.26	6,792.25	46.29	50.70	-7.53	33.77	7,123.17	6,021.69	5,943.90	77.79	77.410		
10,700.00	9,065.00	9,616.83	6,792.22	47.79	50.74	-7.44	30.21	7,123.39	5,928.95	5,851.20	77.74	76.264		
10,800.00	9,065.00	9,620.39	6,792.19	49.34	50.79	-7.35	26.66	7,123.60	5,836.44	5,758.74	77.70	75.119		
10,900.00	9,065.00	9,623.93	6,792.16	50.92	50.84	-7.26	23.11	7,123.82	5,744.18	5,666.53	77.65	73.976		
11,000.00	9,065.00	9,627.47	6,792.13	52.54	50.89	-7.17	19.58	7,124.03	5,652.19	5,574.58	77.60	72.834		
11,100.00	9,065.00	9,631.00	6,792.09	54.18	50.93	-7.08	16.06	7,124.24	5,560.46	5,482.91	77.56	71.694		
11,200.00	9,065.00	9,634.52	6,792.05	55.85	50.98	-6.99	12.55	7,124.46	5,469.03	5,391.51	77.51	70.556		
11,300.00	9,065.00	9,638.03	6,792.01	57.54	51.03	-6.90	9.04	7,124.67	5,377.89	5,300.42	77.47	69.420		
11,400.00	9,065.00	9,641.53	6,791.97	59.26	51.08	-6.81	5.55	7,124.88	5,287.08	5,209.65	77.43	68.285		
11,500.00	9,065.00	9,645.03	6,791.92	61.00	51.12	-6.72	2.06	7,125.09	5,196.59	5,119.21	77.38	67.153		
11,600.00	9,065.00	9,648.51	6,791.87	62.75	51.17	-6.63	-1.41	7,125.30	5,106.46	5,029.12	77.34	66.023		
11,700.00	9,065.00	9,651.98	6,791.82	64.52	51.22	-6.54	-4.88	7,125.50	5,016.70	4,939.39	77.31	64.895		
11,800.00	9,065.00	9,655.45	6,791.77	66.31	51.26	-6.45	-8.34	7,125.71	4,927.33	4,850.06	77.27	63.769		
11,900.00	9,065.00	9,658.90	6,791.71	68.11	51.31	-6.37	-11.79	7,125.92	4,838.37	4,761.14	77.23	62.646		
12,000.00	9,065.00	9,662.35	6,791.65	69.93	51.36	-6.28	-15.23	7,126.12	4,749.85	4,672.65	77.20	61.525		
12,100.00	9,065.00	9,665.79	6,791.59	71.76	51.40	-6.19	-18.66	7,126.33	4,661.79	4,584.62	77.17	60.407		
12,200.00	9,065.00	9,669.21	6,791.52	73.60	51.45	-6.10	-22.08	7,126.53	4,574.21	4,497.07	77.15	59.291		
12,300.00	9,065.00	9,672.63	6,791.46	75.45	51.50	-6.01	-25.49	7,126.74	4,487.16	4,410.03	77.13	58.179		
12,400.00	9,065.00	9,676.04	6,791.39	77.31	51.54	-5.93	-28.89	7,126.94	4,400.64	4,323.54	77.11	57.071		
12,500.00	9,065.00	9,685.00	6,791.19	79.18	51.66	-5.70	-37.83	7,127.47	4,314.72	4,237.56	77.15	55.923		
12,600.00	9,065.00	9,685.00	6,791.19	81.05	51.66	-5.70	-37.83	7,127.47	4,229.39	4,152.28	77.11	54.848		
12,700.00	9,065.00	9,686.84	6,791.15	82.94	51.69	-5.65	-39.67	7,127.58	4,144.73	4,067.63	77.09	53.762		
12,800.00	9,065.00	9,691.81	6,791.03	84.83	51.75	-5.52	-44.63	7,127.87	4,060.75	3,983.64	77.11	52.659		
12,900.00	9,065.00	9,696.57	6,790.91	86.73	51.82	-5.40	-49.38	7,128.14	3,977.52	3,900.38	77.14	51.563		
13,000.00	9,065.00	9,701.14	6,790.79	88.64	51.88	-5.28	-53.94	7,128.40	3,895.06	3,817.89	77.17	50.474		
13,100.00	9,065.00	9,705.53	6,790.67	90.55	51.94	-5.17	-58.32	7,128.65	3,813.44	3,736.23	77.21	49.393		
13,200.00	9,065.00	9,709.75	6,790.54	92.47	52.00	-5.06	-62.54	7,128.88	3,732.71	3,655.46	77.25	48.320		
13,300.00	9,065.00	9,713.81	6,790.42	94.39	52.05	-4.96	-66.59	7,129.10	3,652.92	3,575.62	77.30	47.256		
13,400.00	9,065.00	9,717.72	6,790.29	96.32	52.10	-4.86	-70.49	7,129.30	3,574.15	3,496.79	77.36	46.201		
13,500.00	9,065.00	9,721.49	6,790.17	98.25	52.15	-4.76	-74.25	7,129.50	3,496.46	3,419.03	77.43	45.157		
13,600.00	9,065.00	9,725.12	6,790.05	100.19	52.20	-4.67	-77.88	7,129.69	3,419.93	3,342.42	77.51	44.123		
13,700.00	9,065.00	9,728.62	6,789.92	102.13	52.25	-4.58	-81.37	7,129.87	3,344.63	3,267.03	77.60	43.101		
13,800.00	9,065.00	9,732.01	6,789.80	104.08	52.30	-4.49	-84.75	7,130.04	3,270.65	3,192.95	77.70	42.092		
13,900.00	9,065.00	9,735.27	6,789.68	106.03	52.34	-4.41	-88.01	7,130.20	3,198.08	3,120.26	77.82	41.098		
14,000.00	9,065.00	9,738.43	6,789.56	107.98	52.38	-4.33	-91.16	7,130.35	3,127.02	3,049.08	77.94	40.119		
14,100.00	9,065.00	9,741.49	6,789.44	109.94	52.42	-4.25	-94.21	7,130.50	3,057.58	2,979.50	78.08	39.158		
14,200.00	9,065.00	9,744.44	6,789.33	111.90	52.46	-4.17	-97.16	7,130.64	2,989.87	2,911.63	78.24	38.216		
14,300.00	9,065.00	9,747.30	6,789.21	113.86	52.50	-4.10	-100.02	7,130.77	2,924.00	2,845.60	78.40	37.295		
14,400.00	9,065.00	9,750.07	6,789.09	115.82	52.54	-4.03	-102.78	7,130.90	2,860.11	2,781.53	78.58	36.397		
14,500.00	9,065.00	9,752.76	6,788.98	117.79	52.57	-3.96	-105.46	7,131.03	2,798.34	2,719.56	78.78	35.523		
14,600.00	9,065.00	9,755.36	6,788.87	119.76	52.61	-3.89	-108.06	7,131.14	2,738.81	2,659.83	78.98	34.676		
14,700.00	9,065.00	9,757.89	6,788.76	121.74	52.64	-3.83	-110.58	7,131.26	2,681.70	2,602.50	79.20	33.859		
14,800.00	9,065.00	9,760.34	6,788.65	123.71	52.68	-3.76	-113.03	7,131.37	2,627.15	2,547.71	79.44	33.072		
14,900.00	9,065.00	9,762.72	6,788.54	125.69	52.71	-3.70	-115.40	7,131.47	2,575.32	2,495.64	79.69	32.318		
15,000.00	9,065.00	9,765.03	6,788.44	127.67	52.74	-3.64	-117.71	7,131.57	2,526.39	2,446.44	79.95	31.599		
15,100.00	9,065.00	9,767.27	6,788.33	129.65	52.77	-3.58	-119.95	7,131.67	2,480.52	2,400.29	80.23	30.917		
15,200.00	9,065.00	9,769.46	6,788.23	131.63	52.80	-3.53	-122.13	7,131.76	2,437.89	2,357.36	80.54	30.271		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design		Sec 13-T21S-R27E - Lone Tree Draw 13 State 11H - Wellbore #1 - Wellbore #1											Offset Site Error:		5.00 ft
Survey Program:		111-GYRO-NS-CT, 6243-MWD+HDGM											Offset Well Error:		0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor			
15,300.00	9,065.00	9,780.00	6,787.71	133.62	52.94	-3.26	-132.65	7,132.19	2,398.69	2,317.82	80.88	29.658			
15,400.00	9,065.00	9,780.00	6,787.71	135.61	52.94	-3.26	-132.65	7,132.19	2,363.05	2,281.82	81.23	29.091			
15,500.00	9,065.00	9,780.00	6,787.71	137.60	52.94	-3.26	-132.65	7,132.19	2,331.15	2,249.53	81.62	28.562			
15,600.00	9,065.00	9,780.00	6,787.71	139.59	52.94	-3.26	-132.65	7,132.19	2,303.15	2,221.10	82.05	28.070			
15,700.00	9,065.00	9,780.00	6,787.71	141.58	52.94	-3.26	-132.65	7,132.19	2,279.21	2,196.67	82.54	27.614			
15,800.00	9,065.00	9,782.20	6,787.60	143.57	52.97	-3.20	-134.84	7,132.28	2,259.43	2,176.34	83.09	27.192			
15,900.00	9,065.00	9,785.13	6,787.45	145.57	53.01	-3.12	-137.77	7,132.40	2,243.94	2,160.22	83.72	26.804			
16,000.00	9,065.00	9,788.04	6,787.30	147.56	53.05	-3.05	-140.68	7,132.51	2,232.82	2,148.40	84.42	26.448			
16,100.00	9,065.00	9,790.93	6,787.16	149.56	53.09	-2.97	-143.56	7,132.63	2,226.14	2,140.93	85.21	26.124			
16,199.10	9,065.00	9,793.78	6,787.01	151.54	53.13	-2.90	-146.40	7,132.74	2,223.93	2,137.85	86.08	25.835 CC			
16,200.00	9,065.00	9,793.80	6,787.01	151.56	53.13	-2.90	-146.42	7,132.74	2,223.94	2,137.84	86.09	25.833 ES			
16,300.00	9,065.00	9,796.65	6,786.87	153.56	53.17	-2.83	-149.27	7,132.86	2,226.22	2,139.17	87.05	25.575			
16,400.00	9,065.00	9,799.48	6,786.73	155.56	53.20	-2.75	-152.09	7,132.97	2,232.98	2,144.91	88.08	25.353			
16,500.00	9,065.00	9,802.29	6,786.58	157.57	53.24	-2.68	-154.89	7,133.08	2,244.18	2,155.02	89.16	25.170			
16,600.00	9,065.00	9,805.08	6,786.44	159.57	53.28	-2.61	-157.67	7,133.19	2,259.75	2,169.46	90.29	25.028			
16,700.00	9,065.00	9,807.84	6,786.30	161.57	53.32	-2.54	-160.43	7,133.29	2,279.60	2,188.17	91.44	24.931			
16,800.00	9,065.00	9,810.59	6,786.16	163.58	53.35	-2.47	-163.17	7,133.40	2,303.62	2,211.04	92.59	24.880			
16,900.00	9,065.00	9,813.32	6,786.03	165.59	53.39	-2.40	-165.90	7,133.51	2,331.69	2,237.96	93.72	24.878 SF			
17,000.00	9,065.00	9,816.03	6,785.89	167.60	53.43	-2.33	-168.60	7,133.61	2,363.65	2,268.82	94.83	24.925			
17,100.00	9,065.00	9,818.71	6,785.75	169.60	53.46	-2.26	-171.28	7,133.72	2,399.35	2,303.46	95.89	25.021			
17,200.00	9,065.00	9,821.38	6,785.62	171.61	53.50	-2.19	-173.95	7,133.82	2,438.63	2,341.73	96.90	25.166			
17,300.00	9,065.00	9,824.03	6,785.48	173.62	53.53	-2.12	-176.59	7,133.92	2,481.31	2,383.47	97.85	25.358			
17,400.00	9,065.00	9,826.67	6,785.35	175.63	53.57	-2.05	-179.22	7,134.02	2,527.24	2,428.50	98.73	25.597			
17,500.00	9,065.00	9,829.28	6,785.22	177.65	53.60	-1.99	-181.83	7,134.12	2,576.22	2,476.67	99.55	25.879			
17,600.00	9,065.00	9,831.88	6,785.09	179.66	53.64	-1.92	-184.42	7,134.22	2,628.10	2,527.80	100.30	26.202			
17,700.00	9,065.00	9,834.45	6,784.96	181.67	53.67	-1.85	-186.99	7,134.32	2,682.70	2,581.71	100.98	26.566			
17,800.00	9,065.00	9,837.01	6,784.83	183.69	53.71	-1.79	-189.55	7,134.42	2,739.85	2,638.25	101.60	26.967			
17,900.00	9,065.00	9,839.56	6,784.70	185.70	53.74	-1.72	-192.08	7,134.52	2,799.42	2,697.26	102.16	27.402			
18,000.00	9,065.00	9,842.08	6,784.57	187.72	53.78	-1.66	-194.60	7,134.61	2,861.23	2,758.57	102.66	27.871			
18,100.00	9,065.00	9,844.59	6,784.44	189.73	53.81	-1.59	-197.11	7,134.71	2,925.16	2,822.05	103.11	28.370			
18,200.00	9,065.00	9,847.08	6,784.32	191.75	53.84	-1.53	-199.59	7,134.80	2,991.06	2,887.55	103.51	28.897			
18,300.00	9,065.00	9,849.55	6,784.19	193.77	53.88	-1.47	-202.06	7,134.89	3,058.81	2,954.95	103.86	29.451			
18,400.00	9,065.00	9,852.01	6,784.07	195.78	53.91	-1.40	-204.51	7,134.98	3,128.29	3,024.12	104.17	30.029			
18,500.00	9,065.00	9,854.45	6,783.95	197.80	53.94	-1.34	-206.95	7,135.08	3,199.38	3,094.93	104.45	30.631			
18,600.00	9,065.00	9,856.87	6,783.82	199.82	53.97	-1.28	-209.36	7,135.17	3,271.99	3,167.29	104.69	31.253			
18,700.00	9,065.00	9,859.28	6,783.70	201.84	54.01	-1.21	-211.77	7,135.26	3,346.00	3,241.10	104.91	31.896			
18,800.00	9,065.00	9,861.67	6,783.58	203.86	54.04	-1.15	-214.15	7,135.34	3,421.34	3,316.25	105.09	32.556			
18,900.00	9,065.00	9,864.04	6,783.46	205.88	54.07	-1.09	-216.52	7,135.43	3,497.91	3,392.65	105.25	33.233			
19,000.00	9,065.00	9,866.40	6,783.34	207.90	54.10	-1.03	-218.88	7,135.52	3,575.63	3,470.24	105.39	33.926			
19,100.00	9,065.00	9,868.75	6,783.22	209.92	54.13	-0.97	-221.22	7,135.61	3,654.44	3,548.92	105.52	34.634			
19,200.00	9,065.00	9,871.07	6,783.10	211.95	54.17	-0.91	-223.54	7,135.69	3,734.26	3,628.63	105.62	35.355			
19,300.00	9,065.00	9,873.39	6,782.99	213.97	54.20	-0.85	-225.85	7,135.78	3,815.03	3,709.31	105.71	36.088			
19,400.00	9,065.00	9,876.92	6,782.81	215.99	54.24	-0.76	-229.37	7,135.91	3,896.69	3,790.88	105.81	36.828			
19,456.84	9,065.00	9,880.53	6,782.63	217.14	54.29	-0.67	-232.98	7,136.04	3,943.48	3,837.61	105.88	37.246			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Survey Program: 106-MWD+IGRF, 2746-MWD+IGRF													Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)						
0.00	0.00	0.00	0.00	0.50	5.00	65.32	2,709.18	5,894.96	6,487.93					
100.00	100.00	51.78	51.78	0.52	5.00	65.32	2,709.01	5,895.01	6,487.67	6,482.16	5.52	1,175.673		
200.00	200.00	324.22	324.14	0.70	5.08	65.31	2,708.04	5,890.36	6,485.51	6,479.73	5.79	1,120.994		
300.00	300.00	390.29	390.18	0.99	5.13	65.30	2,708.82	5,888.17	6,483.00	6,476.88	6.12	1,059.800		
400.00	400.00	456.97	456.83	1.31	5.19	65.29	2,709.31	5,886.52	6,481.05	6,474.55	6.50	997.540		
500.00	500.00	538.67	538.52	1.65	5.28	65.28	2,709.66	5,884.95	6,479.47	6,472.56	6.92	936.432		
600.00	600.00	608.29	608.12	1.99	5.36	65.27	2,710.14	5,883.77	6,478.24	6,470.89	7.35	881.630		
700.00	700.00	687.70	687.53	2.34	5.47	65.26	2,710.90	5,882.77	6,477.48	6,469.67	7.80	829.944		
800.00	800.00	791.42	791.23	2.69	5.63	65.25	2,711.94	5,881.56	6,476.84	6,468.52	8.32	778.904		
900.00	900.00	935.75	935.54	3.04	5.88	65.23	2,712.73	5,879.52	6,475.79	6,466.86	8.92	725.790		
1,000.00	1,000.00	1,017.00	1,016.78	3.40	6.04	65.22	2,713.10	5,878.24	6,474.55	6,465.11	9.43	686.235		
1,100.00	1,100.00	1,071.00	1,070.77	3.75	6.15	65.22	2,713.43	5,877.65	6,473.80	6,463.90	9.90	653.957		
1,165.68	1,165.68	1,111.00	1,110.78	3.99	6.24	65.22	2,713.69	5,877.46	6,473.69	6,463.48	10.22	633.654		
1,200.00	1,200.00	1,127.87	1,127.65	4.11	6.27	65.22	2,713.82	5,877.44	6,473.75	6,463.38	10.37	624.059		
1,300.00	1,300.00	1,189.39	1,189.16	4.46	6.40	65.21	2,714.42	5,877.55	6,474.32	6,463.46	10.86	596.146		
1,400.00	1,400.00	1,259.43	1,259.20	4.82	6.55	65.21	2,715.24	5,878.03	6,475.43	6,464.06	11.37	569.598		
1,500.00	1,500.00	1,391.65	1,391.41	5.18	6.85	65.20	2,716.30	5,879.40	6,476.77	6,464.74	12.03	538.576		
1,600.00	1,600.00	1,477.54	1,477.29	5.53	7.06	65.20	2,716.60	5,880.13	6,477.69	6,465.10	12.59	514.692		
1,700.00	1,700.00	1,595.12	1,594.86	5.89	7.34	65.21	2,716.60	5,881.35	6,478.63	6,465.40	13.23	489.699		
1,800.00	1,800.00	1,716.62	1,716.36	6.25	7.65	65.21	2,716.24	5,882.38	6,479.29	6,465.39	13.90	466.225		
1,900.00	1,900.00	1,841.82	1,841.56	6.61	7.99	65.21	2,716.32	5,882.64	6,479.50	6,464.91	14.59	444.156		
2,000.00	2,000.00	1,927.98	1,927.72	6.96	8.22	65.22	2,716.13	5,882.83	6,479.61	6,464.43	15.18	426.833		
2,100.00	2,100.00	2,022.75	2,022.48	7.32	8.49	65.21	2,716.48	5,883.04	6,479.97	6,464.17	15.80	410.034		
2,200.00	2,200.00	2,178.16	2,177.89	7.68	8.93	65.21	2,716.97	5,882.76	6,479.95	6,463.35	16.61	390.155		
2,300.00	2,300.00	2,281.16	2,280.90	8.04	9.23	65.21	2,717.06	5,881.98	6,479.30	6,462.04	17.27	375.231		
2,400.00	2,400.00	2,357.26	2,356.99	8.39	9.46	65.21	2,716.87	5,881.78	6,478.95	6,461.11	17.85	363.006		
2,500.00	2,500.00	2,461.38	2,461.11	8.75	9.76	65.21	2,716.79	5,881.70	6,478.86	6,460.34	18.51	349.962		
2,538.47	2,538.47	2,538.47	2,506.79	8.88	10.00	-148.87	2,716.84	5,881.42	6,478.75	6,459.88	18.88	343.228		
2,600.00	2,599.99	2,564.14	2,563.87	9.09	10.08	-148.87	2,716.93	5,881.08	6,479.11	6,459.94	19.16	338.076		
2,700.00	2,699.96	2,626.10	2,625.83	9.42	10.26	-148.87	2,717.11	5,881.01	6,481.36	6,461.68	19.68	329.331		
2,800.00	2,799.86	2,748.02	2,747.75	9.75	10.46	-148.88	2,717.20	5,881.15	6,485.23	6,465.03	20.20	321.047		
2,900.00	2,899.68	2,809.50	2,809.23	10.08	10.46	-148.87	2,717.31	5,881.14	6,490.60	6,470.07	20.53	316.081		
2,945.33	2,944.88	2,828.49	2,828.22	10.23	10.46	-148.86	2,717.54	5,881.20	6,493.80	6,473.11	20.69	313.905		
3,000.00	2,999.39	2,872.00	2,871.72	10.41	10.47	-148.88	2,718.47	5,881.44	6,498.17	6,477.29	20.88	311.287		
3,100.00	3,099.08	2,872.00	2,871.72	10.75	10.47	-148.88	2,718.47	5,881.44	6,506.70	6,485.50	21.20	306.896		
3,200.00	3,198.78	2,935.97	2,935.64	11.08	10.49	-148.92	2,720.84	5,882.13	6,516.02	6,494.47	21.55	302.359		
3,300.00	3,298.48	2,966.00	2,965.63	11.42	10.50	-148.94	2,722.35	5,882.58	6,526.33	6,504.45	21.89	298.190		
3,400.00	3,398.18	3,028.49	3,027.99	11.76	10.52	-148.99	2,726.18	5,883.77	6,537.38	6,515.14	22.24	293.897		
3,500.00	3,497.88	3,090.26	3,089.57	12.10	10.55	-149.04	2,730.73	5,885.19	6,549.20	6,526.60	22.60	289.724		
3,600.00	3,597.58	3,181.47	3,180.48	12.45	10.60	-149.12	2,737.89	5,887.33	6,561.33	6,538.34	23.00	285.328		
3,700.00	3,697.27	3,287.88	3,286.52	12.79	10.68	-149.22	2,746.44	5,889.74	6,573.47	6,550.06	23.41	280.756		
3,800.00	3,796.97	3,405.48	3,403.74	13.14	10.78	-149.32	2,755.53	5,892.29	6,585.42	6,561.56	23.86	276.019		
3,900.00	3,896.67	3,468.74	3,466.79	13.48	10.84	-149.38	2,760.38	5,893.64	6,597.39	6,573.13	24.26	271.996		
4,000.00	3,996.37	3,531.00	3,528.76	13.83	10.91	-149.44	2,766.20	5,895.20	6,610.23	6,585.58	24.66	268.105		
4,100.00	4,096.07	3,531.00	3,528.76	14.18	10.91	-149.44	2,766.20	5,895.20	6,623.89	6,598.91	24.97	265.231		
4,200.00	4,195.76	3,592.16	3,589.53	14.53	10.98	-149.50	2,772.83	5,897.16	6,638.32	6,612.94	25.38	261.556		
4,300.00	4,295.46	3,645.03	3,641.98	14.88	11.05	-149.56	2,779.08	5,899.30	6,653.71	6,627.94	25.77	258.147		
4,400.00	4,395.16	3,769.13	3,765.08	15.23	11.23	-149.70	2,794.12	5,904.14	6,669.21	6,642.91	26.30	253.606		
4,500.00	4,494.86	3,929.63	3,924.32	15.58	11.49	-149.89	2,813.55	5,908.93	6,683.82	6,656.91	26.91	248.380		
4,600.00	4,594.56	3,974.42	3,968.73	15.93	11.57	-149.95	2,819.20	5,910.18	6,698.63	6,671.32	27.31	245.238		
4,700.00	4,694.25	4,700.00	7,435.19	16.29	43.53	-126.21	-66.99	5,997.57	6,695.56	6,640.50	55.06	121.613		
4,800.00	4,793.95	10,352.10	7,434.74	16.64	58.99	-126.05	-85.10	5,997.89	6,658.53	6,588.09	70.45	94.516		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Sec 13-T21S-R27E - Lone Tree Draw 13 State 15H - Original Hole - Actuals													Offset Well Error:	0.00 ft
Survey Program: 106-MWD+IGRF, 2746-MWD+IGRF														
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
4,900.00	4,893.65	10,354.26	7,434.69	17.00	59.03	-126.03	-87.27	5,997.92	6,622.85	6,551.70	71.15	93.077		
5,000.00	4,993.35	10,356.48	7,434.65	17.35	59.07	-126.01	-89.49	5,997.96	6,588.49	6,516.63	71.86	91.688		
5,100.00	5,093.05	10,358.76	7,434.60	17.71	59.11	-125.99	-91.77	5,998.00	6,555.48	6,482.92	72.56	90.347		
5,200.00	5,192.75	10,361.10	7,434.55	18.06	59.16	-125.96	-94.11	5,998.05	6,523.82	6,450.57	73.26	89.056		
5,300.00	5,292.44	10,363.51	7,434.50	18.42	59.20	-125.94	-96.51	5,998.09	6,493.56	6,419.61	73.95	87.812		
5,400.00	5,392.14	10,365.98	7,434.46	18.77	59.24	-125.92	-98.98	5,998.14	6,464.69	6,390.06	74.64	86.617		
5,500.00	5,491.84	10,368.51	7,434.41	19.13	59.29	-125.90	-101.51	5,998.18	6,437.25	6,361.93	75.32	85.468		
5,600.00	5,591.54	10,371.12	7,434.36	19.49	59.34	-125.87	-104.12	5,998.23	6,411.25	6,335.26	75.99	84.366		
5,700.00	5,691.24	10,373.80	7,434.32	19.85	59.39	-125.85	-106.80	5,998.28	6,386.71	6,310.05	76.66	83.311		
5,800.00	5,790.93	10,376.57	7,434.27	20.20	59.44	-125.82	-109.56	5,998.33	6,363.64	6,286.32	77.32	82.300		
5,900.00	5,890.63	10,379.41	7,434.23	20.56	59.49	-125.80	-112.41	5,998.39	6,342.07	6,264.09	77.97	81.335		
6,000.00	5,990.33	10,382.33	7,434.18	20.92	59.54	-125.77	-115.33	5,998.44	6,322.00	6,243.38	78.62	80.414		
6,100.00	6,090.03	10,385.35	7,434.14	21.28	59.60	-125.74	-118.34	5,998.50	6,303.45	6,224.19	79.25	79.536		
6,200.00	6,189.73	10,388.45	7,434.10	21.64	59.65	-125.71	-121.45	5,998.56	6,286.43	6,206.55	79.88	78.702		
6,300.00	6,289.42	10,391.66	7,434.06	22.00	59.71	-125.68	-124.65	5,998.62	6,270.96	6,190.47	80.49	77.910		
6,400.00	6,389.12	10,394.96	7,434.02	22.36	59.77	-125.65	-127.96	5,998.69	6,257.05	6,175.96	81.09	77.160		
6,500.00	6,488.82	10,398.37	7,433.98	22.72	59.83	-125.62	-131.37	5,998.76	6,244.70	6,163.02	81.68	76.451		
6,600.00	6,588.52	10,401.89	7,433.94	23.08	59.90	-125.59	-134.89	5,998.83	6,233.94	6,151.68	82.26	75.783		
6,700.00	6,688.22	10,405.53	7,433.91	23.44	59.96	-125.55	-138.52	5,998.90	6,224.75	6,141.93	82.83	75.155		
6,800.00	6,787.91	10,409.29	7,433.88	23.80	60.03	-125.52	-142.29	5,998.98	6,217.16	6,133.78	83.38	74.566		
6,900.00	6,887.61	10,413.19	7,433.85	24.16	60.10	-125.48	-146.18	5,999.05	6,211.17	6,127.25	83.92	74.015		
7,000.00	6,987.31	10,417.21	7,433.82	24.52	60.17	-125.45	-150.20	5,999.14	6,206.78	6,122.34	84.44	73.503		
7,100.00	7,087.01	10,421.00	7,433.77	24.88	60.35	-125.36	-159.99	5,999.34	6,204.00	6,118.94	85.06	72.941		
7,200.00	7,186.71	10,427.00	7,433.77	25.24	60.35	-125.36	-159.99	5,999.34	6,202.81	6,117.34	85.47	72.569		
7,223.34	7,209.98	10,427.00	7,433.77	25.33	60.35	-125.36	-159.99	5,999.34	6,202.77	6,117.20	85.57	72.488		
7,300.00	7,286.41	10,427.00	7,433.77	25.60	60.35	-125.36	-159.99	5,999.34	6,203.24	6,117.37	85.88	72.235		
7,400.00	7,386.10	10,427.00	7,433.77	25.96	60.35	-125.36	-159.99	5,999.34	6,205.28	6,119.02	86.26	71.937		
7,500.00	7,485.80	10,427.00	7,433.77	26.33	60.35	-125.36	-159.99	5,999.34	6,208.94	6,122.31	86.63	71.675		
7,600.00	7,585.50	10,427.00	7,433.77	26.69	60.35	-125.36	-159.99	5,999.34	6,214.19	6,127.22	86.98	71.448		
7,700.00	7,685.20	10,427.00	7,433.77	27.05	60.35	-125.36	-159.99	5,999.34	6,221.06	6,133.75	87.31	71.256		
7,800.00	7,784.90	10,427.00	7,433.77	27.41	60.35	-125.36	-159.99	5,999.34	6,229.52	6,141.90	87.62	71.098		
7,860.70	7,845.41	10,427.00	7,433.77	27.63	60.35	-125.36	-159.99	5,999.34	6,235.43	6,147.63	87.80	71.019		
7,900.00	7,884.61	10,427.00	7,433.77	27.77	60.35	-125.41	-159.99	5,999.34	6,239.45	6,151.54	87.91	70.973		
8,000.00	7,984.46	10,448.16	7,433.66	28.13	60.74	-125.34	-181.14	5,999.83	6,249.67	6,161.09	88.57	70.559		
8,100.00	8,084.42	10,448.94	7,433.66	28.49	60.75	-125.46	-181.92	5,999.84	6,260.02	6,171.18	88.84	70.463		
8,157.59	8,142.00	10,448.92	7,433.66	28.69	60.75	88.55	-181.90	5,999.84	6,266.01	6,177.04	88.97	70.426		
8,200.00	8,184.41	10,448.78	7,433.66	28.83	60.75	88.55	-181.76	5,999.84	6,270.58	6,181.52	89.06	70.408		
8,300.00	8,284.41	10,448.46	7,433.66	29.17	60.74	88.54	-181.45	5,999.83	6,282.46	6,193.21	89.26	70.387		
8,400.00	8,384.41	10,448.15	7,433.66	29.51	60.74	88.54	-181.13	5,999.82	6,295.91	6,206.48	89.43	70.397		
8,507.63	8,492.04	10,447.81	7,433.67	29.87	60.73	88.54	-180.80	5,999.82	6,312.13	6,222.52	89.61	70.442		
8,550.00	8,534.37	10,427.00	7,433.77	30.02	60.35	-1.02	-159.99	5,999.34	6,317.52	6,228.23	89.30	70.749		
8,600.00	8,584.01	10,427.00	7,433.77	30.18	60.35	-1.01	-159.99	5,999.34	6,320.15	6,230.79	89.36	70.725		
8,650.00	8,632.95	10,427.00	7,433.77	30.34	60.35	-1.01	-159.99	5,999.34	6,318.82	6,229.40	89.42	70.664		
8,700.00	8,680.82	10,427.00	7,433.77	30.50	60.35	-1.02	-159.99	5,999.34	6,313.53	6,224.06	89.47	70.566		
8,750.00	8,727.25	10,427.00	7,433.77	30.66	60.35	-1.04	-159.99	5,999.34	6,304.31	6,214.80	89.51	70.432		
8,800.00	8,771.89	10,427.00	7,433.77	30.81	60.35	-1.06	-159.99	5,999.34	6,291.22	6,201.68	89.54	70.264		
8,850.00	8,814.40	10,427.00	7,433.77	30.95	60.35	-1.10	-159.99	5,999.34	6,274.33	6,184.78	89.55	70.063		
8,900.00	8,854.46	10,427.00	7,433.77	31.09	60.35	-1.14	-159.99	5,999.34	6,253.74	6,164.18	89.56	69.829		
8,950.00	8,891.75	10,427.00	7,433.77	31.23	60.35	-1.20	-159.99	5,999.34	6,229.57	6,140.02	89.55	69.564		
9,000.00	8,926.01	10,427.00	7,433.77	31.37	60.35	-1.27	-159.99	5,999.34	6,201.97	6,112.44	89.53	69.269		
9,050.00	8,956.96	10,427.00	7,433.77	31.53	60.35	-1.36	-159.99	5,999.34	6,171.10	6,081.59	89.51	68.944		
9,100.00	8,984.38	10,427.00	7,433.77	31.69	60.35	-1.47	-159.99	5,999.34	6,137.14	6,047.67	89.47	68.591		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Sec 13-T21S-R27E - Lone Tree Draw 13 State 15H - Original Hole - Actuals													Offset Well Error:	0.00 ft
Survey Program: 106-MWD+IGRF, 2746-MWD+IGRF														
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
9,150.00	9,008.05	10,448.25	7,433.66	31.87	60.74	-1.31	-181.23	5,999.83	6,100.23	6,010.42	89.81	67.923		
9,200.00	9,027.79	10,448.47	7,433.66	32.07	60.74	-1.47	-181.45	5,999.83	6,060.76	5,970.99	89.77	67.515		
9,250.00	9,043.45	10,448.72	7,433.66	32.29	60.75	-1.67	-181.70	5,999.84	6,018.89	5,929.17	89.72	67.083		
9,300.00	9,054.92	10,448.99	7,433.66	32.53	60.75	-1.96	-181.97	5,999.85	5,974.91	5,885.23	89.68	66.627		
9,350.00	9,062.10	10,449.28	7,433.66	32.79	60.76	-2.39	-182.27	5,999.85	5,929.10	5,839.47	89.63	66.150		
9,400.00	9,064.95	10,449.60	7,433.65	33.06	60.76	-3.08	-182.58	5,999.86	5,881.77	5,792.18	89.59	65.652		
9,407.63	9,065.00	10,449.64	7,433.65	33.10	60.77	-3.22	-182.62	5,999.86	5,874.43	5,784.85	89.59	65.573		
9,500.00	9,065.00	10,450.24	7,433.65	33.68	60.78	-3.20	-183.22	5,999.88	5,785.51	5,696.00	89.51	64.636		
9,600.00	9,065.00	10,450.90	7,433.64	34.41	60.79	-3.18	-183.88	5,999.89	5,689.37	5,599.95	89.42	63.624		
9,700.00	9,065.00	10,451.57	7,433.64	35.24	60.80	-3.15	-184.55	5,999.91	5,593.37	5,504.04	89.33	62.612		
9,800.00	9,065.00	10,452.25	7,433.64	36.17	60.81	-3.13	-185.23	5,999.93	5,497.51	5,408.27	89.24	61.602		
9,900.00	9,065.00	10,452.94	7,433.63	37.19	60.83	-3.10	-185.91	5,999.94	5,401.80	5,312.65	89.15	60.593		
10,000.00	9,065.00	10,453.64	7,433.62	38.30	60.84	-3.08	-186.61	5,999.96	5,306.24	5,217.19	89.05	59.585		
10,100.00	9,065.00	10,454.35	7,433.62	39.48	60.85	-3.05	-187.32	5,999.98	5,210.86	5,121.90	88.96	58.578		
10,200.00	9,065.00	10,455.07	7,433.61	40.72	60.86	-3.03	-188.05	6,000.00	5,115.65	5,026.79	88.85	57.573		
10,300.00	9,065.00	10,455.80	7,433.61	42.03	60.88	-3.00	-188.78	6,000.02	5,020.62	4,931.87	88.75	56.570		
10,400.00	9,065.00	10,456.55	7,433.60	43.40	60.89	-2.97	-189.53	6,000.04	4,925.80	4,837.15	88.64	55.569		
10,500.00	9,065.00	10,457.31	7,433.60	44.82	60.91	-2.95	-190.28	6,000.06	4,831.18	4,742.64	88.53	54.569		
10,600.00	9,065.00	10,458.08	7,433.59	46.29	60.92	-2.92	-191.05	6,000.08	4,736.78	4,648.36	88.42	53.572		
10,700.00	9,065.00	10,458.86	7,433.58	47.79	60.93	-2.89	-191.84	6,000.10	4,642.61	4,554.31	88.30	52.577		
10,800.00	9,065.00	10,459.66	7,433.58	49.34	60.95	-2.86	-192.63	6,000.12	4,548.70	4,460.52	88.18	51.584		
10,900.00	9,065.00	10,460.47	7,433.57	50.92	60.96	-2.83	-193.45	6,000.14	4,455.05	4,366.99	88.05	50.594		
11,000.00	9,065.00	10,461.29	7,433.56	52.54	60.98	-2.80	-194.27	6,000.16	4,361.68	4,273.75	87.92	49.607		
11,100.00	9,065.00	10,462.13	7,433.56	54.18	60.99	-2.77	-195.11	6,000.18	4,268.61	4,180.82	87.79	48.623		
11,200.00	9,065.00	10,462.99	7,433.55	55.85	61.01	-2.74	-195.96	6,000.21	4,175.86	4,088.21	87.65	47.642		
11,300.00	9,065.00	10,463.85	7,433.54	57.54	61.03	-2.71	-196.83	6,000.23	4,083.45	3,995.95	87.51	46.665		
11,400.00	9,065.00	10,464.74	7,433.53	59.26	61.04	-2.68	-197.71	6,000.25	3,991.41	3,904.06	87.36	45.692		
11,500.00	9,065.00	10,465.64	7,433.52	61.00	61.06	-2.64	-198.61	6,000.28	3,899.76	3,812.56	87.20	44.722		
11,600.00	9,065.00	10,466.55	7,433.52	62.75	61.07	-2.61	-199.53	6,000.30	3,808.53	3,721.49	87.04	43.757		
11,700.00	9,065.00	10,467.49	7,433.51	64.52	61.09	-2.58	-200.46	6,000.33	3,717.75	3,630.88	86.87	42.796		
11,800.00	9,065.00	10,468.44	7,433.50	66.31	61.11	-2.54	-201.41	6,000.36	3,627.46	3,540.76	86.70	41.841		
11,900.00	9,065.00	10,469.40	7,433.49	68.11	61.13	-2.51	-202.38	6,000.38	3,537.69	3,451.17	86.52	40.890		
12,000.00	9,065.00	10,470.39	7,433.48	69.93	61.14	-2.47	-203.36	6,000.41	3,448.48	3,362.15	86.33	39.946		
12,100.00	9,065.00	10,471.39	7,433.47	71.76	61.16	-2.44	-204.36	6,000.44	3,359.87	3,273.74	86.13	39.008		
12,200.00	9,065.00	10,472.42	7,433.46	73.60	61.18	-2.40	-205.39	6,000.47	3,271.92	3,185.99	85.93	38.076		
12,300.00	9,065.00	10,473.46	7,433.45	75.45	61.20	-2.36	-206.43	6,000.50	3,184.69	3,098.97	85.72	37.152		
12,400.00	9,065.00	10,474.52	7,433.44	77.31	61.22	-2.32	-207.49	6,000.53	3,098.22	3,012.72	85.50	36.236		
12,500.00	9,065.00	10,475.61	7,433.43	79.18	61.24	-2.28	-208.58	6,000.56	3,012.60	2,927.32	85.27	35.329		
12,600.00	9,065.00	10,476.71	7,433.41	81.05	61.26	-2.24	-209.68	6,000.59	2,927.88	2,842.84	85.04	34.431		
12,700.00	9,065.00	10,477.84	7,433.40	82.94	61.28	-2.20	-210.81	6,000.62	2,844.15	2,759.36	84.79	33.543		
12,800.00	9,065.00	10,478.99	7,433.39	84.83	61.30	-2.16	-211.96	6,000.66	2,761.51	2,676.98	84.53	32.667		
12,900.00	9,065.00	10,480.17	7,433.38	86.73	61.32	-2.12	-213.14	6,000.69	2,680.05	2,595.78	84.27	31.804		
13,000.00	9,065.00	10,481.37	7,433.36	88.64	61.34	-2.07	-214.33	6,000.73	2,599.88	2,515.89	83.99	30.954		
13,100.00	9,065.00	10,482.59	7,433.35	90.55	61.37	-2.03	-215.56	6,000.77	2,521.13	2,437.43	83.70	30.120		
13,200.00	9,065.00	10,483.84	7,433.33	92.47	61.39	-1.98	-216.81	6,000.80	2,443.93	2,360.53	83.40	29.303		
13,300.00	9,065.00	10,485.12	7,433.32	94.39	61.41	-1.94	-218.08	6,000.84	2,368.44	2,285.35	83.09	28.505		
13,400.00	9,065.00	10,486.42	7,433.30	96.32	61.44	-1.89	-219.39	6,000.88	2,294.82	2,212.07	82.76	27.729		
13,500.00	9,065.00	10,487.76	7,433.29	98.25	61.46	-1.84	-220.72	6,000.92	2,223.27	2,140.85	82.42	26.976		
13,600.00	9,065.00	10,489.12	7,433.27	100.19	61.49	-1.79	-222.08	6,000.97	2,153.98	2,071.92	82.06	26.250		
13,700.00	9,065.00	10,490.51	7,433.25	102.13	61.51	-1.74	-223.47	6,001.01	2,087.17	2,005.50	81.68	25.553		
13,800.00	9,065.00	10,491.94	7,433.23	104.08	61.54	-1.69	-224.90	6,001.05	2,023.11	1,941.83	81.28	24.890		
13,900.00	9,065.00	10,493.39	7,433.21	106.03	61.56	-1.64	-226.35	6,001.10	1,962.05	1,881.18	80.87	24.262		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design		Sec 13-T21S-R27E - Lone Tree Draw 13 State 15H - Original Hole - Actuals											Offset Site Error:		5.00 ft
Survey Program:		106-MWD+IGRF, 2746-MWD+IGRF											Offset Well Error:		0.00 ft
Reference		Offset		Semi Major Axis			Distance					Separation Factor	Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)				
14,000.00	9,065.00	10,494.88	7,433.19	107.98	61.59	-1.58	-227.84	6,001.15	1,904.29	1,823.85	80.44	23.675			
14,100.00	9,065.00	10,496.41	7,433.17	109.94	61.62	-1.53	-229.37	6,001.20	1,850.13	1,770.14	79.99	23.130			
14,200.00	9,065.00	10,497.97	7,433.15	111.90	61.65	-1.47	-230.93	6,001.25	1,799.90	1,720.37	79.53	22.632			
14,300.00	9,065.00	10,499.57	7,433.13	113.86	61.68	-1.41	-232.52	6,001.30	1,753.93	1,674.86	79.07	22.181			
14,400.00	9,065.00	10,501.20	7,433.11	115.82	61.71	-1.35	-234.16	6,001.35	1,712.58	1,633.94	78.64	21.779			
14,500.00	9,065.00	10,502.88	7,433.08	117.79	61.74	-1.29	-235.84	6,001.41	1,676.17	1,597.93	78.24	21.423			
14,600.00	9,065.00	10,504.60	7,433.06	119.76	61.77	-1.23	-237.55	6,001.47	1,645.05	1,567.12	77.93	21.109			
14,700.00	9,065.00	10,506.36	7,433.03	121.74	61.80	-1.17	-239.32	6,001.53	1,619.51	1,541.76	77.75	20.831			
14,800.00	9,065.00	10,508.17	7,433.00	123.71	61.83	-1.10	-241.12	6,001.59	1,599.82	1,522.07	77.74	20.578			
14,900.00	9,065.00	10,510.02	7,432.98	125.69	61.87	-1.03	-242.97	6,001.65	1,586.20	1,508.22	77.98	20.341			
15,000.00	9,065.00	10,511.93	7,432.95	127.67	61.90	-0.96	-244.87	6,001.72	1,578.80	1,500.30	78.50	20.111			
15,067.09	9,065.00	10,513.23	7,432.93	129.00	61.93	-0.92	-246.18	6,001.76	1,577.38	1,498.34	79.03	19.959 CC, ES			
15,100.00	9,065.00	10,513.88	7,432.92	129.65	61.94	-0.89	-246.83	6,001.79	1,577.72	1,498.38	79.34	19.885			
15,200.00	9,065.00	10,515.88	7,432.88	131.63	61.98	-0.82	-248.83	6,001.86	1,582.96	1,502.48	80.49	19.667			
15,300.00	9,065.00	10,517.94	7,432.85	133.62	62.01	-0.75	-250.89	6,001.93	1,594.47	1,512.57	81.90	19.467			
15,400.00	9,065.00	10,520.06	7,432.81	135.61	62.05	-0.67	-253.00	6,002.01	1,612.11	1,528.58	83.53	19.300			
15,500.00	9,065.00	10,522.72	7,432.77	137.60	62.10	-0.57	-255.66	6,002.10	1,635.67	1,550.39	85.29	19.178			
15,600.00	9,065.00	10,525.69	7,432.72	139.59	62.15	-0.46	-258.63	6,002.21	1,664.92	1,577.81	87.11	19.113 SF			
15,700.00	9,065.00	10,528.57	7,432.67	141.58	62.21	-0.36	-261.51	6,002.31	1,699.55	1,610.63	88.92	19.114			
15,800.00	9,065.00	10,531.37	7,432.63	143.57	62.26	-0.26	-264.30	6,002.41	1,739.25	1,648.58	90.67	19.182			
15,900.00	9,065.00	10,534.08	7,432.59	145.57	62.31	-0.16	-267.01	6,002.50	1,783.66	1,691.34	92.33	19.319			
16,000.00	9,065.00	10,536.71	7,432.55	147.56	62.36	-0.06	-269.64	6,002.59	1,832.47	1,738.60	93.87	19.522			
16,100.00	9,065.00	10,539.27	7,432.51	149.56	62.40	0.03	-272.20	6,002.68	1,885.31	1,790.03	95.28	19.788			
16,200.00	9,065.00	10,541.76	7,432.47	151.56	62.45	0.12	-274.69	6,002.77	1,941.87	1,845.31	96.56	20.111			
16,300.00	9,065.00	10,544.18	7,432.44	153.56	62.49	0.21	-277.10	6,002.85	2,001.82	1,904.11	97.71	20.488			
16,400.00	9,065.00	10,546.53	7,432.41	155.56	62.54	0.29	-279.45	6,002.92	2,064.88	1,966.14	98.74	20.913			
16,500.00	9,065.00	10,548.82	7,432.38	157.57	62.58	0.38	-281.74	6,003.00	2,130.76	2,031.11	99.65	21.382			
16,600.00	9,065.00	10,551.04	7,432.35	159.57	62.62	0.46	-283.96	6,003.07	2,199.21	2,098.75	100.46	21.891			
16,700.00	9,065.00	10,553.21	7,432.32	161.57	62.66	0.53	-286.13	6,003.14	2,270.01	2,168.83	101.18	22.436			
16,800.00	9,065.00	10,555.32	7,432.29	163.58	62.70	0.61	-288.24	6,003.21	2,342.93	2,241.12	101.81	23.013			
16,900.00	9,065.00	10,557.38	7,432.27	165.59	62.74	0.69	-290.30	6,003.27	2,417.79	2,315.42	102.37	23.619			
17,000.00	9,065.00	10,559.39	7,432.25	167.60	62.77	0.76	-292.30	6,003.34	2,494.41	2,391.55	102.86	24.251			
17,100.00	9,065.00	10,561.34	7,432.22	169.60	62.81	0.83	-294.26	6,003.40	2,572.63	2,469.34	103.30	24.906			
17,200.00	9,065.00	10,563.25	7,432.20	171.61	62.84	0.90	-296.16	6,003.46	2,652.32	2,548.64	103.68	25.582			
17,300.00	9,065.00	10,565.11	7,432.18	173.62	62.88	0.97	-298.02	6,003.51	2,733.34	2,629.32	104.02	26.277			
17,400.00	9,065.00	10,566.92	7,432.16	175.63	62.91	1.03	-299.84	6,003.57	2,815.58	2,711.26	104.32	26.989			
17,500.00	9,065.00	10,568.70	7,432.14	177.65	62.94	1.10	-301.61	6,003.62	2,898.94	2,794.35	104.59	27.717			
17,600.00	9,065.00	10,570.43	7,432.13	179.66	62.97	1.16	-303.34	6,003.68	2,983.31	2,878.48	104.83	28.458			
17,700.00	9,065.00	10,572.12	7,432.11	181.67	63.01	1.22	-305.03	6,003.73	3,068.63	2,963.58	105.05	29.212			
17,800.00	9,065.00	10,573.77	7,432.09	183.69	63.04	1.28	-306.68	6,003.77	3,154.81	3,049.57	105.24	29.978			
17,900.00	9,065.00	10,575.38	7,432.08	185.70	63.07	1.34	-308.29	6,003.82	3,241.78	3,136.36	105.41	30.753			
18,000.00	9,065.00	10,576.96	7,432.06	187.72	63.09	1.40	-309.87	6,003.87	3,329.48	3,223.91	105.57	31.538			
18,100.00	9,065.00	10,578.50	7,432.05	189.73	63.12	1.45	-311.41	6,003.91	3,417.85	3,312.14	105.72	32.331			
18,200.00	9,065.00	10,580.01	7,432.04	191.75	63.15	1.51	-312.92	6,003.96	3,506.85	3,401.00	105.85	33.131			
18,300.00	9,065.00	10,581.49	7,432.02	193.77	63.18	1.56	-314.39	6,004.00	3,596.43	3,490.46	105.97	33.939			
18,400.00	9,065.00	10,582.93	7,432.01	195.78	63.20	1.61	-315.83	6,004.04	3,686.54	3,580.46	106.08	34.752			
18,500.00	9,065.00	10,584.34	7,432.00	197.80	63.23	1.66	-317.25	6,004.08	3,777.15	3,670.96	106.19	35.571			
18,600.00	9,065.00	10,585.73	7,431.99	199.82	63.26	1.71	-318.63	6,004.12	3,868.22	3,761.94	106.28	36.395			
18,700.00	9,065.00	10,587.08	7,431.98	201.84	63.28	1.76	-319.98	6,004.15	3,959.72	3,853.35	106.38	37.224			
18,800.00	9,065.00	10,588.41	7,431.97	203.86	63.30	1.81	-321.31	6,004.19	4,051.63	3,945.16	106.46	38.057			
18,900.00	9,065.00	10,589.71	7,431.96	205.88	63.33	1.86	-322.61	6,004.23	4,143.90	4,037.36	106.55	38.893			
19,000.00	9,065.00	10,590.98	7,431.95	207.90	63.35	1.91	-323.88	6,004.26	4,236.53	4,129.90	106.63	39.733			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Sec 13-T21S-R27E - Lone Tree Draw 13 State 15H - Original Hole - Actuals													Offset Well Error:	0.00 ft
Survey Program: 106-MWD+IGRF, 2746-MWD+IGRF														
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
19,100.00	9,065.00	10,592.23	7,431.94	209.92	63.37	1.95	-325.13	6,004.30	4,329.48	4,222.78	106.70	40.575		
19,200.00	9,065.00	10,593.45	7,431.93	211.95	63.40	1.99	-326.35	6,004.33	4,422.75	4,315.97	106.78	41.420		
19,300.00	9,065.00	10,594.65	7,431.93	213.97	63.42	2.04	-327.55	6,004.36	4,516.30	4,409.45	106.85	42.268		
19,400.00	9,065.00	10,595.83	7,431.92	215.99	63.44	2.08	-328.73	6,004.39	4,610.12	4,503.20	106.92	43.117		
19,456.84	9,065.00	10,596.49	7,431.91	217.14	63.45	2.10	-329.38	6,004.41	4,663.56	4,556.60	106.96	43.601		

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Survey Program: 18-GYRO-NS-CT													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0.00	0.00	0.00	0.00	0.50	5.02	61.36	3,158.45	5,782.98	6,589.59					
100.00	100.00	9.85	9.85	0.52	5.02	61.36	3,158.46	5,782.99	6,589.36	6,583.81	5.54	1,188.828		
200.00	200.00	84.17	84.17	0.70	5.03	61.36	3,158.86	5,783.40	6,590.05	6,584.32	5.73	1,150.464		
300.00	300.00	190.22	190.21	0.99	5.04	61.36	3,159.06	5,784.22	6,590.82	6,584.79	6.03	1,093.001		
400.00	400.00	289.89	289.88	1.31	5.08	61.36	3,158.97	5,785.05	6,591.51	6,585.12	6.39	1,031.055		
500.00	500.00	387.78	387.76	1.65	5.15	61.37	3,158.98	5,785.84	6,592.23	6,585.43	6.79	970.412		
600.00	600.00	492.73	492.72	1.99	5.24	61.37	3,158.96	5,786.69	6,592.93	6,585.70	7.23	911.917		
700.00	700.00	597.10	597.08	2.34	5.35	61.37	3,158.76	5,787.52	6,593.53	6,585.84	7.69	857.035		
800.00	800.00	743.25	743.23	2.69	5.55	61.37	3,159.48	5,787.92	6,594.12	6,585.88	8.24	800.088		
900.00	900.00	884.50	884.48	3.04	5.78	61.37	3,159.32	5,786.96	6,593.37	6,584.55	8.82	747.536		
1,000.00	1,000.00	953.30	953.27	3.40	5.90	61.37	3,158.68	5,787.05	6,592.98	6,583.69	9.30	709.201		
1,017.17	1,017.17	953.30	953.27	3.46	5.90	61.37	3,158.68	5,787.05	6,592.96	6,583.60	9.36	704.581		
1,100.00	1,100.00	1,030.43	1,030.39	3.75	6.04	61.38	3,157.98	5,787.49	6,593.02	6,583.22	9.80	672.961		
1,200.00	1,200.00	1,131.02	1,130.98	4.11	6.25	61.39	3,157.44	5,787.88	6,593.10	6,582.75	10.35	636.725		
1,300.00	1,300.00	1,226.36	1,226.32	4.46	6.45	61.39	3,157.17	5,788.14	6,593.21	6,582.30	10.91	604.102		
1,400.00	1,400.00	1,322.59	1,322.55	4.82	6.67	61.39	3,156.98	5,788.44	6,593.39	6,581.90	11.49	574.017		
1,500.00	1,500.00	1,421.70	1,421.66	5.18	6.90	61.40	3,156.76	5,788.81	6,593.60	6,581.53	12.08	546.026		
1,600.00	1,600.00	1,528.46	1,528.42	5.53	7.16	61.40	3,156.30	5,789.27	6,593.78	6,581.09	12.69	519.470		
1,700.00	1,700.00	1,646.93	1,646.89	5.89	7.46	61.41	3,155.65	5,789.58	6,593.75	6,580.40	13.35	493.895		
1,800.00	1,800.00	1,762.85	1,762.80	6.25	7.77	61.41	3,155.06	5,789.54	6,593.47	6,579.46	14.01	470.599		
1,900.00	1,900.00	1,862.52	1,862.47	6.61	8.03	61.41	3,154.82	5,789.17	6,593.03	6,578.39	14.64	450.474		
2,000.00	2,000.00	1,962.60	1,962.55	6.96	8.31	61.41	3,154.87	5,788.70	6,592.65	6,577.38	15.27	431.793		
2,100.00	2,100.00	2,067.36	2,067.31	7.32	8.60	61.41	3,154.97	5,788.13	6,592.21	6,576.29	15.92	414.103		
2,200.00	2,200.00	2,173.74	2,173.69	7.68	8.91	61.40	3,155.10	5,787.43	6,591.69	6,575.11	16.58	397.554		
2,300.00	2,300.00	2,274.12	2,274.06	8.04	9.20	61.40	3,155.31	5,786.65	6,591.11	6,573.88	17.23	382.542		
2,400.00	2,400.00	2,367.14	2,367.08	8.39	9.47	61.39	3,155.56	5,785.95	6,590.58	6,572.72	17.86	368.987		
2,500.00	2,500.00	2,457.27	2,457.21	8.75	9.74	61.39	3,155.86	5,785.40	6,590.20	6,571.71	18.49	356.467		
2,522.73	2,522.73	2,482.13	2,482.07	8.83	9.81	-152.69	3,155.94	5,785.26	6,590.16	6,571.52	18.64	353.559		
2,600.00	2,599.99	2,565.02	2,564.96	9.09	10.06	-152.70	3,156.09	5,784.80	6,590.59	6,571.43	19.15	344.106		
2,700.00	2,699.96	2,667.42	2,667.36	9.42	10.37	-152.70	3,156.09	5,784.27	6,592.46	6,572.67	19.79	333.118		
2,800.00	2,799.86	2,767.00	2,766.94	9.75	10.68	-152.70	3,156.21	5,783.64	6,595.84	6,575.42	20.42	322.946		
2,900.00	2,899.68	2,880.22	2,880.15	10.08	11.03	-152.72	3,156.64	5,782.78	6,600.80	6,579.69	21.10	312.768		
2,945.33	2,944.88	2,947.12	2,947.05	10.23	11.24	-152.73	3,156.79	5,782.06	6,603.39	6,581.93	21.46	307.665		
3,000.00	2,999.39	3,028.83	3,028.75	10.41	11.50	-152.76	3,156.68	5,781.00	6,606.51	6,584.61	21.90	301.671		
3,100.00	3,099.08	3,106.26	3,106.18	10.75	11.74	-152.78	3,156.41	5,780.12	6,612.24	6,589.76	22.48	294.171		
3,200.00	3,198.78	3,187.66	3,187.57	11.08	12.00	-152.81	3,156.04	5,779.46	6,618.21	6,595.14	23.07	286.868		
3,300.00	3,298.48	3,264.13	3,264.04	11.42	12.24	-152.83	3,155.94	5,778.96	6,624.50	6,600.85	23.65	280.097		
3,400.00	3,398.18	3,324.58	3,324.49	11.76	12.43	-152.86	3,156.30	5,778.61	6,631.22	6,607.04	24.18	274.229		
3,500.00	3,497.88	3,385.60	3,385.50	12.10	12.63	-152.88	3,156.83	5,778.72	6,638.66	6,613.95	24.71	268.612		
3,600.00	3,597.58	3,489.54	3,489.44	12.45	12.96	-152.91	3,157.64	5,779.28	6,646.42	6,621.03	25.39	261.786		
3,700.00	3,697.27	3,610.34	3,610.24	12.79	13.35	-152.95	3,158.09	5,779.66	6,653.79	6,627.67	26.12	254.731		
3,800.00	3,796.97	3,712.63	3,712.53	13.14	13.68	-152.98	3,158.33	5,779.92	6,661.04	6,634.25	26.80	248.591		
3,900.00	3,896.67	3,816.40	3,816.30	13.48	14.02	-153.02	3,158.53	5,780.14	6,668.25	6,640.77	27.48	242.685		
4,000.00	3,996.37	3,925.64	3,925.53	13.83	14.38	-153.05	3,158.84	5,780.20	6,675.36	6,647.18	28.18	236.890		
4,100.00	4,096.07	4,029.45	4,029.35	14.18	14.72	-153.09	3,159.16	5,780.10	6,682.35	6,653.48	28.87	231.498		
4,200.00	4,195.76	4,134.28	4,134.17	14.53	15.06	-153.12	3,159.54	5,779.89	6,689.28	6,659.72	29.56	226.314		
4,300.00	4,295.46	4,240.22	4,240.11	14.88	15.41	-153.16	3,159.92	5,779.59	6,696.13	6,665.88	30.25	221.324		
4,400.00	4,395.16	4,354.85	4,354.75	15.23	15.79	-153.20	3,160.24	5,779.13	6,702.86	6,671.88	30.98	216.339		
4,500.00	4,494.86	4,485.28	4,485.17	15.58	16.22	-153.24	3,160.26	5,778.25	6,709.21	6,677.45	31.77	211.209		
4,600.00	4,594.56	4,591.82	4,591.71	15.93	16.58	-153.27	3,160.01	5,777.30	6,715.26	6,682.79	32.47	206.813		
4,700.00	4,694.25	4,685.42	4,685.30	16.29	16.89	-153.31	3,160.09	5,776.33	6,721.34	6,688.20	33.13	202.861		
4,800.00	4,793.95	4,774.60	4,774.47	16.64	17.19	-153.34	3,160.39	5,775.40	6,727.54	6,693.76	33.78	199.148		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Sec 13-T21S-R27E - Lone Tree Draw 13 State Com 4H - Pilot - Pilot													Offset Well Error:	0.50 ft
Survey Program: 18-GYRO-NS-CT														
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
4,900.00	4,893.65	4,863.26	4,863.13	17.00	17.48	-153.37	3,160.78	5,774.59	6,733.90	6,699.48	34.43	195.585		
5,000.00	4,993.35	4,929.69	4,929.56	17.35	17.70	-153.39	3,161.13	5,774.16	6,740.57	6,705.56	35.00	192.576		
5,100.00	5,093.05	5,000.42	5,000.29	17.71	17.94	-153.42	3,161.56	5,774.16	6,747.79	6,712.20	35.59	189.603		
5,200.00	5,192.75	5,098.74	5,098.60	18.06	18.27	-153.45	3,161.77	5,774.50	6,755.14	6,718.87	36.27	186.240		
5,300.00	5,292.44	5,185.92	5,185.78	18.42	18.56	-153.47	3,161.72	5,775.08	6,762.64	6,725.72	36.92	183.191		
5,400.00	5,392.14	5,278.48	5,278.33	18.77	18.88	-153.49	3,161.46	5,775.95	6,770.27	6,732.69	37.58	180.157		
5,500.00	5,491.84	5,378.76	5,378.61	19.13	19.21	-153.52	3,161.60	5,776.79	6,778.01	6,739.74	38.27	177.104		
5,600.00	5,591.54	5,509.82	5,509.67	19.49	19.66	-153.56	3,162.23	5,777.14	6,785.44	6,746.36	39.07	173.670		
5,700.00	5,691.24	5,638.94	5,638.79	19.85	20.09	-153.60	3,162.84	5,778.88	6,792.45	6,752.59	39.86	170.389		
5,800.00	5,790.93	5,724.10	5,723.95	20.20	20.38	-153.63	3,163.17	5,778.66	6,799.37	6,758.86	40.51	167.860		
5,900.00	5,890.63	5,816.54	5,816.39	20.56	20.69	-153.66	3,163.50	5,778.57	6,806.43	6,765.26	41.17	165.310		
6,000.00	5,990.33	5,911.67	5,911.52	20.92	21.02	-153.69	3,163.69	5,778.67	6,813.58	6,771.73	41.85	162.806		
6,100.00	6,090.03	6,029.22	6,029.06	21.28	21.41	-153.72	3,163.61	5,778.82	6,820.62	6,778.02	42.61	160.081		
6,200.00	6,189.73	6,148.94	6,148.78	21.64	21.82	-153.75	3,162.82	5,777.05	6,827.44	6,784.07	43.37	157.416		
6,300.00	6,289.42	6,249.14	6,248.97	22.00	22.16	-153.77	3,161.56	5,777.29	6,833.99	6,789.92	44.07	155.074		
6,400.00	6,389.12	6,334.54	6,334.37	22.36	22.45	-153.79	3,160.51	5,777.66	6,840.72	6,796.01	44.72	152.983		
6,500.00	6,488.82	6,412.41	6,412.23	22.72	22.72	-153.80	3,159.65	5,778.14	6,847.69	6,802.35	45.34	151.044		
6,600.00	6,588.52	6,472.75	6,472.57	23.08	22.92	-153.81	3,159.00	5,778.78	6,855.08	6,809.18	45.89	149.370		
6,700.00	6,688.22	6,543.72	6,543.52	23.44	23.16	-153.82	3,158.35	5,779.87	6,862.95	6,816.46	46.49	147.629		
6,800.00	6,787.91	6,642.28	6,642.06	23.80	23.50	-153.84	3,157.62	5,781.74	6,871.20	6,824.02	47.18	145.632		
6,900.00	6,887.61	6,766.35	6,766.11	24.16	23.93	-153.85	3,156.44	5,783.88	6,879.19	6,831.22	47.97	143.412		
7,000.00	6,987.31	6,837.16	6,836.91	24.52	24.17	-153.87	3,156.00	5,785.03	6,887.25	6,838.69	48.56	141.821		
7,100.00	7,087.01	6,931.22	6,930.96	24.88	24.49	-153.89	3,156.00	5,786.45	6,895.54	6,846.29	49.24	140.036		
7,200.00	7,186.71	6,998.10	6,997.83	25.24	24.72	-153.90	3,156.28	5,787.49	6,904.06	6,854.24	49.82	138.579		
7,300.00	7,286.41	7,062.77	7,062.48	25.60	24.94	-153.92	3,156.59	5,788.85	6,913.10	6,862.71	50.39	137.189		
7,400.00	7,386.10	7,127.60	7,127.29	25.96	25.17	-153.93	3,156.87	5,790.60	6,922.63	6,871.67	50.96	135.841		
7,500.00	7,485.80	7,205.80	7,205.44	26.33	25.44	-153.94	3,156.92	5,793.24	6,932.56	6,880.98	51.58	134.401		
7,600.00	7,585.50	7,302.85	7,302.41	26.69	25.77	-153.95	3,156.13	5,797.25	6,942.70	6,890.43	52.27	132.817		
7,700.00	7,685.20	7,390.01	7,389.46	27.05	26.08	-153.95	3,154.82	5,801.26	6,952.90	6,899.97	52.93	131.365		
7,800.00	7,784.90	7,470.53	7,469.89	27.41	26.36	-153.95	3,153.77	5,805.08	6,963.33	6,909.77	53.56	130.013		
7,860.70	7,845.41	7,599.12	7,598.34	27.63	26.81	-153.95	3,152.41	5,810.75	6,969.68	6,915.44	54.24	128.491		
7,900.00	7,884.61	7,900.00	7,666.91	27.77	27.85	-153.98	3,151.71	5,812.88	6,973.03	6,917.60	55.43	125.796		
8,000.00	7,984.46	7,803.28	7,802.41	28.13	27.51	-154.03	3,150.42	5,816.42	6,979.65	6,924.18	55.46	125.844		
8,100.00	8,084.42	7,876.00	7,875.11	28.49	27.77	-154.05	3,149.79	5,818.21	6,983.92	6,927.86	56.06	124.575		
8,157.59	8,142.00	7,876.00	7,875.11	28.69	27.77	60.02	3,149.79	5,818.21	6,985.75	6,929.50	56.25	124.202		
8,200.00	8,184.41	7,876.00	7,875.11	28.83	27.77	60.02	3,149.79	5,818.21	6,987.11	6,930.73	56.37	123.941		
8,300.00	8,284.41	7,876.00	7,875.11	29.17	27.77	60.02	3,149.79	5,818.21	6,991.33	6,934.66	56.67	123.360		
8,400.00	8,384.41	7,876.00	7,875.11	29.51	27.77	60.02	3,149.79	5,818.21	6,996.99	6,940.02	56.97	122.829		
8,507.63	8,492.04	7,876.00	7,875.11	29.87	27.77	60.02	3,149.79	5,818.21	7,004.66	6,947.39	57.27	122.311		
8,550.00	8,534.37	7,876.00	7,875.11	30.02	27.77	-29.25	3,149.79	5,818.21	7,006.77	6,949.39	57.38	122.103		
8,600.00	8,584.01	7,876.00	7,875.11	30.18	27.77	-29.28	3,149.79	5,818.21	7,006.08	6,948.56	57.51	121.817		
8,650.00	8,632.95	7,876.00	7,875.11	30.34	27.77	-29.49	3,149.79	5,818.21	7,001.94	6,944.30	57.64	121.487		
8,700.00	8,680.82	7,876.00	7,875.11	30.50	27.77	-29.87	3,149.79	5,818.21	6,994.38	6,936.63	57.75	121.118		
8,750.00	8,727.25	7,876.00	7,875.11	30.66	27.77	-30.43	3,149.79	5,818.21	6,983.45	6,925.60	57.85	120.711		
8,800.00	8,771.89	7,876.00	7,875.11	30.81	27.77	-31.19	3,149.79	5,818.21	6,969.22	6,911.27	57.95	120.269		
8,850.00	8,814.40	7,876.00	7,875.11	30.95	27.77	-32.17	3,149.79	5,818.21	6,951.77	6,893.74	58.03	119.793		
8,900.00	8,854.46	7,876.00	7,875.11	31.09	27.77	-33.39	3,149.79	5,818.21	6,931.21	6,873.11	58.11	119.284		
8,950.00	8,891.75	7,876.00	7,875.11	31.23	27.77	-34.89	3,149.79	5,818.21	6,907.68	6,849.51	58.17	118.742		
9,000.00	8,926.01	7,876.00	7,875.11	31.37	27.77	-36.70	3,149.79	5,818.21	6,881.32	6,823.09	58.23	118.167		
9,050.00	8,956.96	7,876.00	7,875.11	31.53	27.77	-38.89	3,149.79	5,818.21	6,852.30	6,794.01	58.29	117.559		
9,100.00	8,984.38	7,876.00	7,875.11	31.69	27.77	-41.51	3,149.79	5,818.21	6,820.82	6,762.48	58.34	116.916		
9,150.00	9,008.05	7,876.00	7,875.11	31.87	27.77	-44.63	3,149.79	5,818.21	6,787.06	6,728.68	58.39	116.239		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Survey Program: 18-GYRO-NS-CT													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
9,200.00	9,027.79	7,876.00	7,875.11	32.07	27.77	-48.35	3,149.79	5,818.21	6,751.28	6,692.84	58.44	115.525		
9,250.00	9,043.45	7,876.00	7,875.11	32.29	27.77	-52.75	3,149.79	5,818.21	6,713.69	6,655.20	58.49	114.777		
9,300.00	9,054.92	7,876.00	7,875.11	32.53	27.77	-57.92	3,149.79	5,818.21	6,674.57	6,616.02	58.55	113.993		
9,350.00	9,062.10	7,876.00	7,875.11	32.79	27.77	-63.90	3,149.79	5,818.21	6,634.19	6,575.57	58.62	113.177		
9,400.00	9,064.95	7,876.00	7,875.11	33.06	27.77	-70.69	3,149.79	5,818.21	6,592.82	6,534.13	58.69	112.329		
9,407.63	9,065.00	7,876.00	7,875.11	33.10	27.77	-71.79	3,149.79	5,818.21	6,586.44	6,527.74	58.71	112.195		
9,500.00	9,065.00	7,876.00	7,875.11	33.68	27.77	-71.79	3,149.79	5,818.21	6,509.32	6,450.45	58.87	110.573		
9,600.00	9,065.00	7,876.00	7,875.11	34.41	27.77	-71.79	3,149.79	5,818.21	6,426.28	6,367.19	59.09	108.753		
9,700.00	9,065.00	7,876.00	7,875.11	35.24	27.77	-71.79	3,149.79	5,818.21	6,343.73	6,284.36	59.36	106.866		
9,800.00	9,065.00	7,876.00	7,875.11	36.17	27.77	-71.79	3,149.79	5,818.21	6,261.68	6,202.00	59.68	104.914		
9,900.00	9,065.00	7,876.00	7,875.11	37.19	27.77	-71.79	3,149.79	5,818.21	6,180.17	6,120.11	60.06	102.900		
10,000.00	9,065.00	7,876.00	7,875.11	38.30	27.77	-71.79	3,149.79	5,818.21	6,099.21	6,038.71	60.49	100.827		
10,100.00	9,065.00	7,876.00	7,875.11	39.48	27.77	-71.79	3,149.79	5,818.21	6,018.81	5,957.83	60.98	98.700		
10,200.00	9,065.00	7,876.00	7,875.11	40.72	27.77	-71.79	3,149.79	5,818.21	5,939.02	5,877.49	61.53	96.523		
10,300.00	9,065.00	7,876.00	7,875.11	42.03	27.77	-71.79	3,149.79	5,818.21	5,859.84	5,797.70	62.14	94.302		
10,400.00	9,065.00	7,876.00	7,875.11	43.40	27.77	-71.79	3,149.79	5,818.21	5,781.31	5,718.50	62.81	92.042		
10,500.00	9,065.00	7,876.00	7,875.11	44.82	27.77	-71.79	3,149.79	5,818.21	5,703.45	5,639.91	63.55	89.752		
10,600.00	9,065.00	7,876.00	7,875.11	46.29	27.77	-71.79	3,149.79	5,818.21	5,626.30	5,561.95	64.35	87.437		
10,700.00	9,065.00	7,876.00	7,875.11	47.79	27.77	-71.79	3,149.79	5,818.21	5,549.87	5,484.65	65.21	85.104		
10,800.00	9,065.00	7,876.00	7,875.11	49.34	27.77	-71.79	3,149.79	5,818.21	5,474.20	5,408.05	66.14	82.761		
10,900.00	9,065.00	7,876.00	7,875.11	50.92	27.77	-71.79	3,149.79	5,818.21	5,399.32	5,332.18	67.14	80.414		
11,000.00	9,065.00	7,876.00	7,875.11	52.54	27.77	-71.79	3,149.79	5,818.21	5,325.27	5,257.06	68.21	78.072		
11,100.00	9,065.00	7,876.00	7,875.11	54.18	27.77	-71.79	3,149.79	5,818.21	5,252.07	5,182.73	69.34	75.740		
11,200.00	9,065.00	7,876.00	7,875.11	55.85	27.77	-71.79	3,149.79	5,818.21	5,179.78	5,109.23	70.55	73.425		
11,300.00	9,065.00	7,876.00	7,875.11	57.54	27.77	-71.79	3,149.79	5,818.21	5,108.42	5,036.60	71.81	71.134		
11,400.00	9,065.00	7,876.00	7,875.11	59.26	27.77	-71.79	3,149.79	5,818.21	5,038.03	4,964.88	73.15	68.871		
11,500.00	9,065.00	7,876.00	7,875.11	61.00	27.77	-71.79	3,149.79	5,818.21	4,968.66	4,894.10	74.56	66.644		
11,600.00	9,065.00	7,876.00	7,875.11	62.75	27.77	-71.79	3,149.79	5,818.21	4,900.34	4,824.32	76.03	64.456		
11,700.00	9,065.00	7,876.00	7,875.11	64.52	27.77	-71.79	3,149.79	5,818.21	4,833.13	4,755.57	77.56	62.311		
11,800.00	9,065.00	7,876.00	7,875.11	66.31	27.77	-71.79	3,149.79	5,818.21	4,767.07	4,687.91	79.17	60.215		
11,900.00	9,065.00	7,876.00	7,875.11	68.11	27.77	-71.79	3,149.79	5,818.21	4,702.21	4,621.38	80.84	58.170		
12,000.00	9,065.00	7,876.00	7,875.11	69.93	27.77	-71.79	3,149.79	5,818.21	4,638.60	4,556.03	82.57	56.179		
12,100.00	9,065.00	7,876.00	7,875.11	71.76	27.77	-71.79	3,149.79	5,818.21	4,576.29	4,491.93	84.36	54.244		
12,200.00	9,065.00	7,876.00	7,875.11	73.60	27.77	-71.79	3,149.79	5,818.21	4,515.34	4,429.12	86.22	52.369		
12,300.00	9,065.00	7,876.00	7,875.11	75.45	27.77	-71.79	3,149.79	5,818.21	4,455.79	4,367.65	88.14	50.554		
12,400.00	9,065.00	7,876.00	7,875.11	77.31	27.77	-71.79	3,149.79	5,818.21	4,397.72	4,307.60	90.11	48.801		
12,500.00	9,065.00	7,876.00	7,875.11	79.18	27.77	-71.79	3,149.79	5,818.21	4,341.17	4,249.02	92.15	47.112		
12,600.00	9,065.00	7,876.00	7,875.11	81.05	27.77	-71.79	3,149.79	5,818.21	4,286.20	4,191.97	94.23	45.486		
12,700.00	9,065.00	7,876.00	7,875.11	82.94	27.77	-71.79	3,149.79	5,818.21	4,232.89	4,136.52	96.37	43.924		
12,800.00	9,065.00	7,876.00	7,875.11	84.83	27.77	-71.79	3,149.79	5,818.21	4,181.29	4,082.73	98.55	42.426		
12,900.00	9,065.00	7,876.00	7,875.11	86.73	27.77	-71.79	3,149.79	5,818.21	4,131.46	4,030.68	100.79	40.993		
13,000.00	9,065.00	7,876.00	7,875.11	88.64	27.77	-71.79	3,149.79	5,818.21	4,083.48	3,980.42	103.06	39.623		
13,100.00	9,065.00	7,876.00	7,875.11	90.55	27.77	-71.79	3,149.79	5,818.21	4,037.40	3,932.03	105.37	38.318		
13,200.00	9,065.00	7,876.00	7,875.11	92.47	27.77	-71.79	3,149.79	5,818.21	3,993.30	3,885.59	107.71	37.075		
13,300.00	9,065.00	7,876.00	7,875.11	94.39	27.77	-71.79	3,149.79	5,818.21	3,951.23	3,841.15	110.08	35.894		
13,400.00	9,065.00	7,876.00	7,875.11	96.32	27.77	-71.79	3,149.79	5,818.21	3,911.27	3,798.80	112.48	34.775		
13,500.00	9,065.00	7,876.00	7,875.11	98.25	27.77	-71.79	3,149.79	5,818.21	3,873.48	3,758.60	114.89	33.716		
13,600.00	9,065.00	7,876.00	7,875.11	100.19	27.77	-71.79	3,149.79	5,818.21	3,837.93	3,720.62	117.31	32.716		
13,700.00	9,065.00	7,876.00	7,875.11	102.13	27.77	-71.79	3,149.79	5,818.21	3,804.67	3,684.93	119.74	31.774		
13,800.00	9,065.00	7,876.00	7,875.11	104.08	27.77	-71.79	3,149.79	5,818.21	3,773.77	3,651.60	122.17	30.890		
13,900.00	9,065.00	7,876.00	7,875.11	106.03	27.77	-71.79	3,149.79	5,818.21	3,745.28	3,620.69	124.59	30.061		
14,000.00	9,065.00	7,876.00	7,875.11	107.98	27.77	-71.79	3,149.79	5,818.21	3,719.27	3,592.27	126.99	29.287		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Sec 13-T21S-R27E - Lone Tree Draw 13 State Com 4H - Pilot - Pilot													Offset Well Error:	0.50 ft
Survey Program: 18-GYRO-NS-CT														
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
14,100.00	9,065.00	7,876.00	7,875.11	109.94	27.77	-71.79	3,149.79	5,818.21	3,695.78	3,566.40	129.38	28.566		
14,200.00	9,065.00	7,876.00	7,875.11	111.90	27.77	-71.79	3,149.79	5,818.21	3,674.86	3,543.13	131.73	27.896		
14,300.00	9,065.00	7,876.00	7,875.11	113.86	27.77	-71.79	3,149.79	5,818.21	3,656.56	3,522.50	134.05	27.277		
14,400.00	9,065.00	7,876.00	7,875.11	115.82	27.77	-71.79	3,149.79	5,818.21	3,640.91	3,504.58	136.33	26.707		
14,500.00	9,065.00	7,876.00	7,875.11	117.79	27.77	-71.79	3,149.79	5,818.21	3,627.95	3,489.40	138.55	26.185		
14,600.00	9,065.00	7,876.00	7,875.11	119.76	27.77	-71.79	3,149.79	5,818.21	3,617.71	3,477.00	140.72	25.709		
14,700.00	9,065.00	7,876.00	7,875.11	121.74	27.77	-71.79	3,149.79	5,818.21	3,610.22	3,467.40	142.82	25.278		
14,800.00	9,065.00	7,876.00	7,875.11	123.71	27.77	-71.79	3,149.79	5,818.21	3,605.48	3,460.63	144.85	24.891		
14,900.00	9,065.00	7,876.00	7,875.11	125.69	27.77	-71.79	3,149.79	5,818.21	3,603.51	3,456.71	146.80	24.546		
14,920.92	9,065.00	7,876.00	7,875.11	126.10	27.77	-71.79	3,149.79	5,818.21	3,603.45	3,456.25	147.20	24.479 CC		
15,000.00	9,065.00	7,876.00	7,875.11	127.67	27.77	-71.79	3,149.79	5,818.21	3,604.32	3,455.64	148.68	24.242 ES		
15,100.00	9,065.00	7,876.00	7,875.11	129.65	27.77	-71.79	3,149.79	5,818.21	3,607.90	3,457.43	150.47	23.978		
15,200.00	9,065.00	7,876.00	7,875.11	131.63	27.77	-71.79	3,149.79	5,818.21	3,614.24	3,462.08	152.17	23.752		
15,300.00	9,065.00	7,876.00	7,875.11	133.62	27.77	-71.79	3,149.79	5,818.21	3,623.34	3,469.56	153.77	23.563		
15,400.00	9,065.00	7,876.00	7,875.11	135.61	27.77	-71.79	3,149.79	5,818.21	3,635.16	3,479.88	155.28	23.410		
15,500.00	9,065.00	7,876.00	7,875.11	137.60	27.77	-71.79	3,149.79	5,818.21	3,649.68	3,492.99	156.70	23.291		
15,600.00	9,065.00	7,876.00	7,875.11	139.59	27.77	-71.79	3,149.79	5,818.21	3,666.88	3,508.87	158.01	23.206		
15,700.00	9,065.00	7,876.00	7,875.11	141.58	27.77	-71.79	3,149.79	5,818.21	3,686.71	3,527.48	159.23	23.154		
15,800.00	9,065.00	7,876.00	7,875.11	143.57	27.77	-71.79	3,149.79	5,818.21	3,709.13	3,548.78	160.35	23.132 SF		
15,900.00	9,065.00	7,876.00	7,875.11	145.57	27.77	-71.79	3,149.79	5,818.21	3,734.09	3,572.73	161.37	23.141		
16,000.00	9,065.00	7,876.00	7,875.11	147.56	27.77	-71.79	3,149.79	5,818.21	3,761.55	3,599.26	162.29	23.178		
16,100.00	9,065.00	7,876.00	7,875.11	149.56	27.77	-71.79	3,149.79	5,818.21	3,791.45	3,628.33	163.12	23.243		
16,200.00	9,065.00	7,876.00	7,875.11	151.56	27.77	-71.79	3,149.79	5,818.21	3,823.73	3,659.87	163.86	23.335		
16,300.00	9,065.00	7,876.00	7,875.11	153.56	27.77	-71.79	3,149.79	5,818.21	3,858.33	3,693.82	164.51	23.454		
16,400.00	9,065.00	7,876.00	7,875.11	155.56	27.77	-71.79	3,149.79	5,818.21	3,895.20	3,730.12	165.07	23.597		
16,500.00	9,065.00	7,876.00	7,875.11	157.57	27.77	-71.79	3,149.79	5,818.21	3,934.25	3,768.70	165.56	23.764		
16,600.00	9,065.00	7,876.00	7,875.11	159.57	27.77	-71.79	3,149.79	5,818.21	3,975.45	3,809.49	165.96	23.954		
16,700.00	9,065.00	7,876.00	7,875.11	161.57	27.77	-71.79	3,149.79	5,818.21	4,018.71	3,852.42	166.29	24.167		
16,800.00	9,065.00	7,876.00	7,875.11	163.58	27.77	-71.79	3,149.79	5,818.21	4,063.96	3,897.42	166.55	24.401		
16,900.00	9,065.00	7,876.00	7,875.11	165.59	27.77	-71.79	3,149.79	5,818.21	4,111.16	3,944.42	166.74	24.656		
17,000.00	9,065.00	7,876.00	7,875.11	167.60	27.77	-71.79	3,149.79	5,818.21	4,160.22	3,993.35	166.87	24.931		
17,100.00	9,065.00	7,876.00	7,875.11	169.60	27.77	-71.79	3,149.79	5,818.21	4,211.09	4,044.15	166.94	25.225		
17,200.00	9,065.00	7,876.00	7,875.11	171.61	27.77	-71.79	3,149.79	5,818.21	4,263.69	4,096.74	166.96	25.538		
17,300.00	9,065.00	7,876.00	7,875.11	173.62	27.77	-71.79	3,149.79	5,818.21	4,317.97	4,151.05	166.92	25.868		
17,400.00	9,065.00	7,876.00	7,875.11	175.63	27.77	-71.79	3,149.79	5,818.21	4,373.87	4,207.02	166.84	26.215		
17,500.00	9,065.00	7,876.00	7,875.11	177.65	27.77	-71.79	3,149.79	5,818.21	4,431.31	4,264.59	166.72	26.579		
17,600.00	9,065.00	7,876.00	7,875.11	179.66	27.77	-71.79	3,149.79	5,818.21	4,490.25	4,323.69	166.56	26.959		
17,700.00	9,065.00	7,876.00	7,875.11	181.67	27.77	-71.79	3,149.79	5,818.21	4,550.62	4,384.26	166.36	27.354		
17,800.00	9,065.00	7,876.00	7,875.11	183.69	27.77	-71.79	3,149.79	5,818.21	4,612.37	4,446.24	166.13	27.764		
17,900.00	9,065.00	7,876.00	7,875.11	185.70	27.77	-71.79	3,149.79	5,818.21	4,675.45	4,509.58	165.87	28.188		
18,000.00	9,065.00	7,876.00	7,875.11	187.72	27.77	-71.79	3,149.79	5,818.21	4,739.79	4,574.21	165.58	28.625		
18,100.00	9,065.00	7,876.00	7,875.11	189.73	27.77	-71.79	3,149.79	5,818.21	4,805.35	4,640.08	165.27	29.076		
18,200.00	9,065.00	7,876.00	7,875.11	191.75	27.77	-71.79	3,149.79	5,818.21	4,872.09	4,707.15	164.94	29.539		
18,300.00	9,065.00	7,876.00	7,875.11	193.77	27.77	-71.79	3,149.79	5,818.21	4,939.94	4,775.36	164.58	30.015		
18,400.00	9,065.00	7,876.00	7,875.11	195.78	27.77	-71.79	3,149.79	5,818.21	5,008.88	4,844.66	164.21	30.502		
18,500.00	9,065.00	7,876.00	7,875.11	197.80	27.77	-71.79	3,149.79	5,818.21	5,078.85	4,915.02	163.83	31.001		
18,600.00	9,065.00	7,876.00	7,875.11	199.82	27.77	-71.79	3,149.79	5,818.21	5,149.81	4,986.37	163.43	31.510		
18,700.00	9,065.00	7,876.00	7,875.11	201.84	27.77	-71.79	3,149.79	5,818.21	5,221.72	5,058.69	163.02	32.030		
18,800.00	9,065.00	7,876.00	7,875.11	203.86	27.77	-71.79	3,149.79	5,818.21	5,294.54	5,131.93	162.61	32.560		
18,900.00	9,065.00	7,876.00	7,875.11	205.88	27.77	-71.79	3,149.79	5,818.21	5,368.24	5,206.05	162.18	33.100		
19,000.00	9,065.00	7,876.00	7,875.11	207.90	27.77	-71.79	3,149.79	5,818.21	5,442.77	5,281.02	161.75	33.650		
19,100.00	9,065.00	7,876.00	7,875.11	209.92	27.77	-71.79	3,149.79	5,818.21	5,518.11	5,356.80	161.31	34.208		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Sec 13-T21S-R27E - Lone Tree Draw 13 State Com 4H - Pilot - Pilot		Offset Site Error:		5.00 ft	
Survey Program:													18-GYRO-NS-CT		Offset Well Error:		0.50 ft	
Reference		Offset		Semi Major Axis			Distance							Warning				
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor						
19,200.00	9,065.00	7,876.00	7,875.11	211.95	27.77	-71.79	3,149.79	5,818.21	5,594.23	5,433.36	160.87	34.775						
19,300.00	9,065.00	7,876.00	7,875.11	213.97	27.77	-71.79	3,149.79	5,818.21	5,671.09	5,510.66	160.42	35.351						
19,400.00	9,065.00	7,876.00	7,875.11	215.99	27.77	-71.79	3,149.79	5,818.21	5,748.65	5,588.68	159.98	35.935						
19,456.84	9,065.00	7,876.00	7,875.11	217.14	27.77	-71.79	3,149.79	5,818.21	5,793.05	5,633.33	159.72	36.270						

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Survey Program: 18-GYRO-NS-CT, 4369-MWD+HDGM													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)						
0.00	0.00	0.00	0.00	0.50	5.02	61.36	3,158.45	5,782.98	6,589.59					
100.00	100.00	9.85	9.85	0.52	5.02	61.36	3,158.46	5,782.99	6,589.36	6,583.81	5.54	1,188.828		
200.00	200.00	84.17	84.17	0.70	5.03	61.36	3,158.86	5,783.40	6,590.05	6,584.32	5.73	1,150.464		
300.00	300.00	190.22	190.21	0.99	5.04	61.36	3,159.06	5,784.22	6,590.82	6,584.79	6.03	1,093.001		
400.00	400.00	289.89	289.88	1.31	5.08	61.36	3,158.97	5,785.05	6,591.51	6,585.12	6.39	1,031.055		
500.00	500.00	387.78	387.76	1.65	5.15	61.37	3,158.98	5,785.84	6,592.23	6,585.43	6.79	970.412		
600.00	600.00	492.73	492.72	1.99	5.24	61.37	3,158.96	5,786.69	6,592.93	6,585.70	7.23	911.917		
700.00	700.00	597.10	597.08	2.34	5.35	61.37	3,158.76	5,787.52	6,593.53	6,585.84	7.69	857.035		
800.00	800.00	743.25	743.23	2.69	5.55	61.37	3,159.48	5,787.92	6,594.12	6,585.88	8.24	800.088		
900.00	900.00	884.50	884.48	3.04	5.78	61.37	3,159.32	5,786.96	6,593.37	6,584.55	8.82	747.536		
1,000.00	1,000.00	953.30	953.27	3.40	5.90	61.37	3,158.68	5,787.05	6,592.98	6,583.69	9.30	709.201		
1,017.17	1,017.17	953.30	953.27	3.46	5.90	61.37	3,158.68	5,787.05	6,592.96	6,583.60	9.36	704.581		
1,100.00	1,100.00	1,030.43	1,030.39	3.75	6.04	61.38	3,157.98	5,787.49	6,593.02	6,583.22	9.80	672.961		
1,200.00	1,200.00	1,131.02	1,130.98	4.11	6.25	61.39	3,157.44	5,787.88	6,593.10	6,582.75	10.35	636.725		
1,300.00	1,300.00	1,226.36	1,226.32	4.46	6.45	61.39	3,157.17	5,788.14	6,593.21	6,582.30	10.91	604.102		
1,400.00	1,400.00	1,322.59	1,322.55	4.82	6.67	61.39	3,156.98	5,788.44	6,593.39	6,581.90	11.49	574.017		
1,500.00	1,500.00	1,421.70	1,421.66	5.18	6.90	61.40	3,156.76	5,788.81	6,593.60	6,581.53	12.08	546.026		
1,600.00	1,600.00	1,528.46	1,528.42	5.53	7.16	61.40	3,156.30	5,789.27	6,593.78	6,581.09	12.69	519.470		
1,700.00	1,700.00	1,646.93	1,646.89	5.89	7.46	61.41	3,155.65	5,789.58	6,593.75	6,580.40	13.35	493.895		
1,800.00	1,800.00	1,762.85	1,762.80	6.25	7.77	61.41	3,155.06	5,789.54	6,593.47	6,579.46	14.01	470.599		
1,900.00	1,900.00	1,862.52	1,862.47	6.61	8.03	61.41	3,154.82	5,789.17	6,593.03	6,578.39	14.64	450.474		
2,000.00	2,000.00	1,962.60	1,962.55	6.96	8.31	61.41	3,154.87	5,788.70	6,592.65	6,577.38	15.27	431.793		
2,100.00	2,100.00	2,067.36	2,067.31	7.32	8.60	61.41	3,154.97	5,788.13	6,592.21	6,576.29	15.92	414.103		
2,200.00	2,200.00	2,173.74	2,173.69	7.68	8.91	61.40	3,155.10	5,787.43	6,591.69	6,575.11	16.58	397.554		
2,300.00	2,300.00	2,274.12	2,274.06	8.04	9.20	61.40	3,155.31	5,786.65	6,591.11	6,573.88	17.23	382.542		
2,400.00	2,400.00	2,367.14	2,367.08	8.39	9.47	61.39	3,155.56	5,785.95	6,590.58	6,572.72	17.86	368.987		
2,500.00	2,500.00	2,457.27	2,457.21	8.75	9.74	61.39	3,155.86	5,785.40	6,590.20	6,571.71	18.49	356.467		
2,522.73	2,522.73	2,482.13	2,482.07	8.83	9.81	-152.69	3,155.94	5,785.26	6,590.16	6,571.52	18.64	353.559		
2,600.00	2,599.99	2,565.02	2,564.96	9.09	10.06	-152.70	3,156.09	5,784.80	6,590.59	6,571.43	19.15	344.106		
2,700.00	2,699.96	2,730.00	4,982.67	9.42	48.56	-126.59	203.09	6,146.58	6,584.33	6,529.52	54.82	120.119		
2,800.00	2,799.86	7,730.00	4,982.67	9.75	48.56	-126.87	203.09	6,146.58	6,551.80	6,496.45	55.35	118.365		
2,900.00	2,899.68	7,730.00	4,982.67	10.08	48.56	-127.12	203.09	6,146.58	6,521.64	6,465.75	55.89	116.686		
2,945.33	2,944.88	7,730.00	4,982.67	10.23	48.56	-127.23	203.09	6,146.58	6,508.76	6,452.63	56.13	115.950		
3,000.00	2,999.39	7,730.00	4,982.67	10.41	48.56	-127.23	203.09	6,146.58	6,493.74	6,437.31	56.43	115.079		
3,100.00	3,099.08	7,730.00	4,982.67	10.75	48.56	-127.23	203.09	6,146.58	6,467.37	6,410.41	56.97	113.531		
3,200.00	3,198.78	7,730.00	4,982.67	11.08	48.56	-127.23	203.09	6,146.58	6,442.45	6,384.95	57.50	112.045		
3,300.00	3,298.48	7,730.00	4,982.67	11.42	48.56	-127.23	203.09	6,146.58	6,418.99	6,360.96	58.03	110.618		
3,400.00	3,398.18	7,730.00	4,982.67	11.76	48.56	-127.23	203.09	6,146.58	6,397.00	6,338.45	58.55	109.253		
3,500.00	3,497.88	7,730.00	4,982.67	12.10	48.56	-127.23	203.09	6,146.58	6,376.51	6,317.44	59.07	107.946		
3,600.00	3,597.58	7,761.15	4,983.35	12.45	49.00	-126.94	171.96	6,147.41	6,357.29	6,297.30	59.99	105.974		
3,700.00	3,697.27	7,763.88	4,983.41	12.79	49.04	-126.92	169.24	6,147.49	6,339.78	6,279.25	60.53	104.736		
3,800.00	3,796.97	7,766.58	4,983.46	13.14	49.07	-126.89	166.54	6,147.58	6,323.80	6,262.73	61.07	103.557		
3,900.00	3,896.67	7,769.26	4,983.51	13.48	49.11	-126.87	163.86	6,147.68	6,309.36	6,247.77	61.59	102.437		
4,000.00	3,996.37	7,771.92	4,983.57	13.83	49.15	-126.84	161.20	6,147.77	6,296.47	6,234.36	62.11	101.377		
4,100.00	4,096.07	7,774.56	4,983.62	14.18	49.18	-126.82	158.56	6,147.87	6,285.15	6,222.53	62.62	100.373		
4,200.00	4,195.76	7,777.18	4,983.66	14.53	49.22	-126.80	155.95	6,147.97	6,275.39	6,212.27	63.12	99.427		
4,300.00	4,295.46	7,779.77	4,983.71	14.88	49.26	-126.77	153.35	6,148.07	6,267.21	6,203.61	63.60	98.536		
4,400.00	4,395.16	7,782.35	4,983.76	15.23	49.29	-126.75	150.78	6,148.17	6,260.62	6,196.54	64.08	97.700		
4,500.00	4,494.86	7,784.90	4,983.80	15.58	49.33	-126.73	148.23	6,148.27	6,255.61	6,191.06	64.54	96.919		
4,600.00	4,594.56	7,787.43	4,983.85	15.93	49.36	-126.70	145.70	6,148.37	6,252.19	6,187.20	65.00	96.190		
4,700.00	4,694.25	7,789.94	4,983.89	16.29	49.40	-126.68	143.19	6,148.48	6,250.37	6,184.94	65.44	95.514		
4,763.97	4,758.03	7,791.54	4,983.92	16.51	49.42	-126.67	141.60	6,148.55	6,250.05	6,184.33	65.71	95.109		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Sec 13-T21S-R27E - Lone Tree Draw 13 State Com 4H - Wellbore #2 - Wellbore #2													Offset Well Error:	0.50 ft
Survey Program: 18-GYRO-NS-CT, 4369-MWD+HDGM														
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
4,800.00	4,793.95	7,792.44	4,983.93	16.64	49.43	-126.66	140.70	6,148.58	6,250.15	6,184.28	65.87	94.890		
4,900.00	4,893.65	7,794.91	4,983.97	17.00	49.47	-126.63	138.23	6,148.69	6,251.52	6,185.24	66.28	94.316		
5,000.00	4,993.35	7,825.00	4,984.42	17.35	49.88	-126.36	108.18	6,150.18	6,254.69	6,187.64	67.05	93.277		
5,100.00	5,093.05	7,825.00	4,984.42	17.71	49.88	-126.36	108.18	6,150.18	6,259.22	6,191.81	67.41	92.851		
5,200.00	5,192.75	7,825.00	4,984.42	18.06	49.88	-126.36	108.18	6,150.18	6,265.34	6,197.59	67.75	92.471		
5,300.00	5,292.44	7,825.00	4,984.42	18.42	49.88	-126.36	108.18	6,150.18	6,273.05	6,204.97	68.08	92.136		
5,400.00	5,392.14	7,825.00	4,984.42	18.77	49.88	-126.36	108.18	6,150.18	6,282.35	6,213.95	68.40	91.846		
5,500.00	5,491.84	7,825.00	4,984.42	19.13	49.88	-126.36	108.18	6,150.18	6,293.22	6,224.52	68.70	91.600		
5,600.00	5,591.54	8,393.00	4,988.07	19.49	57.65	-121.17	-459.14	6,151.26	6,305.55	6,229.25	76.30	82.643		
5,700.00	5,691.24	8,393.00	4,988.07	19.85	57.65	-121.17	-459.14	6,151.26	6,318.91	6,242.34	76.57	82.520		
5,800.00	5,790.93	8,424.58	4,987.95	20.20	58.07	-120.88	-490.67	6,149.60	6,333.57	6,256.35	77.22	82.018		
5,900.00	5,890.63	8,426.70	4,987.96	20.56	58.10	-120.86	-492.79	6,149.50	6,349.99	6,272.50	77.49	81.942		
6,000.00	5,990.33	8,428.86	4,987.96	20.92	58.13	-120.84	-494.95	6,149.40	6,367.94	6,290.19	77.75	81.902		
6,100.00	6,090.03	8,431.07	4,987.97	21.28	58.16	-120.82	-497.15	6,149.31	6,387.40	6,309.40	77.99	81.895		
6,200.00	6,189.73	8,433.31	4,987.98	21.64	58.19	-120.80	-499.39	6,149.21	6,408.35	6,330.13	78.22	81.923		
6,300.00	6,289.42	8,435.60	4,987.99	22.00	58.22	-120.78	-501.68	6,149.11	6,430.80	6,352.36	78.44	81.983		
6,400.00	6,389.12	8,437.93	4,988.00	22.36	58.25	-120.76	-504.01	6,149.01	6,454.71	6,376.06	78.64	82.076		
6,500.00	6,488.82	8,440.30	4,988.01	22.72	58.28	-120.74	-506.38	6,148.92	6,480.07	6,401.24	78.83	82.200		
6,600.00	6,588.52	8,442.72	4,988.03	23.08	58.31	-120.72	-508.80	6,148.82	6,506.87	6,427.86	79.01	82.355		
6,700.00	6,688.22	8,445.19	4,988.05	23.44	58.34	-120.70	-511.26	6,148.72	6,535.09	6,455.91	79.18	82.539		
6,800.00	6,787.91	8,447.71	4,988.07	23.80	58.38	-120.67	-513.78	6,148.63	6,564.70	6,485.38	79.33	82.753		
6,900.00	6,887.61	8,450.28	4,988.09	24.16	58.41	-120.65	-516.35	6,148.53	6,595.70	6,516.23	79.47	82.996		
7,000.00	6,987.31	8,452.90	4,988.11	24.52	58.45	-120.63	-518.96	6,148.44	6,628.06	6,548.46	79.60	83.266		
7,100.00	7,087.01	8,455.57	4,988.14	24.88	58.48	-120.60	-521.64	6,148.35	6,661.76	6,582.04	79.72	83.563		
7,200.00	7,186.71	8,458.30	4,988.17	25.24	58.52	-120.58	-524.36	6,148.25	6,696.78	6,616.95	79.83	83.886		
7,300.00	7,286.41	8,488.00	4,988.65	25.60	58.92	-120.30	-554.05	6,147.44	6,733.25	6,652.99	80.26	83.896		
7,400.00	7,386.10	8,488.00	4,988.65	25.96	58.92	-120.30	-554.05	6,147.44	6,770.81	6,690.50	80.31	84.305		
7,500.00	7,485.80	8,488.00	4,988.65	26.33	58.92	-120.30	-554.05	6,147.44	6,809.64	6,729.28	80.36	84.738		
7,600.00	7,585.50	8,488.00	4,988.65	26.69	58.92	-120.30	-554.05	6,147.44	6,849.71	6,769.31	80.40	85.196		
7,700.00	7,685.20	8,488.00	4,988.65	27.05	58.92	-120.30	-554.05	6,147.44	6,891.00	6,810.57	80.43	85.677		
7,800.00	7,784.90	8,488.00	4,988.65	27.41	58.92	-120.30	-554.05	6,147.44	6,933.48	6,853.03	80.45	86.181		
7,860.70	7,845.41	8,488.00	4,988.65	27.63	58.92	-120.30	-554.05	6,147.44	6,959.84	6,879.38	80.46	86.498		
7,900.00	7,884.61	8,488.00	4,988.65	27.77	58.92	-120.55	-554.05	6,147.44	6,977.04	6,896.58	80.47	86.707		
8,000.00	7,984.46	8,488.00	4,988.65	28.13	58.92	-121.18	-554.05	6,147.44	7,020.79	6,940.32	80.47	87.248		
8,100.00	8,084.42	8,488.00	4,988.65	28.49	58.92	-121.80	-554.05	6,147.44	7,064.47	6,984.01	80.46	87.801		
8,157.59	8,142.00	8,488.00	4,988.65	28.69	58.92	91.92	-554.05	6,147.44	7,089.58	7,009.14	80.44	88.130		
8,200.00	8,184.41	8,488.00	4,988.65	28.83	58.92	91.92	-554.05	6,147.44	7,108.17	7,027.74	80.43	88.378		
8,300.00	8,284.41	8,488.00	4,988.65	29.17	58.92	91.92	-554.05	6,147.44	7,152.79	7,072.40	80.39	88.976		
8,400.00	8,384.41	8,488.00	4,988.65	29.51	58.92	91.92	-554.05	6,147.44	7,198.53	7,118.18	80.35	89.594		
8,507.63	8,492.04	8,488.00	4,988.65	29.87	58.92	91.92	-554.05	6,147.44	7,248.97	7,168.68	80.29	90.280		
8,550.00	8,534.37	8,488.00	4,988.65	30.02	58.92	2.46	-554.05	6,147.44	7,267.78	7,187.51	80.27	90.545		
8,600.00	8,584.01	8,488.00	4,988.65	30.18	58.92	2.38	-554.05	6,147.44	7,286.57	7,206.34	80.22	90.828		
8,650.00	8,632.95	8,488.00	4,988.65	30.34	58.92	2.31	-554.05	6,147.44	7,301.55	7,221.38	80.17	91.074		
8,700.00	8,680.82	8,488.00	4,988.65	30.50	58.92	2.27	-554.05	6,147.44	7,312.66	7,232.55	80.11	91.283		
8,750.00	8,727.25	8,488.00	4,988.65	30.66	58.92	2.24	-554.05	6,147.44	7,319.80	7,239.77	80.04	91.454		
8,800.00	8,771.89	8,488.00	4,988.65	30.81	58.92	2.22	-554.05	6,147.44	7,322.96	7,243.00	79.96	91.588		
8,850.00	8,814.40	8,488.00	4,988.65	30.95	58.92	2.23	-554.05	6,147.44	7,322.09	7,242.23	79.86	91.684		
8,900.00	8,854.46	8,488.00	4,988.65	31.09	58.92	2.25	-554.05	6,147.44	7,317.22	7,237.46	79.76	91.742		
8,950.00	8,891.75	8,488.00	4,988.65	31.23	58.92	2.28	-554.05	6,147.44	7,308.36	7,228.71	79.65	91.761		
9,000.00	8,926.01	8,488.00	4,988.65	31.37	58.92	2.34	-554.05	6,147.44	7,295.57	7,216.05	79.52	91.742		
9,050.00	8,956.96	8,488.00	4,988.65	31.53	58.92	2.41	-554.05	6,147.44	7,278.94	7,199.54	79.39	91.682		
9,100.00	8,984.38	8,488.00	4,988.65	31.69	58.92	2.51	-554.05	6,147.44	7,258.55	7,179.29	79.26	91.583		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Sec 13-T21S-R27E - Lone Tree Draw 13 State Com 4H - Wellbore #2 - Wellbore #2													Offset Well Error:	0.50 ft
Survey Program: 18-GYRO-NS-CT, 4369-MWD+HDGM														
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
9,150.00	9,008.05	8,488.00	4,988.65	31.87	58.92	2.63	-554.05	6,147.44	7,234.54	7,155.42	79.11	91.444		
9,200.00	9,027.79	8,488.00	4,988.65	32.07	58.92	2.78	-554.05	6,147.44	7,207.04	7,128.08	78.97	91.265		
9,250.00	9,043.45	8,488.00	4,988.65	32.29	58.92	2.98	-554.05	6,147.44	7,176.24	7,097.42	78.82	91.045		
9,300.00	9,054.92	8,488.00	4,988.65	32.53	58.92	3.23	-554.05	6,147.44	7,142.33	7,063.65	78.67	90.784		
9,350.00	9,062.10	8,488.00	4,988.65	32.79	58.92	3.55	-554.05	6,147.44	7,105.51	7,026.98	78.53	90.484		
9,400.00	9,064.95	8,488.00	4,988.65	33.06	58.92	3.98	-554.05	6,147.44	7,066.03	6,987.64	78.39	90.144		
9,407.63	9,065.00	8,488.00	4,988.65	33.10	58.92	4.05	-554.05	6,147.44	7,059.79	6,981.42	78.37	90.084		
9,500.00	9,065.00	8,488.00	4,988.65	33.68	58.92	4.05	-554.05	6,147.44	6,984.08	6,905.98	78.10	89.426		
9,600.00	9,065.00	8,488.00	4,988.65	34.41	58.92	4.05	-554.05	6,147.44	6,902.57	6,824.76	77.81	88.714		
9,700.00	9,065.00	8,488.00	4,988.65	35.24	58.92	4.05	-554.05	6,147.44	6,821.55	6,744.04	77.52	88.003		
9,800.00	9,065.00	8,488.00	4,988.65	36.17	58.92	4.05	-554.05	6,147.44	6,741.05	6,663.82	77.22	87.291		
9,900.00	9,065.00	8,488.00	4,988.65	37.19	58.92	4.05	-554.05	6,147.44	6,661.07	6,584.13	76.94	86.580		
10,000.00	9,065.00	8,471.38	4,988.35	38.30	58.70	3.82	-537.44	6,147.85	6,581.60	6,505.14	76.46	86.074		
10,100.00	9,065.00	8,469.14	4,988.32	39.48	58.67	3.78	-535.20	6,147.92	6,502.73	6,426.57	76.16	85.388		
10,200.00	9,065.00	8,466.80	4,988.28	40.72	58.63	3.75	-532.86	6,147.99	6,424.44	6,348.59	75.85	84.701		
10,300.00	9,065.00	8,464.35	4,988.25	42.03	58.60	3.72	-530.41	6,148.06	6,346.76	6,271.22	75.54	84.014		
10,400.00	9,065.00	8,461.79	4,988.22	43.40	58.57	3.68	-527.85	6,148.14	6,269.72	6,194.47	75.24	83.327		
10,500.00	9,065.00	8,459.10	4,988.18	44.82	58.53	3.64	-525.16	6,148.23	6,193.32	6,118.38	74.94	82.639		
10,600.00	9,065.00	8,456.27	4,988.15	46.29	58.49	3.60	-522.34	6,148.32	6,117.61	6,042.96	74.65	81.949		
10,700.00	9,065.00	8,453.30	4,988.12	47.79	58.45	3.56	-519.37	6,148.43	6,042.60	5,968.24	74.36	81.258		
10,800.00	9,065.00	8,450.18	4,988.09	49.34	58.41	3.51	-516.25	6,148.54	5,968.32	5,894.24	74.08	80.566		
10,900.00	9,065.00	8,446.89	4,988.06	50.92	58.37	3.47	-512.96	6,148.66	5,894.80	5,821.00	73.80	79.872		
11,000.00	9,065.00	8,443.42	4,988.03	52.54	58.32	3.42	-509.49	6,148.79	5,822.07	5,748.53	73.53	79.176		
11,100.00	9,065.00	8,439.75	4,988.01	54.18	58.27	3.37	-505.83	6,148.94	5,750.15	5,676.88	73.27	78.479		
11,200.00	9,065.00	8,435.86	4,987.99	55.85	58.22	3.31	-501.95	6,149.10	5,679.07	5,606.06	73.02	77.779		
11,300.00	9,065.00	8,431.75	4,987.97	57.54	58.16	3.25	-497.83	6,149.28	5,608.88	5,536.11	72.77	77.077		
11,400.00	9,065.00	8,427.37	4,987.96	59.26	58.11	3.19	-493.46	6,149.47	5,539.60	5,467.07	72.53	76.373		
11,500.00	9,065.00	8,422.72	4,987.95	61.00	58.04	3.12	-488.82	6,149.69	5,471.26	5,398.96	72.31	75.668		
11,600.00	9,065.00	8,417.76	4,987.95	62.75	57.98	3.05	-483.86	6,149.92	5,403.91	5,331.82	72.09	74.960		
11,700.00	9,065.00	8,412.46	4,987.96	64.52	57.91	2.98	-478.57	6,150.19	5,337.57	5,265.69	71.88	74.252		
11,800.00	9,065.00	8,406.79	4,987.98	66.31	57.83	2.90	-472.90	6,150.48	5,272.29	5,200.60	71.69	73.542		
11,900.00	9,065.00	8,401.70	4,987.99	68.11	57.76	2.83	-467.82	6,150.75	5,208.10	5,136.58	71.52	72.822		
12,000.00	9,065.00	8,394.25	4,988.06	69.93	57.66	2.72	-460.38	6,151.18	5,145.05	5,073.71	71.34	72.120		
12,100.00	9,065.00	8,386.80	4,988.12	71.76	57.56	2.61	-452.95	6,151.62	5,083.18	5,012.00	71.18	71.414		
12,200.00	9,065.00	8,379.35	4,988.18	73.60	57.47	2.51	-445.51	6,152.06	5,022.52	4,951.48	71.04	70.704		
12,300.00	9,065.00	8,371.91	4,988.25	75.45	57.37	2.40	-438.08	6,152.49	4,963.12	4,892.21	70.91	69.989		
12,400.00	9,065.00	8,364.46	4,988.31	77.31	57.27	2.30	-430.64	6,152.93	4,905.04	4,834.23	70.81	69.272		
12,500.00	9,065.00	8,357.01	4,988.38	79.18	57.17	2.19	-423.21	6,153.37	4,848.31	4,777.59	70.72	68.552		
12,600.00	9,065.00	8,349.56	4,988.44	81.05	57.08	2.08	-415.77	6,153.80	4,792.99	4,722.33	70.66	67.831		
12,700.00	9,065.00	8,342.11	4,988.51	82.94	56.98	1.98	-408.34	6,154.24	4,739.12	4,668.50	70.62	67.108		
12,800.00	9,065.00	8,334.67	4,988.58	84.83	56.88	1.87	-400.90	6,154.68	4,686.75	4,616.15	70.60	66.386		
12,900.00	9,065.00	8,327.22	4,988.65	86.73	56.78	1.77	-393.47	6,155.11	4,635.94	4,565.34	70.60	65.664		
13,000.00	9,065.00	8,319.77	4,988.72	88.64	56.68	1.66	-386.04	6,155.55	4,586.73	4,516.10	70.63	64.944		
13,100.00	9,065.00	8,312.32	4,988.79	90.55	56.59	1.55	-378.60	6,155.98	4,539.18	4,468.51	70.67	64.227		
13,200.00	9,065.00	8,309.24	4,988.82	92.47	56.55	1.51	-375.53	6,156.15	4,493.34	4,422.55	70.79	63.476		
13,300.00	9,065.00	8,297.64	4,988.94	94.39	56.39	1.35	-363.94	6,156.85	4,449.27	4,378.43	70.85	62.803		
13,400.00	9,065.00	8,286.86	4,989.05	96.32	56.25	1.19	-353.18	6,157.47	4,407.01	4,336.08	70.94	62.127		
13,500.00	9,065.00	8,276.82	4,989.14	98.25	56.12	1.05	-343.16	6,158.02	4,366.62	4,295.56	71.06	61.449		
13,600.00	9,065.00	8,267.45	4,989.23	100.19	55.99	0.92	-333.80	6,158.51	4,328.15	4,256.93	71.22	60.773		
13,700.00	9,065.00	8,258.68	4,989.31	102.13	55.88	0.79	-325.04	6,158.96	4,291.65	4,220.24	71.41	60.099		
13,800.00	9,065.00	8,250.46	4,989.39	104.08	55.77	0.67	-316.83	6,159.36	4,257.17	4,185.54	71.63	59.430		
13,900.00	9,065.00	8,242.73	4,989.46	106.03	55.67	0.56	-309.11	6,159.72	4,224.77	4,152.88	71.89	58.765		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Sec 13-T21S-R27E - Lone Tree Draw 13 State Com 4H - Wellbore #2 - Wellbore #2													Offset Well Error:	0.50 ft
Survey Program: 18-GYRO-NS-CT, 4369-MWD+HDGM														
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
14,000.00	9,065.00	8,235.46	4,989.53	107.98	55.57	0.46	-301.85	6,160.05	4,194.49	4,122.31	72.19	58.108		
14,100.00	9,065.00	8,228.60	4,989.59	109.94	55.48	0.36	-295.00	6,160.35	4,166.39	4,093.88	72.51	57.457		
14,200.00	9,065.00	8,222.13	4,989.64	111.90	55.40	0.27	-288.53	6,160.62	4,140.50	4,067.62	72.88	56.816		
14,300.00	9,065.00	8,216.00	4,989.70	113.86	55.32	0.18	-282.41	6,160.87	4,116.87	4,043.59	73.28	56.183		
14,400.00	9,065.00	8,210.19	4,989.75	115.82	55.24	0.10	-276.61	6,161.10	4,095.54	4,021.82	73.71	55.560		
14,500.00	9,065.00	8,204.69	4,989.79	117.79	55.17	0.02	-271.11	6,161.31	4,076.54	4,002.35	74.19	54.948		
14,600.00	9,065.00	8,204.00	4,989.80	119.76	55.16	0.01	-270.42	6,161.34	4,059.91	3,985.17	74.74	54.321		
14,700.00	9,065.00	8,204.00	4,989.80	121.74	55.16	0.01	-270.42	6,161.34	4,045.69	3,970.36	75.33	53.704		
14,800.00	9,065.00	8,204.00	4,989.80	123.71	55.16	0.01	-270.42	6,161.34	4,033.90	3,957.94	75.96	53.102		
14,900.00	9,065.00	8,204.00	4,989.80	125.69	55.16	0.01	-270.42	6,161.34	4,024.56	3,947.92	76.63	52.517		
15,000.00	9,065.00	8,204.00	4,989.80	127.67	55.16	0.01	-270.42	6,161.34	4,017.68	3,940.34	77.34	51.947		
15,100.00	9,065.00	8,204.00	4,989.80	129.65	55.16	0.01	-270.42	6,161.34	4,013.29	3,935.21	78.09	51.395		
15,200.00	9,065.00	8,204.00	4,989.80	131.63	55.16	0.01	-270.42	6,161.34	4,011.39	3,932.52	78.87	50.861		
15,226.38	9,065.00	8,204.00	4,989.80	132.16	55.16	0.01	-270.42	6,161.34	4,011.30	3,932.22	79.08	50.724 CC, ES		
15,300.00	9,065.00	8,204.00	4,989.80	133.62	55.16	0.01	-270.42	6,161.34	4,011.98	3,932.29	79.69	50.347		
15,400.00	9,065.00	8,204.00	4,989.80	135.61	55.16	0.01	-270.42	6,161.34	4,015.06	3,934.52	80.54	49.854		
15,500.00	9,065.00	8,204.00	4,989.80	137.60	55.16	0.01	-270.42	6,161.34	4,020.62	3,939.21	81.42	49.384		
15,600.00	9,065.00	8,180.78	4,989.92	139.59	54.84	-0.32	-247.21	6,162.09	4,028.51	3,946.39	82.12	49.054		
15,700.00	9,065.00	8,179.10	4,989.92	141.58	54.82	-0.34	-245.53	6,162.13	4,038.99	3,955.95	83.04	48.640		
15,800.00	9,065.00	8,177.49	4,989.92	143.57	54.80	-0.37	-243.92	6,162.17	4,051.91	3,967.93	83.97	48.252		
15,900.00	9,065.00	8,175.93	4,989.92	145.57	54.78	-0.39	-242.36	6,162.21	4,067.24	3,982.31	84.92	47.893		
16,000.00	9,065.00	8,174.43	4,989.93	147.56	54.76	-0.41	-240.86	6,162.25	4,084.96	3,999.08	85.89	47.563		
16,100.00	9,065.00	8,172.97	4,989.93	149.56	54.74	-0.43	-239.41	6,162.29	4,105.04	4,018.19	86.86	47.263		
16,200.00	9,065.00	8,171.57	4,989.93	151.56	54.72	-0.45	-238.00	6,162.32	4,127.45	4,039.62	87.83	46.995		
16,300.00	9,065.00	8,170.21	4,989.92	153.56	54.70	-0.47	-236.65	6,162.35	4,152.14	4,063.34	88.80	46.759		
16,400.00	9,065.00	8,168.90	4,989.92	155.56	54.68	-0.49	-235.33	6,162.38	4,179.08	4,089.32	89.77	46.555		
16,500.00	9,065.00	8,167.63	4,989.92	157.57	54.67	-0.51	-234.06	6,162.41	4,208.23	4,117.50	90.73	46.384		
16,600.00	9,065.00	8,166.39	4,989.92	159.57	54.65	-0.53	-232.83	6,162.44	4,239.53	4,147.85	91.67	46.247		
16,700.00	9,065.00	8,165.20	4,989.92	161.57	54.63	-0.54	-231.63	6,162.46	4,272.94	4,180.33	92.60	46.142		
16,800.00	9,065.00	8,164.04	4,989.91	163.58	54.62	-0.56	-230.48	6,162.49	4,308.41	4,214.89	93.52	46.070		
16,900.00	9,065.00	8,162.92	4,989.91	165.59	54.60	-0.58	-229.35	6,162.51	4,345.90	4,251.48	94.41	46.030		
17,000.00	9,065.00	8,161.83	4,989.91	167.60	54.59	-0.59	-228.26	6,162.53	4,385.34	4,290.05	95.29	46.023 SF		
17,100.00	9,065.00	8,160.77	4,989.90	169.60	54.57	-0.61	-227.20	6,162.55	4,426.69	4,330.56	96.14	46.046		
17,200.00	9,065.00	8,159.74	4,989.90	171.61	54.56	-0.62	-226.18	6,162.57	4,469.90	4,372.94	96.96	46.100		
17,300.00	9,065.00	8,158.74	4,989.90	173.62	54.55	-0.64	-225.18	6,162.59	4,514.90	4,417.14	97.76	46.184		
17,400.00	9,065.00	8,157.77	4,989.89	175.63	54.53	-0.65	-224.21	6,162.61	4,561.66	4,463.13	98.53	46.297		
17,500.00	9,065.00	8,156.82	4,989.89	177.65	54.52	-0.66	-223.26	6,162.62	4,610.11	4,510.83	99.28	46.437		
17,600.00	9,065.00	8,155.91	4,989.88	179.66	54.51	-0.68	-222.34	6,162.64	4,660.20	4,560.21	99.99	46.605		
17,700.00	9,065.00	8,155.01	4,989.88	181.67	54.50	-0.69	-221.45	6,162.65	4,711.88	4,611.20	100.68	46.799		
17,800.00	9,065.00	8,154.14	4,989.87	183.69	54.48	-0.70	-220.58	6,162.67	4,765.10	4,663.75	101.34	47.019		
17,900.00	9,065.00	8,153.29	4,989.87	185.70	54.47	-0.71	-219.73	6,162.68	4,819.80	4,717.82	101.98	47.262		
18,000.00	9,065.00	8,152.47	4,989.87	187.72	54.46	-0.72	-218.90	6,162.70	4,875.94	4,773.36	102.59	47.529		
18,100.00	9,065.00	8,151.66	4,989.86	189.73	54.45	-0.74	-218.10	6,162.71	4,933.47	4,830.30	103.17	47.819		
18,200.00	9,065.00	8,150.87	4,989.86	191.75	54.44	-0.75	-217.31	6,162.72	4,992.34	4,888.62	103.73	48.130		
18,300.00	9,065.00	8,150.11	4,989.85	193.77	54.43	-0.76	-216.55	6,162.73	5,052.51	4,948.25	104.26	48.462		
18,400.00	9,065.00	8,149.36	4,989.85	195.78	54.42	-0.77	-215.80	6,162.74	5,113.92	5,009.15	104.76	48.814		
18,500.00	9,065.00	8,148.63	4,989.84	197.80	54.41	-0.78	-215.07	6,162.75	5,176.53	5,071.29	105.25	49.185		
18,600.00	9,065.00	8,147.92	4,989.84	199.82	54.40	-0.79	-214.36	6,162.76	5,240.30	5,134.60	105.71	49.574		
18,700.00	9,065.00	8,147.23	4,989.83	201.84	54.39	-0.80	-213.66	6,162.77	5,305.20	5,199.05	106.14	49.981		
18,800.00	9,065.00	8,146.55	4,989.83	203.86	54.38	-0.81	-212.98	6,162.78	5,371.16	5,264.60	106.56	50.405		
18,900.00	9,065.00	8,145.88	4,989.82	205.88	54.37	-0.82	-212.32	6,162.79	5,438.17	5,331.22	106.96	50.844		
19,000.00	9,065.00	8,145.24	4,989.82	207.90	54.36	-0.83	-211.67	6,162.80	5,506.18	5,398.85	107.33	51.299		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Sec 13-T21S-R27E - Lone Tree Draw 13 State Com 4H - Wellbore #2 - Wellbore #2		Offset Site Error:		5.00 ft			
Survey Program:													18-GYRO-NS-CT, 4369-MWD+HDGM				Offset Well Error:		0.50 ft	
Reference		Offset		Semi Major Axis			Distance							Warning						
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor								
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)	(ft)								
19,100.00	9,065.00	8,144.60	4,989.81	209.92	54.36	-0.84	-211.04	6,162.81	5,575.15	5,467.46	107.69	51.769								
19,200.00	9,065.00	8,143.98	4,989.81	211.95	54.35	-0.85	-210.42	6,162.81	5,645.05	5,537.02	108.03	52.253								
19,300.00	9,065.00	8,143.38	4,989.80	213.97	54.34	-0.85	-209.82	6,162.82	5,715.85	5,607.49	108.36	52.750								
19,400.00	9,065.00	8,142.78	4,989.80	215.99	54.33	-0.86	-209.22	6,162.83	5,787.50	5,678.84	108.67	53.260								
19,456.84	9,065.00	8,142.45	4,989.79	217.14	54.33	-0.87	-208.89	6,162.83	5,828.61	5,719.77	108.83	53.555								

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Survey Program: 233-GYRO-NS-CT, 4541-MWD+HDGM													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)						
0.00	0.00	0.00	0.00	0.50	5.02	66.72	3,319.90	7,715.44	8,399.74					
100.00	100.00	26.84	26.84	0.52	5.03	66.72	3,319.90	7,715.43	8,399.38	8,393.84	5.54	1,515.349		
200.00	200.00	143.02	143.02	0.70	5.03	66.72	3,320.12	7,715.15	8,399.24	8,393.51	5.73	1,465.338		
300.00	300.00	271.76	271.75	0.99	5.05	66.71	3,320.63	7,714.42	8,398.89	8,392.85	6.04	1,391.281		
400.00	400.00	382.31	382.30	1.31	5.10	66.71	3,320.49	7,713.59	8,398.13	8,391.72	6.41	1,309.951		
500.00	500.00	468.86	468.86	1.65	5.16	66.71	3,320.11	7,713.17	8,397.52	8,390.71	6.81	1,233.285		
600.00	600.00	570.61	570.60	1.99	5.26	66.71	3,319.62	7,712.81	8,397.00	8,389.75	7.25	1,158.717		
700.00	700.00	685.20	685.18	2.34	5.39	66.72	3,318.89	7,712.31	8,396.35	8,388.62	7.73	1,086.644		
800.00	800.00	783.63	783.61	2.69	5.52	66.72	3,318.07	7,711.88	8,395.61	8,387.40	8.21	1,022.373		
900.00	900.00	853.75	853.73	3.04	5.63	66.72	3,317.60	7,711.67	8,395.07	8,386.40	8.67	968.168		
1,000.00	1,000.00	964.90	964.87	3.40	5.81	66.73	3,317.07	7,711.45	8,394.71	8,385.50	9.21	911.414		
1,100.00	1,100.00	1,051.06	1,051.03	3.75	5.97	66.73	3,316.67	7,711.23	8,394.29	8,384.57	9.72	863.345		
1,200.00	1,200.00	1,174.71	1,174.68	4.11	6.22	66.72	3,316.69	7,710.46	8,393.71	8,383.38	10.32	813.113		
1,300.00	1,300.00	1,240.90	1,240.87	4.46	6.35	66.72	3,316.90	7,710.08	8,393.30	8,382.48	10.82	775.865		
1,400.00	1,400.00	1,332.76	1,332.73	4.82	6.55	66.72	3,317.20	7,709.79	8,393.14	8,381.76	11.38	737.825		
1,500.00	1,500.00	1,432.49	1,432.46	5.18	6.78	66.72	3,317.46	7,709.57	8,393.04	8,381.08	11.96	701.705		
1,600.00	1,600.00	1,576.73	1,576.69	5.53	7.13	66.71	3,318.06	7,708.71	8,392.65	8,379.98	12.67	662.602		
1,700.00	1,700.00	1,662.86	1,662.82	5.89	7.35	66.71	3,318.22	7,708.04	8,392.02	8,378.78	13.24	633.818		
1,800.00	1,800.00	1,742.58	1,742.54	6.25	7.56	66.71	3,318.06	7,707.83	8,391.70	8,377.89	13.80	607.932		
1,900.00	1,900.00	1,831.45	1,831.41	6.61	7.79	66.71	3,317.62	7,707.86	8,391.53	8,377.14	14.40	582.922		
1,987.41	1,987.41	1,910.54	1,910.50	6.92	8.00	66.71	3,317.21	7,708.00	8,391.49	8,376.57	14.92	562.397		
2,000.00	2,000.00	1,922.24	1,922.20	6.96	8.03	66.72	3,317.13	7,708.04	8,391.49	8,376.50	15.00	559.516		
2,100.00	2,100.00	7,758.00	4,988.81	7.32	46.55	87.37	359.76	7,837.12	8,387.21	8,335.97	51.24	163.670		
2,200.00	2,200.00	7,758.00	4,988.81	7.68	46.55	87.37	359.76	7,837.12	8,352.37	8,300.64	51.74	161.437		
2,300.00	2,300.00	7,758.00	4,988.81	8.04	46.55	87.37	359.76	7,837.12	8,318.59	8,266.36	52.23	159.268		
2,400.00	2,400.00	7,758.00	4,988.81	8.39	46.55	87.37	359.76	7,837.12	8,285.88	8,233.16	52.72	157.162		
2,500.00	2,500.00	7,758.00	4,988.81	8.75	46.55	87.37	359.76	7,837.12	8,254.26	8,201.04	53.21	155.118		
2,600.00	2,599.99	7,758.00	4,988.81	9.09	46.55	-126.96	359.76	7,837.12	8,224.22	8,170.53	53.69	153.191		
2,700.00	2,699.96	7,758.00	4,988.81	9.42	46.55	-127.19	359.76	7,837.12	8,196.30	8,142.16	54.14	151.380		
2,800.00	2,799.86	7,758.00	4,988.81	9.75	46.55	-127.40	359.76	7,837.12	8,170.53	8,115.93	54.60	149.637		
2,900.00	2,899.68	7,758.00	4,988.81	10.08	46.55	-127.59	359.76	7,837.12	8,146.94	8,091.88	55.06	147.963		
2,945.33	2,944.88	7,758.00	4,988.81	10.23	46.55	-127.68	359.76	7,837.12	8,136.97	8,081.70	55.27	147.228		
3,000.00	2,999.39	7,758.00	4,988.81	10.41	46.55	-127.68	359.76	7,837.12	8,125.40	8,069.88	55.52	146.354		
3,100.00	3,099.08	7,758.00	4,988.81	10.75	46.55	-127.68	359.76	7,837.12	8,105.13	8,049.16	55.98	144.796		
3,200.00	3,198.78	7,758.00	4,988.81	11.08	46.55	-127.68	359.76	7,837.12	8,086.06	8,029.63	56.43	143.289		
3,300.00	3,298.48	7,758.00	4,988.81	11.42	46.55	-127.68	359.76	7,837.12	8,068.18	8,011.29	56.88	141.833		
3,400.00	3,398.18	7,758.00	4,988.81	11.76	46.55	-127.68	359.76	7,837.12	8,051.50	7,994.16	57.34	140.429		
3,500.00	3,497.88	7,758.00	4,988.81	12.10	46.55	-127.68	359.76	7,837.12	8,036.03	7,978.25	57.78	139.075		
3,600.00	3,597.58	7,758.00	4,988.81	12.45	46.55	-127.68	359.76	7,837.12	8,021.77	7,963.55	58.22	137.772		
3,700.00	3,697.27	7,758.00	4,988.81	12.79	46.55	-127.68	359.76	7,837.12	8,008.75	7,950.08	58.66	136.519		
3,800.00	3,796.97	7,758.00	4,988.81	13.14	46.55	-127.68	359.76	7,837.12	7,996.95	7,937.85	59.10	135.315		
3,900.00	3,896.67	7,758.00	4,988.81	13.48	46.55	-127.68	359.76	7,837.12	7,986.38	7,926.85	59.53	134.161		
4,000.00	3,896.37	7,758.00	4,988.81	13.83	46.55	-127.68	359.76	7,837.12	7,977.06	7,917.10	59.95	133.055		
4,100.00	4,096.07	7,761.59	4,988.83	14.18	46.60	-127.65	356.17	7,837.32	7,968.97	7,908.55	60.42	131.887		
4,200.00	4,195.76	7,821.71	4,988.76	14.53	47.44	-127.22	296.14	7,840.50	7,962.11	7,900.43	61.68	129.090		
4,300.00	4,295.46	7,867.91	4,988.35	14.88	48.09	-126.88	250.00	7,842.71	7,956.47	7,893.73	62.73	126.827		
4,400.00	4,395.16	4,400.00	4,988.63	15.23	15.53	-127.24	299.24	7,840.25	7,952.00	7,931.93	20.07	396.183		
4,500.00	4,494.86	4,500.00	4,988.61	15.58	15.57	-127.20	293.36	7,840.55	7,948.88	7,928.30	20.58	386.273		
4,600.00	4,594.56	4,600.00	4,988.59	15.93	15.61	-127.15	287.47	7,840.86	7,947.01	7,925.77	21.24	374.125		
4,698.93	4,693.19	4,698.93	4,988.58	16.28	15.65	-127.11	281.65	7,841.16	7,946.40	7,924.18	22.21	357.729		
4,700.00	4,694.25	4,700.00	4,988.58	16.29	15.65	-127.11	281.59	7,841.16	7,946.40	7,924.17	22.23	357.537		
4,800.00	4,793.95	4,800.00	4,988.56	16.64	15.69	-127.07	275.70	7,841.46	7,947.04	7,923.60	23.44	339.000		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Sec 13-T21S-R27E - Lone Tree Draw 13 State Com 5H - Wellbore #1 - Wellbore #1													Offset Well Error:	0.50 ft
Survey Program: 233-GYRO-NS-CT, 4541-MWD+HDGM														
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
4,900.00	4,893.65	4,900.00	4,988.54	17.00	15.73	-127.03	269.82	7,841.77	7,948.93	7,924.12	24.82	320.313		
5,000.00	4,993.35	5,000.00	4,988.52	17.35	15.77	-126.98	263.93	7,842.07	7,952.08	7,925.79	26.29	302.456		
5,100.00	5,093.05	5,100.00	4,988.50	17.71	15.81	-126.94	258.05	7,842.38	7,956.48	7,928.64	27.83	285.851		
5,200.00	5,192.75	7,852.00	4,988.53	18.06	47.86	-127.00	265.89	7,841.97	7,962.14	7,896.25	65.88	120.852		
5,300.00	5,292.44	7,876.32	4,988.34	18.42	48.21	-126.82	241.60	7,843.16	7,968.96	7,902.40	66.56	119.718		
5,400.00	5,392.14	7,878.89	4,988.33	18.77	48.24	-126.81	239.03	7,843.30	7,977.10	7,910.17	66.93	119.187		
5,500.00	5,491.84	7,881.50	4,988.32	19.13	48.28	-126.79	236.42	7,843.43	7,986.48	7,919.19	67.29	118.693		
5,600.00	5,591.54	7,884.15	4,988.31	19.49	48.32	-126.77	233.77	7,843.57	7,997.09	7,929.46	67.64	118.236		
5,700.00	5,691.24	7,886.86	4,988.30	19.85	48.36	-126.75	231.07	7,843.71	8,008.94	7,940.96	67.98	117.815		
5,800.00	5,790.93	7,889.60	4,988.29	20.20	48.39	-126.73	228.33	7,843.86	8,022.02	7,953.70	68.31	117.430		
5,900.00	5,890.63	7,892.40	4,988.28	20.56	48.43	-126.71	225.54	7,844.01	8,036.32	7,967.68	68.64	117.079		
6,000.00	5,990.33	7,895.24	4,988.28	20.92	48.47	-126.69	222.70	7,844.16	8,051.83	7,982.87	68.96	116.762		
6,100.00	6,090.03	7,898.14	4,988.27	21.28	48.51	-126.67	219.81	7,844.32	8,068.55	7,999.28	69.27	116.478		
6,200.00	6,189.73	7,901.09	4,988.27	21.64	48.56	-126.65	216.86	7,844.48	8,086.47	8,016.89	69.57	116.227		
6,300.00	6,289.42	7,904.09	4,988.27	22.00	48.60	-126.62	213.87	7,844.64	8,105.58	8,035.71	69.87	116.008		
6,400.00	6,389.12	7,907.14	4,988.27	22.36	48.64	-126.60	210.82	7,844.81	8,125.87	8,055.71	70.16	115.819		
6,500.00	6,488.82	7,910.25	4,988.28	22.72	48.69	-126.58	207.71	7,844.99	8,147.34	8,076.90	70.44	115.661		
6,600.00	6,588.52	7,913.42	4,988.28	23.08	48.73	-126.56	204.55	7,845.17	8,169.98	8,099.26	70.72	115.533		
6,700.00	6,688.22	7,916.65	4,988.29	23.44	48.78	-126.53	201.32	7,845.35	8,193.77	8,122.78	70.98	115.433		
6,800.00	6,787.91	7,919.94	4,988.30	23.80	48.82	-126.51	198.04	7,845.54	8,218.70	8,147.46	71.24	115.362		
6,900.00	6,887.61	7,923.30	4,988.31	24.16	48.87	-126.49	194.69	7,845.74	8,244.77	8,173.28	71.50	115.318		
7,000.00	6,987.31	7,926.71	4,988.32	24.52	48.92	-126.46	191.28	7,845.94	8,271.97	8,200.22	71.74	115.301		
7,100.00	7,087.01	7,947.00	4,988.45	24.88	49.20	-126.32	171.03	7,847.17	8,300.31	8,228.09	72.22	114.936		
7,200.00	7,186.71	7,947.00	4,988.45	25.24	49.20	-126.32	171.03	7,847.17	8,329.70	8,257.30	72.40	115.051		
7,300.00	7,286.41	7,947.00	4,988.45	25.60	49.20	-126.32	171.03	7,847.17	8,360.19	8,287.62	72.58	115.190		
7,400.00	7,386.10	7,947.00	4,988.45	25.96	49.20	-126.32	171.03	7,847.17	8,391.76	8,319.02	72.75	115.355		
7,500.00	7,485.80	7,947.00	4,988.45	26.33	49.20	-126.32	171.03	7,847.17	8,424.40	8,351.49	72.91	115.545		
7,600.00	7,585.50	7,954.79	4,988.52	26.69	49.31	-126.26	163.25	7,847.65	8,458.10	8,384.92	73.18	115.587		
7,700.00	7,685.20	7,972.28	4,988.64	27.05	49.56	-126.13	145.80	7,848.71	8,492.82	8,419.26	73.57	115.443		
7,800.00	7,784.90	7,989.25	4,988.75	27.41	49.80	-126.01	128.86	7,849.71	8,528.57	8,454.62	73.95	115.336		
7,860.70	7,845.41	7,999.31	4,988.80	27.63	49.94	-125.94	118.82	7,850.29	8,550.75	8,476.59	74.17	115.289		
7,900.00	7,884.61	8,005.33	4,988.83	27.77	50.03	-126.08	112.80	7,850.64	8,565.21	8,490.90	74.30	115.273		
8,000.00	7,984.46	8,016.86	4,988.88	28.13	50.19	-126.48	101.29	7,851.28	8,601.67	8,527.08	74.59	115.319		
8,100.00	8,084.42	8,023.11	4,988.90	28.49	50.28	-126.90	95.06	7,851.63	8,637.70	8,562.90	74.80	115.484		
8,157.59	8,142.00	8,024.39	4,988.91	28.69	50.30	86.93	93.77	7,851.70	8,658.23	8,583.36	74.87	115.637		
8,200.00	8,184.41	8,024.73	4,988.91	28.83	50.30	86.93	93.43	7,851.72	8,673.39	8,598.47	74.92	115.769		
8,300.00	8,284.41	8,025.51	4,988.91	29.17	50.31	86.94	92.66	7,851.76	8,709.85	8,634.82	75.02	116.094		
8,400.00	8,384.41	8,026.27	4,988.91	29.51	50.33	86.94	91.90	7,851.80	8,747.30	8,672.17	75.12	116.439		
8,507.63	8,492.04	8,027.06	4,988.92	29.87	50.34	86.95	91.11	7,851.85	8,788.69	8,713.47	75.23	116.831		
8,550.00	8,534.37	8,027.51	4,988.92	30.02	50.34	-2.35	90.66	7,851.87	8,803.84	8,728.58	75.26	116.976		
8,600.00	8,584.01	8,028.42	4,988.92	30.18	50.36	-2.29	89.75	7,851.92	8,818.15	8,742.84	75.30	117.102		
8,650.00	8,632.95	8,029.73	4,988.93	30.34	50.37	-2.24	88.45	7,851.99	8,828.49	8,753.15	75.34	117.178		
8,700.00	8,680.82	8,031.39	4,988.93	30.50	50.40	-2.20	86.78	7,852.08	8,834.82	8,759.44	75.38	117.204		
8,750.00	8,727.25	8,033.40	4,988.94	30.66	50.43	-2.18	84.78	7,852.19	8,837.08	8,761.66	75.41	117.182		
8,800.00	8,771.89	8,035.72	4,988.94	30.81	50.46	-2.17	82.46	7,852.32	8,835.27	8,759.82	75.44	117.114		
8,850.00	8,814.40	8,038.31	4,988.95	30.95	50.50	-2.18	79.87	7,852.46	8,829.39	8,753.92	75.46	117.001		
8,900.00	8,854.46	8,041.16	4,988.96	31.09	50.54	-2.19	77.03	7,852.61	8,819.48	8,744.00	75.48	116.845		
8,950.00	8,891.75	8,044.22	4,988.96	31.23	50.58	-2.23	73.98	7,852.77	8,805.61	8,730.12	75.49	116.647		
9,000.00	8,926.01	8,047.46	4,988.97	31.37	50.63	-2.28	70.74	7,852.94	8,787.86	8,712.37	75.49	116.408		
9,050.00	8,956.96	8,050.85	4,988.98	31.53	50.67	-2.35	67.35	7,853.12	8,766.35	8,690.86	75.49	116.129		
9,100.00	8,984.38	8,054.36	4,988.98	31.69	50.72	-2.45	63.84	7,853.30	8,741.20	8,665.72	75.48	115.811		
9,150.00	9,008.05	8,057.97	4,988.99	31.87	50.77	-2.57	60.25	7,853.49	8,712.59	8,637.12	75.46	115.456		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Survey Program: 233-GYRO-NS-CT, 4541-MWD+HDGM													Offset Well Error:	0.50 ft
Reference														
Semi Major Axis														
Distance														
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
9,200.00	9,027.79	8,061.63	4,988.99	32.07	50.83	-2.73	56.59	7,853.68	8,680.68	8,605.24	75.44	115.064		
9,250.00	9,043.45	8,052.81	4,988.90	32.29	67.68	-3.27	86.67	7,852.05	8,645.72	8,554.82	90.89	95.118		
9,300.00	9,054.92	8,052.81	4,988.91	32.53	68.39	-3.59	84.34	7,852.18	8,607.90	8,516.45	91.45	94.124		
9,350.00	9,062.10	8,054.21	4,988.98	32.79	50.70	-3.82	65.39	7,853.23	8,567.48	8,492.38	75.10	114.078		
9,400.00	9,064.95	8,054.21	4,988.98	33.06	50.72	-4.39	64.00	7,853.30	8,524.74	8,449.70	75.05	113.595		
9,407.63	9,065.00	8,054.42	4,988.98	33.10	50.72	-4.50	63.79	7,853.31	8,518.03	8,442.99	75.04	113.513		
9,500.00	9,065.00	8,056.99	4,988.98	33.68	50.76	-4.46	61.22	7,853.45	8,436.66	8,361.73	74.93	112.600		
9,600.00	9,065.00	8,059.78	4,988.98	34.41	50.80	-4.42	58.43	7,853.60	8,348.82	8,274.02	74.80	111.610		
9,700.00	9,065.00	8,062.57	4,988.98	35.24	50.84	-4.39	55.65	7,853.75	8,261.26	8,186.57	74.68	110.618		
9,800.00	9,065.00	8,065.36	4,988.98	36.17	50.88	-4.35	52.87	7,853.90	8,173.98	8,099.41	74.56	109.623		
9,900.00	9,065.00	8,068.14	4,988.97	37.19	50.92	-4.31	50.08	7,854.04	8,086.99	8,012.54	74.45	108.627		
10,000.00	9,065.00	8,070.93	4,988.97	38.30	50.96	-4.27	47.30	7,854.19	8,000.30	7,925.97	74.33	107.627		
10,100.00	9,065.00	8,073.72	4,988.97	39.48	51.00	-4.23	44.52	7,854.34	7,913.93	7,839.71	74.22	106.625		
10,200.00	9,065.00	8,076.51	4,988.96	40.72	51.04	-4.19	41.73	7,854.49	7,827.88	7,753.77	74.11	105.620		
10,300.00	9,065.00	8,079.30	4,988.95	42.03	51.08	-4.15	38.95	7,854.64	7,742.17	7,668.16	74.01	104.611		
10,400.00	9,065.00	8,082.08	4,988.95	43.40	51.12	-4.11	36.16	7,854.78	7,656.80	7,582.89	73.91	103.600		
10,500.00	9,065.00	8,084.87	4,988.94	44.82	51.16	-4.07	33.38	7,854.93	7,571.79	7,497.98	73.81	102.585		
10,600.00	9,065.00	8,087.66	4,988.93	46.29	51.20	-4.03	30.60	7,855.08	7,487.14	7,413.43	73.72	101.567		
10,700.00	9,065.00	8,090.45	4,988.92	47.79	51.23	-3.99	27.81	7,855.23	7,402.88	7,329.25	73.63	100.545		
10,800.00	9,065.00	8,093.23	4,988.91	49.34	51.27	-3.95	25.03	7,855.38	7,319.01	7,245.47	73.54	99.519		
10,900.00	9,065.00	8,096.02	4,988.89	50.92	51.31	-3.91	22.25	7,855.53	7,235.55	7,162.08	73.47	98.489		
11,000.00	9,065.00	8,098.81	4,988.88	52.54	51.35	-3.87	19.46	7,855.67	7,152.51	7,079.12	73.39	97.455		
11,100.00	9,065.00	8,101.60	4,988.87	54.18	51.39	-3.83	16.68	7,855.82	7,069.91	6,996.59	73.33	96.417		
11,200.00	9,065.00	8,104.38	4,988.85	55.85	51.43	-3.79	13.89	7,855.97	6,987.77	6,914.50	73.27	95.375		
11,300.00	9,065.00	8,107.17	4,988.83	57.54	51.47	-3.75	11.11	7,856.12	6,906.09	6,832.87	73.21	94.328		
11,400.00	9,065.00	8,109.96	4,988.82	59.26	51.51	-3.71	8.33	7,856.27	6,824.90	6,751.73	73.17	93.277		
11,500.00	9,065.00	8,112.75	4,988.80	61.00	51.55	-3.67	5.54	7,856.42	6,744.21	6,671.08	73.13	92.222		
11,600.00	9,065.00	8,115.54	4,988.79	62.75	51.59	-3.63	2.76	7,856.57	6,664.02	6,590.26	73.09	91.167		
11,700.00	9,065.00	8,118.33	4,988.78	64.52	51.63	-3.59	-0.02	7,856.72	6,584.36	6,510.26	73.05	90.112		
11,800.00	9,065.00	8,121.12	4,988.77	66.31	51.67	-3.55	-2.79	7,856.87	6,505.27	6,431.26	73.01	89.057		
11,900.00	9,065.00	8,123.91	4,988.76	68.11	51.71	-3.51	-5.57	7,857.02	6,426.75	6,352.26	72.97	88.002		
12,000.00	9,065.00	8,126.70	4,988.75	69.93	51.75	-3.47	-8.36	7,857.17	6,348.84	6,274.26	72.93	86.947		
12,100.00	9,065.00	8,129.49	4,988.74	71.76	51.79	-3.43	-11.15	7,857.32	6,271.55	6,197.26	72.89	85.892		
12,200.00	9,065.00	8,132.28	4,988.73	73.60	51.83	-3.39	-13.94	7,857.47	6,194.90	6,120.26	72.85	84.837		
12,300.00	9,065.00	8,135.07	4,988.72	75.45	51.87	-3.35	-16.73	7,857.62	6,118.93	6,044.26	72.81	83.782		
12,400.00	9,065.00	8,137.86	4,988.71	77.31	51.91	-3.31	-19.52	7,857.77	6,043.66	5,969.26	72.77	82.727		
12,500.00	9,065.00	8,140.65	4,988.70	79.18	51.95	-3.27	-22.31	7,857.92	5,969.11	5,894.26	72.73	81.672		
12,600.00	9,065.00	8,143.44	4,988.69	81.05	51.99	-3.23	-25.10	7,858.07	5,895.32	5,820.26	72.69	80.617		
12,700.00	9,065.00	8,146.23	4,988.68	82.94	52.03	-3.19	-27.89	7,858.22	5,822.27	5,747.59	72.65	79.562		
12,800.00	9,065.00	8,149.02	4,988.67	84.83	52.07	-3.15	-30.68	7,858.37	5,750.04	5,675.27	72.61	78.507		
12,900.00	9,065.00	8,151.81	4,988.66	86.73	52.11	-3.11	-33.47	7,858.52	5,678.64	5,603.77	72.57	77.452		
13,000.00	9,065.00	8,154.60	4,988.65	88.64	52.15	-3.07	-36.26	7,858.67	5,608.12	5,533.13	72.53	76.397		
13,100.00	9,065.00	8,157.39	4,988.64	90.55	52.19	-3.03	-39.05	7,858.82	5,538.51	5,463.39	72.49	75.342		
13,200.00	9,065.00	8,160.18	4,988.63	92.47	52.23	-3.00	-41.84	7,858.97	5,469.84	5,394.57	72.45	74.287		
13,300.00	9,065.00	8,162.97	4,988.62	94.39	52.27	-2.96	-44.63	7,859.12	5,402.14	5,326.71	72.41	73.232		
13,400.00	9,065.00	8,165.76	4,988.61	96.32	52.31	-2.92	-47.42	7,859.27	5,335.46	5,259.85	72.37	72.177		
13,500.00	9,065.00	8,168.55	4,988.60	98.25	52.35	-2.88	-50.21	7,859.42	5,269.83	5,194.02	72.33	71.122		
13,600.00	9,065.00	8,171.34	4,988.59	100.19	52.39	-2.84	-53.00	7,859.57	5,205.29	5,129.28	72.29	70.067		
13,700.00	9,065.00	8,174.13	4,988.58	102.13	52.43	-2.80	-55.79	7,859.72	5,141.89	5,065.65	72.25	69.012		
13,800.00	9,065.00	8,176.92	4,988.57	104.08	52.47	-2.76	-58.58	7,859.87	5,079.66	5,003.18	72.21	67.957		
13,900.00	9,065.00	8,179.71	4,988.56	106.03	52.51	-2.72	-61.37	7,859.99	5,018.66	4,941.92	72.17	66.902		
14,000.00	9,065.00	8,182.50	4,988.55	107.98	52.55	-2.68	-64.16	7,860.14	4,958.91	4,881.90	72.13	65.847		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Sec 13-T21S-R27E - Lone Tree Draw 13 State Com 5H - Wellbore #1 - Wellbore #1													Offset Well Error:	0.50 ft
Survey Program: 233-GYRO-NS-CT, 4541-MWD+HDGM														
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)						
14,100.00	9,065.00	8,288.10	4,988.56	109.94	54.04	-1.16	-169.62	7,864.46	4,900.48	4,823.18	77.30	63.394		
14,200.00	9,065.00	8,290.35	4,988.56	111.90	54.07	-1.13	-171.87	7,864.55	4,843.41	4,765.80	77.61	62.410		
14,300.00	9,065.00	8,292.60	4,988.56	113.86	54.10	-1.10	-174.12	7,864.64	4,787.75	4,709.82	77.93	61.439		
14,400.00	9,065.00	8,294.86	4,988.56	115.82	54.13	-1.07	-176.37	7,864.73	4,733.54	4,655.27	78.26	60.482		
14,500.00	9,065.00	8,297.11	4,988.56	117.79	54.16	-1.04	-178.63	7,864.83	4,680.84	4,602.22	78.62	59.541		
14,600.00	9,065.00	8,299.37	4,988.56	119.76	54.20	-1.00	-180.88	7,864.92	4,629.69	4,550.71	78.98	58.616		
14,700.00	9,065.00	8,301.62	4,988.56	121.74	54.23	-0.97	-183.13	7,865.01	4,580.16	4,500.80	79.37	57.709		
14,800.00	9,065.00	8,303.88	4,988.56	123.71	54.26	-0.94	-185.38	7,865.10	4,532.29	4,452.53	79.77	56.820		
14,900.00	9,065.00	8,306.13	4,988.56	125.69	54.29	-0.91	-187.63	7,865.19	4,486.14	4,405.96	80.18	55.951		
15,000.00	9,065.00	8,308.38	4,988.56	127.67	54.32	-0.87	-189.89	7,865.29	4,441.76	4,361.15	80.61	55.101		
15,100.00	9,065.00	8,310.64	4,988.55	129.65	54.36	-0.84	-192.14	7,865.38	4,399.21	4,318.15	81.06	54.273		
15,200.00	9,065.00	8,312.89	4,988.55	131.63	54.39	-0.81	-194.39	7,865.47	4,358.53	4,277.01	81.52	53.466		
15,300.00	9,065.00	8,315.15	4,988.55	133.62	54.42	-0.78	-196.64	7,865.56	4,319.79	4,237.79	82.00	52.681		
15,400.00	9,065.00	8,317.40	4,988.55	135.61	54.45	-0.74	-198.90	7,865.65	4,283.02	4,200.53	82.50	51.918		
15,500.00	9,065.00	8,319.66	4,988.54	137.60	54.48	-0.71	-201.15	7,865.75	4,248.29	4,165.28	83.01	51.178		
15,600.00	9,065.00	8,326.00	4,988.53	139.59	54.57	-0.62	-207.49	7,866.01	4,215.65	4,132.08	83.57	50.442		
15,700.00	9,065.00	8,326.00	4,988.53	141.58	54.57	-0.62	-207.49	7,866.01	4,185.14	4,101.03	84.11	49.760		
15,800.00	9,065.00	8,327.32	4,988.53	143.57	54.59	-0.60	-208.81	7,866.06	4,156.81	4,072.14	84.67	49.095		
15,900.00	9,065.00	8,334.43	4,988.52	145.57	54.69	-0.50	-215.91	7,866.35	4,130.70	4,045.40	85.30	48.426		
16,000.00	9,065.00	8,341.54	4,988.51	147.56	54.79	-0.40	-223.02	7,866.64	4,106.86	4,020.91	85.95	47.782		
16,100.00	9,065.00	8,348.65	4,988.52	149.56	54.89	-0.30	-230.12	7,866.93	4,085.32	3,998.70	86.62	47.163		
16,200.00	9,065.00	8,355.76	4,988.53	151.56	55.00	-0.20	-237.23	7,867.22	4,066.12	3,978.81	87.32	46.567		
16,300.00	9,065.00	8,362.87	4,988.54	153.56	55.10	-0.09	-244.33	7,867.51	4,049.30	3,961.26	88.04	45.994		
16,400.00	9,065.00	8,369.98	4,988.57	155.56	55.20	0.01	-251.44	7,867.80	4,034.88	3,946.10	88.79	45.445		
16,500.00	9,065.00	8,377.09	4,988.60	157.57	55.30	0.11	-258.54	7,868.09	4,022.89	3,933.33	89.56	44.920		
16,600.00	9,065.00	8,384.21	4,988.64	159.57	55.40	0.21	-265.64	7,868.38	4,013.35	3,923.00	90.36	44.417		
16,700.00	9,065.00	8,391.32	4,988.69	161.57	55.50	0.31	-272.75	7,868.67	4,006.28	3,915.10	91.18	43.938		
16,800.00	9,065.00	8,398.43	4,988.75	163.58	55.60	0.42	-279.85	7,868.96	4,001.70	3,909.66	92.03	43.481		
16,900.00	9,065.00	8,405.54	4,988.81	165.59	55.70	0.52	-286.96	7,869.25	3,999.60	3,906.69	92.91	43.048		
16,934.09	9,065.00	8,407.96	4,988.83	166.27	55.74	0.55	-289.38	7,869.35	3,999.45	3,906.24	93.21	42.906 CC		
17,000.00	9,065.00	8,412.65	4,988.88	167.60	55.80	0.62	-294.06	7,869.54	4,000.00	3,906.19	93.81	42.639		
17,100.00	9,065.00	8,419.76	4,988.95	169.60	55.90	0.72	-301.17	7,869.83	4,002.89	3,908.15	94.73	42.254		
17,200.00	9,065.00	8,426.87	4,989.04	171.61	56.01	0.82	-308.27	7,870.12	4,008.26	3,912.59	95.68	41.894		
17,300.00	9,065.00	8,433.98	4,989.13	173.62	56.11	0.92	-315.37	7,870.41	4,016.12	3,919.48	96.64	41.558		
17,400.00	9,065.00	17,400.00	4,988.88	175.63	183.85	0.46	-283.28	7,869.10	4,026.42	3,859.55	166.86	24.130 ES		
17,500.00	9,065.00	17,500.00	4,988.89	177.65	185.27	0.51	-286.26	7,869.22	4,039.21	3,870.14	169.08	23.889		
17,600.00	9,065.00	17,600.00	4,988.91	179.66	186.70	0.55	-289.24	7,869.35	4,054.44	3,883.03	171.40	23.654 SF		
17,700.00	9,065.00	8,433.22	4,989.10	181.67	56.10	0.91	-314.62	7,870.37	4,072.04	3,971.74	100.30	40.599		
17,800.00	9,065.00	8,435.19	4,989.12	183.69	56.12	0.94	-316.59	7,870.45	4,092.01	3,990.77	101.24	40.418		
17,900.00	9,065.00	8,437.12	4,989.14	185.70	56.15	0.97	-318.52	7,870.53	4,114.31	4,012.13	102.18	40.265		
18,000.00	9,065.00	8,439.03	4,989.16	187.72	56.18	1.00	-320.42	7,870.60	4,138.91	4,035.80	103.11	40.141		
18,100.00	9,065.00	8,440.89	4,989.18	189.73	56.20	1.02	-322.28	7,870.67	4,165.76	4,061.73	104.03	40.045		
18,200.00	9,065.00	8,442.73	4,989.20	191.75	56.23	1.05	-324.12	7,870.74	4,194.82	4,089.89	104.93	39.977		
18,300.00	9,065.00	8,444.53	4,989.22	193.77	56.26	1.08	-325.92	7,870.81	4,226.05	4,120.24	105.82	39.938		
18,400.00	9,065.00	8,446.30	4,989.23	195.78	56.28	1.10	-327.69	7,870.88	4,259.40	4,152.72	106.68	39.926		
18,500.00	9,065.00	8,448.05	4,989.25	197.80	56.31	1.13	-329.43	7,870.94	4,294.82	4,187.29	107.53	39.942		
18,600.00	9,065.00	8,449.76	4,989.27	199.82	56.33	1.15	-331.15	7,871.01	4,332.25	4,223.91	108.34	39.986		
18,700.00	9,065.00	8,451.45	4,989.28	201.84	56.35	1.17	-332.83	7,871.07	4,371.65	4,262.51	109.14	40.056		
18,800.00	9,065.00	8,453.10	4,989.30	203.86	56.38	1.20	-334.49	7,871.13	4,412.97	4,303.06	109.90	40.153		
18,900.00	9,065.00	8,454.74	4,989.31	205.88	56.40	1.22	-336.12	7,871.19	4,456.14	4,345.50	110.64	40.275		
19,000.00	9,065.00	8,456.34	4,989.33	207.90	56.42	1.24	-337.72	7,871.25	4,501.12	4,389.77	111.35	40.422		
19,100.00	9,065.00	8,457.92	4,989.34	209.92	56.45	1.27	-339.30	7,871.30	4,547.86	4,435.82	112.04	40.593		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design Sec 13-T21S-R27E - Lone Tree Draw 13 State Com 5H - Wellbore #1 - Wellbore #1													Offset Site Error:	5.00 ft
Survey Program: 233-GYRO-NS-CT, 4541-MWD+HDGM													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre	Offset Wellbore Centre	Between Centres	Between Ellipses	Minimum Separation	Separation Factor		
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)			
19,200.00	9,065.00	8,459.47	4,989.35	211.95	56.47	1.29	-340.85	7,871.36	4,596.29	4,483.60	112.69	40.787		
19,300.00	9,065.00	8,461.00	4,989.37	213.97	56.49	1.31	-342.38	7,871.41	4,646.37	4,533.06	113.31	41.005		
19,400.00	9,065.00	8,462.51	4,989.38	215.99	56.51	1.33	-343.88	7,871.47	4,698.05	4,584.14	113.91	41.244		
19,456.84	9,065.00	8,463.35	4,989.38	217.14	56.52	1.34	-344.73	7,871.50	4,728.12	4,613.88	114.23	41.389		

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design		Sec 13-T21S-R27E - Lone Tree Draw 13 State Com 8H - Original Hole - Actuals											Offset Site Error:		5.00 ft
Survey Program:		81-GYRO-NS, 7138-MWD+IGRF											Offset Well Error:		0.00 ft
Reference		Offset		Semi Major Axis			Distance							Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor			
0.00	0.00	0.00	0.00	0.50	5.00	69.35	3,174.32	8,420.97	8,999.68						
100.00	100.00	34.43	34.43	0.52	5.00	69.35	3,174.27	8,420.97	8,999.38	8,993.86	5.52	1,630.933			
200.00	200.00	141.50	141.49	0.70	5.01	69.35	3,173.66	8,421.03	8,999.23	8,993.52	5.71	1,575.567			
283.82	283.82	211.52	211.52	0.94	5.03	69.35	3,173.37	8,421.06	8,999.14	8,993.17	5.97	1,507.776			
300.00	300.00	223.54	223.53	0.99	5.04	69.35	3,173.36	8,421.07	8,999.15	8,993.12	6.02	1,494.173			
400.00	400.00	303.94	303.93	1.31	5.08	69.35	3,173.63	8,421.12	8,999.32	8,992.93	6.39	1,409.347			
500.00	500.00	397.94	397.94	1.65	5.14	69.35	3,174.26	8,421.20	8,999.64	8,992.85	6.79	1,325.546			
600.00	600.00	497.17	497.16	1.99	5.24	69.34	3,175.01	8,421.26	8,999.96	8,992.73	7.23	1,245.489			
700.00	700.00	590.09	590.08	2.34	5.34	69.34	3,175.80	8,421.34	9,000.33	8,992.65	7.68	1,171.904			
800.00	800.00	681.44	681.42	2.69	5.46	69.33	3,176.67	8,421.46	9,000.80	8,992.65	8.15	1,104.144			
900.00	900.00	778.19	778.16	3.04	5.61	69.33	3,177.75	8,421.62	9,001.35	8,992.70	8.65	1,040.678			
1,000.00	1,000.00	886.39	886.36	3.40	5.79	69.32	3,179.19	8,421.68	9,001.87	8,992.68	9.18	980.085			
1,100.00	1,100.00	974.50	974.46	3.75	5.95	69.31	3,180.46	8,421.65	9,002.35	8,992.65	9.70	927.980			
1,200.00	1,200.00	1,056.99	1,056.93	4.11	6.11	69.30	3,181.89	8,421.73	9,003.05	8,992.84	10.22	881.115			
1,300.00	1,300.00	1,137.36	1,137.29	4.46	6.28	69.30	3,183.20	8,421.99	9,003.93	8,993.19	10.74	838.390			
1,400.00	1,400.00	1,224.80	1,224.72	4.82	6.47	69.29	3,184.38	8,422.59	9,005.05	8,993.77	11.29	797.947			
1,500.00	1,500.00	1,391.86	1,391.76	5.18	6.85	69.28	3,186.82	8,423.14	9,005.91	8,993.88	12.03	748.763			
1,600.00	1,600.00	1,472.00	1,471.90	5.53	7.05	69.27	3,188.10	8,423.09	9,006.42	8,993.84	12.58	715.981			
1,700.00	1,700.00	1,542.98	1,542.87	5.89	7.23	69.26	3,189.27	8,423.25	9,007.20	8,994.09	13.11	686.884			
1,800.00	1,800.00	1,617.31	1,617.18	6.25	7.42	69.26	3,190.45	8,423.67	9,008.29	8,994.63	13.66	659.469			
1,900.00	1,900.00	1,733.13	1,732.99	6.61	7.72	69.25	3,192.24	8,424.54	9,009.56	8,995.24	14.32	629.094			
2,000.00	2,000.00	1,852.86	1,852.70	6.96	8.04	69.24	3,194.35	8,424.90	9,010.47	8,995.46	15.00	600.585			
2,100.00	2,100.00	1,934.54	1,934.36	7.32	8.27	69.23	3,195.79	8,425.18	9,011.40	8,995.82	15.59	578.176			
2,200.00	2,200.00	2,042.77	2,042.57	7.68	8.58	69.22	3,197.96	8,425.52	9,012.41	8,996.16	16.25	554.665			
2,300.00	2,300.00	2,102.59	2,102.38	8.04	8.75	69.21	3,199.11	8,425.84	9,013.59	8,996.82	16.78	537.278			
2,400.00	2,400.00	2,251.52	2,251.28	8.39	9.18	69.19	3,202.02	8,426.51	9,014.70	8,997.14	17.57	513.154			
2,500.00	2,500.00	2,320.50	2,320.24	8.75	9.39	69.19	3,203.56	8,426.78	9,015.82	8,997.69	18.13	497.340			
2,600.00	2,599.99	2,378.70	2,378.43	9.09	9.56	-144.89	3,204.86	8,427.26	9,018.03	8,999.39	18.64	483.764			
2,700.00	2,699.96	2,552.42	2,552.10	9.42	10.08	-144.91	3,208.81	8,427.89	9,021.26	9,001.77	19.49	462.819			
2,800.00	2,799.86	2,615.51	2,615.17	9.75	10.28	-144.90	3,210.41	8,428.00	9,025.88	9,005.87	20.01	451.027			
2,900.00	2,899.68	2,697.00	2,696.63	10.08	10.53	-144.89	3,212.53	8,428.37	9,032.23	9,011.64	20.59	438.643			
2,945.33	2,944.88	2,746.09	2,745.70	10.23	10.68	-144.89	3,213.83	8,428.63	9,035.62	9,014.72	20.89	432.469			
3,000.00	2,999.39	2,807.12	2,806.70	10.41	10.87	-144.92	3,215.51	8,428.88	9,039.84	9,018.58	21.26	425.129			
3,100.00	3,099.08	2,886.00	2,885.56	10.75	11.11	-144.96	3,217.68	8,429.23	9,047.61	9,025.77	21.84	414.230			
3,200.00	3,198.78	2,948.33	2,947.86	11.08	11.31	-144.98	3,219.30	8,429.75	9,055.71	9,033.33	22.37	404.804			
3,300.00	3,298.48	3,111.62	3,111.10	11.42	11.83	-145.05	3,223.42	8,431.05	9,063.73	9,040.51	23.22	390.262			
3,400.00	3,398.18	3,191.01	3,190.46	11.76	12.08	-145.08	3,225.47	8,431.44	9,071.49	9,047.68	23.81	380.922			
3,500.00	3,497.88	3,276.83	3,276.25	12.10	12.35	-145.12	3,227.72	8,432.02	9,079.44	9,055.01	24.43	371.686			
3,600.00	3,597.58	3,371.85	3,371.23	12.45	12.66	-145.16	3,230.24	8,432.75	9,087.49	9,062.42	25.07	362.437			
3,700.00	3,697.27	3,700.00	3,611.98	12.79	13.72	-145.26	3,235.94	8,433.60	9,095.43	9,068.95	26.48	343.475			
3,800.00	3,796.97	3,691.11	3,690.40	13.14	13.69	-145.29	3,236.87	8,433.06	9,101.72	9,074.92	26.79	339.683			
3,900.00	3,896.67	3,731.50	3,730.79	13.48	13.83	-145.30	3,236.65	8,433.55	9,108.90	9,081.63	27.27	334.042			
4,000.00	3,996.37	4,000.00	3,820.92	13.83	14.70	-145.32	3,237.18	8,434.44	9,116.41	9,087.92	28.49	319.971			
4,100.00	4,096.07	3,889.56	3,888.82	14.18	14.34	-145.35	3,238.61	8,434.70	9,123.99	9,095.52	28.47	320.425			
4,200.00	4,195.76	3,955.85	3,955.09	14.53	14.56	-145.37	3,239.91	8,435.42	9,132.09	9,103.05	29.04	314.495			
4,300.00	4,295.46	4,054.24	4,053.46	14.88	14.88	-145.41	3,241.54	8,436.80	9,140.38	9,110.68	29.71	307.665			
4,400.00	4,395.16	4,217.33	4,216.53	15.23	15.42	-145.45	3,242.46	8,439.04	9,148.25	9,117.65	30.60	298.966			
4,500.00	4,494.86	10,619.00	7,792.46	15.58	65.29	-126.90	107.70	8,416.86	9,140.94	9,064.87	76.07	120.167			
4,600.00	4,594.56	4,600.00	7,794.24	15.93	42.02	-126.60	61.60	8,417.16	9,108.76	9,053.84	54.91	165.875			
4,700.00	4,694.25	4,700.00	7,797.42	16.29	40.53	-125.92	-41.87	8,417.55	9,077.54	9,023.48	54.06	167.914			
4,800.00	4,793.95	4,800.00	7,797.63	16.64	38.73	-125.86	-50.66	8,417.56	9,047.30	8,994.46	52.84	171.220			
4,900.00	4,893.65	4,900.00	7,797.84	17.00	36.92	-125.80	-59.46	8,417.57	9,018.05	8,966.44	51.61	174.745			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Sec 13-T21S-R27E - Lone Tree Draw 13 State Com 8H - Original Hole - Actuals													Offset Well Error:	0.00 ft
Survey Program: 81-GYRO-NS, 7138-MWD+IGRF														
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
5,000.00	4,993.35	5,000.00	7,798.05	17.35	35.11	-125.74	-68.26	8,417.58	8,989.81	8,939.45	50.36	178.509		
5,100.00	5,093.05	5,100.00	7,798.26	17.71	33.31	-125.69	-77.05	8,417.59	8,962.60	8,913.49	49.10	182.532		
5,200.00	5,192.75	10,829.42	7,798.78	18.06	69.04	-125.52	-102.61	8,417.57	8,936.35	8,852.58	83.77	106.682		
5,300.00	5,292.44	10,833.35	7,798.87	18.42	69.11	-125.49	-106.54	8,417.57	8,911.18	8,826.77	84.41	105.567		
5,400.00	5,392.14	10,837.34	7,798.96	18.77	69.18	-125.46	-110.53	8,417.57	8,887.07	8,802.01	85.06	104.485		
5,500.00	5,491.84	10,841.37	7,799.05	19.13	69.25	-125.44	-114.56	8,417.58	8,864.01	8,778.31	85.69	103.437		
5,600.00	5,591.54	10,845.46	7,799.15	19.49	69.33	-125.41	-118.65	8,417.58	8,842.02	8,755.69	86.33	102.423		
5,700.00	5,691.24	10,849.60	7,799.24	19.85	69.40	-125.38	-122.79	8,417.59	8,821.10	8,734.14	86.96	101.441		
5,800.00	5,790.93	10,853.80	7,799.35	20.20	69.48	-125.36	-126.98	8,417.60	8,801.27	8,713.68	87.58	100.492		
5,900.00	5,890.63	10,858.05	7,799.45	20.56	69.55	-125.33	-131.23	8,417.61	8,782.52	8,694.32	88.20	99.574		
6,000.00	5,990.33	10,862.36	7,799.57	20.92	69.63	-125.30	-135.54	8,417.62	8,764.87	8,676.06	88.81	98.688		
6,100.00	6,090.03	10,866.72	7,799.68	21.28	69.71	-125.27	-139.90	8,417.63	8,748.33	8,658.91	89.42	97.833		
6,200.00	6,189.73	10,871.15	7,799.80	21.64	69.79	-125.24	-144.33	8,417.65	8,732.89	8,642.87	90.02	97.009		
6,300.00	6,289.42	10,875.63	7,799.92	22.00	69.87	-125.21	-148.81	8,417.67	8,718.57	8,627.95	90.62	96.215		
6,400.00	6,389.12	10,880.18	7,800.05	22.36	69.95	-125.18	-153.35	8,417.69	8,705.37	8,614.17	91.20	95.451		
6,500.00	6,488.82	10,902.00	7,800.71	22.72	70.34	-125.04	-175.17	8,417.81	8,693.33	8,601.24	92.09	94.402		
6,600.00	6,588.52	10,902.00	7,800.71	23.08	70.34	-125.04	-175.17	8,417.81	8,682.37	8,589.79	92.58	93.784		
6,700.00	6,688.22	10,902.00	7,800.71	23.44	70.34	-125.04	-175.17	8,417.81	8,672.55	8,579.49	93.06	93.194		
6,800.00	6,787.91	10,902.00	7,800.71	23.80	70.34	-125.04	-175.17	8,417.81	8,663.87	8,570.34	93.53	92.632		
6,900.00	6,887.61	10,905.60	7,800.83	24.16	70.40	-125.01	-178.76	8,417.84	8,656.33	8,562.28	94.06	92.033		
7,000.00	6,987.31	10,915.14	7,801.14	24.52	70.58	-124.95	-188.30	8,417.90	8,649.94	8,555.26	94.68	91.359		
7,100.00	7,087.01	10,924.83	7,801.46	24.88	70.75	-124.89	-197.99	8,417.97	8,644.69	8,549.39	95.30	90.713		
7,200.00	7,186.71	10,934.68	7,801.79	25.24	70.93	-124.82	-207.82	8,418.03	8,640.59	8,544.68	95.91	90.093		
7,300.00	7,286.41	10,944.68	7,802.14	25.60	71.11	-124.76	-217.82	8,418.10	8,637.62	8,541.11	96.51	89.500		
7,400.00	7,386.10	10,954.84	7,802.50	25.96	71.29	-124.69	-227.97	8,418.16	8,635.81	8,538.70	97.11	88.932		
7,500.00	7,485.80	10,965.16	7,802.87	26.33	71.48	-124.62	-238.29	8,418.23	8,635.13	8,537.44	97.69	88.390		
7,508.57	7,494.34	10,966.05	7,802.91	26.36	71.49	-124.61	-239.18	8,418.24	8,635.13	8,537.39	97.74	88.345		
7,600.00	7,585.50	10,975.65	7,803.26	26.69	71.67	-124.55	-248.77	8,418.30	8,635.61	8,537.33	98.27	87.873		
7,700.00	7,685.20	10,986.31	7,803.67	27.05	71.86	-124.48	-259.43	8,418.36	8,637.23	8,538.38	98.85	87.380		
7,800.00	7,784.90	7,800.00	7,805.94	27.41	25.06	-124.07	-320.86	8,418.43	8,639.84	8,597.52	42.31	204.181		
7,860.70	7,845.41	7,860.70	7,806.16	27.63	25.07	-124.03	-326.98	8,418.44	8,642.04	8,598.47	43.57	198.352		
7,900.00	7,884.61	11,147.31	7,809.49	27.77	74.76	-123.44	-420.31	8,418.00	8,643.58	8,541.09	102.48	84.341		
8,000.00	7,984.46	11,173.01	7,810.41	28.13	75.23	-123.31	-446.00	8,417.71	8,647.17	8,543.88	103.29	83.716		
8,100.00	8,084.42	11,192.18	7,811.12	28.49	75.57	-123.23	-465.15	8,417.46	8,650.47	8,546.50	103.97	83.202		
8,157.59	8,142.00	11,200.18	7,811.41	28.69	75.72	90.88	-473.15	8,417.35	8,652.23	8,547.94	104.29	82.961		
8,200.00	8,184.41	8,200.00	7,809.91	28.83	25.17	90.61	-431.46	8,417.81	8,653.57	8,602.99	50.58	171.083		
8,300.00	8,284.41	8,300.00	7,810.04	29.17	25.21	90.63	-435.00	8,417.77	8,657.64	8,604.98	52.66	164.419		
8,400.00	8,384.41	8,400.00	7,810.16	29.51	25.52	90.65	-438.54	8,417.74	8,662.86	8,608.13	54.73	158.283		
8,507.63	8,492.04	8,507.63	7,810.30	29.87	27.31	90.68	-442.35	8,417.71	8,669.76	8,612.80	56.96	152.210		
8,550.00	8,534.37	8,550.00	7,810.35	30.02	28.06	1.31	-443.82	8,417.69	8,671.28	8,613.44	57.83	149.934		
8,600.00	8,584.01	11,197.68	7,811.33	30.18	75.67	1.50	-470.65	8,417.40	8,669.30	8,563.84	105.46	82.202		
8,650.00	8,632.95	11,198.71	7,811.37	30.34	75.69	1.52	-471.67	8,417.39	8,663.26	8,557.67	105.60	82.042		
8,700.00	8,680.82	11,199.66	7,811.41	30.50	75.71	1.55	-472.62	8,417.38	8,653.20	8,547.49	105.72	81.851		
8,750.00	8,727.25	11,200.52	7,811.44	30.66	75.72	1.60	-473.49	8,417.37	8,639.19	8,533.36	105.83	81.632		
8,800.00	8,771.89	11,201.30	7,811.47	30.81	75.74	1.66	-474.27	8,417.36	8,621.30	8,515.37	105.93	81.387		
8,850.00	8,814.40	11,201.98	7,811.50	30.95	75.75	1.74	-474.95	8,417.35	8,599.65	8,493.64	106.02	81.116		
8,900.00	8,854.46	11,202.56	7,811.52	31.09	75.76	1.83	-475.52	8,417.34	8,574.38	8,468.30	106.09	80.823		
8,950.00	8,891.75	11,203.02	7,811.54	31.23	75.77	1.95	-475.98	8,417.34	8,545.66	8,439.51	106.15	80.507		
9,000.00	8,926.01	11,203.37	7,811.55	31.37	75.77	2.10	-476.33	8,417.33	8,513.65	8,407.46	106.19	80.171		
9,050.00	8,956.96	11,203.59	7,811.56	31.53	75.78	2.29	-476.55	8,417.33	8,478.58	8,372.35	106.23	79.817		
9,100.00	8,984.38	11,203.69	7,811.57	31.69	75.78	2.54	-476.65	8,417.33	8,440.67	8,334.42	106.25	79.445		
9,150.00	9,008.05	11,203.66	7,811.57	31.87	75.78	2.87	-476.62	8,417.33	8,400.17	8,293.92	106.25	79.057		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Sec 13-T21S-R27E - Lone Tree Draw 13 State Com 8H - Original Hole - Actuals													Offset Well Error:	0.00 ft
Survey Program: 81-GYRO-NS, 7138-MWD+IGRF														
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
9,200.00	9,027.79	11,203.50	7,811.56	32.07	75.78	3.31	-476.46	8,417.33	8,357.36	8,251.11	106.25	78.655		
9,250.00	9,043.45	11,203.21	7,811.55	32.29	75.77	3.95	-476.17	8,417.34	8,312.53	8,206.29	106.24	78.241		
9,300.00	9,054.92	11,202.79	7,811.53	32.53	75.76	4.93	-475.75	8,417.34	8,266.00	8,159.77	106.23	77.815		
9,350.00	9,062.10	11,202.24	7,811.51	32.79	75.75	6.61	-475.20	8,417.35	8,218.08	8,111.88	106.20	77.379		
9,400.00	9,064.95	11,201.56	7,811.48	33.06	75.74	10.11	-474.53	8,417.35	8,169.13	8,062.95	106.18	76.936		
9,407.63	9,065.00	11,201.45	7,811.48	33.10	75.74	11.00	-474.41	8,417.36	8,161.59	8,055.41	106.18	76.867		
9,500.00	9,065.00	11,200.05	7,811.42	33.68	75.71	10.93	-473.02	8,417.37	8,070.24	7,964.11	106.13	76.042		
9,600.00	9,065.00	11,198.52	7,811.36	34.41	75.69	10.86	-471.49	8,417.39	7,971.37	7,865.30	106.07	75.149		
9,700.00	9,065.00	11,196.97	7,811.30	35.24	75.66	10.79	-469.94	8,417.41	7,872.53	7,766.51	106.02	74.256		
9,800.00	9,065.00	9,800.00	7,810.32	36.17	50.47	9.52	-443.02	8,417.70	7,773.71	7,692.67	81.04	95.921		
9,900.00	9,065.00	9,900.00	7,810.25	37.19	52.27	9.42	-440.99	8,417.72	7,674.92	7,592.12	82.81	92.685		
10,000.00	9,065.00	10,000.00	7,810.18	38.30	54.07	9.32	-438.96	8,417.74	7,576.17	7,491.60	84.57	89.585		
10,100.00	9,065.00	10,100.00	7,810.11	39.48	55.87	9.23	-436.93	8,417.76	7,477.44	7,391.11	86.33	86.611		
10,200.00	9,065.00	11,199.35	7,811.38	40.72	75.70	10.90	-472.32	8,417.36	7,378.78	7,272.85	105.94	69.653		
10,300.00	9,065.00	11,193.09	7,811.15	42.03	75.59	10.60	-466.06	8,417.45	7,280.14	7,174.34	105.80	68.810		
10,400.00	9,065.00	11,187.06	7,810.93	43.40	75.48	10.32	-460.04	8,417.53	7,181.53	7,075.86	105.67	67.962		
10,500.00	9,065.00	11,181.27	7,810.72	44.82	75.37	10.05	-454.25	8,417.61	7,082.96	6,977.41	105.54	67.110		
10,600.00	9,065.00	11,175.69	7,810.51	46.29	75.27	9.78	-448.67	8,417.68	6,984.42	6,879.00	105.42	66.253		
10,700.00	9,065.00	11,170.31	7,810.32	47.79	75.18	9.53	-443.30	8,417.74	6,885.93	6,780.63	105.30	65.392		
10,800.00	9,065.00	11,165.12	7,810.13	49.34	75.08	9.28	-438.12	8,417.80	6,787.48	6,682.29	105.19	64.528		
10,900.00	9,065.00	11,160.12	7,809.95	50.92	74.99	9.04	-433.12	8,417.86	6,689.07	6,584.00	105.08	63.660		
11,000.00	9,065.00	11,155.29	7,809.77	52.54	74.91	8.82	-428.29	8,417.91	6,590.71	6,485.74	104.97	62.788		
11,100.00	9,065.00	11,150.62	7,809.61	54.18	74.82	8.59	-423.62	8,417.96	6,492.40	6,387.54	104.86	61.914		
11,200.00	9,065.00	11,146.11	7,809.45	55.85	74.74	8.38	-419.11	8,418.01	6,394.14	6,289.38	104.76	61.036		
11,300.00	9,065.00	11,141.74	7,809.29	57.54	74.66	8.17	-414.75	8,418.05	6,295.93	6,191.27	104.66	60.156		
11,400.00	9,065.00	11,137.52	7,809.14	59.26	74.58	7.97	-410.53	8,418.09	6,197.78	6,093.21	104.56	59.273		
11,500.00	9,065.00	11,133.43	7,809.00	61.00	74.51	7.77	-406.44	8,418.13	6,099.68	5,995.21	104.47	58.387		
11,600.00	9,065.00	11,129.47	7,808.86	62.75	74.44	7.59	-402.49	8,418.16	6,001.65	5,897.27	104.38	57.499		
11,700.00	9,065.00	11,125.63	7,808.72	64.52	74.37	7.40	-398.65	8,418.20	5,903.68	5,799.39	104.29	56.609		
11,800.00	9,065.00	11,121.90	7,808.59	66.31	74.30	7.22	-394.93	8,418.23	5,805.78	5,701.58	104.20	55.717		
11,900.00	9,065.00	11,118.29	7,808.46	68.11	74.24	7.05	-391.32	8,418.26	5,707.96	5,603.84	104.12	54.822		
12,000.00	9,065.00	11,114.79	7,808.34	69.93	74.17	6.88	-387.81	8,418.28	5,610.21	5,506.17	104.03	53.927		
12,100.00	9,065.00	12,100.00	7,806.87	71.76	91.95	4.88	-346.14	8,418.44	5,512.53	5,391.10	121.43	45.398		
12,200.00	9,065.00	12,200.00	7,806.83	73.60	93.75	4.83	-345.07	8,418.44	5,414.93	5,291.77	123.16	43.966		
12,300.00	9,065.00	12,300.00	7,806.79	75.45	95.56	4.78	-344.00	8,418.44	5,317.42	5,192.53	124.89	42.575		
12,400.00	9,065.00	11,105.52	7,808.01	77.31	74.01	6.44	-378.55	8,418.34	5,220.03	5,116.24	103.79	50.294		
12,500.00	9,065.00	11,101.33	7,807.87	79.18	73.93	6.24	-374.37	8,418.37	5,122.73	5,019.03	103.69	49.402		
12,600.00	9,065.00	11,097.37	7,807.74	81.05	73.86	6.05	-370.41	8,418.40	5,025.53	4,921.92	103.60	48.507		
12,700.00	9,065.00	11,093.63	7,807.61	82.94	73.79	5.87	-366.67	8,418.42	4,928.43	4,824.92	103.52	47.610		
12,800.00	9,065.00	11,090.08	7,807.49	84.83	73.73	5.70	-363.12	8,418.45	4,831.46	4,728.03	103.43	46.711		
12,900.00	9,065.00	11,086.70	7,807.37	86.73	73.67	5.54	-359.75	8,418.46	4,734.61	4,631.26	103.35	45.811		
13,000.00	9,065.00	11,083.50	7,807.26	88.64	73.61	5.38	-356.54	8,418.48	4,637.89	4,534.62	103.27	44.908		
13,100.00	9,065.00	11,080.44	7,807.16	90.55	73.55	5.24	-353.49	8,418.49	4,541.32	4,438.11	103.20	44.005		
13,200.00	9,065.00	11,077.54	7,807.06	92.47	73.50	5.10	-350.59	8,418.51	4,444.89	4,341.76	103.13	43.100		
13,300.00	9,065.00	11,074.76	7,806.96	94.39	73.45	4.96	-347.81	8,418.52	4,348.62	4,245.56	103.06	42.195		
13,400.00	9,065.00	11,072.11	7,806.87	96.32	73.40	4.84	-345.16	8,418.53	4,252.53	4,149.54	102.99	41.289		
13,500.00	9,065.00	11,069.58	7,806.78	98.25	73.36	4.71	-342.63	8,418.53	4,156.62	4,053.69	102.93	40.383		
13,600.00	9,065.00	11,067.15	7,806.69	100.19	73.31	4.60	-340.21	8,418.54	4,060.91	3,958.04	102.87	39.476		
13,700.00	9,065.00	11,064.83	7,806.61	102.13	73.27	4.49	-337.89	8,418.55	3,965.40	3,862.59	102.81	38.570		
13,800.00	9,065.00	11,062.60	7,806.53	104.08	73.23	4.38	-335.66	8,418.55	3,870.12	3,767.37	102.75	37.664		
13,900.00	9,065.00	11,060.46	7,806.45	106.03	73.19	4.28	-333.52	8,418.56	3,775.09	3,672.39	102.70	36.758		
14,000.00	9,065.00	11,058.41	7,806.38	107.98	73.16	4.18	-331.47	8,418.56	3,680.32	3,577.67	102.65	35.853		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Sec 13-T21S-R27E - Lone Tree Draw 13 State Com 8H - Original Hole - Actuals													Offset Well Error:	0.00 ft
Survey Program: 81-GYRO-NS, 7138-MWD+IGRF														
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (ft)	Separation Factor	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)				
14,100.00	9,065.00	11,056.44	7,806.31	109.94	73.12	4.08	-329.50	8,418.56	3,585.83	3,483.23	102.60	34.949		
14,200.00	9,065.00	11,054.54	7,806.24	111.90	73.09	3.99	-327.60	8,418.57	3,491.65	3,389.09	102.56	34.046		
14,300.00	9,065.00	11,052.71	7,806.18	113.86	73.05	3.90	-325.78	8,418.57	3,397.80	3,295.29	102.51	33.145		
14,400.00	9,065.00	11,050.95	7,806.11	115.82	73.02	3.82	-324.02	8,418.57	3,304.31	3,201.84	102.48	32.245		
14,500.00	9,065.00	11,049.25	7,806.05	117.79	72.99	3.74	-322.32	8,418.57	3,211.21	3,108.77	102.44	31.347		
14,600.00	9,065.00	11,047.61	7,805.99	119.76	72.96	3.66	-320.68	8,418.57	3,118.54	3,016.14	102.41	30.452		
14,700.00	9,065.00	11,046.03	7,805.93	121.74	72.93	3.58	-319.10	8,418.57	3,026.34	2,923.96	102.38	29.560		
14,800.00	9,065.00	11,044.51	7,805.88	123.71	72.91	3.51	-317.58	8,418.57	2,934.64	2,832.29	102.36	28.671		
14,900.00	9,065.00	11,043.03	7,805.82	125.69	72.88	3.44	-316.10	8,418.57	2,843.51	2,741.17	102.34	27.786		
15,000.00	9,065.00	11,041.61	7,805.77	127.67	72.85	3.37	-314.68	8,418.57	2,752.99	2,650.67	102.32	26.906		
15,100.00	9,065.00	11,040.23	7,805.72	129.65	72.83	3.30	-313.30	8,418.57	2,663.15	2,560.84	102.31	26.030		
15,200.00	9,065.00	11,038.89	7,805.67	131.63	72.81	3.24	-311.96	8,418.57	2,574.05	2,471.75	102.30	25.161		
15,300.00	9,065.00	11,037.60	7,805.62	133.62	72.78	3.18	-310.67	8,418.57	2,485.79	2,383.49	102.30	24.299		
15,400.00	9,065.00	11,036.34	7,805.58	135.61	72.76	3.11	-309.42	8,418.57	2,398.44	2,296.14	102.30	23.445		
15,500.00	9,065.00	11,035.13	7,805.53	137.60	72.74	3.06	-308.20	8,418.57	2,312.12	2,209.82	102.31	22.600		
15,600.00	9,065.00	11,033.95	7,805.49	139.59	72.72	3.00	-307.03	8,418.56	2,226.95	2,124.64	102.31	21.766		
15,700.00	9,065.00	11,032.80	7,805.45	141.58	72.70	2.94	-305.88	8,418.56	2,143.05	2,040.74	102.32	20.945		
15,800.00	9,065.00	11,031.69	7,805.40	143.57	72.68	2.89	-304.77	8,418.56	2,060.60	1,958.28	102.32	20.139		
15,900.00	9,065.00	11,030.61	7,805.36	145.57	72.66	2.84	-303.69	8,418.56	1,979.76	1,877.45	102.31	19.350		
16,000.00	9,065.00	11,029.57	7,805.32	147.56	72.64	2.79	-302.65	8,418.56	1,900.74	1,798.45	102.29	18.582		
16,100.00	9,065.00	11,028.55	7,805.29	149.56	72.62	2.74	-301.63	8,418.55	1,823.79	1,721.54	102.24	17.837		
16,200.00	9,065.00	11,027.56	7,805.25	151.56	72.60	2.69	-300.64	8,418.55	1,749.16	1,647.00	102.17	17.121		
16,300.00	9,065.00	11,026.59	7,805.21	153.56	72.58	2.64	-299.68	8,418.55	1,677.19	1,575.14	102.04	16.436		
16,400.00	9,065.00	11,025.65	7,805.18	155.56	72.57	2.60	-298.74	8,418.55	1,608.20	1,506.35	101.85	15.789		
16,500.00	9,065.00	11,024.74	7,805.14	157.57	72.55	2.56	-297.83	8,418.55	1,542.62	1,441.04	101.58	15.186		
16,600.00	9,065.00	11,023.85	7,805.11	159.57	72.53	2.51	-296.94	8,418.54	1,480.90	1,379.69	101.21	14.632		
16,700.00	9,065.00	11,022.98	7,805.08	161.57	72.52	2.47	-296.07	8,418.54	1,423.53	1,322.81	100.72	14.134		
16,800.00	9,065.00	11,022.14	7,805.05	163.58	72.50	2.43	-295.23	8,418.54	1,371.05	1,270.96	100.09	13.698		
16,900.00	9,065.00	11,021.32	7,805.02	165.59	72.49	2.39	-294.40	8,418.54	1,324.07	1,224.73	99.33	13.330		
17,000.00	9,065.00	11,020.51	7,804.98	167.60	72.47	2.35	-293.60	8,418.53	1,283.17	1,184.70	98.47	13.031		
17,100.00	9,065.00	11,019.73	7,804.96	169.60	72.46	2.31	-292.82	8,418.53	1,248.95	1,151.39	97.57	12.801		
17,200.00	9,065.00	11,018.97	7,804.93	171.61	72.45	2.28	-292.06	8,418.53	1,221.98	1,125.22	96.76	12.629		
17,300.00	9,065.00	11,018.22	7,804.90	173.62	72.43	2.24	-291.31	8,418.53	1,202.75	1,106.50	96.24	12.497		
17,400.00	9,065.00	11,017.49	7,804.87	175.63	72.42	2.21	-290.58	8,418.52	1,191.62	1,095.36	96.26	12.380		
17,483.22	9,065.00	11,016.90	7,804.85	177.31	72.41	2.18	-289.99	8,418.52	1,188.71	1,091.89	96.82	12.278 CC		
17,500.00	9,065.00	11,016.78	7,804.84	177.65	72.41	2.17	-289.87	8,418.52	1,188.83	1,091.83	97.00	12.256 ES		
17,600.00	9,065.00	11,016.09	7,804.82	179.66	72.39	2.14	-289.18	8,418.52	1,194.43	1,095.93	98.51	12.126		
17,700.00	9,065.00	11,015.41	7,804.79	181.67	72.38	2.11	-288.50	8,418.52	1,208.31	1,107.68	100.63	12.008		
17,800.00	9,065.00	11,014.74	7,804.77	183.69	72.37	2.07	-287.84	8,418.51	1,230.19	1,127.09	103.10	11.931		
17,900.00	9,065.00	11,014.10	7,804.74	185.70	72.36	2.04	-287.19	8,418.51	1,259.65	1,153.99	105.66	11.921 SF		
18,000.00	9,065.00	11,013.46	7,804.72	187.72	72.35	2.01	-286.55	8,418.51	1,296.18	1,188.07	108.11	11.989		
18,100.00	9,065.00	11,012.84	7,804.69	189.73	72.34	1.98	-285.93	8,418.51	1,339.19	1,228.87	110.32	12.139		
18,200.00	9,065.00	11,012.23	7,804.67	191.75	72.32	1.95	-285.33	8,418.50	1,388.09	1,275.85	112.24	12.368		
18,300.00	9,065.00	11,011.64	7,804.65	193.77	72.31	1.92	-284.73	8,418.50	1,442.27	1,328.42	113.85	12.668		
18,400.00	9,065.00	11,011.06	7,804.62	195.78	72.30	1.90	-284.15	8,418.50	1,501.16	1,385.99	115.17	13.034		
18,500.00	9,065.00	11,010.49	7,804.60	197.80	72.29	1.87	-283.58	8,418.50	1,564.23	1,448.00	116.24	13.457		
18,600.00	9,065.00	11,009.93	7,804.58	199.82	72.28	1.84	-283.03	8,418.49	1,631.00	1,513.93	117.07	13.931		
18,700.00	9,065.00	11,009.39	7,804.56	201.84	72.27	1.82	-282.48	8,418.49	1,701.04	1,583.31	117.72	14.450		
18,800.00	9,065.00	11,008.85	7,804.54	203.86	72.26	1.79	-281.95	8,418.49	1,773.94	1,655.73	118.21	15.006		
18,900.00	9,065.00	11,008.33	7,804.52	205.88	72.25	1.76	-281.42	8,418.49	1,849.38	1,730.81	118.57	15.597		
19,000.00	9,065.00	11,007.81	7,804.50	207.90	72.24	1.74	-280.91	8,418.48	1,927.06	1,808.23	118.83	16.217		
19,100.00	9,065.00	11,007.31	7,804.48	209.92	72.24	1.72	-280.41	8,418.48	2,006.71	1,887.71	119.00	16.863		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Sec 13-T21S-R27E - Lone Tree Draw 13 State Com 8H - Original Hole - Actuals		Offset Site Error:		5.00 ft	
Survey Program:													81-GYRO-NS, 7138-MWD+IGRF		Offset Well Error:		0.00 ft	
Reference		Offset		Semi Major Axis			Distance							Warning				
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor						
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)							
19,200.00	9,065.00	11,006.81	7,804.46	211.95	72.23	1.69	-279.91	8,418.48	2,088.12	1,969.01	119.11	17.531						
19,300.00	9,065.00	11,006.33	7,804.44	213.97	72.22	1.67	-279.43	8,418.48	2,171.08	2,051.91	119.17	18.218						
19,400.00	9,065.00	11,009.90	7,804.59	215.99	72.28	1.84	-283.00	8,418.51	2,255.41	2,136.14	119.27	18.910						
19,456.84	9,065.00	11,009.59	7,804.58	217.14	72.28	1.83	-282.69	8,418.50	2,303.91	2,184.64	119.27	19.317						

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Sec 13-T21S-R27E - Lone Tree Draw State 3H - Wellbore #1 - Wellbore #1													Offset Well Error:	0.50 ft
Survey Program: 100-GYRO-NS-CT, 4452-MWD+HDGM														
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Minimum Separation (ft)	Separation Factor	Warning			
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)				Between Centres (ft)	Between Ellipses (ft)	
0.00	0.00	0.00	0.00	0.50	5.02	65.24	3,164.82	6,862.71	7,557.53					
100.00	100.00	26.80	26.80	0.52	5.03	65.24	3,164.85	6,862.73	7,557.35	7,551.81	5.54	1,363.446		
200.00	200.00	100.00	100.00	0.70	5.03	65.24	3,165.28	6,862.92	7,557.80	7,552.07	5.73	1,319.261		
300.00	300.00	214.52	214.52	0.99	5.05	65.24	3,166.10	6,863.24	7,558.38	7,552.34	6.04	1,251.274		
400.00	400.00	278.79	278.78	1.31	5.08	65.23	3,166.82	6,863.40	7,559.03	7,552.64	6.39	1,182.739		
500.00	500.00	392.87	392.85	1.65	5.16	65.22	3,168.70	6,863.56	7,559.86	7,553.05	6.80	1,111.125		
600.00	600.00	507.43	507.39	1.99	5.26	65.21	3,170.29	6,863.51	7,560.41	7,553.15	7.25	1,042.277		
700.00	700.00	576.28	576.24	2.34	5.34	65.20	3,171.21	6,863.61	7,561.09	7,553.41	7.68	984.629		
800.00	800.00	675.47	675.41	2.69	5.47	65.19	3,172.92	6,863.85	7,562.03	7,553.87	8.16	926.895		
900.00	900.00	788.16	788.09	3.04	5.64	65.18	3,175.04	6,863.86	7,562.83	7,554.15	8.68	871.310		
1,000.00	1,000.00	858.77	858.68	3.40	5.75	65.17	3,176.19	6,864.00	7,563.71	7,554.56	9.15	826.591		
1,100.00	1,100.00	1,100.00	974.72	3.75	6.21	65.15	3,178.47	6,864.24	7,564.73	7,554.76	9.96	759.218		
1,200.00	1,200.00	1,193.64	1,193.49	4.11	6.41	65.12	3,182.07	6,862.45	7,564.49	7,553.97	10.52	719.236		
1,300.00	1,300.00	1,316.11	1,315.93	4.46	6.68	65.11	3,183.47	6,860.63	7,563.61	7,552.46	11.15	678.513		
1,400.00	1,400.00	1,401.53	1,401.35	4.82	6.88	65.10	3,184.09	6,859.51	7,562.73	7,551.03	11.70	646.181		
1,500.00	1,500.00	1,526.56	1,526.36	5.18	7.19	65.09	3,185.18	6,857.66	7,561.75	7,549.38	12.37	611.518		
1,600.00	1,600.00	1,627.23	1,627.01	5.53	7.45	65.07	3,186.40	6,855.83	7,560.61	7,547.63	12.98	582.527		
1,700.00	1,700.00	1,700.00	1,764.98	5.89	7.64	65.05	3,187.97	6,853.07	7,559.29	7,545.76	13.53	558.876		
1,800.00	1,800.00	8,057.99	4,987.40	6.25	51.13	91.19	-141.46	6,789.92	7,526.95	7,473.66	53.29	141.253		
1,900.00	1,900.00	8,057.78	4,987.40	6.61	51.13	91.19	-141.25	6,789.92	7,484.38	7,430.56	53.82	139.063		
2,000.00	2,000.00	8,057.57	4,987.40	6.96	51.12	91.19	-141.04	6,789.92	7,442.90	7,388.55	54.35	136.933		
2,100.00	2,100.00	8,057.36	4,987.40	7.32	51.12	91.19	-140.83	6,789.93	7,402.55	7,347.66	54.89	134.863		
2,200.00	2,200.00	8,057.15	4,987.40	7.68	51.12	91.19	-140.62	6,789.93	7,363.34	7,307.91	55.43	132.852		
2,300.00	2,300.00	8,056.93	4,987.40	8.04	51.11	91.18	-140.40	6,789.94	7,325.27	7,269.31	55.96	130.900		
2,400.00	2,400.00	8,056.72	4,987.40	8.39	51.11	91.18	-140.19	6,789.94	7,288.39	7,231.89	56.50	129.007		
2,500.00	2,500.00	8,056.50	4,987.41	8.75	51.11	91.18	-139.97	6,789.94	7,252.69	7,195.66	57.03	127.173		
2,600.00	2,599.99	8,056.76	4,987.40	9.09	51.11	-123.20	-140.23	6,789.94	7,218.65	7,161.10	57.55	125.426		
2,700.00	2,699.96	8,057.97	4,987.40	9.42	51.13	-123.47	-141.44	6,789.92	7,186.75	7,128.67	58.07	123.753		
2,800.00	2,799.86	8,060.14	4,987.39	9.75	51.16	-123.71	-143.61	6,789.87	7,157.02	7,098.41	58.61	122.119		
2,900.00	2,899.68	8,063.27	4,987.38	10.08	51.20	-123.92	-146.74	6,789.82	7,129.50	7,070.35	59.15	120.526		
2,945.33	2,944.88	8,065.01	4,987.38	10.23	51.22	-124.01	-148.48	6,789.78	7,117.76	7,058.36	59.40	119.819		
3,000.00	2,999.39	8,067.23	4,987.37	10.41	51.25	-123.99	-150.70	6,789.74	7,104.08	7,044.37	59.71	118.977		
3,100.00	3,099.08	8,080.00	4,987.34	10.75	51.43	-123.88	-163.47	6,789.51	7,080.08	7,019.70	60.38	117.255		
3,200.00	3,198.78	8,080.00	4,987.34	11.08	51.43	-123.88	-163.47	6,789.51	7,057.40	6,996.52	60.88	115.919		
3,300.00	3,298.48	8,080.00	4,987.34	11.42	51.43	-123.88	-163.47	6,789.51	7,036.07	6,974.69	61.38	114.634		
3,400.00	3,398.18	8,080.00	4,987.34	11.76	51.43	-123.88	-163.47	6,789.51	7,016.10	6,954.23	61.87	113.399		
3,500.00	3,497.88	8,080.00	4,987.34	12.10	51.43	-123.88	-163.47	6,789.51	6,997.50	6,935.15	62.36	112.215		
3,600.00	3,597.58	8,080.00	4,987.34	12.45	51.43	-123.88	-163.47	6,789.51	6,980.29	6,917.45	62.84	111.081		
3,700.00	3,697.27	8,080.00	4,987.34	12.79	51.43	-123.88	-163.47	6,789.51	6,964.47	6,901.15	63.32	109.997		
3,800.00	3,796.97	8,080.00	4,987.34	13.14	51.43	-123.88	-163.47	6,789.51	6,950.05	6,886.26	63.78	108.962		
3,900.00	3,896.67	8,080.00	4,987.34	13.48	51.43	-123.88	-163.47	6,789.51	6,937.04	6,872.80	64.25	107.975		
4,000.00	3,996.37	8,101.59	4,987.30	13.83	51.73	-123.70	-185.05	6,789.16	6,925.39	6,860.39	65.00	106.551		
4,100.00	4,096.07	8,104.78	4,987.29	14.18	51.77	-123.68	-188.25	6,789.11	6,915.21	6,849.72	65.49	105.596		
4,200.00	4,195.76	8,107.99	4,987.29	14.53	51.82	-123.65	-191.45	6,789.06	6,906.45	6,840.48	65.97	104.690		
4,300.00	4,295.46	8,111.21	4,987.29	14.88	51.86	-123.62	-194.67	6,789.02	6,899.14	6,832.69	66.45	103.832		
4,400.00	4,395.16	8,114.45	4,987.28	15.23	51.91	-123.60	-197.91	6,788.98	6,893.26	6,826.35	66.91	103.020		
4,500.00	4,494.86	8,117.70	4,987.28	15.58	51.95	-123.57	-201.16	6,788.94	6,888.83	6,821.46	67.37	102.256		
4,600.00	4,594.56	8,120.97	4,987.28	15.93	52.00	-123.54	-204.43	6,788.89	6,885.84	6,818.03	67.82	101.537		
4,700.00	4,694.25	8,124.25	4,987.28	16.29	52.04	-123.52	-207.71	6,788.86	6,884.31	6,816.05	68.25	100.863		
4,756.07	4,750.15	8,126.10	4,987.28	16.49	52.07	-123.50	-209.56	6,788.83	6,884.08	6,815.58	68.50	100.504		
4,800.00	4,793.95	8,127.55	4,987.28	16.64	52.09	-123.49	-211.01	6,788.82	6,884.22	6,815.54	68.68	100.233		
4,900.00	4,893.65	8,130.86	4,987.28	17.00	52.13	-123.46	-214.32	6,788.78	6,885.58	6,816.48	69.10	99.647		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Sec 13-T21S-R27E - Lone Tree Draw State 3H - Wellbore #1 - Wellbore #1													Offset Well Error:	0.50 ft
Survey Program: 100-GYRO-NS-CT, 4452-MWD+HDGM														
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
5,000.00	4,993.35	8,134.19	4,987.28	17.35	52.18	-123.43	-217.65	6,788.75	6,888.39	6,818.88	69.51	99.104		
5,100.00	5,093.05	8,137.53	4,987.28	17.71	52.23	-123.41	-220.99	6,788.71	6,892.65	6,822.74	69.90	98.603		
5,200.00	5,192.75	8,140.89	4,987.28	18.06	52.27	-123.38	-224.35	6,788.68	6,898.35	6,828.06	70.29	98.143		
5,300.00	5,292.44	8,144.26	4,987.29	18.42	52.32	-123.35	-227.72	6,788.65	6,905.49	6,834.83	70.66	97.724		
5,400.00	5,392.14	8,147.65	4,987.29	18.77	52.37	-123.32	-231.11	6,788.62	6,914.07	6,843.04	71.03	97.344		
5,500.00	5,491.84	8,151.06	4,987.29	19.13	52.41	-123.29	-234.52	6,788.59	6,924.07	6,852.69	71.38	97.004		
5,600.00	5,591.54	8,154.48	4,987.30	19.49	52.46	-123.26	-237.94	6,788.56	6,935.50	6,863.78	71.72	96.702		
5,700.00	5,691.24	8,175.00	4,987.34	19.85	52.74	-123.09	-258.46	6,788.44	6,948.39	6,876.11	72.29	96.124		
5,800.00	5,790.93	8,175.00	4,987.34	20.20	52.74	-123.09	-258.46	6,788.44	6,962.64	6,890.08	72.56	95.962		
5,900.00	5,890.63	8,175.00	4,987.34	20.56	52.74	-123.09	-258.46	6,788.44	6,978.28	6,905.47	72.82	95.835		
6,000.00	5,990.33	8,175.00	4,987.34	20.92	52.74	-123.09	-258.46	6,788.44	6,995.33	6,922.26	73.06	95.743		
6,100.00	6,090.03	8,175.00	4,987.34	21.28	52.74	-123.09	-258.46	6,788.44	7,013.75	6,940.45	73.30	95.686		
6,200.00	6,189.73	8,175.00	4,987.34	21.64	52.74	-123.09	-258.46	6,788.44	7,033.55	6,960.03	73.53	95.662		
6,300.00	6,289.42	8,180.66	4,987.35	22.00	52.82	-123.05	-264.12	6,788.41	7,054.71	6,980.90	73.82	95.569		
6,400.00	6,389.12	8,185.81	4,987.36	22.36	52.89	-123.00	-269.27	6,788.39	7,077.22	7,003.13	74.09	95.519		
6,500.00	6,488.82	8,190.97	4,987.38	22.72	52.97	-122.96	-274.43	6,788.37	7,101.05	7,026.70	74.36	95.501		
6,600.00	6,588.52	8,196.13	4,987.39	23.08	53.04	-122.92	-279.59	6,788.35	7,126.21	7,051.60	74.61	95.515		
6,700.00	6,688.22	8,201.31	4,987.41	23.44	53.11	-122.88	-284.76	6,788.33	7,152.67	7,077.82	74.85	95.559		
6,800.00	6,787.91	8,206.49	4,987.42	23.80	53.18	-122.83	-289.95	6,788.31	7,180.42	7,105.34	75.08	95.632		
6,900.00	6,887.61	8,211.68	4,987.44	24.16	53.25	-122.79	-295.14	6,788.30	7,209.45	7,134.14	75.31	95.735		
7,000.00	6,987.31	8,216.88	4,987.45	24.52	53.33	-122.75	-300.34	6,788.28	7,239.73	7,164.22	75.52	95.866		
7,100.00	7,087.01	8,222.09	4,987.47	24.88	53.40	-122.70	-305.54	6,788.27	7,271.27	7,195.54	75.72	96.025		
7,200.00	7,186.71	8,227.30	4,987.48	25.24	53.47	-122.66	-310.76	6,788.26	7,304.02	7,228.11	75.92	96.210		
7,300.00	7,286.41	8,232.53	4,987.50	25.60	53.54	-122.62	-315.99	6,788.24	7,338.00	7,261.89	76.10	96.422		
7,400.00	7,386.10	8,237.76	4,987.52	25.96	53.62	-122.57	-321.22	6,788.23	7,373.16	7,296.88	76.28	96.659		
7,500.00	7,485.80	8,243.01	4,987.53	26.33	53.69	-122.53	-326.46	6,788.22	7,409.51	7,333.06	76.45	96.921		
7,600.00	7,585.50	8,248.26	4,987.55	26.69	53.76	-122.49	-331.72	6,788.22	7,447.01	7,370.40	76.61	97.206		
7,700.00	7,685.20	8,253.52	4,987.57	27.05	53.83	-122.44	-336.98	6,788.21	7,485.66	7,408.89	76.76	97.515		
7,800.00	7,784.90	8,258.79	4,987.59	27.41	53.91	-122.40	-342.25	6,788.21	7,525.43	7,448.52	76.91	97.846		
7,860.70	7,845.41	8,261.99	4,987.60	27.63	53.95	-122.37	-345.45	6,788.20	7,550.12	7,473.12	77.00	98.058		
7,900.00	7,884.61	8,263.94	4,987.61	27.77	53.98	-122.58	-347.39	6,788.20	7,566.22	7,489.17	77.05	98.201		
8,000.00	7,984.46	8,270.00	4,987.63	28.13	54.06	-123.09	-353.46	6,788.20	7,607.04	7,529.86	77.19	98.552		
8,100.00	8,084.42	8,270.00	4,987.63	28.49	54.06	-123.65	-353.46	6,788.20	7,647.66	7,570.42	77.24	99.014		
8,157.59	8,142.00	8,270.43	4,987.63	28.69	54.07	90.11	-353.89	6,788.20	7,670.95	7,593.68	77.26	99.281		
8,200.00	8,184.41	8,270.63	4,987.63	28.83	54.07	90.11	-354.08	6,788.20	7,688.17	7,610.89	77.28	99.487		
8,300.00	8,284.41	8,271.09	4,987.63	29.17	54.08	90.12	-354.55	6,788.20	7,729.53	7,652.22	77.31	99.984		
8,400.00	8,384.41	8,271.55	4,987.63	29.51	54.09	90.12	-355.01	6,788.20	7,771.97	7,694.63	77.33	100.500		
8,507.63	8,492.04	8,272.05	4,987.64	29.87	54.09	90.13	-355.50	6,788.20	7,818.81	7,741.45	77.35	101.077		
8,550.00	8,534.37	8,272.22	4,987.64	30.02	54.09	0.73	-355.68	6,788.20	7,836.16	7,758.80	77.36	101.298		
8,600.00	8,584.01	8,272.36	4,987.64	30.18	54.10	0.71	-355.82	6,788.20	7,853.15	7,775.80	77.35	101.527		
8,650.00	8,632.95	8,272.44	4,987.64	30.34	54.10	0.70	-355.90	6,788.20	7,866.27	7,788.94	77.33	101.718		
8,700.00	8,680.82	8,272.45	4,987.64	30.50	54.10	0.68	-355.91	6,788.20	7,875.44	7,798.14	77.31	101.869		
8,750.00	8,727.25	8,272.40	4,987.64	30.66	54.10	0.68	-355.86	6,788.20	7,880.61	7,803.34	77.27	101.982		
8,800.00	8,771.89	8,272.28	4,987.64	30.81	54.10	0.68	-355.74	6,788.20	7,881.75	7,804.52	77.23	102.056		
8,850.00	8,814.40	8,272.10	4,987.64	30.95	54.09	0.68	-355.56	6,788.20	7,878.84	7,801.66	77.17	102.092		
8,900.00	8,854.46	8,271.86	4,987.63	31.09	54.09	0.68	-355.32	6,788.20	7,871.90	7,794.79	77.11	102.091		
8,950.00	8,891.75	8,271.55	4,987.63	31.23	54.09	0.70	-355.01	6,788.20	7,860.98	7,783.95	77.03	102.051		
9,000.00	8,926.01	8,271.19	4,987.63	31.37	54.08	0.71	-354.65	6,788.20	7,846.14	7,769.20	76.94	101.972		
9,050.00	8,956.96	8,270.78	4,987.63	31.53	54.07	0.73	-354.24	6,788.20	7,827.48	7,750.63	76.85	101.855		
9,100.00	8,984.38	8,270.31	4,987.63	31.69	54.07	0.76	-353.77	6,788.20	7,805.11	7,728.36	76.75	101.700		
9,150.00	9,008.05	8,270.00	4,987.63	31.87	54.06	0.80	-353.46	6,788.20	7,779.17	7,702.53	76.64	101.503		
9,200.00	9,027.79	8,270.00	4,987.63	32.07	54.06	0.85	-353.46	6,788.20	7,749.81	7,673.28	76.53	101.261		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design		Sec 13-T21S-R27E - Lone Tree Draw State 3H - Wellbore #1 - Wellbore #1											Offset Site Error:		5.00 ft
Survey Program:		100-GYRO-NS-CT, 4452-MWD+HDGM											Offset Well Error:		0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor			
9,250.00	9,043.45	8,270.00	4,987.63	32.29	54.06	0.92	-353.46	6,788.20	7,717.24	7,640.82	76.42	100.981			
9,300.00	9,054.92	8,270.00	4,987.63	32.53	54.06	1.01	-353.46	6,788.20	7,681.65	7,605.34	76.31	100.661			
9,350.00	9,062.10	8,270.00	4,987.63	32.79	54.06	1.12	-353.46	6,788.20	7,643.28	7,567.08	76.20	100.304			
9,400.00	9,064.95	8,267.83	4,987.62	33.06	54.03	1.24	-351.29	6,788.20	7,602.37	7,526.31	76.07	99.945			
9,407.63	9,065.00	8,267.76	4,987.62	33.10	54.03	1.26	-351.22	6,788.20	7,595.93	7,519.87	76.05	99.878			
9,500.00	9,065.00	8,266.91	4,987.62	33.68	54.02	1.25	-350.37	6,788.20	7,517.71	7,441.88	75.83	99.136			
9,600.00	9,065.00	8,265.98	4,987.61	34.41	54.01	1.24	-349.44	6,788.20	7,433.41	7,357.81	75.60	98.331			
9,700.00	9,065.00	8,265.04	4,987.61	35.24	53.99	1.22	-348.50	6,788.20	7,349.49	7,274.14	75.36	97.526			
9,800.00	9,065.00	8,264.10	4,987.61	36.17	53.98	1.21	-347.56	6,788.20	7,265.99	7,190.86	75.13	96.719			
9,900.00	9,065.00	8,263.15	4,987.60	37.19	53.97	1.19	-346.61	6,788.20	7,182.91	7,108.01	74.89	95.910			
10,000.00	9,065.00	8,262.19	4,987.60	38.30	53.95	1.18	-345.65	6,788.20	7,100.26	7,025.60	74.66	95.099			
10,100.00	9,065.00	8,261.22	4,987.60	39.48	53.94	1.17	-344.68	6,788.20	7,018.06	6,943.63	74.43	94.285			
10,200.00	9,065.00	8,260.25	4,987.59	40.72	53.93	1.15	-343.71	6,788.20	6,936.33	6,862.12	74.21	93.470			
10,300.00	9,065.00	8,259.27	4,987.59	42.03	53.91	1.14	-342.73	6,788.20	6,855.09	6,781.10	73.99	92.651			
10,400.00	9,065.00	8,258.28	4,987.59	43.40	53.90	1.13	-341.74	6,788.21	6,774.34	6,700.57	73.77	91.829			
10,500.00	9,065.00	8,257.28	4,987.58	44.82	53.89	1.11	-340.74	6,788.21	6,694.12	6,620.56	73.56	91.004			
10,600.00	9,065.00	8,256.28	4,987.58	46.29	53.87	1.10	-339.74	6,788.21	6,614.44	6,541.08	73.35	90.176			
10,700.00	9,065.00	8,255.27	4,987.58	47.79	53.86	1.08	-338.73	6,788.21	6,535.31	6,462.16	73.15	89.343			
10,800.00	9,065.00	8,254.25	4,987.57	49.34	53.84	1.07	-337.71	6,788.21	6,456.76	6,383.81	72.95	88.507			
10,900.00	9,065.00	8,253.22	4,987.57	50.92	53.83	1.05	-336.68	6,788.21	6,378.81	6,306.05	72.76	87.666			
11,000.00	9,065.00	8,252.19	4,987.56	52.54	53.82	1.04	-335.65	6,788.21	6,301.49	6,228.91	72.58	86.820			
11,100.00	9,065.00	8,251.14	4,987.56	54.18	53.80	1.02	-334.60	6,788.21	6,224.81	6,152.40	72.41	85.970			
11,200.00	9,065.00	8,250.09	4,987.56	55.85	53.79	1.01	-333.55	6,788.21	6,148.80	6,076.56	72.24	85.114			
11,300.00	9,065.00	8,249.03	4,987.55	57.54	53.77	0.99	-332.49	6,788.22	6,073.49	6,001.40	72.09	84.254			
11,400.00	9,065.00	8,247.96	4,987.55	59.26	53.76	0.98	-331.42	6,788.22	5,998.90	5,926.96	71.94	83.388			
11,500.00	9,065.00	8,246.89	4,987.55	61.00	53.74	0.96	-330.35	6,788.22	5,925.05	5,853.25	71.80	82.516			
11,600.00	9,065.00	8,245.80	4,987.54	62.75	53.73	0.95	-329.26	6,788.22	5,851.98	5,780.30	71.68	81.640			
11,700.00	9,065.00	8,244.71	4,987.54	64.52	53.71	0.93	-328.17	6,788.22	5,779.72	5,708.15	71.57	80.757			
11,800.00	9,065.00	8,243.60	4,987.54	66.31	53.70	0.92	-327.06	6,788.22	5,708.30	5,636.83	71.47	79.870			
11,900.00	9,065.00	8,242.49	4,987.53	68.11	53.68	0.90	-325.95	6,788.23	5,637.74	5,566.36	71.38	78.977			
12,000.00	9,065.00	8,241.37	4,987.53	69.93	53.67	0.88	-324.83	6,788.23	5,568.09	5,496.78	71.31	78.079			
12,100.00	9,065.00	8,240.24	4,987.52	71.76	53.65	0.87	-323.70	6,788.23	5,499.37	5,428.12	71.26	77.177			
12,200.00	9,065.00	8,239.10	4,987.52	73.60	53.63	0.85	-322.56	6,788.23	5,431.63	5,360.41	71.22	76.270			
12,300.00	9,065.00	8,237.95	4,987.52	75.45	53.62	0.84	-321.41	6,788.23	5,364.89	5,293.70	71.19	75.360			
12,400.00	9,065.00	8,236.79	4,987.51	77.31	53.60	0.82	-320.25	6,788.24	5,299.20	5,228.02	71.18	74.447			
12,500.00	9,065.00	8,235.62	4,987.51	79.18	53.59	0.80	-319.08	6,788.24	5,234.59	5,163.40	71.19	73.531			
12,600.00	9,065.00	8,234.45	4,987.51	81.05	53.57	0.79	-317.90	6,788.24	5,171.11	5,099.90	71.21	72.613			
12,700.00	9,065.00	8,233.26	4,987.50	82.94	53.55	0.77	-316.72	6,788.24	5,108.80	5,037.54	71.26	71.694			
12,800.00	9,065.00	8,232.06	4,987.50	84.83	53.54	0.75	-315.52	6,788.24	5,047.70	4,976.38	71.32	70.775			
12,900.00	9,065.00	8,230.85	4,987.49	86.73	53.52	0.73	-314.31	6,788.25	4,987.86	4,916.46	71.40	69.857			
13,000.00	9,065.00	8,229.63	4,987.49	88.64	53.50	0.72	-313.09	6,788.25	4,929.32	4,857.82	71.50	68.941			
13,100.00	9,065.00	8,228.40	4,987.49	90.55	53.49	0.70	-311.86	6,788.25	4,872.13	4,800.51	71.62	68.028			
13,200.00	9,065.00	8,227.16	4,987.48	92.47	53.47	0.68	-310.62	6,788.26	4,816.33	4,744.58	71.76	67.119			
13,300.00	9,065.00	8,225.91	4,987.48	94.39	53.45	0.66	-309.37	6,788.26	4,761.99	4,690.07	71.92	66.215			
13,400.00	9,065.00	8,224.65	4,987.47	96.32	53.43	0.65	-308.11	6,788.26	4,709.13	4,637.04	72.10	65.318			
13,500.00	9,065.00	8,223.38	4,987.47	98.25	53.42	0.63	-306.84	6,788.26	4,657.83	4,585.53	72.29	64.429			
13,600.00	9,065.00	8,222.10	4,987.47	100.19	53.40	0.61	-305.56	6,788.27	4,608.12	4,535.61	72.51	63.548			
13,700.00	9,065.00	8,220.80	4,987.46	102.13	53.38	0.59	-304.26	6,788.27	4,560.07	4,487.31	72.75	62.678			
13,800.00	9,065.00	8,219.50	4,987.46	104.08	53.36	0.57	-302.96	6,788.27	4,513.72	4,440.70	73.02	61.819			
13,900.00	9,065.00	8,218.18	4,987.46	106.03	53.34	0.55	-301.64	6,788.28	4,469.12	4,395.82	73.30	60.972			
14,000.00	9,065.00	8,216.85	4,987.45	107.98	53.32	0.54	-300.31	6,788.28	4,426.34	4,352.73	73.60	60.138			
14,100.00	9,065.00	8,215.51	4,987.45	109.94	53.31	0.52	-298.97	6,788.29	4,385.41	4,311.48	73.93	59.319			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Survey Program: 100-GYRO-NS-CT, 4452-MWD+HDGM													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Minimum Separation (ft)	Separation Factor	Warning			
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)						
14,200.00	9,065.00	8,214.16	4,987.44	111.90	53.29	0.50	-297.62	6,788.29	4,346.41	4,272.13	74.28	58.515		
14,300.00	9,065.00	8,212.79	4,987.44	113.86	53.27	0.48	-296.25	6,788.29	4,309.37	4,234.72	74.65	57.727		
14,400.00	9,065.00	8,211.42	4,987.44	115.82	53.25	0.46	-294.87	6,788.30	4,274.35	4,199.30	75.05	56.956		
14,500.00	9,065.00	8,210.03	4,987.43	117.79	53.23	0.44	-293.48	6,788.30	4,241.40	4,165.93	75.47	56.202		
14,600.00	9,065.00	8,208.62	4,987.43	119.76	53.21	0.42	-292.08	6,788.31	4,210.56	4,134.65	75.91	55.467		
14,700.00	9,065.00	8,207.21	4,987.42	121.74	53.19	0.40	-290.67	6,788.31	4,181.89	4,105.51	76.38	54.750		
14,800.00	9,065.00	8,205.78	4,987.42	123.71	53.17	0.38	-289.24	6,788.32	4,155.43	4,078.55	76.88	54.051		
14,900.00	9,065.00	8,204.34	4,987.41	125.69	53.15	0.36	-287.80	6,788.32	4,131.22	4,053.81	77.40	53.372		
15,000.00	9,065.00	8,202.88	4,987.41	127.67	53.13	0.34	-286.34	6,788.33	4,109.30	4,031.34	77.96	52.713		
15,100.00	9,065.00	8,201.41	4,987.41	129.65	53.11	0.32	-284.87	6,788.33	4,089.71	4,011.17	78.54	52.073		
15,200.00	9,065.00	8,199.93	4,987.40	131.63	53.09	0.29	-283.39	6,788.34	4,072.48	3,993.33	79.15	51.453		
15,300.00	9,065.00	8,198.43	4,987.40	133.62	53.07	0.27	-281.89	6,788.34	4,057.64	3,977.85	79.79	50.854		
15,400.00	9,065.00	8,196.92	4,987.39	135.61	53.05	0.25	-280.38	6,788.35	4,045.22	3,964.75	80.46	50.275		
15,500.00	9,065.00	8,195.40	4,987.39	137.60	53.03	0.23	-278.86	6,788.35	4,035.23	3,954.07	81.16	49.718		
15,600.00	9,065.00	8,193.86	4,987.39	139.59	53.01	0.21	-277.32	6,788.36	4,027.71	3,945.82	81.89	49.183		
15,700.00	9,065.00	8,192.30	4,987.38	141.58	52.98	0.19	-275.76	6,788.36	4,022.66	3,940.01	82.65	48.669		
15,800.00	9,065.00	8,193.69	4,987.39	143.57	53.00	0.21	-277.14	6,788.37	4,020.09	3,936.62	83.47	48.164		
15,853.32	9,065.00	8,192.80	4,987.39	144.64	52.99	0.19	-276.26	6,788.38	4,019.73	3,935.84	83.90	47.913 CC		
15,900.00	9,065.00	8,192.02	4,987.39	145.57	52.98	0.18	-275.47	6,788.38	4,020.00	3,935.72	84.28	47.699 ES		
16,000.00	9,065.00	8,190.29	4,987.38	147.56	52.95	0.16	-273.74	6,788.38	4,022.41	3,937.29	85.12	47.258		
16,100.00	9,065.00	8,188.49	4,987.38	149.56	52.93	0.13	-271.95	6,788.39	4,027.29	3,941.32	85.97	46.843		
16,200.00	9,065.00	8,186.63	4,987.37	151.56	52.90	0.10	-270.09	6,788.39	4,034.65	3,947.80	86.85	46.455		
16,300.00	9,065.00	8,184.70	4,987.36	153.56	52.88	0.08	-268.16	6,788.40	4,044.47	3,956.72	87.74	46.094		
16,400.00	9,065.00	8,182.70	4,987.36	155.56	52.85	0.05	-266.16	6,788.41	4,056.73	3,968.08	88.65	45.762		
16,500.00	9,065.00	8,180.62	4,987.35	157.57	52.82	0.02	-264.08	6,788.41	4,071.40	3,981.84	89.56	45.460		
16,600.00	9,065.00	8,178.46	4,987.35	159.57	52.79	-0.01	-261.92	6,788.42	4,088.48	3,998.00	90.48	45.188		
16,700.00	9,065.00	8,176.20	4,987.34	161.57	52.76	-0.04	-259.66	6,788.43	4,107.91	4,016.51	91.40	44.946		
16,800.00	9,065.00	8,173.86	4,987.33	163.58	52.73	-0.08	-257.32	6,788.44	4,129.67	4,037.36	92.31	44.737		
16,900.00	9,065.00	8,171.41	4,987.33	165.59	52.69	-0.11	-254.87	6,788.46	4,153.73	4,060.51	93.22	44.559		
17,000.00	9,065.00	8,168.86	4,987.32	167.60	52.66	-0.15	-252.32	6,788.47	4,180.04	4,085.92	94.12	44.413		
17,100.00	9,065.00	8,166.19	4,987.32	169.60	52.62	-0.19	-249.65	6,788.49	4,208.56	4,113.56	95.00	44.299		
17,200.00	9,065.00	8,163.41	4,987.31	171.61	52.58	-0.23	-246.87	6,788.50	4,239.25	4,143.38	95.87	44.217		
17,300.00	9,065.00	8,160.49	4,987.31	173.62	52.54	-0.27	-243.95	6,788.52	4,272.06	4,175.34	96.72	44.168		
17,400.00	9,065.00	8,157.44	4,987.30	175.63	52.50	-0.31	-240.90	6,788.54	4,306.94	4,209.39	97.55	44.150 SF		
17,500.00	9,065.00	8,154.24	4,987.30	177.65	52.46	-0.36	-237.70	6,788.57	4,343.84	4,245.48	98.36	44.163		
17,600.00	9,065.00	8,150.88	4,987.29	179.66	52.41	-0.41	-234.34	6,788.59	4,382.71	4,283.57	99.14	44.207		
17,700.00	9,065.00	8,147.34	4,987.29	181.67	52.36	-0.46	-230.80	6,788.62	4,423.50	4,323.61	99.90	44.281		
17,800.00	9,065.00	8,143.62	4,987.29	183.69	52.31	-0.51	-227.08	6,788.65	4,466.15	4,365.53	100.62	44.386		
17,900.00	9,065.00	8,139.70	4,987.28	185.70	52.26	-0.56	-223.16	6,788.69	4,510.62	4,409.30	101.32	44.519		
18,000.00	9,065.00	8,135.57	4,987.28	187.72	52.20	-0.62	-219.03	6,788.73	4,556.85	4,454.86	101.99	44.680		
18,100.00	9,065.00	8,131.19	4,987.28	189.73	52.14	-0.69	-214.65	6,788.78	4,604.78	4,502.15	102.63	44.869		
18,200.00	9,065.00	8,126.57	4,987.28	191.75	52.07	-0.75	-210.03	6,788.83	4,654.36	4,551.13	103.24	45.085		
18,300.00	9,065.00	8,121.66	4,987.28	193.77	52.01	-0.82	-205.12	6,788.89	4,705.55	4,601.73	103.81	45.326		
18,400.00	9,065.00	8,116.44	4,987.28	195.78	51.93	-0.90	-199.91	6,788.95	4,758.28	4,653.92	104.36	45.594		
18,500.00	9,065.00	8,110.89	4,987.29	197.80	51.86	-0.97	-194.36	6,789.02	4,812.51	4,707.63	104.88	45.886		
18,600.00	9,065.00	8,104.98	4,987.29	199.82	51.78	-1.06	-188.44	6,789.11	4,868.19	4,762.82	105.37	46.202		
18,700.00	9,065.00	8,098.65	4,987.30	201.84	51.69	-1.15	-182.12	6,789.20	4,925.27	4,819.44	105.83	46.541		
18,800.00	9,065.00	8,091.88	4,987.31	203.86	51.59	-1.25	-175.34	6,789.31	4,983.69	4,877.44	106.26	46.903		
18,900.00	9,065.00	8,084.61	4,987.33	205.88	51.49	-1.35	-168.07	6,789.43	5,043.42	4,936.77	106.66	47.287		
19,000.00	9,065.00	8,078.18	4,987.34	207.90	51.41	-1.44	-161.65	6,789.54	5,104.41	4,997.37	107.04	47.687		
19,100.00	9,065.00	8,073.59	4,987.35	209.92	51.34	-1.51	-157.06	6,789.62	5,166.61	5,059.19	107.42	48.099		
19,200.00	9,065.00	8,068.90	4,987.37	211.95	51.28	-1.57	-152.37	6,789.71	5,229.97	5,122.20	107.77	48.529		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design	Sec 13-T21S-R27E - Lone Tree Draw State 3H - Wellbore #1 - Wellbore #1												Offset Site Error:	5.00 ft
Survey Program:	100-GYRO-NS-CT, 4452-MWD+HDGM												Offset Well Error:	0.50 ft
Reference	Offset	Semi Major Axis		Distance										
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor	Warning	
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)			
19,300.00	9,065.00	8,064.12	4,987.38	213.97	51.21	-1.64	-147.58	6,789.80	5,294.47	5,186.37	108.10	48.977		
19,400.00	9,065.00	8,059.22	4,987.40	215.99	51.14	-1.71	-142.69	6,789.89	5,360.05	5,251.64	108.41	49.441		
19,456.84	9,065.00	8,056.40	4,987.41	217.14	51.11	-1.75	-139.87	6,789.95	5,397.80	5,289.22	108.58	49.713		

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design		Sec 13-T21S-R27E - Lone Tree Draw State 7H - Wellbore #1 - Wellbore #1											Offset Site Error:		5.00 ft
Survey Program:		100-GYRO-NS-CT, 2922-MWD+HDGM											Offset Well Error:		0.50 ft
Reference		Offset		Semi Major Axis			Distance					Warning			
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)		Separation Factor		
0.00	0.00	0.00	0.00	0.50	5.02	66.72	3,319.90	7,715.44	8,399.58						
100.00	100.00	39.11	39.11	0.52	5.03	66.72	3,319.90	7,715.44	8,399.39	8,393.85	5.54	1,515.327			
200.00	200.00	139.31	139.31	0.70	5.03	66.72	3,319.98	7,715.50	8,399.48	8,393.74	5.73	1,464.796			
300.00	300.00	262.92	262.92	0.99	5.07	66.71	3,320.39	7,715.21	8,399.40	8,393.34	6.06	1,385.841			
400.00	400.00	400.00	468.21	1.31	5.16	66.71	3,319.75	7,713.55	8,398.53	8,392.06	6.47	1,298.021			
500.00	500.00	626.05	626.00	1.65	5.40	66.72	3,317.34	7,711.04	8,396.33	8,389.29	7.04	1,192.165			
600.00	600.00	700.00	699.93	1.99	5.50	66.73	3,316.39	7,709.93	8,394.40	8,386.92	7.49	1,121.131			
700.00	700.00	764.79	764.71	2.34	5.60	66.73	3,315.87	7,709.07	8,392.83	8,384.90	7.93	1,058.065			
800.00	800.00	876.22	876.13	2.69	5.78	66.73	3,315.29	7,707.56	8,391.38	8,382.92	8.47	991.262			
900.00	900.00	1,005.03	1,004.92	3.04	6.02	66.72	3,314.93	7,705.25	8,389.62	8,380.57	9.05	926.708			
1,000.00	1,000.00	1,070.73	1,070.61	3.40	6.15	66.72	3,314.89	7,704.05	8,387.91	8,378.38	9.54	879.517			
1,100.00	1,100.00	1,362.68	1,362.45	3.75	6.80	66.72	3,311.66	7,697.31	8,385.56	8,375.03	10.53	796.517			
1,200.00	1,200.00	1,441.87	1,441.57	4.11	7.00	66.73	3,309.35	7,695.12	8,381.87	8,370.79	11.07	756.919			
1,300.00	1,300.00	1,517.18	1,516.82	4.46	7.19	66.74	3,307.11	7,693.28	8,378.45	8,366.83	11.62	721.253			
1,400.00	1,400.00	1,591.17	1,590.77	4.82	7.38	66.75	3,304.95	7,691.70	8,375.34	8,363.18	12.16	688.686			
1,500.00	1,500.00	1,718.54	1,718.06	5.18	7.72	66.76	3,301.31	7,688.89	8,372.17	8,359.32	12.85	651.515			
1,600.00	1,600.00	1,790.71	1,790.18	5.53	7.92	66.77	3,299.31	7,687.30	8,369.05	8,355.65	13.40	624.471			
1,700.00	1,700.00	1,924.34	1,923.73	5.89	8.29	66.79	3,295.50	7,684.40	8,365.95	8,351.82	14.13	592.255			
1,800.00	1,800.00	2,098.27	2,097.50	6.25	8.80	66.81	3,290.11	7,679.64	8,362.25	8,347.28	14.97	558.480			
1,900.00	1,900.00	2,179.38	2,178.53	6.61	9.05	66.82	3,287.76	7,677.00	8,358.12	8,342.55	15.57	536.939			
2,000.00	2,000.00	2,247.14	2,246.24	6.96	9.25	66.82	3,285.85	7,674.98	8,354.28	8,338.16	16.12	518.139			
2,100.00	2,100.00	2,320.13	2,319.18	7.32	9.47	66.83	3,283.72	7,673.19	8,350.86	8,334.16	16.70	500.102			
2,200.00	2,200.00	2,424.39	2,423.36	7.68	9.79	66.84	3,280.57	7,670.69	8,347.47	8,330.10	17.37	480.618			
2,300.00	2,300.00	2,500.00	2,498.92	8.04	10.03	66.85	3,278.38	7,669.01	8,344.27	8,326.32	17.96	464.713			
2,400.00	2,400.00	2,599.56	2,598.42	8.39	10.34	66.87	3,275.61	7,666.90	8,341.23	8,322.61	18.62	448.028			
2,500.00	2,500.00	2,695.14	2,693.94	8.75	10.64	66.88	3,273.03	7,664.84	8,338.19	8,318.92	19.27	432.699			
2,600.00	2,599.99	2,775.00	2,773.76	9.09	10.89	-147.21	3,271.00	7,663.21	8,336.05	8,316.19	19.86	419.746			
2,668.38	2,668.35	2,818.61	2,817.35	9.32	10.96	-147.21	3,270.05	7,662.38	8,335.61	8,315.46	20.15	413.630			
2,700.00	2,699.96	2,839.60	2,838.33	9.42	10.99	-147.21	3,269.68	7,661.99	8,335.70	8,315.41	20.29	410.850			
2,800.00	2,799.86	2,905.94	2,904.65	9.75	11.10	-147.21	3,268.88	7,660.79	8,337.23	8,316.51	20.72	402.321			
2,900.00	2,899.68	2,994.03	2,992.73	10.08	11.14	-147.21	3,268.45	7,659.22	8,340.53	8,319.44	21.09	395.501			
2,945.33	2,944.88	3,275.19	3,273.47	10.23	11.23	-147.35	3,274.16	7,646.74	8,341.68	8,320.36	21.32	391.238			
3,000.00	2,999.39	3,336.94	3,334.99	10.41	11.26	-147.40	3,277.06	7,642.35	8,342.69	8,321.16	21.54	387.389			
3,100.00	3,099.08	3,438.29	3,435.97	10.75	11.33	-147.48	3,281.85	7,635.09	8,344.53	8,322.60	21.93	380.446			
3,200.00	3,198.78	3,537.64	3,534.96	11.08	11.40	-147.56	3,286.53	7,627.97	8,346.36	8,324.02	22.34	373.537			
3,300.00	3,298.48	3,635.05	3,632.01	11.42	11.48	-147.63	3,291.13	7,621.00	8,348.23	8,325.47	22.77	366.693			
3,400.00	3,398.18	3,733.30	3,729.90	11.76	11.57	-147.71	3,295.82	7,613.97	8,350.13	8,326.93	23.20	359.895			
3,500.00	3,497.88	3,832.46	3,828.67	12.10	11.68	-147.79	3,300.69	7,606.82	8,352.06	8,328.41	23.65	353.149			
3,600.00	3,597.58	3,928.47	3,924.32	12.45	11.79	-147.86	3,305.39	7,599.92	8,354.01	8,329.90	24.11	346.538			
3,700.00	3,697.27	3,990.34	3,985.96	12.79	11.86	-147.91	3,308.40	7,595.58	8,356.16	8,331.63	24.53	340.630			
3,800.00	3,796.97	4,056.00	4,051.41	13.14	11.95	-147.96	3,311.82	7,591.45	8,359.00	8,334.04	24.96	334.835			
3,900.00	3,896.67	4,260.56	4,255.42	13.48	12.24	-148.10	3,318.95	7,578.32	8,361.01	8,335.41	25.60	326.581			
4,000.00	3,996.37	4,280.97	4,275.78	13.83	12.27	-148.12	3,319.58	7,577.11	8,363.18	8,337.20	25.99	321.832			
4,100.00	4,096.07	4,340.00	4,334.69	14.18	12.36	-148.15	3,321.65	7,574.10	8,366.32	8,339.89	26.43	316.569			
4,200.00	4,195.76	11,175.18	7,738.39	14.53	55.69	-124.86	-211.50	7,458.31	8,340.23	8,274.44	65.78	126.780			
4,300.00	4,295.46	11,181.44	7,738.44	14.88	55.78	-124.81	-217.76	7,458.18	8,301.54	8,235.13	66.41	124.996			
4,400.00	4,395.16	11,187.68	7,738.49	15.23	55.86	-124.77	-224.00	7,458.06	8,263.88	8,196.83	67.04	123.261			
4,500.00	4,494.86	11,193.90	7,738.55	15.58	55.94	-124.72	-230.23	7,457.94	8,227.25	8,159.58	67.67	121.573			
4,600.00	4,494.56	11,259.34	7,738.66	15.93	56.82	-124.23	-295.64	7,456.64	8,191.66	8,122.59	69.06	118.613			
4,700.00	4,494.25	4,700.00	7,738.47	16.29	31.67	-124.30	-286.75	7,456.79	8,156.99	8,111.80	45.19	180.514			
4,800.00	4,793.95	4,800.00	7,738.46	16.64	30.30	-124.25	-293.12	7,456.66	8,123.52	8,079.15	44.38	183.063			
4,900.00	4,893.65	4,900.00	7,738.45	17.00	28.93	-124.20	-299.48	7,456.53	8,091.15	8,047.60	43.55	185.778			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Sec 13-T21S-R27E - Lone Tree Draw State 7H - Wellbore #1 - Wellbore #1													Offset Well Error:	0.50 ft
Survey Program: 100-GYRO-NS-CT, 2922-MWD+HDGM														
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
5,000.00	4,993.35	5,000.00	7,738.44	17.35	27.56	-124.16	-305.84	7,456.40	8,059.89	8,017.17	42.72	188.671		
5,100.00	5,093.05	5,100.00	7,738.43	17.71	26.18	-124.11	-312.20	7,456.27	8,029.74	7,987.87	41.87	191.758		
5,200.00	5,192.75	5,200.00	7,738.42	18.06	24.80	-124.06	-318.56	7,456.13	8,000.72	7,959.71	41.02	195.057		
5,300.00	5,292.44	5,300.00	7,738.41	18.42	23.42	-124.01	-324.92	7,456.00	7,972.85	7,932.70	40.15	198.586		
5,400.00	5,392.14	5,400.00	7,738.40	18.77	22.04	-123.97	-331.28	7,455.87	7,946.14	7,906.87	39.27	202.367		
5,500.00	5,491.84	11,290.00	7,738.41	19.13	57.24	-124.00	-326.30	7,455.98	7,920.60	7,846.25	74.34	106.545		
5,600.00	5,591.54	11,314.00	7,738.18	19.49	57.56	-123.82	-350.29	7,455.48	7,896.16	7,820.98	75.18	105.025		
5,700.00	5,691.24	11,316.76	7,738.17	19.85	57.60	-123.80	-353.06	7,455.42	7,872.98	7,797.24	75.74	103.946		
5,800.00	5,790.93	11,319.58	7,738.15	20.20	57.64	-123.78	-355.87	7,455.37	7,851.00	7,774.70	76.29	102.905		
5,900.00	5,890.63	11,322.44	7,738.13	20.56	57.68	-123.76	-358.73	7,455.31	7,830.23	7,753.39	76.84	101.901		
6,000.00	5,990.33	11,325.36	7,738.12	20.92	57.71	-123.74	-361.65	7,455.26	7,810.69	7,733.31	77.38	100.934		
6,100.00	6,090.03	11,328.33	7,738.10	21.28	57.76	-123.72	-364.61	7,455.20	7,792.38	7,714.46	77.92	100.003		
6,200.00	6,189.73	11,331.35	7,738.09	21.64	57.80	-123.70	-367.64	7,455.15	7,775.31	7,696.86	78.45	99.109		
6,300.00	6,289.42	11,334.42	7,738.08	22.00	57.84	-123.67	-370.71	7,455.09	7,759.49	7,680.51	78.98	98.250		
6,400.00	6,389.12	11,337.56	7,738.07	22.36	57.88	-123.65	-373.85	7,455.04	7,744.93	7,665.43	79.50	97.426		
6,500.00	6,488.82	11,340.75	7,738.06	22.72	57.92	-123.63	-377.04	7,454.98	7,731.63	7,651.62	80.01	96.637		
6,600.00	6,588.52	11,344.00	7,738.06	23.08	57.97	-123.60	-380.29	7,454.92	7,719.60	7,639.08	80.51	95.882		
6,700.00	6,688.22	11,347.32	7,738.05	23.44	58.01	-123.58	-383.60	7,454.87	7,708.84	7,627.83	81.01	95.162		
6,800.00	6,787.91	11,350.69	7,738.05	23.80	58.06	-123.55	-386.98	7,454.81	7,699.37	7,617.87	81.50	94.474		
6,900.00	6,887.61	11,354.14	7,738.05	24.16	58.10	-123.53	-390.42	7,454.76	7,691.18	7,609.20	81.98	93.820		
7,000.00	6,987.31	11,357.65	7,738.06	24.52	58.15	-123.50	-393.93	7,454.70	7,684.28	7,601.83	82.45	93.198		
7,100.00	7,087.01	11,361.23	7,738.06	24.88	58.20	-123.47	-397.51	7,454.65	7,678.68	7,595.76	82.92	92.608		
7,200.00	7,186.71	11,364.88	7,738.07	25.24	58.25	-123.45	-401.16	7,454.59	7,674.37	7,590.99	83.37	92.050		
7,300.00	7,286.41	11,368.60	7,738.08	25.60	58.30	-123.42	-404.89	7,454.54	7,671.36	7,587.54	83.82	91.523		
7,400.00	7,386.10	11,372.40	7,738.09	25.96	58.35	-123.39	-408.69	7,454.48	7,669.64	7,585.39	84.26	91.027		
7,482.59	7,468.45	11,389.00	7,738.18	26.26	58.58	-123.27	-425.28	7,454.26	7,669.23	7,584.44	84.80	90.444		
7,500.00	7,485.80	11,389.00	7,738.18	26.33	58.58	-123.27	-425.28	7,454.26	7,669.25	7,584.39	84.86	90.375		
7,600.00	7,585.50	11,389.00	7,738.18	26.69	58.58	-123.27	-425.28	7,454.26	7,670.13	7,584.90	85.23	89.997		
7,700.00	7,685.20	11,389.00	7,738.18	27.05	58.58	-123.27	-425.28	7,454.26	7,672.31	7,586.73	85.58	89.649		
7,800.00	7,784.90	11,389.00	7,738.18	27.41	58.58	-123.27	-425.28	7,454.26	7,675.80	7,589.87	85.93	89.329		
7,860.70	7,845.41	11,393.44	7,738.21	27.63	58.64	-123.23	-429.72	7,454.20	7,678.55	7,592.35	86.19	89.086		
7,900.00	7,884.61	11,396.90	7,738.23	27.77	58.68	-123.23	-433.18	7,454.16	7,680.47	7,594.10	86.37	88.925		
8,000.00	7,984.46	11,403.52	7,738.27	28.13	58.77	-123.24	-439.80	7,454.07	7,685.26	7,598.48	86.78	88.557		
8,100.00	8,084.42	11,407.12	7,738.28	28.49	58.82	-123.27	-443.40	7,454.02	7,689.92	7,602.78	87.14	88.247		
8,157.59	8,142.00	11,407.89	7,738.29	28.69	58.83	90.78	-444.17	7,454.01	7,692.54	7,605.22	87.32	88.097		
8,200.00	8,184.41	11,408.11	7,738.29	28.83	58.84	90.78	-444.39	7,454.01	7,694.57	7,607.13	87.44	87.999		
8,300.00	8,284.41	11,408.62	7,738.29	29.17	58.84	90.78	-444.90	7,454.00	7,700.27	7,612.56	87.72	87.787		
8,400.00	8,384.41	11,409.11	7,738.29	29.51	58.85	90.79	-445.39	7,453.99	7,707.27	7,619.29	87.98	87.601		
8,507.63	8,492.04	11,409.62	7,738.29	29.87	58.86	90.79	-445.90	7,453.99	7,716.25	7,627.99	88.26	87.430		
8,550.00	8,534.37	11,409.77	7,738.30	30.02	58.86	1.42	-446.05	7,453.99	7,718.63	7,630.27	88.36	87.356		
8,600.00	8,584.01	11,409.83	7,738.30	30.18	58.86	1.42	-446.11	7,453.98	7,717.71	7,629.24	88.47	87.234		
8,650.00	8,632.95	11,409.77	7,738.30	30.34	58.86	1.43	-446.05	7,453.99	7,712.76	7,624.18	88.58	87.074		
8,700.00	8,680.82	11,409.58	7,738.29	30.50	58.86	1.45	-445.86	7,453.99	7,703.81	7,615.14	88.67	86.880		
8,750.00	8,727.25	11,409.28	7,738.29	30.66	58.85	1.48	-445.56	7,453.99	7,690.91	7,602.16	88.76	86.652		
8,800.00	8,771.89	11,408.86	7,738.29	30.81	58.85	1.53	-445.14	7,454.00	7,674.15	7,585.32	88.83	86.393		
8,850.00	8,814.40	11,408.34	7,738.29	30.95	58.84	1.58	-444.62	7,454.00	7,653.63	7,564.74	88.89	86.104		
8,900.00	8,854.46	11,407.72	7,738.29	31.09	58.83	1.66	-444.00	7,454.01	7,629.46	7,540.53	88.94	85.786		
8,950.00	8,891.75	11,407.00	7,738.28	31.23	58.82	1.75	-443.28	7,454.02	7,601.81	7,512.84	88.97	85.442		
9,000.00	8,926.01	11,406.20	7,738.28	31.37	58.81	1.87	-442.48	7,454.03	7,570.85	7,481.86	88.99	85.072		
9,050.00	8,956.96	11,405.32	7,738.28	31.53	58.80	2.01	-441.60	7,454.04	7,536.77	7,447.76	89.00	84.679		
9,100.00	8,984.38	11,404.36	7,738.27	31.69	58.78	2.21	-440.64	7,454.06	7,499.79	7,410.78	89.00	84.263		
9,150.00	9,008.05	11,403.34	7,738.27	31.87	58.77	2.46	-439.62	7,454.07	7,460.15	7,371.15	89.00	83.826		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Sec 13-T21S-R27E - Lone Tree Draw State 7H - Wellbore #1 - Wellbore #1													Offset Well Error:	0.50 ft
Survey Program: 100-GYRO-NS-CT, 2922-MWD+HDGM														
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)						
9,200.00	9,027.79	11,402.26	7,738.26	32.07	58.76	2.80	-438.54	7,454.09	7,418.11	7,329.13	88.98	83.370		
9,250.00	9,043.45	11,401.12	7,738.26	32.29	58.74	3.28	-437.40	7,454.10	7,373.96	7,285.00	88.95	82.897		
9,300.00	9,054.92	11,399.94	7,738.25	32.53	58.72	4.00	-436.23	7,454.12	7,327.99	7,239.07	88.92	82.407		
9,350.00	9,062.10	11,398.73	7,738.24	32.79	58.71	5.18	-435.01	7,454.13	7,280.53	7,191.64	88.89	81.903		
9,400.00	9,064.95	11,397.48	7,738.24	33.06	58.69	7.45	-433.76	7,454.15	7,231.91	7,143.05	88.86	81.386		
9,407.63	9,065.00	11,397.29	7,738.23	33.10	58.69	7.99	-433.57	7,454.15	7,224.41	7,135.55	88.86	81.305		
9,500.00	9,065.00	11,394.97	7,738.22	33.68	58.66	7.88	-431.25	7,454.18	7,133.52	7,044.73	88.79	80.340		
9,600.00	9,065.00	11,392.47	7,738.21	34.41	58.62	7.77	-428.75	7,454.21	7,035.17	6,946.45	88.72	79.295		
9,700.00	9,065.00	11,389.98	7,738.19	35.24	58.59	7.66	-426.27	7,454.24	6,936.87	6,848.22	88.65	78.248		
9,800.00	9,065.00	11,389.00	7,738.18	36.17	58.58	7.62	-425.28	7,454.26	6,838.61	6,750.01	88.60	77.182		
9,900.00	9,065.00	11,389.00	7,738.18	37.19	58.58	7.62	-425.28	7,454.26	6,740.41	6,651.84	88.57	76.103		
10,000.00	9,065.00	11,389.00	7,738.18	38.30	58.58	7.62	-425.28	7,454.26	6,642.26	6,553.73	88.53	75.024		
10,100.00	9,065.00	11,382.72	7,738.14	39.48	58.49	7.34	-419.01	7,454.34	6,544.16	6,455.75	88.41	74.017		
10,200.00	9,065.00	11,380.93	7,738.13	40.72	58.47	7.26	-417.21	7,454.36	6,446.13	6,357.77	88.36	72.956		
10,300.00	9,065.00	11,379.10	7,738.12	42.03	58.44	7.18	-415.39	7,454.39	6,348.15	6,259.85	88.30	71.895		
10,400.00	9,065.00	11,377.25	7,738.11	43.40	58.42	7.10	-413.54	7,454.41	6,250.23	6,162.00	88.24	70.833		
10,500.00	9,065.00	11,375.38	7,738.10	44.82	58.39	7.01	-411.66	7,454.44	6,152.39	6,064.21	88.18	69.771		
10,600.00	9,065.00	11,373.48	7,738.10	46.29	58.37	6.93	-409.76	7,454.47	6,054.61	5,966.49	88.12	68.709		
10,700.00	9,065.00	11,371.55	7,738.09	47.79	58.34	6.84	-407.83	7,454.49	5,956.90	5,868.84	88.06	67.646		
10,800.00	9,065.00	11,369.59	7,738.08	49.34	58.31	6.76	-405.88	7,454.52	5,859.28	5,771.27	88.00	66.582		
10,900.00	9,065.00	11,367.61	7,738.08	50.92	58.29	6.67	-403.89	7,454.55	5,761.73	5,673.79	87.94	65.518		
11,000.00	9,065.00	11,365.60	7,738.07	52.54	58.26	6.58	-401.88	7,454.58	5,664.26	5,576.38	87.88	64.454		
11,100.00	9,065.00	11,363.55	7,738.07	54.18	58.23	6.49	-399.84	7,454.61	5,566.89	5,479.07	87.82	63.390		
11,200.00	9,065.00	11,361.48	7,738.06	55.85	58.20	6.39	-397.76	7,454.64	5,469.61	5,381.85	87.76	62.326		
11,300.00	9,065.00	11,359.37	7,738.06	57.54	58.18	6.30	-395.66	7,454.68	5,372.43	5,284.73	87.70	61.261		
11,400.00	9,065.00	11,357.24	7,738.05	59.26	58.15	6.21	-393.52	7,454.71	5,275.35	5,187.71	87.64	60.197		
11,500.00	9,065.00	11,355.07	7,738.05	61.00	58.12	6.11	-391.36	7,454.74	5,178.38	5,090.81	87.57	59.132		
11,600.00	9,065.00	11,352.87	7,738.05	62.75	58.09	6.01	-389.15	7,454.78	5,081.53	4,994.02	87.51	58.067		
11,700.00	9,065.00	11,350.63	7,738.05	64.52	58.06	5.91	-386.92	7,454.81	4,984.80	4,897.36	87.45	57.003		
11,800.00	9,065.00	11,348.36	7,738.05	66.31	58.03	5.81	-384.65	7,454.85	4,888.21	4,800.82	87.39	55.938		
11,900.00	9,065.00	11,346.06	7,738.05	68.11	57.99	5.71	-382.34	7,454.89	4,791.75	4,704.43	87.32	54.874		
12,000.00	9,065.00	11,343.71	7,738.06	69.93	57.96	5.60	-380.00	7,454.93	4,695.44	4,608.18	87.26	53.810		
12,100.00	9,065.00	11,341.34	7,738.06	71.76	57.93	5.50	-377.62	7,454.97	4,599.28	4,512.08	87.20	52.747		
12,200.00	9,065.00	11,338.92	7,738.07	73.60	57.90	5.39	-375.20	7,455.01	4,503.29	4,416.16	87.13	51.684		
12,300.00	9,065.00	11,336.46	7,738.07	75.45	57.87	5.28	-372.75	7,455.06	4,407.48	4,320.41	87.07	50.621		
12,400.00	9,065.00	11,333.96	7,738.08	77.31	57.83	5.17	-370.25	7,455.10	4,311.85	4,224.85	87.00	49.559		
12,500.00	9,065.00	11,331.43	7,738.09	79.18	57.80	5.05	-367.72	7,455.15	4,216.43	4,129.49	86.94	48.498		
12,600.00	9,065.00	11,328.85	7,738.10	81.05	57.76	4.94	-365.14	7,455.19	4,121.22	4,034.34	86.88	47.438		
12,700.00	9,065.00	11,326.23	7,738.11	82.94	57.73	4.82	-362.51	7,455.24	4,026.24	3,939.43	86.81	46.378		
12,800.00	9,065.00	11,323.56	7,738.13	84.83	57.69	4.70	-359.85	7,455.29	3,931.51	3,844.76	86.75	45.320		
12,900.00	9,065.00	11,320.85	7,738.14	86.73	57.65	4.58	-357.14	7,455.34	3,837.04	3,750.35	86.69	44.262		
13,000.00	9,065.00	11,318.09	7,738.16	88.64	57.62	4.46	-354.38	7,455.40	3,742.86	3,656.23	86.63	43.206		
13,100.00	9,065.00	11,315.28	7,738.18	90.55	57.58	4.33	-351.57	7,455.45	3,648.99	3,562.42	86.57	42.152		
13,200.00	9,065.00	11,312.43	7,738.20	92.47	57.54	4.20	-348.72	7,455.51	3,555.45	3,468.94	86.51	41.099		
13,300.00	9,065.00	11,309.52	7,738.22	94.39	57.50	4.07	-345.82	7,455.56	3,462.26	3,375.81	86.45	40.047		
13,400.00	9,065.00	11,306.57	7,738.24	96.32	57.46	3.94	-342.86	7,455.62	3,369.47	3,283.07	86.40	38.998		
13,500.00	9,065.00	11,303.56	7,738.27	98.25	57.42	3.80	-339.85	7,455.69	3,277.09	3,190.74	86.35	37.951		
13,600.00	9,065.00	11,300.50	7,738.30	100.19	57.38	3.67	-336.79	7,455.75	3,185.18	3,098.88	86.30	36.907		
13,700.00	9,065.00	11,297.38	7,738.33	102.13	57.34	3.53	-333.67	7,455.82	3,093.76	3,007.50	86.26	35.865		
13,800.00	9,065.00	11,294.20	7,738.36	104.08	57.29	3.38	-330.50	7,455.88	3,002.89	2,916.66	86.22	34.827		
13,900.00	9,065.00	11,290.97	7,738.40	106.03	57.25	3.24	-327.26	7,455.95	2,912.61	2,826.41	86.19	33.792		
14,000.00	9,065.00	11,288.04	7,738.43	107.98	57.21	3.11	-324.34	7,456.02	2,822.98	2,736.81	86.17	32.760		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Sec 13-T21S-R27E - Lone Tree Draw State 7H - Wellbore #1 - Wellbore #1													Offset Well Error:	0.50 ft
Survey Program: 100-GYRO-NS-CT, 2922-MWD+HDGM														
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)						
14,100.00	9,065.00	11,285.27	7,738.46	109.94	57.17	2.98	-321.57	7,456.08	2,734.07	2,647.90	86.17	31.730		
14,200.00	9,065.00	11,282.52	7,738.49	111.90	57.14	2.86	-318.82	7,456.14	2,645.94	2,559.77	86.17	30.707		
14,300.00	9,065.00	11,279.79	7,738.51	113.86	57.10	2.74	-316.09	7,456.20	2,558.69	2,472.50	86.18	29.689		
14,400.00	9,065.00	11,277.06	7,738.54	115.82	57.06	2.61	-313.36	7,456.26	2,472.40	2,386.18	86.21	28.678		
14,500.00	9,065.00	11,274.35	7,738.56	117.79	57.03	2.49	-310.66	7,456.32	2,387.17	2,300.92	86.26	27.676		
14,600.00	9,065.00	11,271.66	7,738.58	119.76	56.99	2.37	-307.96	7,456.37	2,303.13	2,216.82	86.31	26.683		
14,700.00	9,065.00	11,268.98	7,738.60	121.74	56.95	2.25	-305.28	7,456.43	2,220.41	2,134.02	86.39	25.702		
14,800.00	9,065.00	11,266.31	7,738.62	123.71	56.92	2.13	-302.61	7,456.49	2,139.16	2,052.67	86.49	24.734		
14,900.00	9,065.00	11,263.66	7,738.64	125.69	56.88	2.01	-299.96	7,456.54	2,059.56	1,972.95	86.60	23.782		
15,000.00	9,065.00	11,261.01	7,738.65	127.67	56.85	1.89	-297.32	7,456.60	1,981.80	1,895.06	86.74	22.848		
15,100.00	9,065.00	11,258.39	7,738.67	129.65	56.81	1.77	-294.69	7,456.66	1,906.11	1,819.21	86.90	21.935		
15,200.00	9,065.00	11,255.77	7,738.68	131.63	56.78	1.66	-292.08	7,456.71	1,832.75	1,745.68	87.08	21.048		
15,300.00	9,065.00	11,253.17	7,738.69	133.62	56.74	1.54	-289.48	7,456.76	1,762.01	1,674.74	87.27	20.190		
15,400.00	9,065.00	11,250.59	7,738.70	135.61	56.71	1.42	-286.90	7,456.82	1,694.22	1,606.73	87.49	19.365		
15,500.00	9,065.00	11,248.01	7,738.71	137.60	56.67	1.31	-284.32	7,456.87	1,629.74	1,542.02	87.72	18.579		
15,600.00	9,065.00	11,245.45	7,738.71	139.59	56.64	1.19	-281.76	7,456.92	1,568.98	1,481.01	87.97	17.836		
15,700.00	9,065.00	11,242.90	7,738.72	141.58	56.60	1.07	-279.21	7,456.98	1,512.39	1,424.17	88.22	17.143		
15,800.00	9,065.00	11,240.37	7,738.72	143.57	56.57	0.96	-276.68	7,457.03	1,460.46	1,371.97	88.50	16.503		
15,900.00	9,065.00	11,237.85	7,738.72	145.57	56.53	0.85	-274.16	7,457.08	1,413.71	1,324.92	88.79	15.922		
16,000.00	9,065.00	11,235.34	7,738.72	147.56	56.50	0.73	-271.65	7,457.13	1,372.64	1,283.53	89.12	15.403		
16,100.00	9,065.00	11,232.84	7,738.72	149.56	56.47	0.62	-269.15	7,457.18	1,337.81	1,248.30	89.51	14.947		
16,200.00	9,065.00	11,230.35	7,738.72	151.56	56.43	0.51	-266.67	7,457.23	1,309.69	1,219.70	89.99	14.554		
16,300.00	9,065.00	11,227.88	7,738.72	153.56	56.40	0.40	-264.20	7,457.28	1,288.73	1,198.12	90.61	14.223		
16,400.00	9,065.00	11,225.42	7,738.71	155.56	56.37	0.29	-261.74	7,457.33	1,275.29	1,183.89	91.40	13.953		
16,500.00	9,065.00	11,222.97	7,738.71	157.57	56.33	0.18	-259.29	7,457.38	1,269.60	1,177.21	92.39	13.742		
16,522.49	9,065.00	11,222.42	7,738.71	158.02	56.33	0.15	-258.74	7,457.39	1,269.40	1,176.76	92.64	13.703 CC, ES		
16,600.00	9,065.00	11,220.54	7,738.70	159.57	56.30	0.07	-256.85	7,457.43	1,271.76	1,178.20	93.56	13.593		
16,700.00	9,065.00	11,218.11	7,738.69	161.57	56.27	-0.04	-254.43	7,457.48	1,281.74	1,186.87	94.87	13.510		
16,800.00	9,065.00	11,215.70	7,738.68	163.58	56.24	-0.15	-252.02	7,457.52	1,299.35	1,203.10	96.26	13.499 SF		
16,900.00	9,065.00	11,213.30	7,738.67	165.59	56.20	-0.26	-249.62	7,457.57	1,324.30	1,226.67	97.63	13.564		
17,000.00	9,065.00	11,210.91	7,738.66	167.60	56.17	-0.37	-247.23	7,457.62	1,356.18	1,257.25	98.93	13.708		
17,100.00	9,065.00	11,208.53	7,738.65	169.60	56.14	-0.48	-244.85	7,457.66	1,394.50	1,294.40	100.10	13.931		
17,200.00	9,065.00	11,206.17	7,738.64	171.61	56.11	-0.58	-242.49	7,457.71	1,438.77	1,337.65	101.11	14.229		
17,300.00	9,065.00	11,203.81	7,738.62	173.62	56.08	-0.69	-240.13	7,457.76	1,488.44	1,386.48	101.96	14.599		
17,400.00	9,065.00	11,203.42	7,738.63	175.63	56.07	-0.71	-239.74	7,457.76	1,542.99	1,440.34	102.64	15.032		
17,500.00	9,065.00	11,200.42	7,738.60	177.65	56.03	-0.84	-236.74	7,457.82	1,601.93	1,498.77	103.16	15.528		
17,600.00	9,065.00	11,197.39	7,738.58	179.66	55.99	-0.98	-233.71	7,457.88	1,664.80	1,561.26	103.54	16.079		
17,700.00	9,065.00	11,194.35	7,738.55	181.67	55.95	-1.12	-230.67	7,457.94	1,731.15	1,627.35	103.80	16.678		
17,800.00	9,065.00	11,191.29	7,738.52	183.69	55.91	-1.25	-227.61	7,457.99	1,800.61	1,696.65	103.96	17.320		
17,900.00	9,065.00	11,188.21	7,738.50	185.70	55.87	-1.39	-224.53	7,458.05	1,872.84	1,768.79	104.04	18.001		
18,000.00	9,065.00	11,185.10	7,738.47	187.72	55.83	-1.53	-221.43	7,458.11	1,947.51	1,843.45	104.06	18.716		
18,100.00	9,065.00	11,181.98	7,738.45	189.73	55.78	-1.67	-218.30	7,458.17	2,024.37	1,920.35	104.02	19.462		
18,200.00	9,065.00	11,178.84	7,738.42	191.75	55.74	-1.81	-215.16	7,458.24	2,103.17	1,999.22	103.94	20.234		
18,300.00	9,065.00	11,175.67	7,738.39	193.77	55.70	-1.96	-212.00	7,458.30	2,183.70	2,079.86	103.84	21.030		
18,400.00	9,065.00	11,172.49	7,738.36	195.78	55.66	-2.10	-208.81	7,458.36	2,265.78	2,162.07	103.71	21.848		
18,500.00	9,065.00	11,169.28	7,738.34	197.80	55.61	-2.24	-205.61	7,458.42	2,349.24	2,245.68	103.56	22.685		
18,600.00	9,065.00	11,166.06	7,738.31	199.82	55.57	-2.39	-202.38	7,458.49	2,433.95	2,330.54	103.41	23.538		
18,700.00	9,065.00	11,162.81	7,738.28	201.84	55.53	-2.54	-199.14	7,458.55	2,519.77	2,416.53	103.24	24.406		
18,800.00	9,065.00	11,159.54	7,738.25	203.86	55.48	-2.68	-195.87	7,458.62	2,606.60	2,503.53	103.08	25.288		
18,900.00	9,065.00	11,156.25	7,738.22	205.88	55.44	-2.83	-192.58	7,458.68	2,694.34	2,591.43	102.91	26.182		
19,000.00	9,065.00	11,152.94	7,738.19	207.90	55.39	-2.98	-189.26	7,458.75	2,782.91	2,680.16	102.74	27.086		
19,100.00	9,065.00	11,149.60	7,738.16	209.92	55.35	-3.13	-185.93	7,458.82	2,872.22	2,769.64	102.58	28.000		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Sec 13-T21S-R27E - Lone Tree Draw State 7H - Wellbore #1 - Wellbore #1		Offset Site Error:		5.00 ft	
Survey Program:													100-GYRO-NS-CT, 2922-MWD+HDGM		Offset Well Error:		0.50 ft	
Reference		Offset		Semi Major Axis			Distance						Warning					
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor						
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)							
19,200.00	9,065.00	11,146.24	7,738.13	211.95	55.30	-3.28	-182.57	7,458.89	2,962.21	2,859.79	102.42	28.922						
19,300.00	9,065.00	11,142.86	7,738.10	213.97	55.26	-3.43	-179.19	7,458.96	3,052.82	2,950.56	102.26	29.852						
19,400.00	9,065.00	11,139.46	7,738.06	215.99	55.21	-3.59	-175.79	7,459.03	3,144.00	3,041.88	102.11	30.789						
19,456.84	9,065.00	11,137.51	7,738.05	217.14	55.19	-3.67	-173.85	7,459.07	3,196.06	3,094.03	102.03	31.324						

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Sec 13-T21S-R27E - Lone Tree Draw State Com 2H - ST01 - ST01													Offset Well Error:	0.50 ft
Survey Program: 80-GYRO-NS-CT, 4361-MWD+HDGM														
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (ft)	Separation Factor	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)				
0.00	0.00	0.00	0.00	0.50	5.02	61.36	3,158.45	5,782.98	6,589.48					
100.00	100.00	45.00	45.00	0.52	5.03	61.36	3,158.44	5,783.00	6,589.30	6,583.76	5.54	1,188.766		
200.00	200.00	140.67	140.67	0.70	5.03	61.36	3,158.37	5,783.16	6,589.41	6,583.67	5.74	1,148.701		
300.00	300.00	236.04	236.04	0.99	5.07	61.36	3,158.26	5,783.38	6,589.56	6,583.51	6.05	1,088.660		
400.00	400.00	333.23	333.23	1.31	5.12	61.36	3,158.12	5,783.72	6,589.79	6,583.36	6.43	1,025.049		
500.00	500.00	426.72	426.72	1.65	5.19	61.37	3,157.92	5,784.12	6,590.07	6,583.23	6.84	963.698		
600.00	600.00	520.68	520.68	1.99	5.29	61.37	3,157.65	5,784.69	6,590.46	6,583.19	7.28	905.878		
700.00	700.00	611.59	611.58	2.34	5.39	61.38	3,157.28	5,785.40	6,590.95	6,583.22	7.73	852.536		
800.00	800.00	711.04	711.02	2.69	5.53	61.39	3,156.74	5,786.38	6,591.56	6,583.34	8.22	802.063		
900.00	900.00	806.58	806.56	3.04	5.68	61.40	3,155.88	5,787.48	6,592.14	6,583.42	8.72	756.048		
1,000.00	1,000.00	895.06	895.02	3.40	5.83	61.41	3,154.95	5,788.72	6,592.87	6,583.64	9.22	714.708		
1,100.00	1,100.00	985.91	985.85	3.75	6.00	61.42	3,153.85	5,790.26	6,593.77	6,584.02	9.75	676.414		
1,200.00	1,200.00	1,089.98	1,089.90	4.11	6.20	61.44	3,152.38	5,792.20	6,594.73	6,584.42	10.31	639.528		
1,300.00	1,300.00	1,201.91	1,201.78	4.46	6.45	61.47	3,150.30	5,794.35	6,595.54	6,584.63	10.91	604.600		
1,400.00	1,400.00	8,329.00	4,956.38	4.82	54.40	95.07	-487.01	5,492.56	6,589.22	6,536.85	52.37	125.822		
1,500.00	1,500.00	8,329.00	4,956.38	5.18	54.40	95.07	-487.01	5,492.56	6,535.01	6,482.06	52.95	123.425		
1,600.00	1,600.00	8,329.00	4,956.38	5.53	54.40	95.07	-487.01	5,492.56	6,481.89	6,428.36	53.53	121.085		
1,700.00	1,700.00	8,329.00	4,956.38	5.89	54.40	95.07	-487.01	5,492.56	6,429.89	6,375.77	54.12	118.803		
1,800.00	1,800.00	8,329.00	4,956.38	6.25	54.40	95.07	-487.01	5,492.56	6,379.03	6,324.31	54.72	116.580		
1,900.00	1,900.00	8,329.00	4,956.38	6.61	54.40	95.07	-487.01	5,492.56	6,329.34	6,274.02	55.32	114.417		
2,000.00	2,000.00	8,329.00	4,956.38	6.96	54.40	95.07	-487.01	5,492.56	6,280.85	6,224.93	55.92	112.314		
2,100.00	2,100.00	8,329.00	4,956.38	7.32	54.40	95.07	-487.01	5,492.56	6,233.59	6,177.06	56.53	110.272		
2,200.00	2,200.00	8,329.00	4,956.38	7.68	54.40	95.07	-487.01	5,492.56	6,187.58	6,130.44	57.14	108.291		
2,300.00	2,300.00	8,329.00	4,956.38	8.04	54.40	95.07	-487.01	5,492.56	6,142.86	6,085.11	57.75	106.371		
2,400.00	2,400.00	8,329.00	4,956.38	8.39	54.40	95.07	-487.01	5,492.56	6,099.45	6,041.09	58.36	104.511		
2,500.00	2,500.00	8,329.00	4,956.38	8.75	54.40	95.07	-487.01	5,492.56	6,057.38	5,998.40	58.97	102.713		
2,600.00	2,599.99	8,329.00	4,956.38	9.09	54.40	-119.39	-487.01	5,492.56	6,017.06	5,957.49	59.57	101.007		
2,700.00	2,699.96	8,329.00	4,956.38	9.42	54.40	-119.75	-487.01	5,492.56	5,978.94	5,918.79	60.15	99.395		
2,800.00	2,799.86	8,329.00	4,956.38	9.75	54.40	-120.09	-487.01	5,492.56	5,943.07	5,882.34	60.74	97.850		
2,900.00	2,899.68	8,329.00	4,956.38	10.08	54.40	-120.39	-487.01	5,492.56	5,909.50	5,848.18	61.32	96.371		
2,945.33	2,944.88	8,329.00	4,956.38	10.23	54.40	-120.53	-487.01	5,492.56	5,895.05	5,833.47	61.58	95.724		
3,000.00	2,999.39	8,356.23	4,956.66	10.41	54.77	-120.25	-514.13	5,490.07	5,878.14	5,815.89	62.26	94.415		
3,100.00	3,099.08	8,402.58	4,956.65	10.75	55.40	-119.77	-560.27	5,485.74	5,848.36	5,784.91	63.45	92.175		
3,200.00	3,198.78	8,435.34	4,956.29	11.08	55.85	-119.44	-592.88	5,482.61	5,820.10	5,755.64	64.46	90.290		
3,300.00	3,298.48	3,300.00	4,956.44	11.42	14.08	-119.86	-551.79	5,486.49	5,793.35	5,768.59	24.77	233.932		
3,400.00	3,398.18	3,400.00	4,956.44	11.76	14.13	-119.79	-558.65	5,485.85	5,768.32	5,744.57	23.75	242.893		
3,500.00	3,497.88	3,500.00	4,956.45	12.10	14.19	-119.72	-565.52	5,485.20	5,744.91	5,722.21	22.70	253.091		
3,600.00	3,597.58	3,600.00	4,956.45	12.45	14.24	-119.65	-572.39	5,484.56	5,723.14	5,701.53	21.61	264.891		
3,700.00	3,697.27	3,700.00	4,956.46	12.79	14.30	-119.58	-579.25	5,483.92	5,703.03	5,682.58	20.45	278.895		
3,800.00	3,796.97	8,441.39	4,956.23	13.14	55.93	-119.38	-598.91	5,482.06	5,684.55	5,616.67	67.88	83.740		
3,900.00	3,896.67	8,444.19	4,956.19	13.48	55.97	-119.35	-601.69	5,481.80	5,667.81	5,599.37	68.45	82.808		
4,000.00	3,996.37	8,446.97	4,956.15	13.83	56.01	-119.32	-604.46	5,481.55	5,652.79	5,583.79	69.00	81.929		
4,100.00	4,096.07	8,449.73	4,956.11	14.18	56.05	-119.29	-607.22	5,481.30	5,639.50	5,569.97	69.53	81.104		
4,200.00	4,195.76	8,452.48	4,956.08	14.53	56.08	-119.26	-609.95	5,481.05	5,627.95	5,557.89	70.06	80.332		
4,300.00	4,295.46	8,455.21	4,956.04	14.88	56.12	-119.24	-612.67	5,480.80	5,618.16	5,547.59	70.57	79.612		
4,400.00	4,395.16	8,457.92	4,956.00	15.23	56.16	-119.21	-615.37	5,480.56	5,610.13	5,539.06	71.07	78.943		
4,500.00	4,494.86	8,460.62	4,955.96	15.58	56.20	-119.18	-618.06	5,480.32	5,603.87	5,532.32	71.55	78.324		
4,600.00	4,594.56	8,463.30	4,955.92	15.93	56.23	-119.15	-620.73	5,480.08	5,599.38	5,527.37	72.01	77.756		
4,700.00	4,694.25	8,465.96	4,955.89	16.29	56.27	-119.13	-623.38	5,479.84	5,596.68	5,524.22	72.46	77.237		
4,800.00	4,793.95	8,468.61	4,955.85	16.64	56.31	-119.10	-626.02	5,479.61	5,595.76	5,522.87	72.89	76.766		
4,801.50	4,795.44	8,468.65	4,955.85	16.65	56.31	-119.10	-626.06	5,479.61	5,595.76	5,522.86	72.90	76.759		
4,900.00	4,893.65	8,471.24	4,955.81	17.00	56.34	-119.07	-628.64	5,479.38	5,596.63	5,523.32	73.31	76.343		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Sec 13-T21S-R27E - Lone Tree Draw State Com 2H - ST01 - ST01													Offset Well Error:	0.50 ft
Survey Program: 80-GYRO-NS-CT, 4361-MWD+HDGM														
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
5,000.00	4,993.35	8,473.85	4,955.77	17.35	56.38	-119.05	-631.24	5,479.16	5,599.28	5,525.57	73.71	75.967		
5,100.00	5,093.05	8,476.45	4,955.73	17.71	56.41	-119.02	-633.83	5,478.93	5,603.71	5,529.62	74.09	75.637		
5,200.00	5,192.75	8,479.04	4,955.69	18.06	56.45	-118.99	-636.40	5,478.71	5,609.92	5,535.47	74.45	75.352		
5,300.00	5,292.44	8,481.60	4,955.65	18.42	56.48	-118.97	-638.96	5,478.49	5,617.89	5,543.10	74.79	75.112		
5,400.00	5,392.14	8,484.15	4,955.61	18.77	56.52	-118.94	-641.50	5,478.27	5,627.64	5,552.52	75.12	74.916		
5,500.00	5,491.84	8,486.69	4,955.57	19.13	56.55	-118.91	-644.03	5,478.06	5,639.13	5,563.70	75.43	74.763		
5,600.00	5,591.54	8,489.21	4,955.53	19.49	56.59	-118.89	-646.54	5,477.85	5,652.37	5,576.65	75.72	74.651		
5,700.00	5,691.24	8,491.72	4,955.49	19.85	56.62	-118.86	-649.04	5,477.64	5,667.34	5,591.35	75.99	74.582		
5,800.00	5,790.93	8,494.21	4,955.45	20.20	56.66	-118.84	-651.52	5,477.43	5,684.03	5,607.79	76.24	74.552		
5,900.00	5,890.63	8,496.68	4,955.41	20.56	56.69	-118.81	-653.99	5,477.23	5,702.42	5,625.95	76.48	74.563		
6,000.00	5,990.33	8,518.00	4,955.05	20.92	56.98	-118.59	-675.23	5,475.51	5,722.57	5,645.61	76.96	74.362		
6,100.00	6,090.03	8,518.00	4,955.05	21.28	56.98	-118.59	-675.23	5,475.51	5,744.30	5,667.18	77.12	74.483		
6,200.00	6,189.73	8,518.00	4,955.05	21.64	56.98	-118.59	-675.23	5,475.51	5,767.68	5,690.41	77.27	74.639		
6,300.00	6,289.42	8,518.00	4,955.05	22.00	56.98	-118.59	-675.23	5,475.51	5,792.70	5,715.29	77.41	74.832		
6,400.00	6,389.12	8,518.00	4,955.05	22.36	56.98	-118.59	-675.23	5,475.51	5,819.32	5,741.80	77.53	75.060		
6,500.00	6,488.82	8,518.00	4,955.05	22.72	56.98	-118.59	-675.23	5,475.51	5,847.54	5,769.91	77.63	75.323		
6,600.00	6,588.52	8,527.33	4,955.21	23.08	57.11	-118.69	-665.93	5,476.25	5,877.32	5,799.47	77.85	75.499		
6,700.00	6,688.22	8,522.32	4,955.13	23.44	57.04	-118.64	-670.92	5,475.85	5,908.65	5,830.79	77.86	75.892		
6,800.00	6,787.91	8,518.69	4,955.04	23.80	56.99	-118.59	-675.92	5,475.46	5,941.49	5,863.62	77.87	76.299		
6,900.00	6,887.61	8,523.71	4,954.95	24.16	57.06	-118.54	-680.92	5,475.07	5,975.82	5,897.83	77.99	76.624		
7,000.00	6,987.31	8,528.72	4,954.86	24.52	57.13	-118.49	-685.91	5,474.67	6,011.62	5,933.53	78.09	76.980		
7,100.00	7,087.01	8,533.73	4,954.78	24.88	57.20	-118.43	-690.91	5,474.28	6,048.85	5,970.67	78.19	77.365		
7,200.00	7,186.71	8,538.74	4,954.69	25.24	57.27	-118.38	-695.90	5,473.89	6,087.50	6,009.23	78.27	77.778		
7,300.00	7,286.41	8,543.75	4,954.60	25.60	57.34	-118.33	-700.90	5,473.49	6,127.53	6,049.19	78.34	78.219		
7,400.00	7,386.10	8,548.76	4,954.51	25.96	57.40	-118.28	-705.89	5,473.10	6,168.91	6,090.52	78.40	78.686		
7,500.00	7,485.80	8,553.78	4,954.43	26.33	57.47	-118.23	-710.89	5,472.71	6,211.63	6,133.18	78.45	79.179		
7,600.00	7,585.50	8,558.79	4,954.34	26.69	57.54	-118.18	-715.88	5,472.31	6,255.65	6,177.16	78.49	79.697		
7,700.00	7,685.20	8,563.80	4,954.25	27.05	57.61	-118.13	-720.88	5,471.92	6,300.95	6,222.42	78.53	80.239		
7,800.00	7,784.90	8,568.81	4,954.16	27.41	57.68	-118.08	-725.88	5,471.53	6,347.49	6,268.94	78.55	80.804		
7,860.70	7,845.41	8,571.85	4,954.11	27.63	57.72	-118.04	-728.91	5,471.29	6,376.34	6,297.77	78.57	81.157		
7,900.00	7,884.61	8,573.65	4,954.08	27.77	57.75	-118.31	-730.70	5,471.15	6,395.17	6,316.60	78.57	81.393		
8,000.00	7,984.46	8,576.63	4,954.03	28.13	57.79	-119.00	-733.67	5,470.91	6,443.16	6,364.61	78.56	82.020		
8,100.00	8,084.42	8,577.33	4,954.02	28.49	57.80	-119.71	-734.37	5,470.86	6,491.24	6,412.74	78.50	82.690		
8,157.59	8,142.00	8,576.71	4,954.03	28.69	57.79	93.95	-733.74	5,470.91	6,518.94	6,440.49	78.45	83.099		
8,200.00	8,184.41	8,575.96	4,954.04	28.83	57.78	93.94	-733.01	5,470.97	6,539.46	6,461.06	78.40	83.409		
8,300.00	8,284.41	8,574.22	4,954.07	29.17	57.75	93.93	-731.27	5,471.10	6,588.66	6,510.37	78.29	84.155		
8,400.00	8,384.41	8,572.47	4,954.10	29.51	57.73	93.91	-729.53	5,471.24	6,639.00	6,560.82	78.18	84.921		
8,507.63	8,492.04	8,570.60	4,954.13	29.87	57.70	93.89	-727.65	5,471.39	6,694.42	6,616.37	78.05	85.766		
8,550.00	8,534.37	8,569.72	4,954.15	30.02	57.69	4.33	-726.78	5,471.46	6,715.24	6,637.25	78.00	86.097		
8,600.00	8,584.01	8,568.33	4,954.17	30.18	57.67	4.14	-725.39	5,471.57	6,736.51	6,658.60	77.91	86.463		
8,650.00	8,632.95	8,566.56	4,954.20	30.34	57.65	3.99	-723.64	5,471.70	6,754.09	6,676.27	77.81	86.799		
8,700.00	8,680.82	8,564.44	4,954.24	30.50	57.62	3.87	-721.52	5,471.87	6,767.86	6,690.16	77.70	87.104		
8,750.00	8,727.25	8,561.98	4,954.28	30.66	57.59	3.79	-719.06	5,472.06	6,777.76	6,700.19	77.57	87.376		
8,800.00	8,771.89	8,559.19	4,954.33	30.81	57.55	3.72	-716.28	5,472.28	6,783.72	6,706.29	77.43	87.615		
8,850.00	8,814.40	8,556.09	4,954.39	30.95	57.50	3.68	-713.20	5,472.53	6,785.71	6,708.44	77.27	87.821		
8,900.00	8,854.46	8,552.72	4,954.45	31.09	57.46	3.67	-709.84	5,472.79	6,783.71	6,706.61	77.10	87.991		
8,950.00	8,891.75	8,549.09	4,954.51	31.23	57.41	3.68	-706.22	5,473.07	6,777.73	6,700.82	76.91	88.124		
9,000.00	8,926.01	8,545.24	4,954.58	31.37	57.36	3.71	-702.38	5,473.38	6,767.82	6,691.10	76.71	88.221		
9,050.00	8,956.96	8,541.19	4,954.65	31.53	57.30	3.77	-698.35	5,473.69	6,754.02	6,677.51	76.51	88.278		
9,100.00	8,984.38	8,536.98	4,954.72	31.69	57.24	3.85	-694.14	5,474.03	6,736.43	6,660.13	76.29	88.296		
9,150.00	9,008.05	8,532.63	4,954.80	31.87	57.18	3.97	-689.81	5,474.37	6,715.14	6,639.06	76.07	88.272		
9,200.00	9,027.79	8,528.18	4,954.87	32.07	57.12	4.13	-685.37	5,474.72	6,690.28	6,614.43	75.85	88.206		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design		Sec 13-T21S-R27E - Lone Tree Draw State Com 2H - ST01 - ST01											Offset Site Error:		5.00 ft
Survey Program:		80-GYRO-NS-CT, 4361-MWD+HDGM											Offset Well Error:		0.50 ft
Reference		Offset		Semi Major Axis			Distance						Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor			
9,250.00	9,043.45	8,523.66	4,954.95	32.29	57.06	4.34	-680.87	5,475.07	6,662.00	6,586.38	75.62	88.097			
9,300.00	9,054.92	8,519.11	4,955.03	32.53	57.00	4.60	-676.34	5,475.43	6,630.47	6,555.08	75.39	87.944			
9,350.00	9,062.10	8,521.44	4,955.11	32.79	57.03	4.95	-671.80	5,475.78	6,595.90	6,520.65	75.25	87.652			
9,400.00	9,064.95	8,525.95	4,955.19	33.06	57.09	5.40	-667.30	5,476.14	6,558.49	6,483.35	75.14	87.286			
9,407.63	9,065.00	8,526.63	4,955.20	33.10	57.10	5.48	-666.62	5,476.19	6,552.55	6,477.43	75.13	87.222			
9,500.00	9,065.00	8,518.00	4,955.05	33.68	56.98	5.60	-675.23	5,475.51	6,480.51	6,405.80	74.72	86.736			
9,600.00	9,065.00	8,518.00	4,955.05	34.41	56.98	5.60	-675.23	5,475.51	6,403.11	6,328.73	74.38	86.088			
9,700.00	9,065.00	8,518.00	4,955.05	35.24	56.98	5.60	-675.23	5,475.51	6,326.34	6,252.30	74.04	85.441			
9,800.00	9,065.00	8,497.15	4,955.40	36.17	56.70	5.31	-654.45	5,477.19	6,250.16	6,176.70	73.46	85.081			
9,900.00	9,065.00	8,492.67	4,955.48	37.19	56.63	5.25	-649.98	5,477.56	6,174.69	6,101.61	73.08	84.494			
10,000.00	9,065.00	8,488.10	4,955.55	38.30	56.57	5.18	-645.43	5,477.94	6,099.92	6,027.22	72.70	83.906			
10,100.00	9,065.00	8,483.45	4,955.62	39.48	56.51	5.12	-640.80	5,478.33	6,025.88	5,953.56	72.32	83.318			
10,200.00	9,065.00	8,478.72	4,955.69	40.72	56.44	5.05	-636.09	5,478.74	5,952.59	5,880.64	71.95	82.729			
10,300.00	9,065.00	8,473.90	4,955.77	42.03	56.38	4.99	-631.29	5,479.15	5,880.08	5,808.49	71.59	82.138			
10,400.00	9,065.00	8,469.00	4,955.84	43.40	56.31	4.92	-626.40	5,479.58	5,808.38	5,737.15	71.23	81.545			
10,500.00	9,065.00	8,464.00	4,955.91	44.82	56.24	4.85	-621.43	5,480.02	5,737.51	5,666.63	70.88	80.949			
10,600.00	9,065.00	8,458.91	4,955.99	46.29	56.17	4.78	-616.36	5,480.47	5,667.51	5,596.98	70.54	80.350			
10,700.00	9,065.00	8,453.72	4,956.06	47.79	56.10	4.71	-611.19	5,480.93	5,598.42	5,528.22	70.20	79.747			
10,800.00	9,065.00	8,448.44	4,956.13	49.34	56.03	4.63	-605.93	5,481.41	5,530.26	5,460.38	69.88	79.140			
10,900.00	9,065.00	8,443.05	4,956.20	50.92	55.96	4.56	-600.56	5,481.91	5,463.08	5,393.51	69.57	78.529			
11,000.00	9,065.00	8,423.00	4,956.46	52.54	55.68	4.28	-580.60	5,483.79	5,396.93	5,327.83	69.10	78.108			
11,100.00	9,065.00	8,423.00	4,956.46	54.18	55.68	4.28	-580.60	5,483.79	5,331.77	5,262.89	68.88	77.410			
11,200.00	9,065.00	8,423.00	4,956.46	55.85	55.68	4.28	-580.60	5,483.79	5,267.70	5,199.03	68.67	76.705			
11,300.00	9,065.00	8,423.00	4,956.46	57.54	55.68	4.28	-580.60	5,483.79	5,204.77	5,136.28	68.49	75.994			
11,400.00	9,065.00	8,423.00	4,956.46	59.26	55.68	4.28	-580.60	5,483.79	5,143.00	5,074.68	68.32	75.276			
11,500.00	9,065.00	8,423.00	4,956.46	61.00	55.68	4.28	-580.60	5,483.79	5,082.46	5,014.29	68.17	74.552			
11,600.00	9,065.00	8,404.30	4,956.64	62.75	55.43	4.02	-561.99	5,485.57	5,023.11	4,955.29	67.82	74.062			
11,700.00	9,065.00	8,398.93	4,956.67	64.52	55.35	3.94	-556.65	5,486.08	4,965.08	4,897.43	67.65	73.391			
11,800.00	9,065.00	8,393.60	4,956.70	66.31	55.28	3.87	-551.33	5,486.59	4,908.40	4,840.90	67.50	72.713			
11,900.00	9,065.00	8,388.29	4,956.72	68.11	55.21	3.79	-546.05	5,487.09	4,853.11	4,785.73	67.38	72.027			
12,000.00	9,065.00	8,383.01	4,956.73	69.93	55.13	3.72	-540.80	5,487.58	4,799.24	4,731.97	67.28	71.335			
12,100.00	9,065.00	8,377.77	4,956.73	71.76	55.06	3.65	-535.57	5,488.07	4,746.87	4,679.67	67.20	70.636			
12,200.00	9,065.00	8,372.55	4,956.72	73.60	54.99	3.57	-530.38	5,488.56	4,696.03	4,628.87	67.15	69.932			
12,300.00	9,065.00	8,367.36	4,956.71	75.45	54.92	3.50	-525.21	5,489.04	4,646.77	4,579.64	67.13	69.223			
12,400.00	9,065.00	8,362.20	4,956.69	77.31	54.85	3.43	-520.07	5,489.52	4,599.14	4,532.01	67.13	68.510			
12,500.00	9,065.00	8,357.06	4,956.66	79.18	54.78	3.36	-514.96	5,489.99	4,553.21	4,486.05	67.16	67.795			
12,600.00	9,065.00	8,351.96	4,956.63	81.05	54.71	3.28	-509.88	5,490.46	4,509.01	4,441.79	67.22	67.077			
12,700.00	9,065.00	8,329.00	4,956.38	82.94	54.40	2.96	-487.01	5,492.56	4,466.67	4,399.57	67.10	66.566			
12,800.00	9,065.00	8,329.00	4,956.38	84.83	54.40	2.96	-487.01	5,492.56	4,426.07	4,358.79	67.28	65.787			
12,900.00	9,065.00	8,329.00	4,956.38	86.73	54.40	2.96	-487.01	5,492.56	4,387.38	4,319.89	67.49	65.010			
13,000.00	9,065.00	8,329.00	4,956.38	88.64	54.40	2.96	-487.01	5,492.56	4,350.64	4,282.91	67.73	64.239			
13,100.00	9,065.00	8,329.00	4,956.38	90.55	54.40	2.96	-487.01	5,492.56	4,315.90	4,247.90	68.00	63.473			
13,200.00	9,065.00	8,318.99	4,956.24	92.47	54.26	2.82	-477.05	5,493.48	4,283.20	4,215.01	68.18	62.819			
13,300.00	9,065.00	8,311.54	4,956.14	94.39	54.16	2.72	-469.64	5,494.20	4,252.58	4,184.15	68.43	62.142			
13,400.00	9,065.00	8,303.68	4,956.03	96.32	54.05	2.61	-461.82	5,494.97	4,224.09	4,155.38	68.71	61.474			
13,500.00	9,065.00	8,295.37	4,955.92	98.25	53.94	2.49	-453.55	5,495.82	4,197.77	4,128.74	69.02	60.817			
13,600.00	9,065.00	8,286.57	4,955.80	100.19	53.82	2.37	-444.80	5,496.75	4,173.65	4,104.29	69.36	60.170			
13,700.00	9,065.00	8,277.24	4,955.68	102.13	53.69	2.24	-435.52	5,497.76	4,151.78	4,082.04	69.74	59.535			
13,800.00	9,065.00	8,267.32	4,955.55	104.08	53.56	2.10	-425.67	5,498.88	4,132.18	4,062.04	70.14	58.913			
13,900.00	9,065.00	8,256.76	4,955.42	106.03	53.41	1.95	-415.18	5,500.10	4,114.90	4,044.32	70.58	58.304			
14,000.00	9,065.00	8,245.50	4,955.28	107.98	53.26	1.79	-404.00	5,501.46	4,099.94	4,028.90	71.04	57.711			
14,100.00	9,065.00	8,234.00	4,955.14	109.94	53.10	1.63	-392.59	5,502.90	4,087.34	4,015.79	71.55	57.128			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Sec 13-T21S-R27E - Lone Tree Draw State Com 2H - ST01 - ST01													Offset Well Error:	0.50 ft
Survey Program: 80-GYRO-NS-CT, 4361-MWD+HDGM														
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
14,200.00	9,065.00	8,234.00	4,955.14	111.90	53.10	1.63	-392.59	5,502.90	4,077.13	4,004.92	72.21	56.465		
14,300.00	9,065.00	8,218.16	4,954.92	113.86	52.89	1.41	-376.88	5,504.92	4,069.30	3,996.56	72.74	55.942		
14,400.00	9,065.00	8,210.29	4,954.79	115.82	52.78	1.30	-369.08	5,505.94	4,063.91	3,990.51	73.39	55.371		
14,500.00	9,065.00	8,202.33	4,954.66	117.79	52.67	1.19	-361.19	5,506.97	4,060.94	3,986.86	74.08	54.817		
14,571.87	9,065.00	8,196.56	4,954.55	119.21	52.60	1.11	-355.47	5,507.72	4,060.31	3,985.72	74.60	54.430 CC		
14,600.00	9,065.00	8,194.29	4,954.50	119.76	52.56	1.08	-353.22	5,508.01	4,060.41	3,985.61	74.80	54.282 ES		
14,700.00	9,065.00	8,186.17	4,954.34	121.74	52.45	0.96	-345.17	5,509.08	4,062.31	3,986.76	75.55	53.768		
14,800.00	9,065.00	8,177.96	4,954.16	123.71	52.34	0.85	-337.04	5,510.16	4,066.64	3,990.31	76.33	53.276		
14,900.00	9,065.00	8,169.67	4,953.97	125.69	52.23	0.73	-328.82	5,511.26	4,073.40	3,996.26	77.14	52.808		
15,000.00	9,065.00	8,161.28	4,953.76	127.67	52.12	0.62	-320.51	5,512.38	4,082.56	4,004.60	77.96	52.366		
15,100.00	9,065.00	8,140.00	4,953.17	129.65	51.83	0.32	-299.43	5,515.25	4,094.15	4,015.46	78.69	52.028		
15,200.00	9,065.00	8,148.71	4,953.43	131.63	51.95	0.44	-308.05	5,514.07	4,108.04	4,028.34	79.71	51.540		
15,300.00	9,065.00	8,130.97	4,952.90	133.62	51.71	0.19	-290.49	5,516.47	4,124.32	4,043.82	80.50	51.236		
15,400.00	9,065.00	8,113.08	4,952.38	135.61	51.46	-0.06	-272.78	5,518.91	4,142.88	4,061.59	81.30	50.961		
15,500.00	9,065.00	8,095.04	4,951.87	137.60	51.22	-0.31	-254.90	5,521.38	4,163.70	4,081.60	82.10	50.714		
15,600.00	9,065.00	8,076.83	4,951.37	139.59	50.98	-0.56	-236.87	5,523.89	4,186.74	4,103.83	82.91	50.497		
15,700.00	9,065.00	8,058.45	4,950.87	141.58	50.73	-0.82	-218.68	5,526.43	4,211.97	4,128.25	83.72	50.310		
15,800.00	9,065.00	8,041.60	4,950.42	143.57	50.50	-1.05	-202.00	5,528.77	4,239.34	4,154.80	84.54	50.148		
15,900.00	9,065.00	8,029.32	4,950.10	145.57	50.33	-1.22	-189.84	5,530.47	4,268.83	4,183.44	85.38	49.997		
16,000.00	9,065.00	8,017.25	4,949.78	147.56	50.17	-1.39	-177.89	5,532.12	4,300.40	4,214.18	86.22	49.878		
16,100.00	9,065.00	8,005.40	4,949.46	149.56	50.01	-1.56	-166.15	5,533.72	4,334.00	4,246.96	87.04	49.793		
16,200.00	9,065.00	7,993.75	4,949.15	151.56	49.85	-1.72	-154.61	5,535.28	4,369.60	4,281.75	87.85	49.740		
16,300.00	9,065.00	7,982.30	4,948.84	153.56	49.70	-1.88	-143.28	5,536.81	4,407.15	4,318.51	88.64	49.719 SF		
16,400.00	9,065.00	7,971.06	4,948.53	155.56	49.55	-2.03	-132.13	5,538.29	4,446.58	4,357.17	89.41	49.731		
16,500.00	9,065.00	7,964.51	4,948.35	157.57	49.46	-2.12	-125.65	5,539.15	4,487.86	4,397.67	90.20	49.757		
16,600.00	9,065.00	7,948.72	4,947.91	159.57	49.25	-2.34	-109.99	5,541.19	4,530.95	4,440.06	90.89	49.849		
16,700.00	9,065.00	7,933.00	4,947.47	161.57	49.04	-2.56	-94.40	5,543.21	4,575.77	4,484.20	91.57	49.969		
16,800.00	9,065.00	7,917.33	4,947.05	163.58	48.83	-2.78	-78.88	5,545.22	4,622.28	4,530.05	92.23	50.119		
16,900.00	9,065.00	7,901.74	4,946.64	165.59	48.62	-3.00	-63.41	5,547.21	4,670.41	4,577.55	92.86	50.296		
17,000.00	9,065.00	7,886.20	4,946.24	167.60	48.41	-3.21	-48.01	5,549.20	4,720.13	4,626.66	93.47	50.500		
17,100.00	9,065.00	7,870.73	4,945.85	169.60	48.20	-3.43	-32.67	5,551.17	4,771.38	4,677.33	94.05	50.731		
17,200.00	9,065.00	7,856.00	4,945.48	171.61	48.00	-3.63	-18.06	5,553.04	4,824.11	4,729.49	94.62	50.985		
17,300.00	9,065.00	7,846.37	4,945.25	173.62	47.87	-3.77	-8.51	5,554.26	4,878.29	4,783.11	95.19	51.250		
17,400.00	9,065.00	7,837.30	4,945.02	175.63	47.75	-3.89	0.48	5,555.40	4,933.88	4,838.15	95.73	51.538		
17,500.00	9,065.00	7,828.39	4,944.80	177.65	47.63	-4.01	9.32	5,556.50	4,990.83	4,894.57	96.25	51.850		
17,600.00	9,065.00	7,819.63	4,944.57	179.66	47.51	-4.14	18.01	5,557.58	5,049.09	4,952.34	96.75	52.185		
17,700.00	9,065.00	7,811.01	4,944.35	181.67	47.40	-4.26	26.57	5,558.63	5,108.62	5,011.39	97.23	52.542		
17,800.00	9,065.00	7,802.53	4,944.12	183.69	47.28	-4.37	34.98	5,559.65	5,169.38	5,071.70	97.68	52.920		
17,900.00	9,065.00	7,794.19	4,943.90	185.70	47.17	-4.49	43.26	5,560.65	5,231.33	5,133.21	98.12	53.318		
18,000.00	9,065.00	7,785.98	4,943.68	187.72	47.06	-4.60	51.40	5,561.62	5,294.42	5,195.89	98.53	53.736		
18,100.00	9,065.00	7,777.90	4,943.46	189.73	46.95	-4.71	59.42	5,562.57	5,358.61	5,259.69	98.92	54.172		
18,200.00	9,065.00	7,761.00	4,943.00	191.75	46.73	-4.95	76.21	5,564.53	5,423.88	5,324.63	99.25	54.648		
18,300.00	9,065.00	7,763.02	4,943.05	193.77	46.75	-4.92	74.20	5,564.30	5,490.15	5,390.51	99.65	55.096		
18,400.00	9,065.00	7,749.24	4,942.67	195.78	46.57	-5.11	87.88	5,565.88	5,557.42	5,457.47	99.96	55.598		
18,500.00	9,065.00	7,735.57	4,942.30	197.80	46.39	-5.30	101.46	5,567.44	5,625.64	5,525.39	100.25	56.116		
18,600.00	9,065.00	7,722.01	4,941.95	199.82	46.21	-5.49	114.93	5,568.99	5,694.76	5,594.23	100.53	56.648		
18,700.00	9,065.00	7,708.55	4,941.61	201.84	46.03	-5.67	128.29	5,570.51	5,764.76	5,663.97	100.79	57.195		
18,800.00	9,065.00	7,695.21	4,941.28	203.86	45.85	-5.86	141.55	5,572.01	5,835.61	5,734.57	101.04	57.755		
18,900.00	9,065.00	7,681.96	4,940.96	205.88	45.67	-6.04	154.71	5,573.50	5,907.27	5,805.99	101.28	58.328		
19,000.00	9,065.00	7,668.82	4,940.66	207.90	45.50	-6.22	167.76	5,574.97	5,979.72	5,878.22	101.50	58.913		
19,100.00	9,065.00	7,658.65	4,940.43	209.92	45.36	-6.36	177.87	5,576.10	6,052.93	5,951.20	101.72	59.505		
19,200.00	9,065.00	7,649.08	4,940.22	211.95	45.23	-6.49	187.38	5,577.15	6,126.87	6,024.94	101.93	60.107		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Sec 13-T21S-R27E - Lone Tree Draw State Com 2H - ST01 - ST01		Offset Site Error:		5.00 ft
Survey Program:													80-GYRO-NS-CT, 4361-MWD+HDGM		Offset Well Error:		0.50 ft
Reference		Offset		Semi Major Axis			Distance						Warning				
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor					
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)						
19,300.00	9,065.00	7,639.65	4,940.01	213.97	45.11	-6.62	196.75	5,578.19	6,201.53	6,099.40	102.13	60.720					
19,400.00	9,065.00	7,630.34	4,939.81	215.99	44.98	-6.75	206.00	5,579.20	6,276.88	6,174.56	102.32	61.345					
19,456.84	9,065.00	7,352.55	4,940.70	217.14	41.31	-10.54	481.88	5,611.19	6,319.91	6,217.80	102.11	61.892					

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design Sec 13-T21S-R27E - Lone Tree Draw State Com 2H - Wellbore #1 - Wellbore #1													Offset Site Error:	5.00 ft
Survey Program: 80-GYRO-NS-CT													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0.00	0.00	0.00	0.00	0.50	5.02	61.36	3,158.45	5,782.98	6,589.48					
100.00	100.00	45.00	45.00	0.52	5.03	61.36	3,158.44	5,783.00	6,589.30	6,583.76	5.54	1,188.766		
200.00	200.00	140.67	140.67	0.70	5.03	61.36	3,158.37	5,783.16	6,589.41	6,583.67	5.74	1,148.701		
300.00	300.00	236.04	236.04	0.99	5.07	61.36	3,158.26	5,783.38	6,589.56	6,583.51	6.05	1,088.660		
400.00	400.00	333.23	333.23	1.31	5.12	61.36	3,158.12	5,783.72	6,589.79	6,583.36	6.43	1,025.049		
500.00	500.00	426.72	426.72	1.65	5.19	61.37	3,157.92	5,784.12	6,590.07	6,583.23	6.84	963.698		
600.00	600.00	520.68	520.68	1.99	5.29	61.37	3,157.65	5,784.69	6,590.46	6,583.19	7.28	905.878		
700.00	700.00	611.59	611.58	2.34	5.39	61.38	3,157.28	5,785.40	6,590.95	6,583.22	7.73	852.536		
800.00	800.00	711.04	711.02	2.69	5.53	61.39	3,156.74	5,786.38	6,591.56	6,583.34	8.22	802.063		
900.00	900.00	806.58	806.56	3.04	5.68	61.40	3,155.88	5,787.48	6,592.14	6,583.42	8.72	756.048		
1,000.00	1,000.00	895.06	895.02	3.40	5.83	61.41	3,154.95	5,788.72	6,592.87	6,583.64	9.22	714.708		
1,100.00	1,100.00	985.91	985.85	3.75	6.00	61.42	3,153.85	5,790.26	6,593.77	6,584.02	9.75	676.414		
1,200.00	1,200.00	1,089.98	1,089.90	4.11	6.20	61.44	3,152.38	5,792.20	6,594.73	6,584.42	10.31	639.528		
1,300.00	1,300.00	1,201.91	1,201.78	4.46	6.45	61.47	3,150.30	5,794.35	6,595.54	6,584.63	10.91	604.600		
1,400.00	1,400.00	1,311.70	1,311.52	4.82	6.70	61.50	3,147.49	5,796.68	6,596.18	6,584.66	11.52	572.677		
1,500.00	1,500.00	1,417.07	1,416.81	5.18	6.95	61.53	3,144.32	5,799.04	6,596.71	6,584.58	12.13	543.780		
1,600.00	1,600.00	1,522.50	1,522.17	5.53	7.22	61.56	3,141.29	5,801.21	6,597.15	6,584.40	12.75	517.243		
1,700.00	1,700.00	1,612.96	1,612.59	5.89	7.46	61.59	3,139.16	5,802.80	6,597.58	6,584.24	13.35	494.341		
1,800.00	1,800.00	1,686.42	1,686.03	6.25	7.65	61.60	3,137.78	5,804.22	6,598.38	6,584.48	13.90	474.785		
1,900.00	1,900.00	1,775.44	1,775.02	6.61	7.89	61.62	3,136.46	5,806.03	6,599.46	6,584.97	14.49	455.303		
2,000.00	2,000.00	1,896.30	1,895.85	6.96	8.22	61.64	3,135.23	5,808.01	6,600.41	6,585.23	15.18	434.694		
2,100.00	2,100.00	1,999.85	1,999.39	7.32	8.51	61.65	3,134.46	5,809.34	6,601.19	6,585.36	15.83	416.974		
2,200.00	2,200.00	2,099.06	2,098.59	7.68	8.79	61.66	3,133.80	5,810.52	6,601.93	6,585.46	16.47	400.816		
2,300.00	2,300.00	2,190.76	2,190.28	8.04	9.06	61.67	3,132.99	5,811.83	6,602.76	6,585.67	17.09	386.253		
2,400.00	2,400.00	2,286.45	2,285.95	8.39	9.34	61.69	3,132.11	5,813.32	6,603.69	6,585.96	17.73	372.388		
2,500.00	2,500.00	2,385.94	2,385.43	8.75	9.64	61.70	3,131.22	5,814.89	6,604.66	6,586.27	18.39	359.197		
2,600.00	2,599.99	2,488.72	2,488.19	9.09	9.95	-152.36	3,130.44	5,816.41	6,606.38	6,587.34	19.04	347.018		
2,700.00	2,699.96	2,593.89	2,593.36	9.42	10.27	-152.35	3,129.79	5,817.82	6,609.58	6,589.90	19.68	335.797		
2,800.00	2,799.86	2,696.92	2,696.38	9.75	10.58	-152.33	3,129.07	5,819.16	6,614.26	6,593.93	20.33	325.387		
2,900.00	2,899.68	2,796.87	2,796.31	10.08	10.89	-152.32	3,128.36	5,820.44	6,620.46	6,599.49	20.97	315.763		
2,945.33	2,944.88	2,840.24	2,839.67	10.23	11.03	-152.31	3,128.00	5,821.02	6,623.78	6,602.53	21.25	311.682		
3,000.00	2,999.39	2,890.43	2,889.85	10.41	11.18	-152.32	3,127.57	5,821.74	6,628.00	6,606.41	21.59	306.996		
3,100.00	3,099.08	2,990.43	2,989.84	10.75	11.50	-152.34	3,126.73	5,823.22	6,635.78	6,613.54	22.24	298.409		
3,200.00	3,198.78	3,088.23	3,087.64	11.08	11.81	-152.36	3,126.08	5,824.55	6,643.55	6,620.67	22.88	290.352		
3,300.00	3,298.48	3,173.53	3,172.92	11.42	12.08	-152.38	3,125.63	5,825.76	6,651.43	6,627.94	23.49	283.186		
3,400.00	3,398.18	3,253.56	3,252.94	11.76	12.34	-152.39	3,125.33	5,827.07	6,659.57	6,635.49	24.08	276.558		
3,500.00	3,497.88	3,341.40	3,340.77	12.10	12.62	-152.41	3,125.18	5,828.70	6,668.00	6,643.30	24.70	269.957		
3,600.00	3,597.58	3,456.96	3,456.31	12.45	12.99	-152.44	3,125.31	5,830.63	6,676.42	6,651.01	25.41	262.718		
3,700.00	3,697.27	3,563.35	3,562.70	12.79	13.33	-152.47	3,125.65	5,831.99	6,684.57	6,658.47	26.10	256.134		
3,800.00	3,796.97	3,666.16	3,665.50	13.14	13.66	-152.50	3,126.15	5,833.15	6,692.69	6,665.92	26.77	249.973		
3,900.00	3,896.67	3,759.35	3,758.67	13.48	13.96	-152.53	3,126.88	5,834.08	6,700.83	6,673.41	27.42	244.381		
4,000.00	3,996.37	3,860.92	3,860.24	13.83	14.29	-152.57	3,127.93	5,835.00	6,709.01	6,680.91	28.10	238.794		
4,100.00	4,096.07	3,965.29	3,964.60	14.18	14.63	-152.60	3,128.99	5,835.90	6,717.15	6,688.37	28.78	233.374		
4,200.00	4,195.76	4,082.08	4,081.38	14.53	15.02	-152.65	3,130.05	5,836.71	6,725.08	6,695.57	29.51	227.863		
4,300.00	4,295.46	4,187.11	4,186.40	14.88	15.36	-152.68	3,130.95	5,837.32	6,732.90	6,702.70	30.21	222.890		
4,400.00	4,395.16	4,293.08	4,292.37	15.23	15.71	-152.72	3,131.83	5,837.81	6,740.61	6,709.70	30.91	218.102		
4,500.00	4,494.86	4,395.68	4,394.97	15.58	16.05	-152.75	3,132.67	5,838.22	6,748.26	6,716.67	31.59	213.589		
4,600.00	4,594.56	4,494.61	4,493.89	15.93	16.38	-152.79	3,133.43	5,838.62	6,755.89	6,723.62	32.27	209.339		
4,700.00	4,694.25	4,596.78	4,596.06	16.29	16.72	-152.82	3,134.22	5,839.03	6,763.53	6,730.57	32.96	205.187		
4,800.00	4,793.95	4,705.07	4,704.34	16.64	17.08	-152.86	3,135.05	5,839.37	6,771.08	6,737.41	33.67	201.072		
4,900.00	4,893.65	4,814.52	4,813.79	17.00	17.44	-152.90	3,135.86	5,839.54	6,778.49	6,744.10	34.39	197.092		
5,000.00	4,993.35	4,909.26	4,908.53	17.35	17.76	-152.93	3,136.67	5,839.60	6,785.87	6,750.81	35.06	193.544		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Sec 13-T21S-R27E - Lone Tree Draw State Com 2H - Wellbore #1 - Wellbore #1													Offset Well Error:	0.50 ft
Survey Program: 80-GYRO-NS-CT														
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
5,100.00	5,093.05	4,992.45	4,991.71	17.71	18.04	-152.96	3,137.59	5,839.68	6,793.41	6,757.72	35.69	190.338		
5,200.00	5,192.75	5,061.67	5,060.93	18.06	18.27	-152.99	3,138.56	5,839.90	6,801.29	6,765.02	36.27	187.500		
5,300.00	5,292.44	5,138.65	5,137.89	18.42	18.53	-153.02	3,139.85	5,840.41	6,809.59	6,772.71	36.88	184.627		
5,400.00	5,392.14	5,222.87	5,222.09	18.77	18.81	-153.05	3,141.44	5,841.11	6,818.16	6,780.64	37.52	181.730		
5,500.00	5,491.84	5,328.96	5,328.16	19.13	19.17	-153.10	3,143.58	5,842.08	6,826.87	6,788.64	38.23	178.571		
5,600.00	5,591.54	5,440.43	5,439.61	19.49	19.55	-153.14	3,145.73	5,842.81	6,835.30	6,796.34	38.96	175.430		
5,700.00	5,691.24	5,539.13	5,538.28	19.85	19.88	-153.19	3,147.71	5,843.38	6,843.71	6,804.06	39.65	172.596		
5,800.00	5,790.93	5,671.07	5,670.20	20.20	20.33	-153.24	3,149.86	5,844.10	6,851.92	6,811.46	40.46	169.360		
5,900.00	5,890.63	5,786.63	5,785.75	20.56	20.72	-153.27	3,150.72	5,844.92	6,859.85	6,818.64	41.21	166.476		
6,000.00	5,990.33	5,944.63	5,943.75	20.92	21.26	-153.31	3,149.92	5,845.97	6,867.11	6,825.01	42.10	163.103		
6,100.00	6,090.03	6,105.41	6,104.51	21.28	21.80	-153.34	3,147.80	5,846.18	6,873.50	6,830.49	43.01	159.824		
6,200.00	6,189.73	6,300.21	6,299.29	21.64	22.46	-153.39	3,145.51	5,844.09	6,879.06	6,835.04	44.02	156.272		
6,300.00	6,289.42	6,466.61	6,465.61	22.00	23.02	-153.44	3,143.67	5,839.25	6,882.76	6,837.83	44.93	153.176		
6,400.00	6,389.12	6,568.61	6,567.55	22.36	23.37	-153.47	3,141.52	5,836.67	6,886.48	6,840.84	45.64	150.903		
6,500.00	6,488.82	6,645.28	6,644.17	22.72	23.63	-153.48	3,139.66	5,834.84	6,890.18	6,843.93	46.25	148.965		
6,600.00	6,588.52	6,709.31	6,708.18	23.08	23.84	-153.50	3,138.33	5,833.60	6,894.43	6,847.60	46.83	147.222		
6,700.00	6,688.22	6,790.44	6,789.29	23.44	24.12	-153.52	3,136.92	5,832.22	6,899.05	6,851.59	47.46	145.355		
6,800.00	6,787.91	6,950.15	6,948.93	23.80	24.66	-153.56	3,134.24	5,828.50	6,903.02	6,854.66	48.36	142.743		
6,900.00	6,887.61	6,978.42	6,977.18	24.16	24.76	-153.57	3,133.80	5,827.76	6,907.29	6,858.47	48.82	141.494		
7,000.00	6,987.31	6,978.42	6,977.18	24.52	24.76	-153.57	3,133.80	5,827.76	6,912.93	6,863.76	49.17	140.588		
7,100.00	7,087.01	6,978.42	6,977.18	24.88	24.76	-153.57	3,133.80	5,827.76	6,920.02	6,870.50	49.52	139.747		
7,200.00	7,186.71	6,978.42	6,977.18	25.24	24.76	-153.57	3,133.80	5,827.76	6,928.54	6,878.69	49.86	138.970		
7,300.00	7,286.41	6,978.42	6,977.18	25.60	24.76	-153.57	3,133.80	5,827.76	6,938.50	6,888.31	50.19	138.256		
7,400.00	7,386.10	6,978.42	6,977.18	25.96	24.76	-153.57	3,133.80	5,827.76	6,949.88	6,899.37	50.51	137.603		
7,500.00	7,485.80	6,978.42	6,977.18	26.33	24.76	-153.57	3,133.80	5,827.76	6,962.68	6,911.86	50.82	137.010		
7,600.00	7,585.50	6,978.42	6,977.18	26.69	24.76	-153.57	3,133.80	5,827.76	6,976.88	6,925.76	51.12	136.474		
7,700.00	7,685.20	6,978.42	6,977.18	27.05	24.76	-153.57	3,133.80	5,827.76	6,992.49	6,941.08	51.42	135.994		
7,800.00	7,784.90	6,978.42	6,977.18	27.41	24.76	-153.57	3,133.80	5,827.76	7,009.49	6,957.79	51.70	135.570		
7,860.70	7,845.41	6,978.42	6,977.18	27.63	24.76	-153.57	3,133.80	5,827.76	7,020.49	6,968.61	51.87	135.338		
7,900.00	7,884.61	6,978.42	6,977.18	27.77	24.76	-153.62	3,133.80	5,827.76	7,027.70	6,975.72	51.98	135.196		
8,000.00	7,984.46	6,978.42	6,977.18	28.13	24.76	-153.73	3,133.80	5,827.76	7,045.40	6,993.15	52.25	134.842		
8,100.00	8,084.42	6,978.42	6,977.18	28.49	24.76	-153.85	3,133.80	5,827.76	7,062.16	7,009.65	52.51	134.499		
8,157.59	8,142.00	6,978.42	6,977.18	28.69	24.76	60.17	3,133.80	5,827.76	7,071.39	7,018.74	52.65	134.318		
8,200.00	8,184.41	6,978.42	6,977.18	28.83	24.76	60.17	3,133.80	5,827.76	7,078.19	7,025.45	52.74	134.197		
8,300.00	8,284.41	6,978.42	6,977.18	29.17	24.76	60.17	3,133.80	5,827.76	7,095.22	7,042.25	52.97	133.945		
8,400.00	8,384.41	6,978.42	6,977.18	29.51	24.76	60.17	3,133.80	5,827.76	7,113.60	7,060.41	53.19	133.739		
8,507.63	8,492.04	6,978.42	6,977.18	29.87	24.76	60.17	3,133.80	5,827.76	7,134.91	7,081.49	53.42	133.568		
8,550.00	8,534.37	6,978.42	6,977.18	30.02	24.76	-28.83	3,133.80	5,827.76	7,142.38	7,088.88	53.50	133.497		
8,600.00	8,584.01	6,978.42	6,977.18	30.18	24.76	-28.56	3,133.80	5,827.76	7,148.02	7,094.42	53.60	133.370		
8,650.00	8,632.95	6,978.42	6,977.18	30.34	24.76	-28.46	3,133.80	5,827.76	7,150.18	7,096.50	53.68	133.195		
8,700.00	8,680.82	6,978.42	6,977.18	30.50	24.76	-28.52	3,133.80	5,827.76	7,148.86	7,095.10	53.76	132.975		
8,750.00	8,727.25	6,978.42	6,977.18	30.66	24.76	-28.75	3,133.80	5,827.76	7,144.07	7,090.24	53.83	132.712		
8,800.00	8,771.89	6,978.42	6,977.18	30.81	24.76	-29.16	3,133.80	5,827.76	7,135.83	7,081.94	53.89	132.408		
8,850.00	8,814.40	6,978.42	6,977.18	30.95	24.76	-29.74	3,133.80	5,827.76	7,124.19	7,070.25	53.95	132.063		
8,900.00	8,854.46	6,978.42	6,977.18	31.09	24.76	-30.53	3,133.80	5,827.76	7,109.23	7,055.24	53.99	131.678		
8,950.00	8,891.75	6,978.42	6,977.18	31.23	24.76	-31.54	3,133.80	5,827.76	7,091.04	7,037.01	54.03	131.251		
9,000.00	8,926.01	6,978.42	6,977.18	31.37	24.76	-32.79	3,133.80	5,827.76	7,069.73	7,015.67	54.06	130.783		
9,050.00	8,956.96	6,978.42	6,977.18	31.53	24.76	-34.33	3,133.80	5,827.76	7,045.44	6,991.36	54.08	130.270		
9,100.00	8,984.38	6,978.42	6,977.18	31.69	24.76	-36.20	3,133.80	5,827.76	7,018.32	6,964.21	54.11	129.711		
9,150.00	9,008.05	6,978.42	6,977.18	31.87	24.76	-38.44	3,133.80	5,827.76	6,988.55	6,934.42	54.13	129.106		
9,200.00	9,027.79	6,978.42	6,977.18	32.07	24.76	-41.14	3,133.80	5,827.76	6,956.33	6,902.17	54.16	128.451		
9,250.00	9,043.45	6,978.42	6,977.18	32.29	24.76	-44.37	3,133.80	5,827.76	6,921.85	6,867.67	54.18	127.747		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Survey Program: 80-GYRO-NS-CT													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
9,300.00	9,054.92	6,978.42	6,977.18	32.53	24.76	-48.23	3,133.80	5,827.76	6,885.37	6,831.15	54.22	126.993		
9,350.00	9,062.10	6,978.42	6,977.18	32.79	24.76	-52.82	3,133.80	5,827.76	6,847.11	6,792.85	54.26	126.189		
9,400.00	9,064.95	6,978.42	6,977.18	33.06	24.76	-58.23	3,133.80	5,827.76	6,807.35	6,753.04	54.31	125.339		
9,407.63	9,065.00	6,978.42	6,977.18	33.10	24.76	-59.13	3,133.80	5,827.76	6,801.17	6,746.85	54.32	125.201		
9,500.00	9,065.00	6,978.42	6,977.18	33.68	24.76	-59.13	3,133.80	5,827.76	6,726.38	6,671.94	54.44	123.557		
9,600.00	9,065.00	6,978.42	6,977.18	34.41	24.76	-59.13	3,133.80	5,827.76	6,645.91	6,591.30	54.61	121.699		
9,700.00	9,065.00	6,978.42	6,977.18	35.24	24.76	-59.13	3,133.80	5,827.76	6,565.98	6,511.15	54.83	119.759		
9,800.00	9,065.00	6,978.42	6,977.18	36.17	24.76	-59.13	3,133.80	5,827.76	6,486.60	6,431.51	55.09	117.740		
9,900.00	9,065.00	6,978.42	6,977.18	37.19	24.76	-59.13	3,133.80	5,827.76	6,407.81	6,352.40	55.41	115.644		
10,000.00	9,065.00	6,978.42	6,977.18	38.30	24.76	-59.13	3,133.80	5,827.76	6,329.61	6,273.83	55.78	113.476		
10,100.00	9,065.00	6,978.42	6,977.18	39.48	24.76	-59.13	3,133.80	5,827.76	6,252.03	6,195.83	56.20	111.239		
10,200.00	9,065.00	6,978.42	6,977.18	40.72	24.76	-59.13	3,133.80	5,827.76	6,175.10	6,118.41	56.68	108.939		
10,300.00	9,065.00	6,978.42	6,977.18	42.03	24.76	-59.13	3,133.80	5,827.76	6,098.83	6,041.61	57.22	106.583		
10,400.00	9,065.00	6,978.42	6,977.18	43.40	24.76	-59.13	3,133.80	5,827.76	6,023.26	5,965.44	57.82	104.177		
10,500.00	9,065.00	6,978.42	6,977.18	44.82	24.76	-59.13	3,133.80	5,827.76	5,948.41	5,889.94	58.47	101.729		
10,600.00	9,065.00	6,978.42	6,977.18	46.29	24.76	-59.13	3,133.80	5,827.76	5,874.31	5,815.13	59.19	99.247		
10,700.00	9,065.00	6,978.42	6,977.18	47.79	24.76	-59.13	3,133.80	5,827.76	5,800.99	5,741.03	59.97	96.739		
10,800.00	9,065.00	6,978.42	6,977.18	49.34	24.76	-59.13	3,133.80	5,827.76	5,728.48	5,667.68	60.80	94.214		
10,900.00	9,065.00	6,978.42	6,977.18	50.92	24.76	-59.13	3,133.80	5,827.76	5,656.80	5,595.10	61.70	91.680		
11,000.00	9,065.00	6,978.42	6,977.18	52.54	24.76	-59.13	3,133.80	5,827.76	5,586.00	5,523.33	62.66	89.145		
11,100.00	9,065.00	6,978.42	6,977.18	54.18	24.76	-59.13	3,133.80	5,827.76	5,516.09	5,452.41	63.68	86.618		
11,200.00	9,065.00	6,978.42	6,977.18	55.85	24.76	-59.13	3,133.80	5,827.76	5,447.13	5,382.36	64.77	84.105		
11,300.00	9,065.00	6,978.42	6,977.18	57.54	24.76	-59.13	3,133.80	5,827.76	5,379.14	5,313.23	65.91	81.615		
11,400.00	9,065.00	6,978.42	6,977.18	59.26	24.76	-59.13	3,133.80	5,827.76	5,312.17	5,245.05	67.11	79.154		
11,500.00	9,065.00	6,978.42	6,977.18	61.00	24.76	-59.13	3,133.80	5,827.76	5,246.24	5,177.87	68.38	76.727		
11,600.00	9,065.00	6,978.42	6,977.18	62.75	24.76	-59.13	3,133.80	5,827.76	5,181.41	5,111.71	69.70	74.342		
11,700.00	9,065.00	6,978.42	6,977.18	64.52	24.76	-59.13	3,133.80	5,827.76	5,117.71	5,046.63	71.08	72.002		
11,800.00	9,065.00	6,978.42	6,977.18	66.31	24.76	-59.13	3,133.80	5,827.76	5,055.18	4,982.67	72.51	69.713		
11,900.00	9,065.00	6,978.42	6,977.18	68.11	24.76	-59.13	3,133.80	5,827.76	4,993.88	4,919.87	74.01	67.478		
12,000.00	9,065.00	6,978.42	6,977.18	69.93	24.76	-59.13	3,133.80	5,827.76	4,933.84	4,858.28	75.56	65.301		
12,100.00	9,065.00	6,978.42	6,977.18	71.76	24.76	-59.13	3,133.80	5,827.76	4,875.11	4,797.95	77.16	63.185		
12,200.00	9,065.00	6,978.42	6,977.18	73.60	24.76	-59.13	3,133.80	5,827.76	4,817.74	4,738.93	78.81	61.131		
12,300.00	9,065.00	6,978.42	6,977.18	75.45	24.76	-59.13	3,133.80	5,827.76	4,761.78	4,681.27	80.51	59.143		
12,400.00	9,065.00	6,978.42	6,977.18	77.31	24.76	-59.13	3,133.80	5,827.76	4,707.28	4,625.02	82.26	57.221		
12,500.00	9,065.00	6,978.42	6,977.18	79.18	24.76	-59.13	3,133.80	5,827.76	4,654.30	4,570.23	84.06	55.367		
12,600.00	9,065.00	6,978.42	6,977.18	81.05	24.76	-59.13	3,133.80	5,827.76	4,602.87	4,516.96	85.91	53.580		
12,700.00	9,065.00	6,978.42	6,977.18	82.94	24.76	-59.13	3,133.80	5,827.76	4,553.06	4,465.27	87.79	51.863		
12,800.00	9,065.00	6,978.42	6,977.18	84.83	24.76	-59.13	3,133.80	5,827.76	4,504.92	4,415.21	89.71	50.214		
12,900.00	9,065.00	6,978.42	6,977.18	86.73	24.76	-59.13	3,133.80	5,827.76	4,458.50	4,366.83	91.67	48.634		
13,000.00	9,065.00	6,978.42	6,977.18	88.64	24.76	-59.13	3,133.80	5,827.76	4,413.86	4,320.19	93.67	47.122		
13,100.00	9,065.00	6,978.42	6,977.18	90.55	24.76	-59.13	3,133.80	5,827.76	4,371.06	4,275.36	95.69	45.679		
13,200.00	9,065.00	6,978.42	6,977.18	92.47	24.76	-59.13	3,133.80	5,827.76	4,330.13	4,232.39	97.74	44.302		
13,300.00	9,065.00	6,978.42	6,977.18	94.39	24.76	-59.13	3,133.80	5,827.76	4,291.15	4,191.34	99.82	42.991		
13,400.00	9,065.00	6,978.42	6,977.18	96.32	24.76	-59.13	3,133.80	5,827.76	4,254.17	4,152.26	101.91	41.746		
13,500.00	9,065.00	6,978.42	6,977.18	98.25	24.76	-59.13	3,133.80	5,827.76	4,219.23	4,115.22	104.01	40.564		
13,600.00	9,065.00	6,978.42	6,977.18	100.19	24.76	-59.13	3,133.80	5,827.76	4,186.39	4,080.26	106.13	39.446		
13,700.00	9,065.00	6,978.42	6,977.18	102.13	24.76	-59.13	3,133.80	5,827.76	4,155.69	4,047.44	108.25	38.389		
13,800.00	9,065.00	6,978.42	6,977.18	104.08	24.76	-59.13	3,133.80	5,827.76	4,127.19	4,016.82	110.38	37.392		
13,900.00	9,065.00	6,978.42	6,977.18	106.03	24.76	-59.13	3,133.80	5,827.76	4,100.93	3,988.44	112.49	36.454		
14,000.00	9,065.00	6,978.42	6,977.18	107.98	24.76	-59.13	3,133.80	5,827.76	4,076.96	3,962.36	114.60	35.574		
14,100.00	9,065.00	6,978.42	6,977.18	109.94	24.76	-59.13	3,133.80	5,827.76	4,055.31	3,938.61	116.70	34.750		
14,200.00	9,065.00	6,978.42	6,977.18	111.90	24.76	-59.13	3,133.80	5,827.76	4,036.02	3,917.25	118.78	33.980		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Survey Program: 80-GYRO-NS-CT													Offset Well Error:	0.50 ft
Reference														
		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
14,300.00	9,065.00	6,978.42	6,977.18	113.86	24.76	-59.13	3,133.80	5,827.76	4,019.13	3,898.31	120.83	33.264		
14,400.00	9,065.00	6,978.42	6,977.18	115.82	24.76	-59.13	3,133.80	5,827.76	4,004.67	3,881.82	122.85	32.599		
14,500.00	9,065.00	6,978.42	6,977.18	117.79	24.76	-59.13	3,133.80	5,827.76	3,992.66	3,867.82	124.83	31.984		
14,600.00	9,065.00	6,978.42	6,977.18	119.76	24.76	-59.13	3,133.80	5,827.76	3,983.12	3,856.34	126.78	31.418		
14,700.00	9,065.00	6,978.42	6,977.18	121.74	24.76	-59.13	3,133.80	5,827.76	3,976.08	3,847.40	128.68	30.898		
14,800.00	9,065.00	6,978.42	6,977.18	123.71	24.76	-59.13	3,133.80	5,827.76	3,971.54	3,841.01	130.53	30.425		
14,900.00	9,065.00	6,978.42	6,977.18	125.69	24.76	-59.13	3,133.80	5,827.76	3,969.52	3,837.19	132.33	29.996		
14,930.29	9,065.00	6,978.42	6,977.18	126.29	24.76	-59.13	3,133.80	5,827.76	3,969.40	3,836.54	132.87	29.875 CC		
15,000.00	9,065.00	6,978.42	6,977.18	127.67	24.76	-59.13	3,133.80	5,827.76	3,970.02	3,835.94	134.08	29.610 ES		
15,100.00	9,065.00	6,978.42	6,977.18	129.65	24.76	-59.13	3,133.80	5,827.76	3,973.03	3,837.27	135.76	29.266		
15,200.00	9,065.00	6,978.42	6,977.18	131.63	24.76	-59.13	3,133.80	5,827.76	3,978.56	3,841.18	137.37	28.962		
15,300.00	9,065.00	6,978.42	6,977.18	133.62	24.76	-59.13	3,133.80	5,827.76	3,986.58	3,847.66	138.92	28.696		
15,400.00	9,065.00	6,978.42	6,977.18	135.61	24.76	-59.13	3,133.80	5,827.76	3,997.10	3,856.70	140.40	28.469		
15,500.00	9,065.00	6,978.42	6,977.18	137.60	24.76	-59.13	3,133.80	5,827.76	4,010.08	3,868.27	141.81	28.277		
15,600.00	9,065.00	6,978.42	6,977.18	139.59	24.76	-59.13	3,133.80	5,827.76	4,025.50	3,882.35	143.15	28.121		
15,700.00	9,065.00	6,978.42	6,977.18	141.58	24.76	-59.13	3,133.80	5,827.76	4,043.34	3,898.93	144.41	27.999		
15,800.00	9,065.00	6,978.42	6,977.18	143.57	24.76	-59.13	3,133.80	5,827.76	4,063.57	3,917.96	145.60	27.909		
15,900.00	9,065.00	6,978.42	6,977.18	145.57	24.76	-59.13	3,133.80	5,827.76	4,086.14	3,939.42	146.71	27.851		
16,000.00	9,065.00	6,978.42	6,977.18	147.56	24.76	-59.13	3,133.80	5,827.76	4,111.02	3,963.26	147.75	27.823 SF		
16,100.00	9,065.00	6,978.42	6,977.18	149.56	24.76	-59.13	3,133.80	5,827.76	4,138.16	3,989.44	148.72	27.825		
16,200.00	9,065.00	6,978.42	6,977.18	151.56	24.76	-59.13	3,133.80	5,827.76	4,167.53	4,017.92	149.61	27.855		
16,300.00	9,065.00	6,978.42	6,977.18	153.56	24.76	-59.13	3,133.80	5,827.76	4,199.08	4,048.64	150.44	27.913		
16,400.00	9,065.00	6,978.42	6,977.18	155.56	24.76	-59.13	3,133.80	5,827.76	4,232.75	4,081.57	151.19	27.997		
16,500.00	9,065.00	6,978.42	6,977.18	157.57	24.76	-59.13	3,133.80	5,827.76	4,268.51	4,116.64	151.87	28.106		
16,600.00	9,065.00	6,978.42	6,977.18	159.57	24.76	-59.13	3,133.80	5,827.76	4,306.29	4,153.80	152.49	28.240		
16,700.00	9,065.00	6,978.42	6,977.18	161.57	24.76	-59.13	3,133.80	5,827.76	4,346.04	4,192.99	153.04	28.397		
16,800.00	9,065.00	6,978.42	6,977.18	163.58	24.76	-59.13	3,133.80	5,827.76	4,387.71	4,234.17	153.54	28.578		
16,900.00	9,065.00	6,978.42	6,977.18	165.59	24.76	-59.13	3,133.80	5,827.76	4,431.24	4,277.27	153.97	28.780		
17,000.00	9,065.00	6,978.42	6,977.18	167.60	24.76	-59.13	3,133.80	5,827.76	4,476.59	4,322.24	154.35	29.003		
17,100.00	9,065.00	6,978.42	6,977.18	169.60	24.76	-59.13	3,133.80	5,827.76	4,523.69	4,369.02	154.67	29.247		
17,200.00	9,065.00	6,978.42	6,977.18	171.61	24.76	-59.13	3,133.80	5,827.76	4,572.50	4,417.56	154.94	29.511		
17,300.00	9,065.00	6,978.42	6,977.18	173.62	24.76	-59.13	3,133.80	5,827.76	4,622.95	4,467.79	155.17	29.793		
17,400.00	9,065.00	6,978.42	6,977.18	175.63	24.76	-59.13	3,133.80	5,827.76	4,675.00	4,519.66	155.35	30.094		
17,500.00	9,065.00	6,978.42	6,977.18	177.65	24.76	-59.13	3,133.80	5,827.76	4,728.59	4,573.11	155.48	30.413		
17,600.00	9,065.00	6,978.42	6,977.18	179.66	24.76	-59.13	3,133.80	5,827.76	4,783.67	4,628.10	155.58	30.748		
17,700.00	9,065.00	6,978.42	6,977.18	181.67	24.76	-59.13	3,133.80	5,827.76	4,840.19	4,684.56	155.63	31.100		
17,800.00	9,065.00	6,978.42	6,977.18	183.69	24.76	-59.13	3,133.80	5,827.76	4,898.10	4,742.45	155.65	31.468		
17,900.00	9,065.00	6,978.42	6,977.18	185.70	24.76	-59.13	3,133.80	5,827.76	4,957.35	4,801.71	155.64	31.851		
18,000.00	9,065.00	6,978.42	6,977.18	187.72	24.76	-59.13	3,133.80	5,827.76	5,017.90	4,862.29	155.60	32.248		
18,100.00	9,065.00	6,978.42	6,977.18	189.73	24.76	-59.13	3,133.80	5,827.76	5,079.69	4,924.16	155.53	32.660		
18,200.00	9,065.00	6,978.42	6,977.18	191.75	24.76	-59.13	3,133.80	5,827.76	5,142.68	4,987.24	155.44	33.085		
18,300.00	9,065.00	6,978.42	6,977.18	193.77	24.76	-59.13	3,133.80	5,827.76	5,206.83	5,051.52	155.32	33.524		
18,400.00	9,065.00	6,978.42	6,977.18	195.78	24.76	-59.13	3,133.80	5,827.76	5,272.10	5,116.93	155.17	33.975		
18,500.00	9,065.00	6,978.42	6,977.18	197.80	24.76	-59.13	3,133.80	5,827.76	5,338.45	5,183.43	155.01	34.439		
18,600.00	9,065.00	6,978.42	6,977.18	199.82	24.76	-59.13	3,133.80	5,827.76	5,405.82	5,250.99	154.83	34.914		
18,700.00	9,065.00	6,978.42	6,977.18	201.84	24.76	-59.13	3,133.80	5,827.76	5,474.20	5,319.57	154.63	35.401		
18,800.00	9,065.00	6,978.42	6,977.18	203.86	24.76	-59.13	3,133.80	5,827.76	5,543.54	5,389.12	154.42	35.899		
18,900.00	9,065.00	6,978.42	6,977.18	205.88	24.76	-59.13	3,133.80	5,827.76	5,613.80	5,459.61	154.19	36.407		
19,000.00	9,065.00	6,978.42	6,977.18	207.90	24.76	-59.13	3,133.80	5,827.76	5,684.95	5,531.00	153.96	36.926		
19,100.00	9,065.00	6,978.42	6,977.18	209.92	24.76	-59.13	3,133.80	5,827.76	5,756.97	5,603.26	153.71	37.455		
19,200.00	9,065.00	6,978.42	6,977.18	211.95	24.76	-59.13	3,133.80	5,827.76	5,829.80	5,676.36	153.45	37.993		
19,300.00	9,065.00	6,978.42	6,977.18	213.97	24.76	-59.13	3,133.80	5,827.76	5,903.43	5,750.26	153.18	38.540		

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design	Sec 13-T21S-R27E - Lone Tree Draw State Com 2H - Wellbore #1 - Wellbore #1												Offset Site Error:	5.00 ft
Survey Program:	80-GYRO-NS-CT												Offset Well Error:	0.50 ft
Reference	Offset		Semi Major Axis		Distance									
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor	Warning	
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)			
19,400.00	9,065.00	6,978.42	6,977.18	215.99	24.76	-59.13	3,133.80	5,827.76	5,977.83	5,824.93	152.90	39.096		
19,456.84	9,065.00	6,978.42	6,977.18	217.14	24.76	-59.13	3,133.80	5,827.76	6,020.45	5,867.71	152.74	39.417		

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Survey Program: 10-INC-ONLY													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0.00	0.00	0.00	0.00	0.50	5.02	89.87	15.65	7,023.26	7,023.75					
100.00	100.00	19.10	19.10	0.52	5.03	89.87	15.65	7,023.26	7,023.28	7,017.73	5.54	1,266.702		
200.00	200.00	119.10	119.10	0.70	5.28	89.87	15.65	7,023.26	7,023.28	7,017.29	5.99	1,173.368		
300.00	300.00	219.10	219.10	0.99	5.92	89.87	15.65	7,023.26	7,023.28	7,016.37	6.91	1,016.871		
400.00	400.00	319.10	319.10	1.31	6.83	89.87	15.65	7,023.26	7,023.28	7,015.14	8.14	862.960		
500.00	500.00	419.10	419.10	1.65	7.92	89.87	15.65	7,023.26	7,023.28	7,013.71	9.57	734.203		
600.00	600.00	519.10	519.10	1.99	9.13	89.87	15.65	7,023.26	7,023.28	7,012.16	11.12	631.791		
700.00	700.00	619.10	619.10	2.34	10.41	89.87	15.65	7,023.26	7,023.28	7,010.53	12.75	550.979		
800.00	800.00	719.10	719.10	2.69	11.74	89.87	15.65	7,023.26	7,023.28	7,008.85	14.43	486.687		
900.00	900.00	819.10	819.10	3.04	13.11	89.87	15.65	7,023.26	7,023.28	7,007.13	16.15	434.831		
1,000.00	1,000.00	919.10	919.10	3.40	14.50	89.87	15.65	7,023.26	7,023.28	7,005.38	17.90	392.379		
1,100.00	1,100.00	1,019.10	1,019.10	3.75	15.91	89.87	15.65	7,023.26	7,023.28	7,003.61	19.67	357.123		
1,200.00	1,200.00	1,119.10	1,119.10	4.11	17.34	89.87	15.65	7,023.26	7,023.28	7,001.83	21.45	327.456		
1,300.00	1,300.00	1,219.10	1,219.10	4.46	18.78	89.87	15.65	7,023.26	7,023.28	7,000.04	23.24	302.191		
1,400.00	1,400.00	1,319.10	1,319.10	4.82	20.22	89.87	15.65	7,023.26	7,023.28	6,998.24	25.04	280.446		
1,500.00	1,500.00	1,419.10	1,419.10	5.18	21.68	89.87	15.65	7,023.26	7,023.28	6,996.43	26.85	261.550		
1,600.00	1,600.00	1,519.10	1,519.10	5.53	23.13	89.87	15.65	7,023.26	7,023.28	6,994.61	28.67	244.990		
1,700.00	1,700.00	1,619.10	1,619.10	5.89	24.60	89.87	15.65	7,023.26	7,023.28	6,992.79	30.49	230.366		
1,800.00	1,800.00	1,719.10	1,719.10	6.25	26.06	89.87	15.65	7,023.26	7,023.28	6,990.97	32.31	217.363		
1,900.00	1,900.00	1,819.10	1,819.10	6.61	27.53	89.87	15.65	7,023.26	7,023.28	6,989.14	34.14	205.729		
2,000.00	2,000.00	1,919.10	1,919.10	6.96	29.01	89.87	15.65	7,023.26	7,023.28	6,987.31	35.97	195.262		
2,100.00	2,100.00	2,019.10	2,019.10	7.32	30.48	89.87	15.65	7,023.26	7,023.28	6,985.48	37.80	185.797		
2,200.00	2,200.00	2,119.10	2,119.10	7.68	31.96	89.87	15.65	7,023.26	7,023.28	6,983.64	39.64	177.198		
2,300.00	2,300.00	2,219.10	2,219.10	8.04	33.44	89.87	15.65	7,023.26	7,023.28	6,981.81	41.47	169.352		
2,400.00	2,400.00	2,319.10	2,319.10	8.39	34.92	89.87	15.65	7,023.26	7,023.28	6,979.97	43.31	162.165		
2,500.00	2,500.00	2,419.10	2,419.10	8.75	36.40	89.87	15.65	7,023.26	7,023.28	6,978.13	45.15	155.559		
2,600.00	2,599.99	2,519.09	2,519.09	9.09	37.88	-124.21	15.65	7,023.26	7,023.77	6,976.80	46.97	149.530		
2,700.00	2,699.96	2,619.06	2,619.06	9.42	39.36	-124.21	15.65	7,023.26	7,025.24	6,976.46	48.78	144.015		
2,800.00	2,799.86	2,718.96	2,718.96	9.75	40.85	-124.22	15.65	7,023.26	7,027.70	6,977.10	50.59	138.909		
2,900.00	2,899.68	2,818.78	2,818.78	10.08	42.33	-124.23	15.65	7,023.26	7,031.13	6,978.73	52.40	134.170		
2,945.33	2,944.88	2,863.98	2,863.98	10.23	43.00	-124.24	15.65	7,023.26	7,033.02	6,979.79	53.23	132.134		
3,000.00	2,999.39	2,918.49	2,918.49	10.41	43.81	-124.27	15.65	7,023.26	7,035.41	6,981.19	54.22	129.762		
3,100.00	3,099.08	3,018.18	3,018.18	10.75	45.29	-124.32	15.65	7,023.26	7,039.80	6,983.76	56.03	125.635		
3,200.00	3,198.78	3,117.88	3,117.88	11.08	46.78	-124.37	15.65	7,023.26	7,044.19	6,986.33	57.85	121.762		
3,300.00	3,298.48	3,217.58	3,217.58	11.42	48.26	-124.43	15.65	7,023.26	7,048.58	6,988.91	59.67	118.120		
3,400.00	3,398.18	3,317.28	3,317.28	11.76	49.74	-124.48	15.65	7,023.26	7,052.98	6,991.49	61.50	114.690		
3,500.00	3,497.88	3,416.98	3,416.98	12.10	51.23	-124.53	15.65	7,023.26	7,057.39	6,994.07	63.32	111.454		
3,600.00	3,597.58	3,516.68	3,516.68	12.45	52.71	-124.58	15.65	7,023.26	7,061.80	6,996.66	65.15	108.397		
3,700.00	3,697.27	3,616.37	3,616.37	12.79	54.20	-124.63	15.65	7,023.26	7,066.22	6,999.25	66.98	105.503		
3,800.00	3,796.97	3,716.07	3,716.07	13.14	55.68	-124.68	15.65	7,023.26	7,070.65	7,001.84	68.81	102.762		
3,900.00	3,896.67	3,815.77	3,815.77	13.48	57.17	-124.74	15.65	7,023.26	7,075.08	7,004.44	70.64	100.160		
4,000.00	3,996.37	3,915.47	3,915.47	13.83	58.66	-124.79	15.65	7,023.26	7,079.51	7,007.04	72.47	97.688		
4,100.00	4,096.07	4,015.17	4,015.17	14.18	60.14	-124.84	15.65	7,023.26	7,083.96	7,009.65	74.30	95.337		
4,200.00	4,195.76	4,114.86	4,114.86	14.53	61.63	-124.89	15.65	7,023.26	7,088.40	7,012.26	76.14	93.097		
4,300.00	4,295.46	4,214.56	4,214.56	14.88	63.12	-124.94	15.65	7,023.26	7,092.86	7,014.88	77.98	90.962		
4,400.00	4,395.16	4,314.26	4,314.26	15.23	64.60	-124.99	15.65	7,023.26	7,097.32	7,017.50	79.81	88.924		
4,500.00	4,494.86	4,413.96	4,413.96	15.58	66.09	-125.04	15.65	7,023.26	7,101.78	7,020.13	81.65	86.977		
4,600.00	4,594.56	4,513.66	4,513.66	15.93	67.58	-125.10	15.65	7,023.26	7,106.25	7,022.76	83.49	85.114		
4,700.00	4,694.25	4,613.35	4,613.35	16.29	69.07	-125.15	15.65	7,023.26	7,110.73	7,025.40	85.33	83.332		
4,800.00	4,793.95	4,713.05	4,713.05	16.64	70.55	-125.20	15.65	7,023.26	7,115.21	7,028.04	87.17	81.623		
4,900.00	4,893.65	4,812.75	4,812.75	17.00	72.04	-125.25	15.65	7,023.26	7,119.70	7,030.68	89.01	79.985		
5,000.00	4,993.35	4,912.45	4,912.45	17.35	73.53	-125.30	15.65	7,023.26	7,124.19	7,033.33	90.85	78.413		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Survey Program: 10-INC-ONLY													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
5,100.00	5,093.05	5,012.15	5,012.15	17.71	75.02	-125.35	15.65	7,023.26	7,128.69	7,035.99	92.70	76.903		
5,200.00	5,192.75	5,111.85	5,111.85	18.06	76.51	-125.40	15.65	7,023.26	7,133.19	7,038.65	94.54	75.452		
5,300.00	5,292.44	5,211.54	5,211.54	18.42	78.00	-125.45	15.65	7,023.26	7,137.70	7,041.32	96.38	74.055		
5,400.00	5,392.14	5,311.24	5,311.24	18.77	79.49	-125.50	15.65	7,023.26	7,142.22	7,043.99	98.23	72.711		
5,500.00	5,491.84	5,410.94	5,410.94	19.13	80.97	-125.55	15.65	7,023.26	7,146.74	7,046.67	100.07	71.415		
5,600.00	5,591.54	5,510.64	5,510.64	19.49	82.46	-125.60	15.65	7,023.26	7,151.26	7,049.35	101.92	70.167		
5,700.00	5,691.24	5,610.34	5,610.34	19.85	83.95	-125.65	15.65	7,023.26	7,155.80	7,052.03	103.76	68.963		
5,800.00	5,790.93	5,710.03	5,710.03	20.20	85.44	-125.70	15.65	7,023.26	7,160.33	7,054.72	105.61	67.800		
5,900.00	5,890.63	5,809.73	5,809.73	20.56	86.93	-125.75	15.65	7,023.26	7,164.88	7,057.42	107.46	66.677		
6,000.00	5,990.33	5,909.43	5,909.43	20.92	88.42	-125.80	15.65	7,023.26	7,169.43	7,060.12	109.30	65.592		
6,100.00	6,090.03	6,009.13	6,009.13	21.28	89.91	-125.86	15.65	7,023.26	7,173.98	7,062.83	111.15	64.543		
6,200.00	6,189.73	6,108.83	6,108.83	21.64	91.40	-125.91	15.65	7,023.26	7,178.54	7,065.54	113.00	63.528		
6,300.00	6,289.42	6,208.52	6,208.52	22.00	92.89	-125.96	15.65	7,023.26	7,183.11	7,068.26	114.85	62.546		
6,400.00	6,389.12	6,308.22	6,308.22	22.36	94.38	-126.01	15.65	7,023.26	7,187.68	7,070.98	116.69	61.595		
6,500.00	6,488.82	6,407.92	6,407.92	22.72	95.87	-126.06	15.65	7,023.26	7,192.25	7,073.71	118.54	60.673		
6,600.00	6,588.52	6,507.62	6,507.62	23.08	97.36	-126.11	15.65	7,023.26	7,196.83	7,076.44	120.39	59.779		
6,700.00	6,688.22	6,607.32	6,607.32	23.44	98.85	-126.15	15.65	7,023.26	7,201.42	7,079.18	122.24	58.913		
6,800.00	6,787.91	6,707.01	6,707.01	23.80	100.34	-126.20	15.65	7,023.26	7,206.01	7,081.93	124.09	58.072		
6,900.00	6,887.61	6,806.71	6,806.71	24.16	101.83	-126.25	15.65	7,023.26	7,210.61	7,084.67	125.94	57.255		
7,000.00	6,987.31	6,906.41	6,906.41	24.52	103.32	-126.30	15.65	7,023.26	7,215.22	7,087.43	127.79	56.463		
7,100.00	7,087.01	7,006.11	7,006.11	24.88	104.81	-126.35	15.65	7,023.26	7,219.82	7,090.19	129.64	55.693		
7,200.00	7,186.71	7,105.81	7,105.81	25.24	106.30	-126.40	15.65	7,023.26	7,224.44	7,092.95	131.49	54.944		
7,300.00	7,286.41	7,205.51	7,205.51	25.60	107.79	-126.45	15.65	7,023.26	7,229.06	7,095.72	133.34	54.216		
7,400.00	7,386.10	7,305.20	7,305.20	25.96	109.28	-126.50	15.65	7,023.26	7,233.68	7,098.50	135.19	53.508		
7,500.00	7,485.80	7,404.90	7,404.90	26.33	110.77	-126.55	15.65	7,023.26	7,238.31	7,101.28	137.04	52.820		
7,600.00	7,585.50	7,504.60	7,504.60	26.69	112.26	-126.60	15.65	7,023.26	7,242.95	7,104.06	138.89	52.149		
7,700.00	7,685.20	7,604.30	7,604.30	27.05	113.75	-126.65	15.65	7,023.26	7,247.59	7,106.85	140.74	51.496		
7,800.00	7,784.90	7,704.00	7,704.00	27.41	115.24	-126.70	15.65	7,023.26	7,252.24	7,109.65	142.59	50.860		
7,860.70	7,845.41	7,764.51	7,764.51	27.63	116.15	-126.73	15.65	7,023.26	7,255.06	7,111.35	143.72	50.482		
7,900.00	7,884.61	7,803.71	7,803.71	27.77	116.73	-126.77	15.65	7,023.26	7,256.77	7,112.33	144.44	50.240		
8,000.00	7,984.46	7,903.56	7,903.56	28.13	118.22	-126.84	15.65	7,023.26	7,260.03	7,113.73	146.29	49.626		
8,100.00	8,084.42	8,003.52	8,003.52	28.49	119.72	-126.88	15.65	7,023.26	7,261.72	7,113.57	148.14	49.018		
8,157.59	8,142.00	8,061.10	8,061.10	28.69	120.58	87.19	15.65	7,023.26	7,261.98	7,112.77	149.21	48.671		
8,200.00	8,184.41	8,103.51	8,103.51	28.83	121.21	87.19	15.65	7,023.26	7,261.98	7,111.99	149.98	48.419		
8,300.00	8,284.41	8,203.51	8,203.51	29.17	122.71	87.19	15.65	7,023.26	7,261.98	7,110.16	151.82	47.834		
8,400.00	8,384.41	8,303.51	8,303.51	29.51	124.20	87.19	15.65	7,023.26	7,261.98	7,108.33	153.65	47.263		
8,507.63	8,492.04	8,411.14	8,411.14	29.87	125.81	87.19	15.65	7,023.26	7,261.98	7,106.35	155.62	46.664		
8,550.00	8,534.37	8,453.47	8,453.47	30.02	126.45	-2.18	15.65	7,023.26	7,260.41	7,104.01	156.40	46.423		
8,600.00	8,584.01	8,503.11	8,503.11	30.18	127.19	-2.21	15.65	7,023.26	7,254.55	7,097.25	157.30	46.118		
8,650.00	8,632.95	8,552.05	8,552.05	30.34	127.92	-2.25	15.65	7,023.26	7,244.39	7,086.20	158.20	45.794		
8,700.00	8,680.82	8,599.92	8,599.92	30.50	128.64	-2.32	15.65	7,023.26	7,230.01	7,070.94	159.06	45.454		
8,750.00	8,727.25	8,646.35	8,646.35	30.66	129.33	-2.40	15.65	7,023.26	7,211.51	7,051.61	159.90	45.100		
8,800.00	8,771.89	8,690.99	8,690.99	30.81	130.00	-2.52	15.65	7,023.26	7,189.04	7,028.34	160.70	44.736		
8,850.00	8,814.40	8,733.50	8,733.50	30.95	130.63	-2.67	15.65	7,023.26	7,162.76	7,001.31	161.46	44.363		
8,900.00	8,854.46	8,773.56	8,773.56	31.09	131.23	-2.86	15.65	7,023.26	7,132.89	6,970.72	162.16	43.986		
8,950.00	8,891.75	8,810.85	8,810.85	31.23	131.79	-3.11	15.65	7,023.26	7,099.64	6,936.82	162.82	43.605		
9,000.00	8,926.01	8,845.11	8,845.11	31.37	132.30	-3.43	15.65	7,023.26	7,063.27	6,899.85	163.41	43.224		
9,050.00	8,956.96	8,876.06	8,876.06	31.53	132.77	-3.85	15.65	7,023.26	7,024.05	6,860.10	163.95	42.844		
9,100.00	8,984.38	8,903.48	8,903.48	31.69	133.18	-4.42	15.65	7,023.26	6,982.29	6,817.88	164.41	42.468		
9,150.00	9,008.05	8,927.15	8,927.15	31.87	133.53	-5.23	15.65	7,023.26	6,938.30	6,773.49	164.81	42.098		
9,200.00	9,027.79	8,946.89	8,946.89	32.07	133.82	-6.45	15.65	7,023.26	6,892.41	6,727.27	165.14	41.737		
9,250.00	9,043.45	8,962.55	8,962.55	32.29	134.06	-8.44	15.65	7,023.26	6,844.98	6,679.59	165.40	41.385		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Survey Program: 10-INC-ONLY													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
9,300.00	9,054.92	8,974.02	8,974.02	32.53	134.23	-12.27	15.65	7,023.26	6,796.37	6,630.79	165.59	41.044		
9,350.00	9,062.10	8,981.20	8,981.20	32.79	134.34	-22.17	15.65	7,023.26	6,746.95	6,581.25	165.70	40.717		
9,400.00	9,064.95	8,984.05	8,984.05	33.06	134.38	-72.10	15.65	7,023.26	6,697.09	6,531.34	165.75	40.404		
9,407.63	9,065.00	8,984.10	8,984.10	33.10	134.38	-90.00	15.65	7,023.26	6,689.47	6,523.71	165.75	40.358		
9,500.00	9,065.00	8,984.10	8,984.10	33.68	134.38	-90.00	15.65	7,023.26	6,597.17	6,431.41	165.76	39.799		
9,600.00	9,065.00	8,984.10	8,984.10	34.41	134.38	-90.00	15.65	7,023.26	6,497.26	6,331.49	165.77	39.195		
9,700.00	9,065.00	8,984.10	8,984.10	35.24	134.38	-90.00	15.65	7,023.26	6,397.35	6,231.58	165.78	38.590		
9,800.00	9,065.00	8,984.10	8,984.10	36.17	134.38	-90.00	15.65	7,023.26	6,297.45	6,131.66	165.79	37.984		
9,900.00	9,065.00	8,984.10	8,984.10	37.19	134.38	-90.00	15.65	7,023.26	6,197.55	6,031.74	165.80	37.379		
10,000.00	9,065.00	8,984.10	8,984.10	38.30	134.38	-90.00	15.65	7,023.26	6,097.65	5,931.83	165.82	36.773		
10,100.00	9,065.00	8,984.10	8,984.10	39.48	134.38	-90.00	15.65	7,023.26	5,997.75	5,831.92	165.83	36.167		
10,200.00	9,065.00	8,984.10	8,984.10	40.72	134.38	-90.00	15.65	7,023.26	5,897.86	5,732.01	165.85	35.561		
10,300.00	9,065.00	8,984.10	8,984.10	42.03	134.38	-90.00	15.65	7,023.26	5,797.97	5,632.10	165.87	34.955		
10,400.00	9,065.00	8,984.10	8,984.10	43.40	134.38	-90.00	15.65	7,023.26	5,698.09	5,532.19	165.89	34.348		
10,500.00	9,065.00	8,984.10	8,984.10	44.82	134.38	-90.00	15.65	7,023.26	5,598.20	5,432.29	165.91	33.742		
10,600.00	9,065.00	8,984.10	8,984.10	46.29	134.38	-90.00	15.65	7,023.26	5,498.33	5,332.39	165.94	33.135		
10,700.00	9,065.00	8,984.10	8,984.10	47.79	134.38	-90.00	15.65	7,023.26	5,398.46	5,232.49	165.96	32.528		
10,800.00	9,065.00	8,984.10	8,984.10	49.34	134.38	-90.00	15.65	7,023.26	5,298.59	5,132.60	165.99	31.921		
10,900.00	9,065.00	8,984.10	8,984.10	50.92	134.38	-90.00	15.65	7,023.26	5,198.73	5,032.71	166.02	31.314		
11,000.00	9,065.00	8,984.10	8,984.10	52.54	134.38	-90.00	15.65	7,023.26	5,098.87	4,932.82	166.05	30.706		
11,100.00	9,065.00	8,984.10	8,984.10	54.18	134.38	-90.00	15.65	7,023.26	4,999.02	4,832.93	166.09	30.099		
11,200.00	9,065.00	8,984.10	8,984.10	55.85	134.38	-90.00	15.65	7,023.26	4,899.18	4,733.05	166.12	29.491		
11,300.00	9,065.00	8,984.10	8,984.10	57.54	134.38	-90.00	15.65	7,023.26	4,799.34	4,633.17	166.16	28.883		
11,400.00	9,065.00	8,984.10	8,984.10	59.26	134.38	-90.00	15.65	7,023.26	4,699.51	4,533.30	166.21	28.275		
11,500.00	9,065.00	8,984.10	8,984.10	61.00	134.38	-90.00	15.65	7,023.26	4,599.68	4,433.43	166.25	27.667		
11,600.00	9,065.00	8,984.10	8,984.10	62.75	134.38	-90.00	15.65	7,023.26	4,499.87	4,333.57	166.30	27.059		
11,700.00	9,065.00	8,984.10	8,984.10	64.52	134.38	-90.00	15.65	7,023.26	4,400.06	4,233.71	166.35	26.451		
11,800.00	9,065.00	8,984.10	8,984.10	66.31	134.38	-90.00	15.65	7,023.26	4,300.26	4,133.86	166.40	25.843		
11,900.00	9,065.00	8,984.10	8,984.10	68.11	134.38	-90.00	15.65	7,023.26	4,200.47	4,034.01	166.46	25.234		
12,000.00	9,065.00	8,984.10	8,984.10	69.93	134.38	-90.00	15.65	7,023.26	4,100.69	3,934.17	166.52	24.626		
12,100.00	9,065.00	8,984.10	8,984.10	71.76	134.38	-90.00	15.65	7,023.26	4,000.92	3,834.34	166.59	24.017		
12,200.00	9,065.00	8,984.10	8,984.10	73.60	134.38	-90.00	15.65	7,023.26	3,901.17	3,734.51	166.66	23.408		
12,300.00	9,065.00	8,984.10	8,984.10	75.45	134.38	-90.00	15.65	7,023.26	3,801.42	3,634.69	166.73	22.800		
12,400.00	9,065.00	8,984.10	8,984.10	77.31	134.38	-90.00	15.65	7,023.26	3,701.70	3,534.88	166.81	22.191		
12,500.00	9,065.00	8,984.10	8,984.10	79.18	134.38	-90.00	15.65	7,023.26	3,601.98	3,435.08	166.90	21.582		
12,600.00	9,065.00	8,984.10	8,984.10	81.05	134.38	-90.00	15.65	7,023.26	3,502.28	3,335.29	166.99	20.973		
12,700.00	9,065.00	8,984.10	8,984.10	82.94	134.38	-90.00	15.65	7,023.26	3,402.60	3,235.51	167.09	20.363		
12,800.00	9,065.00	8,984.10	8,984.10	84.83	134.38	-90.00	15.65	7,023.26	3,302.94	3,135.74	167.20	19.754		
12,900.00	9,065.00	8,984.10	8,984.10	86.73	134.38	-90.00	15.65	7,023.26	3,203.30	3,035.98	167.32	19.144		
13,000.00	9,065.00	8,984.10	8,984.10	88.64	134.38	-90.00	15.65	7,023.26	3,103.69	2,936.23	167.45	18.535		
13,100.00	9,065.00	8,984.10	8,984.10	90.55	134.38	-90.00	15.65	7,023.26	3,004.09	2,836.50	167.59	17.925		
13,200.00	9,065.00	8,984.10	8,984.10	92.47	134.38	-90.00	15.65	7,023.26	2,904.53	2,736.78	167.75	17.315		
13,300.00	9,065.00	8,984.10	8,984.10	94.39	134.38	-90.00	15.65	7,023.26	2,805.00	2,637.08	167.92	16.705		
13,400.00	9,065.00	8,984.10	8,984.10	96.32	134.38	-90.00	15.65	7,023.26	2,705.50	2,537.40	168.10	16.094		
13,500.00	9,065.00	8,984.10	8,984.10	98.25	134.38	-90.00	15.65	7,023.26	2,606.04	2,437.73	168.31	15.483		
13,600.00	9,065.00	8,984.10	8,984.10	100.19	134.38	-90.00	15.65	7,023.26	2,506.63	2,338.08	168.54	14.872		
13,700.00	9,065.00	8,984.10	8,984.10	102.13	134.38	-90.00	15.65	7,023.26	2,407.26	2,238.46	168.80	14.261		
13,800.00	9,065.00	8,984.10	8,984.10	104.08	134.38	-90.00	15.65	7,023.26	2,307.95	2,138.86	169.09	13.649		
13,900.00	9,065.00	8,984.10	8,984.10	106.03	134.38	-90.00	15.65	7,023.26	2,208.69	2,039.28	169.41	13.037		
14,000.00	9,065.00	8,984.10	8,984.10	107.98	134.38	-90.00	15.65	7,023.26	2,109.51	1,939.73	169.78	12.425		
14,100.00	9,065.00	8,984.10	8,984.10	109.94	134.38	-90.00	15.65	7,023.26	2,010.42	1,840.21	170.21	11.812		
14,200.00	9,065.00	8,984.10	8,984.10	111.90	134.38	-90.00	15.65	7,023.26	1,911.41	1,740.72	170.69	11.198		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	5.00 ft
Survey Program: 10-INC-ONLY													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
14,300.00	9,065.00	8,984.10	8,984.10	113.86	134.38	-90.00	15.65	7,023.26	1,812.51	1,641.26	171.25	10.584		
14,400.00	9,065.00	8,984.10	8,984.10	115.82	134.38	-90.00	15.65	7,023.26	1,713.75	1,541.85	171.90	9.969		
14,500.00	9,065.00	8,984.10	8,984.10	117.79	134.38	-90.00	15.65	7,023.26	1,615.13	1,442.47	172.66	9.354		
14,600.00	9,065.00	8,984.10	8,984.10	119.76	134.38	-90.00	15.65	7,023.26	1,516.69	1,343.13	173.56	8.739		
14,700.00	9,065.00	8,984.10	8,984.10	121.74	134.38	-90.00	15.65	7,023.26	1,418.48	1,243.84	174.64	8.122		
14,800.00	9,065.00	8,984.10	8,984.10	123.71	134.38	-90.00	15.65	7,023.26	1,320.53	1,144.60	175.93	7.506		
14,900.00	9,065.00	8,984.10	8,984.10	125.69	134.38	-90.00	15.65	7,023.26	1,222.91	1,045.41	177.50	6.890		
15,000.00	9,065.00	8,984.10	8,984.10	127.67	134.38	-90.00	15.65	7,023.26	1,125.72	946.29	179.43	6.274		
15,100.00	9,065.00	8,984.10	8,984.10	129.65	134.38	-90.00	15.65	7,023.26	1,029.06	847.23	181.82	5.660		
15,200.00	9,065.00	8,984.10	8,984.10	131.63	134.38	-90.00	15.65	7,023.26	933.10	748.26	184.84	5.048		
15,300.00	9,065.00	8,984.10	8,984.10	133.62	134.38	-90.00	15.65	7,023.26	838.09	649.41	188.68	4.442 Alert		
15,400.00	9,065.00	8,984.10	8,984.10	135.61	134.38	-90.00	15.65	7,023.26	744.39	550.73	193.65	3.844 Alert		
15,500.00	9,065.00	8,984.10	8,984.10	137.60	134.38	-90.00	15.65	7,023.26	652.56	452.36	200.20	3.260 Alert		
15,600.00	9,065.00	8,984.10	8,984.10	139.59	134.38	-90.00	15.65	7,023.26	563.52	354.60	208.92	2.697 Alert		
15,700.00	9,065.00	8,984.10	8,984.10	141.58	134.38	-90.00	15.65	7,023.26	478.82	258.17	220.65	2.170 Minor Risk		
15,800.00	9,065.00	8,984.10	8,984.10	143.57	134.38	-90.00	15.65	7,023.26	401.23	164.98	236.25	1.698 Minor Risk		
15,900.00	9,065.00	8,984.10	8,984.10	145.57	134.38	-90.00	15.65	7,023.26	335.72	80.05	255.67	1.313 Major Risk		
16,000.00	9,065.00	8,984.10	8,984.10	147.56	134.38	-90.00	15.65	7,023.26	290.56	15.62	274.95	1.057 Major Risk		
16,091.41	9,065.00	8,984.10	8,984.10	149.39	134.38	-90.00	15.65	7,023.26	275.81	-7.96	283.77	0.972 Collision, CC, ES, SF		
16,100.00	9,065.00	8,984.10	8,984.10	149.56	134.38	-90.00	15.65	7,023.26	275.94	-7.92	283.87	0.972 Collision		
16,200.00	9,065.00	8,984.10	8,984.10	151.56	134.38	-90.00	15.65	7,023.26	296.42	20.57	275.85	1.075 Major Risk		
16,300.00	9,065.00	8,984.10	8,984.10	153.56	134.38	-90.00	15.65	7,023.26	345.81	87.42	258.39	1.338 Major Risk		
16,400.00	9,065.00	8,984.10	8,984.10	155.56	134.38	-90.00	15.65	7,023.26	413.89	172.98	240.90	1.718 Minor Risk		
16,500.00	9,065.00	8,984.10	8,984.10	157.57	134.38	-90.00	15.65	7,023.26	492.97	266.24	226.73	2.174 Minor Risk		
16,600.00	9,065.00	8,984.10	8,984.10	159.57	134.38	-90.00	15.65	7,023.26	578.57	362.63	215.94	2.679 Alert		
16,700.00	9,065.00	8,984.10	8,984.10	161.57	134.38	-90.00	15.65	7,023.26	668.17	460.40	207.78	3.216 Alert		
16,800.00	9,065.00	8,984.10	8,984.10	163.58	134.38	-90.00	15.65	7,023.26	760.38	558.82	201.56	3.773 Alert		
16,900.00	9,065.00	8,984.10	8,984.10	165.59	134.38	-90.00	15.65	7,023.26	854.34	657.60	196.74	4.342 Alert		
17,000.00	9,065.00	8,984.10	8,984.10	167.60	134.38	-90.00	15.65	7,023.26	949.53	756.57	192.96	4.921 Alert		
17,100.00	9,065.00	8,984.10	8,984.10	169.60	134.38	-90.00	15.65	7,023.26	1,045.63	855.68	189.95	5.505		
17,200.00	9,065.00	8,984.10	8,984.10	171.61	134.38	-90.00	15.65	7,023.26	1,142.39	954.88	187.51	6.092		
17,300.00	9,065.00	8,984.10	8,984.10	173.62	134.38	-90.00	15.65	7,023.26	1,239.67	1,054.14	185.52	6.682		
17,400.00	9,065.00	8,984.10	8,984.10	175.63	134.38	-90.00	15.65	7,023.26	1,337.34	1,153.46	183.88	7.273		
17,500.00	9,065.00	8,984.10	8,984.10	177.65	134.38	-90.00	15.65	7,023.26	1,435.34	1,252.83	182.51	7.864		
17,600.00	9,065.00	8,984.10	8,984.10	179.66	134.38	-90.00	15.65	7,023.26	1,533.60	1,352.24	181.36	8.456		
17,700.00	9,065.00	8,984.10	8,984.10	181.67	134.38	-90.00	15.65	7,023.26	1,632.07	1,451.68	180.39	9.048		
17,800.00	9,065.00	8,984.10	8,984.10	183.69	134.38	-90.00	15.65	7,023.26	1,730.71	1,551.15	179.56	9.639		
17,900.00	9,065.00	8,984.10	8,984.10	185.70	134.38	-90.00	15.65	7,023.26	1,829.50	1,650.66	178.85	10.229		
18,000.00	9,065.00	8,984.10	8,984.10	187.72	134.38	-90.00	15.65	7,023.26	1,928.42	1,750.18	178.24	10.819		
18,100.00	9,065.00	8,984.10	8,984.10	189.73	134.38	-90.00	15.65	7,023.26	2,027.44	1,849.73	177.71	11.409		
18,200.00	9,065.00	8,984.10	8,984.10	191.75	134.38	-90.00	15.65	7,023.26	2,126.56	1,949.30	177.25	11.997		
18,300.00	9,065.00	8,984.10	8,984.10	193.77	134.38	-90.00	15.65	7,023.26	2,225.75	2,048.89	176.86	12.585		
18,400.00	9,065.00	8,984.10	8,984.10	195.78	134.38	-90.00	15.65	7,023.26	2,325.01	2,148.50	176.51	13.172		
18,500.00	9,065.00	8,984.10	8,984.10	197.80	134.38	-90.00	15.65	7,023.26	2,424.33	2,248.12	176.21	13.758		
18,600.00	9,065.00	8,984.10	8,984.10	199.82	134.38	-90.00	15.65	7,023.26	2,523.71	2,347.76	175.95	14.343		
18,700.00	9,065.00	8,984.10	8,984.10	201.84	134.38	-90.00	15.65	7,023.26	2,623.13	2,447.41	175.72	14.928		
18,800.00	9,065.00	8,984.10	8,984.10	203.86	134.38	-90.00	15.65	7,023.26	2,722.60	2,547.08	175.52	15.511		
18,900.00	9,065.00	8,984.10	8,984.10	205.88	134.38	-90.00	15.65	7,023.26	2,822.10	2,646.75	175.35	16.094		
19,000.00	9,065.00	8,984.10	8,984.10	207.90	134.38	-90.00	15.65	7,023.26	2,921.64	2,746.44	175.20	16.676		
19,100.00	9,065.00	8,984.10	8,984.10	209.92	134.38	-90.00	15.65	7,023.26	3,021.21	2,846.14	175.07	17.257		
19,200.00	9,065.00	8,984.10	8,984.10	211.95	134.38	-90.00	15.65	7,023.26	3,120.81	2,945.85	174.96	17.837		
19,300.00	9,065.00	8,984.10	8,984.10	213.97	134.38	-90.00	15.65	7,023.26	3,220.43	3,045.56	174.86	18.417		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Sec 13-T21S-R27E - Lone Tree State #001 - Wellbore #1 - Wellbore #1		Offset Site Error:		5.00 ft
Survey Program:		10-INC-ONLY													Offset Well Error:		0.50 ft
Reference				Offset		Semi Major Axis			Distance						Warning		
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor					
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)						
19,400.00	9,065.00	8,984.10	8,984.10	215.99	134.38	-90.00	15.65	7,023.26	3,320.07	3,145.29	174.78	18.995					
19,456.84	9,065.00	8,984.10	8,984.10	217.14	134.38	-90.00	15.65	7,023.26	3,376.72	3,201.98	174.74	19.324					

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 10-INC-ONLY													Offset Well Error:	10.00 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0.00	0.00	0.00	0.00	0.50	10.00	32.76	2,626.81	1,690.28	3,123.70					
100.00	100.00	81.10	81.10	0.52	10.10	32.76	2,626.81	1,690.28	3,123.64	3,113.02	10.62	294.109		
200.00	200.00	181.10	181.10	0.70	10.58	32.76	2,626.81	1,690.28	3,123.64	3,112.36	11.28	276.812		
300.00	300.00	281.10	281.10	0.99	11.41	32.76	2,626.81	1,690.28	3,123.64	3,111.25	12.39	252.051		
400.00	400.00	381.10	381.10	1.31	12.51	32.76	2,626.81	1,690.28	3,123.64	3,109.83	13.81	226.119		
500.00	500.00	481.10	481.10	1.65	13.82	32.76	2,626.81	1,690.28	3,123.64	3,108.18	15.46	202.033		
600.00	600.00	581.10	581.10	1.99	15.28	32.76	2,626.81	1,690.28	3,123.64	3,106.37	17.27	180.852		
700.00	700.00	681.10	681.10	2.34	16.86	32.76	2,626.81	1,690.28	3,123.64	3,104.44	19.20	162.668		
800.00	800.00	781.10	781.10	2.69	18.53	32.76	2,626.81	1,690.28	3,123.64	3,102.42	21.22	147.190		
900.00	900.00	881.10	881.10	3.04	20.26	32.76	2,626.81	1,690.28	3,123.64	3,100.33	23.31	134.018		
1,000.00	1,000.00	981.10	981.10	3.40	22.05	32.76	2,626.81	1,690.28	3,123.64	3,098.20	25.44	122.765		
1,100.00	1,100.00	1,081.10	1,081.10	3.75	23.87	32.76	2,626.81	1,690.28	3,123.64	3,096.02	27.62	113.094		
1,200.00	1,200.00	1,181.10	1,181.10	4.11	25.72	32.76	2,626.81	1,690.28	3,123.64	3,093.82	29.83	104.727		
1,300.00	1,300.00	1,281.10	1,281.10	4.46	27.59	32.76	2,626.81	1,690.28	3,123.64	3,091.58	32.06	97.438		
1,400.00	1,400.00	1,381.10	1,381.10	4.82	29.49	32.76	2,626.81	1,690.28	3,123.64	3,089.33	34.31	91.044		
1,500.00	1,500.00	1,481.10	1,481.10	5.18	31.40	32.76	2,626.81	1,690.28	3,123.64	3,087.07	36.58	85.400		
1,600.00	1,600.00	1,581.10	1,581.10	5.53	33.32	32.76	2,626.81	1,690.28	3,123.64	3,084.78	38.86	80.387		
1,700.00	1,700.00	1,681.10	1,681.10	5.89	35.26	32.76	2,626.81	1,690.28	3,123.64	3,082.49	41.15	75.909		
1,800.00	1,800.00	1,781.10	1,781.10	6.25	37.20	32.76	2,626.81	1,690.28	3,123.64	3,080.19	43.45	71.887		
1,900.00	1,900.00	1,881.10	1,881.10	6.61	39.16	32.76	2,626.81	1,690.28	3,123.64	3,077.88	45.76	68.259		
2,000.00	2,000.00	1,981.10	1,981.10	6.96	41.12	32.76	2,626.81	1,690.28	3,123.64	3,075.56	48.08	64.969		
2,100.00	2,100.00	2,081.10	2,081.10	7.32	43.08	32.76	2,626.81	1,690.28	3,123.64	3,073.24	50.40	61.975		
2,200.00	2,200.00	2,181.10	2,181.10	7.68	45.05	32.76	2,626.81	1,690.28	3,123.64	3,070.91	52.73	59.239		
2,300.00	2,300.00	2,281.10	2,281.10	8.04	47.03	32.76	2,626.81	1,690.28	3,123.64	3,068.58	55.06	56.729		
2,400.00	2,400.00	2,381.10	2,381.10	8.39	49.01	32.76	2,626.81	1,690.28	3,123.64	3,066.24	57.40	54.420		
2,500.00	2,500.00	2,481.10	2,481.10	8.75	50.99	32.76	2,626.81	1,690.28	3,123.64	3,063.90	59.74	52.288		
2,600.00	2,599.99	2,581.09	2,581.09	9.09	52.97	178.68	2,626.81	1,690.28	3,124.51	3,062.45	62.07	50.342		
2,700.00	2,699.96	2,681.06	2,681.06	9.42	54.96	178.68	2,626.81	1,690.28	3,127.13	3,062.75	64.38	48.573		
2,800.00	2,799.86	2,780.96	2,780.96	9.75	56.95	178.68	2,626.81	1,690.28	3,131.49	3,064.79	66.70	46.951		
2,900.00	2,899.68	2,880.78	2,880.78	10.08	58.94	178.69	2,626.81	1,690.28	3,137.60	3,068.58	69.02	45.461		
2,945.33	2,944.88	2,925.98	2,925.98	10.23	59.84	178.69	2,626.81	1,690.28	3,140.94	3,070.87	70.07	44.826		
3,000.00	2,999.39	2,980.49	2,980.49	10.41	60.93	178.69	2,626.81	1,690.28	3,145.18	3,073.84	71.34	44.088		
3,100.00	3,099.08	3,080.18	3,080.18	10.75	62.92	178.69	2,626.81	1,690.28	3,152.94	3,079.28	73.66	42.802		
3,200.00	3,198.78	3,179.88	3,179.88	11.08	64.91	178.69	2,626.81	1,690.28	3,160.70	3,084.71	75.99	41.594		
3,300.00	3,298.48	3,279.58	3,279.58	11.42	66.91	178.70	2,626.81	1,690.28	3,168.47	3,090.15	78.32	40.455		
3,400.00	3,398.18	3,379.28	3,379.28	11.76	68.90	178.70	2,626.81	1,690.28	3,176.23	3,095.58	80.65	39.381		
3,500.00	3,497.88	3,478.98	3,478.98	12.10	70.90	178.70	2,626.81	1,690.28	3,183.99	3,101.00	82.99	38.366		
3,600.00	3,597.58	3,578.68	3,578.68	12.45	72.89	178.71	2,626.81	1,690.28	3,191.75	3,106.43	85.33	37.405		
3,700.00	3,697.27	3,678.37	3,678.37	12.79	74.89	178.71	2,626.81	1,690.28	3,199.52	3,111.85	87.67	36.495		
3,800.00	3,796.97	3,778.07	3,778.07	13.14	76.89	178.71	2,626.81	1,690.28	3,207.28	3,117.27	90.01	35.632		
3,900.00	3,896.67	3,877.77	3,877.77	13.48	78.89	178.72	2,626.81	1,690.28	3,215.04	3,122.69	92.36	34.811		
4,000.00	3,996.37	3,977.47	3,977.47	13.83	80.89	178.72	2,626.81	1,690.28	3,222.81	3,128.10	94.70	34.031		
4,100.00	4,096.07	4,077.17	4,077.17	14.18	82.90	178.72	2,626.81	1,690.28	3,230.57	3,133.52	97.05	33.287		
4,200.00	4,195.76	4,176.86	4,176.86	14.53	84.90	178.73	2,626.81	1,690.28	3,238.33	3,138.93	99.40	32.579		
4,300.00	4,295.46	4,276.56	4,276.56	14.88	86.90	178.73	2,626.81	1,690.28	3,246.09	3,144.34	101.75	31.902		
4,400.00	4,395.16	4,376.26	4,376.26	15.23	88.91	178.73	2,626.81	1,690.28	3,253.86	3,149.75	104.10	31.256		
4,500.00	4,494.86	4,475.96	4,475.96	15.58	90.91	178.73	2,626.81	1,690.28	3,261.62	3,155.16	106.46	30.638		
4,600.00	4,594.56	4,575.66	4,575.66	15.93	92.92	178.74	2,626.81	1,690.28	3,269.38	3,160.57	108.81	30.047		
4,700.00	4,694.25	4,675.35	4,675.35	16.29	94.92	178.74	2,626.81	1,690.28	3,277.14	3,165.98	111.17	29.480		
4,800.00	4,793.95	4,775.05	4,775.05	16.64	96.93	178.74	2,626.81	1,690.28	3,284.91	3,171.38	113.52	28.936		
4,900.00	4,893.65	4,874.75	4,874.75	17.00	98.94	178.75	2,626.81	1,690.28	3,292.67	3,176.79	115.88	28.414		
5,000.00	4,993.35	4,974.45	4,974.45	17.35	100.94	178.75	2,626.81	1,690.28	3,300.43	3,182.19	118.24	27.913		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 10-INC-ONLY													Offset Well Error:	10.00 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
5,100.00	5,093.05	5,074.15	5,074.15	17.71	102.95	178.75	2,626.81	1,690.28	3,308.20	3,187.60	120.60	27.432		
5,200.00	5,192.75	5,173.85	5,173.85	18.06	104.96	178.76	2,626.81	1,690.28	3,315.96	3,193.00	122.96	26.968		
5,300.00	5,292.44	5,273.54	5,273.54	18.42	106.97	178.76	2,626.81	1,690.28	3,323.72	3,198.40	125.32	26.522		
5,400.00	5,392.14	5,373.24	5,373.24	18.77	108.97	178.76	2,626.81	1,690.28	3,331.48	3,203.80	127.68	26.093		
5,500.00	5,491.84	5,472.94	5,472.94	19.13	110.98	178.76	2,626.81	1,690.28	3,339.25	3,209.20	130.04	25.678		
5,600.00	5,591.54	5,572.64	5,572.64	19.49	112.99	178.77	2,626.81	1,690.28	3,347.01	3,214.61	132.40	25.279		
5,700.00	5,691.24	5,672.34	5,672.34	19.85	115.00	178.77	2,626.81	1,690.28	3,354.77	3,220.00	134.77	24.893		
5,800.00	5,790.93	5,772.03	5,772.03	20.20	117.01	178.77	2,626.81	1,690.28	3,362.53	3,225.40	137.13	24.521		
5,900.00	5,890.63	5,871.73	5,871.73	20.56	119.02	178.78	2,626.81	1,690.28	3,370.30	3,230.80	139.50	24.161		
6,000.00	5,990.33	5,971.43	5,971.43	20.92	121.03	178.78	2,626.81	1,690.28	3,378.06	3,236.20	141.86	23.813		
6,100.00	6,090.03	6,071.13	6,071.13	21.28	123.04	178.78	2,626.81	1,690.28	3,385.82	3,241.60	144.23	23.476		
6,200.00	6,189.73	6,170.83	6,170.83	21.64	125.05	178.78	2,626.81	1,690.28	3,393.59	3,246.99	146.59	23.150		
6,300.00	6,289.42	6,270.52	6,270.52	22.00	127.06	178.79	2,626.81	1,690.28	3,401.35	3,252.39	148.96	22.834		
6,400.00	6,389.12	6,370.22	6,370.22	22.36	129.07	178.79	2,626.81	1,690.28	3,409.11	3,257.79	151.32	22.529		
6,500.00	6,488.82	6,469.92	6,469.92	22.72	131.09	178.79	2,626.81	1,690.28	3,416.87	3,263.18	153.69	22.232		
6,600.00	6,588.52	6,569.62	6,569.62	23.08	133.10	178.80	2,626.81	1,690.28	3,424.64	3,268.58	156.06	21.945		
6,700.00	6,688.22	6,669.32	6,669.32	23.44	135.11	178.80	2,626.81	1,690.28	3,432.40	3,273.97	158.43	21.666		
6,800.00	6,787.91	6,769.01	6,769.01	23.80	137.12	178.80	2,626.81	1,690.28	3,440.16	3,279.37	160.79	21.395		
6,900.00	6,887.61	6,868.71	6,868.71	24.16	139.13	178.80	2,626.81	1,690.28	3,447.93	3,284.76	163.16	21.132		
7,000.00	6,987.31	6,968.41	6,968.41	24.52	141.14	178.81	2,626.81	1,690.28	3,455.69	3,290.16	165.53	20.876		
7,100.00	7,087.01	7,068.11	7,068.11	24.88	143.16	178.81	2,626.81	1,690.28	3,463.45	3,295.55	167.90	20.628		
7,200.00	7,186.71	7,167.81	7,167.81	25.24	145.17	178.81	2,626.81	1,690.28	3,471.21	3,300.95	170.27	20.387		
7,300.00	7,286.41	7,267.51	7,267.51	25.60	147.18	178.81	2,626.81	1,690.28	3,478.98	3,306.34	172.64	20.152		
7,400.00	7,386.10	7,367.20	7,367.20	25.96	149.19	178.82	2,626.81	1,690.28	3,486.74	3,311.73	175.01	19.923		
7,500.00	7,485.80	7,466.90	7,466.90	26.33	151.21	178.82	2,626.81	1,690.28	3,494.50	3,317.12	177.38	19.701		
7,600.00	7,585.50	7,566.60	7,566.60	26.69	153.22	178.82	2,626.81	1,690.28	3,502.27	3,322.52	179.75	19.484		
7,700.00	7,685.20	7,666.30	7,666.30	27.05	155.23	178.82	2,626.81	1,690.28	3,510.03	3,327.91	182.12	19.273		
7,800.00	7,784.90	7,766.00	7,766.00	27.41	157.25	178.83	2,626.81	1,690.28	3,517.79	3,333.30	184.49	19.068		
7,900.00	7,884.61	7,865.71	7,865.71	27.77	159.26	178.83	2,626.81	1,690.28	3,525.55	3,338.69	186.86	18.866		
8,000.00	7,984.46	7,965.56	7,965.56	28.13	161.28	178.83	2,626.81	1,690.28	3,533.31	3,344.08	189.23	18.658		
8,100.00	8,084.42	8,065.52	8,065.52	28.49	163.29	178.84	2,626.81	1,690.28	3,541.07	3,349.47	191.61	18.442		
8,157.59	8,142.00	8,123.10	8,123.10	28.69	164.46	32.91	2,626.81	1,690.28	3,548.83	3,354.86	192.97	18.314		
8,200.00	8,184.41	8,165.51	8,165.51	28.83	165.31	32.91	2,626.81	1,690.28	3,556.59	3,360.25	194.34	18.191		
8,300.00	8,284.41	8,265.51	8,265.51	29.17	167.33	32.91	2,626.81	1,690.28	3,564.35	3,365.64	195.71	18.000		
8,400.00	8,384.41	8,365.51	8,365.51	29.51	169.35	32.91	2,626.81	1,690.28	3,572.11	3,371.03	197.08	17.787		
8,507.63	8,492.04	8,473.14	8,473.14	29.87	171.53	32.91	2,626.81	1,690.28	3,579.87	3,376.42	198.45	17.562		
8,550.00	8,534.37	8,515.47	8,515.47	30.02	172.38	-56.55	2,626.81	1,690.28	3,587.63	3,381.81	199.82	17.471		
8,600.00	8,584.01	8,565.11	8,565.11	30.18	173.38	-56.90	2,626.81	1,690.28	3,595.39	3,387.20	201.19	17.355		
8,650.00	8,632.95	8,614.05	8,614.05	30.34	174.37	-57.51	2,626.81	1,690.28	3,603.15	3,392.59	202.56	17.230		
8,700.00	8,680.82	8,661.92	8,661.92	30.50	175.34	-58.38	2,626.81	1,690.28	3,610.91	3,397.98	203.93	17.098		
8,750.00	8,727.25	8,708.35	8,708.35	30.66	176.28	-59.51	2,626.81	1,690.28	3,618.67	3,403.37	205.30	16.959		
8,800.00	8,771.89	8,752.99	8,752.99	30.81	177.18	-60.89	2,626.81	1,690.28	3,626.43	3,408.76	206.67	16.816		
8,850.00	8,814.40	8,795.50	8,795.50	30.95	178.04	-62.52	2,626.81	1,690.28	3,634.19	3,414.15	208.04	16.668		
8,900.00	8,854.46	8,835.56	8,835.56	31.09	178.85	-64.38	2,626.81	1,690.28	3,641.95	3,419.54	209.41	16.518		
8,950.00	8,891.75	8,872.85	8,872.85	31.23	179.60	-66.47	2,626.81	1,690.28	3,649.71	3,424.93	210.78	16.366		
9,000.00	8,926.01	8,907.11	8,907.11	31.37	180.29	-68.75	2,626.81	1,690.28	3,657.47	3,430.32	212.15	16.213		
9,050.00	8,956.96	8,938.06	8,938.06	31.53	180.92	-71.21	2,626.81	1,690.28	3,665.23	3,435.71	213.52	16.061		
9,100.00	8,984.38	8,965.48	8,965.48	31.69	181.47	-73.80	2,626.81	1,690.28	3,672.99	3,441.10	214.89	15.910		
9,150.00	9,008.05	8,989.15	8,989.15	31.87	181.95	-76.48	2,626.81	1,690.28	3,680.75	3,446.49	216.26	15.762		
9,200.00	9,027.79	9,008.89	9,008.89	32.07	182.35	-79.21	2,626.81	1,690.28	3,688.51	3,451.88	217.63	15.617		
9,250.00	9,043.45	9,024.55	9,024.55	32.29	182.67	-81.94	2,626.81	1,690.28	3,696.27	3,457.27	219.00	15.477		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 10-INC-ONLY													Offset Well Error:	10.00 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
9,300.00	9,054.92	9,036.02	9,036.02	32.53	182.90	-84.61	2,626.81	1,690.28	3,299.49	3,084.43	215.07	15.342		
9,350.00	9,062.10	9,043.20	9,043.20	32.79	183.04	-87.19	2,626.81	1,690.28	3,277.50	3,062.06	215.44	15.213		
9,400.00	9,064.95	9,046.05	9,046.05	33.06	183.10	-89.64	2,626.81	1,690.28	3,255.92	3,040.17	215.75	15.091		
9,407.63	9,065.00	9,046.10	9,046.10	33.10	183.10	-90.00	2,626.81	1,690.28	3,252.68	3,036.89	215.79	15.073		
9,500.00	9,065.00	9,046.10	9,046.10	33.68	183.10	-90.00	2,626.81	1,690.28	3,214.58	2,998.25	216.33	14.860		
9,600.00	9,065.00	9,046.10	9,046.10	34.41	183.10	-90.00	2,626.81	1,690.28	3,175.85	2,958.83	217.03	14.633		
9,700.00	9,065.00	9,046.10	9,046.10	35.24	183.10	-90.00	2,626.81	1,690.28	3,139.83	2,921.99	217.84	14.413		
9,800.00	9,065.00	9,046.10	9,046.10	36.17	183.10	-90.00	2,626.81	1,690.28	3,106.61	2,887.84	218.77	14.200		
9,900.00	9,065.00	9,046.10	9,046.10	37.19	183.10	-90.00	2,626.81	1,690.28	3,076.29	2,856.48	219.81	13.995		
10,000.00	9,065.00	9,046.10	9,046.10	38.30	183.10	-90.00	2,626.81	1,690.28	3,048.94	2,827.99	220.95	13.799		
10,100.00	9,065.00	9,046.10	9,046.10	39.48	183.10	-90.00	2,626.81	1,690.28	3,024.66	2,802.47	222.18	13.613		
10,200.00	9,065.00	9,046.10	9,046.10	40.72	183.10	-90.00	2,626.81	1,690.28	3,003.51	2,780.01	223.50	13.439		
10,300.00	9,065.00	9,046.10	9,046.10	42.03	183.10	-90.00	2,626.81	1,690.28	2,985.56	2,760.68	224.88	13.276		
10,400.00	9,065.00	9,046.10	9,046.10	43.40	183.10	-90.00	2,626.81	1,690.28	2,970.87	2,744.55	226.32	13.127		
10,500.00	9,065.00	9,046.10	9,046.10	44.82	183.10	-90.00	2,626.81	1,690.28	2,959.49	2,731.68	227.81	12.991		
10,600.00	9,065.00	9,046.10	9,046.10	46.29	183.10	-90.00	2,626.81	1,690.28	2,951.45	2,722.12	229.34	12.870		
10,700.00	9,065.00	9,046.10	9,046.10	47.79	183.10	-90.00	2,626.81	1,690.28	2,946.79	2,715.91	230.88	12.763		
10,787.48	9,065.00	9,046.10	9,046.10	49.15	183.10	-90.00	2,626.81	1,690.28	2,945.49	2,713.25	232.25	12.683 CC		
10,800.00	9,065.00	9,046.10	9,046.10	49.34	183.10	-90.00	2,626.81	1,690.28	2,945.52	2,713.08	232.44	12.672 ES		
10,900.00	9,065.00	9,046.10	9,046.10	50.92	183.10	-90.00	2,626.81	1,690.28	2,947.64	2,713.64	234.00	12.597		
11,000.00	9,065.00	9,046.10	9,046.10	52.54	183.10	-90.00	2,626.81	1,690.28	2,953.15	2,717.60	235.55	12.538		
11,100.00	9,065.00	9,046.10	9,046.10	54.18	183.10	-90.00	2,626.81	1,690.28	2,962.03	2,724.95	237.07	12.494		
11,200.00	9,065.00	9,046.10	9,046.10	55.85	183.10	-90.00	2,626.81	1,690.28	2,974.24	2,735.67	238.57	12.467		
11,300.00	9,065.00	9,046.10	9,046.10	57.54	183.10	-90.00	2,626.81	1,690.28	2,989.75	2,749.72	240.03	12.456 SF		
11,400.00	9,065.00	9,046.10	9,046.10	59.26	183.10	-90.00	2,626.81	1,690.28	3,008.51	2,767.05	241.45	12.460		
11,500.00	9,065.00	9,046.10	9,046.10	61.00	183.10	-90.00	2,626.81	1,690.28	3,030.45	2,787.62	242.82	12.480		
11,600.00	9,065.00	9,046.10	9,046.10	62.75	183.10	-90.00	2,626.81	1,690.28	3,055.51	2,811.36	244.14	12.515		
11,700.00	9,065.00	9,046.10	9,046.10	64.52	183.10	-90.00	2,626.81	1,690.28	3,083.60	2,838.20	245.40	12.565		
11,800.00	9,065.00	9,046.10	9,046.10	66.31	183.10	-90.00	2,626.81	1,690.28	3,114.66	2,868.06	246.61	12.630		
11,900.00	9,065.00	9,046.10	9,046.10	68.11	183.10	-90.00	2,626.81	1,690.28	3,148.59	2,900.84	247.75	12.709		
12,000.00	9,065.00	9,046.10	9,046.10	69.93	183.10	-90.00	2,626.81	1,690.28	3,185.30	2,936.47	248.83	12.801		
12,100.00	9,065.00	9,046.10	9,046.10	71.76	183.10	-90.00	2,626.81	1,690.28	3,224.69	2,974.84	249.85	12.907		
12,200.00	9,065.00	9,046.10	9,046.10	73.60	183.10	-90.00	2,626.81	1,690.28	3,266.67	3,015.87	250.80	13.025		
12,300.00	9,065.00	9,046.10	9,046.10	75.45	183.10	-90.00	2,626.81	1,690.28	3,311.14	3,059.44	251.70	13.155		
12,400.00	9,065.00	9,046.10	9,046.10	77.31	183.10	-90.00	2,626.81	1,690.28	3,358.00	3,105.46	252.54	13.297		
12,500.00	9,065.00	9,046.10	9,046.10	79.18	183.10	-90.00	2,626.81	1,690.28	3,407.15	3,153.83	253.32	13.450		
12,600.00	9,065.00	9,046.10	9,046.10	81.05	183.10	-90.00	2,626.81	1,690.28	3,458.49	3,204.45	254.04	13.614		
12,700.00	9,065.00	9,046.10	9,046.10	82.94	183.10	-90.00	2,626.81	1,690.28	3,511.93	3,257.22	254.71	13.788		
12,800.00	9,065.00	9,046.10	9,046.10	84.83	183.10	-90.00	2,626.81	1,690.28	3,567.37	3,312.04	255.33	13.971		
12,900.00	9,065.00	9,046.10	9,046.10	86.73	183.10	-90.00	2,626.81	1,690.28	3,624.73	3,368.82	255.91	14.164		
13,000.00	9,065.00	9,046.10	9,046.10	88.64	183.10	-90.00	2,626.81	1,690.28	3,683.91	3,427.47	256.43	14.366		
13,100.00	9,065.00	9,046.10	9,046.10	90.55	183.10	-90.00	2,626.81	1,690.28	3,744.82	3,487.90	256.92	14.576		
13,200.00	9,065.00	9,046.10	9,046.10	92.47	183.10	-90.00	2,626.81	1,690.28	3,807.38	3,550.02	257.36	14.794		
13,300.00	9,065.00	9,046.10	9,046.10	94.39	183.10	-90.00	2,626.81	1,690.28	3,871.52	3,613.75	257.77	15.019		
13,400.00	9,065.00	9,046.10	9,046.10	96.32	183.10	-90.00	2,626.81	1,690.28	3,937.15	3,679.01	258.14	15.252		
13,500.00	9,065.00	9,046.10	9,046.10	98.25	183.10	-90.00	2,626.81	1,690.28	4,004.21	3,745.73	258.48	15.491		
13,600.00	9,065.00	9,046.10	9,046.10	100.19	183.10	-90.00	2,626.81	1,690.28	4,072.62	3,813.83	258.79	15.737		
13,700.00	9,065.00	9,046.10	9,046.10	102.13	183.10	-90.00	2,626.81	1,690.28	4,142.31	3,883.24	259.07	15.989		
13,800.00	9,065.00	9,046.10	9,046.10	104.08	183.10	-90.00	2,626.81	1,690.28	4,213.22	3,953.89	259.32	16.247		
13,900.00	9,065.00	9,046.10	9,046.10	106.03	183.10	-90.00	2,626.81	1,690.28	4,285.29	4,025.74	259.55	16.510		
14,000.00	9,065.00	9,046.10	9,046.10	107.98	183.10	-90.00	2,626.81	1,690.28	4,358.46	4,098.70	259.76	16.779		
14,100.00	9,065.00	9,046.10	9,046.10	109.94	183.10	-90.00	2,626.81	1,690.28	4,432.69	4,172.74	259.95	17.052		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 10-INC-ONLY													Offset Well Error:	10.00 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
14,200.00	9,065.00	9,046.10	9,046.10	111.90	183.10	-90.00	2,626.81	1,690.28	4,507.91	4,247.79	260.12	17.330		
14,300.00	9,065.00	9,046.10	9,046.10	113.86	183.10	-90.00	2,626.81	1,690.28	4,584.07	4,323.81	260.27	17.613		
14,400.00	9,065.00	9,046.10	9,046.10	115.82	183.10	-90.00	2,626.81	1,690.28	4,661.14	4,400.74	260.40	17.900		
14,500.00	9,065.00	9,046.10	9,046.10	117.79	183.10	-90.00	2,626.81	1,690.28	4,739.06	4,478.54	260.52	18.191		
14,600.00	9,065.00	9,046.10	9,046.10	119.76	183.10	-90.00	2,626.81	1,690.28	4,817.80	4,557.18	260.63	18.485		
14,700.00	9,065.00	9,046.10	9,046.10	121.74	183.10	-90.00	2,626.81	1,690.28	4,897.32	4,636.60	260.72	18.784		
14,800.00	9,065.00	9,046.10	9,046.10	123.71	183.10	-90.00	2,626.81	1,690.28	4,977.57	4,716.77	260.80	19.086		
14,900.00	9,065.00	9,046.10	9,046.10	125.69	183.10	-90.00	2,626.81	1,690.28	5,058.53	4,797.66	260.87	19.391		
15,000.00	9,065.00	9,046.10	9,046.10	127.67	183.10	-90.00	2,626.81	1,690.28	5,140.16	4,879.22	260.94	19.699		
15,100.00	9,065.00	9,046.10	9,046.10	129.65	183.10	-90.00	2,626.81	1,690.28	5,222.43	4,961.44	260.99	20.010		
15,200.00	9,065.00	9,046.10	9,046.10	131.63	183.10	-90.00	2,626.81	1,690.28	5,305.31	5,044.27	261.04	20.324		
15,300.00	9,065.00	9,046.10	9,046.10	133.62	183.10	-90.00	2,626.81	1,690.28	5,388.76	5,127.69	261.08	20.641		
15,400.00	9,065.00	9,046.10	9,046.10	135.61	183.10	-90.00	2,626.81	1,690.28	5,472.78	5,211.67	261.11	20.960		
15,500.00	9,065.00	9,046.10	9,046.10	137.60	183.10	-90.00	2,626.81	1,690.28	5,557.32	5,296.18	261.14	21.281		
15,600.00	9,065.00	9,046.10	9,046.10	139.59	183.10	-90.00	2,626.81	1,690.28	5,642.36	5,381.21	261.16	21.605		
15,700.00	9,065.00	9,046.10	9,046.10	141.58	183.10	-90.00	2,626.81	1,690.28	5,727.90	5,466.72	261.17	21.931		
15,800.00	9,065.00	9,046.10	9,046.10	143.57	183.10	-90.00	2,626.81	1,690.28	5,813.89	5,552.70	261.19	22.260		
15,900.00	9,065.00	9,046.10	9,046.10	145.57	183.10	-90.00	2,626.81	1,690.28	5,900.32	5,639.13	261.19	22.590		
16,000.00	9,065.00	9,046.10	9,046.10	147.56	183.10	-90.00	2,626.81	1,690.28	5,987.18	5,725.98	261.20	22.922		
16,100.00	9,065.00	9,046.10	9,046.10	149.56	183.10	-90.00	2,626.81	1,690.28	6,074.44	5,813.24	261.20	23.256		
16,200.00	9,065.00	9,046.10	9,046.10	151.56	183.10	-90.00	2,626.81	1,690.28	6,162.09	5,900.89	261.20	23.591		
16,300.00	9,065.00	9,046.10	9,046.10	153.56	183.10	-90.00	2,626.81	1,690.28	6,250.10	5,988.91	261.20	23.929		
16,400.00	9,065.00	9,046.10	9,046.10	155.56	183.10	-90.00	2,626.81	1,690.28	6,338.48	6,077.29	261.19	24.268		
16,500.00	9,065.00	9,046.10	9,046.10	157.57	183.10	-90.00	2,626.81	1,690.28	6,427.19	6,166.01	261.18	24.608		
16,600.00	9,065.00	9,046.10	9,046.10	159.57	183.10	-90.00	2,626.81	1,690.28	6,516.23	6,255.06	261.17	24.950		
16,700.00	9,065.00	9,046.10	9,046.10	161.57	183.10	-90.00	2,626.81	1,690.28	6,605.59	6,344.43	261.16	25.293		
16,800.00	9,065.00	9,046.10	9,046.10	163.58	183.10	-90.00	2,626.81	1,690.28	6,695.25	6,434.10	261.15	25.637		
16,900.00	9,065.00	9,046.10	9,046.10	165.59	183.10	-90.00	2,626.81	1,690.28	6,785.19	6,524.05	261.14	25.983		
17,000.00	9,065.00	9,046.10	9,046.10	167.60	183.10	-90.00	2,626.81	1,690.28	6,875.42	6,614.29	261.12	26.330		
17,100.00	9,065.00	9,046.10	9,046.10	169.60	183.10	-90.00	2,626.81	1,690.28	6,965.91	6,704.80	261.11	26.678		
17,200.00	9,065.00	9,046.10	9,046.10	171.61	183.10	-90.00	2,626.81	1,690.28	7,056.65	6,795.56	261.09	27.027		
17,300.00	9,065.00	9,046.10	9,046.10	173.62	183.10	-90.00	2,626.81	1,690.28	7,147.65	6,886.57	261.08	27.377		
17,400.00	9,065.00	9,046.10	9,046.10	175.63	183.10	-90.00	2,626.81	1,690.28	7,238.88	6,977.82	261.06	27.729		
17,500.00	9,065.00	9,046.10	9,046.10	177.65	183.10	-90.00	2,626.81	1,690.28	7,330.34	7,069.29	261.05	28.081		
17,600.00	9,065.00	9,046.10	9,046.10	179.66	183.10	-90.00	2,626.81	1,690.28	7,422.02	7,160.99	261.03	28.434		
17,700.00	9,065.00	9,046.10	9,046.10	181.67	183.10	-90.00	2,626.81	1,690.28	7,513.91	7,252.90	261.01	28.788		
17,800.00	9,065.00	9,046.10	9,046.10	183.69	183.10	-90.00	2,626.81	1,690.28	7,606.01	7,345.01	261.00	29.142		
17,900.00	9,065.00	9,046.10	9,046.10	185.70	183.10	-90.00	2,626.81	1,690.28	7,698.30	7,437.32	260.98	29.498		
18,000.00	9,065.00	9,046.10	9,046.10	187.72	183.10	-90.00	2,626.81	1,690.28	7,790.79	7,529.83	260.96	29.854		
18,100.00	9,065.00	9,046.10	9,046.10	189.73	183.10	-90.00	2,626.81	1,690.28	7,883.46	7,622.51	260.95	30.211		
18,200.00	9,065.00	9,046.10	9,046.10	191.75	183.10	-90.00	2,626.81	1,690.28	7,976.30	7,715.37	260.93	30.569		
18,300.00	9,065.00	9,046.10	9,046.10	193.77	183.10	-90.00	2,626.81	1,690.28	8,069.32	7,808.40	260.91	30.927		
18,400.00	9,065.00	9,046.10	9,046.10	195.78	183.10	-90.00	2,626.81	1,690.28	8,162.50	7,901.60	260.90	31.286		
18,500.00	9,065.00	9,046.10	9,046.10	197.80	183.10	-90.00	2,626.81	1,690.28	8,255.84	7,994.95	260.89	31.645		
18,600.00	9,065.00	9,046.10	9,046.10	199.82	183.10	-90.00	2,626.81	1,690.28	8,349.34	8,088.46	260.87	32.006		
18,700.00	9,065.00	9,046.10	9,046.10	201.84	183.10	-90.00	2,626.81	1,690.28	8,442.98	8,182.12	260.86	32.366		
18,800.00	9,065.00	9,046.10	9,046.10	203.86	183.10	-90.00	2,626.81	1,690.28	8,536.77	8,275.92	260.84	32.727		
18,900.00	9,065.00	9,046.10	9,046.10	205.88	183.10	-90.00	2,626.81	1,690.28	8,630.70	8,369.86	260.83	33.089		
19,000.00	9,065.00	9,046.10	9,046.10	207.90	183.10	-90.00	2,626.81	1,690.28	8,724.76	8,463.94	260.82	33.451		
19,100.00	9,065.00	9,046.10	9,046.10	209.92	183.10	-90.00	2,626.81	1,690.28	8,818.95	8,558.14	260.81	33.814		
19,200.00	9,065.00	9,046.10	9,046.10	211.95	183.10	-90.00	2,626.81	1,690.28	8,913.27	8,652.47	260.80	34.177		
19,300.00	9,065.00	9,046.10	9,046.10	213.97	183.10	-90.00	2,626.81	1,690.28	9,007.71	8,746.92	260.79	34.540		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Sec 14-T21S-R27E - Allied State Com 1 (Active) - Wellbore #1 - Wellbore #1		Offset Site Error:		0.00 ft	
Survey Program:		10-INC-ONLY													Offset Well Error:		10.00 ft	
Reference				Offset		Semi Major Axis			Distance							Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre		Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor						
							+N/-S (ft)	+E/-W (ft)										
19,400.00	9,065.00	9,046.10	9,046.10	215.99	183.10	-90.00	2,626.81	1,690.28	9,102.28	8,841.49	260.78	34.904						
19,456.84	9,065.00	9,046.10	9,046.10	217.14	183.10	-90.00	2,626.81	1,690.28	9,156.08	8,895.30	260.78	35.111						

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 10-INC-ONLY													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0.00	0.00	0.00	0.00	0.50	0.50	164.39	-1,348.45	376.73	1,400.12					
100.00	100.00	90.10	90.10	0.52	1.30	164.39	-1,348.45	376.73	1,400.09	1,398.27	1.82	770.382		
200.00	200.00	190.10	190.10	0.70	2.74	164.39	-1,348.45	376.73	1,400.09	1,396.64	3.45	406.376		
300.00	300.00	290.10	290.10	0.99	4.22	164.39	-1,348.45	376.73	1,400.09	1,394.88	5.21	268.632		
400.00	400.00	390.10	390.10	1.31	5.71	164.39	-1,348.45	376.73	1,400.09	1,393.07	7.02	199.342		
500.00	500.00	490.10	490.10	1.65	7.21	164.39	-1,348.45	376.73	1,400.09	1,391.24	8.85	158.137		
600.00	600.00	590.10	590.10	1.99	8.70	164.39	-1,348.45	376.73	1,400.09	1,389.40	10.69	130.938		
700.00	700.00	690.10	690.10	2.34	10.20	164.39	-1,348.45	376.73	1,400.09	1,387.55	12.54	111.676		
800.00	800.00	790.10	790.10	2.69	11.69	164.39	-1,348.45	376.73	1,400.09	1,385.71	14.38	97.334		
900.00	900.00	890.10	890.10	3.04	13.19	164.39	-1,348.45	376.73	1,400.09	1,383.86	16.23	86.245		
1,000.00	1,000.00	990.10	990.10	3.40	14.69	164.39	-1,348.45	376.73	1,400.09	1,382.01	18.08	77.419		
1,100.00	1,100.00	1,090.10	1,090.10	3.75	16.18	164.39	-1,348.45	376.73	1,400.09	1,380.15	19.94	70.228		
1,200.00	1,200.00	1,190.10	1,190.10	4.11	17.68	164.39	-1,348.45	376.73	1,400.09	1,378.30	21.79	64.257		
1,300.00	1,300.00	1,290.10	1,290.10	4.46	19.18	164.39	-1,348.45	376.73	1,400.09	1,376.45	23.64	59.220		
1,400.00	1,400.00	1,390.10	1,390.10	4.82	20.68	164.39	-1,348.45	376.73	1,400.09	1,374.59	25.50	54.915		
1,500.00	1,500.00	1,490.10	1,490.10	5.18	22.17	164.39	-1,348.45	376.73	1,400.09	1,372.74	27.35	51.193		
1,600.00	1,600.00	1,590.10	1,590.10	5.53	23.67	164.39	-1,348.45	376.73	1,400.09	1,370.89	29.20	47.942		
1,700.00	1,700.00	1,690.10	1,690.10	5.89	25.17	164.39	-1,348.45	376.73	1,400.09	1,369.03	31.06	45.080		
1,800.00	1,800.00	1,790.10	1,790.10	6.25	26.66	164.39	-1,348.45	376.73	1,400.09	1,367.18	32.91	42.540		
1,900.00	1,900.00	1,890.10	1,890.10	6.61	28.16	164.39	-1,348.45	376.73	1,400.09	1,365.32	34.77	40.270		
2,000.00	2,000.00	1,990.10	1,990.10	6.96	29.66	164.39	-1,348.45	376.73	1,400.09	1,363.47	36.62	38.230		
2,100.00	2,100.00	2,090.10	2,090.10	7.32	31.16	164.39	-1,348.45	376.73	1,400.09	1,361.61	38.48	36.387		
2,200.00	2,200.00	2,190.10	2,190.10	7.68	32.65	164.39	-1,348.45	376.73	1,400.09	1,359.76	40.33	34.714		
2,300.00	2,300.00	2,290.10	2,290.10	8.04	34.15	164.39	-1,348.45	376.73	1,400.09	1,357.90	42.19	33.187		
2,400.00	2,400.00	2,390.10	2,390.10	8.39	35.65	164.39	-1,348.45	376.73	1,400.09	1,356.05	44.04	31.789		
2,500.00	2,500.00	2,490.10	2,490.10	8.75	37.15	164.39	-1,348.45	376.73	1,400.09	1,354.19	45.90	30.504		
2,600.00	2,599.99	2,590.09	2,590.09	9.09	38.64	-49.72	-1,348.45	376.73	1,399.53	1,351.79	47.74	29.317		
2,700.00	2,699.96	2,690.06	2,690.06	9.42	40.14	-49.81	-1,348.45	376.73	1,397.83	1,348.27	49.56	28.204		
2,800.00	2,799.86	2,789.96	2,789.96	9.75	41.64	-49.97	-1,348.45	376.73	1,395.02	1,343.64	51.39	27.148		
2,900.00	2,899.68	2,889.78	2,889.78	10.08	43.13	-50.19	-1,348.45	376.73	1,391.10	1,337.89	53.21	26.143		
2,945.33	2,944.88	2,934.98	2,934.98	10.23	43.81	-50.32	-1,348.45	376.73	1,388.96	1,334.92	54.04	25.703		
3,000.00	2,999.39	2,989.49	2,989.49	10.41	44.62	-50.45	-1,348.45	376.73	1,386.25	1,331.21	55.04	25.187		
3,100.00	3,099.08	3,089.18	3,089.18	10.75	46.12	-50.70	-1,348.45	376.73	1,381.31	1,324.44	56.87	24.291		
3,200.00	3,198.78	3,188.88	3,188.88	11.08	47.61	-50.95	-1,348.45	376.73	1,376.40	1,317.70	58.69	23.450		
3,300.00	3,298.48	3,288.58	3,288.58	11.42	49.10	-51.20	-1,348.45	376.73	1,371.51	1,310.98	60.53	22.660		
3,400.00	3,398.18	3,388.28	3,388.28	11.76	50.60	-51.45	-1,348.45	376.73	1,366.65	1,304.29	62.36	21.916		
3,500.00	3,497.88	3,487.98	3,487.98	12.10	52.09	-51.71	-1,348.45	376.73	1,361.81	1,297.62	64.19	21.214		
3,600.00	3,597.58	3,587.68	3,587.68	12.45	53.58	-51.96	-1,348.45	376.73	1,357.01	1,290.98	66.03	20.552		
3,700.00	3,697.27	3,687.37	3,687.37	12.79	55.08	-52.22	-1,348.45	376.73	1,352.23	1,284.36	67.87	19.925		
3,800.00	3,796.97	3,787.07	3,787.07	13.14	56.57	-52.48	-1,348.45	376.73	1,347.48	1,277.77	69.70	19.331		
3,900.00	3,896.67	3,886.77	3,886.77	13.48	58.06	-52.75	-1,348.45	376.73	1,342.75	1,271.21	71.54	18.768		
4,000.00	3,996.37	3,986.47	3,986.47	13.83	59.56	-53.01	-1,348.45	376.73	1,338.06	1,264.67	73.38	18.234		
4,100.00	4,096.07	4,086.17	4,086.17	14.18	61.05	-53.28	-1,348.45	376.73	1,333.39	1,258.17	75.22	17.726		
4,200.00	4,195.76	4,185.86	4,185.86	14.53	62.54	-53.54	-1,348.45	376.73	1,328.75	1,251.69	77.07	17.242		
4,300.00	4,295.46	4,285.56	4,285.56	14.88	64.03	-53.81	-1,348.45	376.73	1,324.14	1,245.24	78.91	16.781		
4,400.00	4,395.16	4,385.26	4,385.26	15.23	65.53	-54.09	-1,348.45	376.73	1,319.57	1,238.81	80.75	16.341		
4,500.00	4,494.86	4,484.96	4,484.96	15.58	67.02	-54.36	-1,348.45	376.73	1,315.02	1,232.42	82.60	15.921		
4,600.00	4,594.56	4,584.66	4,584.66	15.93	68.51	-54.63	-1,348.45	376.73	1,310.50	1,226.06	84.44	15.520		
4,700.00	4,694.25	4,684.35	4,684.35	16.29	70.01	-54.91	-1,348.45	376.73	1,306.01	1,219.73	86.29	15.136		
4,800.00	4,793.95	4,784.05	4,784.05	16.64	71.50	-55.19	-1,348.45	376.73	1,301.55	1,213.42	88.13	14.768		
4,900.00	4,893.65	4,883.75	4,883.75	17.00	72.99	-55.47	-1,348.45	376.73	1,297.13	1,207.15	89.98	14.416		
5,000.00	4,993.35	4,983.45	4,983.45	17.35	74.49	-55.75	-1,348.45	376.73	1,292.73	1,200.91	91.82	14.078		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 10-INC-ONLY													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
5,100.00	5,093.05	5,083.15	5,083.15	17.71	75.98	-56.04	-1,348.45	376.73	1,288.37	1,194.70	93.67	13.754		
5,200.00	5,192.75	5,182.85	5,182.85	18.06	77.47	-56.33	-1,348.45	376.73	1,284.04	1,188.52	95.52	13.443		
5,300.00	5,292.44	5,282.54	5,282.54	18.42	78.97	-56.61	-1,348.45	376.73	1,279.74	1,182.38	97.37	13.143		
5,400.00	5,392.14	5,382.24	5,382.24	18.77	80.46	-56.91	-1,348.45	376.73	1,275.48	1,176.26	99.22	12.856		
5,500.00	5,491.84	5,481.94	5,481.94	19.13	81.95	-57.20	-1,348.45	376.73	1,271.25	1,170.18	101.07	12.578		
5,600.00	5,591.54	5,581.64	5,581.64	19.49	83.44	-57.49	-1,348.45	376.73	1,267.05	1,164.13	102.91	12.312		
5,700.00	5,691.24	5,681.34	5,681.34	19.85	84.94	-57.79	-1,348.45	376.73	1,262.88	1,158.12	104.76	12.054		
5,800.00	5,790.93	5,781.03	5,781.03	20.20	86.43	-58.09	-1,348.45	376.73	1,258.75	1,152.14	106.61	11.807		
5,900.00	5,890.63	5,880.73	5,880.73	20.56	87.92	-58.39	-1,348.45	376.73	1,254.66	1,146.19	108.47	11.567		
6,000.00	5,990.33	5,980.43	5,980.43	20.92	89.42	-58.69	-1,348.45	376.73	1,250.59	1,140.28	110.32	11.336		
6,100.00	6,090.03	6,080.13	6,080.13	21.28	90.91	-58.99	-1,348.45	376.73	1,246.57	1,134.40	112.17	11.113		
6,200.00	6,189.73	6,179.83	6,179.83	21.64	92.40	-59.30	-1,348.45	376.73	1,242.58	1,128.56	114.02	10.898		
6,300.00	6,289.42	6,279.52	6,279.52	22.00	93.90	-59.61	-1,348.45	376.73	1,238.62	1,122.75	115.87	10.690		
6,400.00	6,389.12	6,379.22	6,379.22	22.36	95.39	-59.92	-1,348.45	376.73	1,234.70	1,116.98	117.72	10.488		
6,500.00	6,488.82	6,478.92	6,478.92	22.72	96.88	-60.23	-1,348.45	376.73	1,230.82	1,111.25	119.57	10.293		
6,600.00	6,588.52	6,578.62	6,578.62	23.08	98.38	-60.54	-1,348.45	376.73	1,226.98	1,105.55	121.43	10.105		
6,700.00	6,688.22	6,678.32	6,678.32	23.44	99.87	-60.86	-1,348.45	376.73	1,223.17	1,099.89	123.28	9.922		
6,800.00	6,787.91	6,778.01	6,778.01	23.80	101.36	-61.18	-1,348.45	376.73	1,219.40	1,094.26	125.13	9.745		
6,900.00	6,887.61	6,877.71	6,877.71	24.16	102.86	-61.50	-1,348.45	376.73	1,215.66	1,088.68	126.98	9.573		
7,000.00	6,987.31	6,977.41	6,977.41	24.52	104.35	-61.82	-1,348.45	376.73	1,211.97	1,083.13	128.84	9.407		
7,100.00	7,087.01	7,077.11	7,077.11	24.88	105.84	-62.14	-1,348.45	376.73	1,208.31	1,077.62	130.69	9.246		
7,200.00	7,186.71	7,176.81	7,176.81	25.24	107.33	-62.47	-1,348.45	376.73	1,204.70	1,072.15	132.55	9.089		
7,300.00	7,286.41	7,276.51	7,276.51	25.60	108.83	-62.80	-1,348.45	376.73	1,201.12	1,066.72	134.40	8.937		
7,400.00	7,386.10	7,376.20	7,376.20	25.96	110.32	-63.13	-1,348.45	376.73	1,197.58	1,061.33	136.25	8.789		
7,500.00	7,485.80	7,475.90	7,475.90	26.33	111.81	-63.46	-1,348.45	376.73	1,194.08	1,055.97	138.11	8.646		
7,600.00	7,585.50	7,575.60	7,575.60	26.69	113.31	-63.79	-1,348.45	376.73	1,190.62	1,050.66	139.96	8.507		
7,700.00	7,685.20	7,675.30	7,675.30	27.05	114.80	-64.13	-1,348.45	376.73	1,187.21	1,045.39	141.82	8.371		
7,800.00	7,784.90	7,775.00	7,775.00	27.41	116.29	-64.46	-1,348.45	376.73	1,183.83	1,040.16	143.67	8.240		
7,860.70	7,845.41	7,835.51	7,835.51	27.63	117.20	-64.67	-1,348.45	376.73	1,181.80	1,037.00	144.80	8.162		
7,900.00	7,884.61	7,874.71	7,874.71	27.77	117.79	-64.78	-1,348.45	376.73	1,180.58	1,035.06	145.53	8.112		
8,000.00	7,984.46	7,974.56	7,974.56	28.13	119.28	-64.99	-1,348.45	376.73	1,178.27	1,030.89	147.38	7.995		
8,100.00	8,084.42	8,074.52	8,074.52	28.49	120.78	-65.09	-1,348.45	376.73	1,177.08	1,027.85	149.23	7.888		
8,157.59	8,142.00	8,132.10	8,132.10	28.69	121.64	148.97	-1,348.45	376.73	1,176.90	1,026.61	150.30	7.831		
8,200.00	8,184.41	8,174.51	8,174.51	28.83	122.28	148.97	-1,348.45	376.73	1,176.90	1,025.83	151.07	7.790		
8,300.00	8,284.41	8,274.51	8,274.51	29.17	123.77	148.97	-1,348.45	376.73	1,176.90	1,023.99	152.91	7.697		
8,400.00	8,384.41	8,374.51	8,374.51	29.51	125.27	148.97	-1,348.45	376.73	1,176.90	1,022.15	154.75	7.605		
8,507.63	8,492.04	8,482.14	8,482.14	29.87	126.88	148.97	-1,348.45	376.73	1,176.90	1,020.18	156.73	7.509		
8,550.00	8,534.37	8,524.47	8,524.47	30.02	127.52	59.73	-1,348.45	376.73	1,176.11	1,018.61	157.50	7.467		
8,600.00	8,584.01	8,574.11	8,574.11	30.18	128.26	60.23	-1,348.45	376.73	1,173.16	1,014.75	158.41	7.406		
8,650.00	8,632.95	8,623.05	8,623.05	30.34	128.99	61.10	-1,348.45	376.73	1,168.09	1,008.79	159.31	7.332		
8,700.00	8,680.82	8,670.92	8,670.92	30.50	129.71	62.34	-1,348.45	376.73	1,161.04	1,000.85	160.19	7.248		
8,750.00	8,727.25	8,717.35	8,717.35	30.66	130.41	63.91	-1,348.45	376.73	1,152.17	991.13	161.04	7.155		
8,800.00	8,771.89	8,761.99	8,761.99	30.81	131.07	65.81	-1,348.45	376.73	1,141.70	979.84	161.86	7.054		
8,850.00	8,814.40	8,804.50	8,804.50	30.95	131.71	67.99	-1,348.45	376.73	1,129.91	967.26	162.64	6.947		
8,900.00	8,854.46	8,844.56	8,844.56	31.09	132.31	70.41	-1,348.45	376.73	1,117.10	953.71	163.39	6.837		
8,950.00	8,891.75	8,881.85	8,881.85	31.23	132.87	73.00	-1,348.45	376.73	1,103.62	939.53	164.09	6.726		
9,000.00	8,926.01	8,916.11	8,916.11	31.37	133.38	75.68	-1,348.45	376.73	1,089.85	925.09	164.75	6.615		
9,050.00	8,956.96	8,947.06	8,947.06	31.53	133.85	78.37	-1,348.45	376.73	1,076.18	910.81	165.37	6.508		
9,100.00	8,984.38	8,974.48	8,974.48	31.69	134.26	80.96	-1,348.45	376.73	1,063.03	897.08	165.95	6.406		
9,150.00	9,008.05	8,998.15	8,998.15	31.87	134.61	83.36	-1,348.45	376.73	1,050.79	884.31	166.48	6.312		
9,200.00	9,027.79	9,017.89	9,017.89	32.07	134.91	85.49	-1,348.45	376.73	1,039.87	872.89	166.98	6.228		
9,250.00	9,043.45	9,033.55	9,033.55	32.29	135.14	87.27	-1,348.45	376.73	1,030.61	863.17	167.43	6.155		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 10-INC-ONLY													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
9,300.00	9,054.92	9,045.02	9,045.02	32.53	135.31	88.63	-1,348.45	376.73	1,023.31	855.47	167.84	6.097		
9,350.00	9,062.10	9,052.20	9,052.20	32.79	135.42	89.55	-1,348.45	376.73	1,018.23	850.02	168.21	6.053		
9,400.00	9,064.95	9,055.05	9,055.05	33.06	135.46	89.98	-1,348.45	376.73	1,015.52	847.00	168.52	6.026		
9,407.63	9,065.00	9,055.10	9,055.10	33.10	135.46	90.00	-1,348.45	376.73	1,015.32	846.76	168.56	6.023		
9,430.26	9,065.00	9,055.10	9,055.10	33.24	135.46	90.00	-1,348.45	376.73	1,015.07	846.37	168.70	6.017 CC, ES		
9,500.00	9,065.00	9,055.10	9,055.10	33.68	135.46	90.00	-1,348.45	376.73	1,017.46	848.35	169.11	6.017 SF		
9,600.00	9,065.00	9,055.10	9,055.10	34.41	135.46	90.00	-1,348.45	376.73	1,029.16	859.41	169.76	6.063		
9,700.00	9,065.00	9,055.10	9,055.10	35.24	135.46	90.00	-1,348.45	376.73	1,050.30	879.88	170.42	6.163		
9,800.00	9,065.00	9,055.10	9,055.10	36.17	135.46	90.00	-1,348.45	376.73	1,080.31	909.25	171.06	6.315		
9,900.00	9,065.00	9,055.10	9,055.10	37.19	135.46	90.00	-1,348.45	376.73	1,118.49	946.83	171.66	6.516		
10,000.00	9,065.00	9,055.10	9,055.10	38.30	135.46	90.00	-1,348.45	376.73	1,164.03	991.84	172.19	6.760		
10,100.00	9,065.00	9,055.10	9,055.10	39.48	135.46	90.00	-1,348.45	376.73	1,216.11	1,043.46	172.65	7.044		
10,200.00	9,065.00	9,055.10	9,055.10	40.72	135.46	90.00	-1,348.45	376.73	1,273.92	1,100.88	173.04	7.362		
10,300.00	9,065.00	9,055.10	9,055.10	42.03	135.46	90.00	-1,348.45	376.73	1,336.72	1,163.35	173.36	7.711		
10,400.00	9,065.00	9,055.10	9,055.10	43.40	135.46	90.00	-1,348.45	376.73	1,403.84	1,230.21	173.63	8.085		
10,500.00	9,065.00	9,055.10	9,055.10	44.82	135.46	90.00	-1,348.45	376.73	1,474.69	1,300.84	173.85	8.483		
10,600.00	9,065.00	9,055.10	9,055.10	46.29	135.46	90.00	-1,348.45	376.73	1,548.76	1,374.73	174.03	8.899		
10,700.00	9,065.00	9,055.10	9,055.10	47.79	135.46	90.00	-1,348.45	376.73	1,625.61	1,451.43	174.17	9.333		
10,800.00	9,065.00	9,055.10	9,055.10	49.34	135.46	90.00	-1,348.45	376.73	1,704.86	1,530.57	174.29	9.782		
10,900.00	9,065.00	9,055.10	9,055.10	50.92	135.46	90.00	-1,348.45	376.73	1,786.20	1,611.81	174.38	10.243		
11,000.00	9,065.00	9,055.10	9,055.10	52.54	135.46	90.00	-1,348.45	376.73	1,869.34	1,694.88	174.46	10.715		
11,100.00	9,065.00	9,055.10	9,055.10	54.18	135.46	90.00	-1,348.45	376.73	1,954.07	1,779.55	174.52	11.197		
11,200.00	9,065.00	9,055.10	9,055.10	55.85	135.46	90.00	-1,348.45	376.73	2,040.18	1,865.61	174.57	11.687		
11,300.00	9,065.00	9,055.10	9,055.10	57.54	135.46	90.00	-1,348.45	376.73	2,127.51	1,952.89	174.61	12.184		
11,400.00	9,065.00	9,055.10	9,055.10	59.26	135.46	90.00	-1,348.45	376.73	2,215.90	2,041.26	174.65	12.688		
11,500.00	9,065.00	9,055.10	9,055.10	61.00	135.46	90.00	-1,348.45	376.73	2,305.25	2,130.58	174.67	13.197		
11,600.00	9,065.00	9,055.10	9,055.10	62.75	135.46	90.00	-1,348.45	376.73	2,395.44	2,220.74	174.70	13.712		
11,700.00	9,065.00	9,055.10	9,055.10	64.52	135.46	90.00	-1,348.45	376.73	2,486.38	2,311.66	174.72	14.231		
11,800.00	9,065.00	9,055.10	9,055.10	66.31	135.46	90.00	-1,348.45	376.73	2,577.99	2,403.25	174.74	14.754		
11,900.00	9,065.00	9,055.10	9,055.10	68.11	135.46	90.00	-1,348.45	376.73	2,670.20	2,495.45	174.75	15.280		
12,000.00	9,065.00	9,055.10	9,055.10	69.93	135.46	90.00	-1,348.45	376.73	2,762.95	2,588.19	174.77	15.809		
12,100.00	9,065.00	9,055.10	9,055.10	71.76	135.46	90.00	-1,348.45	376.73	2,856.20	2,681.42	174.78	16.341		
12,200.00	9,065.00	9,055.10	9,055.10	73.60	135.46	90.00	-1,348.45	376.73	2,949.88	2,775.09	174.80	16.876		
12,300.00	9,065.00	9,055.10	9,055.10	75.45	135.46	90.00	-1,348.45	376.73	3,043.97	2,869.16	174.81	17.413		
12,400.00	9,065.00	9,055.10	9,055.10	77.31	135.46	90.00	-1,348.45	376.73	3,138.42	2,963.60	174.82	17.952		
12,500.00	9,065.00	9,055.10	9,055.10	79.18	135.46	90.00	-1,348.45	376.73	3,233.21	3,058.37	174.84	18.493		
12,600.00	9,065.00	9,055.10	9,055.10	81.05	135.46	90.00	-1,348.45	376.73	3,328.30	3,153.45	174.85	19.035		
12,700.00	9,065.00	9,055.10	9,055.10	82.94	135.46	90.00	-1,348.45	376.73	3,423.67	3,248.81	174.87	19.579		
12,800.00	9,065.00	9,055.10	9,055.10	84.83	135.46	90.00	-1,348.45	376.73	3,519.30	3,344.42	174.88	20.124		
12,900.00	9,065.00	9,055.10	9,055.10	86.73	135.46	90.00	-1,348.45	376.73	3,615.17	3,440.27	174.90	20.670		
13,000.00	9,065.00	9,055.10	9,055.10	88.64	135.46	90.00	-1,348.45	376.73	3,711.25	3,536.33	174.92	21.217		
13,100.00	9,065.00	9,055.10	9,055.10	90.55	135.46	90.00	-1,348.45	376.73	3,807.54	3,632.60	174.94	21.765		
13,200.00	9,065.00	9,055.10	9,055.10	92.47	135.46	90.00	-1,348.45	376.73	3,904.01	3,729.05	174.96	22.314		
13,300.00	9,065.00	9,055.10	9,055.10	94.39	135.46	90.00	-1,348.45	376.73	4,000.65	3,825.68	174.98	22.864		
13,400.00	9,065.00	9,055.10	9,055.10	96.32	135.46	90.00	-1,348.45	376.73	4,097.46	3,922.46	175.00	23.414		
13,500.00	9,065.00	9,055.10	9,055.10	98.25	135.46	90.00	-1,348.45	376.73	4,194.42	4,019.40	175.02	23.965		
13,600.00	9,065.00	9,055.10	9,055.10	100.19	135.46	90.00	-1,348.45	376.73	4,291.51	4,116.47	175.04	24.517		
13,700.00	9,065.00	9,055.10	9,055.10	102.13	135.46	90.00	-1,348.45	376.73	4,388.74	4,213.67	175.07	25.069		
13,800.00	9,065.00	9,055.10	9,055.10	104.08	135.46	90.00	-1,348.45	376.73	4,486.09	4,310.99	175.09	25.621		
13,900.00	9,065.00	9,055.10	9,055.10	106.03	135.46	90.00	-1,348.45	376.73	4,583.55	4,408.43	175.12	26.174		
14,000.00	9,065.00	9,055.10	9,055.10	107.98	135.46	90.00	-1,348.45	376.73	4,681.12	4,505.97	175.15	26.727		
14,100.00	9,065.00	9,055.10	9,055.10	109.94	135.46	90.00	-1,348.45	376.73	4,778.79	4,603.61	175.18	27.280		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 10-INC-ONLY													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
14,200.00	9,065.00	9,055.10	9,055.10	111.90	135.46	90.00	-1,348.45	376.73	4,876.55	4,701.35	175.21	27.833		
14,300.00	9,065.00	9,055.10	9,055.10	113.86	135.46	90.00	-1,348.45	376.73	4,974.41	4,799.17	175.24	28.387		
14,400.00	9,065.00	9,055.10	9,055.10	115.82	135.46	90.00	-1,348.45	376.73	5,072.34	4,897.07	175.27	28.940		
14,500.00	9,065.00	9,055.10	9,055.10	117.79	135.46	90.00	-1,348.45	376.73	5,170.36	4,995.06	175.30	29.494		
14,600.00	9,065.00	9,055.10	9,055.10	119.76	135.46	90.00	-1,348.45	376.73	5,268.45	5,093.11	175.34	30.048		
14,700.00	9,065.00	9,055.10	9,055.10	121.74	135.46	90.00	-1,348.45	376.73	5,366.61	5,191.24	175.37	30.602		
14,800.00	9,065.00	9,055.10	9,055.10	123.71	135.46	90.00	-1,348.45	376.73	5,464.84	5,289.43	175.41	31.155		
14,900.00	9,065.00	9,055.10	9,055.10	125.69	135.46	90.00	-1,348.45	376.73	5,563.13	5,387.69	175.44	31.709		
15,000.00	9,065.00	9,055.10	9,055.10	127.67	135.46	90.00	-1,348.45	376.73	5,661.48	5,486.00	175.48	32.263		
15,100.00	9,065.00	9,055.10	9,055.10	129.65	135.46	90.00	-1,348.45	376.73	5,759.89	5,584.37	175.52	32.816		
15,200.00	9,065.00	9,055.10	9,055.10	131.63	135.46	90.00	-1,348.45	376.73	5,858.35	5,682.79	175.56	33.370		
15,300.00	9,065.00	9,055.10	9,055.10	133.62	135.46	90.00	-1,348.45	376.73	5,956.86	5,781.26	175.60	33.923		
15,400.00	9,065.00	9,055.10	9,055.10	135.61	135.46	90.00	-1,348.45	376.73	6,055.42	5,879.78	175.64	34.476		
15,500.00	9,065.00	9,055.10	9,055.10	137.60	135.46	90.00	-1,348.45	376.73	6,154.03	5,978.35	175.68	35.029		
15,600.00	9,065.00	9,055.10	9,055.10	139.59	135.46	90.00	-1,348.45	376.73	6,252.68	6,076.95	175.73	35.582		
15,700.00	9,065.00	9,055.10	9,055.10	141.58	135.46	90.00	-1,348.45	376.73	6,351.38	6,175.60	175.77	36.134		
15,800.00	9,065.00	9,055.10	9,055.10	143.57	135.46	90.00	-1,348.45	376.73	6,450.11	6,274.29	175.82	36.686		
15,900.00	9,065.00	9,055.10	9,055.10	145.57	135.46	90.00	-1,348.45	376.73	6,548.88	6,373.02	175.86	37.238		
16,000.00	9,065.00	9,055.10	9,055.10	147.56	135.46	90.00	-1,348.45	376.73	6,647.69	6,471.78	175.91	37.790		
16,100.00	9,065.00	9,055.10	9,055.10	149.56	135.46	90.00	-1,348.45	376.73	6,746.54	6,570.58	175.96	38.342		
16,200.00	9,065.00	9,055.10	9,055.10	151.56	135.46	90.00	-1,348.45	376.73	6,845.42	6,669.41	176.01	38.893		
16,300.00	9,065.00	9,055.10	9,055.10	153.56	135.46	90.00	-1,348.45	376.73	6,944.33	6,768.27	176.06	39.443		
16,400.00	9,065.00	9,055.10	9,055.10	155.56	135.46	90.00	-1,348.45	376.73	7,043.27	6,867.16	176.11	39.994		
16,500.00	9,065.00	9,055.10	9,055.10	157.57	135.46	90.00	-1,348.45	376.73	7,142.24	6,966.08	176.16	40.544		
16,600.00	9,065.00	9,055.10	9,055.10	159.57	135.46	90.00	-1,348.45	376.73	7,241.24	7,065.02	176.21	41.094		
16,700.00	9,065.00	9,055.10	9,055.10	161.57	135.46	90.00	-1,348.45	376.73	7,340.26	7,164.00	176.27	41.643		
16,800.00	9,065.00	9,055.10	9,055.10	163.58	135.46	90.00	-1,348.45	376.73	7,439.31	7,262.99	176.32	42.192		
16,900.00	9,065.00	9,055.10	9,055.10	165.59	135.46	90.00	-1,348.45	376.73	7,538.39	7,362.02	176.38	42.741		
17,000.00	9,065.00	9,055.10	9,055.10	167.60	135.46	90.00	-1,348.45	376.73	7,637.49	7,461.06	176.43	43.289		
17,100.00	9,065.00	9,055.10	9,055.10	169.60	135.46	90.00	-1,348.45	376.73	7,736.62	7,560.13	176.49	43.837		
17,200.00	9,065.00	9,055.10	9,055.10	171.61	135.46	90.00	-1,348.45	376.73	7,835.76	7,659.22	176.55	44.384		
17,300.00	9,065.00	9,055.10	9,055.10	173.62	135.46	90.00	-1,348.45	376.73	7,934.93	7,758.33	176.60	44.931		
17,400.00	9,065.00	9,055.10	9,055.10	175.63	135.46	90.00	-1,348.45	376.73	8,034.12	7,857.46	176.66	45.477		
17,500.00	9,065.00	9,055.10	9,055.10	177.65	135.46	90.00	-1,348.45	376.73	8,133.33	7,956.61	176.72	46.023		
17,600.00	9,065.00	9,055.10	9,055.10	179.66	135.46	90.00	-1,348.45	376.73	8,232.56	8,055.77	176.78	46.569		
17,700.00	9,065.00	9,055.10	9,055.10	181.67	135.46	90.00	-1,348.45	376.73	8,331.80	8,154.96	176.84	47.114		
17,800.00	9,065.00	9,055.10	9,055.10	183.69	135.46	90.00	-1,348.45	376.73	8,431.07	8,254.16	176.91	47.658		
17,900.00	9,065.00	9,055.10	9,055.10	185.70	135.46	90.00	-1,348.45	376.73	8,530.35	8,353.38	176.97	48.202		
18,000.00	9,065.00	9,055.10	9,055.10	187.72	135.46	90.00	-1,348.45	376.73	8,629.64	8,452.61	177.03	48.746		
18,100.00	9,065.00	9,055.10	9,055.10	189.73	135.46	90.00	-1,348.45	376.73	8,728.96	8,551.86	177.10	49.289		
18,200.00	9,065.00	9,055.10	9,055.10	191.75	135.46	90.00	-1,348.45	376.73	8,828.29	8,651.12	177.16	49.831		
18,300.00	9,065.00	9,055.10	9,055.10	193.77	135.46	90.00	-1,348.45	376.73	8,927.63	8,750.40	177.23	50.373		
18,400.00	9,065.00	9,055.10	9,055.10	195.78	135.46	90.00	-1,348.45	376.73	9,026.99	8,849.69	177.30	50.915		
18,500.00	9,065.00	9,055.10	9,055.10	197.80	135.46	90.00	-1,348.45	376.73	9,126.36	8,949.00	177.36	51.456		
18,600.00	9,065.00	9,055.10	9,055.10	199.82	135.46	90.00	-1,348.45	376.73	9,225.75	9,048.32	177.43	51.996		
18,700.00	9,065.00	9,055.10	9,055.10	201.84	135.46	90.00	-1,348.45	376.73	9,325.15	9,147.65	177.50	52.536		
18,800.00	9,065.00	9,055.10	9,055.10	203.86	135.46	90.00	-1,348.45	376.73	9,424.56	9,246.99	177.57	53.075		
18,900.00	9,065.00	9,055.10	9,055.10	205.88	135.46	90.00	-1,348.45	376.73	9,523.99	9,346.34	177.64	53.614		
19,000.00	9,065.00	9,055.10	9,055.10	207.90	135.46	90.00	-1,348.45	376.73	9,623.42	9,445.71	177.71	54.152		
19,100.00	9,065.00	9,055.10	9,055.10	209.92	135.46	90.00	-1,348.45	376.73	9,722.87	9,545.09	177.78	54.689		
19,200.00	9,065.00	9,055.10	9,055.10	211.95	135.46	90.00	-1,348.45	376.73	9,822.33	9,644.47	177.86	55.226		
19,300.00	9,065.00	9,055.10	9,055.10	213.97	135.46	90.00	-1,348.45	376.73	9,921.80	9,743.87	177.93	55.763		

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 10-INC-ONLY													Offset Well Error:	10.00 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0.00	0.00	0.00	0.00	0.50	10.00	14.42	1,447.91	372.37	1,495.08					
100.00	100.00	87.10	87.10	0.52	10.12	14.42	1,447.91	372.37	1,495.02	1,484.39	10.64	140.527		
200.00	200.00	187.10	187.10	0.70	10.62	14.42	1,447.91	372.37	1,495.02	1,483.70	11.32	132.014		
300.00	300.00	287.10	287.10	0.99	11.46	14.42	1,447.91	372.37	1,495.02	1,482.57	12.45	120.065		
400.00	400.00	387.10	387.10	1.31	12.58	14.42	1,447.91	372.37	1,495.02	1,481.14	13.89	107.653		
500.00	500.00	487.10	487.10	1.65	13.90	14.42	1,447.91	372.37	1,495.02	1,479.48	15.55	96.173		
600.00	600.00	587.10	587.10	1.99	15.37	14.42	1,447.91	372.37	1,495.02	1,477.66	17.36	86.099		
700.00	700.00	687.10	687.10	2.34	16.96	14.42	1,447.91	372.37	1,495.02	1,475.72	19.30	77.460		
800.00	800.00	787.10	787.10	2.69	18.63	14.42	1,447.91	372.37	1,495.02	1,473.70	21.32	70.109		
900.00	900.00	887.10	887.10	3.04	20.37	14.42	1,447.91	372.37	1,495.02	1,471.61	23.41	63.853		
1,000.00	1,000.00	987.10	987.10	3.40	22.15	14.42	1,447.91	372.37	1,495.02	1,469.47	25.55	58.508		
1,100.00	1,100.00	1,087.10	1,087.10	3.75	23.98	14.42	1,447.91	372.37	1,495.02	1,467.29	27.73	53.913		
1,200.00	1,200.00	1,187.10	1,187.10	4.11	25.83	14.42	1,447.91	372.37	1,495.02	1,465.09	29.94	49.936		
1,300.00	1,300.00	1,287.10	1,287.10	4.46	27.71	14.42	1,447.91	372.37	1,495.02	1,462.85	32.17	46.471		
1,400.00	1,400.00	1,387.10	1,387.10	4.82	29.60	14.42	1,447.91	372.37	1,495.02	1,460.60	34.42	43.430		
1,500.00	1,500.00	1,487.10	1,487.10	5.18	31.51	14.42	1,447.91	372.37	1,495.02	1,458.33	36.69	40.745		
1,600.00	1,600.00	1,587.10	1,587.10	5.53	33.44	14.42	1,447.91	372.37	1,495.02	1,456.05	38.97	38.360		
1,700.00	1,700.00	1,687.10	1,687.10	5.89	35.38	14.42	1,447.91	372.37	1,495.02	1,453.76	41.27	36.228		
1,800.00	1,800.00	1,787.10	1,787.10	6.25	37.32	14.42	1,447.91	372.37	1,495.02	1,451.46	43.57	34.314		
1,900.00	1,900.00	1,887.10	1,887.10	6.61	39.27	14.42	1,447.91	372.37	1,495.02	1,449.14	45.88	32.586		
2,000.00	2,000.00	1,987.10	1,987.10	6.96	41.23	14.42	1,447.91	372.37	1,495.02	1,446.83	48.20	31.019		
2,100.00	2,100.00	2,087.10	2,087.10	7.32	43.20	14.42	1,447.91	372.37	1,495.02	1,444.50	50.52	29.592		
2,200.00	2,200.00	2,187.10	2,187.10	7.68	45.17	14.42	1,447.91	372.37	1,495.02	1,442.18	52.85	28.289		
2,300.00	2,300.00	2,287.10	2,287.10	8.04	47.15	14.42	1,447.91	372.37	1,495.02	1,439.84	55.18	27.093		
2,400.00	2,400.00	2,387.10	2,387.10	8.39	49.12	14.42	1,447.91	372.37	1,495.02	1,437.51	57.52	25.992		
2,500.00	2,500.00	2,487.10	2,487.10	8.75	51.11	14.42	1,447.91	372.37	1,495.02	1,435.17	59.86	24.976 CC		
2,600.00	2,599.99	2,587.09	2,587.09	9.09	53.09	160.35	1,447.91	372.37	1,495.85	1,433.66	62.19	24.054 ES		
2,700.00	2,699.96	2,687.06	2,687.06	9.42	55.08	160.38	1,447.91	372.37	1,498.31	1,433.81	64.50	23.229		
2,800.00	2,799.86	2,786.96	2,786.96	9.75	57.07	160.42	1,447.91	372.37	1,502.42	1,435.60	66.82	22.485		
2,900.00	2,899.68	2,886.78	2,886.78	10.08	59.06	160.48	1,447.91	372.37	1,508.18	1,439.04	69.14	21.814		
2,945.33	2,944.88	2,931.98	2,931.98	10.23	59.96	160.51	1,447.91	372.37	1,511.33	1,441.13	70.19	21.532		
3,000.00	2,999.39	2,986.49	2,986.49	10.41	61.05	160.57	1,447.91	372.37	1,515.33	1,443.87	71.46	21.205		
3,100.00	3,099.08	3,086.18	3,086.18	10.75	63.04	160.66	1,447.91	372.37	1,522.66	1,448.87	73.79	20.636		
3,200.00	3,198.78	3,185.88	3,185.88	11.08	65.03	160.76	1,447.91	372.37	1,529.99	1,453.87	76.11	20.101		
3,300.00	3,298.48	3,285.58	3,285.58	11.42	67.03	160.85	1,447.91	372.37	1,537.32	1,458.88	78.44	19.598		
3,400.00	3,398.18	3,385.28	3,385.28	11.76	69.02	160.95	1,447.91	372.37	1,544.66	1,463.88	80.78	19.122		
3,500.00	3,497.88	3,484.98	3,484.98	12.10	71.02	161.04	1,447.91	372.37	1,552.01	1,468.89	83.11	18.673		
3,600.00	3,597.58	3,584.68	3,584.68	12.45	73.01	161.13	1,447.91	372.37	1,559.35	1,473.90	85.45	18.248		
3,700.00	3,697.27	3,684.37	3,684.37	12.79	75.01	161.23	1,447.91	372.37	1,566.71	1,478.91	87.80	17.845		
3,800.00	3,796.97	3,784.07	3,784.07	13.14	77.01	161.32	1,447.91	372.37	1,574.06	1,483.92	90.14	17.463		
3,900.00	3,896.67	3,883.77	3,883.77	13.48	79.01	161.41	1,447.91	372.37	1,581.42	1,488.94	92.48	17.100		
4,000.00	3,996.37	3,983.47	3,983.47	13.83	81.02	161.50	1,447.91	372.37	1,588.78	1,493.95	94.83	16.754		
4,100.00	4,096.07	4,083.17	4,083.17	14.18	83.02	161.58	1,447.91	372.37	1,596.15	1,498.97	97.18	16.425		
4,200.00	4,195.76	4,182.86	4,182.86	14.53	85.02	161.67	1,447.91	372.37	1,603.52	1,504.00	99.53	16.111		
4,300.00	4,295.46	4,282.56	4,282.56	14.88	87.02	161.76	1,447.91	372.37	1,610.90	1,509.02	101.88	15.812		
4,400.00	4,395.16	4,382.26	4,382.26	15.23	89.03	161.85	1,447.91	372.37	1,618.28	1,514.04	104.23	15.526		
4,500.00	4,494.86	4,481.96	4,481.96	15.58	91.03	161.93	1,447.91	372.37	1,625.66	1,519.07	106.58	15.252		
4,600.00	4,594.56	4,581.66	4,581.66	15.93	93.04	162.02	1,447.91	372.37	1,633.04	1,524.10	108.94	14.990		
4,700.00	4,694.25	4,681.35	4,681.35	16.29	95.04	162.10	1,447.91	372.37	1,640.43	1,529.14	111.30	14.739		
4,800.00	4,793.95	4,781.05	4,781.05	16.64	97.05	162.18	1,447.91	372.37	1,647.83	1,534.17	113.65	14.499		
4,900.00	4,893.65	4,880.75	4,880.75	17.00	99.06	162.26	1,447.91	372.37	1,655.22	1,539.21	116.01	14.268		
5,000.00	4,993.35	4,980.45	4,980.45	17.35	101.06	162.35	1,447.91	372.37	1,662.62	1,544.25	118.37	14.046		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 10-INC-ONLY													Offset Well Error:	10.00 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
5,100.00	5,093.05	5,080.15	5,080.15	17.71	103.07	162.43	1,447.91	372.37	1,670.02	1,549.30	120.73	13.833		
5,200.00	5,192.75	5,179.85	5,179.85	18.06	105.08	162.51	1,447.91	372.37	1,677.43	1,554.34	123.09	13.628		
5,300.00	5,292.44	5,279.54	5,279.54	18.42	107.09	162.59	1,447.91	372.37	1,684.84	1,559.39	125.45	13.430		
5,400.00	5,392.14	5,379.24	5,379.24	18.77	109.10	162.66	1,447.91	372.37	1,692.25	1,564.44	127.81	13.240		
5,500.00	5,491.84	5,478.94	5,478.94	19.13	111.10	162.74	1,447.91	372.37	1,699.67	1,569.49	130.17	13.057		
5,600.00	5,591.54	5,578.64	5,578.64	19.49	113.11	162.82	1,447.91	372.37	1,707.08	1,574.55	132.54	12.880		
5,700.00	5,691.24	5,678.34	5,678.34	19.85	115.12	162.90	1,447.91	372.37	1,714.51	1,579.61	134.90	12.710		
5,800.00	5,790.93	5,778.03	5,778.03	20.20	117.13	162.97	1,447.91	372.37	1,721.93	1,584.67	137.26	12.545		
5,900.00	5,890.63	5,877.73	5,877.73	20.56	119.14	163.05	1,447.91	372.37	1,729.36	1,589.73	139.63	12.386		
6,000.00	5,990.33	5,977.43	5,977.43	20.92	121.15	163.12	1,447.91	372.37	1,736.79	1,594.80	141.99	12.232		
6,100.00	6,090.03	6,077.13	6,077.13	21.28	123.16	163.20	1,447.91	372.37	1,744.22	1,599.86	144.36	12.083		
6,200.00	6,189.73	6,176.83	6,176.83	21.64	125.17	163.27	1,447.91	372.37	1,751.66	1,604.93	146.72	11.939		
6,300.00	6,289.42	6,276.52	6,276.52	22.00	127.19	163.34	1,447.91	372.37	1,759.10	1,610.01	149.09	11.799		
6,400.00	6,389.12	6,376.22	6,376.22	22.36	129.20	163.41	1,447.91	372.37	1,766.54	1,615.08	151.46	11.664		
6,500.00	6,488.82	6,475.92	6,475.92	22.72	131.21	163.49	1,447.91	372.37	1,773.98	1,620.16	153.82	11.533		
6,600.00	6,588.52	6,575.62	6,575.62	23.08	133.22	163.56	1,447.91	372.37	1,781.43	1,625.24	156.19	11.405		
6,700.00	6,688.22	6,675.32	6,675.32	23.44	135.23	163.63	1,447.91	372.37	1,788.88	1,630.32	158.56	11.282		
6,800.00	6,787.91	6,775.01	6,775.01	23.80	137.24	163.70	1,447.91	372.37	1,796.33	1,635.41	160.93	11.162		
6,900.00	6,887.61	6,874.71	6,874.71	24.16	139.25	163.77	1,447.91	372.37	1,803.79	1,640.49	163.30	11.046		
7,000.00	6,987.31	6,974.41	6,974.41	24.52	141.27	163.84	1,447.91	372.37	1,811.25	1,645.58	165.66	10.933		
7,100.00	7,087.01	7,074.11	7,074.11	24.88	143.28	163.90	1,447.91	372.37	1,818.71	1,650.68	168.03	10.823		
7,200.00	7,186.71	7,173.81	7,173.81	25.24	145.29	163.97	1,447.91	372.37	1,826.17	1,655.77	170.40	10.717		
7,300.00	7,286.41	7,273.51	7,273.51	25.60	147.30	164.04	1,447.91	372.37	1,833.64	1,660.87	172.77	10.613		
7,400.00	7,386.10	7,373.20	7,373.20	25.96	149.32	164.10	1,447.91	372.37	1,841.11	1,665.96	175.14	10.512		
7,500.00	7,485.80	7,472.90	7,472.90	26.33	151.33	164.17	1,447.91	372.37	1,848.58	1,671.06	177.51	10.414		
7,600.00	7,585.50	7,572.60	7,572.60	26.69	153.34	164.24	1,447.91	372.37	1,856.05	1,676.17	179.88	10.318		
7,700.00	7,685.20	7,672.30	7,672.30	27.05	155.35	164.30	1,447.91	372.37	1,863.52	1,681.27	182.25	10.225		
7,800.00	7,784.90	7,772.00	7,772.00	27.41	157.37	164.36	1,447.91	372.37	1,871.00	1,686.38	184.62	10.134		
7,860.70	7,845.41	7,832.51	7,832.51	27.63	158.59	164.40	1,447.91	372.37	1,875.54	1,689.48	186.06	10.080		
7,900.00	7,884.61	7,871.71	7,871.71	27.77	159.38	164.44	1,447.91	372.37	1,878.29	1,691.29	187.00	10.045		
8,000.00	7,984.46	7,971.56	7,971.56	28.13	161.40	164.50	1,447.91	372.37	1,883.52	1,694.15	189.37	9.946		
8,100.00	8,084.42	8,071.52	8,071.52	28.49	163.42	164.54	1,447.91	372.37	1,886.24	1,694.49	191.74	9.837		
8,157.59	8,142.00	8,129.10	8,129.10	28.69	164.58	18.62	1,447.91	372.37	1,886.65	1,693.55	193.10	9.770		
8,200.00	8,184.41	8,171.51	8,171.51	28.83	165.44	18.62	1,447.91	372.37	1,886.65	1,692.55	194.11	9.720		
8,300.00	8,284.41	8,271.51	8,271.51	29.17	167.45	18.62	1,447.91	372.37	1,886.65	1,690.19	196.47	9.603		
8,400.00	8,384.41	8,371.51	8,371.51	29.51	169.47	18.62	1,447.91	372.37	1,886.65	1,687.83	198.83	9.489		
8,507.63	8,492.04	8,479.14	8,479.14	29.87	171.65	18.62	1,447.91	372.37	1,886.65	1,685.29	201.37	9.369		
8,550.00	8,534.37	8,521.47	8,521.47	30.02	172.50	-70.84	1,447.91	372.37	1,886.14	1,683.77	202.37	9.320		
8,600.00	8,584.01	8,571.11	8,571.11	30.18	173.51	-71.19	1,447.91	372.37	1,884.22	1,680.68	203.53	9.258		
8,650.00	8,632.95	8,620.05	8,620.05	30.34	174.49	-71.79	1,447.91	372.37	1,880.93	1,676.24	204.68	9.189		
8,700.00	8,680.82	8,667.92	8,667.92	30.50	175.46	-72.63	1,447.91	372.37	1,876.35	1,670.54	205.81	9.117		
8,750.00	8,727.25	8,714.35	8,714.35	30.66	176.40	-73.69	1,447.91	372.37	1,870.61	1,663.71	206.90	9.041		
8,800.00	8,771.89	8,758.99	8,758.99	30.81	177.30	-74.95	1,447.91	372.37	1,863.86	1,655.91	207.95	8.963		
8,850.00	8,814.40	8,801.50	8,801.50	30.95	178.16	-76.36	1,447.91	372.37	1,856.29	1,647.33	208.96	8.884		
8,900.00	8,854.46	8,841.56	8,841.56	31.09	178.97	-77.90	1,447.91	372.37	1,848.09	1,638.18	209.91	8.804		
8,950.00	8,891.75	8,878.85	8,878.85	31.23	179.72	-79.53	1,447.91	372.37	1,839.50	1,628.68	210.81	8.726		
9,000.00	8,926.01	8,913.11	8,913.11	31.37	180.41	-81.18	1,447.91	372.37	1,830.75	1,619.08	211.66	8.649		
9,050.00	8,956.96	8,944.06	8,944.06	31.53	181.04	-82.82	1,447.91	372.37	1,822.07	1,609.62	212.45	8.576		
9,100.00	8,984.38	8,971.48	8,971.48	31.69	181.59	-84.39	1,447.91	372.37	1,813.73	1,600.55	213.18	8.508		
9,150.00	9,008.05	8,995.15	8,995.15	31.87	182.07	-85.84	1,447.91	372.37	1,805.94	1,592.09	213.85	8.445		
9,200.00	9,027.79	9,014.89	9,014.89	32.07	182.47	-87.13	1,447.91	372.37	1,798.93	1,584.47	214.46	8.388		
9,250.00	9,043.45	9,030.55	9,030.55	32.29	182.79	-88.21	1,447.91	372.37	1,792.90	1,577.88	215.01	8.339		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 10-INC-ONLY													Offset Well Error:	10.00 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
9,300.00	9,054.92	9,042.02	9,042.02	32.53	183.02	-89.06	1,447.91	372.37	1,787.99	1,572.50	215.50	8.297		
9,350.00	9,062.10	9,049.20	9,049.20	32.79	183.16	-89.66	1,447.91	372.37	1,784.36	1,568.44	215.92	8.264		
9,400.00	9,064.95	9,052.05	9,052.05	33.06	183.22	-89.98	1,447.91	372.37	1,782.07	1,565.81	216.26	8.240		
9,407.63	9,065.00	9,052.10	9,052.10	33.10	183.22	-90.00	1,447.91	372.37	1,781.85	1,565.54	216.31	8.238		
9,456.68	9,065.00	9,052.10	9,052.10	33.41	183.22	-90.00	1,447.91	372.37	1,781.17	1,564.55	216.62	8.222		
9,500.00	9,065.00	9,052.10	9,052.10	33.68	183.22	-90.00	1,447.91	372.37	1,781.70	1,564.80	216.90	8.214		
9,600.00	9,065.00	9,052.10	9,052.10	34.41	183.22	-90.00	1,447.91	372.37	1,786.93	1,569.30	217.62	8.211 SF		
9,700.00	9,065.00	9,052.10	9,052.10	35.24	183.22	-90.00	1,447.91	372.37	1,797.71	1,579.29	218.42	8.231		
9,800.00	9,065.00	9,052.10	9,052.10	36.17	183.22	-90.00	1,447.91	372.37	1,813.96	1,594.69	219.26	8.273		
9,900.00	9,065.00	9,052.10	9,052.10	37.19	183.22	-90.00	1,447.91	372.37	1,835.51	1,615.38	220.13	8.338		
10,000.00	9,065.00	9,052.10	9,052.10	38.30	183.22	-90.00	1,447.91	372.37	1,862.20	1,641.18	221.01	8.426		
10,100.00	9,065.00	9,052.10	9,052.10	39.48	183.22	-90.00	1,447.91	372.37	1,893.79	1,671.90	221.88	8.535		
10,200.00	9,065.00	9,052.10	9,052.10	40.72	183.22	-90.00	1,447.91	372.37	1,930.05	1,707.32	222.73	8.665		
10,300.00	9,065.00	9,052.10	9,052.10	42.03	183.22	-90.00	1,447.91	372.37	1,970.73	1,747.18	223.55	8.816		
10,400.00	9,065.00	9,052.10	9,052.10	43.40	183.22	-90.00	1,447.91	372.37	2,015.55	1,791.23	224.32	8.985		
10,500.00	9,065.00	9,052.10	9,052.10	44.82	183.22	-90.00	1,447.91	372.37	2,064.24	1,839.20	225.05	9.173		
10,600.00	9,065.00	9,052.10	9,052.10	46.29	183.22	-90.00	1,447.91	372.37	2,116.54	1,890.82	225.72	9.377		
10,700.00	9,065.00	9,052.10	9,052.10	47.79	183.22	-90.00	1,447.91	372.37	2,172.19	1,945.84	226.35	9.597		
10,800.00	9,065.00	9,052.10	9,052.10	49.34	183.22	-90.00	1,447.91	372.37	2,230.94	2,004.01	226.93	9.831		
10,900.00	9,065.00	9,052.10	9,052.10	50.92	183.22	-90.00	1,447.91	372.37	2,292.54	2,065.08	227.46	10.079		
11,000.00	9,065.00	9,052.10	9,052.10	52.54	183.22	-90.00	1,447.91	372.37	2,356.78	2,128.83	227.95	10.339		
11,100.00	9,065.00	9,052.10	9,052.10	54.18	183.22	-90.00	1,447.91	372.37	2,423.44	2,195.05	228.39	10.611		
11,200.00	9,065.00	9,052.10	9,052.10	55.85	183.22	-90.00	1,447.91	372.37	2,492.34	2,263.54	228.80	10.893		
11,300.00	9,065.00	9,052.10	9,052.10	57.54	183.22	-90.00	1,447.91	372.37	2,563.28	2,334.11	229.17	11.185		
11,400.00	9,065.00	9,052.10	9,052.10	59.26	183.22	-90.00	1,447.91	372.37	2,636.11	2,406.61	229.50	11.486		
11,500.00	9,065.00	9,052.10	9,052.10	61.00	183.22	-90.00	1,447.91	372.37	2,710.67	2,480.87	229.80	11.796		
11,600.00	9,065.00	9,052.10	9,052.10	62.75	183.22	-90.00	1,447.91	372.37	2,786.83	2,556.75	230.08	12.112		
11,700.00	9,065.00	9,052.10	9,052.10	64.52	183.22	-90.00	1,447.91	372.37	2,864.45	2,634.12	230.33	12.436		
11,800.00	9,065.00	9,052.10	9,052.10	66.31	183.22	-90.00	1,447.91	372.37	2,943.42	2,712.86	230.56	12.766		
11,900.00	9,065.00	9,052.10	9,052.10	68.11	183.22	-90.00	1,447.91	372.37	3,023.64	2,792.87	230.77	13.103		
12,000.00	9,065.00	9,052.10	9,052.10	69.93	183.22	-90.00	1,447.91	372.37	3,105.01	2,874.05	230.96	13.444		
12,100.00	9,065.00	9,052.10	9,052.10	71.76	183.22	-90.00	1,447.91	372.37	3,187.43	2,956.30	231.13	13.791		
12,200.00	9,065.00	9,052.10	9,052.10	73.60	183.22	-90.00	1,447.91	372.37	3,270.84	3,039.55	231.29	14.142		
12,300.00	9,065.00	9,052.10	9,052.10	75.45	183.22	-90.00	1,447.91	372.37	3,355.15	3,123.72	231.43	14.497		
12,400.00	9,065.00	9,052.10	9,052.10	77.31	183.22	-90.00	1,447.91	372.37	3,440.31	3,208.74	231.57	14.857		
12,500.00	9,065.00	9,052.10	9,052.10	79.18	183.22	-90.00	1,447.91	372.37	3,526.24	3,294.55	231.69	15.220		
12,600.00	9,065.00	9,052.10	9,052.10	81.05	183.22	-90.00	1,447.91	372.37	3,612.90	3,381.10	231.80	15.586		
12,700.00	9,065.00	9,052.10	9,052.10	82.94	183.22	-90.00	1,447.91	372.37	3,700.23	3,468.33	231.91	15.956		
12,800.00	9,065.00	9,052.10	9,052.10	84.83	183.22	-90.00	1,447.91	372.37	3,788.19	3,556.19	232.00	16.328		
12,900.00	9,065.00	9,052.10	9,052.10	86.73	183.22	-90.00	1,447.91	372.37	3,876.73	3,644.64	232.09	16.703		
13,000.00	9,065.00	9,052.10	9,052.10	88.64	183.22	-90.00	1,447.91	372.37	3,965.82	3,733.64	232.18	17.081		
13,100.00	9,065.00	9,052.10	9,052.10	90.55	183.22	-90.00	1,447.91	372.37	4,055.41	3,823.16	232.26	17.461		
13,200.00	9,065.00	9,052.10	9,052.10	92.47	183.22	-90.00	1,447.91	372.37	4,145.48	3,913.15	232.33	17.843		
13,300.00	9,065.00	9,052.10	9,052.10	94.39	183.22	-90.00	1,447.91	372.37	4,236.00	4,003.60	232.40	18.227		
13,400.00	9,065.00	9,052.10	9,052.10	96.32	183.22	-90.00	1,447.91	372.37	4,326.93	4,094.47	232.47	18.613		
13,500.00	9,065.00	9,052.10	9,052.10	98.25	183.22	-90.00	1,447.91	372.37	4,418.26	4,185.73	232.53	19.001		
13,600.00	9,065.00	9,052.10	9,052.10	100.19	183.22	-90.00	1,447.91	372.37	4,509.95	4,277.37	232.59	19.390		
13,700.00	9,065.00	9,052.10	9,052.10	102.13	183.22	-90.00	1,447.91	372.37	4,601.99	4,369.35	232.65	19.781		
13,800.00	9,065.00	9,052.10	9,052.10	104.08	183.22	-90.00	1,447.91	372.37	4,694.36	4,461.66	232.70	20.173		
13,900.00	9,065.00	9,052.10	9,052.10	106.03	183.22	-90.00	1,447.91	372.37	4,787.03	4,554.28	232.75	20.567		
14,000.00	9,065.00	9,052.10	9,052.10	107.98	183.22	-90.00	1,447.91	372.37	4,879.99	4,647.19	232.80	20.962		
14,100.00	9,065.00	9,052.10	9,052.10	109.94	183.22	-90.00	1,447.91	372.37	4,973.23	4,740.38	232.85	21.358		

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 10-INC-ONLY													Offset Well Error:	10.00 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
14,200.00	9,065.00	9,052.10	9,052.10	111.90	183.22	-90.00	1,447.91	372.37	5,066.72	4,833.82	232.90	21.755		
14,300.00	9,065.00	9,052.10	9,052.10	113.86	183.22	-90.00	1,447.91	372.37	5,160.46	4,927.51	232.95	22.153		
14,400.00	9,065.00	9,052.10	9,052.10	115.82	183.22	-90.00	1,447.91	372.37	5,254.43	5,021.44	232.99	22.552		
14,500.00	9,065.00	9,052.10	9,052.10	117.79	183.22	-90.00	1,447.91	372.37	5,348.61	5,115.58	233.04	22.952		
14,600.00	9,065.00	9,052.10	9,052.10	119.76	183.22	-90.00	1,447.91	372.37	5,443.01	5,209.93	233.08	23.353		
14,700.00	9,065.00	9,052.10	9,052.10	121.74	183.22	-90.00	1,447.91	372.37	5,537.60	5,304.48	233.12	23.754		
14,800.00	9,065.00	9,052.10	9,052.10	123.71	183.22	-90.00	1,447.91	372.37	5,632.38	5,399.21	233.16	24.156		
14,900.00	9,065.00	9,052.10	9,052.10	125.69	183.22	-90.00	1,447.91	372.37	5,727.33	5,494.12	233.21	24.559		
15,000.00	9,065.00	9,052.10	9,052.10	127.67	183.22	-90.00	1,447.91	372.37	5,822.46	5,589.21	233.25	24.962		
15,100.00	9,065.00	9,052.10	9,052.10	129.65	183.22	-90.00	1,447.91	372.37	5,917.74	5,684.45	233.29	25.366		
15,200.00	9,065.00	9,052.10	9,052.10	131.63	183.22	-90.00	1,447.91	372.37	6,013.18	5,779.85	233.33	25.771		
15,300.00	9,065.00	9,052.10	9,052.10	133.62	183.22	-90.00	1,447.91	372.37	6,108.76	5,875.39	233.37	26.176		
15,400.00	9,065.00	9,052.10	9,052.10	135.61	183.22	-90.00	1,447.91	372.37	6,204.49	5,971.07	233.41	26.582		
15,500.00	9,065.00	9,052.10	9,052.10	137.60	183.22	-90.00	1,447.91	372.37	6,300.34	6,066.89	233.45	26.988		
15,600.00	9,065.00	9,052.10	9,052.10	139.59	183.22	-90.00	1,447.91	372.37	6,396.33	6,162.83	233.49	27.394		
15,700.00	9,065.00	9,052.10	9,052.10	141.58	183.22	-90.00	1,447.91	372.37	6,492.43	6,258.89	233.54	27.801		
15,800.00	9,065.00	9,052.10	9,052.10	143.57	183.22	-90.00	1,447.91	372.37	6,588.65	6,355.07	233.58	28.208		
15,900.00	9,065.00	9,052.10	9,052.10	145.57	183.22	-90.00	1,447.91	372.37	6,684.98	6,451.36	233.62	28.615		
16,000.00	9,065.00	9,052.10	9,052.10	147.56	183.22	-90.00	1,447.91	372.37	6,781.42	6,547.76	233.66	29.023		
16,100.00	9,065.00	9,052.10	9,052.10	149.56	183.22	-90.00	1,447.91	372.37	6,877.96	6,644.26	233.70	29.430		
16,200.00	9,065.00	9,052.10	9,052.10	151.56	183.22	-90.00	1,447.91	372.37	6,974.59	6,740.85	233.74	29.839		
16,300.00	9,065.00	9,052.10	9,052.10	153.56	183.22	-90.00	1,447.91	372.37	7,071.32	6,837.54	233.79	30.247		
16,400.00	9,065.00	9,052.10	9,052.10	155.56	183.22	-90.00	1,447.91	372.37	7,168.14	6,934.32	233.83	30.655		
16,500.00	9,065.00	9,052.10	9,052.10	157.57	183.22	-90.00	1,447.91	372.37	7,265.05	7,031.18	233.87	31.064		
16,600.00	9,065.00	9,052.10	9,052.10	159.57	183.22	-90.00	1,447.91	372.37	7,362.04	7,128.12	233.92	31.473		
16,700.00	9,065.00	9,052.10	9,052.10	161.57	183.22	-90.00	1,447.91	372.37	7,459.11	7,225.15	233.96	31.882		
16,800.00	9,065.00	9,052.10	9,052.10	163.58	183.22	-90.00	1,447.91	372.37	7,556.25	7,322.25	234.00	32.291		
16,900.00	9,065.00	9,052.10	9,052.10	165.59	183.22	-90.00	1,447.91	372.37	7,653.47	7,419.42	234.05	32.700		
17,000.00	9,065.00	9,052.10	9,052.10	167.60	183.22	-90.00	1,447.91	372.37	7,750.76	7,516.67	234.09	33.109		
17,100.00	9,065.00	9,052.10	9,052.10	169.60	183.22	-90.00	1,447.91	372.37	7,848.12	7,613.98	234.14	33.519		
17,200.00	9,065.00	9,052.10	9,052.10	171.61	183.22	-90.00	1,447.91	372.37	7,945.54	7,711.35	234.19	33.928		
17,300.00	9,065.00	9,052.10	9,052.10	173.62	183.22	-90.00	1,447.91	372.37	8,043.03	7,808.79	234.23	34.338		
17,400.00	9,065.00	9,052.10	9,052.10	175.63	183.22	-90.00	1,447.91	372.37	8,140.57	7,906.29	234.28	34.747		
17,500.00	9,065.00	9,052.10	9,052.10	177.65	183.22	-90.00	1,447.91	372.37	8,238.18	8,003.85	234.33	35.157		
17,600.00	9,065.00	9,052.10	9,052.10	179.66	183.22	-90.00	1,447.91	372.37	8,335.84	8,101.47	234.38	35.566		
17,700.00	9,065.00	9,052.10	9,052.10	181.67	183.22	-90.00	1,447.91	372.37	8,433.56	8,199.13	234.43	35.975		
17,800.00	9,065.00	9,052.10	9,052.10	183.69	183.22	-90.00	1,447.91	372.37	8,531.33	8,296.86	234.47	36.385		
17,900.00	9,065.00	9,052.10	9,052.10	185.70	183.22	-90.00	1,447.91	372.37	8,629.15	8,394.63	234.52	36.794		
18,000.00	9,065.00	9,052.10	9,052.10	187.72	183.22	-90.00	1,447.91	372.37	8,727.02	8,492.45	234.57	37.204		
18,100.00	9,065.00	9,052.10	9,052.10	189.73	183.22	-90.00	1,447.91	372.37	8,824.94	8,590.32	234.63	37.613		
18,200.00	9,065.00	9,052.10	9,052.10	191.75	183.22	-90.00	1,447.91	372.37	8,922.91	8,688.23	234.68	38.022		
18,300.00	9,065.00	9,052.10	9,052.10	193.77	183.22	-90.00	1,447.91	372.37	9,020.92	8,786.19	234.73	38.431		
18,400.00	9,065.00	9,052.10	9,052.10	195.78	183.22	-90.00	1,447.91	372.37	9,118.97	8,884.19	234.78	38.840		
18,500.00	9,065.00	9,052.10	9,052.10	197.80	183.22	-90.00	1,447.91	372.37	9,217.06	8,982.23	234.83	39.249		
18,600.00	9,065.00	9,052.10	9,052.10	199.82	183.22	-90.00	1,447.91	372.37	9,315.20	9,080.31	234.89	39.658		
18,700.00	9,065.00	9,052.10	9,052.10	201.84	183.22	-90.00	1,447.91	372.37	9,413.37	9,178.43	234.94	40.067		
18,800.00	9,065.00	9,052.10	9,052.10	203.86	183.22	-90.00	1,447.91	372.37	9,511.58	9,276.59	235.00	40.475		
18,900.00	9,065.00	9,052.10	9,052.10	205.88	183.22	-90.00	1,447.91	372.37	9,609.83	9,374.78	235.05	40.884		
19,000.00	9,065.00	9,052.10	9,052.10	207.90	183.22	-90.00	1,447.91	372.37	9,708.12	9,473.01	235.11	41.292		
19,100.00	9,065.00	9,052.10	9,052.10	209.92	183.22	-90.00	1,447.91	372.37	9,806.44	9,571.27	235.16	41.700		
19,200.00	9,065.00	9,052.10	9,052.10	211.95	183.22	-90.00	1,447.91	372.37	9,904.79	9,669.57	235.22	42.108		

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 0-MWD+IFR1													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0.00	0.00	12.40	12.40	0.50	0.50	-0.13	1,618.68	-3.59	1,618.69					
100.00	100.00	112.40	112.40	0.52	0.53	-0.13	1,618.68	-3.59	1,618.69	1,617.64	1.05	1,543.386		
200.00	200.00	212.40	212.40	0.70	0.73	-0.13	1,618.68	-3.59	1,618.69	1,617.25	1.44	1,127.145		
300.00	300.00	312.40	312.40	0.99	1.03	-0.13	1,618.68	-3.59	1,618.69	1,616.67	2.01	804.018		
400.00	400.00	412.40	412.40	1.31	1.35	-0.13	1,618.68	-3.59	1,618.69	1,616.03	2.66	608.674		
500.00	500.00	512.40	512.40	1.65	1.69	-0.13	1,618.68	-3.59	1,618.69	1,615.35	3.33	485.425		
600.00	600.00	612.40	612.40	1.99	2.03	-0.13	1,618.68	-3.59	1,618.69	1,614.66	4.02	402.232		
700.00	700.00	712.40	712.40	2.34	2.38	-0.13	1,618.68	-3.59	1,618.69	1,613.97	4.72	342.792		
800.00	800.00	812.40	812.40	2.69	2.73	-0.13	1,618.68	-3.59	1,618.69	1,613.26	5.42	298.382		
900.00	900.00	912.40	912.40	3.04	3.09	-0.13	1,618.68	-3.59	1,618.69	1,612.56	6.13	264.019		
1,000.00	1,000.00	1,012.40	1,012.40	3.40	3.44	-0.13	1,618.68	-3.59	1,618.69	1,611.85	6.84	236.675		
1,100.00	1,100.00	1,112.40	1,112.40	3.75	3.80	-0.13	1,618.68	-3.59	1,618.69	1,611.14	7.55	214.417		
1,200.00	1,200.00	1,212.40	1,212.40	4.11	4.15	-0.13	1,618.68	-3.59	1,618.69	1,610.43	8.26	195.957		
1,300.00	1,300.00	1,312.40	1,312.40	4.46	4.51	-0.13	1,618.68	-3.59	1,618.69	1,609.71	8.97	180.405		
1,400.00	1,400.00	1,412.40	1,412.40	4.82	4.86	-0.13	1,618.68	-3.59	1,618.69	1,609.00	9.69	167.128		
1,500.00	1,500.00	1,512.40	1,512.40	5.18	5.22	-0.13	1,618.68	-3.59	1,618.69	1,608.29	10.40	155.662		
1,600.00	1,600.00	1,612.40	1,612.40	5.53	5.58	-0.13	1,618.68	-3.59	1,618.69	1,607.57	11.11	145.663		
1,700.00	1,700.00	1,712.40	1,712.40	5.89	5.94	-0.13	1,618.68	-3.59	1,618.69	1,606.86	11.83	136.867		
1,800.00	1,800.00	1,812.40	1,812.40	6.25	6.29	-0.13	1,618.68	-3.59	1,618.69	1,606.15	12.54	129.069		
1,900.00	1,900.00	1,912.40	1,912.40	6.61	6.65	-0.13	1,618.68	-3.59	1,618.69	1,605.43	13.26	122.109		
1,911.95	1,911.95	1,924.35	1,924.35	6.65	6.69	-0.13	1,618.68	-3.59	1,618.69	1,605.35	13.34	121.327	CC	
2,000.00	2,000.00	2,009.71	2,009.71	6.96	7.00	-0.13	1,618.69	-3.59	1,618.70	1,604.74	13.96	115.941	ES	
2,100.00	2,100.00	2,088.03	2,088.03	7.32	7.28	-0.13	1,619.35	-3.73	1,619.53	1,604.94	14.60	110.945		
2,200.00	2,200.00	2,166.32	2,166.29	7.68	7.56	-0.14	1,621.05	-4.08	1,621.71	1,606.48	15.23	106.471		
2,300.00	2,300.00	2,244.54	2,244.46	8.04	7.84	-0.16	1,623.79	-4.65	1,625.22	1,609.36	15.86	102.457		
2,400.00	2,400.00	2,322.67	2,322.50	8.39	8.12	-0.19	1,627.58	-5.44	1,630.07	1,613.58	16.49	98.849		
2,500.00	2,500.00	2,400.00	2,399.68	8.75	8.39	-0.23	1,632.35	-6.43	1,636.25	1,619.14	17.11	95.618		
2,600.00	2,599.99	2,478.50	2,477.95	9.09	8.67	145.62	1,638.24	-7.65	1,644.48	1,626.76	17.72	92.804		
2,700.00	2,699.96	2,556.02	2,555.14	9.42	8.95	145.55	1,645.08	-9.07	1,655.47	1,637.16	18.31	90.434		
2,800.00	2,799.86	2,633.14	2,631.85	9.75	9.23	145.48	1,652.90	-10.70	1,669.19	1,650.30	18.89	88.368		
2,900.00	2,899.68	2,709.78	2,707.97	10.08	9.50	145.42	1,661.67	-12.52	1,685.64	1,666.17	19.47	86.582		
2,945.33	2,944.88	2,744.34	2,742.25	10.23	9.62	145.39	1,665.95	-13.41	1,693.99	1,674.26	19.73	85.856		
3,000.00	2,999.39	2,785.89	2,783.43	10.41	9.77	145.42	1,671.37	-14.54	1,704.58	1,684.54	20.04	85.040		
3,100.00	3,099.08	2,861.59	2,858.35	10.75	10.04	145.46	1,681.99	-16.74	1,724.94	1,704.33	20.62	83.673		
3,200.00	3,198.78	2,936.88	2,932.71	11.08	10.31	145.49	1,693.51	-19.14	1,746.56	1,725.38	21.18	82.452		
3,300.00	3,298.48	3,011.73	3,006.48	11.42	10.58	145.51	1,705.91	-21.71	1,769.44	1,747.69	21.75	81.368		
3,400.00	3,398.18	3,086.12	3,079.63	11.76	10.85	145.53	1,719.17	-24.47	1,793.55	1,771.24	22.31	80.408		
3,500.00	3,497.88	3,173.18	3,165.05	12.10	11.16	145.55	1,735.61	-27.88	1,818.69	1,795.76	22.93	79.300		
3,600.00	3,597.58	3,269.93	3,259.97	12.45	11.51	145.56	1,753.98	-31.70	1,843.94	1,820.32	23.62	78.069		
3,700.00	3,697.27	3,366.69	3,354.89	12.79	11.86	145.57	1,772.34	-35.51	1,869.20	1,844.89	24.31	76.901		
3,800.00	3,796.97	3,463.45	3,449.82	13.14	12.21	145.59	1,790.71	-39.33	1,894.45	1,869.45	25.00	75.790		
3,900.00	3,896.67	3,560.21	3,544.74	13.48	12.57	145.60	1,809.07	-43.14	1,919.70	1,894.02	25.69	74.732		
4,000.00	3,896.37	3,656.97	3,639.66	13.83	12.93	145.61	1,827.44	-46.96	1,944.96	1,918.58	26.38	73.725		
4,100.00	4,096.07	3,753.72	3,734.58	14.18	13.28	145.63	1,845.80	-50.77	1,970.21	1,943.14	27.08	72.765		
4,200.00	4,195.76	3,850.48	3,829.50	14.53	13.64	145.64	1,864.17	-54.59	1,995.47	1,967.69	27.77	71.849		
4,300.00	4,295.46	3,947.24	3,924.43	14.88	14.00	145.65	1,882.53	-58.40	2,020.72	1,992.25	28.47	70.973		
4,400.00	4,395.16	4,044.00	4,019.35	15.23	14.36	145.66	1,900.90	-62.22	2,045.98	2,016.80	29.17	70.137		
4,500.00	4,494.86	4,140.75	4,114.27	15.58	14.72	145.68	1,919.26	-66.03	2,071.23	2,041.36	29.87	69.336		
4,600.00	4,594.56	4,237.51	4,209.19	15.93	15.08	145.69	1,937.63	-69.85	2,096.48	2,065.91	30.57	68.569		
4,700.00	4,694.25	4,334.27	4,304.12	16.29	15.44	145.70	1,955.99	-73.66	2,121.74	2,090.46	31.28	67.835		
4,800.00	4,793.95	4,431.03	4,399.04	16.64	15.81	145.71	1,974.36	-77.48	2,146.99	2,115.01	31.98	67.130		
4,900.00	4,893.65	4,527.79	4,493.96	17.00	16.17	145.72	1,992.72	-81.29	2,172.25	2,139.56	32.69	66.454		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 0-MWD+IFR1													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
5,000.00	4,993.35	4,624.54	4,588.88	17.35	16.54	145.73	2,011.09	-85.11	2,197.50	2,164.11	33.39	65.804		
5,100.00	5,093.05	4,721.30	4,683.81	17.71	16.90	145.74	2,029.45	-88.92	2,222.76	2,188.66	34.10	65.180		
5,200.00	5,192.75	4,818.06	4,778.73	18.06	17.27	145.75	2,047.82	-92.74	2,248.01	2,213.20	34.81	64.579		
5,300.00	5,292.44	4,914.82	4,873.65	18.42	17.63	145.76	2,066.18	-96.55	2,273.27	2,237.75	35.52	64.001		
5,400.00	5,392.14	5,011.57	4,968.57	18.77	18.00	145.77	2,084.55	-100.37	2,298.52	2,262.29	36.23	63.444		
5,500.00	5,491.84	5,108.33	5,063.49	19.13	18.36	145.78	2,102.91	-104.18	2,323.78	2,286.84	36.94	62.908		
5,600.00	5,591.54	5,205.09	5,158.42	19.49	18.73	145.79	2,121.28	-108.00	2,349.03	2,311.38	37.65	62.390		
5,700.00	5,691.24	5,301.85	5,253.34	19.85	19.10	145.79	2,139.64	-111.81	2,374.29	2,335.92	38.36	61.891		
5,800.00	5,790.93	5,401.40	5,348.26	20.20	19.48	145.80	2,158.01	-115.63	2,399.54	2,360.46	39.09	61.392		
5,900.00	5,890.63	5,504.64	5,443.18	20.56	19.87	145.81	2,176.37	-119.45	2,424.80	2,384.97	39.82	60.889		
6,000.00	5,990.33	5,592.12	5,538.11	20.92	20.20	145.82	2,194.73	-123.26	2,450.05	2,409.55	40.50	60.492		
6,100.00	6,090.03	5,688.88	5,633.03	21.28	20.57	145.83	2,213.10	-127.08	2,475.31	2,434.09	41.22	60.057		
6,200.00	6,189.73	5,785.64	5,727.95	21.64	20.94	145.84	2,231.46	-130.89	2,500.56	2,458.63	41.93	59.636		
6,300.00	6,289.42	5,882.39	5,822.87	22.00	21.31	145.84	2,249.83	-134.71	2,525.82	2,483.17	42.65	59.228		
6,400.00	6,389.12	5,979.15	5,917.79	22.36	21.68	145.85	2,268.19	-138.52	2,551.07	2,507.71	43.36	58.832		
6,500.00	6,488.82	6,075.91	6,012.72	22.72	22.05	145.86	2,286.56	-142.34	2,576.33	2,532.25	44.08	58.450		
6,600.00	6,588.52	6,172.67	6,107.64	23.08	22.42	145.87	2,304.92	-146.15	2,601.59	2,556.79	44.79	58.078		
6,700.00	6,688.22	6,269.42	6,202.56	23.44	22.79	145.87	2,323.29	-149.97	2,626.84	2,581.33	45.51	57.718		
6,800.00	6,787.91	6,366.18	6,297.48	23.80	23.16	145.88	2,341.65	-153.78	2,652.10	2,605.87	46.23	57.369		
6,900.00	6,887.61	6,462.94	6,392.41	24.16	23.53	145.89	2,360.02	-157.60	2,677.35	2,630.41	46.95	57.029		
7,000.00	6,987.31	6,559.70	6,487.33	24.52	23.90	145.89	2,378.38	-161.41	2,702.61	2,654.94	47.67	56.700		
7,100.00	7,087.01	6,656.45	6,582.25	24.88	24.27	145.90	2,396.75	-165.23	2,727.86	2,679.48	48.38	56.380		
7,200.00	7,186.71	6,753.21	6,677.17	25.24	24.64	145.91	2,415.11	-169.04	2,753.12	2,704.02	49.10	56.069		
7,300.00	7,286.41	6,849.97	6,772.09	25.60	25.01	145.91	2,433.48	-172.86	2,778.37	2,728.55	49.82	55.766		
7,400.00	7,386.10	6,946.73	6,867.02	25.96	25.38	145.92	2,451.84	-176.67	2,803.63	2,753.09	50.54	55.472		
7,500.00	7,485.80	7,043.49	6,961.94	26.33	25.75	145.93	2,470.21	-180.49	2,828.89	2,777.62	51.26	55.185		
7,600.00	7,585.50	7,140.24	7,056.86	26.69	26.12	145.93	2,488.57	-184.30	2,854.14	2,802.16	51.98	54.906		
7,700.00	7,685.20	7,237.00	7,151.78	27.05	26.50	145.94	2,506.94	-188.12	2,879.40	2,826.70	52.70	54.635		
7,800.00	7,784.90	7,333.76	7,246.71	27.41	26.87	145.94	2,525.30	-191.93	2,904.65	2,851.23	53.42	54.370		
7,860.70	7,845.41	7,407.51	7,304.33	27.63	27.15	145.95	2,536.45	-194.25	2,919.99	2,866.07	53.92	54.155		
7,900.00	7,884.61	7,430.56	7,341.67	27.77	27.24	146.03	2,543.67	-195.75	2,929.75	2,875.60	54.15	54.109		
8,000.00	7,984.46	7,527.78	7,437.05	28.13	27.61	146.21	2,562.13	-199.58	2,953.12	2,898.26	54.87	53.823		
8,100.00	8,084.42	7,625.46	7,532.87	28.49	27.99	146.34	2,580.67	-203.43	2,974.38	2,918.79	55.59	53.506		
8,157.59	8,142.00	7,681.89	7,588.24	28.69	28.21	0.48	2,591.38	-205.66	2,985.65	2,929.65	56.00	53.314		
8,200.00	8,184.41	7,723.50	7,629.06	28.83	28.37	0.44	2,599.28	-207.30	2,993.69	2,937.39	56.30	53.171		
8,300.00	8,284.41	7,821.61	7,725.30	29.17	28.74	0.36	2,617.90	-211.17	3,012.66	2,955.65	57.01	52.840		
8,400.00	8,384.41	7,919.71	7,821.54	29.51	29.12	0.29	2,636.52	-215.04	3,031.64	2,973.91	57.73	52.517		
8,507.63	8,492.04	8,025.29	7,925.12	29.87	29.53	0.21	2,656.56	-219.20	3,052.06	2,993.57	58.49	52.177		
8,550.00	8,534.37	8,066.77	7,965.81	30.02	29.69	-88.41	2,664.43	-220.84	3,060.08	3,001.28	58.79	52.047		
8,600.00	8,584.01	8,115.25	8,013.37	30.18	29.87	-87.60	2,673.63	-222.75	3,069.43	3,010.29	59.14	51.897		
8,650.00	8,632.95	8,162.88	8,060.10	30.34	30.06	-86.89	2,682.67	-224.63	3,078.64	3,019.16	59.49	51.753		
8,700.00	8,680.82	8,209.30	8,105.64	30.50	30.24	-86.26	2,691.48	-226.46	3,087.69	3,027.86	59.82	51.615		
8,750.00	8,727.25	8,254.16	8,149.64	30.66	30.41	-85.71	2,700.00	-228.22	3,096.56	3,036.41	60.15	51.484		
8,800.00	8,771.89	8,302.89	8,191.78	30.81	30.60	-85.22	2,708.15	-229.92	3,105.27	3,044.79	60.48	51.342		
8,850.00	8,814.40	8,337.83	8,231.73	30.95	30.73	-84.78	2,715.88	-231.52	3,113.84	3,053.07	60.76	51.246		
8,900.00	8,854.46	8,379.36	8,272.48	31.09	30.89	-84.41	2,723.76	-232.91	3,122.28	3,061.21	61.07	51.123		
8,950.00	8,891.75	8,428.20	8,320.39	31.23	31.07	-84.16	2,733.05	-231.32	3,130.54	3,069.11	61.43	50.959		
9,000.00	8,926.01	8,481.00	8,371.82	31.37	31.27	-83.99	2,743.05	-224.94	3,138.52	3,076.70	61.82	50.770		
9,050.00	8,956.96	8,538.80	8,427.18	31.53	31.46	-83.89	2,753.85	-212.46	3,146.16	3,083.92	62.24	50.550		
9,100.00	8,984.38	8,602.94	8,486.82	31.69	31.67	-83.90	2,765.52	-192.04	3,153.37	3,090.68	62.70	50.297		
9,150.00	9,008.05	8,675.12	8,550.76	31.87	31.88	-84.01	2,778.09	-161.11	3,160.05	3,096.86	63.19	50.005		
9,200.00	9,027.79	8,757.41	8,618.32	32.07	32.10	-84.24	2,791.45	-116.19	3,166.07	3,102.33	63.74	49.672		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 0-MWD+IFR1													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
9,250.00	9,043.45	8,852.07	8,687.27	32.29	32.31	-84.57	2,805.18	-52.97	3,171.26	3,106.92	64.34	49.289		
9,300.00	9,054.92	9,300.00	8,740.72	32.53	33.68	-84.82	2,815.94	15.07	3,175.38	3,109.13	66.25	47.933		
9,350.00	9,062.10	9,084.63	8,806.13	32.79	32.99	-85.37	2,829.37	143.59	3,178.23	3,112.41	65.81	48.291		
9,400.00	9,064.95	9,220.16	8,836.46	33.06	33.63	-85.66	2,836.03	275.19	3,179.51	3,112.75	66.76	47.623		
9,407.63	9,065.00	9,241.51	8,838.42	33.10	33.74	-85.69	2,836.53	296.44	3,179.56	3,112.64	66.92	47.512		
9,500.00	9,065.00	9,361.59	8,840.00	33.68	34.45	-85.72	2,837.55	416.48	3,179.16	3,110.95	68.21	46.606		
9,600.00	9,065.00	9,461.59	8,840.00	34.41	35.16	-85.72	2,838.14	516.47	3,178.66	3,109.01	69.65	45.639		
9,700.00	9,065.00	9,561.59	8,840.00	35.24	35.96	-85.72	2,838.74	616.47	3,178.15	3,106.86	71.29	44.582		
9,800.00	9,065.00	9,661.59	8,840.00	36.17	36.87	-85.72	2,839.33	716.47	3,177.64	3,104.53	73.12	43.459		
9,900.00	9,065.00	9,761.59	8,840.00	37.19	37.86	-85.71	2,839.92	816.47	3,177.14	3,102.01	75.13	42.291		
10,000.00	9,065.00	9,861.59	8,840.00	38.30	38.93	-85.71	2,840.52	916.46	3,176.63	3,099.33	77.30	41.096		
10,100.00	9,065.00	9,961.58	8,840.00	39.48	40.08	-85.71	2,841.11	1,016.46	3,176.13	3,096.51	79.62	39.891		
10,200.00	9,065.00	10,061.58	8,840.00	40.72	41.29	-85.71	2,841.70	1,116.46	3,175.62	3,093.54	82.08	38.690		
10,300.00	9,065.00	10,161.58	8,840.00	42.03	42.57	-85.71	2,842.30	1,216.45	3,175.12	3,090.45	84.66	37.503		
10,400.00	9,065.00	10,261.58	8,840.00	43.40	43.91	-85.71	2,842.89	1,316.45	3,174.61	3,087.25	87.36	36.338		
10,500.00	9,065.00	10,361.58	8,840.00	44.82	45.30	-85.71	2,843.48	1,416.45	3,174.10	3,083.94	90.17	35.203		
10,600.00	9,065.00	10,461.58	8,840.00	46.29	46.74	-85.71	2,844.08	1,516.44	3,173.60	3,080.53	93.06	34.101		
10,700.00	9,065.00	10,561.58	8,840.00	47.79	48.23	-85.71	2,844.67	1,616.44	3,173.09	3,077.04	96.05	33.036		
10,800.00	9,065.00	10,661.58	8,840.00	49.34	49.75	-85.71	2,845.27	1,716.44	3,172.59	3,073.47	99.11	32.010		
10,900.00	9,065.00	10,761.57	8,840.00	50.92	51.31	-85.71	2,845.86	1,816.43	3,172.08	3,069.84	102.25	31.024		
11,000.00	9,065.00	10,861.57	8,840.00	52.54	52.90	-85.71	2,846.45	1,916.43	3,171.58	3,066.13	105.44	30.078		
11,100.00	9,065.00	10,961.57	8,840.00	54.18	54.52	-85.71	2,847.05	2,016.43	3,171.07	3,062.37	108.70	29.172		
11,200.00	9,065.00	11,061.57	8,840.00	55.85	56.17	-85.71	2,847.64	2,116.43	3,170.56	3,058.55	112.01	28.305		
11,300.00	9,065.00	11,161.57	8,840.00	57.54	57.85	-85.71	2,848.23	2,216.42	3,170.06	3,054.68	115.38	27.476		
11,400.00	9,065.00	11,261.57	8,840.00	59.26	59.55	-85.70	2,848.83	2,316.42	3,169.55	3,050.77	118.78	26.684		
11,500.00	9,065.00	11,361.57	8,840.00	61.00	61.27	-85.70	2,849.42	2,416.42	3,169.05	3,046.82	122.23	25.927		
11,600.00	9,065.00	11,461.57	8,840.00	62.75	63.01	-85.70	2,850.01	2,516.41	3,168.54	3,042.82	125.72	25.204		
11,700.00	9,065.00	11,561.56	8,840.00	64.52	64.76	-85.70	2,850.61	2,616.41	3,168.04	3,038.80	129.24	24.513		
11,800.00	9,065.00	11,661.56	8,840.00	66.31	66.54	-85.70	2,851.20	2,716.41	3,167.53	3,034.74	132.79	23.854		
11,900.00	9,065.00	11,761.56	8,840.00	68.11	68.33	-85.70	2,851.79	2,816.40	3,167.02	3,030.65	136.37	23.223		
12,000.00	9,065.00	11,861.56	8,840.00	69.93	70.13	-85.70	2,852.39	2,916.40	3,166.52	3,026.53	139.98	22.621		
12,100.00	9,065.00	11,961.56	8,840.00	71.76	71.95	-85.70	2,852.98	3,016.40	3,166.01	3,022.39	143.62	22.045		
12,200.00	9,065.00	12,061.56	8,840.00	73.60	73.77	-85.70	2,853.57	3,116.40	3,165.51	3,018.23	147.28	21.493		
12,300.00	9,065.00	12,161.56	8,840.00	75.45	75.61	-85.70	2,854.17	3,216.39	3,165.00	3,014.04	150.96	20.966		
12,400.00	9,065.00	12,261.56	8,840.00	77.31	77.46	-85.70	2,854.76	3,316.39	3,164.50	3,009.84	154.66	20.461		
12,500.00	9,065.00	12,361.55	8,840.00	79.18	79.32	-85.70	2,855.35	3,416.39	3,163.99	3,005.61	158.38	19.977		
12,600.00	9,065.00	12,461.55	8,840.00	81.05	81.19	-85.70	2,855.95	3,516.38	3,163.48	3,001.37	162.12	19.514		
12,700.00	9,065.00	12,561.55	8,840.00	82.94	83.07	-85.70	2,856.54	3,616.38	3,162.98	2,997.11	165.87	19.069		
12,800.00	9,065.00	12,661.55	8,840.00	84.83	84.95	-85.69	2,857.13	3,716.38	3,162.47	2,992.84	169.64	18.643		
12,900.00	9,065.00	12,761.55	8,840.00	86.73	86.84	-85.69	2,857.73	3,816.37	3,161.97	2,988.55	173.42	18.233		
13,000.00	9,065.00	12,861.55	8,840.00	88.64	88.74	-85.69	2,858.32	3,916.37	3,161.46	2,984.25	177.22	17.840		
13,100.00	9,065.00	12,961.55	8,840.00	90.55	90.65	-85.69	2,858.91	4,016.37	3,160.96	2,979.93	181.02	17.462		
13,200.00	9,065.00	13,061.54	8,840.00	92.47	92.56	-85.69	2,859.51	4,116.36	3,160.45	2,975.61	184.84	17.098		
13,300.00	9,065.00	13,161.54	8,840.00	94.39	94.48	-85.69	2,860.10	4,216.36	3,159.94	2,971.27	188.68	16.748		
13,400.00	9,065.00	13,261.54	8,840.00	96.32	96.40	-85.69	2,860.69	4,316.36	3,159.44	2,966.92	192.52	16.411		
13,500.00	9,065.00	13,361.54	8,840.00	98.25	98.32	-85.69	2,861.29	4,416.36	3,158.93	2,962.56	196.37	16.087		
13,600.00	9,065.00	13,461.54	8,840.00	100.19	100.26	-85.69	2,861.88	4,516.35	3,158.43	2,958.20	200.23	15.774		
13,700.00	9,065.00	13,561.54	8,840.00	102.13	102.19	-85.69	2,862.47	4,616.35	3,157.92	2,953.82	204.10	15.473		
13,800.00	9,065.00	13,661.54	8,840.00	104.08	104.13	-85.69	2,863.07	4,716.35	3,157.42	2,949.44	207.97	15.182		
13,900.00	9,065.00	13,761.54	8,840.00	106.03	106.08	-85.69	2,863.66	4,816.34	3,156.91	2,945.05	211.86	14.901		
14,000.00	9,065.00	13,861.53	8,840.00	107.98	108.03	-85.69	2,864.25	4,916.34	3,156.40	2,940.65	215.75	14.630		
14,100.00	9,065.00	13,961.53	8,840.00	109.94	109.98	-85.69	2,864.85	5,016.34	3,155.90	2,936.25	219.65	14.368		

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 0-MWD+IFR1													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
14,200.00	9,065.00	14,061.53	8,840.00	111.90	111.93	-85.69	2,865.44	5,116.33	3,155.39	2,931.84	223.56	14.115		
14,300.00	9,065.00	14,161.53	8,840.00	113.86	113.89	-85.68	2,866.03	5,216.33	3,154.89	2,927.42	227.47	13.870		
14,400.00	9,065.00	14,261.53	8,840.00	115.82	115.85	-85.68	2,866.63	5,316.33	3,154.38	2,923.00	231.38	13.633		
14,500.00	9,065.00	14,361.53	8,840.00	117.79	117.82	-85.68	2,867.22	5,416.33	3,153.88	2,918.57	235.31	13.403		
14,600.00	9,065.00	14,461.53	8,840.00	119.76	119.78	-85.68	2,867.81	5,516.32	3,153.37	2,914.13	239.24	13.181		
14,700.00	9,065.00	14,561.53	8,840.00	121.74	121.75	-85.68	2,868.41	5,616.32	3,152.86	2,909.69	243.17	12.966		
14,800.00	9,065.00	14,661.52	8,840.00	123.71	123.73	-85.68	2,869.00	5,716.32	3,152.36	2,905.25	247.11	12.757		
14,900.00	9,065.00	14,761.52	8,840.00	125.69	125.70	-85.68	2,869.59	5,816.31	3,151.85	2,900.80	251.05	12.555		
15,000.00	9,065.00	14,861.52	8,840.00	127.67	127.68	-85.68	2,870.19	5,916.31	3,151.35	2,896.35	255.00	12.358		
15,100.00	9,065.00	14,961.52	8,840.00	129.65	129.66	-85.68	2,870.78	6,016.31	3,150.84	2,891.89	258.95	12.168		
15,200.00	9,065.00	15,061.52	8,840.00	131.63	131.64	-85.68	2,871.37	6,116.30	3,150.34	2,887.43	262.91	11.983		
15,300.00	9,065.00	15,161.52	8,840.00	133.62	133.62	-85.68	2,871.97	6,216.30	3,149.83	2,882.97	266.86	11.803		
15,400.00	9,065.00	15,261.52	8,840.00	135.61	135.60	-85.68	2,872.56	6,316.30	3,149.32	2,878.50	270.83	11.629		
15,500.00	9,065.00	15,361.52	8,840.00	137.60	137.59	-85.68	2,873.15	6,416.29	3,148.82	2,874.02	274.79	11.459		
15,600.00	9,065.00	15,461.51	8,840.00	139.59	139.58	-85.68	2,873.75	6,516.29	3,148.31	2,869.55	278.76	11.294		
15,700.00	9,065.00	15,561.51	8,840.00	141.58	141.57	-85.67	2,874.34	6,616.29	3,147.81	2,865.07	282.74	11.133		
15,800.00	9,065.00	15,661.51	8,840.00	143.57	143.56	-85.67	2,874.94	6,716.29	3,147.30	2,860.59	286.71	10.977		
15,900.00	9,065.00	15,761.51	8,840.00	145.57	145.55	-85.67	2,875.53	6,816.28	3,146.80	2,856.10	290.69	10.825		
16,000.00	9,065.00	15,861.51	8,840.00	147.56	147.55	-85.67	2,876.12	6,916.28	3,146.29	2,851.62	294.67	10.677		
16,100.00	9,065.00	15,961.51	8,840.00	149.56	149.54	-85.67	2,876.72	7,016.28	3,145.78	2,847.13	298.66	10.533		
16,200.00	9,065.00	16,061.51	8,840.00	151.56	151.54	-85.67	2,877.31	7,116.27	3,145.28	2,842.63	302.65	10.393		
16,300.00	9,065.00	16,161.51	8,840.00	153.56	153.54	-85.67	2,877.90	7,216.27	3,144.77	2,838.14	306.63	10.256		
16,400.00	9,065.00	16,261.50	8,840.00	155.56	155.54	-85.67	2,878.50	7,316.27	3,144.27	2,833.64	310.63	10.122		
16,500.00	9,065.00	16,361.50	8,840.00	157.57	157.54	-85.67	2,879.09	7,416.26	3,143.76	2,829.14	314.62	9.992		
16,600.00	9,065.00	16,461.50	8,840.00	159.57	159.54	-85.67	2,879.68	7,516.26	3,143.26	2,824.64	318.62	9.865		
16,700.00	9,065.00	16,561.50	8,840.00	161.57	161.55	-85.67	2,880.28	7,616.26	3,142.75	2,820.13	322.62	9.741		
16,800.00	9,065.00	16,661.50	8,840.00	163.58	163.55	-85.67	2,880.87	7,716.26	3,142.24	2,815.63	326.62	9.621		
16,900.00	9,065.00	16,761.50	8,840.00	165.59	165.56	-85.67	2,881.46	7,816.25	3,141.74	2,811.12	330.62	9.503		
17,000.00	9,065.00	16,861.50	8,840.00	167.60	167.56	-85.67	2,882.06	7,916.25	3,141.23	2,806.61	334.62	9.387		
17,100.00	9,065.00	16,961.49	8,840.00	169.60	169.57	-85.66	2,882.65	8,016.25	3,140.73	2,802.10	338.63	9.275		
17,200.00	9,065.00	17,061.49	8,840.00	171.61	171.58	-85.66	2,883.24	8,116.24	3,140.22	2,797.58	342.64	9.165		
17,300.00	9,065.00	17,161.49	8,840.00	173.62	173.59	-85.66	2,883.84	8,216.24	3,139.72	2,793.07	346.65	9.057		
17,400.00	9,065.00	17,261.49	8,840.00	175.63	175.60	-85.66	2,884.43	8,316.24	3,139.21	2,788.55	350.66	8.952		
17,500.00	9,065.00	17,361.49	8,840.00	177.65	177.61	-85.66	2,885.02	8,416.23	3,138.70	2,784.03	354.67	8.850		
17,600.00	9,065.00	17,461.49	8,840.00	179.66	179.62	-85.66	2,885.62	8,516.23	3,138.20	2,779.51	358.69	8.749		
17,700.00	9,065.00	17,561.49	8,840.00	181.67	181.63	-85.66	2,886.21	8,616.23	3,137.69	2,774.99	362.70	8.651		
17,800.00	9,065.00	17,661.49	8,840.00	183.69	183.65	-85.66	2,886.80	8,716.22	3,137.19	2,770.47	366.72	8.555		
17,900.00	9,065.00	17,761.48	8,840.00	185.70	185.66	-85.66	2,887.40	8,816.22	3,136.68	2,765.94	370.74	8.461		
18,000.00	9,065.00	17,861.48	8,840.00	187.72	187.67	-85.66	2,887.99	8,916.22	3,136.18	2,761.41	374.76	8.368		
18,100.00	9,065.00	17,961.48	8,840.00	189.73	189.69	-85.66	2,888.58	9,016.22	3,135.67	2,756.89	378.78	8.278		
18,200.00	9,065.00	18,061.48	8,840.00	191.75	191.70	-85.66	2,889.18	9,116.21	3,135.17	2,752.36	382.81	8.190		
18,300.00	9,065.00	18,161.48	8,840.00	193.77	193.72	-85.66	2,889.77	9,216.21	3,134.66	2,747.83	386.83	8.103		
18,400.00	9,065.00	18,261.48	8,840.00	195.78	195.74	-85.66	2,890.36	9,316.21	3,134.15	2,743.30	390.86	8.019		
18,500.00	9,065.00	18,361.48	8,840.00	197.80	197.76	-85.66	2,890.96	9,416.20	3,133.65	2,738.76	394.88	7.936		
18,600.00	9,065.00	18,461.48	8,840.00	199.82	199.77	-85.65	2,891.55	9,516.20	3,133.14	2,734.23	398.91	7.854		
18,700.00	9,065.00	18,561.47	8,840.00	201.84	201.79	-85.65	2,892.14	9,616.20	3,132.64	2,729.70	402.94	7.774		
18,800.00	9,065.00	18,661.47	8,840.00	203.86	203.81	-85.65	2,892.74	9,716.19	3,132.13	2,725.16	406.97	7.696		
18,900.00	9,065.00	18,761.47	8,840.00	205.88	205.83	-85.65	2,893.33	9,816.19	3,131.63	2,720.62	411.00	7.620		
19,000.00	9,065.00	18,861.47	8,840.00	207.90	207.85	-85.65	2,893.92	9,916.19	3,131.12	2,716.09	415.03	7.544		
19,100.00	9,065.00	18,961.47	8,840.00	209.92	209.87	-85.65	2,894.52	10,016.19	3,130.61	2,711.55	419.07	7.470		
19,200.00	9,065.00	19,061.47	8,840.00	211.95	211.90	-85.65	2,895.11	10,116.18	3,130.11	2,707.01	423.10	7.398		
19,300.00	9,065.00	19,161.47	8,840.00	213.97	213.92	-85.65	2,895.70	10,216.18	3,129.60	2,702.47	427.13	7.327		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Sec 14-T21S-R27E - Lone Tree Draw 14-13 State Com 331H - Wellbore #1 - Permit Plan 1		Offset Site Error:		0.00 ft	
Survey Program: 0-MWD+IFR1															Offset Well Error:		0.50 ft	
Reference		Offset		Semi Major Axis			Distance							Warning				
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor						
19,400.00	9,065.00	19,261.47	8,840.00	215.99	215.94	-85.65	2,896.30	10,316.18	3,129.10	2,697.93	431.17	7.257						
19,456.84	9,065.00	19,318.31	8,840.00	217.14	217.09	-85.65	2,896.63	10,373.02	3,128.81	2,695.35	433.46	7.218 SF						

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 0-MWD+IFR1													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0.00	0.00	11.10	11.10	0.50	0.50	-0.13	1,558.67	-3.41	1,558.68					
100.00	100.00	111.10	111.10	0.52	0.53	-0.13	1,558.67	-3.41	1,558.68	1,557.63	1.05	1,488.369		
200.00	200.00	211.10	211.10	0.70	0.73	-0.13	1,558.67	-3.41	1,558.68	1,557.24	1.43	1,087.937		
300.00	300.00	311.10	311.10	0.99	1.02	-0.13	1,558.67	-3.41	1,558.68	1,556.67	2.01	775.778		
400.00	400.00	411.10	411.10	1.31	1.35	-0.13	1,558.67	-3.41	1,558.68	1,556.02	2.66	587.064		
500.00	500.00	511.10	511.10	1.65	1.68	-0.13	1,558.67	-3.41	1,558.68	1,555.35	3.33	468.053		
600.00	600.00	611.10	611.10	1.99	2.03	-0.13	1,558.67	-3.41	1,558.68	1,554.66	4.02	387.755		
700.00	700.00	711.10	711.10	2.34	2.38	-0.13	1,558.67	-3.41	1,558.68	1,553.96	4.72	330.402		
800.00	800.00	811.10	811.10	2.69	2.73	-0.13	1,558.67	-3.41	1,558.68	1,553.26	5.42	287.563		
900.00	900.00	911.10	911.10	3.04	3.08	-0.13	1,558.67	-3.41	1,558.68	1,552.55	6.13	254.421		
1,000.00	1,000.00	1,011.10	1,011.10	3.40	3.44	-0.13	1,558.67	-3.41	1,558.68	1,551.84	6.83	228.054		
1,100.00	1,100.00	1,111.10	1,111.10	3.75	3.79	-0.13	1,558.67	-3.41	1,558.68	1,551.13	7.54	206.594		
1,200.00	1,200.00	1,211.10	1,211.10	4.11	4.15	-0.13	1,558.67	-3.41	1,558.68	1,550.42	8.26	188.798		
1,300.00	1,300.00	1,311.10	1,311.10	4.46	4.50	-0.13	1,558.67	-3.41	1,558.68	1,549.71	8.97	173.806		
1,400.00	1,400.00	1,411.10	1,411.10	4.82	4.86	-0.13	1,558.67	-3.41	1,558.68	1,549.00	9.68	161.009		
1,500.00	1,500.00	1,511.10	1,511.10	5.18	5.22	-0.13	1,558.67	-3.41	1,558.68	1,548.28	10.39	149.958		
1,600.00	1,600.00	1,611.10	1,611.10	5.53	5.57	-0.13	1,558.67	-3.41	1,558.68	1,547.57	11.11	140.322		
1,700.00	1,700.00	1,711.10	1,711.10	5.89	5.93	-0.13	1,558.67	-3.41	1,558.68	1,546.85	11.82	131.844		
1,800.00	1,800.00	1,811.10	1,811.10	6.25	6.29	-0.13	1,558.67	-3.41	1,558.68	1,546.14	12.54	124.330		
1,900.00	1,900.00	1,911.10	1,911.10	6.61	6.65	-0.13	1,558.67	-3.41	1,558.68	1,545.43	13.25	117.624		
2,000.00	2,000.00	2,011.10	2,011.10	6.96	7.00	-0.13	1,558.67	-3.41	1,558.68	1,544.71	13.97	111.602		
2,100.00	2,100.00	2,111.10	2,111.10	7.32	7.36	-0.13	1,558.67	-3.41	1,558.68	1,544.00	14.68	106.165		
2,200.00	2,200.00	2,211.10	2,211.10	7.68	7.72	-0.13	1,558.67	-3.41	1,558.68	1,543.28	15.40	101.233		
2,300.00	2,300.00	2,311.10	2,311.10	8.04	8.08	-0.13	1,558.67	-3.41	1,558.68	1,542.56	16.11	96.737		
2,400.00	2,400.00	2,411.10	2,411.10	8.39	8.43	-0.13	1,558.67	-3.41	1,558.68	1,541.85	16.83	92.624		
2,500.00	2,500.00	2,511.10	2,511.10	8.75	8.79	-0.13	1,558.67	-3.41	1,558.68	1,541.13	17.54	88.845 CC, ES		
2,600.00	2,599.99	2,611.09	2,611.09	9.09	9.15	145.81	1,558.67	-3.41	1,559.40	1,541.16	18.24	85.479		
2,700.00	2,699.96	2,708.94	2,708.94	9.42	9.50	145.85	1,558.68	-3.41	1,561.57	1,542.65	18.92	82.536		
2,800.00	2,799.86	2,789.66	2,789.66	9.75	9.79	145.89	1,559.28	-3.76	1,565.93	1,546.40	19.54	80.158		
2,900.00	2,899.68	2,870.21	2,870.19	10.08	10.07	145.92	1,560.87	-4.66	1,572.96	1,552.81	20.15	78.066		
2,945.33	2,944.88	2,906.65	2,906.60	10.23	10.20	145.93	1,561.91	-5.25	1,577.02	1,556.59	20.43	77.204		
3,000.00	2,999.39	2,950.53	2,950.45	10.41	10.36	145.96	1,563.44	-6.11	1,582.43	1,561.67	20.76	76.223		
3,100.00	3,099.08	3,030.66	3,030.48	10.75	10.65	146.02	1,566.97	-8.12	1,593.26	1,571.89	21.37	74.558		
3,200.00	3,198.78	3,110.59	3,110.23	11.08	10.93	146.05	1,571.46	-10.67	1,605.29	1,583.32	21.98	73.047		
3,300.00	3,298.48	3,190.27	3,189.67	11.42	11.21	146.06	1,576.90	-13.76	1,618.53	1,595.95	22.58	71.679		
3,400.00	3,398.18	3,273.66	3,272.71	11.76	11.51	146.05	1,583.59	-17.56	1,632.93	1,609.73	23.20	70.386		
3,500.00	3,497.88	3,372.56	3,371.15	12.10	11.86	146.04	1,591.89	-22.27	1,647.71	1,623.82	23.89	68.968		
3,600.00	3,597.58	3,471.46	3,469.59	12.45	12.22	146.02	1,600.19	-26.99	1,662.49	1,637.90	24.58	67.625		
3,700.00	3,697.27	3,570.37	3,568.03	12.79	12.57	146.00	1,608.48	-31.70	1,677.26	1,651.99	25.28	66.351		
3,800.00	3,796.97	3,669.27	3,666.47	13.14	12.93	145.99	1,616.78	-36.41	1,692.04	1,666.07	25.97	65.142		
3,900.00	3,896.67	3,768.17	3,764.91	13.48	13.28	145.97	1,625.08	-41.12	1,706.82	1,680.15	26.67	63.993		
4,000.00	3,996.37	3,867.07	3,863.35	13.83	13.63	145.96	1,633.37	-45.83	1,721.60	1,694.23	27.37	62.899		
4,100.00	4,096.07	3,965.97	3,961.79	14.18	13.99	145.94	1,641.67	-50.54	1,736.38	1,708.31	28.07	61.857		
4,200.00	4,195.76	4,064.87	4,060.22	14.53	14.34	145.93	1,649.97	-55.26	1,751.16	1,722.39	28.77	60.863		
4,300.00	4,295.46	4,163.77	4,158.66	14.88	14.70	145.91	1,658.26	-59.97	1,765.94	1,736.47	29.47	59.915		
4,400.00	4,395.16	4,262.67	4,257.10	15.23	15.06	145.90	1,666.56	-64.68	1,780.72	1,750.54	30.18	59.009		
4,500.00	4,494.86	4,361.57	4,355.54	15.58	15.41	145.89	1,674.86	-69.39	1,795.50	1,764.62	30.88	58.143		
4,600.00	4,594.56	4,460.47	4,453.98	15.93	15.77	145.87	1,683.15	-74.10	1,810.28	1,778.69	31.59	57.313		
4,700.00	4,694.25	4,559.37	4,552.42	16.29	16.13	145.86	1,691.45	-78.81	1,825.06	1,792.77	32.29	56.519		
4,800.00	4,793.95	4,658.27	4,650.86	16.64	16.48	145.85	1,699.75	-83.53	1,839.84	1,806.84	33.00	55.757		
4,900.00	4,893.65	4,757.18	4,749.30	17.00	16.84	145.83	1,708.04	-88.24	1,854.62	1,820.92	33.70	55.026		
5,000.00	4,993.35	4,856.08	4,847.74	17.35	17.20	145.82	1,716.34	-92.95	1,869.40	1,834.99	34.41	54.324		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 0-MWD+IFR1													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
5,100.00	5,093.05	4,954.98	4,946.18	17.71	17.56	145.81	1,724.64	-97.66	1,884.18	1,849.06	35.12	53.649		
5,200.00	5,192.75	5,053.88	5,044.62	18.06	17.91	145.80	1,732.93	-102.37	1,898.96	1,863.13	35.83	53.001		
5,300.00	5,292.44	5,152.78	5,143.06	18.42	18.27	145.78	1,741.23	-107.08	1,913.74	1,877.20	36.54	52.376		
5,400.00	5,392.14	5,251.68	5,241.50	18.77	18.63	145.77	1,749.53	-111.80	1,928.52	1,891.27	37.25	51.775		
5,500.00	5,491.84	5,350.58	5,339.94	19.13	18.99	145.76	1,757.82	-116.51	1,943.30	1,905.34	37.96	51.195		
5,600.00	5,591.54	5,449.48	5,438.38	19.49	19.35	145.75	1,766.12	-121.22	1,958.08	1,919.41	38.67	50.637		
5,700.00	5,691.24	5,548.38	5,536.82	19.85	19.70	145.74	1,774.42	-125.93	1,972.86	1,933.48	39.38	50.097		
5,800.00	5,790.93	5,647.28	5,635.26	20.20	20.06	145.72	1,782.71	-130.64	1,987.65	1,947.55	40.09	49.577		
5,900.00	5,890.63	5,746.18	5,733.70	20.56	20.42	145.71	1,791.01	-135.36	2,002.43	1,961.62	40.80	49.074		
6,000.00	5,990.33	5,845.08	5,832.14	20.92	20.78	145.70	1,799.31	-140.07	2,017.21	1,975.69	41.52	48.588		
6,100.00	6,090.03	5,943.99	5,930.58	21.28	21.14	145.69	1,807.60	-144.78	2,031.99	1,989.76	42.23	48.118		
6,200.00	6,189.73	6,042.89	6,029.02	21.64	21.50	145.68	1,815.90	-149.49	2,046.77	2,003.83	42.94	47.663		
6,300.00	6,289.42	6,141.79	6,127.45	22.00	21.86	145.67	1,824.20	-154.20	2,061.55	2,017.90	43.66	47.223		
6,400.00	6,389.12	6,240.69	6,225.89	22.36	22.22	145.66	1,832.49	-158.91	2,076.33	2,031.96	44.37	46.796		
6,500.00	6,488.82	6,339.59	6,324.33	22.72	22.57	145.65	1,840.79	-163.63	2,091.11	2,046.03	45.08	46.383		
6,600.00	6,588.52	6,438.49	6,422.77	23.08	22.93	145.64	1,849.09	-168.34	2,105.90	2,060.10	45.80	45.982		
6,700.00	6,688.22	6,537.39	6,521.21	23.44	23.29	145.63	1,857.38	-173.05	2,120.68	2,074.16	46.51	45.593		
6,800.00	6,787.91	6,636.29	6,619.65	23.80	23.65	145.62	1,865.68	-177.76	2,135.46	2,088.23	47.23	45.216		
6,900.00	6,887.61	6,735.19	6,718.09	24.16	24.01	145.61	1,873.98	-182.47	2,150.24	2,102.30	47.94	44.850		
7,000.00	6,987.31	6,834.09	6,816.53	24.52	24.37	145.60	1,882.27	-187.18	2,165.02	2,116.36	48.66	44.494		
7,100.00	7,087.01	6,932.99	6,914.97	24.88	24.73	145.59	1,890.57	-191.90	2,179.80	2,130.43	49.37	44.149		
7,200.00	7,186.71	7,031.89	7,013.41	25.24	25.09	145.58	1,898.87	-196.61	2,194.59	2,144.50	50.09	43.813		
7,300.00	7,286.41	7,130.80	7,111.85	25.60	25.45	145.57	1,907.16	-201.32	2,209.37	2,158.56	50.81	43.486		
7,400.00	7,386.10	7,229.70	7,210.29	25.96	25.81	145.56	1,915.46	-206.03	2,224.15	2,172.63	51.52	43.168		
7,500.00	7,485.80	7,328.60	7,308.73	26.33	26.17	145.56	1,923.76	-210.74	2,238.93	2,186.69	52.24	42.859		
7,600.00	7,585.50	7,427.50	7,407.17	26.69	26.53	145.55	1,932.05	-215.45	2,253.71	2,200.76	52.96	42.558		
7,700.00	7,685.20	7,526.40	7,505.61	27.05	26.89	145.54	1,940.35	-220.17	2,268.50	2,214.82	53.67	42.265		
7,800.00	7,784.90	7,631.36	7,610.08	27.41	27.27	145.53	1,949.14	-225.16	2,283.27	2,228.85	54.42	41.956		
7,860.70	7,845.41	7,757.20	7,735.54	27.63	27.73	145.55	1,957.57	-229.94	2,291.22	2,236.05	55.17	41.530		
7,900.00	7,884.61	7,839.15	7,817.39	27.77	28.02	145.62	1,961.12	-231.96	2,295.28	2,239.64	55.64	41.255		
8,000.00	7,984.46	8,017.36	7,995.56	28.13	28.66	145.77	1,963.67	-233.41	2,300.99	2,244.34	56.65	40.621		
8,100.00	8,084.42	8,117.32	8,095.52	28.49	29.01	145.83	1,963.67	-233.41	2,303.32	2,245.96	57.35	40.159		
8,157.59	8,142.00	8,174.90	8,153.10	28.69	29.21	-0.08	1,963.67	-233.41	2,303.68	2,245.92	57.76	39.885		
8,200.00	8,184.41	8,217.31	8,195.51	28.83	29.37	-0.08	1,963.67	-233.41	2,303.68	2,245.62	58.05	39.682		
8,300.00	8,284.41	8,317.31	8,295.51	29.17	29.72	-0.08	1,963.67	-233.41	2,303.68	2,244.93	58.75	39.213		
8,303.26	8,287.67	8,320.57	8,298.77	29.18	29.73	-0.08	1,963.67	-233.41	2,303.68	2,244.91	58.77	39.198		
8,400.00	8,384.41	8,415.46	8,393.43	29.51	30.05	0.04	1,963.70	-228.29	2,303.71	2,244.29	59.42	38.770		
8,507.63	8,492.04	8,515.79	8,491.19	29.87	30.38	0.59	1,963.83	-206.30	2,303.99	2,243.87	60.12	38.325		
8,550.00	8,534.37	8,553.23	8,526.46	30.02	30.51	-88.48	1,963.91	-193.77	2,304.23	2,243.85	60.38	38.162		
8,600.00	8,584.01	8,596.59	8,566.18	30.18	30.64	-88.13	1,964.01	-176.41	2,304.58	2,243.89	60.68	37.977		
8,650.00	8,632.95	8,639.15	8,603.79	30.34	30.78	-87.80	1,964.13	-156.50	2,304.97	2,243.99	60.98	37.799		
8,700.00	8,680.82	8,680.99	8,639.22	30.50	30.91	-87.48	1,964.26	-134.25	2,305.40	2,244.13	61.27	37.628		
8,750.00	8,727.25	8,722.19	8,672.43	30.66	31.04	-87.17	1,964.41	-109.88	2,305.85	2,244.30	61.55	37.464		
8,800.00	8,771.89	8,762.83	8,703.38	30.81	31.17	-86.89	1,964.57	-83.57	2,306.31	2,244.49	61.82	37.305		
8,850.00	8,814.40	8,802.95	8,732.04	30.95	31.29	-86.63	1,964.74	-55.50	2,306.76	2,244.67	62.09	37.149		
8,900.00	8,854.46	8,842.63	8,758.38	31.09	31.42	-86.38	1,964.91	-25.84	2,307.20	2,244.84	62.37	36.994		
8,950.00	8,891.75	8,881.91	8,782.37	31.23	31.56	-86.16	1,965.10	5.26	2,307.61	2,244.96	62.64	36.838		
9,000.00	8,926.01	8,920.85	8,804.00	31.37	31.70	-85.97	1,965.29	37.63	2,307.97	2,245.04	62.93	36.676		
9,050.00	8,956.96	8,959.50	8,823.24	31.53	31.85	-85.80	1,965.49	71.14	2,308.28	2,245.05	63.23	36.508		
9,100.00	8,984.38	8,997.90	8,840.08	31.69	32.00	-85.65	1,965.70	105.64	2,308.53	2,244.98	63.54	36.330		
9,150.00	9,008.05	9,036.09	8,854.50	31.87	32.16	-85.53	1,965.91	140.99	2,308.70	2,244.82	63.89	36.138		
9,200.00	9,027.79	9,074.11	8,866.48	32.07	32.34	-85.44	1,966.12	177.07	2,308.80	2,244.54	64.26	35.931		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 0-MWD+IFR1													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
9,250.00	9,043.45	9,112.00	8,876.02	32.29	32.52	-85.38	1,966.34	213.73	2,308.81	2,244.16	64.65	35.710		
9,300.00	9,054.92	9,150.00	8,883.13	32.53	32.71	-85.35	1,966.56	251.05	2,308.74	2,243.66	65.08	35.474		
9,350.00	9,062.10	9,187.55	8,887.70	32.79	32.91	-85.34	1,966.79	288.31	2,308.58	2,243.04	65.54	35.223		
9,400.00	9,064.95	9,225.28	8,889.84	33.06	33.12	-85.37	1,967.01	325.97	2,308.33	2,242.31	66.03	34.961		
9,407.63	9,065.00	9,231.03	8,889.95	33.10	33.15	-85.37	1,967.05	331.73	2,308.29	2,242.18	66.10	34.920		
9,500.00	9,065.00	9,320.87	8,890.00	33.68	33.71	-85.37	1,967.58	421.56	2,307.82	2,240.58	67.24	34.322		
9,600.00	9,065.00	9,420.87	8,890.00	34.41	34.43	-85.37	1,968.18	521.56	2,307.31	2,238.62	68.69	33.590		
9,700.00	9,065.00	9,520.86	8,890.00	35.24	35.26	-85.37	1,968.78	621.56	2,306.81	2,236.46	70.35	32.791		
9,800.00	9,065.00	9,620.86	8,890.00	36.17	36.18	-85.37	1,969.37	721.55	2,306.31	2,234.11	72.20	31.943		
9,900.00	9,065.00	9,720.86	8,890.00	37.19	37.19	-85.37	1,969.97	821.55	2,305.81	2,231.58	74.23	31.063		
10,000.00	9,065.00	9,820.86	8,890.00	38.30	38.29	-85.37	1,970.57	921.55	2,305.31	2,228.88	76.42	30.165		
10,100.00	9,065.00	9,920.86	8,890.00	39.48	39.46	-85.37	1,971.16	1,021.54	2,304.80	2,226.04	78.77	29.260		
10,200.00	9,065.00	10,020.86	8,890.00	40.72	40.70	-85.37	1,971.76	1,121.54	2,304.30	2,223.05	81.25	28.361		
10,300.00	9,065.00	10,120.86	8,890.00	42.03	42.01	-85.37	1,972.36	1,221.54	2,303.80	2,219.94	83.86	27.473		
10,400.00	9,065.00	10,220.86	8,890.00	43.40	43.37	-85.37	1,972.95	1,321.53	2,303.30	2,216.72	86.58	26.604		
10,500.00	9,065.00	10,320.85	8,890.00	44.82	44.78	-85.36	1,973.55	1,421.53	2,302.80	2,213.39	89.40	25.758		
10,600.00	9,065.00	10,420.85	8,890.00	46.29	46.24	-85.36	1,974.15	1,521.53	2,302.29	2,209.97	92.32	24.938		
10,700.00	9,065.00	10,520.85	8,890.00	47.79	47.74	-85.36	1,974.74	1,621.52	2,301.79	2,206.47	95.33	24.147		
10,800.00	9,065.00	10,620.85	8,890.00	49.34	49.29	-85.36	1,975.34	1,721.52	2,301.29	2,202.88	98.41	23.386		
10,900.00	9,065.00	10,720.85	8,890.00	50.92	50.87	-85.36	1,975.94	1,821.52	2,300.79	2,199.23	101.56	22.655		
11,000.00	9,065.00	10,820.85	8,890.00	52.54	52.48	-85.36	1,976.53	1,921.52	2,300.29	2,195.51	104.77	21.955		
11,100.00	9,065.00	10,920.85	8,890.00	54.18	54.12	-85.36	1,977.13	2,021.51	2,299.78	2,191.73	108.05	21.285		
11,200.00	9,065.00	11,020.84	8,890.00	55.85	55.78	-85.36	1,977.73	2,121.51	2,299.28	2,187.90	111.38	20.644		
11,300.00	9,065.00	11,120.84	8,890.00	57.54	57.48	-85.36	1,978.32	2,221.51	2,298.78	2,184.03	114.75	20.032		
11,400.00	9,065.00	11,220.84	8,890.00	59.26	59.19	-85.36	1,978.92	2,321.50	2,298.28	2,180.10	118.17	19.448		
11,500.00	9,065.00	11,320.84	8,890.00	61.00	60.92	-85.35	1,979.52	2,421.50	2,297.78	2,176.14	121.64	18.891		
11,600.00	9,065.00	11,420.84	8,890.00	62.75	62.68	-85.35	1,980.12	2,521.50	2,297.27	2,172.14	125.13	18.358		
11,700.00	9,065.00	11,520.84	8,890.00	64.52	64.45	-85.35	1,980.71	2,621.49	2,296.77	2,168.10	128.67	17.850		
11,800.00	9,065.00	11,620.84	8,890.00	66.31	66.24	-85.35	1,981.31	2,721.49	2,296.27	2,164.04	132.23	17.365		
11,900.00	9,065.00	11,720.84	8,890.00	68.11	68.04	-85.35	1,981.91	2,821.49	2,295.77	2,159.94	135.83	16.902		
12,000.00	9,065.00	11,820.83	8,890.00	69.93	69.85	-85.35	1,982.50	2,921.49	2,295.27	2,155.82	139.45	16.460		
12,100.00	9,065.00	11,920.83	8,890.00	71.76	71.68	-85.35	1,983.10	3,021.48	2,294.76	2,151.67	143.09	16.037		
12,200.00	9,065.00	12,020.83	8,890.00	73.60	73.52	-85.35	1,983.70	3,121.48	2,294.26	2,147.50	146.76	15.633		
12,300.00	9,065.00	12,120.83	8,890.00	75.45	75.37	-85.35	1,984.29	3,221.48	2,293.76	2,143.31	150.45	15.246		
12,400.00	9,065.00	12,220.83	8,890.00	77.31	77.23	-85.35	1,984.89	3,321.47	2,293.26	2,139.10	154.16	14.876		
12,500.00	9,065.00	12,320.83	8,890.00	79.18	79.09	-85.34	1,985.49	3,421.47	2,292.75	2,134.87	157.89	14.522		
12,600.00	9,065.00	12,420.83	8,890.00	81.05	80.97	-85.34	1,986.08	3,521.47	2,292.25	2,130.62	161.63	14.182		
12,700.00	9,065.00	12,520.83	8,890.00	82.94	82.86	-85.34	1,986.68	3,621.46	2,291.75	2,126.36	165.39	13.856		
12,800.00	9,065.00	12,620.82	8,890.00	84.83	84.75	-85.34	1,987.28	3,721.46	2,291.25	2,122.08	169.17	13.544		
12,900.00	9,065.00	12,720.82	8,890.00	86.73	86.65	-85.34	1,987.87	3,821.46	2,290.75	2,117.79	172.96	13.245		
13,000.00	9,065.00	12,820.82	8,890.00	88.64	88.55	-85.34	1,988.47	3,921.45	2,290.24	2,113.49	176.76	12.957		
13,100.00	9,065.00	12,920.82	8,890.00	90.55	90.47	-85.34	1,989.07	4,021.45	2,289.74	2,109.17	180.57	12.680		
13,200.00	9,065.00	13,020.82	8,890.00	92.47	92.39	-85.34	1,989.66	4,121.45	2,289.24	2,104.84	184.40	12.415		
13,300.00	9,065.00	13,120.82	8,890.00	94.39	94.31	-85.34	1,990.26	4,221.45	2,288.74	2,100.50	188.23	12.159		
13,400.00	9,065.00	13,220.82	8,890.00	96.32	96.24	-85.33	1,990.86	4,321.44	2,288.24	2,096.16	192.08	11.913		
13,500.00	9,065.00	13,320.82	8,890.00	98.25	98.17	-85.33	1,991.45	4,421.44	2,287.73	2,091.80	195.94	11.676		
13,600.00	9,065.00	13,420.81	8,890.00	100.19	100.11	-85.33	1,992.05	4,521.44	2,287.23	2,087.43	199.80	11.447		
13,700.00	9,065.00	13,520.81	8,890.00	102.13	102.05	-85.33	1,992.65	4,621.43	2,286.73	2,083.06	203.68	11.227		
13,800.00	9,065.00	13,620.81	8,890.00	104.08	104.00	-85.33	1,993.25	4,721.43	2,286.23	2,078.67	207.56	11.015		
13,900.00	9,065.00	13,720.81	8,890.00	106.03	105.95	-85.33	1,993.84	4,821.43	2,285.73	2,074.28	211.45	10.810		
14,000.00	9,065.00	13,820.81	8,890.00	107.98	107.90	-85.33	1,994.44	4,921.42	2,285.22	2,069.88	215.34	10.612		
14,100.00	9,065.00	13,920.81	8,890.00	109.94	109.86	-85.33	1,995.04	5,021.42	2,284.72	2,065.48	219.24	10.421		

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design Sec 14-T21S-R27E - Lone Tree Draw 14-13 State Com 332H - Wellbore #1 - Permit Plan 1													Offset Site Error:	0.00 ft
Survey Program: 0-MWD+IFR1													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
14,200.00	9,065.00	14,020.81	8,890.00	111.90	111.82	-85.33	1,995.63	5,121.42	2,284.22	2,061.07	223.15	10.236		
14,300.00	9,065.00	14,120.81	8,890.00	113.86	113.78	-85.33	1,996.23	5,221.42	2,283.72	2,056.65	227.07	10.057		
14,400.00	9,065.00	14,220.80	8,890.00	115.82	115.74	-85.32	1,996.83	5,321.41	2,283.22	2,052.23	230.99	9.885		
14,500.00	9,065.00	14,320.80	8,890.00	117.79	117.71	-85.32	1,997.42	5,421.41	2,282.71	2,047.80	234.91	9.717		
14,600.00	9,065.00	14,420.80	8,890.00	119.76	119.68	-85.32	1,998.02	5,521.41	2,282.21	2,043.37	238.84	9.555		
14,700.00	9,065.00	14,520.80	8,890.00	121.74	121.66	-85.32	1,998.62	5,621.40	2,281.71	2,038.93	242.78	9.398		
14,800.00	9,065.00	14,620.80	8,890.00	123.71	123.63	-85.32	1,999.21	5,721.40	2,281.21	2,034.49	246.72	9.246		
14,900.00	9,065.00	14,720.80	8,890.00	125.69	125.61	-85.32	1,999.81	5,821.40	2,280.71	2,030.04	250.67	9.099		
15,000.00	9,065.00	14,820.80	8,890.00	127.67	127.59	-85.32	2,000.41	5,921.39	2,280.20	2,025.59	254.62	8.955		
15,100.00	9,065.00	14,920.80	8,890.00	129.65	129.58	-85.32	2,001.00	6,021.39	2,279.70	2,021.13	258.57	8.817		
15,200.00	9,065.00	15,020.79	8,890.00	131.63	131.56	-85.32	2,001.60	6,121.39	2,279.20	2,016.67	262.53	8.682		
15,300.00	9,065.00	15,120.79	8,890.00	133.62	133.55	-85.32	2,002.20	6,221.38	2,278.70	2,012.21	266.49	8.551		
15,400.00	9,065.00	15,220.79	8,890.00	135.61	135.53	-85.31	2,002.79	6,321.38	2,278.20	2,007.74	270.45	8.424		
15,500.00	9,065.00	15,320.79	8,890.00	137.60	137.52	-85.31	2,003.39	6,421.38	2,277.69	2,003.27	274.42	8.300		
15,600.00	9,065.00	15,420.79	8,890.00	139.59	139.52	-85.31	2,003.99	6,521.38	2,277.19	1,998.80	278.39	8.180		
15,700.00	9,065.00	15,520.79	8,890.00	141.58	141.51	-85.31	2,004.58	6,621.37	2,276.69	1,994.32	282.37	8.063		
15,800.00	9,065.00	15,620.79	8,890.00	143.57	143.50	-85.31	2,005.18	6,721.37	2,276.19	1,989.84	286.34	7.949		
15,900.00	9,065.00	15,720.79	8,890.00	145.57	145.50	-85.31	2,005.78	6,821.37	2,275.69	1,985.36	290.32	7.838		
16,000.00	9,065.00	15,820.78	8,890.00	147.56	147.50	-85.31	2,006.38	6,921.36	2,275.18	1,980.88	294.31	7.731		
16,100.00	9,065.00	15,920.78	8,890.00	149.56	149.50	-85.31	2,006.97	7,021.36	2,274.68	1,976.39	298.29	7.626		
16,200.00	9,065.00	16,020.78	8,890.00	151.56	151.50	-85.31	2,007.57	7,121.36	2,274.18	1,971.90	302.28	7.523		
16,300.00	9,065.00	16,120.78	8,890.00	153.56	153.50	-85.31	2,008.17	7,221.35	2,273.68	1,967.41	306.27	7.424		
16,400.00	9,065.00	16,220.78	8,890.00	155.56	155.50	-85.30	2,008.76	7,321.35	2,273.18	1,962.91	310.26	7.327		
16,500.00	9,065.00	16,320.78	8,890.00	157.57	157.50	-85.30	2,009.36	7,421.35	2,272.67	1,958.41	314.26	7.232		
16,600.00	9,065.00	16,420.78	8,890.00	159.57	159.51	-85.30	2,009.96	7,521.35	2,272.17	1,953.91	318.26	7.139		
16,700.00	9,065.00	16,520.78	8,890.00	161.57	161.51	-85.30	2,010.55	7,621.34	2,271.67	1,949.41	322.26	7.049		
16,800.00	9,065.00	16,620.77	8,890.00	163.58	163.52	-85.30	2,011.15	7,721.34	2,271.17	1,944.91	326.26	6.961		
16,900.00	9,065.00	16,720.77	8,890.00	165.59	165.53	-85.30	2,011.75	7,821.34	2,270.67	1,940.40	330.26	6.875		
17,000.00	9,065.00	16,820.77	8,890.00	167.60	167.53	-85.30	2,012.34	7,921.33	2,270.16	1,935.90	334.27	6.791		
17,100.00	9,065.00	16,920.77	8,890.00	169.60	169.54	-85.30	2,012.94	8,021.33	2,269.66	1,931.39	338.27	6.710		
17,200.00	9,065.00	17,020.77	8,890.00	171.61	171.55	-85.30	2,013.54	8,121.33	2,269.16	1,926.88	342.28	6.630		
17,300.00	9,065.00	17,120.77	8,890.00	173.62	173.57	-85.29	2,014.13	8,221.32	2,268.66	1,922.37	346.29	6.551		
17,400.00	9,065.00	17,220.77	8,890.00	175.63	175.58	-85.29	2,014.73	8,321.32	2,268.16	1,917.85	350.30	6.475		
17,500.00	9,065.00	17,320.77	8,890.00	177.65	177.59	-85.29	2,015.33	8,421.32	2,267.65	1,913.34	354.32	6.400		
17,600.00	9,065.00	17,420.76	8,890.00	179.66	179.60	-85.29	2,015.92	8,521.31	2,267.15	1,908.82	358.33	6.327		
17,700.00	9,065.00	17,520.76	8,890.00	181.67	181.62	-85.29	2,016.52	8,621.31	2,266.65	1,904.30	362.35	6.255		
17,800.00	9,065.00	17,620.76	8,890.00	183.69	183.63	-85.29	2,017.12	8,721.31	2,266.15	1,899.78	366.37	6.185		
17,900.00	9,065.00	17,720.76	8,890.00	185.70	185.65	-85.29	2,017.71	8,821.31	2,265.65	1,895.26	370.39	6.117		
18,000.00	9,065.00	17,820.76	8,890.00	187.72	187.66	-85.29	2,018.31	8,921.30	2,265.14	1,890.74	374.41	6.050		
18,100.00	9,065.00	17,920.76	8,890.00	189.73	189.68	-85.29	2,018.91	9,021.30	2,264.64	1,886.21	378.43	5.984		
18,200.00	9,065.00	18,020.76	8,890.00	191.75	191.70	-85.29	2,019.51	9,121.30	2,264.14	1,881.69	382.45	5.920		
18,300.00	9,065.00	18,120.75	8,890.00	193.77	193.72	-85.28	2,020.10	9,221.29	2,263.64	1,877.16	386.47	5.857		
18,400.00	9,065.00	18,220.75	8,890.00	195.78	195.74	-85.28	2,020.70	9,321.29	2,263.14	1,872.64	390.50	5.795		
18,500.00	9,065.00	18,320.75	8,890.00	197.80	197.76	-85.28	2,021.30	9,421.29	2,262.63	1,868.11	394.53	5.735		
18,600.00	9,065.00	18,420.75	8,890.00	199.82	199.78	-85.28	2,021.89	9,521.28	2,262.13	1,863.58	398.55	5.676		
18,700.00	9,065.00	18,520.75	8,890.00	201.84	201.80	-85.28	2,022.49	9,621.28	2,261.63	1,859.05	402.58	5.618		
18,800.00	9,065.00	18,620.75	8,890.00	203.86	203.82	-85.28	2,023.09	9,721.28	2,261.13	1,854.52	406.61	5.561		
18,900.00	9,065.00	18,720.75	8,890.00	205.88	205.84	-85.28	2,023.68	9,821.28	2,260.63	1,849.98	410.64	5.505		
19,000.00	9,065.00	18,820.75	8,890.00	207.90	207.86	-85.28	2,024.28	9,921.27	2,260.12	1,845.45	414.67	5.450		
19,100.00	9,065.00	18,920.74	8,890.00	209.92	209.88	-85.28	2,024.88	10,021.27	2,259.62	1,840.92	418.71	5.397		
19,200.00	9,065.00	19,020.74	8,890.00	211.95	211.90	-85.27	2,025.47	10,121.27	2,259.12	1,836.38	422.74	5.344		
19,300.00	9,065.00	19,120.74	8,890.00	213.97	213.93	-85.27	2,026.07	10,221.26	2,258.62	1,831.84	426.77	5.292		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design	Sec 14-T21S-R27E - Lone Tree Draw 14-13 State Com 332H - Wellbore #1 - Permit Plan 1											Offset Site Error:	0.00 ft
Survey Program:	0-MWD+IFR1											Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
19,400.00	9,065.00	19,220.74	8,890.00	215.99	215.95	-85.27	2,026.67	10,321.26	2,258.12	1,827.31	430.81	5.242	
19,456.84	9,065.00	19,277.58	8,890.00	217.14	217.10	-85.27	2,027.01	10,378.10	2,257.83	1,824.73	433.10	5.213 SF	

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Sec 14-T21S-R27E - Lone Tree Draw 14-13 State Com 333H - Wellbore #1 - Permit Plan 1													Offset Well Error:	0.50 ft
Survey Program: 0-MWD+IFR1														
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0.00	0.00	0.90	0.90	0.50	0.50	-0.11	59.98	-0.11	59.98					
100.00	100.00	100.90	100.90	0.52	0.52	-0.11	59.98	-0.11	59.98	58.94	1.04	57.876		
200.00	200.00	200.90	200.90	0.70	0.70	-0.11	59.98	-0.11	59.98	58.57	1.41	42.646		
300.00	300.00	300.90	300.90	0.99	0.99	-0.11	59.98	-0.11	59.98	58.00	1.98	30.332		
400.00	400.00	400.90	400.90	1.31	1.31	-0.11	59.98	-0.11	59.98	57.36	2.62	22.883		
500.00	500.00	500.90	500.90	1.65	1.65	-0.11	59.98	-0.11	59.98	56.68	3.30	18.202		
600.00	600.00	600.90	600.90	1.99	1.99	-0.11	59.98	-0.11	59.98	56.00	3.98	15.054		
700.00	700.00	700.90	700.90	2.34	2.34	-0.11	59.98	-0.11	59.98	55.30	4.68	12.811		
800.00	800.00	800.90	800.90	2.69	2.69	-0.11	59.98	-0.11	59.98	54.60	5.38	11.140		
900.00	900.00	900.90	900.90	3.04	3.05	-0.11	59.98	-0.11	59.98	53.89	6.09	9.849		
1,000.00	1,000.00	1,000.90	1,000.90	3.40	3.40	-0.11	59.98	-0.11	59.98	53.18	6.80	8.823		
1,100.00	1,100.00	1,100.90	1,100.90	3.75	3.76	-0.11	59.98	-0.11	59.98	52.47	7.51	7.988		
1,200.00	1,200.00	1,200.90	1,200.90	4.11	4.11	-0.11	59.98	-0.11	59.98	51.76	8.22	7.297		
1,300.00	1,300.00	1,300.90	1,300.90	4.46	4.47	-0.11	59.98	-0.11	59.98	51.05	8.93	6.716		
1,400.00	1,400.00	1,400.90	1,400.90	4.82	4.82	-0.11	59.98	-0.11	59.98	50.34	9.64	6.219		
1,500.00	1,500.00	1,500.90	1,500.90	5.18	5.18	-0.11	59.98	-0.11	59.98	49.62	10.36	5.791		
1,600.00	1,600.00	1,600.90	1,600.90	5.53	5.54	-0.11	59.98	-0.11	59.98	48.91	11.07	5.418		
1,700.00	1,700.00	1,700.90	1,700.90	5.89	5.89	-0.11	59.98	-0.11	59.98	48.19	11.79	5.089		
1,800.00	1,800.00	1,800.90	1,800.90	6.25	6.25	-0.11	59.98	-0.11	59.98	47.48	12.50	4.798 Alert		
1,900.00	1,900.00	1,900.90	1,900.90	6.61	6.61	-0.11	59.98	-0.11	59.98	46.77	13.21	4.539 Alert		
2,000.00	2,000.00	2,000.90	2,000.90	6.96	6.97	-0.11	59.98	-0.11	59.98	46.05	13.93	4.306 Alert, CC, ES		
2,100.00	2,100.00	2,099.87	2,099.86	7.32	7.32	-0.28	60.83	-0.30	60.84	46.20	14.64	4.156 Alert		
2,200.00	2,200.00	2,198.79	2,198.75	7.68	7.67	-0.79	63.34	-0.87	63.39	48.04	15.35	4.131 Alert		
2,300.00	2,300.00	2,297.59	2,297.46	8.04	8.03	-1.54	67.52	-1.82	67.63	51.58	16.05	4.215 Alert		
2,400.00	2,400.00	2,396.21	2,395.90	8.39	8.38	-2.45	73.33	-3.14	73.57	56.83	16.74	4.394 Alert		
2,500.00	2,500.00	2,494.60	2,493.99	8.75	8.73	-3.42	80.79	-4.83	81.23	63.79	17.43	4.659 Alert		
2,600.00	2,599.99	2,592.64	2,591.58	9.09	9.08	141.82	89.84	-6.88	91.27	73.17	18.10	5.042		
2,700.00	2,699.96	2,690.13	2,688.46	9.42	9.43	141.70	100.46	-9.29	104.35	85.61	18.75	5.566		
2,800.00	2,799.86	2,786.95	2,784.47	9.75	9.78	141.96	112.60	-12.05	120.46	101.07	19.39	6.213		
2,900.00	2,899.68	2,882.95	2,879.46	10.08	10.12	142.44	126.20	-15.13	139.56	119.53	20.02	6.969		
2,945.33	2,944.88	2,926.16	2,922.13	10.23	10.27	142.71	132.82	-16.63	149.20	128.89	20.31	7.346		
3,000.00	2,999.39	2,978.05	2,973.31	10.41	10.46	143.06	141.19	-18.53	161.44	140.78	20.65	7.817		
3,100.00	3,099.08	3,072.41	3,066.16	10.75	10.80	143.51	157.57	-22.25	185.06	163.78	21.27	8.699		
3,200.00	3,198.78	3,166.01	3,157.98	11.08	11.13	143.78	175.29	-26.26	210.24	188.36	21.89	9.605		
3,300.00	3,298.48	3,261.40	3,251.31	11.42	11.48	143.94	194.48	-30.62	236.62	214.07	22.55	10.495		
3,400.00	3,398.18	3,357.84	3,345.66	11.76	11.83	144.06	213.95	-35.04	263.06	239.84	23.23	11.325		
3,500.00	3,497.88	3,454.27	3,440.01	12.10	12.18	144.16	233.43	-39.45	289.51	265.60	23.91	12.107		
3,600.00	3,597.58	3,550.71	3,534.36	12.45	12.54	144.25	252.90	-43.87	315.96	291.36	24.60	12.844		
3,700.00	3,697.27	3,647.15	3,628.71	12.79	12.89	144.32	272.38	-48.29	342.41	317.12	25.29	13.540		
3,800.00	3,796.97	3,743.59	3,723.05	13.14	13.25	144.38	291.85	-52.70	368.86	342.88	25.98	14.198		
3,900.00	3,896.67	3,840.03	3,817.40	13.48	13.61	144.43	311.33	-57.12	395.31	368.64	26.67	14.821		
4,000.00	3,996.37	3,936.46	3,911.75	13.83	13.97	144.48	330.80	-61.54	421.76	394.39	27.37	15.411		
4,100.00	4,096.07	4,032.90	4,006.10	14.18	14.33	144.52	350.28	-65.96	448.21	420.15	28.06	15.971		
4,200.00	4,195.76	4,129.34	4,100.44	14.53	14.69	144.55	369.75	-70.37	474.66	445.90	28.76	16.503		
4,300.00	4,295.46	4,225.78	4,194.79	14.88	15.05	144.59	389.23	-74.79	501.12	471.65	29.46	17.009		
4,400.00	4,395.16	4,322.22	4,289.14	15.23	15.42	144.62	408.70	-79.21	527.57	497.40	30.16	17.490		
4,500.00	4,494.86	4,418.65	4,383.49	15.58	15.78	144.64	428.17	-83.63	554.02	523.15	30.87	17.949		
4,600.00	4,594.56	4,515.09	4,477.83	15.93	16.14	144.67	447.65	-88.04	580.47	548.90	31.57	18.387		
4,700.00	4,694.25	4,611.53	4,572.18	16.29	16.51	144.69	467.12	-92.46	606.92	574.65	32.27	18.805		
4,800.00	4,793.95	4,707.97	4,666.53	16.64	16.88	144.71	486.60	-96.88	633.37	600.39	32.98	19.205		
4,900.00	4,893.65	4,804.40	4,760.88	17.00	17.24	144.73	506.07	-101.29	659.83	626.14	33.69	19.587		
5,000.00	4,993.35	4,900.84	4,855.23	17.35	17.61	144.74	525.55	-105.71	686.28	651.88	34.39	19.953		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 0-MWD+IFR1													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
5,100.00	5,093.05	4,997.28	4,949.57	17.71	17.98	144.76	545.02	-110.13	712.73	677.63	35.10	20.304		
5,200.00	5,192.75	5,106.28	5,043.92	18.06	18.39	144.77	564.50	-114.55	739.18	703.32	35.86	20.613		
5,300.00	5,292.44	5,209.84	5,138.27	18.42	18.79	144.79	583.97	-118.96	765.63	729.04	36.60	20.920		
5,400.00	5,392.14	5,286.59	5,232.62	18.77	19.08	144.80	603.45	-123.38	792.09	754.85	37.23	21.273		
5,500.00	5,491.84	5,383.03	5,326.96	19.13	19.45	144.81	622.92	-127.80	818.54	780.59	37.95	21.572		
5,600.00	5,591.54	5,479.47	5,421.31	19.49	19.82	144.82	642.40	-132.22	844.99	806.33	38.66	21.858		
5,700.00	5,691.24	5,575.91	5,515.66	19.85	20.19	144.83	661.87	-136.63	871.44	832.07	39.37	22.134		
5,800.00	5,790.93	5,672.34	5,610.01	20.20	20.56	144.84	681.34	-141.05	897.90	857.81	40.08	22.400		
5,900.00	5,890.63	5,768.78	5,704.35	20.56	20.93	144.85	700.82	-145.47	924.35	883.55	40.80	22.656		
6,000.00	5,990.33	5,865.22	5,798.70	20.92	21.31	144.86	720.29	-149.89	950.80	909.29	41.51	22.903		
6,100.00	6,090.03	5,961.66	5,893.05	21.28	21.68	144.87	739.77	-154.30	977.25	935.02	42.23	23.142		
6,200.00	6,189.73	6,058.10	5,987.40	21.64	22.05	144.88	759.24	-158.72	1,003.70	960.76	42.94	23.372		
6,300.00	6,289.42	6,154.53	6,081.75	22.00	22.42	144.89	778.72	-163.14	1,030.16	986.50	43.66	23.594		
6,400.00	6,389.12	6,250.97	6,176.09	22.36	22.79	144.89	798.19	-167.55	1,056.61	1,012.23	44.38	23.809		
6,500.00	6,488.82	6,347.41	6,270.44	22.72	23.17	144.90	817.67	-171.97	1,083.06	1,037.97	45.10	24.017		
6,600.00	6,588.52	6,443.85	6,364.79	23.08	23.54	144.91	837.14	-176.39	1,109.51	1,063.70	45.81	24.218		
6,700.00	6,688.22	6,540.29	6,459.14	23.44	23.91	144.91	856.62	-180.81	1,135.97	1,089.44	46.53	24.413		
6,800.00	6,787.91	6,636.72	6,553.48	23.80	24.28	144.92	876.09	-185.22	1,162.42	1,115.17	47.25	24.601		
6,900.00	6,887.61	6,733.16	6,647.83	24.16	24.66	144.92	895.56	-189.64	1,188.87	1,140.90	47.97	24.784		
7,000.00	6,987.31	6,829.60	6,742.18	24.52	25.03	144.93	915.04	-194.06	1,215.32	1,166.64	48.69	24.961		
7,100.00	7,087.01	6,926.04	6,836.53	24.88	25.41	144.93	934.51	-198.48	1,241.78	1,192.37	49.41	25.133		
7,200.00	7,186.71	7,022.47	6,930.87	25.24	25.78	144.94	953.99	-202.89	1,268.23	1,218.10	50.13	25.299		
7,300.00	7,286.41	7,118.91	7,025.22	25.60	26.15	144.94	973.46	-207.31	1,294.68	1,243.83	50.85	25.461		
7,400.00	7,386.10	7,215.35	7,119.57	25.96	26.53	144.95	992.94	-211.73	1,321.13	1,269.56	51.57	25.618		
7,500.00	7,485.80	7,361.69	7,263.27	26.33	27.09	144.98	1,019.86	-217.83	1,345.83	1,293.14	52.69	25.542		
7,600.00	7,585.50	7,511.43	7,411.30	26.69	27.65	145.06	1,041.84	-222.82	1,366.82	1,313.06	53.76	25.423		
7,700.00	7,685.20	7,663.39	7,562.30	27.05	28.21	145.20	1,058.34	-226.56	1,384.03	1,329.26	54.77	25.268		
7,800.00	7,784.90	7,817.14	7,715.65	27.41	28.76	145.38	1,069.06	-228.99	1,397.39	1,341.67	55.72	25.079		
7,860.70	7,845.41	7,911.14	7,809.57	27.63	29.08	145.52	1,072.64	-229.81	1,403.58	1,347.33	56.26	24.950		
7,900.00	7,884.61	7,972.22	7,870.64	27.77	29.29	145.64	1,073.76	-230.06	1,406.66	1,350.07	56.59	24.858		
8,000.00	7,984.46	8,086.94	7,985.36	28.13	29.68	145.82	1,073.98	-230.11	1,411.29	1,353.97	57.32	24.621		
8,100.00	8,084.42	8,186.89	8,085.32	28.49	30.02	145.91	1,073.98	-230.11	1,413.62	1,355.60	58.02	24.365		
8,157.59	8,142.00	8,244.48	8,142.90	28.69	30.22	0.00	1,073.98	-230.11	1,413.98	1,355.56	58.42	24.206		
8,200.00	8,184.41	8,286.89	8,185.31	28.83	30.36	0.00	1,073.98	-230.11	1,413.98	1,355.27	58.71	24.086		
8,206.90	8,191.31	8,306.21	8,192.21	28.85	30.43	0.00	1,073.98	-230.11	1,413.98	1,355.18	58.80	24.049		
8,300.00	8,284.41	8,386.55	8,284.96	29.17	30.70	0.01	1,073.98	-229.65	1,413.98	1,354.60	59.39	23.810		
8,400.00	8,384.41	8,483.35	8,380.91	29.51	31.02	0.50	1,074.05	-217.64	1,414.12	1,354.07	60.05	23.550		
8,507.63	8,492.04	8,580.26	8,473.56	29.87	31.32	1.63	1,074.22	-189.64	1,414.93	1,354.18	60.75	23.293		
8,550.00	8,534.37	8,615.98	8,506.32	30.02	31.42	-87.14	1,074.31	-175.43	1,415.58	1,354.57	61.01	23.202		
8,600.00	8,584.01	8,657.26	8,543.00	30.18	31.54	-86.47	1,074.42	-156.50	1,416.50	1,355.18	61.32	23.101		
8,650.00	8,632.95	8,697.71	8,577.52	30.34	31.66	-85.81	1,074.54	-135.43	1,417.56	1,355.95	61.61	23.008		
8,700.00	8,680.82	8,737.43	8,609.90	30.50	31.76	-85.18	1,074.68	-112.43	1,418.74	1,356.84	61.90	22.920		
8,750.00	8,727.25	8,776.51	8,640.11	30.66	31.87	-84.58	1,074.83	-87.67	1,419.98	1,357.81	62.17	22.839		
8,800.00	8,771.89	8,815.00	8,668.16	30.81	31.97	-84.01	1,074.99	-61.32	1,421.27	1,358.83	62.44	22.762		
8,850.00	8,814.40	8,853.00	8,694.05	30.95	32.07	-83.48	1,075.15	-33.52	1,422.57	1,359.88	62.70	22.690		
8,900.00	8,854.46	8,890.55	8,717.77	31.09	32.17	-82.99	1,075.33	-4.41	1,423.85	1,360.90	62.95	22.618		
8,950.00	8,891.75	8,927.72	8,739.33	31.23	32.27	-82.54	1,075.51	25.86	1,425.07	1,361.86	63.21	22.546		
9,000.00	8,926.01	8,964.55	8,758.70	31.37	32.38	-82.13	1,075.69	57.17	1,426.21	1,362.75	63.47	22.471		
9,050.00	8,956.96	9,000.00	8,775.42	31.53	32.50	-81.78	1,075.88	88.43	1,427.25	1,363.51	63.73	22.394		
9,100.00	8,984.38	9,037.40	8,790.92	31.69	32.63	-81.46	1,076.08	122.46	1,428.15	1,364.12	64.03	22.304		
9,150.00	9,008.05	9,073.50	8,803.74	31.87	32.77	-81.20	1,076.28	156.19	1,428.90	1,364.55	64.35	22.206		
9,200.00	9,027.79	9,109.44	8,814.38	32.07	32.92	-80.99	1,076.49	190.51	1,429.48	1,364.79	64.69	22.098		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 0-MWD+IFR1													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
9,250.00	9,043.45	9,145.24	8,822.81	32.29	33.07	-80.83	1,076.69	225.31	1,429.88	1,364.82	65.06	21.978		
9,300.00	9,054.92	9,180.96	8,829.05	32.53	33.25	-80.73	1,076.90	260.47	1,430.08	1,364.62	65.47	21.845		
9,350.00	9,062.10	9,216.62	8,833.07	32.79	33.42	-80.69	1,077.11	295.89	1,430.09	1,364.18	65.90	21.700		
9,400.00	9,064.95	9,252.25	8,834.89	33.06	33.61	-80.70	1,077.33	331.47	1,429.89	1,363.52	66.37	21.545		
9,407.63	9,065.00	9,257.69	8,834.97	33.10	33.64	-80.71	1,077.36	336.91	1,429.84	1,363.40	66.44	21.520		
9,500.00	9,065.00	9,347.67	8,835.00	33.68	34.19	-80.70	1,077.90	426.88	1,429.37	1,361.79	67.58	21.150		
9,600.00	9,065.00	9,447.67	8,835.00	34.41	34.90	-80.70	1,078.49	526.88	1,428.87	1,359.85	69.03	20.700		
9,700.00	9,065.00	9,547.66	8,835.00	35.24	35.71	-80.70	1,079.09	626.88	1,428.38	1,357.70	70.68	20.210		
9,800.00	9,065.00	9,647.66	8,835.00	36.17	36.63	-80.69	1,079.68	726.88	1,427.88	1,355.37	72.51	19.692		
9,900.00	9,065.00	9,747.66	8,835.00	37.19	37.63	-80.69	1,080.28	826.87	1,427.38	1,352.86	74.52	19.154		
10,000.00	9,065.00	9,847.66	8,835.00	38.30	38.72	-80.69	1,080.87	926.87	1,426.88	1,350.19	76.69	18.605		
10,100.00	9,065.00	9,947.66	8,835.00	39.48	39.88	-80.68	1,081.47	1,026.87	1,426.38	1,347.37	79.01	18.052		
10,200.00	9,065.00	10,047.66	8,835.00	40.72	41.11	-80.68	1,082.07	1,126.86	1,425.89	1,344.42	81.47	17.502		
10,300.00	9,065.00	10,147.66	8,835.00	42.03	42.41	-80.68	1,082.66	1,226.86	1,425.39	1,341.34	84.05	16.960		
10,400.00	9,065.00	10,247.66	8,835.00	43.40	43.76	-80.67	1,083.26	1,326.86	1,424.89	1,338.15	86.74	16.428		
10,500.00	9,065.00	10,347.65	8,835.00	44.82	45.17	-80.67	1,083.85	1,426.85	1,424.39	1,334.86	89.53	15.910		
10,600.00	9,065.00	10,447.65	8,835.00	46.29	46.62	-80.67	1,084.45	1,526.85	1,423.89	1,331.48	92.41	15.408		
10,700.00	9,065.00	10,547.65	8,835.00	47.79	48.12	-80.66	1,085.05	1,626.85	1,423.40	1,328.01	95.38	14.923		
10,800.00	9,065.00	10,647.65	8,835.00	49.34	49.65	-80.66	1,085.64	1,726.84	1,422.90	1,324.47	98.43	14.456		
10,900.00	9,065.00	10,747.65	8,835.00	50.92	51.22	-80.66	1,086.24	1,826.84	1,422.40	1,320.85	101.55	14.007		
11,000.00	9,065.00	10,847.65	8,835.00	52.54	52.83	-80.65	1,086.83	1,926.84	1,421.90	1,317.18	104.73	13.577		
11,100.00	9,065.00	10,947.65	8,835.00	54.18	54.46	-80.65	1,087.43	2,026.84	1,421.40	1,313.44	107.96	13.166		
11,200.00	9,065.00	11,047.64	8,835.00	55.85	56.12	-80.65	1,088.03	2,126.83	1,420.91	1,309.65	111.26	12.772		
11,300.00	9,065.00	11,147.64	8,835.00	57.54	57.81	-80.64	1,088.62	2,226.83	1,420.41	1,305.81	114.59	12.395		
11,400.00	9,065.00	11,247.64	8,835.00	59.26	59.51	-80.64	1,089.22	2,326.83	1,419.91	1,301.93	117.98	12.035		
11,500.00	9,065.00	11,347.64	8,835.00	61.00	61.24	-80.64	1,089.81	2,426.82	1,419.41	1,298.01	121.40	11.692		
11,600.00	9,065.00	11,447.64	8,835.00	62.75	62.99	-80.63	1,090.41	2,526.82	1,418.91	1,294.05	124.86	11.364		
11,700.00	9,065.00	11,547.64	8,835.00	64.52	64.76	-80.63	1,091.01	2,626.82	1,418.42	1,290.06	128.36	11.051		
11,800.00	9,065.00	11,647.64	8,835.00	66.31	66.54	-80.63	1,091.60	2,726.81	1,417.92	1,286.03	131.88	10.751		
11,900.00	9,065.00	11,747.64	8,835.00	68.11	68.33	-80.62	1,092.20	2,826.81	1,417.42	1,281.98	135.44	10.465		
12,000.00	9,065.00	11,847.63	8,835.00	69.93	70.14	-80.62	1,092.79	2,926.81	1,416.92	1,277.90	139.02	10.192		
12,100.00	9,065.00	11,947.63	8,835.00	71.76	71.97	-80.62	1,093.39	3,026.81	1,416.43	1,273.80	142.63	9.931		
12,200.00	9,065.00	12,047.63	8,835.00	73.60	73.80	-80.61	1,093.98	3,126.80	1,415.93	1,269.67	146.26	9.681		
12,300.00	9,065.00	12,147.63	8,835.00	75.45	75.65	-80.61	1,094.58	3,226.80	1,415.43	1,265.52	149.91	9.442		
12,400.00	9,065.00	12,247.63	8,835.00	77.31	77.50	-80.61	1,095.18	3,326.80	1,414.93	1,261.35	153.58	9.213		
12,500.00	9,065.00	12,347.63	8,835.00	79.18	79.37	-80.60	1,095.77	3,426.79	1,414.43	1,257.16	157.27	8.994		
12,600.00	9,065.00	12,447.63	8,835.00	81.05	81.24	-80.60	1,096.37	3,526.79	1,413.94	1,252.96	160.98	8.783		
12,700.00	9,065.00	12,547.63	8,835.00	82.94	83.12	-80.60	1,096.96	3,626.79	1,413.44	1,248.74	164.70	8.582		
12,800.00	9,065.00	12,647.62	8,835.00	84.83	85.01	-80.59	1,097.56	3,726.78	1,412.94	1,244.50	168.44	8.389		
12,900.00	9,065.00	12,747.62	8,835.00	86.73	86.91	-80.59	1,098.16	3,826.78	1,412.44	1,240.26	172.19	8.203		
13,000.00	9,065.00	12,847.62	8,835.00	88.64	88.81	-80.59	1,098.75	3,926.78	1,411.94	1,235.99	175.95	8.025		
13,100.00	9,065.00	12,947.62	8,835.00	90.55	90.72	-80.58	1,099.35	4,026.77	1,411.45	1,231.72	179.73	7.853		
13,200.00	9,065.00	13,047.62	8,835.00	92.47	92.63	-80.58	1,099.94	4,126.77	1,410.95	1,227.43	183.51	7.689		
13,300.00	9,065.00	13,147.62	8,835.00	94.39	94.55	-80.58	1,100.54	4,226.77	1,410.45	1,223.14	187.31	7.530		
13,400.00	9,065.00	13,247.62	8,835.00	96.32	96.48	-80.57	1,101.14	4,326.77	1,409.95	1,218.83	191.12	7.377		
13,500.00	9,065.00	13,347.62	8,835.00	98.25	98.41	-80.57	1,101.73	4,426.76	1,409.46	1,214.52	194.94	7.230		
13,600.00	9,065.00	13,447.61	8,835.00	100.19	100.34	-80.57	1,102.33	4,526.76	1,408.96	1,210.19	198.76	7.089		
13,700.00	9,065.00	13,547.61	8,835.00	102.13	102.28	-80.56	1,102.92	4,626.76	1,408.46	1,205.86	202.60	6.952		
13,800.00	9,065.00	13,647.61	8,835.00	104.08	104.23	-80.56	1,103.52	4,726.75	1,407.96	1,201.52	206.44	6.820		
13,900.00	9,065.00	13,747.61	8,835.00	106.03	106.17	-80.56	1,104.12	4,826.75	1,407.46	1,197.17	210.29	6.693		
14,000.00	9,065.00	13,847.61	8,835.00	107.98	108.13	-80.55	1,104.71	4,926.75	1,406.97	1,192.82	214.15	6.570		
14,100.00	9,065.00	13,947.61	8,835.00	109.94	110.08	-80.55	1,105.31	5,026.74	1,406.47	1,188.45	218.01	6.451		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design Sec 14-T21S-R27E - Lone Tree Draw 14-13 State Com 333H - Wellbore #1 - Permit Plan 1													Offset Site Error:	0.00 ft
Survey Program: 0-MWD+IFR1													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
14,200.00	9,065.00	14,047.61	8,835.00	111.90	112.04	-80.55	1,105.90	5,126.74	1,405.97	1,184.09	221.89	6.336		
14,300.00	9,065.00	14,147.61	8,835.00	113.86	114.00	-80.54	1,106.50	5,226.74	1,405.47	1,179.71	225.76	6.225		
14,400.00	9,065.00	14,247.60	8,835.00	115.82	115.96	-80.54	1,107.09	5,326.74	1,404.98	1,175.33	229.64	6.118		
14,500.00	9,065.00	14,347.60	8,835.00	117.79	117.93	-80.54	1,107.69	5,426.73	1,404.48	1,170.95	233.53	6.014		
14,600.00	9,065.00	14,447.60	8,835.00	119.76	119.90	-80.53	1,108.29	5,526.73	1,403.98	1,166.55	237.42	5.913		
14,700.00	9,065.00	14,547.60	8,835.00	121.74	121.87	-80.53	1,108.88	5,626.73	1,403.48	1,162.16	241.32	5.816		
14,800.00	9,065.00	14,647.60	8,835.00	123.71	123.84	-80.53	1,109.48	5,726.72	1,402.98	1,157.76	245.23	5.721		
14,900.00	9,065.00	14,747.60	8,835.00	125.69	125.82	-80.52	1,110.07	5,826.72	1,402.49	1,153.35	249.13	5.629		
15,000.00	9,065.00	14,847.60	8,835.00	127.67	127.80	-80.52	1,110.67	5,926.72	1,401.99	1,148.95	253.04	5.541		
15,100.00	9,065.00	14,947.60	8,835.00	129.65	129.78	-80.52	1,111.27	6,026.71	1,401.49	1,144.53	256.96	5.454		
15,200.00	9,065.00	15,047.59	8,835.00	131.63	131.76	-80.51	1,111.86	6,126.71	1,400.99	1,140.12	260.88	5.370		
15,300.00	9,065.00	15,147.59	8,835.00	133.62	133.75	-80.51	1,112.46	6,226.71	1,400.50	1,135.70	264.80	5.289		
15,400.00	9,065.00	15,247.59	8,835.00	135.61	135.73	-80.51	1,113.05	6,326.70	1,400.00	1,131.27	268.73	5.210		
15,500.00	9,065.00	15,347.59	8,835.00	137.60	137.72	-80.50	1,113.65	6,426.70	1,399.50	1,126.84	272.66	5.133		
15,600.00	9,065.00	15,447.59	8,835.00	139.59	139.71	-80.50	1,114.25	6,526.70	1,399.00	1,122.41	276.59	5.058		
15,700.00	9,065.00	15,547.59	8,835.00	141.58	141.70	-80.50	1,114.84	6,626.70	1,398.50	1,117.98	280.52	4.985 Alert		
15,800.00	9,065.00	15,647.59	8,835.00	143.57	143.70	-80.49	1,115.44	6,726.69	1,398.01	1,113.54	284.46	4.915 Alert		
15,900.00	9,065.00	15,747.59	8,835.00	145.57	145.69	-80.49	1,116.03	6,826.69	1,397.51	1,109.10	288.41	4.846 Alert		
16,000.00	9,065.00	15,847.58	8,835.00	147.56	147.69	-80.49	1,116.63	6,926.69	1,397.01	1,104.66	292.35	4.779 Alert		
16,100.00	9,065.00	15,947.58	8,835.00	149.56	149.68	-80.48	1,117.23	7,026.68	1,396.51	1,100.22	296.30	4.713 Alert		
16,200.00	9,065.00	16,047.58	8,835.00	151.56	151.68	-80.48	1,117.82	7,126.68	1,396.02	1,095.77	300.25	4.650 Alert		
16,300.00	9,065.00	16,147.58	8,835.00	153.56	153.68	-80.48	1,118.42	7,226.68	1,395.52	1,091.32	304.20	4.588 Alert		
16,400.00	9,065.00	16,247.58	8,835.00	155.56	155.68	-80.47	1,119.01	7,326.67	1,395.02	1,086.87	308.15	4.527 Alert		
16,500.00	9,065.00	16,347.58	8,835.00	157.57	157.69	-80.47	1,119.61	7,426.67	1,394.52	1,082.42	312.11	4.468 Alert		
16,600.00	9,065.00	16,447.58	8,835.00	159.57	159.69	-80.47	1,120.20	7,526.67	1,394.03	1,077.96	316.07	4.411 Alert		
16,700.00	9,065.00	16,547.58	8,835.00	161.57	161.69	-80.46	1,120.80	7,626.66	1,393.53	1,073.50	320.03	4.354 Alert		
16,800.00	9,065.00	16,647.57	8,835.00	163.58	163.70	-80.46	1,121.40	7,726.66	1,393.03	1,069.04	323.99	4.300 Alert		
16,900.00	9,065.00	16,747.57	8,835.00	165.59	165.71	-80.46	1,121.99	7,826.66	1,392.53	1,064.58	327.95	4.246 Alert		
17,000.00	9,065.00	16,847.57	8,835.00	167.60	167.71	-80.45	1,122.59	7,926.66	1,392.04	1,060.12	331.92	4.194 Alert		
17,100.00	9,065.00	16,947.57	8,835.00	169.60	169.72	-80.45	1,123.18	8,026.65	1,391.54	1,055.65	335.89	4.143 Alert		
17,200.00	9,065.00	17,047.57	8,835.00	171.61	171.73	-80.45	1,123.78	8,126.65	1,391.04	1,051.18	339.86	4.093 Alert		
17,300.00	9,065.00	17,147.57	8,835.00	173.62	173.74	-80.44	1,124.38	8,226.65	1,390.54	1,046.71	343.83	4.044 Alert		
17,400.00	9,065.00	17,247.57	8,835.00	175.63	175.75	-80.44	1,124.97	8,326.64	1,390.04	1,042.24	347.80	3.997 Alert		
17,500.00	9,065.00	17,347.56	8,835.00	177.65	177.76	-80.43	1,125.57	8,426.64	1,389.55	1,037.77	351.78	3.950 Alert		
17,600.00	9,065.00	17,447.56	8,835.00	179.66	179.78	-80.43	1,126.16	8,526.64	1,389.05	1,033.30	355.75	3.905 Alert		
17,700.00	9,065.00	17,547.56	8,835.00	181.67	181.79	-80.43	1,126.76	8,626.63	1,388.55	1,028.82	359.73	3.860 Alert		
17,800.00	9,065.00	17,647.56	8,835.00	183.69	183.80	-80.42	1,127.36	8,726.63	1,388.05	1,024.35	363.71	3.816 Alert		
17,900.00	9,065.00	17,747.56	8,835.00	185.70	185.82	-80.42	1,127.95	8,826.63	1,387.56	1,019.87	367.69	3.774 Alert		
18,000.00	9,065.00	17,847.56	8,835.00	187.72	187.83	-80.42	1,128.55	8,926.63	1,387.06	1,015.39	371.67	3.732 Alert		
18,100.00	9,065.00	17,947.56	8,835.00	189.73	189.85	-80.41	1,129.14	9,026.62	1,386.56	1,010.91	375.65	3.691 Alert		
18,200.00	9,065.00	18,047.56	8,835.00	191.75	191.87	-80.41	1,129.74	9,126.62	1,386.06	1,006.43	379.63	3.651 Alert		
18,300.00	9,065.00	18,147.55	8,835.00	193.77	193.88	-80.41	1,130.34	9,226.62	1,385.57	1,001.95	383.62	3.612 Alert		
18,400.00	9,065.00	18,247.55	8,835.00	195.78	195.90	-80.40	1,130.93	9,326.61	1,385.07	997.47	387.60	3.573 Alert		
18,500.00	9,065.00	18,347.55	8,835.00	197.80	197.92	-80.40	1,131.53	9,426.61	1,384.57	992.98	391.59	3.536 Alert		
18,600.00	9,065.00	18,447.55	8,835.00	199.82	199.94	-80.40	1,132.12	9,526.61	1,384.07	988.50	395.58	3.499 Alert		
18,700.00	9,065.00	18,547.55	8,835.00	201.84	201.96	-80.39	1,132.72	9,626.60	1,383.58	984.01	399.57	3.463 Alert		
18,800.00	9,065.00	18,647.55	8,835.00	203.86	203.98	-80.39	1,133.31	9,726.60	1,383.08	979.52	403.56	3.427 Alert		
18,900.00	9,065.00	18,747.55	8,835.00	205.88	206.00	-80.39	1,133.91	9,826.60	1,382.58	975.03	407.55	3.392 Alert		
19,000.00	9,065.00	18,847.55	8,835.00	207.90	208.02	-80.38	1,134.51	9,926.59	1,382.08	970.54	411.54	3.358 Alert		
19,100.00	9,065.00	18,947.54	8,835.00	209.92	210.04	-80.38	1,135.10	10,026.59	1,381.59	966.05	415.53	3.325 Alert		
19,200.00	9,065.00	19,047.54	8,835.00	211.95	212.06	-80.38	1,135.70	10,126.59	1,381.09	961.56	419.52	3.292 Alert		
19,300.00	9,065.00	19,147.54	8,835.00	213.97	214.09	-80.37	1,136.29	10,226.59	1,380.59	957.07	423.52	3.260 Alert		

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design		Sec 14-T21S-R27E - Lone Tree Draw 14-13 State Com 333H - Wellbore #1 - Permit Plan 1											Offset Site Error:	0.00 ft
Survey Program: 0-MWD+IFR1													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor	Warning	
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)			
19,400.00	9,065.00	19,247.54	8,835.00	215.99	216.11	-80.37	1,136.89	10,326.58	1,380.09	952.58	427.51	3.228	Alert	
19,456.84	9,065.00	19,304.38	8,835.00	217.14	217.26	-80.37	1,137.23	10,383.42	1,379.81	950.03	429.79	3.210	Alert, SF	

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design		Sec 14-T21S-R27E - Lone Tree Draw 14-13 State Com 334H - Wellbore #1 - Permit Plan 1											Offset Site Error:		0.00 ft
Survey Program:		0-MWD+IFR1											Offset Well Error:		0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor			
0.00	0.00	0.60	0.60	0.50	0.50	-0.10	30.01	-0.05	30.01						
100.00	100.00	100.60	100.60	0.52	0.52	-0.10	30.01	-0.05	30.01	28.97	1.04	28.965			
200.00	200.00	200.60	200.60	0.70	0.70	-0.10	30.01	-0.05	30.01	28.60	1.41	21.349			
300.00	300.00	300.60	300.60	0.99	0.99	-0.10	30.01	-0.05	30.01	28.03	1.98	15.183			
400.00	400.00	400.60	400.60	1.31	1.31	-0.10	30.01	-0.05	30.01	27.39	2.62	11.454			
500.00	500.00	500.60	500.60	1.65	1.65	-0.10	30.01	-0.05	30.01	26.72	3.29	9.110			
600.00	600.00	600.60	600.60	1.99	1.99	-0.10	30.01	-0.05	30.01	26.03	3.98	7.534			
700.00	700.00	700.60	700.60	2.34	2.34	-0.10	30.01	-0.05	30.01	25.33	4.68	6.411			
800.00	800.00	800.60	800.60	2.69	2.69	-0.10	30.01	-0.05	30.01	24.63	5.38	5.575			
900.00	900.00	900.60	900.60	3.04	3.05	-0.10	30.01	-0.05	30.01	23.92	6.09	4.928 Alert			
1,000.00	1,000.00	1,000.60	1,000.60	3.40	3.40	-0.10	30.01	-0.05	30.01	23.21	6.80	4.415 Alert			
1,100.00	1,100.00	1,100.60	1,100.60	3.75	3.75	-0.10	30.01	-0.05	30.01	22.50	7.51	3.997 Alert			
1,200.00	1,200.00	1,200.60	1,200.60	4.11	4.11	-0.10	30.01	-0.05	30.01	21.79	8.22	3.652 Alert			
1,300.00	1,300.00	1,300.60	1,300.60	4.46	4.47	-0.10	30.01	-0.05	30.01	21.08	8.93	3.360 Alert			
1,400.00	1,400.00	1,400.60	1,400.60	4.82	4.82	-0.10	30.01	-0.05	30.01	20.37	9.64	3.112 Alert			
1,500.00	1,500.00	1,500.60	1,500.60	5.18	5.18	-0.10	30.01	-0.05	30.01	19.65	10.36	2.898 Alert			
1,600.00	1,600.00	1,600.60	1,600.60	5.53	5.54	-0.10	30.01	-0.05	30.01	18.94	11.07	2.711 Alert			
1,700.00	1,700.00	1,700.60	1,700.60	5.89	5.89	-0.10	30.01	-0.05	30.01	18.23	11.78	2.547 Alert			
1,800.00	1,800.00	1,800.60	1,800.60	6.25	6.25	-0.10	30.01	-0.05	30.01	17.51	12.50	2.401 Minor Risk			
1,900.00	1,900.00	1,900.60	1,900.60	6.61	6.61	-0.10	30.01	-0.05	30.01	16.80	13.21	2.271 Minor Risk			
2,000.00	2,000.00	2,000.60	2,000.60	6.96	6.97	-0.10	30.01	-0.05	30.01	16.08	13.93	2.155 Minor Risk			
2,100.00	2,100.00	2,100.60	2,100.60	7.32	7.32	-0.10	30.01	-0.05	30.01	15.37	14.64	2.049 Minor Risk			
2,200.00	2,200.00	2,200.60	2,200.60	7.68	7.68	-0.10	30.01	-0.05	30.01	14.65	15.36	1.954 Minor Risk			
2,300.00	2,300.00	2,300.60	2,300.60	8.04	8.04	-0.10	30.01	-0.05	30.01	13.94	16.07	1.867 Minor Risk			
2,400.00	2,400.00	2,400.60	2,400.60	8.39	8.40	-0.10	30.01	-0.05	30.01	13.22	16.79	1.787 Minor Risk			
2,500.00	2,500.00	2,500.60	2,500.60	8.75	8.75	-0.10	30.01	-0.05	30.01	12.50	17.51	1.714 Minor Risk, CC, ES			
2,600.00	2,599.99	2,600.59	2,600.59	9.09	9.11	146.74	30.01	-0.05	30.74	12.53	18.21	1.688 Minor Risk			
2,700.00	2,699.96	2,700.56	2,700.56	9.42	9.47	149.22	30.01	-0.05	32.96	14.07	18.89	1.745 Minor Risk			
2,800.00	2,799.86	2,800.46	2,800.46	9.75	9.83	152.68	30.01	-0.05	36.77	17.20	19.58	1.878 Minor Risk			
2,900.00	2,899.68	2,900.28	2,900.28	10.08	10.18	156.46	30.01	-0.05	42.29	22.03	20.26	2.087 Minor Risk			
2,945.33	2,944.88	2,945.48	2,945.48	10.23	10.35	158.13	30.01	-0.05	45.37	24.80	20.58	2.205 Minor Risk			
3,000.00	2,999.39	3,000.01	2,999.99	10.41	10.54	159.97	30.01	-0.05	49.34	28.39	20.95	2.355 Minor Risk			
3,100.00	3,099.08	3,100.32	3,099.68	10.75	10.90	162.66	30.01	-0.05	56.70	35.05	21.65	2.619 Alert			
3,200.00	3,198.78	3,200.62	3,199.38	11.08	11.26	164.72	30.01	-0.05	64.15	41.81	22.34	2.872 Alert			
3,300.00	3,298.48	3,300.92	3,299.08	11.42	11.62	166.36	30.01	-0.05	71.68	48.64	23.04	3.111 Alert			
3,400.00	3,398.18	3,401.22	3,398.78	11.76	11.98	167.68	30.01	-0.05	79.24	55.51	23.74	3.339 Alert			
3,500.00	3,497.88	3,501.52	3,498.48	12.10	12.34	168.78	30.01	-0.05	86.85	62.41	24.43	3.554 Alert			
3,600.00	3,597.58	3,601.82	3,598.18	12.45	12.70	169.69	30.01	-0.05	94.47	69.34	25.13	3.759 Alert			
3,700.00	3,697.27	3,702.13	3,697.87	12.79	13.06	170.47	30.01	-0.05	102.12	76.29	25.84	3.953 Alert			
3,800.00	3,796.97	3,802.43	3,797.57	13.14	13.42	171.14	30.01	-0.05	109.79	83.25	26.54	4.137 Alert			
3,900.00	3,896.67	3,902.73	3,897.27	13.48	13.78	171.73	30.01	-0.05	117.47	90.23	27.24	4.312 Alert			
4,000.00	3,996.37	3,996.97	3,996.97	13.83	14.11	172.24	30.01	-0.05	125.16	97.23	27.92	4.482 Alert			
4,100.00	4,096.07	4,096.55	4,096.55	14.18	14.47	172.34	30.41	-0.76	132.90	104.27	28.62	4.643 Alert			
4,200.00	4,195.76	4,196.10	4,196.06	14.53	14.81	171.72	31.66	-2.97	140.74	111.42	29.32	4.801 Alert			
4,300.00	4,295.46	4,295.54	4,295.41	14.88	15.16	170.51	33.76	-6.68	148.73	118.71	30.01	4.956 Alert			
4,400.00	4,395.16	4,394.83	4,394.52	15.23	15.51	168.79	36.70	-11.89	156.96	126.26	30.71	5.112			
4,500.00	4,494.86	4,505.75	4,493.68	15.58	15.90	166.84	40.22	-18.12	165.50	134.05	31.45	5.263			
4,600.00	4,594.56	4,606.27	4,592.90	15.93	16.26	165.07	43.77	-24.39	174.22	142.07	32.15	5.419			
4,700.00	4,694.25	4,706.79	4,692.12	16.29	16.61	163.46	47.31	-30.66	183.08	150.23	32.85	5.573			
4,800.00	4,793.95	4,807.30	4,791.34	16.64	16.96	162.01	50.85	-36.92	192.08	158.52	33.56	5.724			
4,900.00	4,893.65	4,907.82	4,890.56	17.00	17.32	160.69	54.39	-43.19	201.18	166.92	34.26	5.872			
5,000.00	4,993.35	5,008.34	4,989.79	17.35	17.68	159.48	57.94	-49.46	210.38	175.42	34.97	6.016			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 0-MWD+IFR1													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
5,100.00	5,093.05	5,108.86	5,089.01	17.71	18.03	158.37	61.48	-55.73	219.67	184.00	35.68	6.157		
5,200.00	5,192.75	5,209.38	5,188.23	18.06	18.39	157.36	65.02	-62.00	229.04	192.65	36.39	6.295		
5,300.00	5,292.44	5,309.89	5,287.45	18.42	18.75	156.42	68.57	-68.26	238.47	201.37	37.09	6.429		
5,400.00	5,392.14	5,389.59	5,386.67	18.77	19.03	155.56	72.11	-74.53	247.95	210.22	37.73	6.572		
5,500.00	5,491.84	5,489.07	5,485.89	19.13	19.38	154.76	75.65	-80.80	257.49	219.05	38.44	6.699		
5,600.00	5,591.54	5,588.55	5,585.11	19.49	19.74	154.01	79.19	-87.07	267.08	227.93	39.14	6.823		
5,700.00	5,691.24	5,688.03	5,684.33	19.85	20.09	153.32	82.74	-93.33	276.70	236.85	39.85	6.943		
5,800.00	5,790.93	5,787.51	5,783.55	20.20	20.45	152.67	86.28	-99.60	286.37	245.81	40.56	7.060		
5,900.00	5,890.63	5,887.00	5,882.77	20.56	20.80	152.07	89.82	-105.87	296.07	254.80	41.27	7.174		
6,000.00	5,990.33	5,986.48	5,981.99	20.92	21.16	151.51	93.36	-112.14	305.80	263.82	41.98	7.284		
6,100.00	6,090.03	6,085.96	6,081.21	21.28	21.51	150.98	96.91	-118.41	315.55	272.86	42.69	7.391		
6,200.00	6,189.73	6,185.44	6,180.44	21.64	21.87	150.48	100.45	-124.67	325.33	281.93	43.40	7.496		
6,300.00	6,289.42	6,284.92	6,279.66	22.00	22.22	150.01	103.99	-130.94	335.14	291.03	44.11	7.597		
6,400.00	6,389.12	6,384.40	6,378.88	22.36	22.58	149.56	107.53	-137.21	344.97	300.14	44.83	7.696		
6,500.00	6,488.82	6,483.89	6,478.10	22.72	22.93	149.15	111.08	-143.48	354.81	309.27	45.54	7.792		
6,600.00	6,588.52	6,583.37	6,577.32	23.08	23.29	148.75	114.62	-149.74	364.67	318.42	46.25	7.885		
6,700.00	6,688.22	6,682.85	6,676.54	23.44	23.65	148.38	118.16	-156.01	374.55	327.59	46.96	7.975		
6,800.00	6,787.91	6,782.33	6,775.76	23.80	24.00	148.02	121.70	-162.28	384.45	336.77	47.68	8.064		
6,900.00	6,887.61	6,881.81	6,874.98	24.16	24.36	147.68	125.25	-168.55	394.35	345.96	48.39	8.149		
7,000.00	6,987.31	6,981.30	6,974.20	24.52	24.72	147.36	128.79	-174.81	404.27	355.17	49.10	8.233		
7,100.00	7,087.01	7,080.78	7,073.42	24.88	25.07	147.06	132.33	-181.08	414.21	364.39	49.82	8.314		
7,200.00	7,186.71	7,180.26	7,172.64	25.24	25.43	146.77	135.88	-187.35	424.15	373.62	50.53	8.394		
7,300.00	7,286.41	7,279.74	7,271.87	25.60	25.79	146.49	139.42	-193.62	434.11	382.86	51.25	8.471		
7,400.00	7,386.10	7,379.22	7,371.09	25.96	26.15	146.22	142.96	-199.89	444.07	392.11	51.96	8.546		
7,500.00	7,485.80	7,478.70	7,470.31	26.33	26.50	145.97	146.50	-206.15	454.04	401.36	52.68	8.619		
7,600.00	7,585.50	7,578.19	7,569.53	26.69	26.86	145.72	150.05	-212.42	464.02	410.63	53.39	8.690		
7,700.00	7,685.20	7,677.67	7,668.75	27.05	27.22	145.49	153.59	-218.69	474.01	419.90	54.11	8.760		
7,800.00	7,784.90	7,781.04	7,771.88	27.41	27.59	145.31	157.03	-224.77	483.78	428.92	54.86	8.819		
7,860.70	7,845.41	7,845.62	7,836.38	27.63	27.82	145.33	158.55	-227.46	489.11	433.79	55.32	8.842		
7,900.00	7,884.61	7,887.48	7,878.22	27.77	27.97	145.42	159.25	-228.70	492.12	436.50	55.61	8.849		
8,000.00	7,984.46	7,994.19	7,984.92	28.13	28.35	145.68	160.01	-230.05	497.32	440.96	56.36	8.824		
8,100.00	8,084.42	8,105.71	8,085.02	28.49	28.75	145.89	160.01	-230.05	499.65	442.54	57.11	8.748		
8,157.59	8,142.00	8,151.87	8,142.60	28.69	28.91	-0.01	160.01	-230.05	500.01	442.53	57.48	8.699		
8,200.00	8,184.41	8,205.72	8,185.01	28.83	29.10	-0.01	160.01	-230.05	500.01	442.20	57.81	8.649		
8,300.00	8,284.41	8,294.28	8,285.01	29.17	29.42	-0.01	160.01	-230.05	500.01	441.54	58.47	8.552		
8,302.89	8,287.30	8,302.83	8,287.90	29.18	29.45	-0.01	160.01	-230.05	500.01	441.50	58.51	8.546		
8,400.00	8,384.41	8,393.72	8,384.40	29.51	29.76	0.22	160.03	-228.09	500.04	440.89	59.15	8.454		
8,507.63	8,492.04	8,496.88	8,485.88	29.87	30.10	2.25	160.23	-210.38	500.66	440.81	59.84	8.366		
8,550.00	8,534.37	8,535.70	8,523.00	30.02	30.23	-85.92	160.35	-199.03	501.34	441.24	60.10	8.342		
8,600.00	8,584.01	8,580.72	8,564.97	30.18	30.38	-84.53	160.53	-182.77	502.41	442.04	60.37	8.322		
8,650.00	8,632.95	8,624.98	8,604.85	30.34	30.52	-83.19	160.74	-163.61	503.74	443.11	60.63	8.309		
8,700.00	8,680.82	8,668.52	8,642.54	30.50	30.66	-81.91	160.98	-141.82	505.27	444.42	60.85	8.304		
8,750.00	8,727.25	8,711.44	8,677.95	30.66	30.79	-80.69	161.25	-117.60	506.96	445.93	61.03	8.306		
8,800.00	8,771.89	8,753.78	8,711.02	30.81	30.93	-79.54	161.54	-91.17	508.77	447.58	61.19	8.315		
8,850.00	8,814.40	8,795.61	8,741.69	30.95	31.06	-78.47	161.85	-62.74	510.64	449.32	61.32	8.328		
8,900.00	8,854.46	8,836.99	8,769.90	31.09	31.20	-77.48	162.18	-32.48	512.53	451.11	61.42	8.344		
8,950.00	8,891.75	8,877.97	8,795.62	31.23	31.34	-76.57	162.53	-0.60	514.38	452.87	61.51	8.362		
9,000.00	8,926.01	8,918.59	8,818.80	31.37	31.49	-75.75	162.90	32.75	516.16	454.56	61.60	8.379		
9,050.00	8,956.96	8,958.90	8,839.41	31.53	31.64	-75.02	163.28	67.38	517.82	456.12	61.70	8.393		
9,100.00	8,984.38	8,998.95	8,857.43	31.69	31.81	-74.39	163.67	103.14	519.33	457.51	61.82	8.401		
9,150.00	9,008.05	9,038.79	8,872.83	31.87	31.98	-73.86	164.08	139.87	520.65	458.67	61.98	8.401		
9,200.00	9,027.79	9,078.44	8,885.58	32.07	32.16	-73.43	164.49	177.40	521.75	459.57	62.18	8.391		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 0-MWD+IFR1													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
9,250.00	9,043.45	9,117.95	8,895.68	32.29	32.36	-73.09	164.91	215.59	522.62	460.18	62.44	8.370		
9,300.00	9,054.92	9,157.36	8,903.11	32.53	32.56	-72.86	165.34	254.29	523.24	460.47	62.76	8.337		
9,350.00	9,062.10	9,196.71	8,907.85	32.79	32.77	-72.73	165.77	293.34	523.58	460.43	63.15	8.290		
9,400.00	9,064.95	9,236.03	8,909.91	33.06	32.99	-72.71	166.20	332.59	523.65	460.04	63.61	8.232		
9,407.63	9,065.00	9,242.03	8,909.98	33.10	33.03	-72.71	166.26	338.59	523.63	459.95	63.69	8.222		
9,440.52	9,065.00	9,273.75	8,910.00	33.31	33.22	-72.71	166.61	370.31	523.63	459.56	64.07	8.173		
9,500.00	9,065.00	9,333.23	8,910.00	33.68	33.61	-72.71	167.27	429.79	523.63	458.83	64.80	8.081		
9,600.00	9,065.00	9,433.23	8,910.00	34.41	34.34	-72.71	168.37	529.79	523.63	457.43	66.19	7.910		
9,700.00	9,065.00	9,533.23	8,910.00	35.24	35.18	-72.71	169.47	629.78	523.63	455.83	67.79	7.724		
9,800.00	9,065.00	9,633.23	8,910.00	36.17	36.11	-72.71	170.57	729.77	523.63	454.05	69.58	7.526		
9,900.00	9,065.00	9,733.23	8,910.00	37.19	37.13	-72.71	171.67	829.77	523.63	452.09	71.53	7.320		
10,000.00	9,065.00	9,833.23	8,910.00	38.30	38.23	-72.71	172.77	929.76	523.62	449.97	73.65	7.110		
10,100.00	9,065.00	9,933.23	8,910.00	39.48	39.41	-72.71	173.87	1,029.76	523.62	447.71	75.91	6.898		
10,200.00	9,065.00	10,033.23	8,910.00	40.72	40.66	-72.71	174.97	1,129.75	523.62	445.32	78.30	6.687		
10,300.00	9,065.00	10,133.23	8,910.00	42.03	41.97	-72.71	176.07	1,229.74	523.62	442.80	80.82	6.479		
10,400.00	9,065.00	10,233.23	8,910.00	43.40	43.34	-72.71	177.16	1,329.74	523.62	440.18	83.44	6.275		
10,500.00	9,065.00	10,333.23	8,910.00	44.82	44.76	-72.71	178.26	1,429.73	523.62	437.45	86.17	6.077		
10,600.00	9,065.00	10,433.23	8,910.00	46.29	46.22	-72.71	179.36	1,529.73	523.62	434.64	88.98	5.884		
10,700.00	9,065.00	10,533.23	8,910.00	47.79	47.73	-72.71	180.46	1,629.72	523.62	431.74	91.88	5.699		
10,800.00	9,065.00	10,633.23	8,910.00	49.34	49.28	-72.71	181.56	1,729.71	523.62	428.76	94.85	5.520		
10,900.00	9,065.00	10,733.23	8,910.00	50.92	50.86	-72.71	182.66	1,829.71	523.62	425.72	97.90	5.349		
11,000.00	9,065.00	10,833.23	8,910.00	52.54	52.48	-72.71	183.76	1,929.70	523.62	422.62	101.00	5.184		
11,100.00	9,065.00	10,933.23	8,910.00	54.18	54.12	-72.71	184.86	2,029.70	523.62	419.46	104.16	5.027		
11,200.00	9,065.00	11,033.23	8,910.00	55.85	55.79	-72.71	185.96	2,129.69	523.62	416.25	107.37	4.877	Alert	
11,300.00	9,065.00	11,133.23	8,910.00	57.54	57.49	-72.71	187.06	2,229.68	523.61	412.99	110.63	4.733	Alert	
11,400.00	9,065.00	11,233.23	8,910.00	59.26	59.20	-72.71	188.16	2,329.68	523.61	409.69	113.93	4.596	Alert	
11,500.00	9,065.00	11,333.23	8,910.00	61.00	60.94	-72.71	189.26	2,429.67	523.61	406.35	117.27	4.465	Alert	
11,600.00	9,065.00	11,433.23	8,910.00	62.75	62.70	-72.71	190.36	2,529.66	523.61	402.97	120.64	4.340	Alert	
11,700.00	9,065.00	11,533.23	8,910.00	64.52	64.47	-72.71	191.46	2,629.66	523.61	399.56	124.05	4.221	Alert	
11,800.00	9,065.00	11,633.23	8,910.00	66.31	66.26	-72.71	192.56	2,729.65	523.61	396.12	127.49	4.107	Alert	
11,900.00	9,065.00	11,733.23	8,910.00	68.11	68.06	-72.71	193.66	2,829.65	523.61	392.65	130.96	3.998	Alert	
12,000.00	9,065.00	11,833.23	8,910.00	69.93	69.88	-72.71	194.76	2,929.64	523.61	389.16	134.45	3.894	Alert	
12,100.00	9,065.00	11,933.23	8,910.00	71.76	71.71	-72.71	195.86	3,029.63	523.61	385.64	137.97	3.795	Alert	
12,200.00	9,065.00	12,033.23	8,910.00	73.60	73.55	-72.71	196.96	3,129.63	523.61	382.10	141.51	3.700	Alert	
12,300.00	9,065.00	12,133.23	8,910.00	75.45	75.40	-72.71	198.06	3,229.62	523.61	378.54	145.07	3.609	Alert	
12,400.00	9,065.00	12,233.23	8,910.00	77.31	77.26	-72.71	199.16	3,329.62	523.61	374.96	148.64	3.523	Alert	
12,500.00	9,065.00	12,333.24	8,910.00	79.18	79.13	-72.71	200.26	3,429.61	523.61	371.37	152.24	3.439	Alert	
12,600.00	9,065.00	12,433.24	8,910.00	81.05	81.01	-72.71	201.36	3,529.60	523.61	367.75	155.85	3.360	Alert	
12,700.00	9,065.00	12,533.24	8,910.00	82.94	82.89	-72.71	202.46	3,629.60	523.60	364.12	159.48	3.283	Alert	
12,800.00	9,065.00	12,633.24	8,910.00	84.83	84.78	-72.71	203.56	3,729.59	523.60	360.48	163.12	3.210	Alert	
12,900.00	9,065.00	12,733.24	8,910.00	86.73	86.68	-72.71	204.66	3,829.59	523.60	356.82	166.78	3.139	Alert	
13,000.00	9,065.00	12,833.24	8,910.00	88.64	88.59	-72.71	205.76	3,929.58	523.60	353.15	170.45	3.072	Alert	
13,100.00	9,065.00	12,933.24	8,910.00	90.55	90.50	-72.71	206.86	4,029.57	523.60	349.47	174.13	3.007	Alert	
13,200.00	9,065.00	13,033.24	8,910.00	92.47	92.42	-72.71	207.96	4,129.57	523.60	345.78	177.82	2.945	Alert	
13,300.00	9,065.00	13,133.24	8,910.00	94.39	94.35	-72.71	209.06	4,229.56	523.60	342.08	181.52	2.885	Alert	
13,400.00	9,065.00	13,233.24	8,910.00	96.32	96.28	-72.71	210.16	4,329.56	523.60	338.37	185.23	2.827	Alert	
13,500.00	9,065.00	13,333.24	8,910.00	98.25	98.21	-72.71	211.26	4,429.55	523.60	334.65	188.95	2.771	Alert	
13,600.00	9,065.00	13,433.24	8,910.00	100.19	100.15	-72.71	212.36	4,529.54	523.60	330.92	192.68	2.717	Alert	
13,700.00	9,065.00	13,533.24	8,910.00	102.13	102.09	-72.71	213.46	4,629.54	523.60	327.18	196.42	2.666	Alert	
13,800.00	9,065.00	13,633.24	8,910.00	104.08	104.03	-72.71	214.56	4,729.53	523.60	323.43	200.16	2.616	Alert	
13,900.00	9,065.00	13,733.24	8,910.00	106.03	105.98	-72.71	215.66	4,829.53	523.60	319.68	203.91	2.568	Alert	
14,000.00	9,065.00	13,833.24	8,910.00	107.98	107.94	-72.71	216.76	4,929.52	523.59	315.92	207.67	2.521	Alert	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 0-MWD+IFR1													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
14,100.00	9,065.00	13,933.24	8,910.00	109.94	109.89	-72.71	217.86	5,029.51	523.59	312.16	211.44	2.476	Minor Risk	
14,200.00	9,065.00	14,033.24	8,910.00	111.90	111.85	-72.71	218.95	5,129.51	523.59	308.39	215.21	2.433	Minor Risk	
14,300.00	9,065.00	14,133.24	8,910.00	113.86	113.82	-72.71	220.05	5,229.50	523.59	304.61	218.99	2.391	Minor Risk	
14,400.00	9,065.00	14,233.24	8,910.00	115.82	115.78	-72.71	221.15	5,329.50	523.59	300.82	222.77	2.350	Minor Risk	
14,500.00	9,065.00	14,333.24	8,910.00	117.79	117.75	-72.71	222.25	5,429.49	523.59	297.04	226.56	2.311	Minor Risk	
14,600.00	9,065.00	14,433.24	8,910.00	119.76	119.72	-72.71	223.35	5,529.48	523.59	293.24	230.35	2.273	Minor Risk	
14,700.00	9,065.00	14,533.24	8,910.00	121.74	121.70	-72.71	224.45	5,629.48	523.59	289.44	234.15	2.236	Minor Risk	
14,800.00	9,065.00	14,633.24	8,910.00	123.71	123.67	-72.71	225.55	5,729.47	523.59	285.64	237.95	2.200	Minor Risk	
14,900.00	9,065.00	14,733.24	8,910.00	125.69	125.65	-72.71	226.65	5,829.47	523.59	281.83	241.75	2.166	Minor Risk	
15,000.00	9,065.00	14,833.24	8,910.00	127.67	127.63	-72.71	227.75	5,929.46	523.59	278.02	245.57	2.132	Minor Risk	
15,100.00	9,065.00	14,933.24	8,910.00	129.65	129.61	-72.71	228.85	6,029.45	523.59	274.21	249.38	2.100	Minor Risk	
15,200.00	9,065.00	15,033.24	8,910.00	131.63	131.60	-72.71	229.95	6,129.45	523.59	270.39	253.20	2.068	Minor Risk	
15,300.00	9,065.00	15,133.24	8,910.00	133.62	133.58	-72.71	231.05	6,229.44	523.58	266.57	257.02	2.037	Minor Risk	
15,400.00	9,065.00	15,233.24	8,910.00	135.61	135.57	-72.71	232.15	6,329.44	523.58	262.74	260.84	2.007	Minor Risk	
15,500.00	9,065.00	15,333.24	8,910.00	137.60	137.56	-72.71	233.25	6,429.43	523.58	258.91	264.67	1.978	Minor Risk	
15,600.00	9,065.00	15,433.24	8,910.00	139.59	139.55	-72.71	234.35	6,529.42	523.58	255.08	268.50	1.950	Minor Risk	
15,700.00	9,065.00	15,533.24	8,910.00	141.58	141.54	-72.71	235.45	6,629.42	523.58	251.24	272.34	1.923	Minor Risk	
15,800.00	9,065.00	15,633.24	8,910.00	143.57	143.54	-72.71	236.55	6,729.41	523.58	247.40	276.18	1.896	Minor Risk	
15,900.00	9,065.00	15,733.24	8,910.00	145.57	145.53	-72.71	237.65	6,829.40	523.58	243.56	280.02	1.870	Minor Risk	
16,000.00	9,065.00	15,833.24	8,910.00	147.56	147.53	-72.71	238.75	6,929.40	523.58	239.72	283.86	1.845	Minor Risk	
16,100.00	9,065.00	15,933.24	8,910.00	149.56	149.53	-72.71	239.85	7,029.39	523.58	235.87	287.70	1.820	Minor Risk	
16,200.00	9,065.00	16,033.24	8,910.00	151.56	151.53	-72.71	240.95	7,129.39	523.58	232.03	291.55	1.796	Minor Risk	
16,300.00	9,065.00	16,133.24	8,910.00	153.56	153.53	-72.71	242.05	7,229.38	523.58	228.17	295.40	1.772	Minor Risk	
16,400.00	9,065.00	16,233.24	8,910.00	155.56	155.53	-72.71	243.15	7,329.37	523.58	224.32	299.26	1.750	Minor Risk	
16,500.00	9,065.00	16,333.24	8,910.00	157.57	157.53	-72.71	244.25	7,429.37	523.58	220.47	303.11	1.727	Minor Risk	
16,600.00	9,065.00	16,433.24	8,910.00	159.57	159.53	-72.71	245.35	7,529.36	523.58	216.61	306.97	1.706	Minor Risk	
16,700.00	9,065.00	16,533.24	8,910.00	161.57	161.54	-72.71	246.45	7,629.36	523.57	212.75	310.82	1.684	Minor Risk	
16,800.00	9,065.00	16,633.24	8,910.00	163.58	163.55	-72.71	247.55	7,729.35	523.57	208.89	314.69	1.664	Minor Risk	
16,900.00	9,065.00	16,733.24	8,910.00	165.59	165.55	-72.71	248.65	7,829.34	523.57	205.03	318.55	1.644	Minor Risk	
17,000.00	9,065.00	16,833.24	8,910.00	167.60	167.56	-72.71	249.75	7,929.34	523.57	201.16	322.41	1.624	Minor Risk	
17,100.00	9,065.00	16,933.24	8,910.00	169.60	169.57	-72.71	250.85	8,029.33	523.57	197.29	326.28	1.605	Minor Risk	
17,200.00	9,065.00	17,033.24	8,910.00	171.61	171.58	-72.71	251.95	8,129.33	523.57	193.43	330.15	1.586	Minor Risk	
17,300.00	9,065.00	17,133.24	8,910.00	173.62	173.59	-72.71	253.05	8,229.32	523.57	189.56	334.01	1.568	Minor Risk	
17,400.00	9,065.00	17,233.24	8,910.00	175.63	175.60	-72.71	254.15	8,329.31	523.57	185.68	337.89	1.550	Minor Risk	
17,500.00	9,065.00	17,333.24	8,910.00	177.65	177.61	-72.71	255.25	8,429.31	523.57	181.81	341.76	1.532	Minor Risk	
17,600.00	9,065.00	17,433.24	8,910.00	179.66	179.63	-72.71	256.35	8,529.30	523.57	177.94	345.63	1.515	Minor Risk	
17,700.00	9,065.00	17,533.24	8,910.00	181.67	181.64	-72.71	257.45	8,629.30	523.57	174.06	349.51	1.498	Major Risk	
17,800.00	9,065.00	17,633.24	8,910.00	183.69	183.65	-72.71	258.55	8,729.29	523.57	170.18	353.38	1.482	Major Risk	
17,900.00	9,065.00	17,733.24	8,910.00	185.70	185.67	-72.71	259.65	8,829.28	523.57	166.30	357.26	1.465	Major Risk	
18,000.00	9,065.00	17,833.24	8,910.00	187.72	187.68	-72.71	260.75	8,929.28	523.56	162.42	361.14	1.450	Major Risk	
18,100.00	9,065.00	17,933.24	8,910.00	189.73	189.70	-72.71	261.84	9,029.27	523.56	158.54	365.02	1.434	Major Risk	
18,200.00	9,065.00	18,033.24	8,910.00	191.75	191.72	-72.71	262.94	9,129.27	523.56	154.66	368.90	1.419	Major Risk	
18,300.00	9,065.00	18,133.24	8,910.00	193.77	193.73	-72.71	264.04	9,229.26	523.56	150.78	372.78	1.404	Major Risk	
18,400.00	9,065.00	18,233.24	8,910.00	195.78	195.75	-72.71	265.14	9,329.25	523.56	146.89	376.67	1.390	Major Risk	
18,500.00	9,065.00	18,333.24	8,910.00	197.80	197.77	-72.71	266.24	9,429.25	523.56	143.01	380.55	1.376	Major Risk	
18,600.00	9,065.00	18,433.24	8,910.00	199.82	199.79	-72.71	267.34	9,529.24	523.56	139.12	384.44	1.362	Major Risk	
18,700.00	9,065.00	18,533.24	8,910.00	201.84	201.81	-72.71	268.44	9,629.24	523.56	135.23	388.33	1.348	Major Risk	
18,800.00	9,065.00	18,633.24	8,910.00	203.86	203.83	-72.71	269.54	9,729.23	523.56	131.34	392.21	1.335	Major Risk	
18,900.00	9,065.00	18,733.24	8,910.00	205.88	205.85	-72.71	270.64	9,829.22	523.56	127.46	396.10	1.322	Major Risk	
19,000.00	9,065.00	18,833.24	8,910.00	207.90	207.87	-72.71	271.74	9,929.22	523.56	123.56	399.99	1.309	Major Risk	
19,100.00	9,065.00	18,933.24	8,910.00	209.92	209.89	-72.71	272.84	10,029.21	523.56	119.67	403.88	1.296	Major Risk	
19,200.00	9,065.00	19,033.24	8,910.00	211.95	211.91	-72.71	273.94	10,129.21	523.56	115.78	407.78	1.284	Major Risk	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design												Sec 14-T21S-R27E - Lone Tree Draw 14-13 State Com 334H - Wellbore #1 - Permit Plan 1		Offset Site Error:		0.00 ft	
Survey Program:												0-MWD+IFR1		Offset Well Error:		0.50 ft	
Reference		Offset		Semi Major Axis			Distance							Warning			
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre	Between Centres	Between Ellipses	Minimum Separation	Separation Factor						
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)						
19,300.00	9,065.00	19,133.24	8,910.00	213.97	213.94	-72.71	275.04	10,229.20	523.56	111.89	411.67	1.272 Major Risk					
19,400.00	9,065.00	19,233.24	8,910.00	215.99	215.96	-72.71	276.14	10,329.19	523.55	107.99	415.56	1.260 Major Risk					
19,456.84	9,065.00	19,290.08	8,910.00	217.14	217.11	-72.71	276.77	10,386.03	523.55	105.78	417.77	1.253 Major Risk, SF					

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 431-MWD+HDGM													Offset Well Error:	0.50 ft
Reference														
		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0.00	0.00	16.11	16.11	0.50	0.50	-177.08	-1,644.23	-83.74	1,646.37					
100.00	100.00	114.38	114.38	0.52	0.54	-177.09	-1,644.31	-83.60	1,646.44	1,645.38	1.05	1,562.369		
200.00	200.00	212.64	212.64	0.70	0.62	-177.10	-1,644.50	-83.25	1,646.61	1,645.29	1.32	1,249.515		
300.00	300.00	310.89	310.89	0.99	0.73	-177.12	-1,644.81	-82.69	1,646.89	1,645.18	1.71	961.667		
400.00	400.00	409.15	409.14	1.31	0.85	-177.15	-1,645.23	-81.93	1,647.28	1,645.12	2.16	761.840		
500.00	500.00	503.07	503.06	1.65	1.11	-177.18	-1,645.83	-81.09	1,647.88	1,645.12	2.75	598.801		
600.00	600.00	606.45	606.43	1.99	1.45	-177.21	-1,646.66	-80.31	1,648.65	1,645.21	3.44	479.758		
700.00	700.00	706.81	706.78	2.34	1.79	-177.24	-1,647.29	-79.56	1,649.24	1,645.11	4.13	399.617		
800.00	800.00	807.86	807.83	2.69	2.14	-177.26	-1,647.83	-78.99	1,649.75	1,644.92	4.83	341.696		
900.00	900.00	903.65	903.62	3.04	2.47	-177.27	-1,648.57	-78.62	1,650.50	1,644.98	5.51	299.289		
1,000.00	1,000.00	1,017.48	1,017.44	3.40	2.87	-177.30	-1,648.95	-77.79	1,650.79	1,644.52	6.27	263.464		
1,100.00	1,100.00	1,120.47	1,120.43	3.75	3.23	-177.32	-1,648.75	-77.14	1,650.56	1,643.58	6.98	236.526		
1,200.00	1,200.00	1,222.40	1,222.35	4.11	3.58	-177.35	-1,648.52	-76.22	1,650.30	1,642.61	7.69	214.600		
1,300.00	1,300.00	1,330.06	1,330.00	4.46	3.96	-177.40	-1,647.98	-74.77	1,649.73	1,641.31	8.42	195.878		
1,400.00	1,400.00	1,431.44	1,431.37	4.82	4.31	-177.44	-1,647.14	-73.57	1,648.85	1,639.71	9.13	180.551		
1,500.00	1,500.00	1,525.82	1,525.74	5.18	4.65	-177.49	-1,646.50	-72.26	1,648.11	1,638.29	9.82	167.805		
1,600.00	1,600.00	1,630.98	1,630.89	5.53	5.02	-177.53	-1,645.80	-71.03	1,647.39	1,636.84	10.55	156.169		
1,700.00	1,700.00	1,726.73	1,726.63	5.89	5.35	-177.56	-1,645.18	-69.98	1,646.70	1,635.46	11.24	146.452		
1,800.00	1,800.00	1,830.34	1,830.24	6.25	5.72	-177.61	-1,644.45	-68.58	1,645.94	1,633.97	11.97	137.525		
1,900.00	1,900.00	1,929.01	1,928.89	6.61	6.07	-177.66	-1,643.73	-67.20	1,645.15	1,632.47	12.68	129.786		
2,000.00	2,000.00	2,033.44	2,033.31	6.96	6.44	-177.71	-1,642.94	-65.83	1,644.35	1,630.95	13.40	122.689		
2,100.00	2,100.00	2,145.25	2,145.11	7.32	6.83	-177.72	-1,641.35	-65.25	1,642.90	1,628.75	14.15	116.121		
2,200.00	2,200.00	2,245.68	2,245.52	7.68	7.18	-177.72	-1,639.49	-65.28	1,641.05	1,626.20	14.85	110.501		
2,300.00	2,300.00	2,344.16	2,343.98	8.04	7.51	-177.71	-1,637.82	-65.57	1,639.36	1,623.81	15.55	105.448		
2,400.00	2,400.00	2,444.27	2,444.08	8.39	7.86	-177.69	-1,636.10	-65.92	1,637.66	1,621.42	16.25	100.788		
2,500.00	2,500.00	2,542.29	2,542.09	8.75	8.20	-177.68	-1,634.48	-66.14	1,636.02	1,619.07	16.95	96.545		
2,600.00	2,599.99	2,636.93	2,636.72	9.09	8.53	-31.79	-1,633.12	-66.11	1,633.84	1,616.23	17.62	92.736		
2,700.00	2,699.96	2,736.12	2,735.90	9.42	8.87	-31.87	-1,631.98	-65.68	1,630.46	1,612.16	18.29	89.131		
2,800.00	2,799.86	2,836.06	2,835.84	9.75	9.22	-31.96	-1,630.76	-65.95	1,625.54	1,606.57	18.97	85.689		
2,900.00	2,899.68	2,944.42	2,944.18	10.08	9.60	-32.11	-1,629.40	-66.15	1,619.14	1,599.46	19.68	82.284		
2,945.33	2,944.88	3,022.65	3,022.38	10.23	9.87	-32.23	-1,627.23	-66.55	1,615.06	1,594.97	20.09	80.379		
3,000.00	2,999.39	3,083.52	3,083.20	10.41	10.09	-32.30	-1,624.82	-66.87	1,609.33	1,588.84	20.49	78.560		
3,100.00	3,099.08	3,185.91	3,185.49	10.75	10.45	-32.44	-1,620.34	-67.14	1,598.40	1,577.22	21.18	75.479		
3,200.00	3,198.78	3,287.27	3,286.75	11.08	10.80	-32.58	-1,615.84	-67.49	1,587.43	1,565.56	21.87	72.594		
3,300.00	3,298.48	3,380.39	3,379.78	11.42	11.13	-32.70	-1,611.78	-67.77	1,576.55	1,554.02	22.54	69.960		
3,400.00	3,398.18	3,581.61	3,580.42	11.76	11.84	-32.89	-1,597.48	-70.89	1,563.28	1,539.79	23.49	66.555		
3,500.00	3,497.88	3,745.73	3,743.19	12.10	12.43	-32.99	-1,576.87	-74.51	1,544.47	1,520.17	24.30	63.568		
3,600.00	3,597.58	3,937.19	3,931.25	12.45	13.14	-33.08	-1,541.54	-79.44	1,519.18	1,494.10	25.08	60.565		
3,700.00	3,697.27	4,046.78	4,038.12	12.79	13.55	-33.02	-1,517.96	-85.02	1,491.44	1,465.67	25.77	57.884		
3,800.00	3,796.97	4,121.91	4,111.41	13.14	13.83	-32.97	-1,501.94	-89.27	1,463.93	1,437.50	26.43	55.385		
3,900.00	3,896.67	4,223.95	4,211.17	13.48	14.23	-32.89	-1,481.25	-94.87	1,437.45	1,410.34	27.12	53.010		
4,000.00	3,996.37	4,328.58	4,313.30	13.83	14.63	-32.86	-1,458.99	-99.51	1,409.94	1,382.14	27.80	50.711		
4,100.00	4,096.07	4,411.19	4,393.98	14.18	14.96	-32.83	-1,441.59	-103.07	1,382.65	1,354.17	28.49	48.539		
4,200.00	4,195.76	4,515.41	4,495.89	14.53	15.37	-32.81	-1,420.25	-107.45	1,355.95	1,326.78	29.18	46.476		
4,300.00	4,295.46	4,617.57	4,595.65	14.88	15.78	-32.83	-1,398.46	-110.70	1,328.36	1,298.50	29.87	44.478		
4,400.00	4,395.16	4,703.36	4,679.47	15.23	16.12	-32.86	-1,380.33	-113.00	1,300.97	1,270.41	30.56	42.574		
4,500.00	4,494.86	4,789.49	4,763.77	15.58	16.47	-32.90	-1,362.88	-115.40	1,274.41	1,243.16	31.25	40.778		
4,600.00	4,594.56	4,898.96	4,870.96	15.93	16.91	-32.95	-1,340.84	-118.26	1,248.03	1,216.08	31.95	39.068		
4,700.00	4,694.25	4,990.41	4,960.39	16.29	17.28	-33.07	-1,321.78	-119.36	1,220.88	1,188.24	32.64	37.401		
4,800.00	4,793.95	5,070.68	5,039.05	16.64	17.61	-33.18	-1,305.80	-120.10	1,194.66	1,161.32	33.35	35.826		
4,900.00	4,893.65	5,153.38	5,120.32	17.00	17.94	-33.28	-1,290.49	-121.23	1,169.81	1,135.76	34.05	34.355		
5,000.00	4,993.35	5,242.60	5,208.13	17.35	18.30	-33.39	-1,274.78	-122.62	1,145.86	1,111.11	34.75	32.971		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design		Sec 14-T21S-R27E - Lone Tree Draw 14-13 State Com 335H - Wellbore #1 - Wellbore #1											Offset Site Error:		0.00 ft
Survey Program:		431-MWD+HDGM											Offset Well Error:		0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor			
5,100.00	5,093.05	5,341.13	5,305.16	17.71	18.70	-33.49	-1,257.76	-124.63	1,122.26	1,086.80	35.46	31.651			
5,200.00	5,192.75	5,432.72	5,395.32	18.06	19.07	-33.61	-1,241.70	-126.22	1,098.42	1,062.25	36.16	30.373			
5,300.00	5,292.44	5,519.16	5,480.59	18.42	19.41	-33.72	-1,227.64	-127.62	1,075.78	1,038.91	36.87	29.176			
5,400.00	5,392.14	5,639.52	5,599.29	18.77	19.90	-33.98	-1,207.74	-128.01	1,053.04	1,015.47	37.57	28.032			
5,500.00	5,491.84	5,740.91	5,698.85	19.13	20.31	-34.28	-1,188.60	-127.05	1,027.82	989.55	38.27	26.860			
5,600.00	5,591.54	5,838.75	5,795.02	19.49	20.71	-34.55	-1,170.61	-126.69	1,003.16	964.19	38.97	25.741			
5,700.00	5,691.24	5,954.64	5,908.69	19.85	21.19	-34.80	-1,148.04	-127.78	977.45	937.81	39.64	24.657			
5,800.00	5,790.93	6,034.30	5,986.72	20.20	21.53	-34.87	-1,132.23	-130.23	951.38	911.00	40.38	23.559			
5,900.00	5,890.63	6,127.45	6,078.20	20.56	21.91	-34.90	-1,115.12	-134.12	926.72	885.62	41.10	22.548			
6,000.00	5,990.33	6,238.31	6,186.93	20.92	22.38	-34.92	-1,093.98	-138.94	901.40	859.63	41.78	21.576			
6,100.00	6,090.03	6,349.71	6,295.77	21.28	22.85	-34.92	-1,070.82	-143.95	874.36	831.92	42.44	20.602			
6,200.00	6,189.73	6,441.45	6,385.29	21.64	23.25	-34.90	-1,051.30	-148.56	846.83	803.66	43.17	19.618			
6,300.00	6,289.42	6,541.27	6,482.72	22.00	23.68	-34.93	-1,029.99	-152.74	819.25	775.39	43.86	18.678			
6,400.00	6,389.12	6,610.73	6,550.78	22.36	23.97	-35.01	-1,016.30	-154.86	793.22	748.55	44.67	17.756			
6,500.00	6,488.82	6,696.69	6,635.41	22.72	24.32	-35.19	-1,001.36	-156.51	769.56	724.14	45.42	16.943			
6,600.00	6,588.52	6,801.99	6,739.15	23.08	24.76	-35.55	-983.27	-156.98	746.16	700.06	46.11	16.184			
6,700.00	6,688.22	6,922.82	6,857.64	23.44	25.27	-35.97	-959.68	-157.73	720.48	673.78	46.71	15.426			
6,800.00	6,787.91	7,003.59	6,936.79	23.80	25.61	-36.29	-943.60	-158.20	694.39	646.89	47.50	14.619			
6,900.00	6,887.61	7,098.36	7,029.86	24.16	26.01	-36.66	-925.72	-158.90	669.39	621.17	48.22	13.881			
7,000.00	6,987.31	7,204.19	7,133.66	24.52	26.46	-37.03	-905.20	-160.59	643.87	594.98	48.88	13.171			
7,100.00	7,087.01	7,297.12	7,224.74	24.88	26.86	-37.38	-886.77	-162.14	617.94	568.32	49.62	12.453			
7,200.00	7,186.71	7,374.44	7,300.78	25.24	27.18	-37.71	-872.86	-163.18	593.84	543.39	50.45	11.771			
7,300.00	7,286.41	7,473.92	7,398.94	25.60	27.59	-38.19	-856.72	-164.22	571.55	520.40	51.15	11.173			
7,400.00	7,386.10	7,561.84	7,485.70	25.96	27.95	-38.62	-842.52	-165.26	549.38	497.46	51.92	10.581			
7,500.00	7,485.80	7,641.76	7,564.86	26.33	28.27	-39.00	-831.67	-166.55	529.76	477.05	52.70	10.052			
7,600.00	7,585.50	7,733.97	7,656.54	26.69	28.62	-39.38	-822.01	-168.44	513.12	459.69	53.43	9.603			
7,700.00	7,685.20	7,828.42	7,750.46	27.05	28.98	-39.97	-812.00	-169.00	496.59	442.43	54.16	9.169			
7,800.00	7,784.90	7,915.16	7,836.84	27.41	29.30	-40.73	-804.25	-167.76	481.97	427.09	54.88	8.782			
7,860.70	7,845.41	7,967.29	7,888.82	27.63	29.49	-41.29	-800.66	-166.14	474.47	419.17	55.31	8.579			
7,900.00	7,884.61	8,005.06	7,926.51	27.77	29.62	-41.63	-798.42	-165.12	470.16	414.57	55.59	8.458			
8,000.00	7,984.46	8,104.07	8,025.37	28.13	29.97	-42.08	-793.18	-164.98	460.89	404.59	56.30	8.187			
8,100.00	8,084.42	8,200.94	8,122.11	28.49	30.32	-42.16	-788.19	-166.32	453.51	396.51	57.00	7.956			
8,157.59	8,142.00	8,254.37	8,175.49	28.69	30.50	171.95	-786.01	-166.90	450.77	393.38	57.39	7.854			
8,200.00	8,184.41	8,296.97	8,218.06	28.83	30.65	171.99	-784.44	-167.42	449.15	391.47	57.69	7.786			
8,300.00	8,284.41	8,393.67	8,314.67	29.17	30.98	171.86	-780.85	-166.97	445.54	387.18	58.36	7.634			
8,400.00	8,384.41	8,487.22	8,407.43	29.51	31.30	170.45	-776.94	-156.46	443.13	384.10	59.03	7.507			
8,428.62	8,413.04	8,509.89	8,429.44	29.60	31.37	169.74	-775.83	-151.12	442.91	383.72	59.19	7.483			
8,507.63	8,492.04	8,570.35	8,486.41	29.87	31.55	167.15	-773.14	-131.23	444.80	385.25	59.55	7.470			
8,550.00	8,534.37	8,599.70	8,512.97	30.02	31.63	76.08	-771.94	-118.81	447.25	387.61	59.64	7.499			
8,600.00	8,584.01	8,630.00	8,539.42	30.18	31.72	74.23	-770.93	-104.07	451.14	391.56	59.59	7.571			
8,650.00	8,632.95	8,660.53	8,564.93	30.34	31.79	72.35	-770.36	-87.32	456.23	396.81	59.42	7.679			
8,700.00	8,680.82	8,690.09	8,588.45	30.50	31.85	70.53	-770.39	-69.43	462.50	403.39	59.11	7.824			
8,750.00	8,727.25	8,725.00	8,614.96	30.66	31.92	68.61	-771.00	-46.72	469.50	410.63	58.87	7.976			
8,800.00	8,771.89	8,758.41	8,638.89	30.81	31.97	66.87	-771.70	-23.43	476.68	418.15	58.53	8.144			
8,850.00	8,814.40	8,798.59	8,665.66	30.95	32.04	65.03	-772.10	6.52	483.49	425.13	58.36	8.284			
8,900.00	8,854.46	8,843.13	8,693.35	31.09	32.10	63.30	-771.87	41.40	489.36	431.06	58.30	8.393			
8,950.00	8,891.75	8,885.21	8,718.00	31.23	32.16	61.91	-770.93	75.50	493.83	435.62	58.21	8.483			
9,000.00	8,926.01	8,921.49	8,737.84	31.37	32.22	60.92	-770.16	105.86	497.54	439.56	57.98	8.582			
9,050.00	8,956.96	8,959.35	8,756.82	31.53	32.28	60.10	-769.27	138.58	500.45	442.61	57.84	8.653			
9,100.00	8,984.38	8,999.77	8,775.23	31.69	32.36	59.46	-768.07	174.55	502.30	444.46	57.84	8.684			
9,150.00	9,008.05	9,045.99	8,794.58	31.87	32.52	59.09	-766.36	216.49	502.69	444.58	58.11	8.650			
9,200.00	9,027.79	9,086.13	8,810.22	32.07	32.75	59.09	-764.52	253.41	501.33	443.00	58.33	8.594			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Sec 14-T21S-R27E - Lone Tree Draw 14-13 State Com 335H - Wellbore #1 - Wellbore #1													Offset Well Error:	0.50 ft
Survey Program: 431-MWD+HDGM														
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
9,250.00	9,043.45	9,122.57	8,822.91	32.29	33.02	59.35	-762.96	287.53	498.99	440.41	58.59	8.517		
9,300.00	9,054.92	9,158.46	8,833.77	32.53	33.34	59.84	-761.57	321.70	495.84	436.87	58.97	8.409		
9,350.00	9,062.10	9,195.84	8,843.43	32.79	33.72	60.57	-760.23	357.78	491.83	432.28	59.55	8.259		
9,400.00	9,064.95	9,239.87	8,853.10	33.06	34.20	61.71	-758.63	400.70	486.70	426.23	60.47	8.049		
9,407.63	9,065.00	9,246.80	8,854.51	33.10	34.28	61.92	-758.35	407.49	485.77	425.15	60.63	8.012		
9,500.00	9,065.00	9,328.21	8,868.20	33.68	35.29	63.22	-754.59	487.63	475.61	413.06	62.55	7.604		
9,600.00	9,065.00	9,427.34	8,878.14	34.41	36.69	63.98	-747.34	585.98	465.55	400.78	64.78	7.187		
9,700.00	9,065.00	9,520.11	8,885.10	35.24	38.12	64.42	-740.08	678.21	456.24	389.25	66.99	6.811		
9,800.00	9,065.00	9,610.04	8,890.42	36.17	39.63	64.77	-734.38	767.79	448.95	379.63	69.32	6.477		
9,900.00	9,065.00	9,699.48	8,894.08	37.19	41.22	65.01	-729.89	857.05	443.68	371.92	71.76	6.183		
10,000.00	9,065.00	9,784.72	8,895.64	38.30	42.82	65.13	-727.76	942.24	441.61	367.41	74.20	5.951		
10,100.00	9,065.00	9,883.45	8,896.59	39.48	44.77	65.24	-726.69	1,040.96	441.23	364.12	77.11	5.722		
10,200.00	9,065.00	9,983.70	8,898.08	40.72	46.84	65.42	-725.74	1,141.19	440.74	360.49	80.25	5.492		
10,223.54	9,065.00	10,005.71	8,898.37	41.03	47.31	65.46	-725.59	1,163.20	440.70	359.72	80.97	5.442		
10,300.00	9,065.00	10,080.07	8,898.84	42.03	48.90	65.55	-725.38	1,237.55	441.07	357.67	83.39	5.289		
10,400.00	9,065.00	10,186.84	8,899.01	43.40	51.26	65.55	-723.81	1,344.32	440.66	353.80	86.86	5.073		
10,500.00	9,065.00	10,290.98	8,899.43	44.82	53.63	65.52	-721.15	1,448.42	439.17	348.82	90.35	4.861 Alert		
10,600.00	9,065.00	10,395.10	8,900.36	46.29	56.06	65.49	-717.54	1,552.47	436.64	342.71	93.93	4.649 Alert		
10,700.00	9,065.00	10,493.75	8,902.71	47.79	58.41	65.65	-714.24	1,651.04	433.62	336.05	97.57	4.444 Alert		
10,800.00	9,065.00	10,595.26	8,904.89	49.34	60.87	65.82	-711.31	1,752.48	431.11	329.74	101.37	4.253 Alert		
10,900.00	9,065.00	10,699.82	8,909.26	50.92	63.44	66.23	-707.99	1,856.89	427.51	322.01	105.50	4.052 Alert		
11,000.00	9,065.00	10,800.75	8,913.77	52.54	65.96	66.65	-704.16	1,957.65	423.25	313.65	109.60	3.862 Alert		
11,100.00	9,065.00	10,900.59	8,917.67	54.18	68.47	66.97	-700.08	2,057.33	418.96	305.27	113.69	3.685 Alert		
11,200.00	9,065.00	10,996.97	8,920.49	55.85	70.92	67.17	-696.12	2,153.59	415.05	297.40	117.66	3.528 Alert		
11,300.00	9,065.00	11,096.55	8,923.49	57.54	73.48	67.43	-692.70	2,253.06	411.74	289.94	121.80	3.380 Alert		
11,400.00	9,065.00	11,183.44	8,926.43	59.26	75.73	67.78	-691.17	2,339.89	409.86	284.18	125.68	3.261 Alert		
11,403.70	9,065.00	11,186.61	8,926.52	59.32	75.81	67.80	-691.17	2,343.05	409.86	284.03	125.82	3.257 Alert		
11,500.00	9,065.00	11,281.57	8,929.30	61.00	78.29	68.24	-691.70	2,437.98	410.28	280.24	130.03	3.155 Alert		
11,600.00	9,065.00	11,390.05	8,933.78	62.75	81.13	68.88	-691.60	2,546.36	409.71	274.78	134.93	3.036 Alert		
11,644.86	9,065.00	11,427.96	8,935.49	63.55	82.13	69.12	-691.48	2,584.22	409.32	272.56	136.75	2.993 Alert		
11,700.00	9,065.00	11,474.29	8,937.11	64.52	83.36	69.39	-692.12	2,630.53	409.91	270.99	138.93	2.951 Alert		
11,800.00	9,065.00	11,572.84	8,939.17	66.31	85.97	69.82	-694.52	2,729.03	412.50	269.09	143.41	2.876 Alert		
11,900.00	9,065.00	11,669.04	8,939.84	68.11	88.53	70.07	-696.70	2,825.20	415.42	267.75	147.67	2.813 Alert		
12,000.00	9,065.00	11,775.41	8,940.02	69.93	91.37	70.24	-698.72	2,931.55	418.19	265.85	152.34	2.745 Alert		
12,100.00	9,065.00	11,880.53	8,939.49	71.76	94.20	70.23	-698.81	3,036.66	419.48	262.67	156.81	2.675 Alert		
12,200.00	9,065.00	11,985.68	8,937.16	73.60	97.03	69.89	-696.87	3,141.76	419.54	258.56	160.98	2.606 Alert		
12,255.97	9,065.00	12,039.35	8,936.25	74.63	98.48	69.76	-695.94	3,195.42	419.53	256.33	163.19	2.571 Alert		
12,300.00	9,065.00	12,082.49	8,935.74	75.45	99.65	69.69	-695.32	3,238.55	419.57	254.58	164.99	2.543 Alert		
12,400.00	9,065.00	12,180.70	8,934.54	77.31	102.32	69.54	-694.31	3,336.75	420.06	250.96	169.09	2.484 Minor Risk		
12,500.00	9,065.00	12,283.91	8,932.81	79.18	105.13	69.31	-693.09	3,439.93	420.58	247.26	173.31	2.427 Minor Risk		
12,600.00	9,065.00	12,389.48	8,932.65	81.05	108.01	69.23	-690.69	3,545.47	419.52	241.77	177.75	2.360 Minor Risk		
12,700.00	9,065.00	12,488.63	8,934.18	82.94	110.72	69.38	-688.67	3,644.59	418.10	235.86	182.24	2.294 Minor Risk		
12,800.00	9,065.00	12,585.57	8,936.79	84.83	113.38	69.72	-687.62	3,741.49	417.18	230.31	186.87	2.232 Minor Risk		
12,886.38	9,065.00	12,669.87	8,938.67	86.47	115.70	69.98	-687.22	3,825.77	417.02	226.15	190.88	2.185 Minor Risk		
12,900.00	9,065.00	12,683.36	8,938.96	86.73	116.07	70.03	-687.18	3,839.26	417.02	225.51	191.52	2.177 Minor Risk		
13,000.00	9,065.00	12,790.16	8,941.73	88.64	119.01	70.41	-686.51	3,946.02	416.61	220.04	196.57	2.119 Minor Risk		
13,100.00	9,065.00	12,894.49	8,945.84	90.55	121.89	70.89	-684.25	4,050.24	414.29	212.65	201.64	2.055 Minor Risk		
13,200.00	9,065.00	12,998.05	8,950.72	92.47	124.75	71.46	-681.48	4,153.65	411.28	204.49	206.79	1.989 Minor Risk		
13,300.00	9,065.00	13,093.64	8,954.65	94.39	127.39	71.91	-678.68	4,249.11	408.25	196.62	211.64	1.929 Minor Risk		
13,400.00	9,065.00	13,185.96	8,956.51	96.32	129.95	72.12	-676.83	4,341.39	406.77	190.65	216.12	1.882 Minor Risk		
13,500.00	9,065.00	13,287.21	8,956.54	98.25	132.76	72.10	-675.17	4,442.63	406.25	185.61	220.65	1.841 Minor Risk		
13,600.00	9,065.00	13,387.71	8,956.02	100.19	135.55	71.98	-672.95	4,543.11	405.36	180.32	225.04	1.801 Minor Risk		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 431-MWD+HDGM													Offset Well Error:	0.50 ft
Reference														
Offset				Semi Major Axis			Distance							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
13,700.00	9,065.00	13,490.79	8,957.05	102.13	138.42	72.07	-670.72	4,646.15	404.04	174.29	229.75	1.759	Minor Risk	
13,800.00	9,065.00	13,590.59	8,959.59	104.08	141.20	72.37	-668.66	4,745.90	402.33	167.71	234.62	1.715	Minor Risk	
13,900.00	9,065.00	13,688.61	8,961.66	106.03	143.93	72.63	-666.92	4,843.88	401.06	161.66	239.40	1.675	Minor Risk	
14,000.00	9,065.00	13,792.70	8,964.80	107.98	146.83	73.02	-664.81	4,947.90	399.28	154.76	244.52	1.633	Minor Risk	
14,100.00	9,065.00	13,890.23	8,968.51	109.94	149.56	73.49	-662.71	5,045.34	397.18	147.62	249.56	1.592	Minor Risk	
14,166.28	9,065.00	13,950.41	8,970.46	111.23	151.24	73.76	-662.14	5,105.48	396.67	143.96	252.71	1.570	Minor Risk	
14,200.00	9,065.00	13,983.64	8,971.38	111.90	152.17	73.90	-662.10	5,138.70	396.72	142.32	254.40	1.559	Minor Risk	
14,300.00	9,065.00	14,084.60	8,974.17	113.86	155.00	74.32	-661.73	5,239.62	396.68	137.17	259.51	1.529	Minor Risk	
14,400.00	9,065.00	14,186.02	8,976.43	115.82	157.84	74.65	-661.11	5,341.01	396.55	132.00	264.56	1.499	Major Risk	
14,500.00	9,065.00	14,288.62	8,979.08	117.79	160.71	75.01	-659.70	5,443.57	395.60	125.93	269.67	1.467	Major Risk	
14,600.00	9,065.00	14,390.28	8,981.31	119.76	163.57	75.30	-657.94	5,545.19	394.43	119.75	274.68	1.436	Major Risk	
14,700.00	9,065.00	14,489.98	8,983.56	121.74	166.36	75.57	-655.65	5,644.84	392.71	113.09	279.62	1.404	Major Risk	
14,800.00	9,065.00	14,591.03	8,985.77	123.71	169.20	75.86	-653.71	5,745.85	391.38	106.75	284.62	1.375	Major Risk	
14,900.00	9,065.00	14,690.08	8,988.31	125.69	171.98	76.17	-651.40	5,844.83	389.57	99.96	289.61	1.345	Major Risk	
14,968.28	9,065.00	14,752.67	8,989.79	127.04	173.74	76.38	-650.47	5,907.40	388.94	96.11	292.83	1.328	Major Risk	
15,000.00	9,065.00	14,780.47	8,990.49	127.67	174.52	76.49	-650.48	5,935.18	389.10	94.83	294.27	1.322	Major Risk	
15,100.00	9,065.00	14,877.11	8,993.00	129.65	177.25	76.93	-651.91	6,031.79	391.00	91.73	299.27	1.307	Major Risk	
15,200.00	9,065.00	14,978.65	8,994.98	131.63	180.11	77.28	-652.96	6,133.30	392.65	88.21	304.43	1.290	Major Risk	
15,300.00	9,065.00	15,077.43	8,996.79	133.62	182.89	77.60	-653.87	6,232.06	394.22	84.80	309.42	1.274	Major Risk	
15,400.00	9,065.00	15,180.34	8,999.03	135.61	185.80	77.99	-654.89	6,334.94	395.80	81.12	314.69	1.258	Major Risk	
15,500.00	9,065.00	15,284.14	9,001.77	137.60	188.72	78.41	-654.94	6,438.70	396.40	76.38	320.02	1.239	Major Risk	
15,600.00	9,065.00	15,387.31	9,004.98	139.59	191.64	78.88	-654.17	6,541.82	396.12	70.78	325.34	1.218	Major Risk	
15,700.00	9,065.00	15,488.96	9,008.08	141.58	194.50	79.31	-652.76	6,643.41	395.26	64.70	330.56	1.196	Major Risk	
15,800.00	9,065.00	15,588.08	9,010.54	143.57	197.30	79.65	-651.16	6,742.48	394.31	58.70	335.61	1.175	Major Risk	
15,900.00	9,065.00	15,688.23	9,012.70	145.57	200.13	79.95	-649.86	6,842.61	393.73	53.07	340.66	1.156	Major Risk	
16,000.00	9,065.00	15,797.67	9,017.77	147.56	203.21	80.64	-646.78	6,951.87	391.22	44.96	346.26	1.130	Major Risk	
16,100.00	9,065.00	15,892.64	9,021.92	149.56	205.89	81.19	-643.57	7,046.70	388.30	36.87	351.43	1.105	Major Risk	
16,164.46	9,065.00	15,949.53	9,023.09	150.85	207.50	81.35	-642.57	7,103.56	387.67	33.26	354.41	1.094	Major Risk, CC	
16,200.00	9,065.00	15,983.58	9,023.38	151.56	208.46	81.39	-642.32	7,137.62	387.75	31.67	356.08	1.089	Major Risk	
16,300.00	9,065.00	16,080.19	9,023.80	153.56	211.19	81.47	-642.10	7,234.22	388.56	27.78	360.77	1.077	Major Risk	
16,400.00	9,065.00	16,179.24	9,023.85	155.56	214.00	81.52	-642.64	7,333.27	390.16	24.62	365.54	1.067	Major Risk	
16,500.00	9,065.00	16,280.12	9,023.36	157.57	216.86	81.47	-642.62	7,434.15	391.31	20.97	370.34	1.057	Major Risk	
16,600.00	9,065.00	16,381.00	9,022.55	159.57	219.71	81.38	-642.88	7,535.03	392.78	17.69	375.09	1.047	Major Risk	
16,700.00	9,065.00	16,485.29	9,021.31	161.57	222.67	81.21	-641.96	7,639.31	393.17	13.26	379.91	1.035	Major Risk	
16,772.00	9,065.00	16,557.12	9,020.66	163.02	224.70	81.11	-640.96	7,711.13	393.05	9.80	383.25	1.026	Major Risk	
16,800.00	9,065.00	16,584.23	9,020.56	163.58	225.47	81.10	-640.67	7,738.23	393.08	8.54	384.54	1.022	Major Risk	
16,900.00	9,065.00	16,683.35	9,021.16	165.59	228.28	81.19	-640.11	7,837.35	393.52	4.14	389.39	1.011	Major Risk	
17,000.00	9,065.00	16,783.98	9,023.35	167.60	231.13	81.53	-639.73	7,937.95	393.91	-0.61	394.52	0.998	Collision	
17,100.00	9,065.00	16,883.65	9,025.63	169.60	233.96	81.87	-639.28	8,037.59	394.22	-5.40	399.62	0.986	Collision	
17,200.00	9,065.00	16,984.46	9,027.43	171.61	236.82	82.14	-638.75	8,138.39	394.54	-10.16	404.71	0.975	Collision	
17,300.00	9,065.00	17,084.87	9,029.79	173.62	239.66	82.49	-638.09	8,238.77	394.67	-15.17	409.84	0.963	Collision	
17,400.00	9,065.00	17,184.32	9,032.92	175.63	242.49	82.95	-637.56	8,338.17	394.83	-20.19	415.02	0.951	Collision	
17,500.00	9,065.00	17,284.41	9,035.86	177.65	245.33	83.38	-637.05	8,438.21	395.07	-25.12	420.19	0.940	Collision	
17,600.00	9,065.00	17,385.10	9,038.62	179.66	248.18	83.79	-636.41	8,538.87	395.22	-30.13	425.35	0.929	Collision	
17,700.00	9,065.00	17,486.28	9,041.05	181.67	251.06	84.14	-635.46	8,640.01	395.13	-35.36	430.49	0.918	Collision	
17,800.00	9,065.00	17,587.08	9,043.07	183.69	253.92	84.43	-634.28	8,740.78	394.85	-40.70	435.55	0.907	Collision	
17,900.00	9,065.00	17,687.75	9,044.47	185.70	256.77	84.62	-632.58	8,841.43	394.13	-46.40	440.54	0.895	Collision	
17,940.82	9,065.00	17,726.24	9,044.54	186.52	257.87	84.63	-632.05	8,879.91	394.01	-48.42	442.43	0.891	Collision	
18,000.00	9,065.00	17,782.53	9,044.03	187.72	259.47	84.56	-631.61	8,936.20	394.25	-50.87	445.12	0.886	Collision	
18,100.00	9,065.00	17,881.10	9,043.04	189.73	262.27	84.43	-631.56	9,034.76	395.39	-54.40	449.80	0.879	Collision	
18,200.00	9,065.00	17,984.23	9,044.80	191.75	265.20	84.70	-631.13	9,137.87	395.91	-59.06	454.97	0.870	Collision	
18,300.00	9,065.00	18,085.11	9,048.08	193.77	268.06	85.18	-630.67	9,238.69	396.26	-63.90	460.16	0.861	Collision	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:		0.00 ft
Survey Program: 431-MWD+HDGM													Offset Well Error:		0.50 ft
Reference		Offset		Semi Major Axis			Distance								
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor	Warning		
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)				
18,392.80	9,065.00	18,178.36	9,051.00	195.64	270.71	85.60	-629.73	9,331.90	396.11	-68.82	464.94	0.852	Collision		
18,400.00	9,065.00	18,185.31	9,051.19	195.78	270.91	85.63	-629.67	9,338.85	396.12	-69.18	465.29	0.851	Collision		
18,500.00	9,065.00	18,282.90	9,053.52	197.80	273.69	85.97	-629.20	9,436.41	396.55	-73.68	470.23	0.843	Collision		
18,600.00	9,065.00	18,383.74	9,055.38	199.82	276.55	86.24	-628.93	9,537.23	397.26	-78.01	475.27	0.836	Collision		
18,700.00	9,065.00	18,482.21	9,056.28	201.84	279.35	86.38	-628.35	9,635.69	397.72	-82.40	480.12	0.828	Collision		
18,800.00	9,065.00	18,583.91	9,055.88	203.86	282.25	86.33	-628.15	9,737.39	398.64	-86.39	485.03	0.822	Collision		
18,900.00	9,065.00	18,683.39	9,055.27	205.88	285.08	86.24	-627.30	9,836.86	398.93	-90.89	489.82	0.814	Collision		
19,000.00	9,065.00	18,786.76	9,056.14	207.90	288.02	86.37	-626.56	9,940.23	399.27	-95.61	494.88	0.807	Collision		
19,100.00	9,065.00	18,890.91	9,058.03	209.92	290.98	86.64	-624.67	10,044.34	398.44	-101.55	499.99	0.797	Collision		
19,200.00	9,065.00	18,988.90	9,059.52	211.95	293.76	86.84	-622.57	10,142.30	397.32	-107.57	504.89	0.787	Collision		
19,300.00	9,065.00	19,091.13	9,061.01	213.97	296.67	87.05	-620.44	10,244.50	396.26	-113.65	509.91	0.777	Collision		
19,373.50	9,065.00	19,164.57	9,062.04	215.45	298.75	87.19	-618.68	10,317.90	395.26	-118.28	513.54	0.770	Collision, ES, SF		
19,400.00	9,065.00	19,158.00	9,061.95	215.99	298.57	87.18	-618.84	10,311.34	396.28	-116.03	512.32	0.774	Collision		
19,456.84	9,065.00	19,158.00	9,061.95	217.14	298.57	87.18	-618.84	10,311.34	404.25	-98.67	502.92	0.804	Collision		

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 438-MWD+HDGM, 9290-MWD+HDGM													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		+N/-S (ft)	+E/-W (ft)						
0.00	0.00	14.70	14.70	0.50	0.50	-176.33	-1,663.40	-106.75	1,666.82					
100.00	100.00	111.43	111.43	0.52	0.53	-176.33	-1,663.53	-106.62	1,666.95	1,665.89	1.05	1,584.344		
200.00	200.00	208.16	208.16	0.70	0.61	-176.34	-1,663.86	-106.30	1,667.27	1,665.96	1.31	1,269.136		
300.00	300.00	304.89	304.89	0.99	0.72	-176.36	-1,664.40	-105.79	1,667.79	1,666.08	1.71	977.772		
400.00	400.00	401.61	401.60	1.31	0.84	-176.39	-1,665.14	-105.09	1,668.51	1,666.35	2.15	775.103		
500.00	500.00	497.70	497.68	1.65	1.08	-176.42	-1,666.08	-104.23	1,669.43	1,666.71	2.72	612.830		
600.00	600.00	597.47	597.44	1.99	1.41	-176.45	-1,667.23	-103.34	1,670.53	1,667.13	3.40	491.988		
700.00	700.00	695.00	694.96	2.34	1.74	-176.48	-1,668.36	-102.72	1,671.64	1,667.56	4.07	410.228		
800.00	800.00	793.91	793.86	2.69	2.08	-176.49	-1,669.63	-102.28	1,672.89	1,668.12	4.77	350.896		
900.00	900.00	895.91	895.85	3.04	2.44	-176.52	-1,670.91	-101.61	1,674.11	1,668.64	5.48	305.672		
1,000.00	1,000.00	992.05	991.98	3.40	2.78	-176.55	-1,672.26	-100.68	1,675.45	1,669.28	6.17	271.579		
1,100.00	1,100.00	1,113.87	1,113.78	3.75	3.20	-176.61	-1,673.33	-99.25	1,676.27	1,669.32	6.95	241.303		
1,200.00	1,200.00	1,232.39	1,232.30	4.11	3.59	-176.58	-1,672.59	-100.01	1,675.66	1,667.97	7.69	217.797		
1,300.00	1,300.00	1,343.41	1,343.28	4.46	3.95	-176.49	-1,670.95	-102.38	1,674.31	1,665.90	8.41	199.031		
1,400.00	1,400.00	1,444.47	1,444.28	4.82	4.29	-176.39	-1,669.04	-105.23	1,672.61	1,663.50	9.11	183.677		
1,500.00	1,500.00	1,532.31	1,532.08	5.18	4.59	-176.31	-1,667.73	-107.62	1,671.29	1,661.53	9.76	171.214		
1,600.00	1,600.00	1,630.54	1,630.26	5.53	4.92	-176.21	-1,666.63	-110.30	1,670.34	1,659.89	10.45	159.777		
1,700.00	1,700.00	1,732.97	1,732.65	5.89	5.28	-176.11	-1,665.46	-113.11	1,669.39	1,658.23	11.16	149.535		
1,800.00	1,800.00	1,837.76	1,837.39	6.25	5.64	-176.01	-1,664.00	-116.04	1,668.18	1,656.30	11.88	140.377		
1,900.00	1,900.00	1,936.35	1,935.93	6.61	5.98	-175.92	-1,662.46	-118.59	1,666.82	1,654.23	12.58	132.456		
2,000.00	2,000.00	2,029.43	2,028.98	6.96	6.30	-175.84	-1,661.37	-120.86	1,665.82	1,652.55	13.27	125.562		
2,100.00	2,100.00	2,126.44	2,125.95	7.32	6.64	-175.75	-1,660.48	-123.32	1,665.09	1,651.12	13.96	119.235		
2,200.00	2,200.00	2,225.92	2,225.39	7.68	6.99	-175.65	-1,659.67	-126.11	1,664.49	1,649.82	14.67	113.442		
2,300.00	2,300.00	2,328.05	2,327.48	8.04	7.35	-175.55	-1,658.76	-129.01	1,663.81	1,648.42	15.39	108.106		
2,400.00	2,400.00	2,431.42	2,430.80	8.39	7.72	-175.45	-1,657.68	-131.93	1,662.99	1,646.88	16.11	103.206		
2,500.00	2,500.00	2,533.45	2,532.78	8.75	8.08	-175.34	-1,656.38	-135.03	1,661.96	1,645.13	16.83	98.737		
2,600.00	2,599.99	2,630.55	2,629.82	9.09	8.43	-29.33	-1,655.16	-137.98	1,660.20	1,642.68	17.52	94.769		
2,700.00	2,699.96	2,726.59	2,725.82	9.42	8.77	-29.29	-1,654.20	-140.87	1,657.18	1,638.99	18.19	91.122		
2,800.00	2,799.86	2,831.78	2,830.96	9.75	9.14	-29.28	-1,653.10	-143.83	1,652.57	1,633.68	18.89	87.488		
2,900.00	2,899.68	2,930.55	2,929.68	10.08	9.49	-29.31	-1,651.94	-146.79	1,646.32	1,626.75	19.57	84.118		
2,945.33	2,944.88	2,962.85	2,961.96	10.23	9.61	-29.33	-1,651.72	-147.74	1,643.20	1,623.37	19.84	82.832		
3,000.00	2,999.39	3,004.01	3,003.10	10.41	9.75	-29.35	-1,651.76	-148.75	1,639.66	1,619.50	20.17	81.310		
3,100.00	3,099.08	3,091.99	3,091.07	10.75	10.07	-29.41	-1,652.61	-150.57	1,634.02	1,613.21	20.81	78.518		
3,200.00	3,198.78	3,189.93	3,188.97	11.08	10.41	-29.47	-1,653.94	-152.63	1,628.77	1,607.28	21.49	75.779		
3,300.00	3,298.48	3,277.14	3,276.16	11.42	10.72	-29.55	-1,655.47	-153.79	1,623.87	1,601.74	22.13	73.363		
3,400.00	3,398.18	3,364.24	3,363.23	11.76	11.02	-29.70	-1,657.89	-153.26	1,619.84	1,597.07	22.77	71.136		
3,500.00	3,497.88	3,505.78	3,504.70	12.10	11.50	-29.98	-1,661.16	-151.13	1,615.44	1,591.84	23.60	68.446		
3,600.00	3,597.58	3,608.64	3,607.55	12.45	11.85	-30.17	-1,661.77	-149.80	1,609.22	1,584.93	24.29	66.240		
3,700.00	3,697.27	3,704.78	3,703.68	12.79	12.18	-30.35	-1,662.30	-148.38	1,602.96	1,578.00	24.97	64.208		
3,800.00	3,796.97	3,802.79	3,801.68	13.14	12.52	-30.54	-1,662.99	-146.95	1,596.86	1,571.22	25.65	62.268		
3,900.00	3,896.67	3,901.87	3,900.75	13.48	12.86	-30.73	-1,663.76	-145.65	1,590.88	1,564.55	26.33	60.419		
4,000.00	3,996.37	4,001.75	4,000.62	13.83	13.20	-30.91	-1,664.49	-144.68	1,584.88	1,557.86	27.02	58.653		
4,100.00	4,096.07	4,104.40	4,103.27	14.18	13.56	-31.10	-1,665.23	-143.69	1,578.88	1,551.16	27.72	56.953		
4,200.00	4,195.76	4,202.73	4,201.59	14.53	13.90	-31.27	-1,665.70	-142.97	1,572.68	1,544.26	28.41	55.354		
4,300.00	4,295.46	4,298.59	4,297.44	14.88	14.23	-31.44	-1,666.46	-142.37	1,566.81	1,537.71	29.09	53.854		
4,400.00	4,395.16	4,400.99	4,399.84	15.23	14.59	-31.60	-1,667.31	-142.05	1,560.99	1,531.19	29.80	52.381		
4,500.00	4,494.86	4,501.59	4,500.44	15.58	14.94	-31.76	-1,667.93	-141.81	1,554.98	1,524.48	30.50	50.979		
4,600.00	4,594.56	4,601.60	4,600.44	15.93	15.29	-31.92	-1,668.56	-141.60	1,549.00	1,517.80	31.20	49.642		
4,700.00	4,694.25	4,700.02	4,698.86	16.29	15.64	-32.07	-1,669.18	-141.62	1,543.04	1,511.14	31.90	48.370		
4,800.00	4,793.95	4,799.64	4,798.48	16.64	15.99	-32.23	-1,669.87	-141.66	1,537.16	1,504.56	32.60	47.147		
4,900.00	4,893.65	4,902.29	4,901.13	17.00	16.35	-32.38	-1,670.50	-141.80	1,531.20	1,497.88	33.32	45.959		
5,000.00	4,993.35	4,986.66	4,985.49	17.35	16.65	-32.49	-1,671.29	-142.35	1,525.60	1,491.64	33.97	44.912		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 438-MWD+HDGM, 9290-MWD+HDGM													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
5,100.00	5,093.05	5,084.28	5,083.08	17.71	16.99	-32.58	-1,672.89	-144.14	1,520.74	1,486.07	34.67	43.867		
5,200.00	5,192.75	5,183.32	5,182.09	18.06	17.34	-32.66	-1,674.48	-146.27	1,515.86	1,480.49	35.37	42.857		
5,300.00	5,292.44	5,282.08	5,280.81	18.42	17.69	-32.74	-1,676.15	-148.45	1,511.06	1,474.99	36.07	41.888		
5,400.00	5,392.14	5,379.00	5,377.69	18.77	18.04	-32.81	-1,677.91	-150.71	1,506.39	1,469.62	36.77	40.967		
5,500.00	5,491.84	5,479.30	5,477.91	19.13	18.39	-32.84	-1,679.80	-154.11	1,501.82	1,464.34	37.48	40.069		
5,600.00	5,591.54	5,574.54	5,573.01	19.49	18.73	-32.82	-1,681.68	-158.74	1,497.38	1,459.21	38.17	39.226		
5,700.00	5,691.24	5,666.05	5,664.38	19.85	19.06	-32.79	-1,683.90	-163.28	1,493.38	1,454.53	38.85	38.437		
5,800.00	5,790.93	5,767.29	5,765.49	20.20	19.42	-32.78	-1,686.62	-167.86	1,489.64	1,450.07	39.57	37.647		
5,900.00	5,890.63	5,867.66	5,865.73	20.56	19.78	-32.78	-1,689.24	-172.24	1,485.82	1,445.54	40.28	36.886		
6,000.00	5,990.33	5,968.39	5,966.35	20.92	20.14	-32.79	-1,691.84	-176.29	1,481.96	1,440.97	41.00	36.149		
6,100.00	6,090.03	6,073.08	6,070.94	21.28	20.51	-32.81	-1,694.40	-180.09	1,477.96	1,436.24	41.73	35.421		
6,200.00	6,189.73	6,180.75	6,178.51	21.64	20.90	-32.84	-1,696.41	-184.06	1,473.36	1,430.90	42.47	34.695		
6,300.00	6,289.42	6,276.36	6,274.05	22.00	21.24	-32.87	-1,698.16	-187.41	1,468.75	1,425.59	43.16	34.027		
6,400.00	6,389.12	6,368.65	6,366.26	22.36	21.57	-32.90	-1,700.22	-190.51	1,464.52	1,420.68	43.85	33.399		
6,500.00	6,488.82	6,460.22	6,457.75	22.72	21.90	-32.94	-1,702.86	-193.36	1,460.95	1,416.42	44.53	32.807		
6,600.00	6,588.52	6,558.67	6,556.10	23.08	22.25	-32.99	-1,705.96	-196.33	1,457.63	1,412.39	45.24	32.220		
6,700.00	6,688.22	6,656.96	6,654.28	23.44	22.60	-33.01	-1,709.19	-199.92	1,454.46	1,408.52	45.95	31.654		
6,800.00	6,787.91	6,766.63	6,763.80	23.80	23.00	-33.02	-1,712.62	-204.47	1,451.18	1,404.48	46.70	31.074		
6,900.00	6,887.61	6,879.48	6,876.59	24.16	23.40	-33.11	-1,714.97	-207.04	1,446.77	1,399.31	47.46	30.483		
7,000.00	6,987.31	6,984.78	6,981.86	24.52	23.78	-33.22	-1,716.65	-208.69	1,441.88	1,393.69	48.19	29.918		
7,100.00	7,087.01	7,086.71	7,083.78	24.88	24.14	-33.35	-1,717.93	-209.80	1,436.65	1,387.74	48.91	29.371		
7,200.00	7,186.71	7,212.28	7,209.32	25.24	24.58	-33.64	-1,718.39	-208.01	1,430.52	1,380.82	49.69	28.787		
7,300.00	7,286.41	7,300.49	7,297.48	25.60	24.87	-33.92	-1,718.32	-204.80	1,423.95	1,373.59	50.36	28.276		
7,400.00	7,386.10	7,390.23	7,387.18	25.96	25.18	-34.18	-1,718.91	-202.32	1,418.16	1,367.13	51.03	27.791		
7,500.00	7,485.80	7,489.78	7,486.70	26.33	25.52	-34.43	-1,719.91	-200.59	1,412.75	1,361.02	51.73	27.309		
7,600.00	7,585.50	7,590.04	7,586.96	26.69	25.87	-34.65	-1,720.90	-199.51	1,407.34	1,354.90	52.44	26.838		
7,700.00	7,685.20	7,689.76	7,686.67	27.05	26.22	-34.84	-1,721.86	-199.21	1,401.92	1,348.77	53.15	26.378		
7,800.00	7,784.90	7,784.87	7,781.78	27.41	26.56	-35.02	-1,722.86	-199.00	1,396.61	1,342.77	53.84	25.938		
7,860.70	7,845.41	7,835.84	7,832.74	27.63	26.74	-35.12	-1,723.71	-198.83	1,393.76	1,339.51	54.24	25.694		
7,900.00	7,884.61	7,871.83	7,868.72	27.77	26.86	-35.18	-1,724.50	-198.68	1,392.29	1,337.78	54.51	25.541		
8,000.00	7,984.46	7,990.18	7,987.04	28.13	27.27	-35.38	-1,725.93	-196.93	1,389.03	1,333.76	55.28	25.129		
8,090.06	8,074.48	8,072.85	8,069.70	28.45	27.56	-35.48	-1,726.96	-195.56	1,388.02	1,332.13	55.89	24.837 CC		
8,100.00	8,084.42	8,083.63	8,080.47	28.49	27.60	-35.49	-1,727.11	-195.36	1,388.03	1,332.07	55.96	24.805		
8,157.59	8,142.00	8,146.05	8,142.87	28.69	27.81	178.51	-1,727.82	-193.82	1,388.37	1,332.00	56.37	24.629		
8,200.00	8,184.41	8,191.01	8,187.82	28.83	27.97	178.46	-1,728.21	-192.59	1,388.77	1,332.10	56.67	24.506		
8,300.00	8,284.41	8,285.25	8,282.04	29.17	28.30	178.40	-1,728.96	-191.09	1,389.62	1,332.28	57.34	24.235		
8,400.00	8,384.41	8,374.19	8,370.96	29.51	28.61	178.39	-1,730.57	-190.88	1,391.41	1,333.42	58.00	23.992		
8,507.63	8,492.04	8,479.66	8,476.41	29.87	28.98	178.41	-1,732.82	-191.38	1,393.70	1,334.96	58.74	23.728		
8,550.00	8,534.37	8,520.78	8,517.51	30.02	29.13	89.03	-1,733.76	-191.80	1,394.63	1,335.60	59.03	23.627		
8,600.00	8,584.01	8,567.20	8,563.91	30.18	29.30	89.16	-1,734.89	-192.31	1,395.74	1,336.39	59.36	23.515		
8,650.00	8,632.95	8,612.68	8,609.37	30.34	29.46	89.43	-1,736.10	-192.61	1,396.97	1,337.29	59.68	23.408		
8,700.00	8,680.82	8,654.26	8,650.94	30.50	29.61	89.78	-1,737.34	-192.80	1,398.43	1,338.44	59.98	23.313		
8,750.00	8,727.25	8,693.66	8,690.32	30.66	29.75	90.20	-1,738.71	-193.04	1,400.30	1,340.02	60.28	23.231		
8,800.00	8,771.89	8,731.20	8,727.82	30.81	29.88	90.66	-1,740.19	-193.32	1,402.72	1,342.16	60.56	23.164		
8,850.00	8,814.40	8,766.45	8,763.04	30.95	30.01	91.12	-1,741.76	-193.65	1,405.84	1,345.02	60.82	23.114		
8,900.00	8,854.46	8,799.54	8,796.08	31.09	30.13	91.53	-1,743.39	-194.00	1,409.82	1,348.74	61.08	23.082		
8,950.00	8,891.75	8,833.03	8,829.53	31.23	30.25	91.95	-1,745.17	-194.40	1,414.78	1,353.44	61.34	23.065		
9,000.00	8,926.01	8,865.46	8,861.91	31.37	30.36	92.32	-1,746.93	-194.80	1,420.80	1,359.20	61.60	23.065		
9,050.00	8,956.96	8,894.66	8,891.06	31.53	30.47	92.52	-1,748.54	-195.18	1,428.03	1,366.17	61.86	23.087		
9,100.00	8,984.38	8,920.03	8,916.39	31.69	30.56	92.52	-1,749.96	-195.51	1,436.60	1,374.49	62.10	23.132		
9,150.00	9,008.05	8,941.38	8,937.70	31.87	30.64	92.26	-1,751.17	-195.82	1,446.63	1,384.28	62.35	23.203		
9,200.00	9,027.79	9,614.46	9,283.16	32.07	33.16	98.98	-1,763.44	152.64	1,447.63	1,383.32	64.31	22.512		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 438-MWD+HDGM, 9290-MWD+HDGM													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)						
9,250.00	9,043.45	9,665.04	9,286.36	32.29	33.59	98.73	-1,762.41	203.11	1,445.14	1,380.12	65.02	22.226		
9,300.00	9,054.92	9,720.18	9,289.87	32.53	34.15	98.56	-1,761.13	258.13	1,443.26	1,377.39	65.86	21.912		
9,350.00	9,062.10	9,779.20	9,293.25	32.79	34.79	98.51	-1,759.54	317.03	1,441.83	1,375.05	66.78	21.591		
9,400.00	9,064.95	9,850.23	9,295.65	33.06	35.66	98.59	-1,757.08	387.97	1,440.48	1,372.57	67.92	21.210		
9,407.63	9,065.00	9,861.06	9,295.81	33.10	35.79	98.61	-1,756.64	398.80	1,440.27	1,372.18	68.09	21.153		
9,500.00	9,065.00	9,968.24	9,298.08	33.68	37.29	98.73	-1,751.53	505.83	1,437.22	1,367.10	70.12	20.497		
9,600.00	9,065.00	10,063.82	9,301.25	34.41	38.81	98.88	-1,746.35	601.22	1,433.46	1,361.15	72.31	19.823		
9,700.00	9,065.00	10,136.78	9,303.30	35.24	40.04	98.97	-1,743.33	674.08	1,430.89	1,356.56	74.33	19.250		
9,800.00	9,065.00	10,225.84	9,305.04	36.17	41.64	99.05	-1,741.04	763.09	1,429.72	1,352.91	76.82	18.612		
9,864.33	9,065.00	10,277.90	9,306.32	36.83	42.62	99.10	-1,739.99	815.13	1,429.41	1,350.98	78.42	18.227		
9,900.00	9,065.00	10,305.30	9,307.47	37.19	43.15	99.15	-1,739.59	842.50	1,429.51	1,350.22	79.29	18.029		
10,000.00	9,065.00	10,393.63	9,313.02	38.30	44.90	99.37	-1,738.77	930.65	1,430.68	1,348.62	82.05	17.436		
10,100.00	9,065.00	10,499.54	9,320.62	39.48	47.08	99.67	-1,737.76	1,036.28	1,432.01	1,346.71	85.31	16.786		
10,200.00	9,065.00	10,606.04	9,326.56	40.72	49.37	99.90	-1,736.37	1,142.61	1,432.76	1,344.02	88.74	16.145		
10,300.00	9,065.00	10,688.73	9,329.18	42.03	51.21	100.00	-1,735.86	1,225.25	1,433.80	1,341.99	91.81	15.617		
10,400.00	9,065.00	10,774.66	9,330.93	43.40	53.16	100.06	-1,736.69	1,311.16	1,436.18	1,341.12	95.06	15.109		
10,500.00	9,065.00	10,880.92	9,333.24	44.82	55.64	100.13	-1,738.09	1,417.38	1,438.95	1,340.07	98.88	14.552		
10,600.00	9,065.00	10,979.06	9,335.38	46.29	57.97	100.20	-1,738.83	1,515.50	1,441.17	1,338.56	102.60	14.046		
10,700.00	9,065.00	11,097.73	9,338.02	47.79	60.84	100.29	-1,739.49	1,634.13	1,443.23	1,336.32	106.91	13.499		
10,800.00	9,065.00	11,199.55	9,340.48	49.34	63.35	100.38	-1,739.05	1,735.92	1,444.32	1,333.44	110.88	13.026		
10,900.00	9,065.00	11,303.08	9,343.26	50.92	65.94	100.49	-1,738.32	1,839.41	1,445.20	1,330.25	114.96	12.572		
11,000.00	9,065.00	11,399.65	9,346.17	52.54	68.38	100.60	-1,737.61	1,935.94	1,446.11	1,327.20	118.91	12.162		
11,100.00	9,065.00	11,495.30	9,347.73	54.18	70.82	100.65	-1,737.40	2,031.57	1,447.28	1,324.37	122.91	11.776		
11,200.00	9,065.00	11,588.75	9,348.55	55.85	73.22	100.68	-1,737.70	2,125.01	1,448.84	1,321.93	126.90	11.417		
11,300.00	9,065.00	11,683.81	9,349.45	57.54	75.69	100.70	-1,738.42	2,220.07	1,450.83	1,319.85	130.99	11.076		
11,400.00	9,065.00	11,788.91	9,350.51	59.26	78.44	100.72	-1,739.16	2,325.17	1,452.79	1,317.41	135.38	10.731		
11,500.00	9,065.00	11,897.30	9,351.64	61.00	81.29	100.76	-1,739.42	2,433.55	1,454.31	1,314.42	139.89	10.396		
11,600.00	9,065.00	12,004.08	9,353.15	62.75	84.12	100.81	-1,738.92	2,540.31	1,455.19	1,310.80	144.39	10.078		
11,700.00	9,065.00	12,104.42	9,355.26	64.52	86.79	100.89	-1,738.12	2,640.62	1,455.88	1,307.16	148.72	9.789		
11,800.00	9,065.00	12,210.30	9,358.38	66.31	89.62	101.01	-1,736.99	2,746.45	1,456.48	1,303.27	153.21	9.506		
11,900.00	9,065.00	12,338.48	9,362.00	68.11	93.06	101.16	-1,734.18	2,874.55	1,455.99	1,297.71	158.27	9.199		
12,000.00	9,065.00	12,462.58	9,365.26	69.93	96.39	101.32	-1,728.90	2,998.49	1,453.38	1,290.17	163.21	8.905		
12,100.00	9,065.00	12,556.64	9,367.38	71.76	98.93	101.43	-1,724.20	3,092.41	1,450.01	1,282.55	167.46	8.659		
12,200.00	9,065.00	12,633.93	9,368.13	73.60	101.02	101.47	-1,721.67	3,169.65	1,448.04	1,276.70	171.34	8.451		
12,300.00	9,065.00	12,734.79	9,368.29	75.45	103.77	101.49	-1,718.91	3,270.47	1,446.46	1,270.62	175.84	8.226		
12,371.01	9,065.00	12,786.05	9,368.22	76.77	105.16	101.49	-1,718.00	3,321.72	1,445.98	1,267.45	178.53	8.099		
12,400.00	9,065.00	12,812.00	9,368.17	77.31	105.87	101.49	-1,717.82	3,347.68	1,446.07	1,266.32	179.76	8.045		
12,500.00	9,065.00	12,895.65	9,368.11	79.18	108.16	101.48	-1,717.77	3,431.33	1,447.05	1,263.21	183.83	7.871		
12,600.00	9,065.00	12,981.40	9,368.90	81.05	110.52	101.50	-1,718.25	3,517.07	1,448.86	1,260.91	187.95	7.709		
12,700.00	9,065.00	13,079.64	9,371.29	82.94	113.22	101.57	-1,719.19	3,615.28	1,451.35	1,258.95	192.41	7.543		
12,800.00	9,065.00	13,199.62	9,374.11	84.83	116.53	101.67	-1,719.54	3,735.22	1,453.21	1,255.71	197.49	7.358		
12,900.00	9,065.00	13,300.48	9,376.28	86.73	119.31	101.75	-1,718.98	3,836.06	1,454.18	1,252.14	202.04	7.197		
13,000.00	9,065.00	13,384.73	9,378.07	88.64	121.65	101.81	-1,719.04	3,920.28	1,455.76	1,249.63	206.13	7.062		
13,100.00	9,065.00	13,495.53	9,381.17	90.55	124.72	101.92	-1,718.93	4,031.04	1,457.30	1,246.33	210.97	6.908		
13,200.00	9,065.00	13,585.79	9,383.81	92.47	127.22	102.01	-1,719.07	4,121.26	1,459.12	1,243.90	215.22	6.780		
13,300.00	9,065.00	13,709.51	9,387.36	94.39	130.66	102.14	-1,718.45	4,244.92	1,460.29	1,239.88	220.41	6.625		
13,400.00	9,065.00	13,807.66	9,389.47	96.32	133.39	102.23	-1,717.03	4,343.05	1,460.42	1,235.50	224.92	6.493		
13,500.00	9,065.00	13,896.65	9,389.75	98.25	135.87	102.23	-1,717.00	4,432.03	1,461.51	1,232.28	229.23	6.376		
13,600.00	9,065.00	13,989.38	9,387.96	100.19	138.45	102.15	-1,717.62	4,524.74	1,462.84	1,229.12	233.71	6.259		
13,700.00	9,065.00	14,077.03	9,387.97	102.13	140.90	102.13	-1,718.83	4,612.37	1,465.24	1,227.24	238.00	6.157		
13,800.00	9,065.00	14,182.72	9,389.83	104.08	143.86	102.18	-1,719.80	4,718.05	1,467.58	1,224.80	242.78	6.045		
13,900.00	9,065.00	14,308.30	9,394.35	106.03	147.37	102.34	-1,719.70	4,843.54	1,469.45	1,221.41	248.04	5.924		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Sec 14-T21S-R27E - Lone Tree Draw 14-13 State Com 336H - ST01 - ST01													Offset Well Error:	0.50 ft
Survey Program: 438-MWD+HDGM, 9290-MWD+HDGM														
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
14,000.00	9,065.00	14,422.34	9,400.37	107.98	150.55	102.59	-1,716.90	4,957.38	1,469.23	1,216.38	252.86	5.811		
14,100.00	9,065.00	14,529.97	9,406.14	109.94	153.56	102.82	-1,713.65	5,064.81	1,468.54	1,211.05	257.49	5.703		
14,200.00	9,065.00	14,636.83	9,410.94	111.90	156.54	103.03	-1,710.04	5,171.50	1,467.31	1,205.19	262.12	5.598		
14,300.00	9,065.00	14,734.40	9,415.06	113.86	159.27	103.21	-1,706.62	5,268.92	1,465.93	1,199.39	266.54	5.500		
14,400.00	9,065.00	14,824.86	9,417.80	115.82	161.80	103.32	-1,704.12	5,359.31	1,465.00	1,194.17	270.83	5.409		
14,472.70	9,065.00	14,888.94	9,418.09	117.25	163.60	103.34	-1,703.15	5,423.38	1,464.79	1,190.81	273.98	5.346		
14,500.00	9,065.00	14,913.64	9,417.79	117.79	164.30	103.32	-1,702.98	5,448.07	1,464.82	1,189.62	275.19	5.323		
14,600.00	9,065.00	15,009.57	9,417.90	119.76	167.00	103.33	-1,702.26	5,543.99	1,465.18	1,185.43	279.75	5.237		
14,700.00	9,065.00	15,119.84	9,419.19	121.74	170.10	103.38	-1,700.85	5,654.25	1,465.28	1,180.62	284.65	5.148		
14,800.00	9,065.00	15,234.58	9,421.64	123.71	173.33	103.48	-1,698.24	5,768.93	1,464.65	1,175.05	289.60	5.058		
14,900.00	9,065.00	15,345.03	9,425.68	125.69	176.43	103.66	-1,694.04	5,879.23	1,462.86	1,168.54	294.32	4.970 Alert		
15,000.00	9,065.00	15,451.52	9,429.72	127.67	179.42	103.85	-1,689.56	5,985.55	1,460.74	1,161.81	298.93	4.887 Alert		
15,100.00	9,065.00	15,533.53	9,432.36	129.65	181.72	103.97	-1,686.31	6,067.45	1,458.78	1,155.75	303.02	4.814 Alert		
15,200.00	9,065.00	15,621.10	9,433.91	131.63	184.19	104.04	-1,684.51	6,154.98	1,458.25	1,150.95	307.30	4.745 Alert		
15,300.00	9,065.00	15,733.86	9,435.54	133.62	187.37	104.11	-1,682.21	6,267.71	1,457.71	1,145.49	312.22	4.669 Alert		
15,400.00	9,065.00	15,828.86	9,436.42	135.61	190.05	104.16	-1,679.74	6,362.67	1,456.50	1,139.78	316.72	4.599 Alert		
15,500.00	9,065.00	15,931.47	9,435.79	137.60	192.95	104.14	-1,677.94	6,465.26	1,455.72	1,134.23	321.49	4.528 Alert		
15,583.57	9,065.00	16,000.24	9,435.47	139.26	194.89	104.13	-1,676.78	6,534.02	1,455.17	1,130.14	325.03	4.477 Alert		
15,600.00	9,065.00	16,012.65	9,435.48	139.59	195.24	104.13	-1,676.65	6,546.43	1,455.19	1,129.51	325.69	4.468 Alert		
15,700.00	9,065.00	16,105.19	9,436.07	141.58	197.86	104.15	-1,676.26	6,638.97	1,455.98	1,125.84	330.14	4.410 Alert		
15,800.00	9,065.00	16,216.02	9,436.83	143.57	201.00	104.17	-1,675.38	6,749.79	1,456.45	1,121.34	335.11	4.346 Alert		
15,900.00	9,065.00	16,294.72	9,437.85	145.57	203.22	104.21	-1,674.68	6,828.48	1,457.03	1,117.89	339.14	4.296 Alert		
16,000.00	9,065.00	16,373.91	9,440.00	147.56	205.47	104.28	-1,675.20	6,907.64	1,459.37	1,116.31	343.06	4.254 Alert		
16,100.00	9,065.00	16,471.85	9,443.99	149.56	208.24	104.41	-1,676.39	7,005.49	1,462.62	1,115.10	347.51	4.209 Alert		
16,200.00	9,065.00	16,574.14	9,449.21	151.56	211.14	104.59	-1,676.91	7,107.65	1,465.45	1,113.42	352.03	4.163 Alert		
16,300.00	9,065.00	16,674.51	9,455.01	153.56	213.98	104.79	-1,677.40	7,207.85	1,468.45	1,112.01	356.44	4.120 Alert		
16,400.00	9,065.00	16,778.16	9,461.30	155.56	216.91	105.02	-1,677.55	7,311.30	1,471.22	1,110.30	360.92	4.076 Alert		
16,500.00	9,065.00	16,885.60	9,467.39	157.57	219.95	105.24	-1,677.45	7,418.57	1,473.67	1,108.16	365.52	4.032 Alert		
16,600.00	9,065.00	17,003.21	9,471.95	159.57	223.29	105.40	-1,676.85	7,536.09	1,475.28	1,104.78	370.50	3.982 Alert		
16,700.00	9,065.00	17,105.07	9,473.09	161.57	226.18	105.43	-1,676.52	7,637.93	1,476.33	1,101.14	375.19	3.935 Alert		
16,800.00	9,065.00	17,207.29	9,471.03	163.58	229.08	105.35	-1,676.44	7,740.13	1,476.77	1,096.68	380.09	3.885 Alert		
16,900.00	9,065.00	17,281.73	9,470.20	165.59	231.20	105.30	-1,677.09	7,814.56	1,478.37	1,094.31	384.06	3.849 Alert		
17,000.00	9,065.00	17,376.62	9,472.14	167.60	233.89	105.35	-1,678.11	7,909.42	1,481.00	1,092.50	388.50	3.812 Alert		
17,100.00	9,065.00	17,488.69	9,476.30	169.60	237.08	105.49	-1,678.30	8,021.41	1,483.20	1,089.83	393.36	3.771 Alert		
17,200.00	9,065.00	17,580.54	9,479.32	171.61	239.69	105.59	-1,678.67	8,113.21	1,485.51	1,087.89	397.62	3.736 Alert		
17,300.00	9,065.00	17,692.01	9,481.81	173.62	242.86	105.66	-1,679.35	8,224.65	1,487.78	1,085.21	402.57	3.696 Alert		
17,400.00	9,065.00	17,802.99	9,483.62	175.63	246.01	105.72	-1,678.94	8,335.61	1,488.90	1,081.40	407.50	3.654 Alert		
17,500.00	9,065.00	17,849.00	9,484.32	177.65	247.32	105.74	-1,678.74	8,381.62	1,490.91	1,080.63	410.28	3.634 Alert		
17,600.00	9,065.00	17,908.28	9,491.55	179.66	248.92	106.01	-1,678.60	8,440.34	1,495.85	1,083.21	412.64	3.625 Alert		
17,700.00	9,065.00	18,102.64	9,518.70	181.67	254.25	106.98	-1,678.76	8,631.18	1,501.77	1,082.88	418.90	3.585 Alert		
17,800.00	9,065.00	18,243.21	9,519.49	183.69	258.25	107.01	-1,677.31	8,771.74	1,502.12	1,077.52	424.60	3.538 Alert		
17,900.00	9,065.00	18,350.53	9,520.83	185.70	261.29	107.08	-1,674.00	8,879.00	1,500.60	1,071.32	429.28	3.496 Alert		
18,000.00	9,065.00	18,456.47	9,521.94	187.72	264.30	107.15	-1,670.10	8,984.86	1,498.43	1,064.51	433.92	3.453 Alert		
18,100.00	9,065.00	18,549.23	9,522.94	189.73	266.93	107.21	-1,666.64	9,077.55	1,496.25	1,057.95	438.30	3.414 Alert		
18,200.00	9,065.00	18,637.48	9,525.82	191.75	269.43	107.34	-1,663.58	9,165.70	1,494.95	1,052.53	442.42	3.379 Alert		
18,300.00	9,065.00	18,733.66	9,530.29	193.77	272.15	107.53	-1,660.16	9,261.71	1,493.99	1,047.42	446.57	3.346 Alert		
18,400.00	9,065.00	18,835.34	9,535.73	195.78	275.03	107.76	-1,656.74	9,363.19	1,493.46	1,042.70	450.76	3.313 Alert		
18,500.00	9,065.00	18,946.63	9,542.21	197.80	278.18	108.04	-1,651.69	9,474.18	1,491.94	1,036.91	455.03	3.279 Alert		
18,600.00	9,065.00	19,049.92	9,548.99	199.82	281.10	108.34	-1,646.61	9,577.12	1,490.36	1,031.31	459.05	3.247 Alert		
18,700.00	9,065.00	19,154.20	9,556.52	201.84	284.04	108.67	-1,640.74	9,680.96	1,488.35	1,025.37	462.97	3.215 Alert		
18,748.45	9,065.00	19,172.00	9,557.83	202.82	284.54	108.73	-1,639.72	9,698.68	1,487.67	1,023.33	464.34	3.204 Alert, ES		
18,800.00	9,065.00	19,172.00	9,557.83	203.86	284.54	108.73	-1,639.72	9,698.68	1,488.56	1,023.51	465.05	3.201 Alert, SF		

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.00 ft
Sec 14-T21S-R27E - Lone Tree Draw 14-13 State Com 336H - ST01 - ST01												Offset Well Error:	0.50 ft
Survey Program: 438-MWD+HDGM, 9290-MWD+HDGM													
Reference		Offset		Semi Major Axis			Distance						
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor	Warning
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)		
18,900.00	9,065.00	19,172.00	9,557.83	205.88	284.54	108.73	-1,639.72	9,698.68	1,495.37	1,030.48	464.89	3.217	Alert
19,000.00	9,065.00	19,172.00	9,557.83	207.90	284.54	108.73	-1,639.72	9,698.68	1,508.79	1,046.04	462.74	3.261	Alert
19,100.00	9,065.00	19,172.00	9,557.83	209.92	284.54	108.73	-1,639.72	9,698.68	1,528.64	1,069.89	458.75	3.332	Alert
19,200.00	9,065.00	19,172.00	9,557.83	211.95	284.54	108.73	-1,639.72	9,698.68	1,554.69	1,101.59	453.10	3.431	Alert
19,300.00	9,065.00	19,172.00	9,557.83	213.97	284.54	108.73	-1,639.72	9,698.68	1,586.62	1,140.59	446.03	3.557	Alert
19,400.00	9,065.00	19,172.00	9,557.83	215.99	284.54	108.73	-1,639.72	9,698.68	1,624.09	1,186.31	437.79	3.710	Alert
19,456.84	9,065.00	19,172.00	9,557.83	217.14	284.54	108.73	-1,639.72	9,698.68	1,647.72	1,215.04	432.68	3.808	Alert

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 438-MWD+HDGM													Offset Well Error:	0.50 ft
Reference														
		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0.00	0.00	14.70	14.70	0.50	0.50	-176.33	-1,663.40	-106.75	1,666.82					
100.00	100.00	111.43	111.43	0.52	0.53	-176.33	-1,663.53	-106.62	1,666.95	1,665.89	1.05	1,584.345		
200.00	200.00	208.16	208.16	0.70	0.61	-176.34	-1,663.86	-106.30	1,667.27	1,665.96	1.31	1,269.137		
300.00	300.00	304.89	304.89	0.99	0.72	-176.36	-1,664.40	-105.79	1,667.79	1,666.08	1.71	977.772		
400.00	400.00	401.61	401.60	1.31	0.84	-176.39	-1,665.14	-105.09	1,668.51	1,666.35	2.15	775.104		
500.00	500.00	497.70	497.68	1.65	1.08	-176.42	-1,666.08	-104.23	1,669.43	1,666.71	2.72	612.830		
600.00	600.00	597.47	597.44	1.99	1.41	-176.45	-1,667.23	-103.34	1,670.53	1,667.13	3.40	491.988		
700.00	700.00	695.00	694.96	2.34	1.74	-176.48	-1,668.36	-102.72	1,671.64	1,667.56	4.07	410.228		
800.00	800.00	793.91	793.86	2.69	2.08	-176.49	-1,669.63	-102.28	1,672.89	1,668.12	4.77	350.896		
900.00	900.00	895.91	895.85	3.04	2.44	-176.52	-1,670.91	-101.61	1,674.11	1,668.64	5.48	305.673		
1,000.00	1,000.00	992.05	991.98	3.40	2.78	-176.55	-1,672.26	-100.68	1,675.45	1,669.28	6.17	271.579		
1,100.00	1,100.00	1,113.87	1,113.78	3.75	3.20	-176.61	-1,673.33	-99.25	1,676.27	1,669.32	6.95	241.303		
1,200.00	1,200.00	1,232.39	1,232.30	4.11	3.59	-176.58	-1,672.59	-100.01	1,675.66	1,667.97	7.69	217.797		
1,300.00	1,300.00	1,343.41	1,343.28	4.46	3.95	-176.49	-1,670.95	-102.38	1,674.31	1,665.90	8.41	199.031		
1,400.00	1,400.00	1,444.47	1,444.28	4.82	4.29	-176.39	-1,669.04	-105.23	1,672.61	1,663.50	9.11	183.677		
1,500.00	1,500.00	1,532.31	1,532.08	5.18	4.59	-176.31	-1,667.73	-107.62	1,671.29	1,661.53	9.76	171.214		
1,600.00	1,600.00	1,630.54	1,630.26	5.53	4.92	-176.21	-1,666.63	-110.30	1,670.34	1,659.89	10.45	159.777		
1,700.00	1,700.00	1,732.97	1,732.65	5.89	5.28	-176.11	-1,665.46	-113.11	1,669.39	1,658.23	11.16	149.535		
1,800.00	1,800.00	1,837.76	1,837.39	6.25	5.64	-176.01	-1,664.00	-116.04	1,668.18	1,656.30	11.88	140.377		
1,900.00	1,900.00	1,936.35	1,935.93	6.61	5.98	-175.92	-1,662.46	-118.59	1,666.82	1,654.23	12.58	132.456		
2,000.00	2,000.00	2,029.43	2,028.98	6.96	6.30	-175.84	-1,661.37	-120.86	1,665.82	1,652.55	13.27	125.562		
2,100.00	2,100.00	2,126.44	2,125.95	7.32	6.64	-175.75	-1,660.48	-123.32	1,665.09	1,651.12	13.96	119.235		
2,200.00	2,200.00	2,225.92	2,225.39	7.68	6.99	-175.65	-1,659.67	-126.11	1,664.49	1,649.82	14.67	113.442		
2,300.00	2,300.00	2,328.05	2,327.48	8.04	7.35	-175.55	-1,658.76	-129.01	1,663.81	1,648.42	15.39	108.106		
2,400.00	2,400.00	2,431.42	2,430.80	8.39	7.72	-175.45	-1,657.68	-131.93	1,662.99	1,646.88	16.11	103.206		
2,500.00	2,500.00	2,533.45	2,532.78	8.75	8.08	-175.34	-1,656.38	-135.03	1,661.96	1,645.13	16.83	98.737		
2,600.00	2,599.99	2,630.55	2,629.82	9.09	8.43	-29.33	-1,655.16	-137.98	1,660.20	1,642.68	17.52	94.769		
2,700.00	2,699.96	2,726.59	2,725.82	9.42	8.77	-29.29	-1,654.20	-140.87	1,657.18	1,638.99	18.19	91.122		
2,800.00	2,799.86	2,831.78	2,830.96	9.75	9.14	-29.28	-1,653.10	-143.83	1,652.57	1,633.68	18.89	87.488		
2,900.00	2,899.68	2,930.55	2,929.68	10.08	9.49	-29.31	-1,651.94	-146.79	1,646.32	1,626.75	19.57	84.118		
2,945.33	2,944.88	2,962.85	2,961.96	10.23	9.61	-29.33	-1,651.72	-147.74	1,643.20	1,623.37	19.84	82.833		
3,000.00	2,999.39	3,004.01	3,003.10	10.41	9.75	-29.35	-1,651.76	-148.75	1,639.66	1,619.50	20.17	81.310		
3,100.00	3,099.08	3,091.99	3,091.07	10.75	10.07	-29.41	-1,652.61	-150.57	1,634.02	1,613.21	20.81	78.518		
3,200.00	3,198.78	3,189.93	3,188.97	11.08	10.41	-29.47	-1,653.94	-152.63	1,628.77	1,607.28	21.49	75.779		
3,300.00	3,298.48	3,277.14	3,276.16	11.42	10.72	-29.55	-1,655.47	-153.79	1,623.87	1,601.74	22.13	73.363		
3,400.00	3,398.18	3,364.24	3,363.23	11.76	11.02	-29.70	-1,657.89	-153.26	1,619.84	1,597.07	22.77	71.136		
3,500.00	3,497.88	3,505.78	3,504.70	12.10	11.50	-29.98	-1,661.16	-151.13	1,615.44	1,591.84	23.60	68.446		
3,600.00	3,597.58	3,608.64	3,607.55	12.45	11.85	-30.17	-1,661.77	-149.80	1,609.22	1,584.93	24.29	66.240		
3,700.00	3,697.27	3,704.78	3,703.68	12.79	12.18	-30.35	-1,662.30	-148.38	1,602.96	1,578.00	24.97	64.208		
3,800.00	3,796.97	3,802.79	3,801.68	13.14	12.52	-30.54	-1,662.99	-146.95	1,596.86	1,571.22	25.65	62.268		
3,900.00	3,896.67	3,901.87	3,900.75	13.48	12.86	-30.73	-1,663.76	-145.65	1,590.88	1,564.55	26.33	60.419		
4,000.00	3,996.37	4,001.75	4,000.62	13.83	13.20	-30.91	-1,664.49	-144.68	1,584.88	1,557.86	27.02	58.653		
4,100.00	4,096.07	4,104.40	4,103.27	14.18	13.56	-31.10	-1,665.23	-143.69	1,578.88	1,551.16	27.72	56.953		
4,200.00	4,195.76	4,202.73	4,201.59	14.53	13.90	-31.27	-1,665.70	-142.97	1,572.68	1,544.26	28.41	55.354		
4,300.00	4,295.46	4,298.59	4,297.44	14.88	14.23	-31.44	-1,666.46	-142.37	1,566.81	1,537.71	29.09	53.854		
4,400.00	4,395.16	4,400.99	4,399.84	15.23	14.59	-31.60	-1,667.31	-142.05	1,560.99	1,531.19	29.80	52.381		
4,500.00	4,494.86	4,501.59	4,500.44	15.58	14.94	-31.76	-1,667.93	-141.81	1,554.98	1,524.48	30.50	50.979		
4,600.00	4,594.56	4,601.60	4,600.44	15.93	15.29	-31.92	-1,668.56	-141.60	1,549.00	1,517.80	31.20	49.642		
4,700.00	4,694.25	4,700.02	4,698.86	16.29	15.64	-32.07	-1,669.18	-141.62	1,543.04	1,511.14	31.90	48.370		
4,800.00	4,793.95	4,799.64	4,798.48	16.64	15.99	-32.23	-1,669.87	-141.66	1,537.16	1,504.56	32.60	47.147		
4,900.00	4,893.65	4,902.29	4,901.13	17.00	16.35	-32.38	-1,670.50	-141.80	1,531.20	1,497.88	33.32	45.959		
5,000.00	4,993.35	4,986.66	4,985.49	17.35	16.65	-32.49	-1,671.29	-142.35	1,525.60	1,491.64	33.97	44.912		

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 438-MWD+HDGM													Offset Well Error:	0.50 ft
Reference														
		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
5,100.00	5,093.05	5,084.28	5,083.08	17.71	16.99	-32.58	-1,672.89	-144.14	1,520.74	1,486.07	34.67	43.868		
5,200.00	5,192.75	5,183.32	5,182.09	18.06	17.34	-32.66	-1,674.48	-146.27	1,515.86	1,480.49	35.37	42.857		
5,300.00	5,292.44	5,282.08	5,280.81	18.42	17.69	-32.74	-1,676.15	-148.45	1,511.06	1,474.99	36.07	41.888		
5,400.00	5,392.14	5,379.00	5,377.69	18.77	18.04	-32.81	-1,677.91	-150.71	1,506.39	1,469.62	36.77	40.967		
5,500.00	5,491.84	5,479.30	5,477.91	19.13	18.39	-32.84	-1,679.80	-154.11	1,501.82	1,464.34	37.48	40.069		
5,600.00	5,591.54	5,574.54	5,573.01	19.49	18.73	-32.82	-1,681.68	-158.74	1,497.38	1,459.21	38.17	39.226		
5,700.00	5,691.24	5,666.05	5,664.38	19.85	19.06	-32.79	-1,683.90	-163.28	1,493.38	1,454.53	38.85	38.437		
5,800.00	5,790.93	5,767.29	5,765.49	20.20	19.42	-32.78	-1,686.62	-167.86	1,489.64	1,450.07	39.57	37.647		
5,900.00	5,890.63	5,867.66	5,865.73	20.56	19.78	-32.78	-1,689.24	-172.24	1,485.82	1,445.54	40.28	36.886		
6,000.00	5,990.33	5,968.39	5,966.35	20.92	20.14	-32.79	-1,691.84	-176.29	1,481.96	1,440.97	41.00	36.149		
6,100.00	6,090.03	6,073.08	6,070.94	21.28	20.51	-32.81	-1,694.40	-180.09	1,477.96	1,436.24	41.73	35.421		
6,200.00	6,189.73	6,180.75	6,178.51	21.64	20.90	-32.84	-1,696.41	-184.06	1,473.36	1,430.90	42.47	34.695		
6,300.00	6,289.42	6,276.36	6,274.05	22.00	21.24	-32.87	-1,698.16	-187.41	1,468.75	1,425.59	43.16	34.027		
6,400.00	6,389.12	6,368.65	6,366.26	22.36	21.57	-32.90	-1,700.22	-190.51	1,464.52	1,420.68	43.85	33.399		
6,500.00	6,488.82	6,460.22	6,457.75	22.72	21.90	-32.94	-1,702.86	-193.36	1,460.95	1,416.42	44.53	32.807		
6,600.00	6,588.52	6,558.67	6,556.10	23.08	22.25	-32.99	-1,705.96	-196.33	1,457.63	1,412.39	45.24	32.220		
6,700.00	6,688.22	6,656.96	6,654.28	23.44	22.60	-33.01	-1,709.19	-199.92	1,454.46	1,408.52	45.95	31.654		
6,800.00	6,787.91	6,766.63	6,763.80	23.80	23.00	-33.02	-1,712.62	-204.47	1,451.18	1,404.48	46.70	31.074		
6,900.00	6,887.61	6,879.48	6,876.59	24.16	23.40	-33.11	-1,714.97	-207.04	1,446.77	1,399.31	47.46	30.483		
7,000.00	6,987.31	6,984.78	6,981.86	24.52	23.78	-33.22	-1,716.65	-208.69	1,441.88	1,393.69	48.19	29.918		
7,100.00	7,087.01	7,086.71	7,083.78	24.88	24.14	-33.35	-1,717.93	-209.80	1,436.65	1,387.74	48.91	29.371		
7,200.00	7,186.71	7,212.28	7,209.32	25.24	24.58	-33.64	-1,718.39	-208.01	1,430.52	1,380.82	49.69	28.787		
7,300.00	7,286.41	7,300.49	7,297.48	25.60	24.87	-33.92	-1,718.32	-204.80	1,423.95	1,373.59	50.36	28.276		
7,400.00	7,386.10	7,390.23	7,387.18	25.96	25.18	-34.18	-1,718.91	-202.32	1,418.16	1,367.13	51.03	27.791		
7,500.00	7,485.80	7,489.78	7,486.70	26.33	25.52	-34.43	-1,719.91	-200.59	1,412.75	1,361.02	51.73	27.310		
7,600.00	7,585.50	7,590.04	7,586.96	26.69	25.87	-34.65	-1,720.90	-199.51	1,407.34	1,354.90	52.44	26.838		
7,700.00	7,685.20	7,689.76	7,686.67	27.05	26.22	-34.84	-1,721.86	-199.21	1,401.92	1,348.77	53.15	26.378		
7,800.00	7,784.90	7,784.87	7,781.78	27.41	26.56	-35.02	-1,722.86	-199.00	1,396.61	1,342.77	53.84	25.938		
7,860.70	7,845.41	7,835.84	7,832.74	27.63	26.74	-35.12	-1,723.71	-198.83	1,393.76	1,339.51	54.24	25.694		
7,900.00	7,884.61	7,871.83	7,868.72	27.77	26.86	-35.18	-1,724.50	-198.68	1,392.29	1,337.78	54.51	25.541		
8,000.00	7,984.46	7,990.18	7,987.04	28.13	27.27	-35.38	-1,725.93	-196.93	1,389.03	1,333.76	55.28	25.129		
8,090.06	8,074.48	8,072.85	8,069.70	28.45	27.56	-35.48	-1,726.96	-195.56	1,388.02	1,332.13	55.89	24.837 CC		
8,100.00	8,084.42	8,083.63	8,080.47	28.49	27.60	-35.49	-1,727.11	-195.36	1,388.03	1,332.07	55.96	24.805		
8,157.59	8,142.00	8,146.05	8,142.87	28.69	27.81	178.51	-1,727.82	-193.82	1,388.37	1,332.00	56.37	24.629 ES		
8,200.00	8,184.41	8,191.01	8,187.82	28.83	27.97	178.46	-1,728.21	-192.59	1,388.77	1,332.10	56.67	24.506		
8,300.00	8,284.41	8,285.25	8,282.04	29.17	28.30	178.40	-1,728.96	-191.09	1,389.62	1,332.28	57.34	24.235		
8,400.00	8,384.41	8,374.19	8,370.96	29.51	28.61	178.39	-1,730.57	-190.88	1,391.41	1,333.42	58.00	23.992		
8,507.63	8,492.04	8,479.66	8,476.41	29.87	28.98	178.41	-1,732.82	-191.38	1,393.70	1,334.96	58.74	23.728		
8,550.00	8,534.37	8,520.78	8,517.51	30.02	29.13	89.03	-1,733.76	-191.80	1,394.63	1,335.60	59.03	23.627		
8,600.00	8,584.01	8,567.20	8,563.91	30.18	29.30	89.16	-1,734.89	-192.31	1,395.74	1,336.39	59.36	23.515		
8,650.00	8,632.95	8,612.68	8,609.37	30.34	29.46	89.43	-1,736.10	-192.61	1,396.97	1,337.29	59.68	23.408		
8,700.00	8,680.82	8,654.26	8,650.94	30.50	29.61	89.78	-1,737.34	-192.80	1,398.43	1,338.44	59.98	23.313		
8,750.00	8,727.25	8,693.66	8,690.32	30.66	29.75	90.20	-1,738.71	-193.04	1,400.30	1,340.02	60.28	23.231		
8,800.00	8,771.89	8,731.20	8,727.82	30.81	29.88	90.66	-1,740.19	-193.32	1,402.72	1,342.16	60.56	23.164		
8,850.00	8,814.40	8,766.45	8,763.04	30.95	30.01	91.12	-1,741.76	-193.65	1,405.84	1,345.02	60.82	23.114		
8,900.00	8,854.46	8,799.54	8,796.08	31.09	30.13	91.53	-1,743.39	-194.00	1,409.82	1,348.74	61.08	23.082		
8,950.00	8,891.75	8,833.03	8,829.53	31.23	30.25	91.95	-1,745.17	-194.40	1,414.78	1,353.44	61.34	23.065 SF		
9,000.00	8,926.01	8,865.46	8,861.91	31.37	30.36	92.32	-1,746.93	-194.80	1,420.80	1,359.20	61.60	23.065		
9,050.00	8,956.96	8,894.66	8,891.06	31.53	30.47	92.52	-1,748.54	-195.18	1,428.03	1,366.17	61.86	23.087		
9,100.00	8,984.38	8,920.03	8,916.39	31.69	30.56	92.52	-1,749.96	-195.51	1,436.60	1,374.49	62.10	23.132		
9,150.00	9,008.05	8,941.38	8,937.70	31.87	30.64	92.26	-1,751.17	-195.82	1,446.63	1,384.28	62.35	23.203		
9,200.00	9,027.79	8,958.96	8,955.24	32.07	30.70	91.73	-1,752.18	-196.10	1,458.19	1,395.60	62.59	23.298		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 438-MWD+HDGM													Offset Well Error:	0.50 ft
Reference														
		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
9,250.00	9,043.45	8,972.64	8,968.90	32.29	30.75	90.89	-1,752.98	-196.33	1,471.30	1,408.47	62.83	23.419		
9,300.00	9,054.92	8,982.37	8,978.61	32.53	30.78	89.75	-1,753.55	-196.51	1,485.94	1,422.88	63.06	23.564		
9,350.00	9,062.10	8,988.10	8,984.33	32.79	30.81	88.28	-1,753.89	-196.61	1,502.04	1,438.75	63.29	23.733		
9,400.00	9,064.95	8,989.83	8,986.06	33.06	30.81	86.49	-1,753.99	-196.64	1,519.48	1,455.97	63.51	23.926		
9,407.63	9,065.00	8,989.74	8,985.97	33.10	30.81	86.19	-1,753.98	-196.64	1,522.24	1,458.71	63.54	23.958		
9,500.00	9,065.00	8,988.13	8,984.36	33.68	30.81	86.12	-1,753.89	-196.61	1,558.31	1,494.36	63.95	24.367		
9,600.00	9,065.00	8,986.40	8,982.64	34.41	30.80	86.05	-1,753.79	-196.58	1,602.44	1,538.01	64.43	24.869		
9,700.00	9,065.00	8,984.70	8,980.94	35.24	30.79	85.98	-1,753.69	-196.55	1,651.46	1,586.52	64.94	25.432		
9,800.00	9,065.00	8,983.01	8,979.26	36.17	30.79	85.92	-1,753.59	-196.52	1,704.93	1,639.49	65.44	26.053		
9,900.00	9,065.00	8,981.35	8,977.60	37.19	30.78	85.85	-1,753.49	-196.49	1,762.46	1,696.53	65.94	26.730		
10,000.00	9,065.00	8,979.71	8,975.96	38.30	30.78	85.78	-1,753.39	-196.46	1,823.66	1,757.24	66.42	27.458		
10,100.00	9,065.00	8,978.08	8,974.34	39.48	30.77	85.72	-1,753.30	-196.43	1,888.18	1,821.30	66.88	28.234		
10,200.00	9,065.00	8,976.48	8,972.74	40.72	30.76	85.65	-1,753.20	-196.40	1,955.68	1,888.36	67.31	29.054		
10,300.00	9,065.00	8,974.89	8,971.15	42.03	30.76	85.59	-1,753.11	-196.37	2,025.86	1,958.14	67.72	29.915		
10,400.00	9,065.00	8,973.33	8,969.59	43.40	30.75	85.52	-1,753.02	-196.34	2,098.47	2,030.37	68.10	30.813		
10,500.00	9,065.00	8,971.78	8,968.04	44.82	30.75	85.46	-1,752.93	-196.32	2,173.25	2,104.79	68.46	31.745		
10,600.00	9,065.00	8,970.25	8,966.51	46.29	30.74	85.40	-1,752.84	-196.29	2,249.99	2,181.20	68.79	32.708		
10,700.00	9,065.00	8,968.73	8,965.00	47.79	30.74	85.34	-1,752.75	-196.27	2,328.49	2,259.40	69.10	33.699		
10,800.00	9,065.00	8,967.24	8,963.51	49.34	30.73	85.28	-1,752.66	-196.24	2,408.59	2,339.21	69.38	34.715		
10,900.00	9,065.00	8,965.76	8,962.03	50.92	30.73	85.22	-1,752.58	-196.21	2,490.13	2,420.48	69.65	35.754		
11,000.00	9,065.00	8,964.29	8,960.57	52.54	30.72	85.16	-1,752.49	-196.19	2,572.96	2,503.07	69.89	36.814		
11,100.00	9,065.00	8,962.85	8,959.13	54.18	30.71	85.10	-1,752.41	-196.17	2,656.98	2,586.87	70.12	37.893		
11,200.00	9,065.00	8,961.42	8,957.70	55.85	30.71	85.04	-1,752.32	-196.14	2,742.07	2,671.74	70.33	38.989		
11,300.00	9,065.00	8,960.00	8,956.29	57.54	30.70	84.99	-1,752.24	-196.12	2,828.14	2,757.61	70.53	40.100		
11,400.00	9,065.00	8,958.60	8,954.89	59.26	30.70	84.93	-1,752.16	-196.10	2,915.09	2,844.38	70.71	41.226		
11,500.00	9,065.00	8,957.22	8,953.51	61.00	30.69	84.87	-1,752.08	-196.07	3,002.86	2,931.97	70.88	42.364		
11,600.00	9,065.00	8,955.85	8,952.15	62.75	30.69	84.82	-1,752.00	-196.05	3,091.37	3,020.32	71.04	43.513		
11,700.00	9,065.00	8,954.50	8,950.79	64.52	30.68	84.76	-1,751.92	-196.03	3,180.55	3,109.36	71.20	44.674		
11,800.00	9,065.00	8,953.16	8,949.46	66.31	30.68	84.71	-1,751.85	-196.01	3,270.37	3,199.03	71.34	45.843		
11,900.00	9,065.00	8,951.83	8,948.13	68.11	30.67	84.66	-1,751.77	-195.99	3,360.75	3,289.28	71.47	47.022		
12,000.00	9,065.00	8,950.52	8,946.83	69.93	30.67	84.60	-1,751.69	-195.96	3,451.67	3,380.07	71.60	48.208		
12,100.00	9,065.00	8,949.23	8,945.53	71.76	30.67	84.55	-1,751.62	-195.94	3,543.08	3,471.36	71.72	49.402		
12,200.00	9,065.00	8,947.94	8,944.25	73.60	30.66	84.50	-1,751.54	-195.92	3,634.94	3,563.10	71.83	50.602		
12,300.00	9,065.00	8,946.67	8,942.98	75.45	30.66	84.45	-1,751.47	-195.90	3,727.21	3,655.27	71.94	51.808		
12,400.00	9,065.00	8,945.42	8,941.73	77.31	30.65	84.40	-1,751.40	-195.88	3,819.88	3,747.83	72.05	53.019		
12,500.00	9,065.00	8,944.17	8,940.49	79.18	30.65	84.35	-1,751.33	-195.86	3,912.90	3,840.76	72.15	54.236		
12,600.00	9,065.00	8,942.94	8,939.26	81.05	30.64	84.30	-1,751.26	-195.85	4,006.27	3,934.02	72.24	55.456		
12,700.00	9,065.00	8,941.72	8,938.04	82.94	30.64	84.25	-1,751.19	-195.83	4,099.94	4,027.61	72.33	56.681		
12,800.00	9,065.00	8,940.52	8,936.84	84.83	30.63	84.20	-1,751.12	-195.81	4,193.91	4,121.48	72.42	57.909		
12,900.00	9,065.00	8,939.32	8,935.65	86.73	30.63	84.15	-1,751.05	-195.79	4,288.14	4,215.64	72.51	59.141		
13,000.00	9,065.00	8,938.14	8,934.47	88.64	30.63	84.10	-1,750.98	-195.77	4,382.64	4,310.05	72.59	60.375		
13,100.00	9,065.00	8,936.97	8,933.30	90.55	30.62	84.06	-1,750.92	-195.75	4,477.37	4,404.70	72.67	61.612		
13,200.00	9,065.00	8,935.82	8,932.15	92.47	30.62	84.01	-1,750.85	-195.74	4,572.32	4,499.58	72.75	62.851		
13,300.00	9,065.00	8,934.67	8,931.00	94.39	30.61	83.96	-1,750.79	-195.72	4,667.49	4,594.67	72.82	64.093		
13,400.00	9,065.00	8,933.54	8,929.87	96.32	30.61	83.92	-1,750.72	-195.70	4,762.85	4,689.96	72.90	65.336		
13,500.00	9,065.00	8,932.41	8,928.75	98.25	30.61	83.87	-1,750.66	-195.69	4,858.40	4,785.43	72.97	66.580		
13,600.00	9,065.00	8,931.30	8,927.64	100.19	30.60	83.83	-1,750.59	-195.67	4,954.13	4,881.09	73.04	67.826		
13,700.00	9,065.00	8,930.20	8,926.54	102.13	30.60	83.78	-1,750.53	-195.65	5,050.02	4,976.91	73.11	69.073		
13,800.00	9,065.00	8,929.11	8,925.45	104.08	30.59	83.74	-1,750.47	-195.64	5,146.07	5,072.89	73.18	70.321		
13,900.00	9,065.00	8,928.03	8,924.37	106.03	30.59	83.70	-1,750.41	-195.62	5,242.26	5,169.01	73.25	71.570		
14,000.00	9,065.00	8,926.96	8,923.30	107.98	30.59	83.65	-1,750.35	-195.61	5,338.59	5,265.28	73.31	72.820		
14,100.00	9,065.00	8,925.90	8,922.24	109.94	30.58	83.61	-1,750.29	-195.59	5,435.06	5,361.68	73.38	74.069		

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Sec 14-T21S-R27E - Lone Tree Draw 14-13 State Com 336H - Wellbore #1 - Wellbore #1													Offset Well Error:	0.50 ft
Survey Program: 438-MWD+HDGM														
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
14,200.00	9,065.00	8,924.85	8,921.19	111.90	30.58	83.57	-1,750.23	-195.58	5,531.65	5,458.21	73.44	75.319		
14,300.00	9,065.00	8,923.81	8,920.16	113.86	30.57	83.53	-1,750.17	-195.56	5,628.36	5,554.86	73.51	76.570		
14,400.00	9,065.00	8,922.78	8,919.13	115.82	30.57	83.48	-1,750.11	-195.55	5,725.18	5,651.61	73.57	77.820		
14,500.00	9,065.00	8,921.76	8,918.11	117.79	30.57	83.44	-1,750.05	-195.53	5,822.11	5,748.48	73.63	79.070		
14,600.00	9,065.00	8,920.75	8,917.10	119.76	30.56	83.40	-1,750.00	-195.52	5,919.15	5,845.45	73.70	80.319		
14,700.00	9,065.00	8,919.74	8,916.10	121.74	30.56	83.36	-1,749.94	-195.51	6,016.28	5,942.52	73.76	81.569		
14,800.00	9,065.00	8,918.75	8,915.11	123.71	30.56	83.32	-1,749.88	-195.49	6,113.50	6,039.68	73.82	82.818		
14,900.00	9,065.00	8,917.77	8,914.13	125.69	30.55	83.28	-1,749.83	-195.48	6,210.81	6,136.93	73.88	84.066		
15,000.00	9,065.00	8,916.80	8,913.16	127.67	30.55	83.24	-1,749.77	-195.47	6,308.20	6,234.26	73.94	85.314		
15,100.00	9,065.00	8,908.00	8,904.38	129.65	30.52	82.89	-1,749.28	-195.35	6,405.68	6,331.70	73.97	86.593		
15,200.00	9,065.00	8,908.00	8,904.38	131.63	30.52	82.89	-1,749.28	-195.35	6,503.23	6,429.19	74.04	87.836		
15,300.00	9,065.00	8,908.00	8,904.38	133.62	30.52	82.89	-1,749.28	-195.35	6,600.85	6,526.75	74.10	89.077		
15,400.00	9,065.00	8,908.00	8,904.38	135.61	30.52	82.89	-1,749.28	-195.35	6,698.54	6,624.37	74.17	90.317		
15,500.00	9,065.00	8,908.00	8,904.38	137.60	30.52	82.89	-1,749.28	-195.35	6,796.30	6,722.07	74.23	91.556		
15,600.00	9,065.00	8,908.00	8,904.38	139.59	30.52	82.89	-1,749.28	-195.35	6,894.12	6,819.83	74.30	92.793		
15,700.00	9,065.00	8,911.02	8,907.39	141.58	30.53	83.01	-1,749.45	-195.39	6,992.01	6,917.64	74.37	94.016		
15,800.00	9,065.00	8,909.79	8,906.17	143.57	30.52	82.96	-1,749.38	-195.37	7,089.95	7,015.52	74.43	95.256		
15,900.00	9,065.00	8,908.57	8,904.95	145.57	30.52	82.91	-1,749.31	-195.36	7,187.95	7,113.46	74.49	96.495		
16,000.00	9,065.00	8,907.35	8,903.73	147.56	30.51	82.86	-1,749.24	-195.34	7,286.00	7,211.45	74.55	97.733		
16,100.00	9,065.00	8,906.14	8,902.52	149.56	30.51	82.81	-1,749.18	-195.32	7,384.11	7,309.50	74.61	98.969		
16,200.00	9,065.00	8,904.92	8,901.30	151.56	30.51	82.77	-1,749.11	-195.31	7,482.27	7,407.60	74.67	100.203		
16,300.00	9,065.00	8,903.71	8,900.09	153.56	30.50	82.72	-1,749.04	-195.29	7,580.47	7,505.74	74.73	101.436		
16,400.00	9,065.00	8,902.50	8,898.89	155.56	30.50	82.67	-1,748.97	-195.28	7,678.72	7,603.93	74.79	102.668		
16,500.00	9,065.00	8,901.29	8,897.68	157.57	30.49	82.62	-1,748.91	-195.26	7,777.02	7,702.16	74.85	103.897		
16,600.00	9,065.00	8,900.09	8,896.48	159.57	30.49	82.57	-1,748.84	-195.25	7,875.36	7,800.44	74.91	105.125		
16,700.00	9,065.00	8,898.89	8,895.28	161.57	30.48	82.52	-1,748.77	-195.23	7,973.73	7,898.76	74.98	106.350		
16,800.00	9,065.00	8,897.69	8,894.08	163.58	30.48	82.48	-1,748.71	-195.21	8,072.15	7,997.11	75.04	107.574		
16,900.00	9,065.00	8,896.49	8,892.89	165.59	30.48	82.43	-1,748.64	-195.20	8,170.61	8,095.51	75.10	108.796		
17,000.00	9,065.00	8,895.30	8,891.69	167.60	30.47	82.38	-1,748.57	-195.18	8,269.10	8,193.94	75.16	110.017		
17,100.00	9,065.00	8,894.11	8,890.50	169.60	30.47	82.33	-1,748.51	-195.17	8,367.63	8,292.41	75.23	111.235		
17,200.00	9,065.00	8,892.92	8,889.32	171.61	30.46	82.28	-1,748.44	-195.15	8,466.20	8,390.91	75.29	112.451		
17,300.00	9,065.00	8,891.73	8,888.13	173.62	30.46	82.24	-1,748.37	-195.14	8,564.79	8,489.44	75.35	113.664		
17,400.00	9,065.00	8,890.54	8,886.95	175.63	30.45	82.19	-1,748.31	-195.12	8,663.42	8,588.00	75.42	114.876		
17,500.00	9,065.00	8,889.36	8,885.77	177.65	30.45	82.14	-1,748.24	-195.11	8,762.08	8,686.60	75.48	116.086		
17,600.00	9,065.00	8,888.18	8,884.59	179.66	30.45	82.09	-1,748.18	-195.09	8,860.77	8,785.23	75.54	117.293		
17,700.00	9,065.00	8,887.00	8,883.42	181.67	30.44	82.05	-1,748.11	-195.08	8,959.49	8,883.88	75.61	118.498		
17,800.00	9,065.00	8,885.83	8,882.24	183.69	30.44	82.00	-1,748.05	-195.06	9,058.23	8,982.56	75.67	119.701		
17,900.00	9,065.00	8,884.66	8,881.07	185.70	30.43	81.95	-1,747.98	-195.05	9,157.01	9,081.27	75.74	120.901		
18,000.00	9,065.00	8,883.49	8,879.90	187.72	30.43	81.90	-1,747.92	-195.03	9,255.81	9,180.00	75.81	122.099		
18,100.00	9,065.00	8,882.32	8,878.74	189.73	30.43	81.86	-1,747.85	-195.02	9,354.63	9,278.76	75.87	123.295		
18,200.00	9,065.00	8,881.15	8,877.57	191.75	30.42	81.81	-1,747.79	-195.00	9,453.48	9,377.54	75.94	124.488		
18,300.00	9,065.00	8,879.99	8,876.41	193.77	30.42	81.76	-1,747.73	-194.99	9,552.35	9,476.35	76.01	125.679		
18,400.00	9,065.00	8,878.83	8,875.25	195.78	30.41	81.72	-1,747.66	-194.97	9,651.25	9,575.17	76.07	126.867		
18,500.00	9,065.00	8,877.67	8,874.10	197.80	30.41	81.67	-1,747.60	-194.96	9,750.17	9,674.03	76.14	128.053		
18,600.00	9,065.00	8,876.52	8,872.94	199.82	30.40	81.63	-1,747.53	-194.94	9,849.11	9,772.90	76.21	129.236		
18,700.00	9,065.00	8,875.36	8,871.79	201.84	30.40	81.58	-1,747.47	-194.93	9,948.07	9,871.79	76.28	130.417		

Anticollision Report

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Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 0-MWD+IFR1													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0.00	0.00	11.70	11.70	0.50	0.50	-0.13	1,588.66	-3.49	1,588.67					
100.00	100.00	111.70	111.70	0.52	0.53	-0.13	1,588.66	-3.49	1,588.67	1,587.62	1.05	1,515.977		
200.00	200.00	211.70	211.70	0.70	0.73	-0.13	1,588.66	-3.49	1,588.67	1,587.23	1.43	1,107.656		
300.00	300.00	311.70	311.70	0.99	1.02	-0.13	1,588.66	-3.49	1,588.67	1,586.66	2.01	789.966		
400.00	400.00	411.70	411.70	1.31	1.35	-0.13	1,588.66	-3.49	1,588.67	1,586.01	2.66	597.909		
500.00	500.00	511.70	511.70	1.65	1.69	-0.13	1,588.66	-3.49	1,588.67	1,585.33	3.33	476.765		
600.00	600.00	611.70	611.70	1.99	2.03	-0.13	1,588.66	-3.49	1,588.67	1,584.65	4.02	395.011		
700.00	700.00	711.70	711.70	2.34	2.38	-0.13	1,588.66	-3.49	1,588.67	1,583.95	4.72	336.609		
800.00	800.00	811.70	811.70	2.69	2.73	-0.13	1,588.66	-3.49	1,588.67	1,583.24	5.42	292.982		
900.00	900.00	911.70	911.70	3.04	3.08	-0.13	1,588.66	-3.49	1,588.67	1,582.54	6.13	259.227		
1,000.00	1,000.00	1,011.70	1,011.70	3.40	3.44	-0.13	1,588.66	-3.49	1,588.67	1,581.83	6.84	232.369		
1,100.00	1,100.00	1,111.70	1,111.70	3.75	3.79	-0.13	1,588.66	-3.49	1,588.67	1,581.12	7.55	210.509		
1,200.00	1,200.00	1,211.70	1,211.70	4.11	4.15	-0.13	1,588.66	-3.49	1,588.67	1,580.41	8.26	192.381		
1,300.00	1,300.00	1,311.70	1,311.70	4.46	4.51	-0.13	1,588.66	-3.49	1,588.67	1,579.70	8.97	177.108		
1,400.00	1,400.00	1,411.70	1,411.70	4.82	4.86	-0.13	1,588.66	-3.49	1,588.67	1,578.98	9.68	164.070		
1,500.00	1,500.00	1,511.70	1,511.70	5.18	5.22	-0.13	1,588.66	-3.49	1,588.67	1,578.27	10.40	152.812		
1,600.00	1,600.00	1,611.70	1,611.70	5.53	5.58	-0.13	1,588.66	-3.49	1,588.67	1,577.56	11.11	142.994		
1,700.00	1,700.00	1,711.70	1,711.70	5.89	5.93	-0.13	1,588.66	-3.49	1,588.67	1,576.84	11.82	134.357		
1,800.00	1,800.00	1,811.70	1,811.70	6.25	6.29	-0.13	1,588.66	-3.49	1,588.67	1,576.13	12.54	126.700		
1,900.00	1,900.00	1,911.70	1,911.70	6.61	6.65	-0.13	1,588.66	-3.49	1,588.67	1,575.41	13.25	119.867		
2,000.00	2,000.00	2,011.70	2,011.70	6.96	7.01	-0.13	1,588.66	-3.49	1,588.67	1,574.70	13.97	113.732		
2,100.00	2,100.00	2,111.70	2,111.70	7.32	7.36	-0.13	1,588.66	-3.49	1,588.67	1,573.98	14.68	108.192		
2,200.00	2,200.00	2,211.70	2,211.70	7.68	7.72	-0.13	1,588.66	-3.49	1,588.67	1,573.27	15.40	103.166		
2,300.00	2,300.00	2,311.70	2,311.70	8.04	8.08	-0.13	1,588.66	-3.49	1,588.67	1,572.55	16.11	98.586		
2,302.97	2,302.97	2,314.67	2,314.67	8.05	8.09	-0.13	1,588.66	-3.49	1,588.67	1,572.53	16.14	98.456 CC		
2,400.00	2,400.00	2,398.64	2,398.64	8.39	8.39	-0.13	1,588.86	-3.54	1,588.92	1,572.14	16.78	94.675 ES		
2,500.00	2,500.00	2,477.45	2,477.44	8.75	8.67	-0.14	1,590.04	-3.85	1,590.41	1,572.99	17.42	91.301		
2,600.00	2,599.99	2,556.20	2,556.15	9.09	8.95	145.76	1,592.25	-4.42	1,593.95	1,575.91	18.04	88.373		
2,700.00	2,699.96	2,634.78	2,634.66	9.42	9.23	145.73	1,595.51	-5.27	1,600.26	1,581.62	18.64	85.871		
2,800.00	2,799.86	2,713.12	2,712.87	9.75	9.51	145.71	1,599.80	-6.38	1,609.33	1,590.10	19.23	83.677		
2,900.00	2,899.68	2,791.11	2,790.68	10.08	9.79	145.69	1,605.09	-7.76	1,621.15	1,601.32	19.83	81.765		
2,945.33	2,944.88	2,826.33	2,825.78	10.23	9.92	145.68	1,607.82	-8.47	1,627.41	1,607.31	20.10	80.984		
3,000.00	2,999.39	2,868.71	2,868.00	10.41	10.07	145.72	1,611.37	-9.39	1,635.49	1,615.07	20.42	80.102		
3,100.00	3,099.08	2,945.99	2,944.92	10.75	10.34	145.77	1,618.64	-11.28	1,651.27	1,630.27	21.00	78.616		
3,200.00	3,198.78	3,022.95	3,021.40	11.08	10.62	145.81	1,626.87	-13.42	1,668.34	1,646.75	21.59	77.283		
3,300.00	3,298.48	3,100.00	3,097.86	11.42	10.89	145.84	1,636.10	-15.82	1,686.68	1,664.52	22.17	76.082		
3,400.00	3,398.18	3,175.79	3,172.93	11.76	11.17	145.87	1,646.16	-18.43	1,706.30	1,683.55	22.74	75.027		
3,500.00	3,497.88	3,251.62	3,247.90	12.10	11.44	145.88	1,657.18	-21.30	1,727.16	1,703.85	23.31	74.084		
3,600.00	3,597.58	3,327.03	3,322.30	12.45	11.71	145.88	1,669.09	-24.39	1,749.28	1,725.40	23.88	73.251		
3,700.00	3,697.27	3,411.50	3,394.87	12.79	12.01	145.88	1,681.65	-27.66	1,772.63	1,748.15	24.47	72.428		
3,800.00	3,796.97	3,502.18	3,490.30	13.14	12.33	145.87	1,698.87	-32.13	1,796.66	1,771.52	25.14	71.472		
3,900.00	3,896.67	3,605.11	3,585.72	13.48	12.70	145.86	1,716.09	-36.61	1,820.69	1,794.84	25.85	70.438		
4,000.00	3,996.37	3,708.04	3,681.15	13.83	13.08	145.85	1,733.31	-41.08	1,844.72	1,818.16	26.56	69.454		
4,100.00	4,096.07	3,789.03	3,776.57	14.18	13.37	145.84	1,750.53	-45.56	1,868.75	1,841.56	27.19	68.718		
4,200.00	4,195.76	3,886.10	3,872.00	14.53	13.72	145.83	1,767.75	-50.03	1,892.79	1,864.90	27.89	67.868		
4,300.00	4,295.46	3,983.17	3,967.42	14.88	14.08	145.82	1,784.97	-54.51	1,916.82	1,888.23	28.59	67.056		
4,400.00	4,395.16	4,080.23	4,062.84	15.23	14.44	145.81	1,802.19	-58.98	1,940.85	1,911.57	29.28	66.280		
4,500.00	4,494.86	4,177.30	4,158.27	15.58	14.79	145.80	1,819.41	-63.46	1,964.88	1,934.90	29.98	65.536		
4,600.00	4,594.56	4,274.37	4,253.69	15.93	15.15	145.79	1,836.63	-67.93	1,988.92	1,958.23	30.68	64.824		
4,700.00	4,694.25	4,371.44	4,349.12	16.29	15.51	145.79	1,853.84	-72.41	2,012.95	1,981.56	31.38	64.141		
4,800.00	4,793.95	4,468.51	4,444.54	16.64	15.87	145.78	1,871.06	-76.88	2,036.98	2,004.89	32.09	63.485		
4,900.00	4,893.65	4,565.58	4,539.97	17.00	16.23	145.77	1,888.28	-81.36	2,061.01	2,028.22	32.79	62.855		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

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Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 0-MWD+IFR1													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
5,000.00	4,993.35	4,662.65	4,635.39	17.35	16.59	145.76	1,905.50	-85.83	2,085.04	2,051.55	33.49	62.251		
5,100.00	5,093.05	4,759.72	4,730.82	17.71	16.95	145.75	1,922.72	-90.31	2,109.08	2,074.88	34.20	61.669		
5,200.00	5,192.75	4,856.79	4,826.24	18.06	17.31	145.75	1,939.94	-94.78	2,133.11	2,098.20	34.91	61.109		
5,300.00	5,292.44	4,953.85	4,921.66	18.42	17.67	145.74	1,957.16	-99.26	2,157.14	2,121.53	35.61	60.570		
5,400.00	5,392.14	5,050.92	5,017.09	18.77	18.04	145.73	1,974.38	-103.73	2,181.17	2,144.85	36.32	60.051		
5,500.00	5,491.84	5,147.99	5,112.51	19.13	18.40	145.72	1,991.60	-108.21	2,205.21	2,168.18	37.03	59.550		
5,600.00	5,591.54	5,245.06	5,207.94	19.49	18.76	145.72	2,008.82	-112.68	2,229.24	2,191.50	37.74	59.067		
5,700.00	5,691.24	5,342.13	5,303.36	19.85	19.13	145.71	2,026.04	-117.16	2,253.27	2,214.82	38.45	58.601		
5,800.00	5,790.93	5,439.20	5,398.79	20.20	19.49	145.70	2,043.26	-121.63	2,277.30	2,238.14	39.16	58.150		
5,900.00	5,890.63	5,536.27	5,494.21	20.56	19.86	145.70	2,060.48	-126.11	2,301.34	2,261.46	39.87	57.715		
6,000.00	5,990.33	5,633.34	5,589.64	20.92	20.22	145.69	2,077.70	-130.58	2,325.37	2,284.78	40.59	57.294		
6,100.00	6,090.03	5,730.41	5,685.06	21.28	20.59	145.68	2,094.92	-135.06	2,349.40	2,308.10	41.30	56.887		
6,200.00	6,189.73	5,827.47	5,780.48	21.64	20.95	145.68	2,112.14	-139.53	2,373.44	2,331.42	42.01	56.493		
6,300.00	6,289.42	5,924.54	5,875.91	22.00	21.32	145.67	2,129.36	-144.01	2,397.47	2,354.74	42.73	56.112		
6,400.00	6,389.12	6,021.61	5,971.33	22.36	21.69	145.67	2,146.57	-148.48	2,421.50	2,378.06	43.44	55.742		
6,500.00	6,488.82	6,118.68	6,066.76	22.72	22.05	145.66	2,163.79	-152.96	2,445.53	2,401.38	44.16	55.384		
6,600.00	6,588.52	6,215.75	6,162.18	23.08	22.42	145.65	2,181.01	-157.43	2,469.57	2,424.70	44.87	55.037		
6,700.00	6,688.22	6,312.82	6,257.61	23.44	22.79	145.65	2,198.23	-161.91	2,493.60	2,448.01	45.59	54.700		
6,800.00	6,787.91	6,409.89	6,353.03	23.80	23.15	145.64	2,215.45	-166.38	2,517.63	2,471.33	46.30	54.373		
6,900.00	6,887.61	6,506.96	6,448.46	24.16	23.52	145.64	2,232.67	-170.86	2,541.67	2,494.65	47.02	54.055		
7,000.00	6,987.31	6,604.03	6,543.88	24.52	23.89	145.63	2,249.89	-175.33	2,565.70	2,517.96	47.74	53.746		
7,100.00	7,087.01	6,701.09	6,639.31	24.88	24.26	145.63	2,267.11	-179.81	2,589.73	2,541.28	48.45	53.447		
7,200.00	7,186.71	6,801.84	6,734.73	25.24	24.64	145.62	2,284.33	-184.28	2,613.76	2,564.58	49.19	53.140		
7,300.00	7,286.41	6,904.77	6,830.15	25.60	25.03	145.62	2,301.55	-188.76	2,637.80	2,587.87	49.93	52.834		
7,400.00	7,386.10	7,007.70	6,925.58	25.96	25.42	145.61	2,318.77	-193.23	2,661.83	2,611.16	50.67	52.535		
7,500.00	7,485.80	7,089.37	7,021.00	26.33	25.73	145.61	2,335.99	-197.71	2,685.86	2,634.54	51.33	52.327		
7,600.00	7,585.50	7,186.44	7,116.43	26.69	26.10	145.60	2,353.21	-202.19	2,709.90	2,657.85	52.05	52.066		
7,700.00	7,685.20	7,283.51	7,211.85	27.05	26.47	145.60	2,370.43	-206.66	2,733.93	2,681.16	52.77	51.811		
7,800.00	7,784.90	7,380.58	7,307.28	27.41	26.84	145.59	2,387.65	-211.14	2,757.96	2,704.48	53.49	51.563		
7,860.70	7,845.41	7,439.50	7,365.20	27.63	27.06	145.59	2,398.10	-213.85	2,772.55	2,718.63	53.92	51.416		
7,900.00	7,884.61	7,477.68	7,402.74	27.77	27.21	145.67	2,404.87	-215.61	2,781.83	2,727.63	54.21	51.319		
8,000.00	7,984.46	8,000.00	7,595.28	28.13	29.17	145.80	2,436.04	-223.71	2,802.18	2,745.48	56.70	49.420		
8,100.00	8,084.42	8,074.08	7,994.60	28.49	29.40	145.84	2,471.09	-232.82	2,812.57	2,755.03	57.54	48.878		
8,157.59	8,142.00	8,233.21	8,153.70	28.69	29.95	-0.07	2,473.66	-233.49	2,813.67	2,755.40	58.27	48.287		
8,200.00	8,184.41	8,275.63	8,196.11	28.83	30.10	-0.07	2,473.66	-233.49	2,813.67	2,755.10	58.56	48.047		
8,300.00	8,284.41	8,375.63	8,296.11	29.17	30.44	-0.07	2,473.66	-233.49	2,813.67	2,754.42	59.25	47.489		
8,400.00	8,384.41	8,475.63	8,396.11	29.51	30.79	-0.07	2,473.66	-233.49	2,813.67	2,753.73	59.94	46.944		
8,411.42	8,395.83	8,487.04	8,407.53	29.55	30.83	-0.07	2,473.66	-233.49	2,813.67	2,753.65	60.01	46.883		
8,507.63	8,492.04	8,582.87	8,503.36	29.87	31.16	-0.07	2,473.66	-233.26	2,813.67	2,752.99	60.67	46.373		
8,550.00	8,534.37	8,624.21	8,544.60	30.02	31.30	-89.41	2,473.68	-230.59	2,813.66	2,752.71	60.96	46.159		
8,600.00	8,584.01	8,672.89	8,592.77	30.18	31.45	-89.39	2,473.72	-223.65	2,813.64	2,752.36	61.28	45.914		
8,650.00	8,632.95	8,721.48	8,640.08	30.34	31.61	-89.37	2,473.79	-212.67	2,813.60	2,751.99	61.60	45.673		
8,700.00	8,680.82	8,769.97	8,686.21	30.50	31.76	-89.36	2,473.88	-197.76	2,813.53	2,751.61	61.92	45.439		
8,750.00	8,727.25	8,818.39	8,730.85	30.66	31.91	-89.35	2,473.99	-179.03	2,813.44	2,751.21	62.23	45.211		
8,800.00	8,771.89	8,866.74	8,773.68	30.81	32.05	-89.34	2,474.12	-156.63	2,813.34	2,750.80	62.53	44.989		
8,850.00	8,814.40	8,915.05	8,814.44	30.95	32.19	-89.35	2,474.28	-130.74	2,813.21	2,750.37	62.84	44.771		
8,900.00	8,854.46	8,963.30	8,852.83	31.09	32.33	-89.35	2,474.45	-101.53	2,813.06	2,749.92	63.14	44.555		
8,950.00	8,891.75	9,011.53	8,888.62	31.23	32.46	-89.36	2,474.64	-69.21	2,812.89	2,749.45	63.44	44.339		
9,000.00	8,926.01	9,059.74	8,921.54	31.37	32.60	-89.38	2,474.85	-34.02	2,812.71	2,748.96	63.75	44.118		
9,050.00	8,956.96	9,107.95	8,951.39	31.53	32.74	-89.40	2,475.08	3.82	2,812.51	2,748.43	64.08	43.889		
9,100.00	8,984.38	9,156.16	8,977.96	31.69	32.89	-89.42	2,475.32	44.03	2,812.30	2,747.87	64.43	43.648		
9,150.00	9,008.05	9,204.39	9,001.06	31.87	33.06	-89.45	2,475.57	86.35	2,812.08	2,747.27	64.81	43.393		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 0-MWD+IFR1													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
9,200.00	9,027.79	9,252.65	9,020.53	32.07	33.24	-89.48	2,475.83	130.49	2,811.84	2,746.63	65.21	43.119		
9,250.00	9,043.45	9,300.96	9,036.23	32.29	33.44	-89.52	2,476.10	176.16	2,811.60	2,745.95	65.65	42.827		
9,300.00	9,054.92	9,349.31	9,048.05	32.53	33.65	-89.56	2,476.38	223.04	2,811.35	2,745.22	66.12	42.517		
9,350.00	9,062.10	9,397.74	9,055.87	32.79	33.89	-89.60	2,476.67	270.81	2,811.09	2,744.46	66.63	42.189		
9,400.00	9,064.95	9,446.24	9,059.64	33.06	34.14	-89.65	2,476.96	319.15	2,810.83	2,743.66	67.17	41.848		
9,407.63	9,065.00	9,453.65	9,059.85	33.10	34.18	-89.66	2,477.00	326.55	2,810.79	2,743.54	67.25	41.795		
9,500.00	9,065.00	9,545.64	9,060.00	33.68	34.73	-89.66	2,477.55	418.54	2,810.33	2,741.93	68.39	41.091		
9,600.00	9,065.00	9,645.64	9,060.00	34.41	35.42	-89.66	2,478.14	518.54	2,809.82	2,740.00	69.83	40.240		
9,700.00	9,065.00	9,745.64	9,060.00	35.24	36.22	-89.66	2,478.74	618.54	2,809.32	2,737.85	71.47	39.310		
9,800.00	9,065.00	9,845.64	9,060.00	36.17	37.12	-89.66	2,479.34	718.54	2,808.81	2,735.51	73.30	38.321		
9,900.00	9,065.00	9,945.64	9,060.00	37.19	38.10	-89.66	2,479.93	818.53	2,808.31	2,733.00	75.31	37.292		
10,000.00	9,065.00	10,045.64	9,060.00	38.30	39.17	-89.66	2,480.53	918.53	2,807.80	2,730.32	77.48	36.239		
10,100.00	9,065.00	10,145.63	9,060.00	39.48	40.32	-89.66	2,481.12	1,018.53	2,807.30	2,727.49	79.80	35.177		
10,200.00	9,065.00	10,245.63	9,060.00	40.72	41.53	-89.66	2,481.72	1,118.52	2,806.79	2,724.53	82.27	34.118		
10,300.00	9,065.00	10,345.63	9,060.00	42.03	42.81	-89.66	2,482.32	1,218.52	2,806.29	2,721.43	84.85	33.072		
10,400.00	9,065.00	10,445.63	9,060.00	43.40	44.14	-89.66	2,482.91	1,318.52	2,805.78	2,718.23	87.56	32.045		
10,500.00	9,065.00	10,545.63	9,060.00	44.82	45.53	-89.66	2,483.51	1,418.51	2,805.28	2,714.91	90.36	31.044		
10,600.00	9,065.00	10,645.63	9,060.00	46.29	46.97	-89.66	2,484.10	1,518.51	2,804.78	2,711.51	93.27	30.072		
10,700.00	9,065.00	10,745.63	9,060.00	47.79	48.45	-89.66	2,484.70	1,618.51	2,804.27	2,708.01	96.26	29.133		
10,800.00	9,065.00	10,845.63	9,060.00	49.34	49.97	-89.66	2,485.30	1,718.50	2,803.77	2,704.44	99.32	28.229		
10,900.00	9,065.00	10,945.62	9,060.00	50.92	51.53	-89.66	2,485.89	1,818.50	2,803.26	2,700.80	102.46	27.359		
11,000.00	9,065.00	11,045.62	9,060.00	52.54	53.12	-89.66	2,486.49	1,918.50	2,802.76	2,697.09	105.67	26.525		
11,100.00	9,065.00	11,145.62	9,060.00	54.18	54.74	-89.66	2,487.08	2,018.50	2,802.25	2,693.32	108.93	25.725		
11,200.00	9,065.00	11,245.62	9,060.00	55.85	56.39	-89.66	2,487.68	2,118.49	2,801.75	2,689.50	112.25	24.960		
11,300.00	9,065.00	11,345.62	9,060.00	57.54	58.06	-89.66	2,488.27	2,218.49	2,801.24	2,685.63	115.62	24.229		
11,400.00	9,065.00	11,445.62	9,060.00	59.26	59.76	-89.66	2,488.87	2,318.49	2,800.74	2,681.71	119.03	23.530		
11,500.00	9,065.00	11,545.62	9,060.00	61.00	61.48	-89.66	2,489.47	2,418.48	2,800.23	2,677.75	122.48	22.862		
11,600.00	9,065.00	11,645.62	9,060.00	62.75	63.21	-89.66	2,490.06	2,518.48	2,799.73	2,673.75	125.98	22.224		
11,700.00	9,065.00	11,745.61	9,060.00	64.52	64.97	-89.66	2,490.66	2,618.48	2,799.22	2,669.72	129.50	21.615		
11,800.00	9,065.00	11,845.61	9,060.00	66.31	66.74	-89.66	2,491.25	2,718.47	2,798.72	2,665.66	133.06	21.033		
11,900.00	9,065.00	11,945.61	9,060.00	68.11	68.53	-89.66	2,491.85	2,818.47	2,798.21	2,661.56	136.65	20.477		
12,000.00	9,065.00	12,045.61	9,060.00	69.93	70.33	-89.66	2,492.45	2,918.47	2,797.71	2,657.44	140.27	19.945		
12,100.00	9,065.00	12,145.61	9,060.00	71.76	72.15	-89.66	2,493.04	3,018.46	2,797.21	2,653.29	143.91	19.437		
12,200.00	9,065.00	12,245.61	9,060.00	73.60	73.97	-89.66	2,493.64	3,118.46	2,796.70	2,649.12	147.58	18.951		
12,300.00	9,065.00	12,345.61	9,060.00	75.45	75.81	-89.66	2,494.23	3,218.46	2,796.20	2,644.93	151.27	18.485		
12,400.00	9,065.00	12,445.61	9,060.00	77.31	77.66	-89.66	2,494.83	3,318.46	2,795.69	2,640.72	154.98	18.040		
12,500.00	9,065.00	12,545.60	9,060.00	79.18	79.52	-89.66	2,495.43	3,418.45	2,795.19	2,636.48	158.70	17.613		
12,600.00	9,065.00	12,645.60	9,060.00	81.05	81.38	-89.66	2,496.02	3,518.45	2,794.68	2,632.24	162.45	17.204		
12,700.00	9,065.00	12,745.60	9,060.00	82.94	83.26	-89.66	2,496.62	3,618.45	2,794.18	2,627.97	166.21	16.811		
12,800.00	9,065.00	12,845.60	9,060.00	84.83	85.14	-89.66	2,497.21	3,718.44	2,793.67	2,623.69	169.98	16.435		
12,900.00	9,065.00	12,945.60	9,060.00	86.73	87.03	-89.66	2,497.81	3,818.44	2,793.17	2,619.39	173.77	16.073		
13,000.00	9,065.00	13,045.60	9,060.00	88.64	88.93	-89.66	2,498.40	3,918.44	2,792.66	2,615.08	177.58	15.726		
13,100.00	9,065.00	13,145.60	9,060.00	90.55	90.84	-89.66	2,499.00	4,018.43	2,792.16	2,610.76	181.40	15.393		
13,200.00	9,065.00	13,245.60	9,060.00	92.47	92.75	-89.66	2,499.60	4,118.43	2,791.65	2,606.43	185.22	15.072		
13,300.00	9,065.00	13,345.59	9,060.00	94.39	94.66	-89.66	2,500.19	4,218.43	2,791.15	2,602.09	189.06	14.763		
13,400.00	9,065.00	13,445.59	9,060.00	96.32	96.58	-89.66	2,500.79	4,318.43	2,790.64	2,597.73	192.91	14.466		
13,500.00	9,065.00	13,545.59	9,060.00	98.25	98.51	-89.66	2,501.38	4,418.42	2,790.14	2,593.37	196.77	14.180		
13,600.00	9,065.00	13,645.59	9,060.00	100.19	100.44	-89.66	2,501.98	4,518.42	2,789.64	2,589.00	200.64	13.904		
13,700.00	9,065.00	13,745.59	9,060.00	102.13	102.38	-89.66	2,502.58	4,618.42	2,789.13	2,584.61	204.52	13.638		
13,800.00	9,065.00	13,845.59	9,060.00	104.08	104.32	-89.66	2,503.17	4,718.41	2,788.63	2,580.22	208.40	13.381		
13,900.00	9,065.00	13,945.59	9,060.00	106.03	106.26	-89.66	2,503.77	4,818.41	2,788.12	2,575.83	212.30	13.133		
14,000.00	9,065.00	14,045.59	9,060.00	107.98	108.21	-89.66	2,504.36	4,918.41	2,787.62	2,571.42	216.20	12.894		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 0-MWD+IFR1													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
14,100.00	9,065.00	14,145.58	9,060.00	109.94	110.16	-89.66	2,504.96	5,018.40	2,787.11	2,567.01	220.10	12.663		
14,200.00	9,065.00	14,245.58	9,060.00	111.90	112.11	-89.66	2,505.56	5,118.40	2,786.61	2,562.59	224.02	12.439		
14,300.00	9,065.00	14,345.58	9,060.00	113.86	114.07	-89.66	2,506.15	5,218.40	2,786.10	2,558.17	227.94	12.223		
14,400.00	9,065.00	14,445.58	9,060.00	115.82	116.03	-89.66	2,506.75	5,318.39	2,785.60	2,553.73	231.86	12.014		
14,500.00	9,065.00	14,545.58	9,060.00	117.79	117.99	-89.66	2,507.34	5,418.39	2,785.09	2,549.30	235.80	11.811		
14,600.00	9,065.00	14,645.58	9,060.00	119.76	119.96	-89.66	2,507.94	5,518.39	2,784.59	2,544.86	239.73	11.615		
14,700.00	9,065.00	14,745.58	9,060.00	121.74	121.93	-89.66	2,508.53	5,618.39	2,784.08	2,540.41	243.67	11.425		
14,800.00	9,065.00	14,845.57	9,060.00	123.71	123.90	-89.66	2,509.13	5,718.38	2,783.58	2,535.96	247.62	11.241		
14,900.00	9,065.00	14,945.57	9,060.00	125.69	125.87	-89.66	2,509.73	5,818.38	2,783.08	2,531.50	251.57	11.063		
15,000.00	9,065.00	15,045.57	9,060.00	127.67	127.85	-89.66	2,510.32	5,918.38	2,782.57	2,527.04	255.53	10.889		
15,100.00	9,065.00	15,145.57	9,060.00	129.65	129.83	-89.66	2,510.92	6,018.37	2,782.07	2,522.58	259.49	10.721		
15,200.00	9,065.00	15,245.57	9,060.00	131.63	131.81	-89.66	2,511.51	6,118.37	2,781.56	2,518.11	263.45	10.558		
15,300.00	9,065.00	15,345.57	9,060.00	133.62	133.79	-89.66	2,512.11	6,218.37	2,781.06	2,513.63	267.42	10.400		
15,400.00	9,065.00	15,445.57	9,060.00	135.61	135.78	-89.66	2,512.71	6,318.36	2,780.55	2,509.16	271.39	10.245		
15,500.00	9,065.00	15,545.57	9,060.00	137.60	137.76	-89.66	2,513.30	6,418.36	2,780.05	2,504.68	275.37	10.096		
15,600.00	9,065.00	15,645.56	9,060.00	139.59	139.75	-89.66	2,513.90	6,518.36	2,779.54	2,500.20	279.35	9.950		
15,700.00	9,065.00	15,745.56	9,060.00	141.58	141.74	-89.66	2,514.49	6,618.36	2,779.04	2,495.71	283.33	9.809		
15,800.00	9,065.00	15,845.56	9,060.00	143.57	143.73	-89.66	2,515.09	6,718.35	2,778.53	2,491.22	287.31	9.671		
15,900.00	9,065.00	15,945.56	9,060.00	145.57	145.72	-89.66	2,515.69	6,818.35	2,778.03	2,486.73	291.30	9.537		
16,000.00	9,065.00	16,045.56	9,060.00	147.56	147.72	-89.66	2,516.28	6,918.35	2,777.52	2,482.23	295.29	9.406		
16,100.00	9,065.00	16,145.56	9,060.00	149.56	149.71	-89.66	2,516.88	7,018.34	2,777.02	2,477.73	299.29	9.279		
16,200.00	9,065.00	16,245.56	9,060.00	151.56	151.71	-89.66	2,517.47	7,118.34	2,776.51	2,473.23	303.28	9.155		
16,300.00	9,065.00	16,345.56	9,060.00	153.56	153.71	-89.66	2,518.07	7,218.34	2,776.01	2,468.73	307.28	9.034		
16,400.00	9,065.00	16,445.55	9,060.00	155.56	155.71	-89.66	2,518.66	7,318.33	2,775.51	2,464.22	311.28	8.916		
16,500.00	9,065.00	16,545.55	9,060.00	157.57	157.71	-89.66	2,519.26	7,418.33	2,775.00	2,459.72	315.28	8.802		
16,600.00	9,065.00	16,645.55	9,060.00	159.57	159.71	-89.66	2,519.86	7,518.33	2,774.50	2,455.21	319.29	8.690		
16,700.00	9,065.00	16,745.55	9,060.00	161.57	161.71	-89.66	2,520.45	7,618.32	2,773.99	2,450.69	323.30	8.580		
16,800.00	9,065.00	16,845.55	9,060.00	163.58	163.72	-89.66	2,521.05	7,718.32	2,773.49	2,446.18	327.31	8.474		
16,900.00	9,065.00	16,945.55	9,060.00	165.59	165.72	-89.65	2,521.64	7,818.32	2,772.98	2,441.66	331.32	8.370		
17,000.00	9,065.00	17,045.55	9,060.00	167.60	167.73	-89.65	2,522.24	7,918.32	2,772.48	2,437.14	335.33	8.268		
17,100.00	9,065.00	17,145.55	9,060.00	169.60	169.74	-89.65	2,522.84	8,018.31	2,771.97	2,432.62	339.35	8.169		
17,200.00	9,065.00	17,245.54	9,060.00	171.61	171.74	-89.65	2,523.43	8,118.31	2,771.47	2,428.10	343.37	8.071		
17,300.00	9,065.00	17,345.54	9,060.00	173.62	173.75	-89.65	2,524.03	8,218.31	2,770.96	2,423.58	347.39	7.977		
17,400.00	9,065.00	17,445.54	9,060.00	175.63	175.76	-89.65	2,524.62	8,318.30	2,770.46	2,419.05	351.41	7.884		
17,500.00	9,065.00	17,545.54	9,060.00	177.65	177.77	-89.65	2,525.22	8,418.30	2,769.95	2,414.53	355.43	7.793		
17,600.00	9,065.00	17,645.54	9,060.00	179.66	179.78	-89.65	2,525.81	8,518.30	2,769.45	2,410.00	359.45	7.705		
17,700.00	9,065.00	17,745.54	9,060.00	181.67	181.80	-89.65	2,526.41	8,618.29	2,768.95	2,405.47	363.48	7.618		
17,800.00	9,065.00	17,845.54	9,060.00	183.69	183.81	-89.65	2,527.01	8,718.29	2,768.44	2,400.94	367.50	7.533		
17,900.00	9,065.00	17,945.54	9,060.00	185.70	185.82	-89.65	2,527.60	8,818.29	2,767.94	2,396.40	371.53	7.450		
18,000.00	9,065.00	18,045.53	9,060.00	187.72	187.84	-89.65	2,528.20	8,918.29	2,767.43	2,391.87	375.56	7.369		
18,100.00	9,065.00	18,145.53	9,060.00	189.73	189.85	-89.65	2,528.79	9,018.28	2,766.93	2,387.33	379.59	7.289		
18,200.00	9,065.00	18,245.53	9,060.00	191.75	191.87	-89.65	2,529.39	9,118.28	2,766.42	2,382.80	383.63	7.211		
18,300.00	9,065.00	18,345.53	9,060.00	193.77	193.88	-89.65	2,529.99	9,218.28	2,765.92	2,378.26	387.66	7.135		
18,400.00	9,065.00	18,445.53	9,060.00	195.78	195.90	-89.65	2,530.58	9,318.27	2,765.41	2,373.72	391.69	7.060		
18,500.00	9,065.00	18,545.53	9,060.00	197.80	197.92	-89.65	2,531.18	9,418.27	2,764.91	2,369.18	395.73	6.987		
18,600.00	9,065.00	18,645.53	9,060.00	199.82	199.94	-89.65	2,531.77	9,518.27	2,764.40	2,364.64	399.77	6.915		
18,700.00	9,065.00	18,745.53	9,060.00	201.84	201.95	-89.65	2,532.37	9,618.26	2,763.90	2,360.09	403.80	6.845		
18,800.00	9,065.00	18,845.52	9,060.00	203.86	203.97	-89.65	2,532.97	9,718.26	2,763.39	2,355.55	407.84	6.776		
18,900.00	9,065.00	18,945.52	9,060.00	205.88	205.99	-89.65	2,533.56	9,818.26	2,762.89	2,351.01	411.88	6.708		
19,000.00	9,065.00	19,045.52	9,060.00	207.90	208.01	-89.65	2,534.16	9,918.25	2,762.38	2,346.46	415.92	6.642		
19,100.00	9,065.00	19,145.52	9,060.00	209.92	210.03	-89.65	2,534.75	10,018.25	2,761.88	2,341.91	419.97	6.576		
19,200.00	9,065.00	19,245.52	9,060.00	211.95	212.06	-89.65	2,535.35	10,118.25	2,761.38	2,337.37	424.01	6.513		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design		Sec 14-T21S-R27E - Lone Tree Draw 14-13 State Com 621H - Wellbore #1 - Permit Plan 1											Offset Site Error:		0.00 ft
Survey Program:		0-MWD+IFR1											Offset Well Error:		0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning	
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor			
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)				
19,300.00	9,065.00	19,345.52	9,060.00	213.97	214.08	-89.65	2,535.94	10,218.25	2,760.87	2,332.82	428.05	6.450			
19,400.00	9,065.00	19,445.52	9,060.00	215.99	216.10	-89.65	2,536.54	10,318.24	2,760.37	2,328.27	432.10	6.388			
19,456.84	9,065.00	19,502.36	9,060.00	217.14	217.25	-89.65	2,536.88	10,375.08	2,760.08	2,325.68	434.40	6.354 SF			

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 10-INC-ONLY													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0.00	0.00	0.00	0.00	0.50	0.50	113.77	-1,351.10	3,068.29	3,352.95					
100.00	100.00	51.10	51.10	0.52	0.79	113.77	-1,351.10	3,068.29	3,352.59	3,351.28	1.31	2,557.741		
200.00	200.00	151.10	151.10	0.70	2.17	113.77	-1,351.10	3,068.29	3,352.59	3,349.72	2.87	1,166.697		
300.00	300.00	251.10	251.10	0.99	3.65	113.77	-1,351.10	3,068.29	3,352.59	3,347.96	4.63	723.708		
400.00	400.00	351.10	351.10	1.31	5.13	113.77	-1,351.10	3,068.29	3,352.59	3,346.15	6.44	520.440		
500.00	500.00	451.10	451.10	1.65	6.63	113.77	-1,351.10	3,068.29	3,352.59	3,344.32	8.27	405.346		
600.00	600.00	551.10	551.10	1.99	8.12	113.77	-1,351.10	3,068.29	3,352.59	3,342.48	10.11	331.626		
700.00	700.00	651.10	651.10	2.34	9.61	113.77	-1,351.10	3,068.29	3,352.59	3,340.64	11.95	280.470		
800.00	800.00	751.10	751.10	2.69	11.11	113.77	-1,351.10	3,068.29	3,352.59	3,338.79	13.80	242.930		
900.00	900.00	851.10	851.10	3.04	12.61	113.77	-1,351.10	3,068.29	3,352.59	3,336.94	15.65	214.225		
1,000.00	1,000.00	951.10	951.10	3.40	14.10	113.77	-1,351.10	3,068.29	3,352.59	3,335.09	17.50	191.571		
1,100.00	1,100.00	1,051.10	1,051.10	3.75	15.60	113.77	-1,351.10	3,068.29	3,352.59	3,333.24	19.35	173.241		
1,200.00	1,200.00	1,151.10	1,151.10	4.11	17.10	113.77	-1,351.10	3,068.29	3,352.59	3,331.39	21.20	158.106		
1,300.00	1,300.00	1,251.10	1,251.10	4.46	18.59	113.77	-1,351.10	3,068.29	3,352.59	3,329.53	23.06	145.400		
1,400.00	1,400.00	1,351.10	1,351.10	4.82	20.09	113.77	-1,351.10	3,068.29	3,352.59	3,327.68	24.91	134.582		
1,500.00	1,500.00	1,451.10	1,451.10	5.18	21.59	113.77	-1,351.10	3,068.29	3,352.59	3,325.83	26.77	125.260		
1,600.00	1,600.00	1,551.10	1,551.10	5.53	23.09	113.77	-1,351.10	3,068.29	3,352.59	3,323.97	28.62	117.145		
1,700.00	1,700.00	1,651.10	1,651.10	5.89	24.58	113.77	-1,351.10	3,068.29	3,352.59	3,322.12	30.47	110.016		
1,800.00	1,800.00	1,751.10	1,751.10	6.25	26.08	113.77	-1,351.10	3,068.29	3,352.59	3,320.26	32.33	103.705		
1,900.00	1,900.00	1,851.10	1,851.10	6.61	27.58	113.77	-1,351.10	3,068.29	3,352.59	3,318.41	34.18	98.078		
2,000.00	2,000.00	1,951.10	1,951.10	6.96	29.08	113.77	-1,351.10	3,068.29	3,352.59	3,316.55	36.04	93.030		
2,100.00	2,100.00	2,051.10	2,051.10	7.32	30.57	113.77	-1,351.10	3,068.29	3,352.59	3,314.70	37.89	88.476		
2,200.00	2,200.00	2,151.10	2,151.10	7.68	32.07	113.77	-1,351.10	3,068.29	3,352.59	3,312.84	39.75	84.347		
2,300.00	2,300.00	2,251.10	2,251.10	8.04	33.57	113.77	-1,351.10	3,068.29	3,352.59	3,310.99	41.60	80.585		
2,400.00	2,400.00	2,351.10	2,351.10	8.39	35.07	113.77	-1,351.10	3,068.29	3,352.59	3,309.13	43.46	77.145		
2,500.00	2,500.00	2,451.10	2,451.10	8.75	36.56	113.77	-1,351.10	3,068.29	3,352.59	3,307.28	45.31	73.987		
2,600.00	2,599.99	2,551.09	2,551.09	9.09	38.06	-100.32	-1,351.10	3,068.29	3,352.75	3,305.60	47.15	71.105		
2,700.00	2,699.96	2,651.06	2,651.06	9.42	39.56	-100.36	-1,351.10	3,068.29	3,353.22	3,304.24	48.98	68.468		
2,800.00	2,799.86	2,750.96	2,750.96	9.75	41.05	-100.43	-1,351.10	3,068.29	3,354.01	3,303.21	50.80	66.025		
2,900.00	2,899.68	2,850.78	2,850.78	10.08	42.55	-100.52	-1,351.10	3,068.29	3,355.12	3,302.49	52.62	63.757		
2,945.33	2,944.88	2,895.98	2,895.98	10.23	43.22	-100.57	-1,351.10	3,068.29	3,355.73	3,302.28	53.45	62.782		
3,000.00	2,999.39	2,950.49	2,950.49	10.41	44.04	-100.64	-1,351.10	3,068.29	3,356.51	3,302.07	54.45	61.645		
3,100.00	3,099.08	3,050.18	3,050.18	10.75	45.53	-100.77	-1,351.10	3,068.29	3,357.96	3,301.69	56.28	59.669		
3,200.00	3,198.78	3,149.88	3,149.88	11.08	47.03	-100.90	-1,351.10	3,068.29	3,359.43	3,301.32	58.11	57.816		
3,300.00	3,298.48	3,249.58	3,249.58	11.42	48.52	-101.03	-1,351.10	3,068.29	3,360.91	3,300.97	59.94	56.074		
3,400.00	3,398.18	3,349.28	3,349.28	11.76	50.01	-101.16	-1,351.10	3,068.29	3,362.41	3,300.64	61.77	54.435		
3,500.00	3,497.88	3,448.98	3,448.98	12.10	51.51	-101.29	-1,351.10	3,068.29	3,363.92	3,300.32	63.60	52.889		
3,600.00	3,597.58	3,548.68	3,548.68	12.45	53.00	-101.42	-1,351.10	3,068.29	3,365.45	3,300.01	65.44	51.428		
3,700.00	3,697.27	3,648.37	3,648.37	12.79	54.49	-101.55	-1,351.10	3,068.29	3,367.00	3,299.73	67.28	50.047		
3,800.00	3,796.97	3,748.07	3,748.07	13.14	55.99	-101.68	-1,351.10	3,068.29	3,368.57	3,299.46	69.12	48.739		
3,900.00	3,896.67	3,847.77	3,847.77	13.48	57.48	-101.81	-1,351.10	3,068.29	3,370.16	3,299.20	70.95	47.497		
4,000.00	3,996.37	3,947.47	3,947.47	13.83	58.97	-101.93	-1,351.10	3,068.29	3,371.76	3,298.96	72.80	46.318		
4,100.00	4,096.07	4,047.17	4,047.17	14.18	60.46	-102.06	-1,351.10	3,068.29	3,373.38	3,298.74	74.64	45.197		
4,200.00	4,195.76	4,146.86	4,146.86	14.53	61.96	-102.19	-1,351.10	3,068.29	3,375.01	3,298.53	76.48	44.130		
4,300.00	4,295.46	4,246.56	4,246.56	14.88	63.45	-102.32	-1,351.10	3,068.29	3,376.67	3,298.34	78.32	43.112		
4,400.00	4,395.16	4,346.26	4,346.26	15.23	64.94	-102.45	-1,351.10	3,068.29	3,378.34	3,298.17	80.17	42.142		
4,500.00	4,494.86	4,445.96	4,445.96	15.58	66.44	-102.58	-1,351.10	3,068.29	3,380.02	3,298.01	82.01	41.214		
4,600.00	4,594.56	4,545.66	4,545.66	15.93	67.93	-102.70	-1,351.10	3,068.29	3,381.73	3,297.87	83.86	40.328		
4,700.00	4,694.25	4,645.35	4,645.35	16.29	69.42	-102.83	-1,351.10	3,068.29	3,383.45	3,297.75	85.70	39.479		
4,800.00	4,793.95	4,745.05	4,745.05	16.64	70.92	-102.96	-1,351.10	3,068.29	3,385.19	3,297.64	87.55	38.666		
4,900.00	4,893.65	4,844.75	4,844.75	17.00	72.41	-103.09	-1,351.10	3,068.29	3,386.94	3,297.55	89.40	37.887		
5,000.00	4,993.35	4,944.45	4,944.45	17.35	73.90	-103.22	-1,351.10	3,068.29	3,388.71	3,297.47	91.24	37.139		

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 10-INC-ONLY													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
5,100.00	5,093.05	5,044.15	5,044.15	17.71	75.40	-103.34	-1,351.10	3,068.29	3,390.50	3,297.41	93.09	36.421		
5,200.00	5,192.75	5,143.85	5,143.85	18.06	76.89	-103.47	-1,351.10	3,068.29	3,392.31	3,297.37	94.94	35.731		
5,300.00	5,292.44	5,243.54	5,243.54	18.42	78.38	-103.60	-1,351.10	3,068.29	3,394.13	3,297.34	96.79	35.067		
5,400.00	5,392.14	5,343.24	5,343.24	18.77	79.87	-103.72	-1,351.10	3,068.29	3,395.97	3,297.33	98.64	34.428		
5,500.00	5,491.84	5,442.94	5,442.94	19.13	81.37	-103.85	-1,351.10	3,068.29	3,397.82	3,297.34	100.49	33.813		
5,600.00	5,591.54	5,542.64	5,542.64	19.49	82.86	-103.98	-1,351.10	3,068.29	3,399.70	3,297.36	102.34	33.220		
5,700.00	5,691.24	5,642.34	5,642.34	19.85	84.35	-104.10	-1,351.10	3,068.29	3,401.59	3,297.40	104.19	32.648		
5,800.00	5,790.93	5,742.03	5,742.03	20.20	85.85	-104.23	-1,351.10	3,068.29	3,403.49	3,297.45	106.04	32.096		
5,900.00	5,890.63	5,841.73	5,841.73	20.56	87.34	-104.36	-1,351.10	3,068.29	3,405.41	3,297.52	107.89	31.563		
6,000.00	5,990.33	5,941.43	5,941.43	20.92	88.83	-104.48	-1,351.10	3,068.29	3,407.35	3,297.61	109.74	31.049		
6,100.00	6,090.03	6,041.13	6,041.13	21.28	90.33	-104.61	-1,351.10	3,068.29	3,409.31	3,297.71	111.59	30.551		
6,200.00	6,189.73	6,140.83	6,140.83	21.64	91.82	-104.73	-1,351.10	3,068.29	3,411.28	3,297.84	113.45	30.070		
6,300.00	6,289.42	6,240.52	6,240.52	22.00	93.31	-104.86	-1,351.10	3,068.29	3,413.27	3,297.97	115.30	29.604		
6,400.00	6,389.12	6,340.22	6,340.22	22.36	94.81	-104.99	-1,351.10	3,068.29	3,415.28	3,298.12	117.15	29.153		
6,500.00	6,488.82	6,439.92	6,439.92	22.72	96.30	-105.11	-1,351.10	3,068.29	3,417.30	3,298.29	119.00	28.716		
6,600.00	6,588.52	6,539.62	6,539.62	23.08	97.79	-105.24	-1,351.10	3,068.29	3,419.34	3,298.48	120.86	28.292		
6,700.00	6,688.22	6,639.32	6,639.32	23.44	99.29	-105.36	-1,351.10	3,068.29	3,421.39	3,298.68	122.71	27.882		
6,800.00	6,787.91	6,739.01	6,739.01	23.80	100.78	-105.49	-1,351.10	3,068.29	3,423.46	3,298.90	124.56	27.484		
6,900.00	6,887.61	6,838.71	6,838.71	24.16	102.27	-105.61	-1,351.10	3,068.29	3,425.55	3,299.13	126.42	27.097		
7,000.00	6,987.31	6,938.41	6,938.41	24.52	103.76	-105.74	-1,351.10	3,068.29	3,427.65	3,299.38	128.27	26.722		
7,100.00	7,087.01	7,038.11	7,038.11	24.88	105.26	-105.86	-1,351.10	3,068.29	3,429.77	3,299.65	130.12	26.358		
7,200.00	7,186.71	7,137.81	7,137.81	25.24	106.75	-105.99	-1,351.10	3,068.29	3,431.91	3,299.93	131.98	26.004		
7,300.00	7,286.41	7,237.51	7,237.51	25.60	108.24	-106.11	-1,351.10	3,068.29	3,434.06	3,300.23	133.83	25.659		
7,400.00	7,386.10	7,337.20	7,337.20	25.96	109.74	-106.23	-1,351.10	3,068.29	3,436.23	3,300.54	135.69	25.325		
7,500.00	7,485.80	7,436.90	7,436.90	26.33	111.23	-106.36	-1,351.10	3,068.29	3,438.41	3,300.87	137.54	24.999		
7,600.00	7,585.50	7,536.60	7,536.60	26.69	112.72	-106.48	-1,351.10	3,068.29	3,440.61	3,301.22	139.40	24.682		
7,700.00	7,685.20	7,636.30	7,636.30	27.05	114.22	-106.60	-1,351.10	3,068.29	3,442.83	3,301.58	141.25	24.374		
7,800.00	7,784.90	7,736.00	7,736.00	27.41	115.71	-106.73	-1,351.10	3,068.29	3,445.06	3,301.96	143.10	24.074		
7,860.70	7,845.41	7,796.51	7,796.51	27.63	116.62	-106.80	-1,351.10	3,068.29	3,446.43	3,302.20	144.23	23.895		
7,900.00	7,884.61	7,835.71	7,835.71	27.77	117.20	-106.86	-1,351.10	3,068.29	3,447.26	3,302.30	144.96	23.781		
8,000.00	7,984.46	7,935.56	7,935.56	28.13	118.70	-106.97	-1,351.10	3,068.29	3,448.84	3,302.02	146.81	23.491		
8,100.00	8,084.42	8,035.52	8,035.52	28.49	120.20	-107.03	-1,351.10	3,068.29	3,449.66	3,300.99	148.67	23.204		
8,157.59	8,142.00	8,093.10	8,093.10	28.69	121.06	107.04	-1,351.10	3,068.29	3,449.79	3,300.06	149.73	23.040		
8,200.00	8,184.41	8,135.51	8,135.51	28.83	121.69	107.04	-1,351.10	3,068.29	3,449.79	3,299.28	150.51	22.921		
8,300.00	8,284.41	8,235.51	8,235.51	29.17	123.19	107.04	-1,351.10	3,068.29	3,449.79	3,297.45	152.34	22.645		
8,400.00	8,384.41	8,335.51	8,335.51	29.51	124.69	107.04	-1,351.10	3,068.29	3,449.79	3,295.61	154.18	22.375		
8,507.63	8,492.04	8,443.14	8,443.14	29.87	126.30	107.04	-1,351.10	3,068.29	3,449.79	3,293.63	156.15	22.092		
8,550.00	8,534.37	8,485.47	8,485.47	30.02	126.93	17.73	-1,351.10	3,068.29	3,448.30	3,291.37	156.93	21.973		
8,600.00	8,584.01	8,535.11	8,535.11	30.18	127.68	17.93	-1,351.10	3,068.29	3,442.71	3,284.87	157.84	21.811		
8,650.00	8,632.95	8,584.05	8,584.05	30.34	128.41	18.29	-1,351.10	3,068.29	3,433.03	3,274.29	158.73	21.628		
8,700.00	8,680.82	8,631.92	8,631.92	30.50	129.13	18.82	-1,351.10	3,068.29	3,419.32	3,259.71	159.61	21.423		
8,750.00	8,727.25	8,678.35	8,678.35	30.66	129.82	19.54	-1,351.10	3,068.29	3,401.70	3,241.25	160.45	21.201		
8,800.00	8,771.89	8,722.99	8,722.99	30.81	130.49	20.48	-1,351.10	3,068.29	3,380.31	3,219.06	161.26	20.962		
8,850.00	8,814.40	8,765.50	8,765.50	30.95	131.13	21.67	-1,351.10	3,068.29	3,355.32	3,193.30	162.02	20.709		
8,900.00	8,854.46	8,805.56	8,805.56	31.09	131.73	23.18	-1,351.10	3,068.29	3,326.93	3,164.19	162.74	20.443		
8,950.00	8,891.75	8,842.85	8,842.85	31.23	132.29	25.07	-1,351.10	3,068.29	3,295.37	3,131.96	163.41	20.167		
9,000.00	8,926.01	8,877.11	8,877.11	31.37	132.80	27.45	-1,351.10	3,068.29	3,260.88	3,096.86	164.01	19.882		
9,050.00	8,956.96	8,908.06	8,908.06	31.53	133.26	30.45	-1,351.10	3,068.29	3,223.73	3,059.17	164.56	19.590		
9,100.00	8,984.38	8,935.48	8,935.48	31.69	133.67	34.25	-1,351.10	3,068.29	3,184.23	3,019.19	165.05	19.293		
9,150.00	9,008.05	8,959.15	8,959.15	31.87	134.03	39.12	-1,351.10	3,068.29	3,142.69	2,977.22	165.47	18.993		
9,200.00	9,027.79	8,978.89	8,978.89	32.07	134.32	45.36	-1,351.10	3,068.29	3,099.43	2,933.61	165.82	18.691		
9,250.00	9,043.45	8,994.55	8,994.55	32.29	134.56	53.34	-1,351.10	3,068.29	3,054.80	2,888.69	166.11	18.390		

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 10-INC-ONLY													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
9,300.00	9,054.92	9,006.02	9,006.02	32.53	134.73	63.30	-1,351.10	3,068.29	3,009.15	2,842.81	166.33	18.091		
9,350.00	9,062.10	9,013.20	9,013.20	32.79	134.84	75.12	-1,351.10	3,068.29	2,962.82	2,796.34	166.48	17.796		
9,400.00	9,064.95	9,016.05	9,016.05	33.06	134.88	88.02	-1,351.10	3,068.29	2,916.20	2,749.62	166.57	17.507		
9,407.63	9,065.00	9,016.10	9,016.10	33.10	134.88	90.00	-1,351.10	3,068.29	2,909.08	2,742.50	166.58	17.464		
9,500.00	9,065.00	9,016.10	9,016.10	33.68	134.88	90.00	-1,351.10	3,068.29	2,823.10	2,656.42	166.68	16.938		
9,600.00	9,065.00	9,016.10	9,016.10	34.41	134.88	90.00	-1,351.10	3,068.29	2,730.48	2,563.67	166.81	16.369		
9,700.00	9,065.00	9,016.10	9,016.10	35.24	134.88	90.00	-1,351.10	3,068.29	2,638.41	2,471.42	166.99	15.800		
9,800.00	9,065.00	9,016.10	9,016.10	36.17	134.88	90.00	-1,351.10	3,068.29	2,546.94	2,379.73	167.21	15.232		
9,900.00	9,065.00	9,016.10	9,016.10	37.19	134.88	90.00	-1,351.10	3,068.29	2,456.13	2,288.65	167.48	14.665		
10,000.00	9,065.00	9,016.10	9,016.10	38.30	134.88	90.00	-1,351.10	3,068.29	2,366.06	2,198.24	167.82	14.099		
10,100.00	9,065.00	9,016.10	9,016.10	39.48	134.88	90.00	-1,351.10	3,068.29	2,276.82	2,108.60	168.22	13.535		
10,200.00	9,065.00	9,016.10	9,016.10	40.72	134.88	90.00	-1,351.10	3,068.29	2,188.51	2,019.80	168.71	12.972		
10,300.00	9,065.00	9,016.10	9,016.10	42.03	134.88	90.00	-1,351.10	3,068.29	2,101.25	1,931.95	169.30	12.412		
10,400.00	9,065.00	9,016.10	9,016.10	43.40	134.88	90.00	-1,351.10	3,068.29	2,015.17	1,845.18	169.99	11.854		
10,500.00	9,065.00	9,016.10	9,016.10	44.82	134.88	90.00	-1,351.10	3,068.29	1,930.44	1,759.62	170.82	11.301		
10,600.00	9,065.00	9,016.10	9,016.10	46.29	134.88	90.00	-1,351.10	3,068.29	1,847.23	1,675.45	171.78	10.753		
10,700.00	9,065.00	9,016.10	9,016.10	47.79	134.88	90.00	-1,351.10	3,068.29	1,765.77	1,592.86	172.91	10.212		
10,800.00	9,065.00	9,016.10	9,016.10	49.34	134.88	90.00	-1,351.10	3,068.29	1,686.30	1,512.08	174.23	9.679		
10,900.00	9,065.00	9,016.10	9,016.10	50.92	134.88	90.00	-1,351.10	3,068.29	1,609.13	1,433.38	175.74	9.156		
11,000.00	9,065.00	9,016.10	9,016.10	52.54	134.88	90.00	-1,351.10	3,068.29	1,534.59	1,357.11	177.48	8.646		
11,100.00	9,065.00	9,016.10	9,016.10	54.18	134.88	90.00	-1,351.10	3,068.29	1,463.09	1,283.64	179.45	8.153		
11,200.00	9,065.00	9,016.10	9,016.10	55.85	134.88	90.00	-1,351.10	3,068.29	1,395.10	1,213.43	181.67	7.679		
11,300.00	9,065.00	9,016.10	9,016.10	57.54	134.88	90.00	-1,351.10	3,068.29	1,331.16	1,147.03	184.13	7.229		
11,400.00	9,065.00	9,016.10	9,016.10	59.26	134.88	90.00	-1,351.10	3,068.29	1,271.87	1,085.05	186.82	6.808		
11,500.00	9,065.00	9,016.10	9,016.10	61.00	134.88	90.00	-1,351.10	3,068.29	1,217.92	1,028.21	189.71	6.420		
11,600.00	9,065.00	9,016.10	9,016.10	62.75	134.88	90.00	-1,351.10	3,068.29	1,170.05	977.30	192.75	6.070		
11,700.00	9,065.00	9,016.10	9,016.10	64.52	134.88	90.00	-1,351.10	3,068.29	1,129.02	933.17	195.85	5.765		
11,800.00	9,065.00	9,016.10	9,016.10	66.31	134.88	90.00	-1,351.10	3,068.29	1,095.61	896.70	198.91	5.508		
11,900.00	9,065.00	9,016.10	9,016.10	68.11	134.88	90.00	-1,351.10	3,068.29	1,070.53	868.72	201.81	5.305		
12,000.00	9,065.00	9,016.10	9,016.10	69.93	134.88	90.00	-1,351.10	3,068.29	1,054.37	849.95	204.42	5.158		
12,100.00	9,065.00	9,016.10	9,016.10	71.76	134.88	90.00	-1,351.10	3,068.29	1,047.56	840.93	206.62	5.070		
12,121.63	9,065.00	9,016.10	9,016.10	72.15	134.88	90.00	-1,351.10	3,068.29	1,047.33	840.30	207.04	5.059 CC, ES		
12,200.00	9,065.00	9,016.10	9,016.10	73.60	134.88	90.00	-1,351.10	3,068.29	1,050.26	841.94	208.32	5.041 SF		
12,300.00	9,065.00	9,016.10	9,016.10	75.45	134.88	90.00	-1,351.10	3,068.29	1,062.41	852.93	209.48	5.072		
12,400.00	9,065.00	9,016.10	9,016.10	77.31	134.88	90.00	-1,351.10	3,068.29	1,083.69	873.60	210.09	5.158		
12,500.00	9,065.00	9,016.10	9,016.10	79.18	134.88	90.00	-1,351.10	3,068.29	1,113.58	903.38	210.20	5.298		
12,600.00	9,065.00	9,016.10	9,016.10	81.05	134.88	90.00	-1,351.10	3,068.29	1,151.41	941.53	209.88	5.486		
12,700.00	9,065.00	9,016.10	9,016.10	82.94	134.88	90.00	-1,351.10	3,068.29	1,196.42	987.20	209.22	5.719		
12,800.00	9,065.00	9,016.10	9,016.10	84.83	134.88	90.00	-1,351.10	3,068.29	1,247.83	1,039.53	208.30	5.991		
12,900.00	9,065.00	9,016.10	9,016.10	86.73	134.88	90.00	-1,351.10	3,068.29	1,304.90	1,097.69	207.21	6.298		
13,000.00	9,065.00	9,016.10	9,016.10	88.64	134.88	90.00	-1,351.10	3,068.29	1,366.91	1,160.90	206.01	6.635		
13,100.00	9,065.00	9,016.10	9,016.10	90.55	134.88	90.00	-1,351.10	3,068.29	1,433.22	1,228.46	204.75	7.000		
13,200.00	9,065.00	9,016.10	9,016.10	92.47	134.88	90.00	-1,351.10	3,068.29	1,503.26	1,299.77	203.49	7.388		
13,300.00	9,065.00	9,016.10	9,016.10	94.39	134.88	90.00	-1,351.10	3,068.29	1,576.53	1,374.30	202.23	7.796		
13,400.00	9,065.00	9,016.10	9,016.10	96.32	134.88	90.00	-1,351.10	3,068.29	1,652.61	1,451.59	201.02	8.221		
13,500.00	9,065.00	9,016.10	9,016.10	98.25	134.88	90.00	-1,351.10	3,068.29	1,731.13	1,531.28	199.85	8.662		
13,600.00	9,065.00	9,016.10	9,016.10	100.19	134.88	90.00	-1,351.10	3,068.29	1,811.76	1,613.02	198.74	9.116		
13,700.00	9,065.00	9,016.10	9,016.10	102.13	134.88	90.00	-1,351.10	3,068.29	1,894.24	1,696.56	197.68	9.582		
13,800.00	9,065.00	9,016.10	9,016.10	104.08	134.88	90.00	-1,351.10	3,068.29	1,978.34	1,781.65	196.69	10.058		
13,900.00	9,065.00	9,016.10	9,016.10	106.03	134.88	90.00	-1,351.10	3,068.29	2,063.85	1,868.10	195.76	10.543		
14,000.00	9,065.00	9,016.10	9,016.10	107.98	134.88	90.00	-1,351.10	3,068.29	2,150.62	1,955.74	194.88	11.035		
14,100.00	9,065.00	9,016.10	9,016.10	109.94	134.88	90.00	-1,351.10	3,068.29	2,238.49	2,044.42	194.07	11.535		

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 10-INC-ONLY													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
14,200.00	9,065.00	9,016.10	9,016.10	111.90	134.88	90.00	-1,351.10	3,068.29	2,327.34	2,134.04	193.30	12.040		
14,300.00	9,065.00	9,016.10	9,016.10	113.86	134.88	90.00	-1,351.10	3,068.29	2,417.06	2,224.48	192.59	12.551		
14,400.00	9,065.00	9,016.10	9,016.10	115.82	134.88	90.00	-1,351.10	3,068.29	2,507.56	2,315.64	191.92	13.066		
14,500.00	9,065.00	9,016.10	9,016.10	117.79	134.88	90.00	-1,351.10	3,068.29	2,598.76	2,407.46	191.29	13.585		
14,600.00	9,065.00	9,016.10	9,016.10	119.76	134.88	90.00	-1,351.10	3,068.29	2,690.58	2,499.87	190.71	14.108		
14,700.00	9,065.00	9,016.10	9,016.10	121.74	134.88	90.00	-1,351.10	3,068.29	2,782.96	2,592.80	190.16	14.635		
14,800.00	9,065.00	9,016.10	9,016.10	123.71	134.88	90.00	-1,351.10	3,068.29	2,875.86	2,686.20	189.65	15.164		
14,900.00	9,065.00	9,016.10	9,016.10	125.69	134.88	90.00	-1,351.10	3,068.29	2,969.21	2,780.04	189.18	15.696		
15,000.00	9,065.00	9,016.10	9,016.10	127.67	134.88	90.00	-1,351.10	3,068.29	3,062.99	2,874.26	188.73	16.230		
15,100.00	9,065.00	9,016.10	9,016.10	129.65	134.88	90.00	-1,351.10	3,068.29	3,157.15	2,968.84	188.31	16.766		
15,200.00	9,065.00	9,016.10	9,016.10	131.63	134.88	90.00	-1,351.10	3,068.29	3,251.65	3,063.74	187.92	17.304		
15,300.00	9,065.00	9,016.10	9,016.10	133.62	134.88	90.00	-1,351.10	3,068.29	3,346.48	3,158.93	187.55	17.843		
15,400.00	9,065.00	9,016.10	9,016.10	135.61	134.88	90.00	-1,351.10	3,068.29	3,441.60	3,254.39	187.20	18.384		
15,500.00	9,065.00	9,016.10	9,016.10	137.60	134.88	90.00	-1,351.10	3,068.29	3,536.99	3,350.11	186.88	18.927		
15,600.00	9,065.00	9,016.10	9,016.10	139.59	134.88	90.00	-1,351.10	3,068.29	3,632.62	3,446.05	186.58	19.470		
15,700.00	9,065.00	9,016.10	9,016.10	141.58	134.88	90.00	-1,351.10	3,068.29	3,728.49	3,542.20	186.29	20.014		
15,800.00	9,065.00	9,016.10	9,016.10	143.57	134.88	90.00	-1,351.10	3,068.29	3,824.56	3,638.54	186.02	20.560		
15,900.00	9,065.00	9,016.10	9,016.10	145.57	134.88	90.00	-1,351.10	3,068.29	3,920.84	3,735.07	185.77	21.106		
16,000.00	9,065.00	9,016.10	9,016.10	147.56	134.88	90.00	-1,351.10	3,068.29	4,017.29	3,831.76	185.53	21.653		
16,100.00	9,065.00	9,016.10	9,016.10	149.56	134.88	90.00	-1,351.10	3,068.29	4,113.92	3,928.61	185.31	22.200		
16,200.00	9,065.00	9,016.10	9,016.10	151.56	134.88	90.00	-1,351.10	3,068.29	4,210.70	4,025.60	185.10	22.748		
16,300.00	9,065.00	9,016.10	9,016.10	153.56	134.88	90.00	-1,351.10	3,068.29	4,307.63	4,122.72	184.90	23.297		
16,400.00	9,065.00	9,016.10	9,016.10	155.56	134.88	90.00	-1,351.10	3,068.29	4,404.69	4,219.97	184.72	23.845		
16,500.00	9,065.00	9,016.10	9,016.10	157.57	134.88	90.00	-1,351.10	3,068.29	4,501.89	4,317.34	184.55	24.394		
16,600.00	9,065.00	9,016.10	9,016.10	159.57	134.88	90.00	-1,351.10	3,068.29	4,599.20	4,414.82	184.38	24.944		
16,700.00	9,065.00	9,016.10	9,016.10	161.57	134.88	90.00	-1,351.10	3,068.29	4,696.63	4,512.40	184.23	25.493		
16,800.00	9,065.00	9,016.10	9,016.10	163.58	134.88	90.00	-1,351.10	3,068.29	4,794.17	4,610.08	184.09	26.043		
16,900.00	9,065.00	9,016.10	9,016.10	165.59	134.88	90.00	-1,351.10	3,068.29	4,891.80	4,707.85	183.95	26.593		
17,000.00	9,065.00	9,016.10	9,016.10	167.60	134.88	90.00	-1,351.10	3,068.29	4,989.53	4,805.70	183.82	27.143		
17,100.00	9,065.00	9,016.10	9,016.10	169.60	134.88	90.00	-1,351.10	3,068.29	5,087.34	4,903.63	183.71	27.693		
17,200.00	9,065.00	9,016.10	9,016.10	171.61	134.88	90.00	-1,351.10	3,068.29	5,185.24	5,001.64	183.60	28.243		
17,300.00	9,065.00	9,016.10	9,016.10	173.62	134.88	90.00	-1,351.10	3,068.29	5,283.22	5,099.73	183.49	28.793		
17,400.00	9,065.00	9,016.10	9,016.10	175.63	134.88	90.00	-1,351.10	3,068.29	5,381.27	5,197.87	183.40	29.342		
17,500.00	9,065.00	9,016.10	9,016.10	177.65	134.88	90.00	-1,351.10	3,068.29	5,479.39	5,296.09	183.31	29.892		
17,600.00	9,065.00	9,016.10	9,016.10	179.66	134.88	90.00	-1,351.10	3,068.29	5,577.58	5,394.36	183.22	30.442		
17,700.00	9,065.00	9,016.10	9,016.10	181.67	134.88	90.00	-1,351.10	3,068.29	5,675.83	5,492.69	183.14	30.991		
17,800.00	9,065.00	9,016.10	9,016.10	183.69	134.88	90.00	-1,351.10	3,068.29	5,774.15	5,591.07	183.07	31.541		
17,900.00	9,065.00	9,016.10	9,016.10	185.70	134.88	90.00	-1,351.10	3,068.29	5,872.51	5,689.51	183.00	32.090		
18,000.00	9,065.00	9,016.10	9,016.10	187.72	134.88	90.00	-1,351.10	3,068.29	5,970.94	5,788.00	182.94	32.638		
18,100.00	9,065.00	9,016.10	9,016.10	189.73	134.88	90.00	-1,351.10	3,068.29	6,069.41	5,886.53	182.89	33.187		
18,200.00	9,065.00	9,016.10	9,016.10	191.75	134.88	90.00	-1,351.10	3,068.29	6,167.94	5,985.10	182.83	33.735		
18,300.00	9,065.00	9,016.10	9,016.10	193.77	134.88	90.00	-1,351.10	3,068.29	6,266.51	6,083.72	182.79	34.283		
18,400.00	9,065.00	9,016.10	9,016.10	195.78	134.88	90.00	-1,351.10	3,068.29	6,365.12	6,182.38	182.74	34.831		
18,500.00	9,065.00	9,016.10	9,016.10	197.80	134.88	90.00	-1,351.10	3,068.29	6,463.78	6,281.08	182.70	35.378		
18,600.00	9,065.00	9,016.10	9,016.10	199.82	134.88	90.00	-1,351.10	3,068.29	6,562.48	6,379.81	182.67	35.926		
18,700.00	9,065.00	9,016.10	9,016.10	201.84	134.88	90.00	-1,351.10	3,068.29	6,661.22	6,478.58	182.64	36.472		
18,800.00	9,065.00	9,016.10	9,016.10	203.86	134.88	90.00	-1,351.10	3,068.29	6,759.99	6,577.38	182.61	37.019		
18,900.00	9,065.00	9,016.10	9,016.10	205.88	134.88	90.00	-1,351.10	3,068.29	6,858.80	6,676.21	182.59	37.565		
19,000.00	9,065.00	9,016.10	9,016.10	207.90	134.88	90.00	-1,351.10	3,068.29	6,957.65	6,775.08	182.57	38.110		
19,100.00	9,065.00	9,016.10	9,016.10	209.92	134.88	90.00	-1,351.10	3,068.29	7,056.52	6,873.97	182.55	38.655		
19,200.00	9,065.00	9,016.10	9,016.10	211.95	134.88	90.00	-1,351.10	3,068.29	7,155.43	6,972.89	182.54	39.200		
19,300.00	9,065.00	9,016.10	9,016.10	213.97	134.88	90.00	-1,351.10	3,068.29	7,254.37	7,071.84	182.53	39.744		

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design Sec 14-T21S-R27E - Lonetree 14 State Com #001 - Wellbore #1 - Wellbore #1													Offset Site Error:	0.00 ft
Survey Program: 10-INC-ONLY													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
19,400.00	9,065.00	9,016.10	9,016.10	215.99	134.88	90.00	-1,351.10	3,068.29	7,353.33	7,170.82	182.52	40.288		
19,456.84	9,065.00	9,016.10	9,016.10	217.14	134.88	90.00	-1,351.10	3,068.29	7,409.60	7,227.09	182.52	40.597		

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design Sec 14-T21S-R27E - Magnolia State 2 (P&A) - Wellbore #1 - Wellbore #1													Offset Site Error:	0.00 ft
Survey Program: 5-INC-ONLY													Offset Well Error:	150.00 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0.00	0.00	0.00	0.00	0.50	150.00	30.68	2,294.61	1,361.46	2,668.20					
100.00	100.00	78.10	78.10	0.52	150.00	30.68	2,294.61	1,361.46	2,668.11	2,517.59	150.52	17.726		
200.00	200.00	178.10	178.10	0.70	150.02	30.68	2,294.61	1,361.46	2,668.11	2,517.38	150.72	17.702		
300.00	300.00	278.10	278.10	0.99	150.05	30.68	2,294.61	1,361.46	2,668.11	2,517.07	151.04	17.665		
400.00	400.00	378.10	378.10	1.31	150.10	30.68	2,294.61	1,361.46	2,668.11	2,516.70	151.41	17.622		
500.00	500.00	478.10	478.10	1.65	150.16	30.68	2,294.61	1,361.46	2,668.11	2,516.30	151.81	17.575		
600.00	600.00	578.10	578.10	1.99	150.24	30.68	2,294.61	1,361.46	2,668.11	2,515.88	152.23	17.527 CC, ES		
700.00	700.00	563.00	562.89	2.34	150.23	30.68	2,294.61	1,361.46	2,670.59	2,518.17	152.43	17.521 SF		
800.00	800.00	563.00	562.89	2.69	150.23	30.68	2,294.61	1,361.46	2,676.77	2,524.34	152.43	17.561		
900.00	900.00	563.00	562.89	3.04	150.23	30.68	2,294.61	1,361.46	2,686.66	2,534.44	152.23	17.649		
1,000.00	1,000.00	563.00	562.89	3.40	150.23	30.68	2,294.61	1,361.46	2,700.22	2,548.40	151.82	17.786		
1,100.00	1,100.00	563.00	562.89	3.75	150.23	30.68	2,294.61	1,361.46	2,717.40	2,566.18	151.22	17.970		
1,200.00	1,200.00	563.00	562.89	4.11	150.23	30.68	2,294.61	1,361.46	2,738.12	2,587.68	150.43	18.201		
1,300.00	1,300.00	563.00	562.89	4.46	150.23	30.68	2,294.61	1,361.46	2,762.30	2,612.83	149.48	18.480		
1,400.00	1,400.00	563.00	562.89	4.82	150.23	30.68	2,294.61	1,361.46	2,789.87	2,641.51	148.35	18.805		
1,500.00	1,500.00	563.00	562.89	5.18	150.23	30.68	2,294.61	1,361.46	2,820.71	2,673.62	147.09	19.177		
1,600.00	1,600.00	563.00	562.89	5.53	150.23	30.68	2,294.61	1,361.46	2,854.72	2,709.04	145.69	19.595		
1,700.00	1,700.00	563.00	562.89	5.89	150.23	30.68	2,294.61	1,361.46	2,891.80	2,747.63	144.17	20.058		
1,800.00	1,800.00	563.00	562.89	6.25	150.23	30.68	2,294.61	1,361.46	2,931.81	2,789.27	142.55	20.567		
1,900.00	1,900.00	563.00	562.89	6.61	150.23	30.68	2,294.61	1,361.46	2,974.66	2,833.82	140.84	21.121		
2,000.00	2,000.00	563.00	562.89	6.96	150.23	30.68	2,294.61	1,361.46	3,020.20	2,881.14	139.06	21.719		
2,100.00	2,100.00	563.00	562.89	7.32	150.23	30.68	2,294.61	1,361.46	3,068.33	2,931.12	137.22	22.361		
2,200.00	2,200.00	563.00	562.89	7.68	150.23	30.68	2,294.61	1,361.46	3,118.93	2,983.60	135.33	23.047		
2,300.00	2,300.00	563.00	562.89	8.04	150.23	30.68	2,294.61	1,361.46	3,171.87	3,038.47	133.40	23.777		
2,400.00	2,400.00	563.00	562.89	8.39	150.23	30.68	2,294.61	1,361.46	3,227.04	3,095.59	131.45	24.549		
2,500.00	2,500.00	563.00	562.89	8.75	150.23	30.68	2,294.61	1,361.46	3,284.33	3,154.84	129.49	25.364		
2,600.00	2,599.99	563.00	562.89	9.09	150.23	176.56	2,294.61	1,361.46	3,344.32	3,216.80	127.52	26.225		
2,700.00	2,699.96	563.00	562.89	9.42	150.23	176.51	2,294.61	1,361.46	3,407.54	3,281.96	125.58	27.135		
2,800.00	2,799.86	563.00	562.89	9.75	150.23	176.46	2,294.61	1,361.46	3,473.79	3,350.11	123.68	28.087		
2,900.00	2,899.68	563.00	562.89	10.08	150.23	176.40	2,294.61	1,361.46	3,542.89	3,421.05	121.84	29.079		
2,945.33	2,944.88	563.00	562.89	10.23	150.23	176.37	2,294.61	1,361.46	3,575.09	3,454.07	121.02	29.540		
3,000.00	2,999.39	563.00	562.89	10.41	150.23	176.37	2,294.61	1,361.46	3,614.46	3,494.41	120.05	30.108		
3,100.00	3,099.08	563.00	562.89	10.75	150.23	176.37	2,294.61	1,361.46	3,687.47	3,569.18	118.29	31.173		
3,200.00	3,198.78	563.00	562.89	11.08	150.23	176.37	2,294.61	1,361.46	3,761.73	3,645.16	116.57	32.270		
3,300.00	3,298.48	563.00	562.89	11.42	150.23	176.37	2,294.61	1,361.46	3,837.16	3,722.27	114.88	33.400		
3,400.00	3,398.18	563.00	562.89	11.76	150.23	176.37	2,294.61	1,361.46	3,913.69	3,800.45	113.24	34.562		
3,500.00	3,497.88	563.00	562.89	12.10	150.23	176.37	2,294.61	1,361.46	3,991.25	3,879.62	111.63	35.754		
3,600.00	3,597.58	563.00	562.89	12.45	150.23	176.37	2,294.61	1,361.46	4,069.80	3,959.74	110.06	36.977		
3,700.00	3,697.27	563.00	562.89	12.79	150.23	176.37	2,294.61	1,361.46	4,149.27	4,040.73	108.54	38.230		
3,800.00	3,796.97	563.00	562.89	13.14	150.23	176.37	2,294.61	1,361.46	4,229.61	4,122.56	107.05	39.511		
3,900.00	3,896.67	563.00	562.89	13.48	150.23	176.37	2,294.61	1,361.46	4,310.77	4,205.16	105.61	40.820		
4,000.00	3,996.37	563.00	562.89	13.83	150.23	176.37	2,294.61	1,361.46	4,392.71	4,288.51	104.20	42.156		
4,100.00	4,096.07	563.00	562.89	14.18	150.23	176.37	2,294.61	1,361.46	4,475.38	4,372.54	102.84	43.519		
4,200.00	4,195.76	563.00	562.89	14.53	150.23	176.37	2,294.61	1,361.46	4,558.75	4,457.24	101.51	44.908		
4,300.00	4,295.46	563.00	562.89	14.88	150.23	176.37	2,294.61	1,361.46	4,642.77	4,542.55	100.23	46.322		
4,400.00	4,395.16	563.00	562.89	15.23	150.23	176.37	2,294.61	1,361.46	4,727.42	4,628.44	98.98	47.760		
4,500.00	4,494.86	563.00	562.89	15.58	150.23	176.37	2,294.61	1,361.46	4,812.66	4,714.88	97.78	49.222		
4,600.00	4,594.56	563.00	562.89	15.93	150.23	176.37	2,294.61	1,361.46	4,898.45	4,801.85	96.60	50.706		
4,700.00	4,694.25	563.00	562.89	16.29	150.23	176.37	2,294.61	1,361.46	4,984.77	4,889.30	95.47	52.213		
4,800.00	4,793.95	563.00	562.89	16.64	150.23	176.37	2,294.61	1,361.46	5,071.60	4,977.23	94.37	53.741		
4,900.00	4,893.65	563.00	562.89	17.00	150.23	176.37	2,294.61	1,361.46	5,158.90	5,065.60	93.31	55.289		
5,000.00	4,993.35	563.00	562.89	17.35	150.23	176.37	2,294.61	1,361.46	5,246.66	5,154.38	92.28	56.857		

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design				Sec 14-T21S-R27E - Magnolia State 2 (P&A) - Wellbore #1 - Wellbore #1									Offset Site Error:		0.00 ft
Survey Program: 5-INC-ONLY													Offset Well Error:		150.00 ft
Reference		Offset		Semi Major Axis			Distance						Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor			
5,100.00	5,093.05	563.00	562.89	17.71	150.23	176.37	2,294.61	1,361.46	5,334.85	5,243.57	91.28	58.444			
5,200.00	5,192.75	563.00	562.89	18.06	150.23	176.37	2,294.61	1,361.46	5,423.45	5,333.13	90.32	60.049			
5,300.00	5,292.44	563.00	562.89	18.42	150.23	176.37	2,294.61	1,361.46	5,512.43	5,423.05	89.38	61.671			
5,400.00	5,392.14	563.00	562.89	18.77	150.23	176.37	2,294.61	1,361.46	5,601.79	5,513.31	88.48	63.309			
5,500.00	5,491.84	563.00	562.89	19.13	150.23	176.37	2,294.61	1,361.46	5,691.51	5,603.90	87.61	64.964			
5,600.00	5,591.54	563.00	562.89	19.49	150.23	176.37	2,294.61	1,361.46	5,781.56	5,694.79	86.77	66.633			
5,700.00	5,691.24	563.00	562.89	19.85	150.23	176.37	2,294.61	1,361.46	5,871.93	5,785.98	85.95	68.316			
5,800.00	5,790.93	563.00	562.89	20.20	150.23	176.37	2,294.61	1,361.46	5,962.61	5,877.44	85.17	70.012			
5,900.00	5,890.63	563.00	562.89	20.56	150.23	176.37	2,294.61	1,361.46	6,053.58	5,969.18	84.40	71.721			
6,000.00	5,990.33	563.00	562.89	20.92	150.23	176.37	2,294.61	1,361.46	6,144.84	6,061.17	83.67	73.441			
6,100.00	6,090.03	563.00	562.89	21.28	150.23	176.37	2,294.61	1,361.46	6,236.36	6,153.40	82.96	75.172			
6,200.00	6,189.73	563.00	562.89	21.64	150.23	176.37	2,294.61	1,361.46	6,328.14	6,245.86	82.28	76.912			
6,300.00	6,289.42	563.00	562.89	22.00	150.23	176.37	2,294.61	1,361.46	6,420.16	6,338.55	81.62	78.662			
6,400.00	6,389.12	563.00	562.89	22.36	150.23	176.37	2,294.61	1,361.46	6,512.42	6,431.44	80.98	80.420			
6,500.00	6,488.82	563.00	562.89	22.72	150.23	176.37	2,294.61	1,361.46	6,604.91	6,524.54	80.37	82.186			
6,600.00	6,588.52	563.00	562.89	23.08	150.23	176.37	2,294.61	1,361.46	6,697.61	6,617.84	79.77	83.958			
6,700.00	6,688.22	563.00	562.89	23.44	150.23	176.37	2,294.61	1,361.46	6,790.52	6,711.31	79.20	85.735			
6,800.00	6,787.91	563.00	562.89	23.80	150.23	176.37	2,294.61	1,361.46	6,883.62	6,804.97	78.65	87.518			
6,900.00	6,887.61	563.00	562.89	24.16	150.23	176.37	2,294.61	1,361.46	6,976.92	6,898.80	78.13	89.305			
7,000.00	6,987.31	563.00	562.89	24.52	150.23	176.37	2,294.61	1,361.46	7,070.40	6,992.79	77.62	91.095			
7,100.00	7,087.01	563.00	562.89	24.88	150.23	176.37	2,294.61	1,361.46	7,164.06	7,086.93	77.13	92.887			
7,200.00	7,186.71	563.00	562.89	25.24	150.23	176.37	2,294.61	1,361.46	7,257.89	7,181.23	76.66	94.681			
7,300.00	7,286.41	563.00	562.89	25.60	150.23	176.37	2,294.61	1,361.46	7,351.88	7,275.67	76.20	96.476			
7,400.00	7,386.10	563.00	562.89	25.96	150.23	176.37	2,294.61	1,361.46	7,446.02	7,370.25	75.77	98.271			
7,500.00	7,485.80	563.00	562.89	26.33	150.23	176.37	2,294.61	1,361.46	7,540.32	7,464.96	75.35	100.066			
7,600.00	7,585.50	563.00	562.89	26.69	150.23	176.37	2,294.61	1,361.46	7,634.76	7,559.80	74.95	101.859			
7,700.00	7,685.20	563.00	562.89	27.05	150.23	176.37	2,294.61	1,361.46	7,729.34	7,654.77	74.57	103.650			
7,800.00	7,784.90	563.00	562.89	27.41	150.23	176.37	2,294.61	1,361.46	7,824.06	7,749.85	74.21	105.438			
7,860.70	7,845.41	563.00	562.89	27.63	150.23	176.37	2,294.61	1,361.46	7,881.61	7,807.62	73.99	106.521			
7,900.00	7,884.61	563.00	562.89	27.77	150.23	176.48	2,294.61	1,361.46	7,918.84	7,844.99	73.85	107.227			
8,000.00	7,984.46	563.00	562.89	28.13	150.23	176.73	2,294.61	1,361.46	8,013.06	7,939.58	73.48	109.056			
8,100.00	8,084.42	563.00	562.89	28.49	150.23	176.94	2,294.61	1,361.46	8,106.52	8,033.45	73.07	110.936			
8,157.59	8,142.00	563.00	562.89	28.69	150.23	31.13	2,294.61	1,361.46	8,159.99	8,087.16	72.83	112.044			
8,200.00	8,184.41	563.00	562.89	28.83	150.23	31.13	2,294.61	1,361.46	8,199.28	8,126.64	72.65	112.865			
8,300.00	8,284.41	563.00	562.89	29.17	150.23	31.13	2,294.61	1,361.46	8,292.05	8,219.82	72.23	114.797			
8,400.00	8,384.41	563.00	562.89	29.51	150.23	31.13	2,294.61	1,361.46	8,384.99	8,313.16	71.83	116.727			
8,507.63	8,492.04	563.00	562.89	29.87	150.23	31.13	2,294.61	1,361.46	8,485.20	8,413.77	71.42	118.801			
8,550.00	8,534.37	563.00	562.89	30.02	150.23	-49.92	2,294.61	1,361.46	8,524.36	8,453.11	71.25	119.638			
8,600.00	8,584.01	563.00	562.89	30.18	150.23	-42.30	2,294.61	1,361.46	8,569.57	8,498.55	71.02	120.672			
8,650.00	8,632.95	563.00	562.89	30.34	150.23	-36.53	2,294.61	1,361.46	8,613.37	8,542.62	70.75	121.747			
8,700.00	8,680.82	563.00	562.89	30.50	150.23	-32.13	2,294.61	1,361.46	8,655.46	8,585.01	70.45	122.857			
8,750.00	8,727.25	563.00	562.89	30.66	150.23	-28.73	2,294.61	1,361.46	8,695.54	8,625.41	70.13	123.993			
8,800.00	8,771.89	563.00	562.89	30.81	150.23	-26.07	2,294.61	1,361.46	8,733.35	8,663.56	69.78	125.149			
8,850.00	8,814.40	563.00	562.89	30.95	150.23	-23.96	2,294.61	1,361.46	8,768.61	8,699.19	69.42	126.313			
8,900.00	8,854.46	563.00	562.89	31.09	150.23	-22.28	2,294.61	1,361.46	8,801.10	8,732.06	69.04	127.476			
8,950.00	8,891.75	563.00	562.89	31.23	150.23	-20.94	2,294.61	1,361.46	8,830.60	8,761.95	68.65	128.627			
9,000.00	8,926.01	563.00	562.89	31.37	150.23	-19.86	2,294.61	1,361.46	8,856.92	8,788.66	68.26	129.751			
9,050.00	8,956.96	563.00	562.89	31.53	150.23	-19.00	2,294.61	1,361.46	8,879.88	8,812.01	67.87	130.835			
9,100.00	8,984.38	563.00	562.89	31.69	150.23	-18.32	2,294.61	1,361.46	8,899.34	8,831.86	67.49	131.865			
9,150.00	9,008.05	563.00	562.89	31.87	150.23	-17.80	2,294.61	1,361.46	8,915.18	8,848.06	67.12	132.827			
9,200.00	9,027.79	563.00	562.89	32.07	150.23	-17.42	2,294.61	1,361.46	8,927.28	8,860.52	66.77	133.705			
9,250.00	9,043.45	563.00	562.89	32.29	150.23	-17.17	2,294.61	1,361.46	8,935.59	8,869.14	66.44	134.485			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 5-INC-ONLY													Offset Well Error:	150.00 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
9,300.00	9,054.92	563.00	562.89	32.53	150.23	-17.04	2,294.61	1,361.46	8,940.03	8,873.88	66.15	135.155		
9,350.00	9,062.10	563.00	562.89	32.79	150.23	-17.03	2,294.61	1,361.46	8,940.59	8,874.70	65.88	135.704		
9,400.00	9,064.95	563.00	562.89	33.06	150.23	-17.12	2,294.61	1,361.46	8,937.26	8,871.60	65.66	136.124		
9,407.63	9,065.00	563.00	562.89	33.10	150.23	-17.15	2,294.61	1,361.46	8,936.41	8,870.78	65.63	136.173		
9,500.00	9,065.00	563.00	562.89	33.68	150.23	-17.15	2,294.61	1,361.46	8,926.05	8,860.76	65.29	136.714		
9,600.00	9,065.00	563.00	562.89	34.41	150.23	-17.15	2,294.61	1,361.46	8,915.91	8,850.88	65.02	137.115		
9,700.00	9,065.00	563.00	562.89	35.24	150.23	-17.15	2,294.61	1,361.46	8,906.87	8,842.01	64.86	137.319		
9,800.00	9,065.00	563.00	562.89	36.17	150.23	-17.15	2,294.61	1,361.46	8,898.95	8,834.15	64.80	137.324		
9,900.00	9,065.00	563.00	562.89	37.19	150.23	-17.15	2,294.61	1,361.46	8,892.15	8,827.31	64.84	137.130		
10,000.00	9,065.00	563.00	562.89	38.30	150.23	-17.15	2,294.61	1,361.46	8,886.47	8,821.49	64.99	136.743		
10,100.00	9,065.00	563.00	562.89	39.48	150.23	-17.15	2,294.61	1,361.46	8,881.91	8,816.69	65.23	136.167		
10,200.00	9,065.00	563.00	562.89	40.72	150.23	-17.15	2,294.61	1,361.46	8,878.48	8,812.91	65.57	135.412		
10,300.00	9,065.00	563.00	562.89	42.03	150.23	-17.15	2,294.61	1,361.46	8,876.17	8,810.17	66.00	134.488		
10,400.00	9,065.00	563.00	562.89	43.40	150.23	-17.15	2,294.61	1,361.46	8,874.99	8,808.46	66.53	133.407		
10,455.03	9,065.00	563.00	562.89	44.18	150.23	-17.15	2,294.61	1,361.46	8,874.81	8,807.96	66.86	132.744		
10,500.00	9,065.00	563.00	562.89	44.82	150.23	-17.15	2,294.61	1,361.46	8,874.93	8,807.79	67.14	132.183		
10,600.00	9,065.00	563.00	562.89	46.29	150.23	-17.15	2,294.61	1,361.46	8,876.00	8,808.16	67.84	130.830		
10,700.00	9,065.00	563.00	562.89	47.79	150.23	-17.15	2,294.61	1,361.46	8,878.20	8,809.57	68.63	129.363		
10,800.00	9,065.00	563.00	562.89	49.34	150.23	-17.15	2,294.61	1,361.46	8,881.52	8,812.02	69.50	127.797		
10,900.00	9,065.00	563.00	562.89	50.92	150.23	-17.15	2,294.61	1,361.46	8,885.96	8,815.52	70.44	126.147		
11,000.00	9,065.00	563.00	562.89	52.54	150.23	-17.15	2,294.61	1,361.46	8,891.53	8,820.07	71.46	124.428		
11,100.00	9,065.00	563.00	562.89	54.18	150.23	-17.15	2,294.61	1,361.46	8,898.22	8,825.67	72.55	122.654		
11,200.00	9,065.00	563.00	562.89	55.85	150.23	-17.15	2,294.61	1,361.46	8,906.03	8,832.32	73.70	120.838		
11,300.00	9,065.00	563.00	562.89	57.54	150.23	-17.15	2,294.61	1,361.46	8,914.95	8,840.03	74.92	118.993		
11,400.00	9,065.00	563.00	562.89	59.26	150.23	-17.15	2,294.61	1,361.46	8,924.98	8,848.79	76.20	117.131		
11,500.00	9,065.00	563.00	562.89	61.00	150.23	-17.15	2,294.61	1,361.46	8,936.12	8,858.59	77.53	115.262		
11,600.00	9,065.00	563.00	562.89	62.75	150.23	-17.15	2,294.61	1,361.46	8,948.37	8,869.46	78.91	113.396		
11,700.00	9,065.00	563.00	562.89	64.52	150.23	-17.15	2,294.61	1,361.46	8,961.71	8,881.37	80.34	111.542		
11,800.00	9,065.00	563.00	562.89	66.31	150.23	-17.15	2,294.61	1,361.46	8,976.15	8,894.33	81.82	109.708		
11,900.00	9,065.00	563.00	562.89	68.11	150.23	-17.15	2,294.61	1,361.46	8,991.68	8,908.34	83.33	107.899		
12,000.00	9,065.00	563.00	562.89	69.93	150.23	-17.15	2,294.61	1,361.46	9,008.29	8,923.40	84.89	106.121		
12,100.00	9,065.00	563.00	562.89	71.76	150.23	-17.15	2,294.61	1,361.46	9,025.98	8,939.50	86.47	104.379		
12,200.00	9,065.00	563.00	562.89	73.60	150.23	-17.15	2,294.61	1,361.46	9,044.74	8,956.65	88.09	102.677		
12,300.00	9,065.00	563.00	562.89	75.45	150.23	-17.15	2,294.61	1,361.46	9,064.56	8,974.83	89.73	101.018		
12,400.00	9,065.00	563.00	562.89	77.31	150.23	-17.15	2,294.61	1,361.46	9,085.44	8,994.04	91.40	99.404		
12,500.00	9,065.00	563.00	562.89	79.18	150.23	-17.15	2,294.61	1,361.46	9,107.37	9,014.29	93.09	97.838		
12,600.00	9,065.00	563.00	562.89	81.05	150.23	-17.15	2,294.61	1,361.46	9,130.35	9,035.55	94.79	96.319		
12,700.00	9,065.00	563.00	562.89	82.94	150.23	-17.15	2,294.61	1,361.46	9,154.36	9,057.84	96.51	94.851		
12,800.00	9,065.00	563.00	562.89	84.83	150.23	-17.15	2,294.61	1,361.46	9,179.39	9,081.14	98.25	93.432		
12,900.00	9,065.00	563.00	562.89	86.73	150.23	-17.15	2,294.61	1,361.46	9,205.45	9,105.45	99.99	92.063		
13,000.00	9,065.00	563.00	562.89	88.64	150.23	-17.15	2,294.61	1,361.46	9,232.51	9,130.77	101.74	90.743		
13,100.00	9,065.00	563.00	562.89	90.55	150.23	-17.15	2,294.61	1,361.46	9,260.57	9,157.07	103.50	89.473		
13,200.00	9,065.00	563.00	562.89	92.47	150.23	-17.15	2,294.61	1,361.46	9,289.63	9,184.37	105.26	88.251		
13,300.00	9,065.00	563.00	562.89	94.39	150.23	-17.15	2,294.61	1,361.46	9,319.67	9,212.64	107.03	87.077		
13,400.00	9,065.00	563.00	562.89	96.32	150.23	-17.15	2,294.61	1,361.46	9,350.68	9,241.89	108.79	85.951		
13,500.00	9,065.00	563.00	562.89	98.25	150.23	-17.15	2,294.61	1,361.46	9,382.65	9,272.10	110.55	84.870		
13,600.00	9,065.00	563.00	562.89	100.19	150.23	-17.15	2,294.61	1,361.46	9,415.58	9,303.27	112.31	83.833		
13,700.00	9,065.00	563.00	562.89	102.13	150.23	-17.15	2,294.61	1,361.46	9,449.45	9,335.39	114.07	82.840		
13,800.00	9,065.00	563.00	562.89	104.08	150.23	-17.15	2,294.61	1,361.46	9,484.26	9,368.44	115.82	81.890		
13,900.00	9,065.00	563.00	562.89	106.03	150.23	-17.15	2,294.61	1,361.46	9,519.99	9,402.43	117.56	80.980		
14,000.00	9,065.00	563.00	562.89	107.98	150.23	-17.15	2,294.61	1,361.46	9,556.63	9,437.34	119.29	80.111		
14,100.00	9,065.00	563.00	562.89	109.94	150.23	-17.15	2,294.61	1,361.46	9,594.17	9,473.16	121.02	79.280		

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

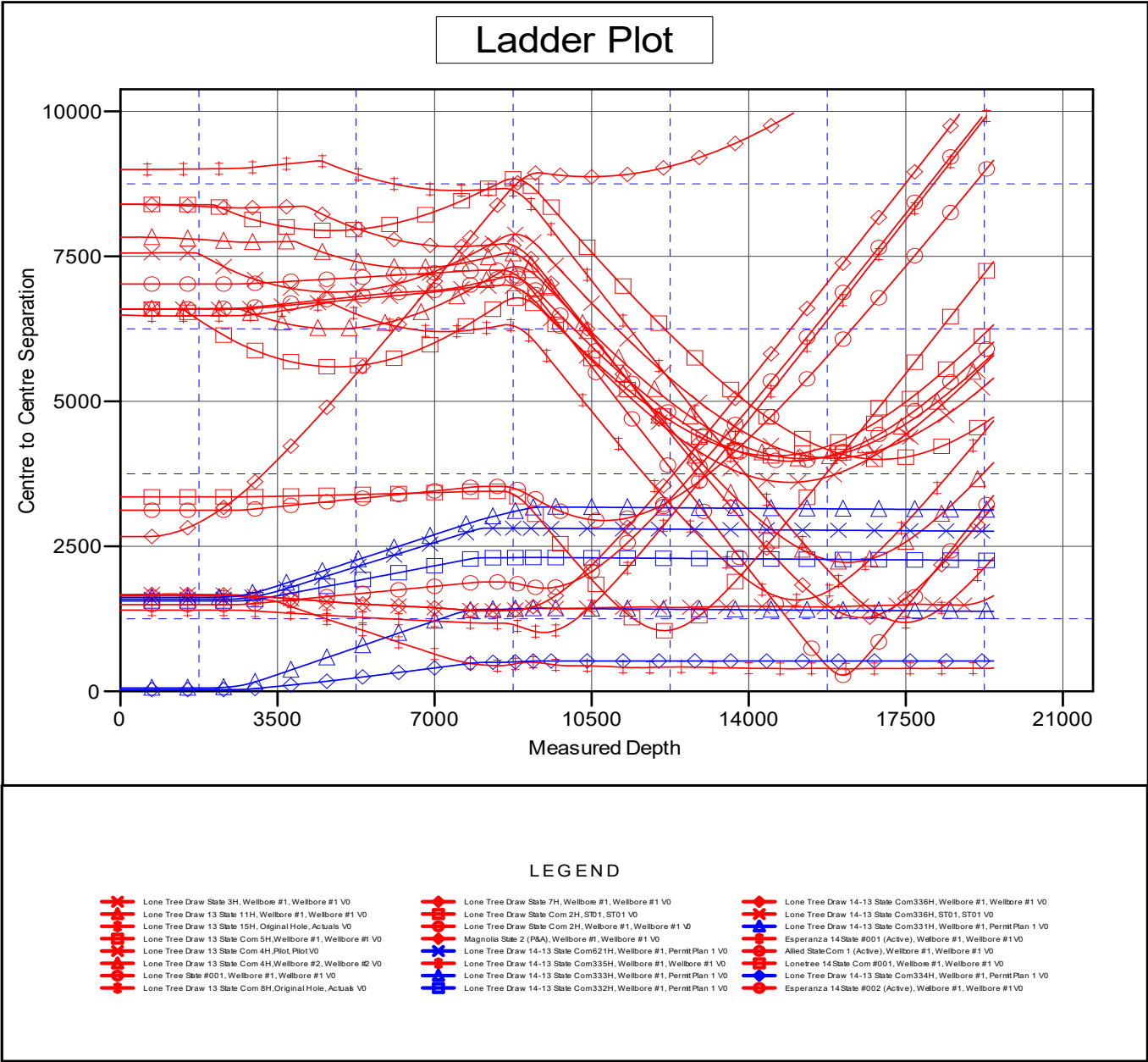
Offset Design													Sec 14-T21S-R27E - Magnolia State 2 (P&A) - Wellbore #1 - Wellbore #1		Offset Site Error:		0.00 ft	
Survey Program: 5-INC-ONLY													Offset Well Error:		150.00 ft			
Reference		Offset		Semi Major Axis			Distance							Warning				
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor						
14,200.00	9,065.00	563.00	562.89	111.90	150.23	-17.15	2,294.61	1,361.46	9,632.61	9,509.88	122.73	78.486						
14,300.00	9,065.00	563.00	562.89	113.86	150.23	-17.15	2,294.61	1,361.46	9,671.93	9,547.49	124.43	77.728						
14,400.00	9,065.00	563.00	562.89	115.82	150.23	-17.15	2,294.61	1,361.46	9,712.11	9,585.99	126.12	77.006						
14,500.00	9,065.00	563.00	562.89	117.79	150.23	-17.15	2,294.61	1,361.46	9,753.16	9,625.36	127.80	76.316						
14,600.00	9,065.00	563.00	562.89	119.76	150.23	-17.15	2,294.61	1,361.46	9,795.06	9,665.59	129.46	75.660						
14,700.00	9,065.00	563.00	562.89	121.74	150.23	-17.15	2,294.61	1,361.46	9,837.79	9,706.68	131.11	75.034						
14,800.00	9,065.00	563.00	562.89	123.71	150.23	-17.15	2,294.61	1,361.46	9,881.35	9,748.61	132.74	74.439						
14,900.00	9,065.00	563.00	562.89	125.69	150.23	-17.15	2,294.61	1,361.46	9,925.73	9,791.37	134.36	73.872						
15,000.00	9,065.00	563.00	562.89	127.67	150.23	-17.15	2,294.61	1,361.46	9,970.91	9,834.95	135.97	73.334						

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Lone Tree Draw 14-13 State Com 623H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3268.90ft
Reference Site:	Sec 14-T21S-R27E	MD Reference:	RKB @ 3268.90ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Lone Tree Draw 14-13 State Com 623H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Reference Depths are relative to RKB @ 3268.90ft
Offset Depths are relative to Offset Datum
Central Meridian is -104.333334

Coordinates are relative to: Lone Tree Draw 14-13 State Com 623H
Coordinate System is US State Plane 1983, New Mexico Eastern Zone
Grid Convergence at Surface is: 0.09°





**Devon Energy Center
333 West Sheridan Avenue
Oklahoma City, Oklahoma 73102-5015**

Hydrogen Sulfide (H₂S) Contingency Plan

For

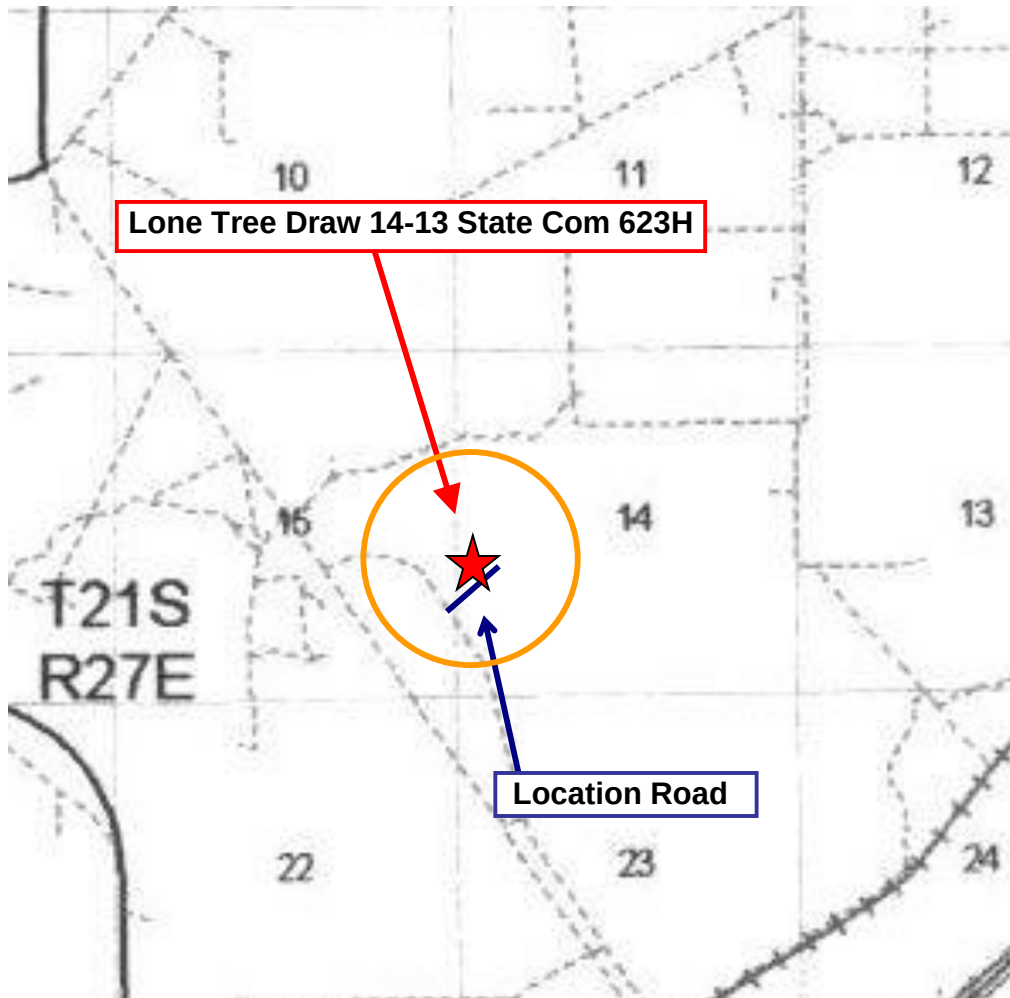
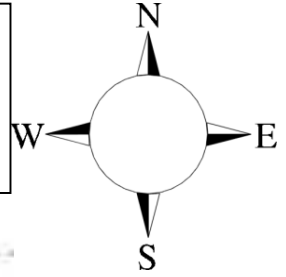
Lone Tree Draw 14-13 State Com 623H

**Sec-14 T-21S R-27E
2040 FSL & 280' FWL
LAT. = 32.4784969' N (NAD83)
LONG = 104.1681842' W**

Eddy County NM

Lone Tree Draw 14-13 State Com 623H

This is an open drilling site. H₂S monitoring equipment and emergency response equipment will be used within 500' of zones known to contain H₂S, including warning signs, wind indicators and H₂S monitor.



Assumed 100 ppm **ROE = 3000'** (Radius of Exposure)
100 ppm H₂S concentration shall trigger activation of this plan.

Escape

Crews shall escape upwind of escaping gas in the event of an emergency release of gas. Escape can be facilitated from the location entrance road. Crews should then block the entrance to the location from the lease road so as not to allow anyone traversing into a hazardous area. The blockade should be at a safe distance outside of the ROE. There are no homes or buildings in or near the ROE.

Assumed 100 ppm ROE = 3000'

100 ppm H₂S concentration shall trigger activation of this plan.

Emergency Procedures

In the event of a release of gas containing H₂S, the first responder(s) must

- Isolate the area and prevent entry by other persons into the 100 ppm ROE.
- Evacuate any public places encompassed by the 100 ppm ROE.
- Be equipped with H₂S monitors and air packs in order to control the release.
- Use the “buddy system” to ensure no injuries occur during the response
- Take precautions to avoid personal injury during this operation.
- Contact operator and/or local officials to aid in operation. See list of phone numbers attached.
- Have received training in the
 - Detection of H₂S, and
 - Measures for protection against the gas,
 - Equipment used for protection and emergency response.

Ignition of Gas Source

Should control of the well be considered lost and ignition considered, take care to protect against exposure to Sulfur Dioxide (SO₂). Intentional ignition must be coordinated with the NMOCD and local officials. Additionally, the NM State Police may become involved. NM State Police shall be the Incident Command on scene of any major release. Take care to protect downwind whenever there is an ignition of the gas

Characteristics of H₂S and SO₂

Common Name	Chemical Formula	Specific Gravity	Threshold Limit	Hazardous Limit	Lethal Concentration
Hydrogen Sulfide	H ₂ S	1.189 Air = 1	10 ppm	100 ppm/hr	600 ppm
Sulfur Dioxide	SO ₂	2.21 Air = 1	2 ppm	N/A	1000 ppm

Contacting Authorities

Devon Energy Corp. personnel must liaison with local and state agencies to ensure a proper response to a major release. Additionally, the OCD must be notified of the release as soon as possible but no later than 4 hours. Agencies will ask for information such as type and volume of release, wind direction, location of release, etc. Be prepared with all information available. The following call list of essential and potential responders has been prepared for use during a release. Devon Energy Corp. Company response must be in coordination with the State of New Mexico's 'Hazardous Materials Emergency Response Plan' (HMER)

Hydrogen Sulfide Drilling Operation Plan

I. HYDROGEN SULFIDE (H₂S) TRAINING

All personnel, whether regularly assigned, contracted, or employed on an unscheduled basis, will receive training from a qualified instructor in the following areas prior to commencing drilling operations on this well:

1. The hazards and characteristics of hydrogen sulfide (H₂S)
2. The proper use and maintenance of personal protective equipment and life support systems.
3. The proper use of H₂S detectors, alarms, warning systems, briefing areas, evacuation procedures, and prevailing winds.
4. The proper techniques for first aid and rescue procedures.

In addition, supervisory personnel will be trained in the following areas:

1. The effects of H₂S metal components. If high tensile tubulars are to be used, personnel will be trained in their special maintenance requirements.
2. Corrective action and shut-in procedures when drilling or reworking a well and blowout prevention and well control procedures.
3. The contents and requirements of the H₂S Drilling Operations Plan and Public Protection Plan.

There will be an initial training session just prior to encountering a known or probable H₂S zone (within 3 days or 500 feet) and weekly H₂S and well control drills for all personnel in each crew. The initial training session shall include a review of the site specific H₂S Drilling Operations Plan and the Public Protection Plan.

II. HYDROGEN SULFIDE TRAINING

Note: All H₂S safety equipment and systems will be installed, tested, and operational when drilling reaches a depth of 500 feet above, or three days prior to penetrating the first zone containing or reasonably expected to contain H₂S.

1. Well Control Equipment

- A. Flare line
- B. Choke manifold – Remotely Operated
- C. Blind rams and pipe rams to accommodate all pipe sizes with properly sized closing unit
- D. Auxiliary equipment may include if applicable: annular preventer and rotating head.
- E. Mud/Gas Separator

2. Protective equipment for essential personnel:

30-minute SCBA units located at briefing areas, as indicated on well site diagram, with escape units available in the top doghouse. As it may be difficult to communicate audibly while wearing these units, hand signals shall be utilized.

3. H₂S detection and monitoring equipment:

Portable H₂S monitors positioned on location for best coverage and response. These units have warning lights which activate when H₂S levels reach 10 ppm and audible sirens which activate at 15 ppm. Sensor locations:

- Bell nipple
- Possum Belly/Shale shaker
- Rig floor
- Choke manifold
- Cellar

Visual warning systems:

- A. Wind direction indicators as shown on well site diagram
- B. Caution/ Danger signs shall be posted on roads providing direct access to locations. Signs will be painted a high visibility yellow with black lettering of sufficient size to be reasonable distance from the immediate location. Bilingual signs will be used when appropriate.

4. Mud program:

The mud program has been designed to minimize the volume of H₂S circulated to surface. Proper mud weight, safe drilling practices and the use of H₂S scavengers will minimize hazards when penetrating H₂S bearing zones.

5. Metallurgy:

- A. All drill strings, casings, tubing, wellhead, blowout preventer, drilling spool, kill lines, choke manifold lines, and valves shall be H₂S trim.
- B. All elastomers used for packing and seals shall be H₂S trim.

6. Communication:

- A. Company personnel have/use cellular telephones in the field.
- B. Land line (telephone) communications at Office

7. Well testing:

- A. Drill stem testing will be performed with a minimum number of personnel in the immediate vicinity, which are necessary to safety and adequately conduct the test. The drill stem testing will be conducted during daylight hours and formation fluids will not be flowed to the surface. All drill-stem-testing operations conducted in an H₂S environment will use the closed chamber method of testing.
- B. There will be no drill stem testing.

<u>Devon Energy Corp. Company Call List</u>		
Drilling Supervisor – Basin – Mark Kramer		405-823-4796
EHS Professional – Laura Wright		405-439-8129
<u>Agency Call List</u>		
<u>Lea County (575)</u>	Hobbs	
	Lea County Communication Authority	393-3981
	State Police	392-5588
	City Police	397-9265
	Sheriff's Office	393-2515
	Ambulance	911
	Fire Department	397-9308
	LEPC (Local Emergency Planning Committee)	393-2870
	NMOCD	393-6161
	US Bureau of Land Management	393-3612
<u>Eddy County (575)</u>	Carlsbad	
	State Police	885-3137
	City Police	885-2111
	Sheriff's Office	887-7551
	Ambulance	911
	Fire Department	885-3125
	LEPC (Local Emergency Planning Committee)	887-3798
	US Bureau of Land Management	887-6544
	NM Emergency Response Commission (Santa Fe)	(505) 476-9600
	24 HR	(505) 827-9126
	National Emergency Response Center	(800) 424-8802
	National Pollution Control Center: Direct	(703) 872-6000
	For Oil Spills	(800) 280-7118
	Emergency Services	
	Wild Well Control	(281) 784-4700
	Cudd Pressure Control	(915) 699-0139 (915) 563-3356
	Halliburton	(575) 746-2757
	B. J. Services	(575) 746-3569
	Native Air – Emergency Helicopter – Hobbs (NM and TX)	(800) 642-7828
	Flight For Life - Lubbock, TX	(806) 743-9911
<u>Give GPS position:</u>	Aerocare - Lubbock, TX	(806) 747-8923
	Med Flight Air Amb - Albuquerque, NM	(575) 842-4433
	Lifeguard Air Med Svc. Albuquerque, NM	(800) 222-1222
	Poison Control (24/7)	(575) 272-3115
	Oil & Gas Pipeline 24 Hour Service	(800) 364-4366
	NOAA – Website - www.nhc.noaa.gov	

Prepared in conjunction with
Dave Small



Devon Energy - Well Pad Rig Location Layout Safety Equipment Location

