

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENTFORM APPROVED
OMB NO. 1004-0137
Expires: January 31, 2018**SUNDRY NOTICES AND REPORTS ON WELLS**
Do not use this form for proposals to drill or to re-enter an abandoned well. Use form 3160-3 (APD) for such proposals.

HOBBS OCD

MAR 12 2019

SUBMIT IN TRIPLICATE - Other Instructions on page 2

RECEIVED

1. Type of Well ☒ Oil Well ☐ Gas Well ☐ Other		5. Lease Serial No. NMLC061869
2. Name of Operator DEVON ENERGY PRODUCTION COMPANY Contact: LINDA GOOD Email: linda.good@devn.com		6. If Indian, Allottee or Tribe Name
3a. Address P O BOX 250 ARTESIA, NM 88201	3b. Phone No. (include area code) Ph: 405.552.6558	7. If Unit or CA/Agreement, Name and/or No.
4. Location of Well (Footage, Sec., T., R., M., or Survey Description) Sec 21 T25S R32E SESW 200FSL 1480FWL 32.109173 N Lat, 103.683907 W Lon		8. Well Name and No. VAN DOO DAH 21-33 FED COM 233H
		9. API Well No. 30-025-45235-00-X1
		10. Field and Pool or Exploratory Area WC025G08S253235G-LWR BONE SPF
		11. County or Parish, State LEA COUNTY, NM

12. CHECK THE APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
☒ Notice of Intent	☐ Acidize	☐ Deepen	☐ Production (Start/Resume)	☐ Water Shut-Off
☐ Subsequent Report	☐ Alter Casing	☐ Hydraulic Fracturing	☐ Reclamation	☐ Well Integrity
☐ Final Abandonment Notice	☐ Casing Repair	☐ New Construction	☐ Recomplete	☒ Other
	☐ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon	Change to Original A PD
	☐ Convert to Injection	☐ Plug Back	☐ Water Disposal	

13. Describe Proposed or Completed Operation: Clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleate horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports must be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompleation in a new interval, a Form 3160-4 must be filed once testing has been completed. Final Abandonment Notices must be filed only after all requirements, including reclamation, have been completed and the operator has determined that the site is ready for final inspection.

Devon Energy Production Co., LP respectfully request permission to change the surface hole from 200 FSL 1480 FWL to 500 FSL 1480 FWL.

Attached are the revised C-102, Directional Plan and Plot.

Engineering Review by Long Vo is Good.

Carlsbad Field Office
OCD Hobbs

NRS JB 2-28-19 USE Existing COA'S

14. I hereby certify that the foregoing is true and correct.	
Electronic Submission #456135 verified by the BLM Well Information System For DEVON ENERGY PRODUCTION COM LP, sent to the Hobbs Committed to AFMSS for processing by PRISCILLA PEREZ on 02/27/2019 (19PP1155SE)	
Name (Printed/Typed) LINDA GOOD	Title REGULATORY COMPLIANCE SPECIALI
Signature (Electronic Submission)	Date 02/27/2019

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By <i>[Signature]</i>	Title <i>[Signature]</i>	Date <i>02/28/2019</i>
Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.		Office <i>[Signature]</i>

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

(Instructions on page 2)

** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED **

K2

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 Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 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 30-025-45235	² Pool Code 97903	³ Pool Name WC-025 G-08 S253235G; BONE SPRING
⁴ Property Code 322486	⁵ Property Name VAN DOO DAH 21-33 FED COM	
⁷ OGRID No. 6137	⁶ Well Number 233H	⁸ Elevation 3389.9
⁹ Operator Name DEVON ENERGY PRODUCTION COMPANY, L.P.		

Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
N	21	25 S	32 E		500	SOUTH	1480	WEST	LEA

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
D	16	25 S	32 E		20	NORTH	330	WEST	LEA

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

NW CORNER SEC. 16 LAT. = 32.1376330°N LONG. = 103.6886037°W NWSP EAST (FT) N = 414403.87 E = 740898.71 LAST TAKE POINT 100' FSL, 330' FWL LAT. = 32.1373641°N LONG. = 103.6875392°W NWSP EAST (FT) N = 414308.01 E = 741228.81 NW CORNER SEC. 21 LAT. = 32.1231388°N LONG. = 103.6886842°W NWSP EAST (FT) N = 409130.93 E = 740905.34 W O CORNER SEC. 21 LAT. = 32.1158978°N LONG. = 103.688687°W NWSP EAST (FT) N = 408496.74 E = 740920.33 SW CORNER SEC. 21 LAT. = 32.1085668°N LONG. = 103.6886834°W NWSP EAST (FT) N = 403829.87 E = 740937.30		NB91°15'43"E 2651.26 FT NB92°20'29"E 2664.70 FT 330' BHL 20' LTP N O CORNER SEC. 16 LAT. = 32.1376830°N LONG. = 103.6800405°W NWSP EAST (FT) N = 414438.01 E = 743549.18 BOTTOM OF HOLE LAT. = 32.1375840°N LONG. = 103.6875380°W NWSP EAST (FT) N = 414388.00 E = 741228.70 NOTE: LATITUDE AND LONGITUDE COORDINATES ARE SHOWN USING THE 1983 (NAD83) LISTED NEW MEXICO STATE PLANE EAST COORDINATES ARE GRID (NAD83) BASIS OF BEARING AND DISTANCES USED ARE NEW MEXICO STATE PLANE EAST COORDINATES MODIFIED TO THE SURFACE. VERTICAL DATUM NAVD83. NB93°31'59"E 2665.28 FT NB95°05'49"E 2660.43 FT N O CORNER SEC. 21 LAT. = 32.1231544°N LONG. = 103.6800770°W NWSP EAST (FT) N = 409152.64 E = 743569.95 VAN DOO DAH 21-33 FED COM 233H ELEV. = 3389.9' LAT. = 32.1099971°N (NAD83) LONG. = 103.6839051°W NWSP EAST (FT) N = 404359.07 E = 742413.69 FIRST TAKE POINT 100' FSL, 830' FWL LAT. = 32.1088539°N LONG. = 103.6876179°W NWSP EAST (FT) N = 403936.26 E = 74266.59 S O CORNER SEC. 21 LAT. = 32.1086683°N LONG. = 103.6800892°W NWSP EAST (FT) N = 403882.79 E = 743598.11 588°51'38"W 2661.92 FT 589°21'15"W 2660.68 FT		NE CORNER SEC. 16 LAT. = 32.1377224°N LONG. = 103.6714339°W NWSP EAST (FT) N = 414468.64 E = 746213.13 E O CORNER SEC. 16 LAT. = 32.1304888°N LONG. = 103.6714601°W NWSP EAST (FT) N = 411837.10 E = 746221.18 NE CORNER SEC. 21 LAT. = 32.1232250°N LONG. = 103.6714858°W NWSP EAST (FT) N = 409194.57 E = 746229.47 E O CORNER SEC. 21 LAT. = 32.1159650°N LONG. = 103.6714961°W NWSP EAST (FT) N = 408553.45 E = 746242.49 SE CORNER SEC. 21 LAT. = 32.1087061°N LONG. = 103.6714983°W NWSP EAST (FT) N = 403912.78 E = 746258.05	
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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.

Linda Good 2/27/2019
Signature Date

Linda Good
Printed Name

linda.good@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.

WILSON F. JARAMILLO
FEBRUARY 13, 2019
Date of Survey

Wilson F. Jaramillo
Signature and Seal of Professional Surveyor

Certificate Number: **FILIMON F. JARAMILLO, PLS 12797**
SURVEY NO. 5884F

Intent ☒ As Drilled ☐

API # 30-025-45235			
Operator Name: DEVON ENERGY PRODUCTION CO., L.P.		Property Name: VAN DOO DAH 21-33 FED COM	Well Number 233H

Kick Off Point (KOP)

UL N	Section 21	Township 25S	Range 32E	Lot	Feet 660	From N/S SOUTH	Feet 330	From E/W WEST	County LEA
Latitude 32.110456					Longitude -103.687616			NAD 83	

First Take Point (FTP)

UL M	Section 21	Township 25S	Range 32E	Lot	Feet 100	From N/S SOUTH	Feet 330	From E/W WEST	County LEA
Latitude 32.1088539					Longitude 103.6876179			NAD 83	

Last Take Point (LTP)

UL D	Section 16	Township 25S	Range 32E	Lot	Feet 100	From N/S NORTH	Feet 330	From E/W WEST	County LEA
Latitude 32.1373641					Longitude 103.6875392			NAD 83	

Is this well the defining well for the Horizontal Spacing Unit? ☒

Is this well an infill well? ☐

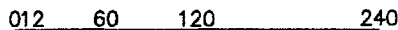
If infill is yes please provide API if available, Operator Name and well number for Defining well for Horizontal Spacing Unit.

API #			
Operator Name:		Property Name:	Well Number

KZ 06/29/2018

SITE MAP

- NOTE: LATITUDE AND LONGITUDE COORDINATES ARE SHOWN USING THE NORTH AMERICAN DATUM OF 1983 (NAD83) LISTED NEW MEXICO STATE PLANE EAST COORDINATES ARE GRID (NAD83). BASIS OF BEARING AND DISTANCES USED ARE NEW MEXICO STATE PLANE EAST COORDINATES MODIFIED TO THE SURFACE. VERTICAL DATUM NAVD88.



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

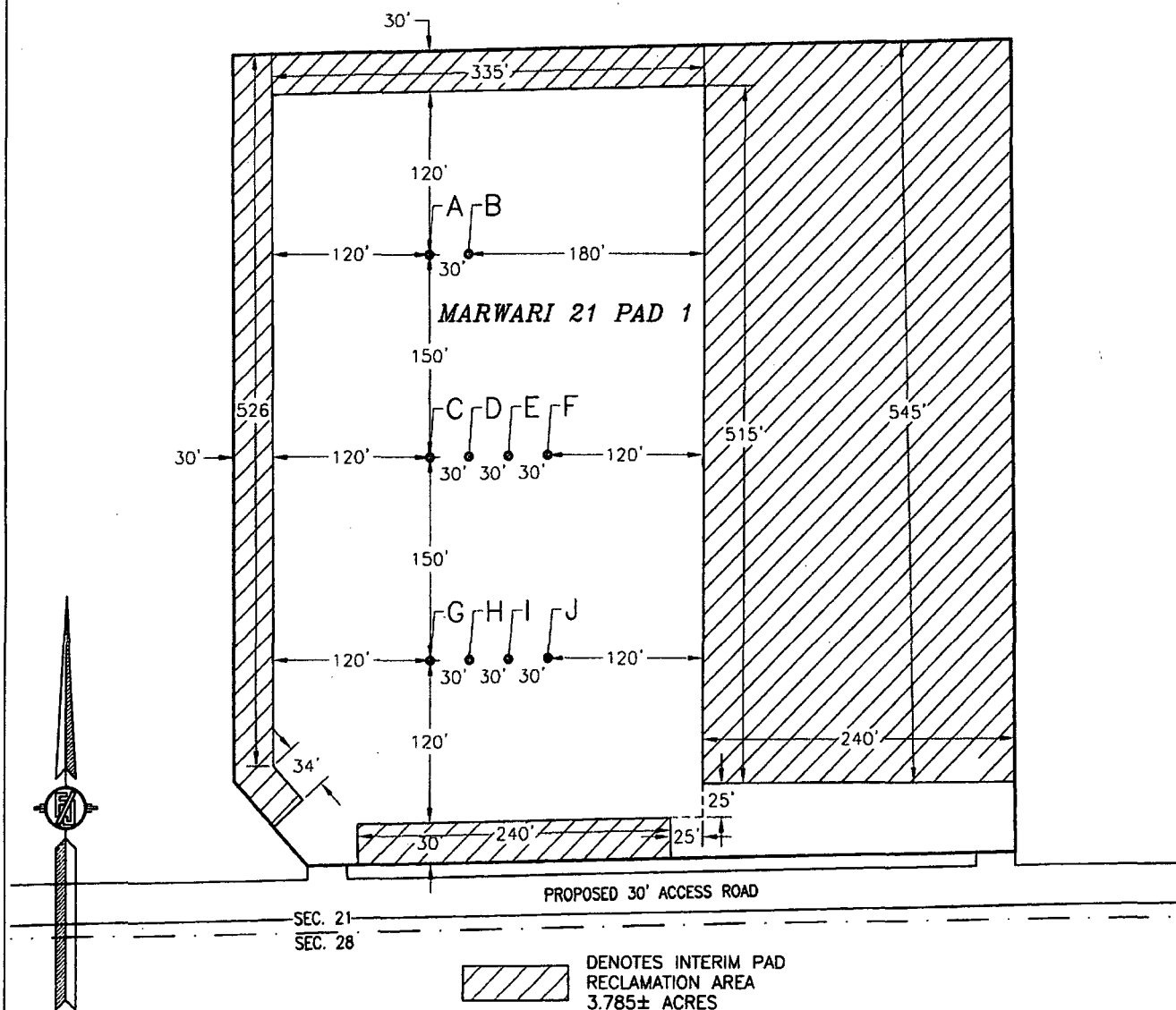
301 SOUTH CANAL
(575) 234-3341

CARLSBAD, NEW MEXICO

SECTION 21, TOWNSHIP 25 SOUTH, RANGE 32 EAST, N.M.P.M.
LEA COUNTY, STATE OF NEW MEXICO
INTERIM SITE BUILD PLAN

A - VAN DOO DAH 21-33 FED COM 233H
B - MARWARI 21-16 STATE FED COM 234H
C - MARWARI 21-16 STATE FED COM 622H
D - MARWARI 21-16 STATE FED COM 714H
E - MARWARI 21-16 STATE FED COM 332H

F - MARWARI 21-16 STATE FED COM 732H
G - VAN DOO DAH 28-33 FED COM 623H
H - VAN DOO DAH 28-33 FED COM 713H
I - VAN DOO DAH 28-33 FED COM 333H
J - VAN DOO DAH 28-33 FED COM 733H



DEVON ENERGY PRODUCTION COMPANY, L.P.
VAN DOO DAH 21-33 FED COM 233H
LOCATED 500 FT. FROM THE SOUTH LINE
AND 1480 FT. FROM THE WEST LINE OF
SECTION 21, TOWNSHIP 25 SOUTH,
RANGE 32 EAST, N.M.P.M.
LEA COUNTY, STATE OF NEW MEXICO
LAND STATUS: BLM

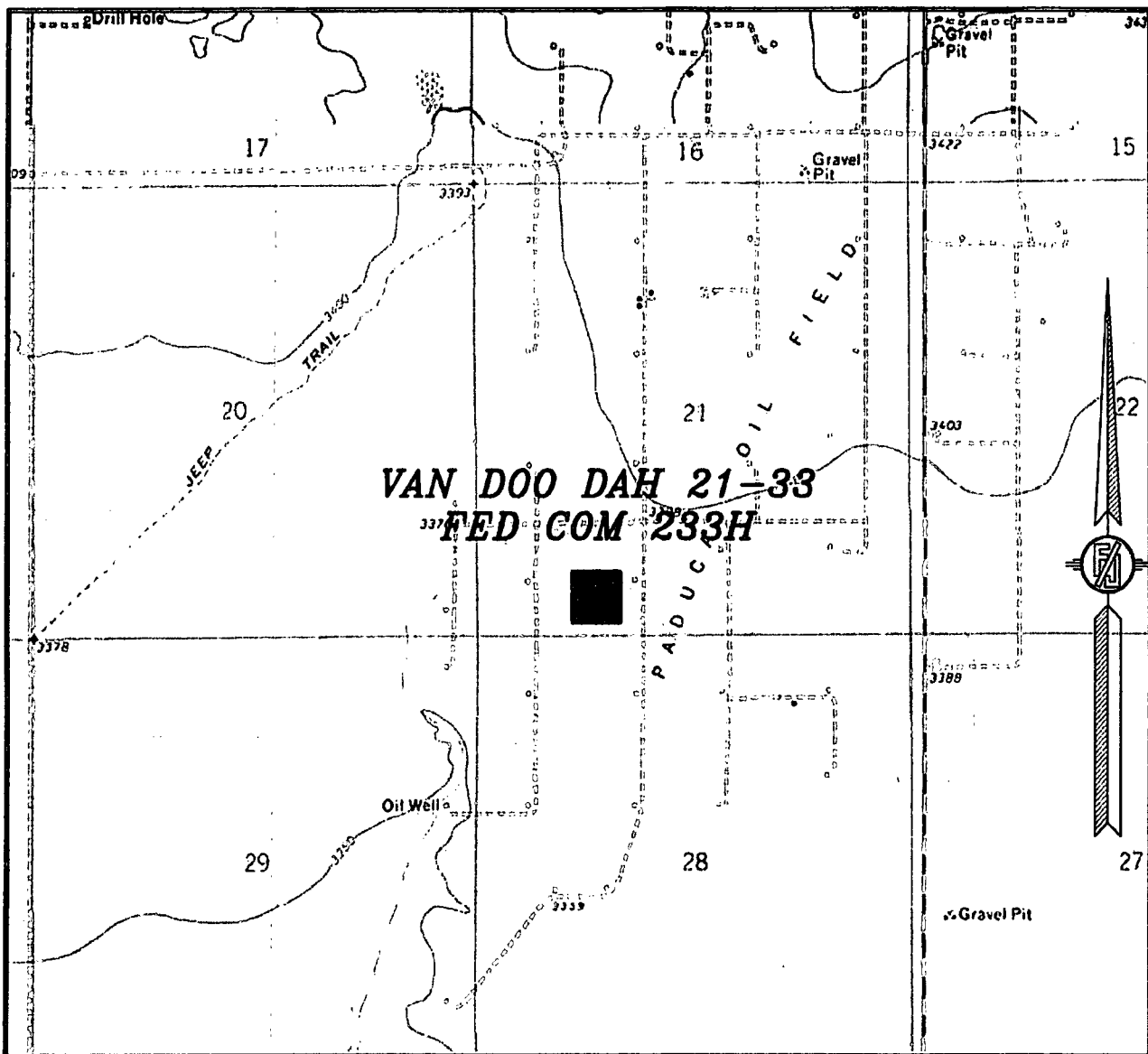
FEBRUARY 13, 2019

SURVEY NO. 5884F

MADRON SURVEYING, INC. 301 SOUTH CAVAL (575) 234-3341

CARLSBAD, NEW MEXICO

21, TOWNSHIP 25 SOUTH, RANGE 32 EAST, N.M.P.M.
LEA COUNTY, STATE OF NEW MEXICO
LOCATION VERIFICATION MAP



**USGS QUAD MAP:
PADUCA BREAKS WEST**

NOT TO SCALE

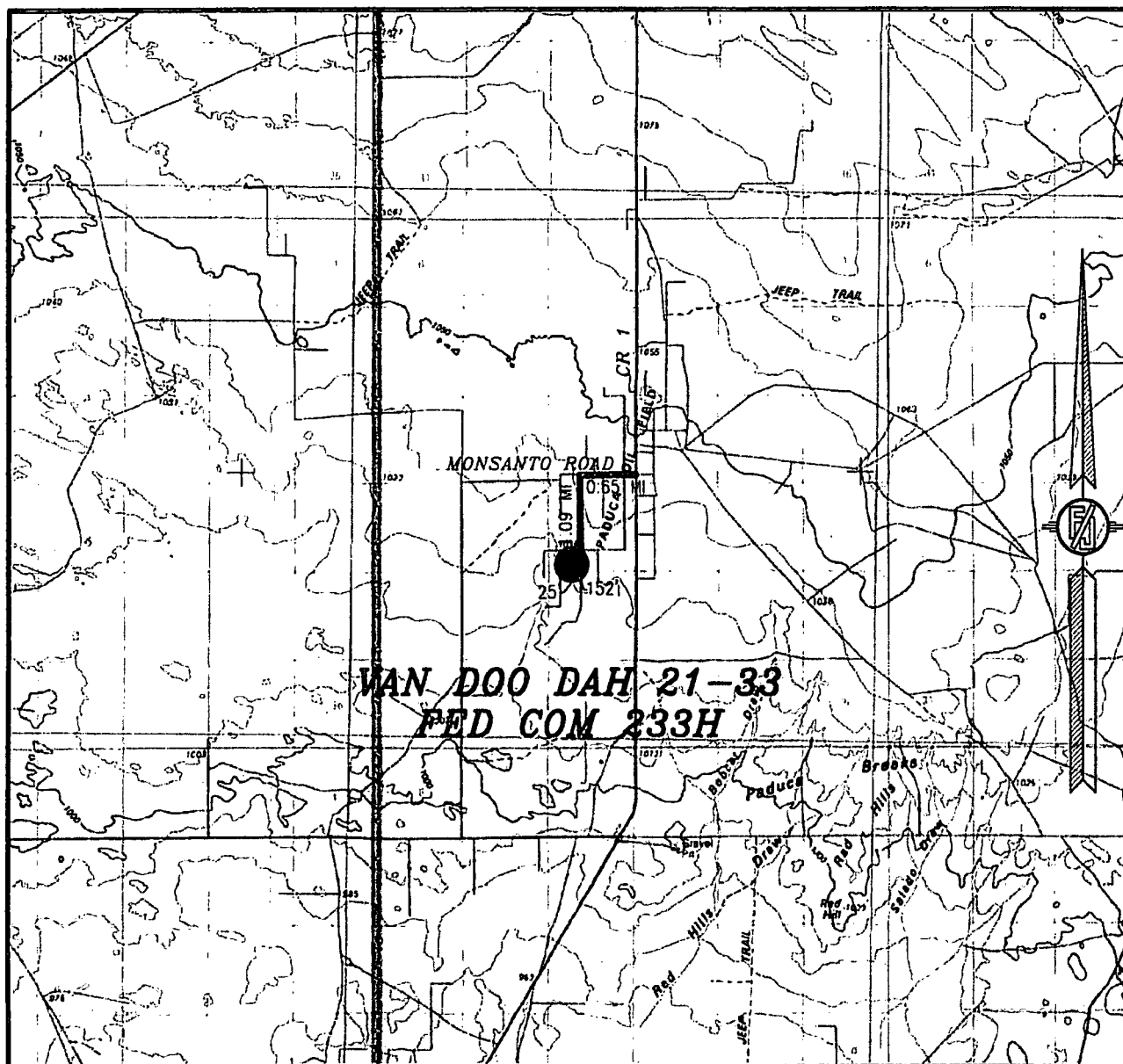
DEVON ENERGY PRODUCTION COMPANY, L.P.
VAN DOO DAH 21-33 FED COM 233H
LOCATED 500 FT. FROM THE SOUTH LINE
AND 1480 FT. FROM THE WEST LINE OF
SECTION 21, TOWNSHIP 25 SOUTH,
RANGE 32 EAST, N.M.P.M.
LEA COUNTY, STATE OF NEW MEXICO
LAND STATUS: BLM

FEBRUARY 13, 2019

SURVEY NO. 5884F

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

SECTION 21, TOWNSHIP 25 SOUTH, RANGE 32 EAST, N.M.P.M.
LEA COUNTY, STATE OF NEW MEXICO
VICINITY MAP



DISTANCES IN MILES

NOT TO SCALE

DEVON ENERGY PRODUCTION COMPANY, L.P.

VAN DOO DAH 21-33 FED COM 233H

LOCATED 500 FT. FROM THE SOUTH LINE

AND 1480 FT. FROM THE WEST LINE OF

SECTION 21, TOWNSHIP 25 SOUTH,

RANGE 32 EAST, N.M.P.M.

LEA COUNTY, STATE OF NEW MEXICO

LAND STATUS: BLM

DIRECTIONS TO LOCATION

FROM THE INTERSECTION OF CR 1 (ORLA) & MONSANTO ROAD
GO WEST APPROX. 0.65 MILE, GO SOUTH ON 20' CALICHE
LEASE ROAD FOR APPROX. 1.09 MILES, FOLLOW ROAD SURVEY
WEST FOR 152', THEN NORTH 25° TO SOUTHEAST PAD CORNER
FOR THIS LOCATION.

FEBRUARY 13, 2019

SURVEY NO. 5884F

MADRON SURVEYING, INC. 301 SOUTH CANAL

(575) 234-3341

CARLSBAD, NEW MEXICO

17

16

15

NM-T25S R32E

20

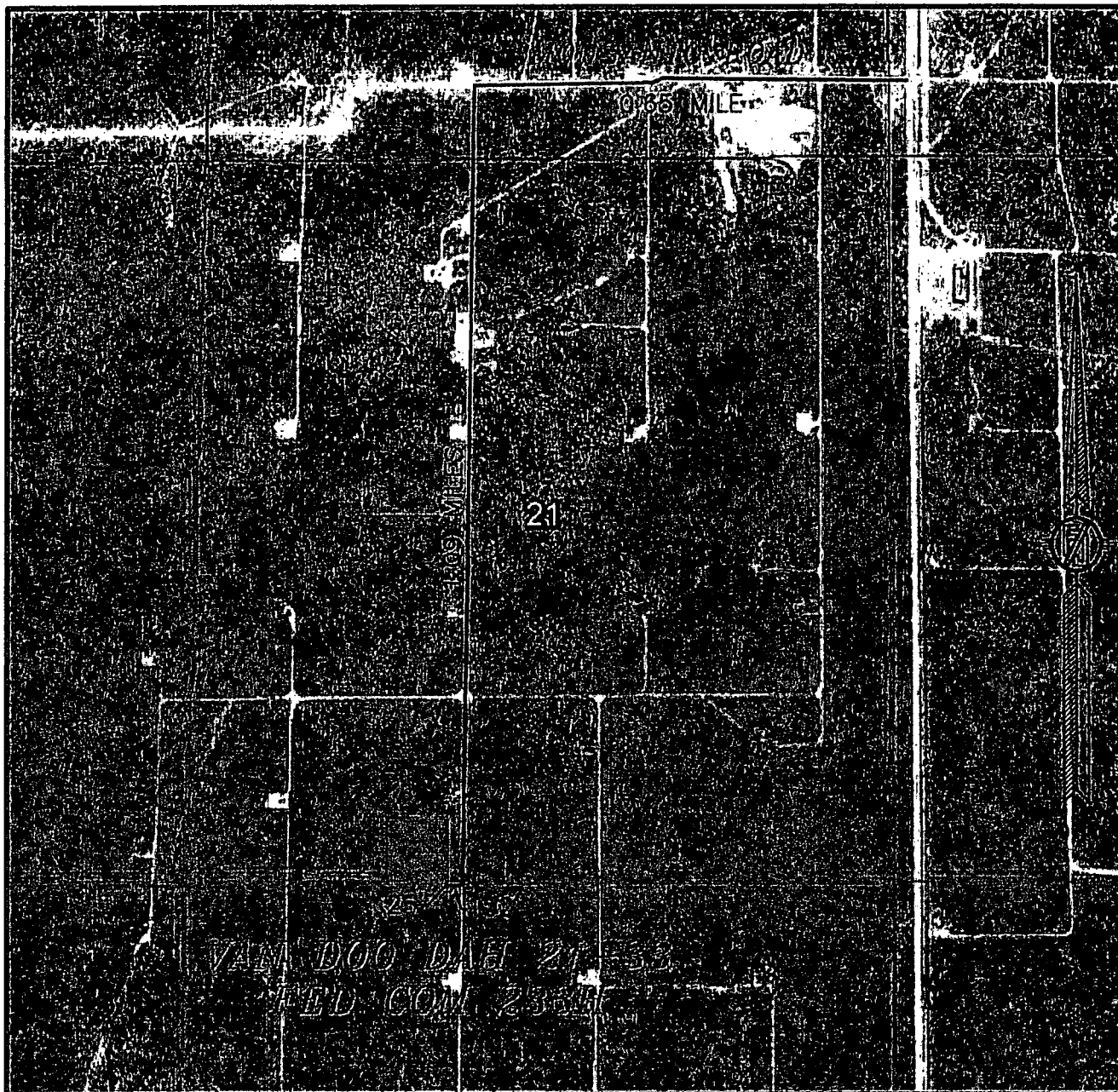
21

22

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

301 SOUTH CANAL
(575) 234-3341

SECTION 21, TOWNSHIP 25 SOUTH, RANGE 32 EAST, N.M.P.M.
LEA COUNTY, STATE OF NEW MEXICO
ACCESS AERIAL ROUTE MAP



NOT TO SCALE
AERIAL PHOTO:
GOOGLE EARTH
NOVEMBER 2017

DEVON ENERGY PRODUCTION COMPANY, L.P.
VAN DOO DAH 21-33 FED COM 233H
LOCATED 500 FT. FROM THE SOUTH LINE
AND 1480 FT. FROM THE WEST LINE OF
SECTION 21, TOWNSHIP 25 SOUTH,
RANGE 32 EAST, N.M.P.M.
LEA COUNTY, STATE OF NEW MEXICO
LAND STATUS: BLM

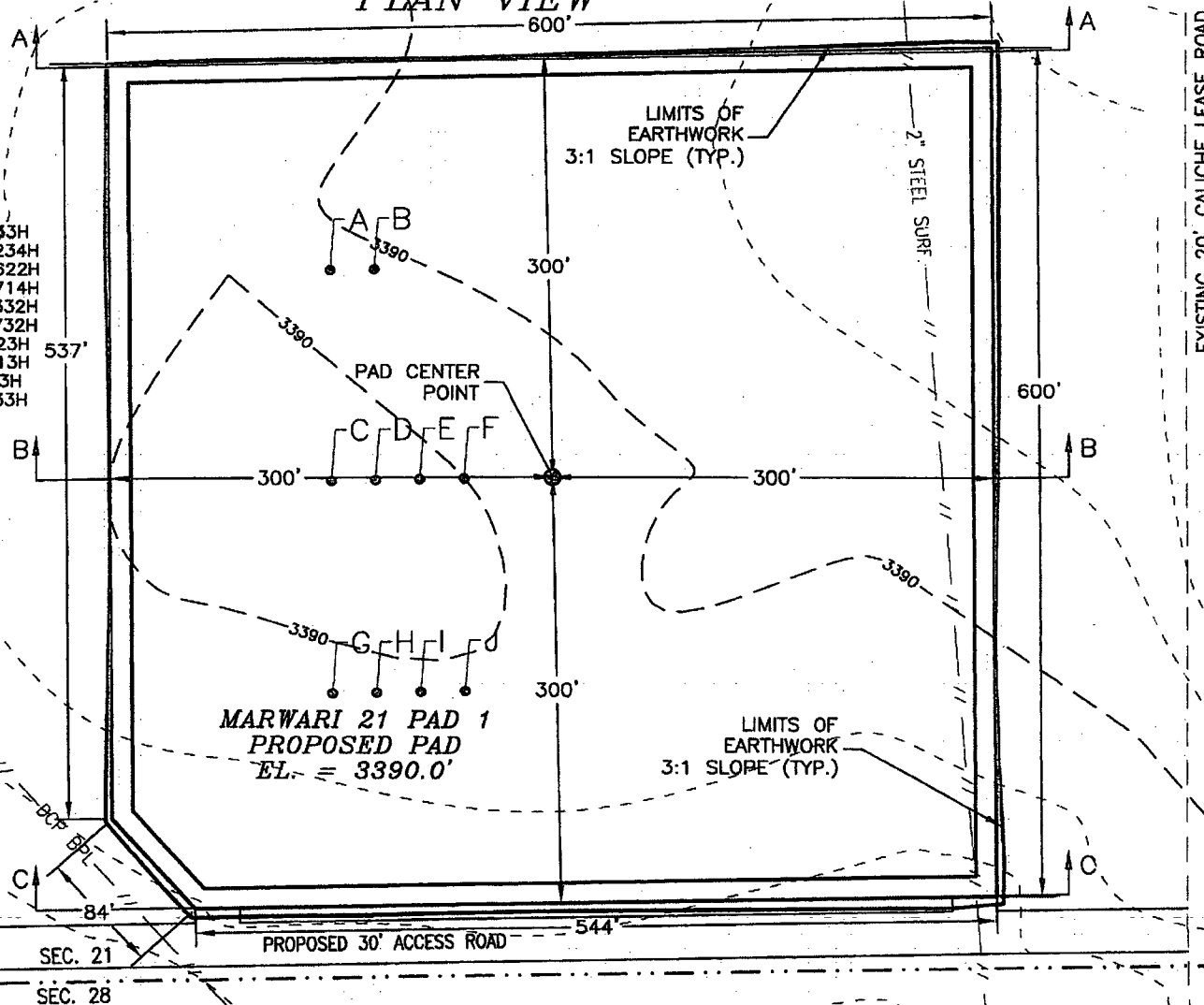
FEBRUARY 13, 2019

SURVEY NO. 5884F

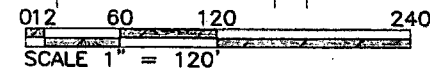
MADRON SURVEYING, INC. 301 SOUTH CANAL (575) 234-3341 CARLSBAD, NEW MEXICO

PLAN VIEW

- A - VAN DOO DAH 21-33 FED COM 233H
- B - MARWARI 21-16 STATE FED COM 234H
- C - MARWARI 21-16 STATE FED COM 622H
- D - MARWARI 21-16 STATE FED COM 714H
- E - MARWARI 21-16 STATE FED COM 332H
- F - MARWARI 21-16 STATE FED COM 732H
- G - VAN DOO DAH 28-33 FED COM 623H
- H - VAN DOO DAH 28-33 FED COM 713H
- I - VAN DOO DAH 28-33 FED COM 333H
- J - VAN DOO DAH 28-33 FED COM 733H



DEVON ENERGY PRODUCTION COMPANY, L.P.
 GRADING PLAN AND CROSS SECTIONS
 FOR VAN DOO DAH 21-33 FED COM 233H
 SECTION 21, TOWNSHIP 25 SOUTH,
 RANGE 32 EAST, N.M.P.M.
 LEA COUNTY, STATE OF NEW MEXICO



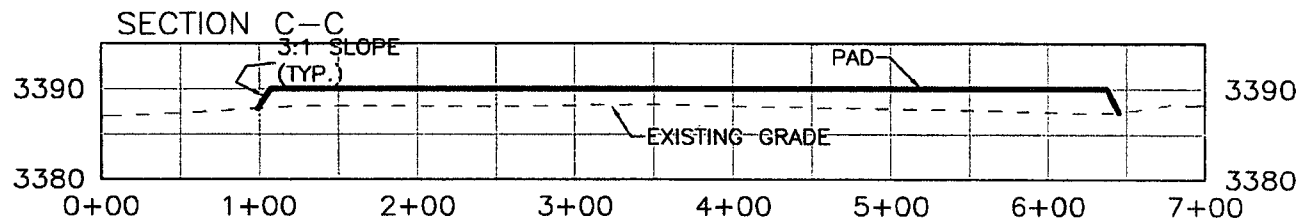
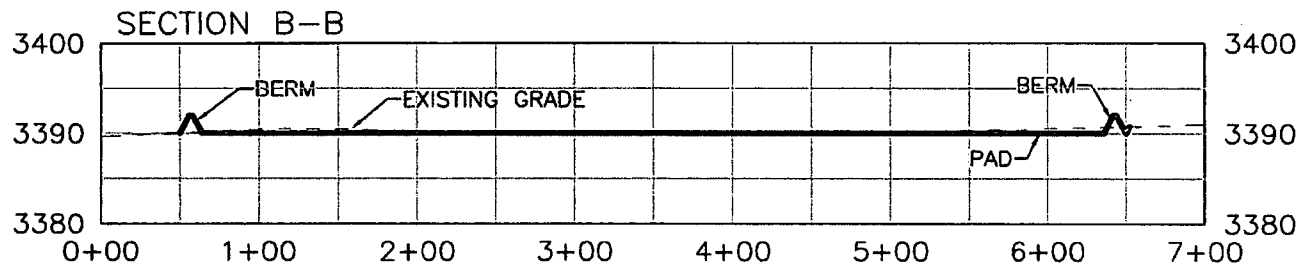
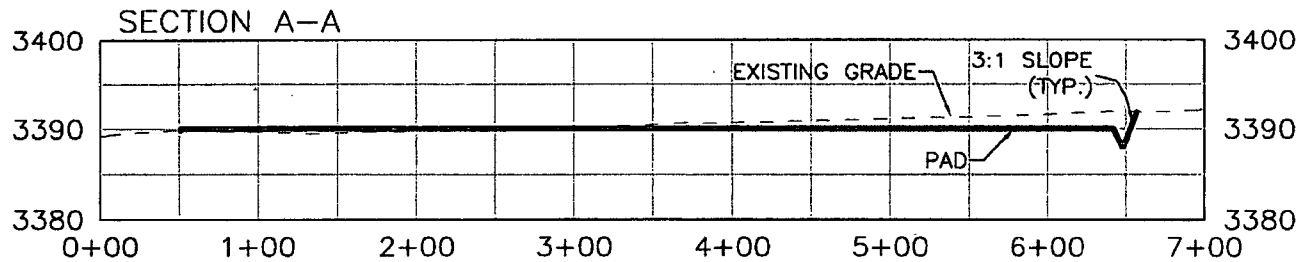
CUT	FILL	NET
3259 CU. YD	5520 CU. YD	2261 CU. YD (FILL)

EARTHWORK QUANTITIES ARE ESTIMATED

FEBRUARY 13, 2019
 MADRON SURVEYING, INC. 301 SOUTH CANAL CARLSBAD, NEW MEXICO
 (575) 234-3341

SHEET 1-2
 SURVEY NO. 5884F

CROSS SECTIONS



DEVON ENERGY PRODUCTION COMPANY, L.P.
 GRADING PLAN AND CROSS SECTIONS
 FOR VAN DOO DAH 21-33 FED COM 233H
 SECTION 21, TOWNSHIP 25 SOUTH,
 RANGE 32 EAST, N.M.P.M.
 LEA COUNTY, STATE OF NEW MEXICO

0 12 60 120 240
 SCALE 1" = 120' - 1" = 20' VER

CUT	FILL	NET
3259 CU. YD	5520 CU. YD	2261 CU. YD (FILL)

EARTHWORK QUANTITIES ARE ESTIMATED

FEBRUARY 13, 2019

MADRON SURVEYING, INC. 301 SOUTH CANAL CARLSBAD, NEW MEXICO

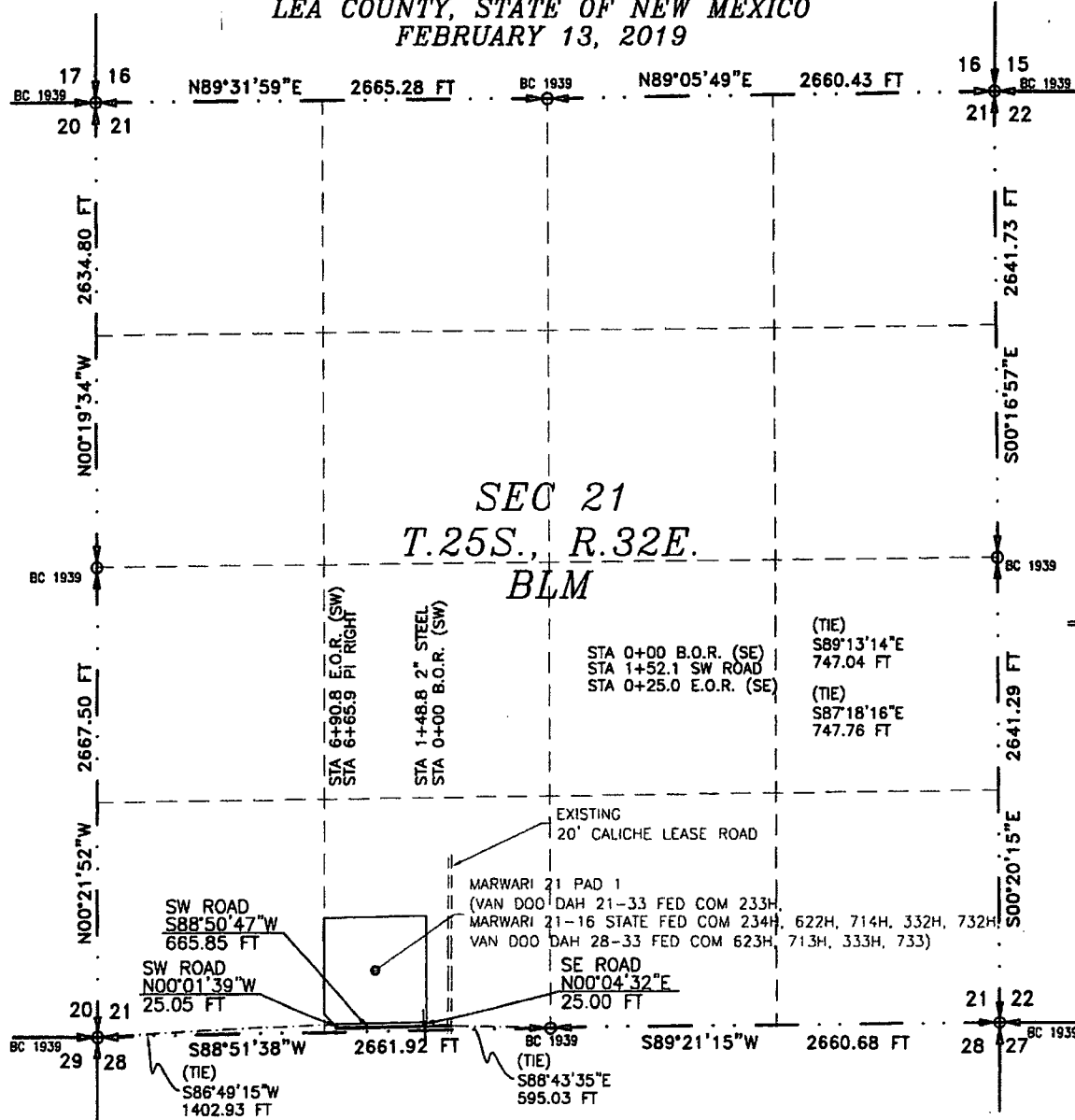
(575) 234-3341

SHEET 2-2
 SURVEY NO. 5884F

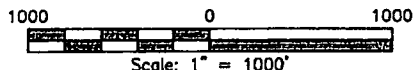
ACCESS ROAD PLAT

ACCESS ROAD TO THE MARWARI 21 PAD 1 (VAN DOO DAH 21-33 FED COM 233H, MARWARI 21-16
STATE FED COM 234H, 622H, 714H, 332H, 732H,
VAN DOO DAH 28-33 FED COM 623H, 713H, 333H, 733)

DEVON ENERGY PRODUCTION COMPANY, L.P.
CENTERLINE SURVEY OF AN ACCESS ROAD CROSSING
SECTION 21, TOWNSHIP 25 SOUTH, RANGE 32 EAST, N.M.P.M.
LEA COUNTY, STATE OF NEW MEXICO
FEBRUARY 13, 2019



SEE NEXT SHEET (2-2) 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: 1-2

MADRON SURVEYING, INC.

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 14 DAY OF FEBRUARY 2019

FILMON F. JARAMILLO, P.S. 12797
301 SOUTH CANAL
CARLSBAD, NEW MEXICO 88220
(575) 234-3341

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

SURVEY NO. 5884F
CARLSBAD, NEW MEXICO

ACCESS ROAD PLAT

ACCESS ROAD TO THE MARWARI 21 PAD 1 (VAN DOO DAH 21-33 FED COM 233H, MARWARI 21-16
STATE FED COM 234H, 622H, 714H, 332H, 732H,
VAN DOO DAH 28-33 FED COM 623H, 713H, 333H, 733)

DEVON ENERGY PRODUCTION COMPANY, L.P.
CENTERLINE SURVEY OF AN ACCESS ROAD CROSSING
SECTION 21, TOWNSHIP 25 SOUTH, RANGE 32 EAST, N.M.P.M.
LEA COUNTY, STATE OF NEW MEXICO
FEBRUARY 13, 2019

DESCRIPTION

A STRIP OF LAND 30 FEET WIDE CROSSING BUREAU OF LAND MANAGEMENT LAND IN SECTION 21, TOWNSHIP 25 SOUTH, RANGE 32 EAST, N.M.P.M., LEA COUNTY, STATE OF NEW MEXICO AND BEING 15 FEET EACH SIDE OF THE FOLLOWING DESCRIBED CENTERLINE SURVEY:

SOUTHWEST ACCESS ROAD

BEGINNING AT A POINT WITHIN THE SE/4 SW/4 OF SAID SECTION 21, TOWNSHIP 25 SOUTH, RANGE 32 EAST, N.M.P.M., WHENCE THE SOUTH QUARTER CORNER OF SAID SECTION 21, TOWNSHIP 25 SOUTH, RANGE 32 EAST, N.M.P.M. BEARS S88°43'35"E, A DISTANCE OF 595.03 FEET;

THENCE S88°50'47"W A DISTANCE OF 665.85 FEET TO AN ANGLE POINT OF THE LINE HEREIN DESCRIBED;

THENCE N00°01'39"W A DISTANCE OF 25.05 FEET THE TERMINUS OF THIS CENTERLINE SURVEY, WHENCE THE SOUTHWEST CORNER OF SAID SECTION 21, TOWNSHIP 25 SOUTH, RANGE 32 EAST, N.M.P.M. BEARS S86°49'15"W, A DISTANCE OF 1402.93 FEET;

SAID STRIP OF LAND BEING 690.90 FEET OR 41.87 RODS IN LENGTH, CONTAINING 0.476 ACRES MORE OR LESS AND BEING ALLOCATED BY FORTIES AS FOLLOWS:

SE/4 SW/4 690.90 L.F. 41.87 RODS 0.476 ACRES

SOUTHEAST ACCESS ROAD

BEGINNING AT A POINT WITHIN THE SE/4 SW/4 OF SAID SECTION 21, TOWNSHIP 25 SOUTH, RANGE 32 EAST, N.M.P.M., WHENCE THE SOUTH QUARTER CORNER OF SAID SECTION 21, TOWNSHIP 25 SOUTH, RANGE 32 EAST, N.M.P.M. BEARS S89°13'14"E, A DISTANCE OF 747.04 FEET;

THENCE N00°04'32"E A DISTANCE OF 25.00 FEET THE TERMINUS OF THIS CENTERLINE SURVEY, WHENCE THE SOUTH QUARTER CORNER OF SAID SECTION 21, TOWNSHIP 25 SOUTH, RANGE 32 EAST, N.M.P.M. BEARS S87°18'16"E, A DISTANCE OF 747.76 FEET;

SAID STRIP OF LAND BEING 25.00 FEET OR 1.52 RODS IN LENGTH, CONTAINING 0.017 ACRES MORE OR LESS AND BEING ALLOCATED BY FORTIES AS FOLLOWS:

SE/4 SW/4 25.00 L.F. 1.52 RODS 0.017 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.

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 17TH DAY OF FEBRUARY 2019

17797

FILIMON F. JARAMILLO

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

SURVEY NO. 5884F

SHEET: 2-2

MADRON SURVEYING, INC. CARLSBAD, NEW MEXICO

WCDSC Permian NM

Lea County (NAD83 New Mexico East)

Sec 21-T25S-R32E

Van Doo Dah 21-33 Fed Com 233H

Wellbore #1

Plan: Permit Plan 2

Standard Planning Report - Geographic

26 February, 2019

Planning Report - Geographic

Database:	EDM r5000.141 Prod US	Local Co-ordinate Reference:	Well Van Doo Dah 21-33 Fed Com 233H
Company:	WCDSC Permian NM	TVD Reference:	RKB @ 3415.20ft
Project:	Lea County (NAD83 New Mexico East)	MD Reference:	RKB @ 3415.20ft
Site:	Sec 21-T25S-R32E	North Reference:	Grid
Well:	Van Doo Dah 21-33 Fed Com 233H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Permit Plan 2		

Project	Lea County (NAD83 New Mexico East)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site	Sec 21-T25S-R32E				
Site Position:		Northing:	409,130.93 usft	Latitude:	32.123139
From:	Map	Easting:	740,905.34 usft	Longitude:	-103.686684
Position Uncertainty:	0.00 ft	Slot Radius:	13-3/16 "	Grid Convergence:	0.34 °

Well	Van Doo Dah 21-33 Fed Com 233H					
Well Position	+N/-S	0.00 ft	Northing:	404,359.07 usft	Latitude:	32.109997
	+E/-W	0.00 ft	Easting:	742,413.69 usft	Longitude:	-103.683905
Position Uncertainty		0.50 ft	Wellhead Elevation:		Ground Level:	3,389.90 ft

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
			(°)	(°)	(nT)
	IGRF2015	11/15/2018	6.84	59.92	47,713.68253195

Design	Permit Plan 2			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD)	+N-S	+E-W	Direction
	(ft)	(ft)	(ft)	(°)
	0.00	0.00	0.00	353.26

Plan Survey Tool Program	Date 2/26/2019			
Depth From	Depth To	Survey (Wellbore)	Tool Name	Remarks
(ft)	(ft)			
1 0.00	20,348.88	Permit Plan 2 (Wellbore #1)	MWD+HDGM	
			OWSG MWD + HDGM	

Plan Sections										
Measured Depth	Inclination	Azimuth	Vertical Depth	+N-S	+E-W	Dogleg Rate	Build Rate	Turn Rate	TFO	Target
(ft)	(°)	(°)	(ft)	(ft)	(ft)	(°/100usft)	(°/100usft)	(°/100usft)	(°)	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,500.00	0.00	0.00	2,500.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,538.75	10.39	277.92	3,533.07	12.94	-93.01	1.00	1.00	0.00	277.92	
9,110.28	10.39	277.92	9,013.29	151.37	-1,088.00	0.00	0.00	0.00	0.00	
9,802.78	0.00	0.00	9,702.00	160.00	-1,150.00	1.50	-1.50	0.00	180.00	
10,152.82	0.00	0.00	10,052.04	160.00	-1,150.00	0.00	0.00	0.00	0.00	
11,052.82	90.00	359.80	10,625.00	732.96	-1,152.03	10.00	10.00	0.00	359.80	PBHL - Van Doo Dah
20,348.88	90.00	359.80	10,625.00	10,028.95	-1,184.99	0.00	0.00	0.00	0.00	PBHL - Van Doo Dah

Planning Report - Geographic

Database:	EDM r5000.141_Prod US	Local Co-ordinate Reference:	Well Van Doo Dah 21-33 Fed Com 233H
Company:	WCDSC Permian NM	TVD Reference:	RKB @ 3415.20ft
Project:	Lea County (NAD83 New Mexico East)	MD Reference:	RKB @ 3415.20ft
Site:	Sec 21-T25S-R32E	North Reference:	Grid
Well:	Van Doo Dah 21-33 Fed Com 233H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Permit Plan 2		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
0.00	0.00	0.00	0.00	0.00	0.00	404,359.07	742,413.69	32.109997	-103.683905	
100.00	0.00	0.00	100.00	0.00	0.00	404,359.07	742,413.69	32.109997	-103.683905	
200.00	0.00	0.00	200.00	0.00	0.00	404,359.07	742,413.69	32.109997	-103.683905	
300.00	0.00	0.00	300.00	0.00	0.00	404,359.07	742,413.69	32.109997	-103.683905	
400.00	0.00	0.00	400.00	0.00	0.00	404,359.07	742,413.69	32.109997	-103.683905	
500.00	0.00	0.00	500.00	0.00	0.00	404,359.07	742,413.69	32.109997	-103.683905	
600.00	0.00	0.00	600.00	0.00	0.00	404,359.07	742,413.69	32.109997	-103.683905	
700.00	0.00	0.00	700.00	0.00	0.00	404,359.07	742,413.69	32.109997	-103.683905	
800.00	0.00	0.00	800.00	0.00	0.00	404,359.07	742,413.69	32.109997	-103.683905	
900.00	0.00	0.00	900.00	0.00	0.00	404,359.07	742,413.69	32.109997	-103.683905	
1,000.00	0.00	0.00	1,000.00	0.00	0.00	404,359.07	742,413.69	32.109997	-103.683905	
1,100.00	0.00	0.00	1,100.00	0.00	0.00	404,359.07	742,413.69	32.109997	-103.683905	
1,200.00	0.00	0.00	1,200.00	0.00	0.00	404,359.07	742,413.69	32.109997	-103.683905	
1,300.00	0.00	0.00	1,300.00	0.00	0.00	404,359.07	742,413.69	32.109997	-103.683905	
1,400.00	0.00	0.00	1,400.00	0.00	0.00	404,359.07	742,413.69	32.109997	-103.683905	
1,500.00	0.00	0.00	1,500.00	0.00	0.00	404,359.07	742,413.69	32.109997	-103.683905	
1,600.00	0.00	0.00	1,600.00	0.00	0.00	404,359.07	742,413.69	32.109997	-103.683905	
1,700.00	0.00	0.00	1,700.00	0.00	0.00	404,359.07	742,413.69	32.109997	-103.683905	
1,800.00	0.00	0.00	1,800.00	0.00	0.00	404,359.07	742,413.69	32.109997	-103.683905	
1,900.00	0.00	0.00	1,900.00	0.00	0.00	404,359.07	742,413.69	32.109997	-103.683905	
2,000.00	0.00	0.00	2,000.00	0.00	0.00	404,359.07	742,413.69	32.109997	-103.683905	
2,100.00	0.00	0.00	2,100.00	0.00	0.00	404,359.07	742,413.69	32.109997	-103.683905	
2,200.00	0.00	0.00	2,200.00	0.00	0.00	404,359.07	742,413.69	32.109997	-103.683905	
2,300.00	0.00	0.00	2,300.00	0.00	0.00	404,359.07	742,413.69	32.109997	-103.683905	
2,400.00	0.00	0.00	2,400.00	0.00	0.00	404,359.07	742,413.69	32.109997	-103.683905	
2,500.00	0.00	0.00	2,500.00	0.00	0.00	404,359.07	742,413.69	32.109997	-103.683905	
2,600.00	1.00	277.92	2,599.99	0.12	-0.86	404,359.19	742,412.82	32.109998	-103.683908	
2,700.00	2.00	277.92	2,699.96	0.48	-3.46	404,359.55	742,410.23	32.109999	-103.683916	
2,800.00	3.00	277.92	2,799.86	1.08	-7.78	404,360.15	742,405.91	32.110000	-103.683930	
2,900.00	4.00	277.92	2,899.68	1.92	-13.82	404,360.99	742,399.86	32.110003	-103.683950	
3,000.00	5.00	277.92	2,999.37	3.00	-21.59	404,362.07	742,392.09	32.110006	-103.683975	
3,100.00	6.00	277.92	3,098.90	4.33	-31.09	404,363.39	742,382.60	32.110010	-103.684006	
3,200.00	7.00	277.92	3,198.26	5.89	-42.30	404,364.95	742,371.39	32.110014	-103.684042	
3,300.00	8.00	277.92	3,297.40	7.68	-55.23	404,366.75	742,358.46	32.110019	-103.684084	
3,400.00	9.00	277.92	3,396.30	9.72	-69.87	404,368.79	742,343.82	32.110025	-103.684131	
3,500.00	10.00	277.92	3,494.93	12.00	-86.21	404,371.06	742,327.47	32.110032	-103.684184	
3,538.75	10.39	277.92	3,533.07	12.94	-93.01	404,372.01	742,320.66	32.110034	-103.684205	
3,600.00	10.39	277.92	3,593.32	14.46	-103.95	404,373.53	742,309.74	32.110039	-103.684241	
3,700.00	10.39	277.92	3,691.68	16.95	-121.80	404,376.02	742,291.88	32.110046	-103.684298	
3,800.00	10.39	277.92	3,790.04	19.43	-139.66	404,378.50	742,274.02	32.110053	-103.684356	
3,900.00	10.39	277.92	3,888.40	21.92	-157.52	404,380.98	742,256.17	32.110060	-103.684414	
4,000.00	10.39	277.92	3,986.76	24.40	-175.38	404,383.47	742,238.31	32.110067	-103.684471	
4,100.00	10.39	277.92	4,085.12	26.89	-193.24	404,385.95	742,220.45	32.110074	-103.684529	
4,200.00	10.39	277.92	4,183.48	29.37	-211.10	404,388.44	742,202.59	32.110081	-103.684587	
4,300.00	10.39	277.92	4,281.84	31.85	-228.95	404,390.92	742,184.73	32.110088	-103.684644	
4,400.00	10.39	277.92	4,380.20	34.34	-246.81	404,393.41	742,166.87	32.110096	-103.684702	
4,500.00	10.39	277.92	4,478.57	36.82	-264.67	404,395.89	742,149.02	32.110103	-103.684759	
4,600.00	10.39	277.92	4,576.93	39.31	-282.53	404,398.38	742,131.16	32.110110	-103.684817	
4,700.00	10.39	277.92	4,675.29	41.79	-300.39	404,400.86	742,113.30	32.110117	-103.684875	
4,800.00	10.39	277.92	4,773.65	44.28	-318.25	404,403.35	742,095.44	32.110124	-103.684932	
4,900.00	10.39	277.92	4,872.01	46.76	-336.10	404,405.83	742,077.58	32.110131	-103.684990	
5,000.00	10.39	277.92	4,970.37	49.25	-353.96	404,408.32	742,059.72	32.110138	-103.685048	
5,100.00	10.39	277.92	5,068.73	51.73	-371.82	404,410.80	742,041.87	32.110146	-103.685105	
5,200.00	10.39	277.92	5,167.09	54.22	-389.68	404,413.29	742,024.01	32.110153	-103.685163	
5,300.00	10.39	277.92	5,265.45	56.70	-407.54	404,415.77	742,006.15	32.110160	-103.685220	

Planning Report - Geographic

Database:	EDM r5000.141_Prod US	Local Co-ordinate Reference:	Well Van Doo Dah 21-33 Fed Com 233H
Company:	WCDSC Permian NM	TVD Reference:	RKB @ 3415.20ft
Project:	Lea County (NAD83 New Mexico East)	MD Reference:	RKB @ 3415.20ft
Site:	Sec 21-T25S-R32E	North Reference:	Grid
Well:	Van Doo Dah 21-33 Fed Com 233H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Permit Plan 2		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
5,400.00	10.39	277.92	5,363.81	59.19	-425.40	404,418.25	741,988.29	32.110167	-103.685278	
5,500.00	10.39	277.92	5,462.18	61.67	-443.26	404,420.74	741,970.43	32.110174	-103.685336	
5,600.00	10.39	277.92	5,560.54	64.15	-461.11	404,423.22	741,952.57	32.110181	-103.685393	
5,700.00	10.39	277.92	5,658.90	66.64	-478.97	404,425.71	741,934.72	32.110188	-103.685451	
5,800.00	10.39	277.92	5,757.26	69.12	-496.83	404,428.19	741,916.86	32.110195	-103.685509	
5,900.00	10.39	277.92	5,855.62	71.61	-514.69	404,430.68	741,899.00	32.110203	-103.685566	
6,000.00	10.39	277.92	5,953.98	74.09	-532.55	404,433.16	741,881.14	32.110210	-103.685624	
6,100.00	10.39	277.92	6,052.34	76.58	-550.41	404,435.65	741,863.28	32.110217	-103.685681	
6,200.00	10.39	277.92	6,150.70	79.06	-568.26	404,438.13	741,845.42	32.110224	-103.685739	
6,300.00	10.39	277.92	6,249.06	81.55	-586.12	404,440.62	741,827.56	32.110231	-103.685797	
6,400.00	10.39	277.92	6,347.43	84.03	-603.98	404,443.10	741,809.71	32.110238	-103.685854	
6,500.00	10.39	277.92	6,445.79	86.52	-621.84	404,445.59	741,791.85	32.110245	-103.685912	
6,600.00	10.39	277.92	6,544.15	89.00	-639.70	404,448.07	741,773.99	32.110252	-103.685970	
6,700.00	10.39	277.92	6,642.51	91.49	-657.56	404,450.56	741,756.13	32.110260	-103.686027	
6,800.00	10.39	277.92	6,740.87	93.97	-675.42	404,453.04	741,738.27	32.110267	-103.686085	
6,900.00	10.39	277.92	6,839.23	96.46	-693.27	404,455.52	741,720.41	32.110274	-103.686142	
7,000.00	10.39	277.92	6,937.59	98.94	-711.13	404,458.01	741,702.56	32.110281	-103.686200	
7,100.00	10.39	277.92	7,035.95	101.42	-728.99	404,460.49	741,684.70	32.110288	-103.686258	
7,200.00	10.39	277.92	7,134.31	103.91	-746.85	404,462.98	741,666.84	32.110295	-103.686315	
7,300.00	10.39	277.92	7,232.68	106.39	-764.71	404,465.46	741,648.98	32.110302	-103.686373	
7,400.00	10.39	277.92	7,331.04	108.88	-782.57	404,467.95	741,631.12	32.110309	-103.686431	
7,500.00	10.39	277.92	7,429.40	111.36	-800.42	404,470.43	741,613.26	32.110317	-103.686488	
7,600.00	10.39	277.92	7,527.76	113.85	-818.28	404,472.92	741,595.41	32.110324	-103.686546	
7,700.00	10.39	277.92	7,626.12	116.33	-836.14	404,475.40	741,577.55	32.110331	-103.686603	
7,800.00	10.39	277.92	7,724.48	118.82	-854.00	404,477.89	741,559.69	32.110338	-103.686661	
7,900.00	10.39	277.92	7,822.84	121.30	-871.86	404,480.37	741,541.83	32.110345	-103.686719	
8,000.00	10.39	277.92	7,921.20	123.79	-889.72	404,482.86	741,523.97	32.110352	-103.686776	
8,100.00	10.39	277.92	8,019.56	126.27	-907.57	404,485.34	741,506.11	32.110359	-103.686834	
8,200.00	10.39	277.92	8,117.93	128.76	-925.43	404,487.82	741,488.26	32.110366	-103.686892	
8,300.00	10.39	277.92	8,216.29	131.24	-943.29	404,490.31	741,470.40	32.110374	-103.686949	
8,400.00	10.39	277.92	8,314.65	133.73	-961.15	404,492.79	741,452.54	32.110381	-103.687007	
8,500.00	10.39	277.92	8,413.01	136.21	-979.01	404,495.28	741,434.68	32.110388	-103.687064	
8,600.00	10.39	277.92	8,511.37	138.69	-996.87	404,497.76	741,416.82	32.110395	-103.687122	
8,700.00	10.39	277.92	8,609.73	141.18	-1,014.73	404,500.25	741,398.96	32.110402	-103.687180	
8,800.00	10.39	277.92	8,708.09	143.66	-1,032.58	404,502.73	741,381.10	32.110409	-103.687237	
8,900.00	10.39	277.92	8,806.45	146.15	-1,050.44	404,505.22	741,363.25	32.110416	-103.687295	
9,000.00	10.39	277.92	8,904.81	148.63	-1,068.30	404,507.70	741,345.39	32.110423	-103.687353	
9,100.00	10.39	277.92	9,003.17	151.12	-1,086.16	404,510.19	741,327.53	32.110431	-103.687410	
9,110.28	10.39	277.92	9,013.29	151.37	-1,088.00	404,510.44	741,325.69	32.110431	-103.687416	
9,200.00	9.04	277.92	9,101.72	153.46	-1,102.99	404,512.53	741,310.70	32.110437	-103.687465	
9,300.00	7.54	277.92	9,200.67	155.45	-1,117.27	404,514.52	741,296.42	32.110443	-103.687511	
9,400.00	6.04	277.92	9,299.97	157.08	-1,128.99	404,516.15	741,284.70	32.110448	-103.687548	
9,500.00	4.54	277.92	9,399.54	158.35	-1,138.12	404,517.42	741,275.57	32.110451	-103.687578	
9,600.00	3.04	277.92	9,499.31	159.26	-1,144.67	404,518.33	741,269.02	32.110454	-103.687599	
9,700.00	1.54	277.92	9,599.23	159.81	-1,148.63	404,518.88	741,265.06	32.110455	-103.687612	
9,800.00	0.04	277.92	9,699.22	160.00	-1,150.00	404,519.07	741,263.69	32.110456	-103.687616	
9,802.78	0.00	0.00	9,702.00	160.00	-1,150.00	404,519.07	741,263.69	32.110456	-103.687616	
9,900.00	0.00	0.00	9,799.22	160.00	-1,150.00	404,519.07	741,263.69	32.110456	-103.687616	
10,000.00	0.00	0.00	9,899.22	160.00	-1,150.00	404,519.07	741,263.69	32.110456	-103.687616	
10,100.00	0.00	0.00	9,999.22	160.00	-1,150.00	404,519.07	741,263.69	32.110456	-103.687616	
10,152.82	0.00	0.00	10,052.04	160.00	-1,150.00	404,519.07	741,263.69	32.110456	-103.687616	
KOP & FTP @ 10153' MD, 660' FSL, 330' FWL										
10,200.00	4.72	359.80	10,099.17	161.94	-1,150.01	404,521.01	741,263.68	32.110461	-103.687616	
10,300.00	14.72	359.80	10,197.61	178.80	-1,150.07	404,537.87	741,263.62	32.110508	-103.687616	

Planning Report - Geographic

Database:	EDM r5000.141_Prod US	Local Co-ordinate Reference:	Well Van Doo Dah 21-33 Fed Com 233H
Company:	WCDSC Permian NM	TVD Reference:	RKB @ 3415.20ft
Project:	Lea County (NAD83 New Mexico East)	MD Reference:	RKB @ 3415.20ft
Site:	Sec 21-T25S-R32E	North Reference:	Grid
Well:	Van Doo Dah 21-33 Fed Com 233H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Permit Plan 2		

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
10,400.00	24.72	359.80	10,291.62	212.50	-1,150.19	404,571.56	741,263.50	32.110600	-103.687616
10,500.00	34.72	359.80	10,378.36	262.01	-1,150.36	404,621.07	741,263.33	32.110736	-103.687615
10,600.00	44.72	359.80	10,455.18	325.82	-1,150.59	404,684.89	741,263.10	32.110912	-103.687615
10,700.00	54.72	359.80	10,519.76	402.01	-1,150.86	404,761.08	741,262.83	32.111121	-103.687614
10,800.00	64.72	359.80	10,570.12	488.26	-1,151.16	404,847.33	741,262.52	32.111358	-103.687614
10,900.00	74.72	359.80	10,604.74	581.94	-1,151.50	404,941.01	741,262.19	32.111616	-103.687613
11,000.00	84.72	359.80	10,622.57	680.21	-1,151.84	405,039.28	741,261.84	32.111886	-103.687612
11,052.82	90.00	359.80	10,625.00	732.96	-1,152.03	405,092.02	741,261.66	32.112031	-103.687612
11,100.00	90.00	359.80	10,625.00	780.13	-1,152.20	405,139.20	741,261.49	32.112161	-103.687611
11,200.00	90.00	359.80	10,625.00	880.13	-1,152.55	405,239.20	741,261.14	32.112436	-103.687611
11,300.00	90.00	359.80	10,625.00	980.13	-1,152.91	405,339.20	741,260.78	32.112710	-103.687610
11,400.00	90.00	359.80	10,625.00	1,080.13	-1,153.26	405,439.20	741,260.43	32.112985	-103.687609
11,500.00	90.00	359.80	10,625.00	1,180.13	-1,153.62	405,539.20	741,260.07	32.113260	-103.687608
11,600.00	90.00	359.80	10,625.00	1,280.13	-1,153.97	405,639.20	741,259.72	32.113535	-103.687607
11,700.00	90.00	359.80	10,625.00	1,380.13	-1,154.33	405,739.19	741,259.36	32.113810	-103.687607
11,800.00	90.00	359.80	10,625.00	1,480.13	-1,154.68	405,839.19	741,259.01	32.114085	-103.687606
11,900.00	90.00	359.80	10,625.00	1,580.13	-1,155.04	405,939.19	741,258.65	32.114360	-103.687605
12,000.00	90.00	359.80	10,625.00	1,680.13	-1,155.39	406,039.19	741,258.30	32.114635	-103.687604
12,100.00	90.00	359.80	10,625.00	1,780.13	-1,155.74	406,139.19	741,257.94	32.114909	-103.687603
12,200.00	90.00	359.80	10,625.00	1,880.13	-1,156.10	406,239.19	741,257.59	32.115184	-103.687603
12,300.00	90.00	359.80	10,625.00	1,980.12	-1,156.45	406,339.19	741,257.24	32.115459	-103.687602
12,400.00	90.00	359.80	10,625.00	2,080.12	-1,156.81	406,439.19	741,256.88	32.115734	-103.687601
12,500.00	90.00	359.80	10,625.00	2,180.12	-1,157.16	406,539.19	741,256.53	32.116009	-103.687600
12,600.00	90.00	359.80	10,625.00	2,280.12	-1,157.52	406,639.19	741,256.17	32.116284	-103.687600
12,700.00	90.00	359.80	10,625.00	2,380.12	-1,157.87	406,739.19	741,255.82	32.116559	-103.687599
12,800.00	90.00	359.80	10,625.00	2,480.12	-1,158.23	406,839.19	741,255.46	32.116834	-103.687598
12,900.00	90.00	359.80	10,625.00	2,580.12	-1,158.58	406,939.18	741,255.11	32.117109	-103.687597
13,000.00	90.00	359.80	10,625.00	2,680.12	-1,158.94	407,039.18	741,254.75	32.117383	-103.687596
13,100.00	90.00	359.80	10,625.00	2,780.12	-1,159.29	407,139.18	741,254.40	32.117658	-103.687596
13,200.00	90.00	359.80	10,625.00	2,880.12	-1,159.64	407,239.18	741,254.04	32.117933	-103.687595
13,300.00	90.00	359.80	10,625.00	2,980.12	-1,160.00	407,339.18	741,253.69	32.118208	-103.687594
13,400.00	90.00	359.80	10,625.00	3,080.12	-1,160.35	407,439.18	741,253.34	32.118483	-103.687593
13,500.00	90.00	359.80	10,625.00	3,180.12	-1,160.71	407,539.18	741,252.98	32.118758	-103.687592
13,600.00	90.00	359.80	10,625.00	3,280.12	-1,161.06	407,639.18	741,252.63	32.119033	-103.687592
13,700.00	90.00	359.80	10,625.00	3,380.12	-1,161.42	407,739.18	741,252.27	32.119308	-103.687591
13,800.00	90.00	359.80	10,625.00	3,480.12	-1,161.77	407,839.18	741,251.92	32.119582	-103.687590
13,900.00	90.00	359.80	10,625.00	3,580.11	-1,162.13	407,939.18	741,251.56	32.119857	-103.687589
14,000.00	90.00	359.80	10,625.00	3,680.11	-1,162.48	408,039.18	741,251.21	32.120132	-103.687588
14,100.00	90.00	359.80	10,625.00	3,780.11	-1,162.84	408,139.17	741,250.85	32.120407	-103.687588
14,200.00	90.00	359.80	10,625.00	3,880.11	-1,163.19	408,239.17	741,250.50	32.120682	-103.687587
14,300.00	90.00	359.80	10,625.00	3,980.11	-1,163.55	408,339.17	741,250.14	32.120957	-103.687586
14,400.00	90.00	359.80	10,625.00	4,080.11	-1,163.90	408,439.17	741,249.79	32.121232	-103.687585
14,500.00	90.00	359.80	10,625.00	4,180.11	-1,164.25	408,539.17	741,249.43	32.121507	-103.687584
14,600.00	90.00	359.80	10,625.00	4,280.11	-1,164.61	408,639.17	741,249.08	32.121781	-103.687584
14,700.00	90.00	359.80	10,625.00	4,380.11	-1,164.96	408,739.17	741,248.73	32.122056	-103.687583
14,800.00	90.00	359.80	10,625.00	4,480.11	-1,165.32	408,839.17	741,248.37	32.122331	-103.687582
14,900.00	90.00	359.80	10,625.00	4,580.11	-1,165.67	408,939.17	741,248.02	32.122606	-103.687581
15,000.00	90.00	359.80	10,625.00	4,680.11	-1,166.03	409,039.17	741,247.66	32.122881	-103.687581
15,100.00	90.00	359.80	10,625.00	4,780.11	-1,166.38	409,139.17	741,247.31	32.123156	-103.687580
Cross Section @ 15100' MD, 0' FSL, 330' FWL									
15,200.00	90.00	359.80	10,625.00	4,880.11	-1,166.74	409,239.17	741,246.95	32.123431	-103.687579
15,300.00	90.00	359.80	10,625.00	4,980.11	-1,167.09	409,339.16	741,246.60	32.123706	-103.687578
15,400.00	90.00	359.80	10,625.00	5,080.11	-1,167.45	409,439.16	741,246.24	32.123981	-103.687577
15,500.00	90.00	359.80	10,625.00	5,180.10	-1,167.80	409,539.16	741,245.89	32.124255	-103.687577

Planning Report - Geographic

Database:	EDM r5000.141_Prod US	Local Co-ordinate Reference:	Well Van Doo Dah 21-33 Fed Com 233H
Company:	WCDSC Permian NM	TVD Reference:	RKB @ 3415.20ft
Project:	Lea County (NAD83 New Mexico East)	MD Reference:	RKB @ 3415.20ft
Site:	Sec 21-T25S-R32E	North Reference:	Grid
Well:	Van Doo Dah 21-33 Fed Com 233H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Permit Plan 2		

Planned Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
15,600.00	90.00	359.80	10,625.00	5,280.10	-1,168.15	409,639.16	741,245.53	32.124530	-103.687576	
15,700.00	90.00	359.80	10,625.00	5,380.10	-1,168.51	409,739.16	741,245.18	32.124805	-103.687575	
15,800.00	90.00	359.80	10,625.00	5,480.10	-1,168.86	409,839.16	741,244.83	32.125080	-103.687574	
15,900.00	90.00	359.80	10,625.00	5,580.10	-1,169.22	409,939.16	741,244.47	32.125355	-103.687573	
16,000.00	90.00	359.80	10,625.00	5,680.10	-1,169.57	410,039.16	741,244.12	32.125630	-103.687573	
16,100.00	90.00	359.80	10,625.00	5,780.10	-1,169.93	410,139.16	741,243.76	32.125905	-103.687572	
16,200.00	90.00	359.80	10,625.00	5,880.10	-1,170.28	410,239.16	741,243.41	32.126180	-103.687571	
16,300.00	90.00	359.80	10,625.00	5,980.10	-1,170.64	410,339.16	741,243.05	32.126454	-103.687570	
16,400.00	90.00	359.80	10,625.00	6,080.10	-1,170.99	410,439.16	741,242.70	32.126729	-103.687569	
16,500.00	90.00	359.80	10,625.00	6,180.10	-1,171.35	410,539.16	741,242.34	32.127004	-103.687569	
16,600.00	90.00	359.80	10,625.00	6,280.10	-1,171.70	410,639.15	741,241.99	32.127279	-103.687568	
16,700.00	90.00	359.80	10,625.00	6,380.10	-1,172.05	410,739.15	741,241.63	32.127554	-103.687567	
16,800.00	90.00	359.80	10,625.00	6,480.10	-1,172.41	410,839.15	741,241.28	32.127829	-103.687566	
16,900.00	90.00	359.80	10,625.00	6,580.10	-1,172.76	410,939.15	741,240.93	32.128104	-103.687566	
17,000.00	90.00	359.80	10,625.00	6,680.10	-1,173.12	411,039.15	741,240.57	32.128379	-103.687565	
17,100.00	90.00	359.80	10,625.00	6,780.09	-1,173.47	411,139.15	741,240.22	32.128654	-103.687564	
17,200.00	90.00	359.80	10,625.00	6,880.09	-1,173.83	411,239.15	741,239.86	32.128928	-103.687563	
17,300.00	90.00	359.80	10,625.00	6,980.09	-1,174.18	411,339.15	741,239.51	32.129203	-103.687562	
17,400.00	90.00	359.80	10,625.00	7,080.09	-1,174.54	411,439.15	741,239.15	32.129478	-103.687562	
17,500.00	90.00	359.80	10,625.00	7,180.09	-1,174.89	411,539.15	741,238.80	32.129753	-103.687561	
17,600.00	90.00	359.80	10,625.00	7,280.09	-1,175.25	411,639.15	741,238.44	32.130028	-103.687560	
17,700.00	90.00	359.80	10,625.00	7,380.09	-1,175.60	411,739.15	741,238.09	32.130303	-103.687559	
17,800.00	90.00	359.80	10,625.00	7,480.09	-1,175.95	411,839.14	741,237.73	32.130578	-103.687558	
17,900.00	90.00	359.80	10,625.00	7,580.09	-1,176.31	411,939.14	741,237.38	32.130853	-103.687558	
18,000.00	90.00	359.80	10,625.00	7,680.09	-1,176.66	412,039.14	741,237.02	32.131127	-103.687557	
18,100.00	90.00	359.80	10,625.00	7,780.09	-1,177.02	412,139.14	741,236.67	32.131402	-103.687556	
18,200.00	90.00	359.80	10,625.00	7,880.09	-1,177.37	412,239.14	741,236.32	32.131677	-103.687555	
18,300.00	90.00	359.80	10,625.00	7,980.09	-1,177.73	412,339.14	741,235.96	32.131952	-103.687554	
18,400.00	90.00	359.80	10,625.00	8,080.09	-1,178.08	412,439.14	741,235.61	32.132227	-103.687554	
18,500.00	90.00	359.80	10,625.00	8,180.09	-1,178.44	412,539.14	741,235.25	32.132502	-103.687553	
18,600.00	90.00	359.80	10,625.00	8,280.09	-1,178.79	412,639.14	741,234.90	32.132777	-103.687552	
18,700.00	90.00	359.80	10,625.00	8,380.08	-1,179.15	412,739.14	741,234.54	32.133052	-103.687551	
18,800.00	90.00	359.80	10,625.00	8,480.08	-1,179.50	412,839.14	741,234.19	32.133326	-103.687550	
18,900.00	90.00	359.80	10,625.00	8,580.08	-1,179.86	412,939.14	741,233.83	32.133601	-103.687550	
19,000.00	90.00	359.80	10,625.00	8,680.08	-1,180.21	413,039.13	741,233.48	32.133876	-103.687549	
19,100.00	90.00	359.80	10,625.00	8,780.08	-1,180.56	413,139.13	741,233.12	32.134151	-103.687548	
19,200.00	90.00	359.80	10,625.00	8,880.08	-1,180.92	413,239.13	741,232.77	32.134426	-103.687547	
19,300.00	90.00	359.80	10,625.00	8,980.08	-1,181.27	413,339.13	741,232.42	32.134701	-103.687547	
19,400.00	90.00	359.80	10,625.00	9,080.08	-1,181.63	413,439.13	741,232.06	32.134976	-103.687546	
19,500.00	90.00	359.80	10,625.00	9,180.08	-1,181.98	413,539.13	741,231.71	32.135251	-103.687545	
19,600.00	90.00	359.80	10,625.00	9,280.08	-1,182.34	413,639.13	741,231.35	32.135526	-103.687544	
19,700.00	90.00	359.80	10,625.00	9,380.08	-1,182.69	413,739.13	741,231.00	32.135800	-103.687543	
19,800.00	90.00	359.80	10,625.00	9,480.08	-1,183.05	413,839.13	741,230.64	32.136075	-103.687543	
19,900.00	90.00	359.80	10,625.00	9,580.08	-1,183.40	413,939.13	741,230.29	32.136350	-103.687542	
20,000.00	90.00	359.80	10,625.00	9,680.08	-1,183.76	414,039.13	741,229.93	32.136625	-103.687541	
20,100.00	90.00	359.80	10,625.00	9,780.08	-1,184.11	414,139.13	741,229.58	32.136900	-103.687540	
20,200.00	90.00	359.80	10,625.00	9,880.08	-1,184.46	414,239.12	741,229.22	32.137175	-103.687539	
20,268.88	90.00	359.80	10,625.00	9,948.95	-1,184.71	414,308.00	741,228.98	32.137364	-103.687539	
LTP @ 20269' MD, 100' FNL, 330' FWL										
20,300.00	90.00	359.80	10,625.00	9,980.07	-1,184.82	414,339.12	741,228.87	32.137450	-103.687539	
20,348.87	90.00	359.80	10,625.00	10,028.94	-1,184.99	414,387.99	741,228.70	32.137584	-103.687538	
PBHL; 20' FNL, 330' FWL										
20,348.88	90.00	359.80	10,625.00	10,028.95	-1,184.99	414,388.00	741,228.70	32.137584	-103.687538	

Planning Report - Geographic

Database:	EDM r5000.141_Prod US	Local Co-ordinate Reference:	Well Van Doo Dah 21-33 Fed Com 233H
Company:	WCDSC Permian NM	TVD Reference:	RKB @ 3415.20ft
Project:	Lea County (NAD83 New Mexico East)	MD Reference:	RKB @ 3415.20ft
Site:	Sec 21-T25S-R32E	North Reference:	Grid
Well:	Van Doo Dah 21-33 Fed Com 233H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Permit Plan 2		

Design Targets									
Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(°)	(ft)	(ft)	(ft)	(usft)	(usft)		
- Shape									
PBHL - Van Doo Dah 21	0.00	0.00	0.00	10,028.95	-1,184.99	414,388.00	741,228.70	32.137584	-103.687538
- plan misses target center by 10098.72ft at 0.00ft MD (0.00 TVD, 0.00 N, 0.00 E)									
- Point									

Plan Annotations				
Measured Depth	Vertical Depth	Local Coordinates		Comment
(ft)	(ft)	+N/-S (ft)	+E/-W (ft)	
10,152.82	10,052.04	160.00	-1,150.00	KOP & FTP @ 10153' MD, 660' FSL, 330' FWL
15,100.00	10,625.00	4,780.11	-1,166.38	Cross Section @ 15100' MD, 0' FSL, 330' FWL
20,268.88	10,625.00	9,948.95	-1,184.71	LTP @ 20269' MD, 100' FNL, 330' FWL
20,348.87	10,625.00	10,028.94	-1,184.99	PBHL; 20' FNL, 330' FWL

Devon Energy

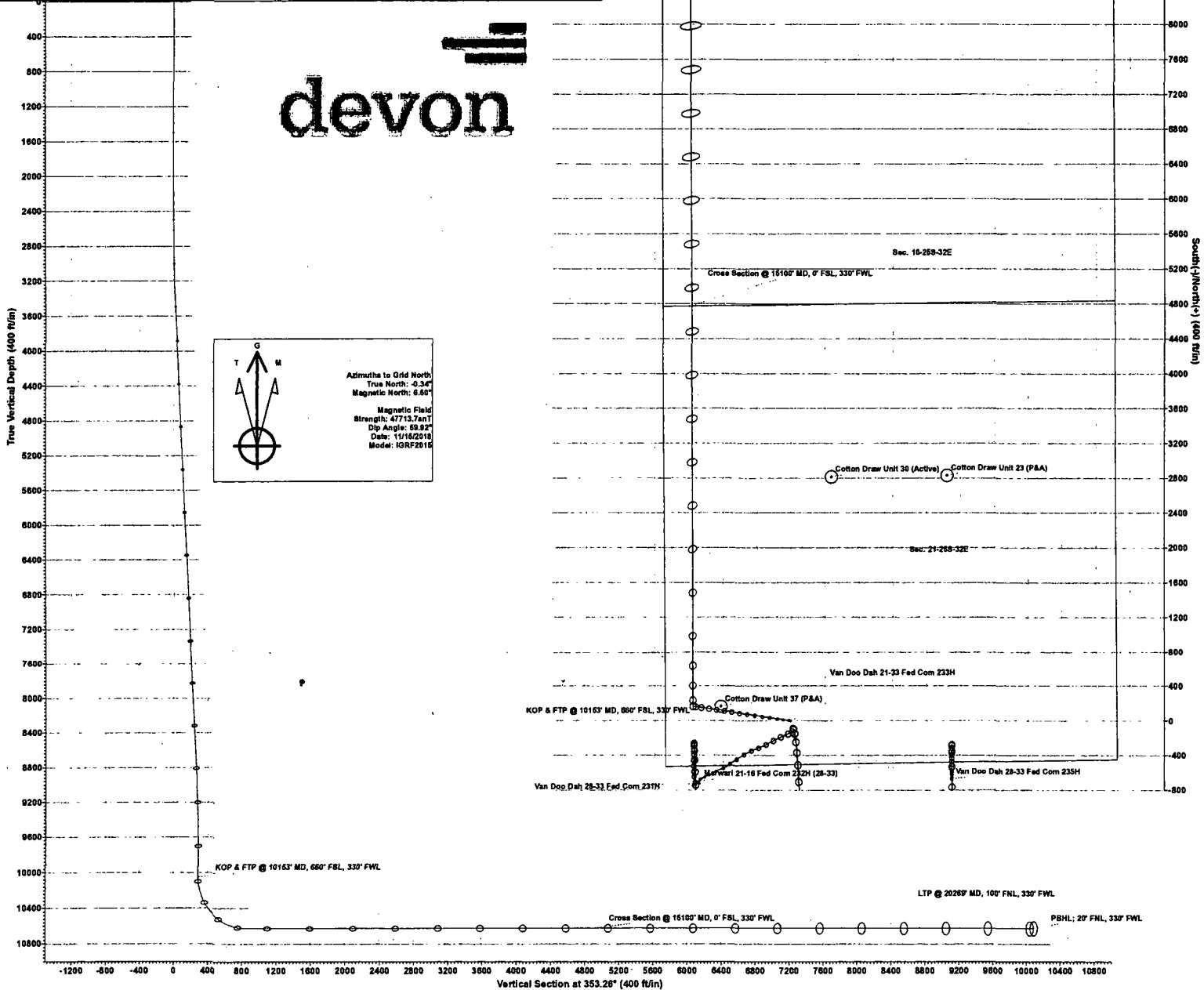
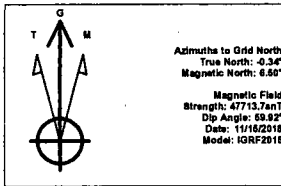
WELL DETAILS: Van Doo Dah 21-33 Fed Com 233H

RKB @ 3415.20ft 3389.90
 Northing 404359.07 Easting 742413.89 Latitude 32.109997 Longitude -103.683905

SECTION DETAILS Permit Plan 2

MD	Inc	Azi	TVD	+N-S	+E-W	Dleg	Vsect	Annotation
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2500.00	0.00	0.00	2500.00	0.00	0.00	0.00	0.00	
3538.75	10.39	277.92	3533.07	12.94	-93.01	1.00	23.76	
9110.28	10.39	277.92	9013.29	151.37	-1088.00	0.00	277.99	
9802.78	0.00	0.00	9702.00	160.00	-1150.00	1.50	293.84	KOP & FTP @ 10153' MD, 680' FSL, 330' FWL
10152.82	0.00	0.00	10052.04	160.00	-1150.00	0.00	293.84	
11052.82	90.00	359.80	10825.00	732.96	-1152.03	10.00	863.07	
20348.88	90.00	359.80	10625.00	10028.95	-1184.99	0.00	10098.72	PBHL: 20' FNL, 330' FWL

devon



WCDSC Permian NM

Lea County (NAD83 New Mexico East)

Sec 21-T25S-R32E

Van Doo Dah 21-33 Fed Com 233H

Wellbore #1

Permit Plan 2

Anticollision Report

26 February, 2019

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Van Doo Dah 21-33 Fed Com 233H
Project:	Lea County (NAD83 New Mexico East)	TVD Reference:	RKB @ 3415.20ft
Reference Site:	Sec 21-T25S-R32E	MD Reference:	RKB @ 3415.20ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Van Doo Dah 21-33 Fed Com 233H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 2	Offset TVD Reference:	Offset Datum

Reference	Permit Plan 2		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	MD Interval 50.00ft	Error Model:	ISCWSA
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 1,500.00 ft	Error Surface:	Pedal Curve
Warning Levels Evaluated at:	2.00 Sigma	Casing Method:	Not applied

Survey Tool Program	Date	2/26/2019		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.00	20,348.88	Permit Plan 2 (Wellbore #1)	MWD+HDGM	OWSG MWD + HDGM

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 21-T25S-R32E						
Cotton Draw Unit 23 (P&A) - Wellbore #1 - Wellbore #1						Out of range
Cotton Draw Unit 30 (Active) - Wellbore #1 - Wellbore #1						Out of range
Cotton Draw Unit 37 (P&A) - Wellbore #1 - Wellbore #1	5,312.85	5,259.89	423.90	325.95	4.328	Alert, CC, ES, SF
Marwari 21-16 State Fed Com 234H - Wellbore #1 - Perm	1,000.00	991.80	29.99	23.21	4.423	Alert, CC
Marwari 21-16 State Fed Com 234H - Wellbore #1 - Perm	1,100.00	1,091.57	30.33	22.85	4.053	Alert, ES
Marwari 21-16 State Fed Com 234H - Wellbore #1 - Perm	1,350.00	1,340.86	34.82	25.59	3.771	Alert, SF
Marwari 21-16 State Fed Com 332H - Wellbore #1 - Perm	2,500.00	2,499.90	160.78	143.28	9.186	CC
Marwari 21-16 State Fed Com 332H - Wellbore #1 - Perm	2,550.00	2,549.01	161.03	143.18	9.022	ES
Marwari 21-16 State Fed Com 332H - Wellbore #1 - Perm	2,750.00	2,745.02	167.19	147.99	8.709	SF
Marwari 21-16 State Fed Com 622H - Wellbore #1 - Perm	2,500.00	2,470.10	149.98	132.59	8.621	CC
Marwari 21-16 State Fed Com 622H - Wellbore #1 - Perm	2,750.00	2,720.02	150.87	131.71	7.875	ES
Marwari 21-16 State Fed Com 622H - Wellbore #1 - Perm	3,200.00	3,168.36	161.75	139.42	7.241	SF
Marwari 21-16 State Fed Com 714H - Wellbore #1 - Perm	2,500.00	2,500.00	152.55	135.05	8.715	CC
Marwari 21-16 State Fed Com 714H - Wellbore #1 - Perm	2,600.00	2,600.01	152.84	134.63	8.393	ES
Marwari 21-16 State Fed Com 714H - Wellbore #1 - Perm	2,950.00	2,946.78	160.63	140.00	7.783	SF
Marwari 21-16 State Fed Com 732H - Wellbore #1 - Perm	2,200.00	2,199.80	173.85	158.50	11.322	CC
Marwari 21-16 State Fed Com 732H - Wellbore #1 - Perm	2,250.00	2,248.74	174.00	158.30	11.080	ES
Marwari 21-16 State Fed Com 732H - Wellbore #1 - Perm	2,600.00	2,590.67	184.41	166.32	10.192	SF

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

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Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Van Doo Dah 21-33 Fed Com 233H
Project:	Lea County (NAD83 New Mexico East)	TVD Reference:	RKB @ 3415.20ft
Reference Site:	Sec 21-T25S-R32E	MD Reference:	RKB @ 3415.20ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Van Doo Dah 21-33 Fed Com 233H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 2	Offset TVD Reference:	Offset Datum

Summary

Site Name Offset Well - Wellbore - Design	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Sec 28-T25S-R32E						
Cotton Draw Unit 101 (Active) - Wellbore #1 - Wellbore #						Out of range
Cotton Draw Unit 47 (P&A) - Wellbore #1 - Wellbore #1	2,500.00	2,486.80	1,248.63	1,201.46	26.471	CC
Cotton Draw Unit 47 (P&A) - Wellbore #1 - Wellbore #1	2,700.00	2,686.76	1,250.50	1,199.73	24.635	ES
Cotton Draw Unit 47 (P&A) - Wellbore #1 - Wellbore #1	5,200.00	5,153.89	1,496.02	1,399.64	15.522	SF
Cotton Draw Unit 500 (P&A) - Wellbore #1 - Wellbore #1						Out of range
Cotton Draw Unit 51 (Active) - Wellbore #1 - Wellbore #1						Out of range
Marwari 21-16 Fed Com 232H (28-33) - Wellbore #1 - Ac	6,122.55	6,155.75	436.58	390.36	9.447	CC
Marwari 21-16 Fed Com 232H (28-33) - Wellbore #1 - Ac	6,150.00	6,179.34	436.75	390.31	9.404	ES
Marwari 21-16 Fed Com 232H (28-33) - Wellbore #1 - Ac	6,350.00	6,362.95	445.97	397.95	9.287	SF
Marwari 21-16 Fed Com 232H (28-33) - Wellbore #1 - Pe	5,859.74	5,877.86	711.77	667.93	16.238	CC
Marwari 21-16 Fed Com 232H (28-33) - Wellbore #1 - Pe	5,900.00	5,915.32	711.92	667.76	16.120	ES
Marwari 21-16 Fed Com 232H (28-33) - Wellbore #1 - Pe	6,500.00	6,473.61	749.42	700.64	15.363	SF
Marwari 21-16 Fed Com 232H (28-33) - Wellbore #1 - Sp	5,847.15	5,913.53	395.16	350.28	8.805	CC
Marwari 21-16 Fed Com 232H (28-33) - Wellbore #1 - Sp	5,850.00	5,916.15	395.16	350.26	8.800	ES
Marwari 21-16 Fed Com 232H (28-33) - Wellbore #1 - Sp	6,000.00	6,054.00	399.73	353.56	8.657	SF
Marwari 21-16 State Fed Com 331H - Wellbore #1 - Perm	6,694.44	6,672.98	889.57	839.49	17.764	CC
Marwari 21-16 State Fed Com 331H - Wellbore #1 - Perm	6,750.00	6,726.01	889.72	839.20	17.611	ES
Marwari 21-16 State Fed Com 331H - Wellbore #1 - Perm	7,950.00	7,871.19	965.44	905.86	16.205	SF
Marwari 21-16 State Fed Com 334H - Wellbore #1 - Perm						Out of range
Marwari 21-16 State Fed Com 621H - Wellbore #1 - Perm	8,139.87	8,070.28	912.92	852.48	15.105	CC
Marwari 21-16 State Fed Com 621H - Wellbore #1 - Perm	8,250.00	8,177.23	913.30	852.00	14.898	ES
Marwari 21-16 State Fed Com 621H - Wellbore #1 - Perm	20,348.88	22,476.71	1,359.01	1,176.22	7.435	SF
Marwari 21-16 State Fed Com 624H - Wellbore #1 - Perm						Out of range
Marwari 21-16 State Fed Com 712H - Wellbore #1 - Perm	7,382.05	7,335.30	902.11	847.20	16.431	CC
Marwari 21-16 State Fed Com 712H - Wellbore #1 - Perm	7,500.00	7,448.97	902.66	846.82	16.168	ES
Marwari 21-16 State Fed Com 712H - Wellbore #1 - Perm	10,200.00	10,076.73	1,086.82	1,011.70	14.467	SF
Marwari 21-16 State Fed Com 718H - Wellbore #1 - Perm						Out of range
Marwari 21-16 State Fed Com 731H - Wellbore #1 - Perm	6,209.81	6,209.26	955.85	909.36	20.561	CC
Marwari 21-16 State Fed Com 731H - Wellbore #1 - Perm	6,300.00	6,276.51	956.25	909.12	20.287	ES
Marwari 21-16 State Fed Com 731H - Wellbore #1 - Perm	7,650.00	7,560.27	1,054.60	997.27	18.396	SF
Marwari 21-16 State Fed Com 734H - Wellbore #1 - Perm						Out of range
Marwari 28-33 Fed Com 236H - Wellbore #1 - Permit Pla						Out of range
SOL 28 Fed #2 (Active) - Wellbore #1 - Wellbore #1						Out of range
SOL 28 Fed 1H (Active) - Wellbore #1 - Wellbore #1						Out of range
Van Doo Dah 28-33 Fed Com 231H - Wellbore #1 - Actu	10,052.94	9,977.32	418.74	344.80	5.664	CC, ES, SF
Van Doo Dah 28-33 Fed Com 235H - Wellbore #1 - Perm						Out of range
Van Doo Dah 28-33 Fed Com 237H - Wellbore #1 - Perm						Out of range
Van Doo Dah 28-33 Fed Com 621H (est) - Wellbore #1 -	7,596.85	7,518.79	1,213.92	1,157.95	21.689	CC
Van Doo Dah 28-33 Fed Com 621H (est) - Wellbore #1 -	7,750.00	7,667.28	1,214.49	1,157.32	21.242	ES
Van Doo Dah 28-33 Fed Com 621H (est) - Wellbore #1 -	10,200.00	10,065.57	1,318.15	1,242.90	17.519	SF
Van Doo Dah 28-33 Fed Com 711H (est) - Wellbore #1 -	7,029.95	6,974.66	1,188.12	1,136.20	22.885	CC
Van Doo Dah 28-33 Fed Com 711H (est) - Wellbore #1 -	7,150.00	7,109.95	1,188.58	1,135.64	22.450	ES
Van Doo Dah 28-33 Fed Com 711H (est) - Wellbore #1 -	10,200.00	10,048.52	1,402.92	1,327.73	18.656	SF
Van Doo Dah 28-33 Fed Com 731H (est) - Wellbore #1 -	6,284.53	6,262.46	1,159.63	1,112.78	24.750	CC
Van Doo Dah 28-33 Fed Com 731H (est) - Wellbore #1 -	6,400.00	6,372.00	1,160.20	1,112.42	24.282	ES
Van Doo Dah 28-33 Fed Com 731H (est) - Wellbore #1 -	8,300.00	8,174.56	1,323.15	1,261.03	21.300	SF

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Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 2	Offset TVD Reference:	Offset Datum

Offset Design Sec 21-T25S-R32E - Cotton Draw Unit 37 (P&A) - 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		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	10.00	-78.38	168.42	-818.84	836.18					
50.00	50.00	31.80	31.80	0.50	10.01	-78.38	168.42	-818.84	835.98	825.47	10.51	79.562		
100.00	100.00	81.80	81.80	0.52	10.06	-78.38	168.42	-818.84	835.98	825.40	10.58	79.050		
150.00	150.00	131.80	131.80	0.59	10.17	-78.38	168.42	-818.84	835.98	825.22	10.75	77.729		
200.00	200.00	181.80	181.80	0.70	10.33	-78.38	168.42	-818.84	835.98	824.95	11.03	75.809		
250.00	250.00	231.80	231.80	0.84	10.54	-78.38	168.42	-818.84	835.98	824.60	11.37	73.496		
300.00	300.00	281.80	281.80	0.99	10.80	-78.38	168.42	-818.84	835.98	824.19	11.78	70.944		
350.00	350.00	331.80	331.80	1.15	11.10	-78.38	168.42	-818.84	835.98	823.73	12.25	68.267		
400.00	400.00	381.80	381.80	1.31	11.45	-78.38	168.42	-818.84	835.98	823.22	12.75	65.545		
450.00	450.00	431.80	431.80	1.48	11.83	-78.38	168.42	-818.84	835.98	822.67	13.30	62.837		
500.00	500.00	481.80	481.80	1.65	12.24	-78.38	168.42	-818.84	835.98	822.09	13.89	60.186		
550.00	550.00	531.80	531.80	1.82	12.69	-78.38	168.42	-818.84	835.98	821.47	14.51	57.620		
600.00	600.00	581.80	581.80	1.99	13.17	-78.38	168.42	-818.84	835.98	820.82	15.16	55.160		
650.00	650.00	631.80	631.80	2.16	13.66	-78.38	168.42	-818.84	835.98	820.15	15.83	52.815		
700.00	700.00	681.80	681.80	2.34	14.19	-78.38	168.42	-818.84	835.98	819.45	16.52	50.592		
750.00	750.00	731.80	731.80	2.51	14.73	-78.38	168.42	-818.84	835.98	818.74	17.24	48.491		
800.00	800.00	781.80	781.80	2.69	15.28	-78.38	168.42	-818.84	835.98	818.00	17.97	46.510		
850.00	850.00	831.80	831.80	2.87	15.86	-78.38	168.42	-818.84	835.98	817.25	18.72	44.647		
900.00	900.00	881.80	881.80	3.04	16.45	-78.38	168.42	-818.84	835.98	816.49	19.49	42.895		
950.00	950.00	931.80	931.80	3.22	17.05	-78.38	168.42	-818.84	835.98	815.71	20.27	41.250		
1,000.00	1,000.00	981.80	981.80	3.40	17.66	-78.38	168.42	-818.84	835.98	814.92	21.06	39.704		
1,050.00	1,050.00	1,031.80	1,031.80	3.57	18.28	-78.38	168.42	-818.84	835.98	814.12	21.85	38.252		
1,100.00	1,100.00	1,081.80	1,081.80	3.75	18.91	-78.38	168.42	-818.84	835.98	813.31	22.66	36.886		
1,150.00	1,150.00	1,131.80	1,131.80	3.93	19.55	-78.38	168.42	-818.84	835.98	812.50	23.48	35.603		
1,200.00	1,200.00	1,181.80	1,181.80	4.11	20.20	-78.38	168.42	-818.84	835.98	811.67	24.31	34.394		
1,250.00	1,250.00	1,231.80	1,231.80	4.29	20.85	-78.38	168.42	-818.84	835.98	810.84	25.14	33.256		
1,300.00	1,300.00	1,281.80	1,281.80	4.46	21.51	-78.38	168.42	-818.84	835.98	810.00	25.98	32.183		
1,350.00	1,350.00	1,331.80	1,331.80	4.64	22.18	-78.38	168.42	-818.84	835.98	809.16	26.82	31.170		
1,400.00	1,400.00	1,381.80	1,381.80	4.82	22.85	-78.38	168.42	-818.84	835.98	808.31	27.67	30.214		
1,450.00	1,450.00	1,431.80	1,431.80	5.00	23.52	-78.38	168.42	-818.84	835.98	807.45	28.52	29.309		
1,500.00	1,500.00	1,481.80	1,481.80	5.18	24.20	-78.38	168.42	-818.84	835.98	806.60	29.38	28.453		
1,550.00	1,550.00	1,531.80	1,531.80	5.36	24.89	-78.38	168.42	-818.84	835.98	805.73	30.24	27.642		
1,600.00	1,600.00	1,581.80	1,581.80	5.53	25.58	-78.38	168.42	-818.84	835.98	804.87	31.11	26.873		
1,650.00	1,650.00	1,631.80	1,631.80	5.71	26.27	-78.38	168.42	-818.84	835.98	804.00	31.98	26.142		
1,700.00	1,700.00	1,681.80	1,681.80	5.89	26.96	-78.38	168.42	-818.84	835.98	803.13	32.85	25.448		
1,750.00	1,750.00	1,731.80	1,731.80	6.07	27.66	-78.38	168.42	-818.84	835.98	802.25	33.73	24.787		
1,800.00	1,800.00	1,781.80	1,781.80	6.25	28.36	-78.38	168.42	-818.84	835.98	801.37	34.60	24.158		
1,850.00	1,850.00	1,831.80	1,831.80	6.43	29.06	-78.38	168.42	-818.84	835.98	800.49	35.48	23.559		
1,900.00	1,900.00	1,881.80	1,881.80	6.61	29.76	-78.38	168.42	-818.84	835.98	799.61	36.37	22.987		
1,950.00	1,950.00	1,931.80	1,931.80	6.78	30.47	-78.38	168.42	-818.84	835.98	798.72	37.25	22.441		
2,000.00	2,000.00	1,981.80	1,981.80	6.96	31.18	-78.38	168.42	-818.84	835.98	797.84	38.14	21.919		
2,050.00	2,050.00	2,031.80	2,031.80	7.14	31.89	-78.38	168.42	-818.84	835.98	796.95	39.03	21.420		
2,100.00	2,100.00	2,081.80	2,081.80	7.32	32.60	-78.38	168.42	-818.84	835.98	796.06	39.92	20.942		
2,150.00	2,150.00	2,131.80	2,131.80	7.50	33.31	-78.38	168.42	-818.84	835.98	795.17	40.81	20.484		
2,200.00	2,200.00	2,181.80	2,181.80	7.68	34.03	-78.38	168.42	-818.84	835.98	794.27	41.71	20.045		
2,250.00	2,250.00	2,231.80	2,231.80	7.86	34.74	-78.38	168.42	-818.84	835.98	793.38	42.60	19.623		
2,300.00	2,300.00	2,281.80	2,281.80	8.04	35.46	-78.38	168.42	-818.84	835.98	792.48	43.50	19.219		
2,350.00	2,350.00	2,331.80	2,331.80	8.21	36.18	-78.38	168.42	-818.84	835.98	791.58	44.40	18.830		
2,400.00	2,400.00	2,381.80	2,381.80	8.39	36.90	-78.38	168.42	-818.84	835.98	790.68	45.29	18.456		
2,450.00	2,450.00	2,431.80	2,431.80	8.57	37.62	-78.38	168.42	-818.84	835.98	789.78	46.19	18.097		
2,500.00	2,500.00	2,481.80	2,481.80	8.75	38.35	-78.38	168.42	-818.84	835.98	788.88	47.10	17.750		
2,550.00	2,550.00	2,531.80	2,531.80	8.93	39.07	3.70	168.42	-818.84	835.76	787.76	47.99	17.414		

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Project:	Lea County (NAD83 New Mexico East)	TVD Reference:	RKB @ 3415.20ft
Reference Site:	Sec 21-T25S-R32E	MD Reference:	RKB @ 3415.20ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Van Doo Dah 21-33 Fed Com 233H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 2	Offset TVD Reference:	Offset Datum

Offset Design Sec 21-T25S-R32E - Cotton Draw Unit 37 (P&A) - Wellbore #1 - Wellbore #1													Offset Site Error:
Survey Program: 10-INC-ONLY													0.00 ft
Reference		Offset		Semi Major Axis		Distance		Warning		Offset Well Error:			
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N-S (ft)	+E-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
2,800.00	2,599.99	2,581.79	2,581.79	9.10	39.79	3.71	168.42	-818.84	835.11	786.21	48.89	17.080	
2,850.00	2,649.98	2,631.78	2,631.78	9.27	40.52	3.71	168.42	-818.84	834.02	784.23	49.79	16.751	
2,700.00	2,699.96	2,681.76	2,681.76	9.45	41.24	3.72	168.42	-818.84	832.49	781.81	50.69	16.424	
2,750.00	2,749.92	2,731.72	2,731.72	9.62	41.97	3.73	168.42	-818.84	830.54	778.95	51.59	16.100	
2,800.00	2,799.86	2,781.66	2,781.66	9.79	42.70	3.74	168.42	-818.84	828.14	775.66	52.48	15.779	
2,850.00	2,849.78	2,831.58	2,831.58	9.97	43.42	3.76	168.42	-818.84	825.31	771.93	53.38	15.460	
2,900.00	2,899.68	2,881.48	2,881.48	10.14	44.15	3.77	168.42	-818.84	822.05	767.77	54.28	15.143	
2,950.00	2,949.54	2,931.34	2,931.34	10.31	44.88	3.79	168.42	-818.84	818.35	763.17	55.18	14.829	
3,000.00	2,999.37	2,981.17	2,981.17	10.49	45.61	3.82	168.42	-818.84	814.22	758.14	56.09	14.518	
3,050.00	3,049.16	3,030.96	3,030.96	10.66	46.33	3.84	168.42	-818.84	809.66	752.67	56.99	14.208	
3,100.00	3,098.90	3,080.70	3,080.70	10.84	47.06	3.87	168.42	-818.84	804.66	746.77	57.89	13.900	
3,150.00	3,148.61	3,130.41	3,130.41	11.02	47.79	3.90	168.42	-818.84	799.23	740.44	58.79	13.595	
3,200.00	3,198.26	3,180.06	3,180.06	11.20	48.52	3.93	168.42	-818.84	793.36	733.68	59.69	13.292	
3,250.00	3,247.86	3,229.66	3,229.66	11.38	49.24	3.97	168.42	-818.84	787.07	726.48	60.59	12.990	
3,300.00	3,297.40	3,279.20	3,279.20	11.56	49.97	4.00	168.42	-818.84	780.34	718.85	61.49	12.691	
3,350.00	3,346.89	3,328.69	3,328.69	11.74	50.70	4.05	168.42	-818.84	773.18	710.80	62.39	12.393	
3,400.00	3,396.30	3,378.10	3,378.10	11.92	51.42	4.09	168.42	-818.84	765.60	702.31	63.29	12.097	
3,450.00	3,445.65	3,427.45	3,427.45	12.10	52.15	4.14	168.42	-818.84	757.58	693.39	64.19	11.803	
3,500.00	3,494.93	3,476.73	3,476.73	12.29	52.87	4.19	168.42	-818.84	749.13	684.05	65.09	11.510	
3,550.00	3,544.13	3,525.93	3,525.93	12.47	53.60	4.25	168.42	-818.84	740.27	674.29	65.98	11.219	
3,600.00	3,593.32	3,575.12	3,575.12	12.66	54.32	4.30	168.42	-818.84	731.28	664.40	66.88	10.934	
3,650.00	3,642.50	3,624.30	3,624.30	12.85	55.05	4.36	168.42	-818.84	722.29	654.51	67.78	10.656	
3,700.00	3,691.68	3,673.48	3,673.48	13.04	55.77	4.41	168.42	-818.84	713.30	644.62	68.68	10.386	
3,750.00	3,740.86	3,722.66	3,722.66	13.23	56.49	4.47	168.42	-818.84	704.31	634.73	69.58	10.123	
3,800.00	3,790.04	3,771.84	3,771.84	13.42	57.22	4.53	168.42	-818.84	695.32	624.84	70.48	9.866	
3,850.00	3,839.22	3,821.02	3,821.02	13.62	57.94	4.58	168.42	-818.84	686.34	614.96	71.38	9.615	
3,900.00	3,888.40	3,870.20	3,870.20	13.81	58.67	4.65	168.42	-818.84	677.35	605.07	72.28	9.371	
3,950.00	3,937.58	3,919.38	3,919.38	14.01	59.40	4.71	168.42	-818.84	668.36	595.18	73.18	9.133	
4,000.00	3,986.76	3,968.56	3,968.56	14.20	60.12	4.77	168.42	-818.84	659.38	585.29	74.09	8.900	
4,050.00	4,035.94	4,017.74	4,017.74	14.40	60.85	4.84	168.42	-818.84	650.39	575.40	74.99	8.673	
4,100.00	4,085.12	4,066.92	4,066.92	14.59	61.58	4.91	168.42	-818.84	641.41	565.51	75.89	8.451	
4,150.00	4,134.30	4,116.10	4,116.10	14.79	62.30	4.98	168.42	-818.84	632.43	555.63	76.80	8.235	
4,200.00	4,183.48	4,165.28	4,165.28	14.99	63.03	5.05	168.42	-818.84	623.44	545.74	77.70	8.023	
4,250.00	4,232.66	4,214.46	4,214.46	15.19	63.76	5.12	168.42	-818.84	614.46	535.85	78.61	7.817	
4,300.00	4,281.84	4,263.64	4,263.64	15.39	64.48	5.20	168.42	-818.84	605.48	525.97	79.51	7.615	
4,350.00	4,331.02	4,312.82	4,312.82	15.59	65.21	5.28	168.42	-818.84	596.50	516.08	80.42	7.417	
4,400.00	4,380.20	4,362.00	4,362.00	15.79	65.94	5.36	168.42	-818.84	587.53	506.20	81.33	7.224	
4,450.00	4,429.38	4,411.18	4,411.18	15.99	66.67	5.44	168.42	-818.84	578.55	496.31	82.24	7.035	
4,500.00	4,478.57	4,460.37	4,460.37	16.19	67.40	5.53	168.42	-818.84	569.58	486.43	83.14	6.851	
4,550.00	4,527.75	4,509.55	4,509.55	16.39	68.12	5.62	168.42	-818.84	560.60	476.55	84.05	6.670	
4,600.00	4,576.93	4,558.73	4,558.73	16.59	68.85	5.71	168.42	-818.84	551.63	466.67	84.96	6.493	
4,650.00	4,626.11	4,607.91	4,607.91	16.80	69.58	5.80	168.42	-818.84	542.66	456.79	85.87	6.320	
4,700.00	4,675.29	4,657.09	4,657.09	17.00	70.31	5.90	168.42	-818.84	533.69	446.91	86.78	6.150	
4,750.00	4,724.47	4,706.27	4,706.27	17.21	71.04	6.00	168.42	-818.84	524.72	437.03	87.69	5.984	
4,800.00	4,773.65	4,755.45	4,755.45	17.41	71.77	6.11	168.42	-818.84	515.75	427.15	88.60	5.821	
4,850.00	4,822.83	4,804.63	4,804.63	17.61	72.50	6.21	168.42	-818.84	506.79	417.28	89.51	5.662	
4,900.00	4,872.01	4,853.81	4,853.81	17.82	73.23	6.33	168.42	-818.84	497.82	407.40	90.42	5.506	
4,950.00	4,921.19	4,902.99	4,902.99	18.03	73.96	6.44	168.42	-818.84	488.86	397.53	91.33	5.353	
5,000.00	4,970.37	4,952.17	4,952.17	18.23	74.69	6.56	168.42	-818.84	479.90	387.66	92.24	5.203	
5,050.00	5,019.55	5,001.35	5,001.35	18.44	75.42	6.69	168.42	-818.84	470.95	377.79	93.15	5.056	
5,100.00	5,068.73	5,050.53	5,050.53	18.64	76.15	6.82	168.42	-818.84	461.99	367.93	94.07	4.911 Alert	
5,150.00	5,117.91	5,099.71	5,099.71	18.85	76.88	6.95	168.42	-818.84	453.04	358.06	94.98	4.770 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 Van Doo Dah 21-33 Fed Com 233H
Project:	Lea County (NAD83 New Mexico East)	TVD Reference:	RKB @ 3415.20ft
Reference Site:	Sec 21-T25S-R32E	MD Reference:	RKB @ 3415.20ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Van Doo Dah 21-33 Fed Com 233H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 2	Offset TVD Reference:	Offset Datum

Offset Design Sec 21-T25S-R32E - Cotton Draw Unit 37 (P&A) - 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		
5,200.00	5,167.09	5,148.89	5,148.89	19.06	77.61	7.10	168.42	-818.84	444.09	348.20	95.89	4.631	Alert	
5,250.00	5,216.27	5,198.07	5,198.07	19.27	78.34	7.24	168.42	-818.84	435.14	338.34	96.81	4.495	Alert	
5,300.00	5,265.45	5,247.25	5,247.25	19.47	79.07	7.39	168.42	-818.84	426.20	328.48	97.72	4.361	Alert	
5,312.85	5,278.09	5,259.89	5,259.89	19.53	79.26	7.44	168.42	-818.84	423.90	325.95	97.95	4.328	Alert, CC, ES, SF	
5,350.00	5,314.63	4,784.00	4,783.03	19.68	72.19	6.17	168.42	-818.84	661.58	600.46	61.12	10.823		
5,400.00	5,363.81	4,784.00	4,783.03	19.89	72.19	6.17	168.42	-818.84	695.15	637.34	57.80	12.027		
5,450.00	5,413.00	4,784.00	4,783.03	20.10	72.19	6.17	168.42	-818.84	730.59	675.89	54.71	13.355		
5,500.00	5,462.18	4,784.00	4,783.03	20.31	72.19	6.17	168.42	-818.84	767.66	715.81	51.85	14.806		
5,550.00	5,511.36	4,784.00	4,783.03	20.52	72.19	6.17	168.42	-818.84	806.13	756.90	49.23	16.376		
5,600.00	5,560.54	4,784.00	4,783.03	20.73	72.19	6.17	168.42	-818.84	845.80	798.97	46.84	18.059		
5,650.00	5,609.72	4,784.00	4,783.03	20.94	72.19	6.17	168.42	-818.84	886.52	841.86	44.66	19.849		
5,700.00	5,658.90	4,784.00	4,783.03	21.15	72.19	6.17	168.42	-818.84	928.15	885.46	42.69	21.740		
5,750.00	5,708.08	4,784.00	4,783.03	21.36	72.19	6.17	168.42	-818.84	970.57	929.65	40.91	23.723		
5,800.00	5,757.26	4,784.00	4,783.03	21.57	72.19	6.17	168.42	-818.84	1,013.68	974.37	39.30	25.791		
5,850.00	5,806.44	4,784.00	4,783.03	21.78	72.19	6.17	168.42	-818.84	1,057.39	1,019.54	37.85	27.933		
5,900.00	5,855.62	4,784.00	4,783.03	21.99	72.19	6.17	168.42	-818.84	1,101.64	1,065.09	36.55	30.141		
5,950.00	5,904.80	4,784.00	4,783.03	22.20	72.19	6.17	168.42	-818.84	1,146.37	1,110.99	35.38	32.404		
6,000.00	5,953.98	4,784.00	4,783.03	22.41	72.19	6.17	168.42	-818.84	1,191.51	1,157.18	34.32	34.713		
6,050.00	6,003.16	4,784.00	4,783.03	22.62	72.19	6.17	168.42	-818.84	1,237.03	1,203.64	33.38	37.057		
6,100.00	6,052.34	4,784.00	4,783.03	22.83	72.19	6.17	168.42	-818.84	1,282.88	1,250.34	32.54	39.428		
6,150.00	6,101.52	4,784.00	4,783.03	23.04	72.19	6.17	168.42	-818.84	1,329.03	1,297.24	31.78	41.815		
6,200.00	6,150.70	4,784.00	4,783.03	23.26	72.19	6.17	168.42	-818.84	1,375.44	1,344.33	31.11	44.210		
6,250.00	6,199.88	4,784.00	4,783.03	23.47	72.19	6.17	168.42	-818.84	1,422.11	1,391.59	30.51	46.604		
6,300.00	6,248.06	4,784.00	4,783.03	23.68	72.19	6.17	168.42	-818.84	1,468.99	1,439.00	29.98	48.992		

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

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Van Doo Dah 21-33 Fed Com 233H
Project:	Lea County (NAD83 New Mexico East)	TVD Reference:	RKB @ 3415.20ft
Reference Site:	Sec 21-T25S-R32E	MD Reference:	RKB @ 3415.20ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Van Doo Dah 21-33 Fed Com 233H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 2	Offset TVD Reference:	Offset Datum

Offset Design Sec 21-T25S-R32E - Marwari 21-16 State Fed Com 234H - Wellbore #1 - Permit Plan 1 (Pro Directiona												Offset Site Error:	0.00 ft
Survey Program: 0-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
0.00	0.00	8.20	-8.20	0.50	0.50	88.85	0.60	29.98	29.99				
50.00	50.00	41.80	41.80	0.50	0.50	88.85	0.60	29.98	29.99	28.98	1.01	29.813	
100.00	100.00	108.20	91.80	0.52	0.53	88.85	0.60	29.98	29.99	28.94	1.05	28.603	
150.00	150.00	141.80	141.80	0.59	0.58	88.85	0.60	29.98	29.99	28.81	1.17	25.580	
200.00	200.00	208.20	191.80	0.70	0.73	88.85	0.60	29.98	29.99	28.55	1.44	20.895	
250.00	250.00	241.80	241.80	0.84	0.83	88.85	0.60	29.98	29.99	28.32	1.66	18.033	
300.00	300.00	308.20	291.80	0.99	1.03	88.85	0.60	29.98	29.99	27.97	2.01	14.904	
350.00	350.00	341.80	341.80	1.15	1.13	88.85	0.60	29.98	29.99	27.71	2.28	13.170	
400.00	400.00	408.20	391.80	1.31	1.35	88.85	0.60	29.98	29.99	27.33	2.66	11.281	
450.00	450.00	441.80	441.80	1.48	1.46	88.85	0.60	29.98	29.99	27.05	2.94	10.207	
500.00	500.00	508.20	491.80	1.65	1.69	88.85	0.60	29.98	29.99	26.65	3.33	8.996	
550.00	550.00	541.80	541.80	1.82	1.80	88.85	0.60	29.98	29.99	26.37	3.62	8.283	
600.00	600.00	608.20	591.80	1.99	2.03	88.85	0.60	29.98	29.99	25.96	4.02	7.454	
650.00	650.00	641.80	641.80	2.16	2.15	88.85	0.60	29.98	29.99	25.67	4.31	6.951	
700.00	700.00	708.20	691.80	2.34	2.38	88.85	0.60	29.98	29.99	25.27	4.72	6.352	
750.00	750.00	741.80	741.80	2.51	2.50	88.85	0.60	29.98	29.99	24.97	5.01	5.981	
800.00	800.00	808.20	791.80	2.69	2.73	88.85	0.60	29.98	29.99	24.56	5.42	5.529	
850.00	850.00	841.80	841.80	2.87	2.85	88.85	0.60	29.98	29.99	24.27	5.72	5.244	
900.00	900.00	908.20	891.80	3.04	3.09	88.85	0.60	29.98	29.99	23.86	6.13	4.892 Alert	
950.00	950.00	941.80	941.80	3.22	3.21	88.85	0.60	29.98	29.99	23.56	6.43	4.667 Alert	
1,000.00	1,000.00	991.80	991.80	3.40	3.38	88.85	0.60	29.98	29.99	23.21	6.78	4.423 Alert, CC	
1,050.00	1,050.00	1,041.70	1,041.70	3.57	3.56	88.81	0.63	30.05	30.06	22.93	7.13	4.215 Alert	
1,100.00	1,100.00	1,091.57	1,091.57	3.75	3.73	88.62	0.73	30.32	30.33	22.85	7.48	4.053 Alert, ES	
1,150.00	1,150.00	1,141.44	1,141.44	3.93	3.90	88.32	0.91	30.80	30.81	22.98	7.83	3.934 Alert	
1,200.00	1,200.00	1,191.31	1,191.30	4.11	4.08	87.89	1.16	31.48	31.50	23.32	8.18	3.849 Alert	
1,250.00	1,250.00	1,241.17	1,241.15	4.29	4.25	87.37	1.49	32.36	32.40	23.86	8.53	3.796 Alert	
1,300.00	1,300.00	1,291.02	1,290.99	4.46	4.42	86.76	1.89	33.44	33.51	24.62	8.88	3.771 Alert	
1,350.00	1,350.00	1,340.86	1,340.81	4.64	4.60	86.09	2.37	34.73	34.82	25.59	9.24	3.771 Alert, SF	
1,400.00	1,400.00	1,390.68	1,390.61	4.82	4.77	85.38	2.93	36.22	36.36	26.77	9.59	3.792 Alert	
1,450.00	1,450.00	1,440.49	1,440.39	5.00	4.95	84.64	3.56	37.91	38.10	28.17	9.94	3.834 Alert	
1,500.00	1,500.00	1,490.29	1,490.14	5.18	5.12	83.88	4.27	39.81	40.07	29.78	10.29	3.894 Alert	
1,550.00	1,550.00	1,540.07	1,539.87	5.36	5.30	83.13	5.05	41.90	42.25	31.61	10.64	3.970 Alert	
1,600.00	1,600.00	1,589.82	1,589.56	5.53	5.48	82.39	5.90	44.20	44.65	33.65	10.99	4.061 Alert	
1,650.00	1,650.00	1,639.55	1,639.22	5.71	5.65	81.67	6.84	46.70	47.27	35.92	11.35	4.166 Alert	
1,700.00	1,700.00	1,689.26	1,688.85	5.89	5.83	80.98	7.84	49.40	50.10	38.41	11.70	4.283 Alert	
1,750.00	1,750.00	1,738.95	1,738.43	6.07	6.01	80.31	8.93	52.29	53.16	41.11	12.05	4.412 Alert	
1,800.00	1,800.00	1,788.60	1,787.98	6.25	6.18	79.69	10.08	55.39	56.43	44.03	12.40	4.551 Alert	
1,850.00	1,850.00	1,838.23	1,837.48	6.43	6.36	79.09	11.31	58.69	59.93	47.18	12.75	4.700 Alert	
1,900.00	1,900.00	1,887.82	1,886.93	6.61	6.54	78.53	12.62	62.19	63.64	50.54	13.10	4.857 Alert	
1,950.00	1,950.00	1,937.38	1,936.34	6.78	6.72	78.01	13.99	65.88	67.57	54.12	13.45	5.023	
2,000.00	2,000.00	1,986.91	1,985.69	6.96	6.90	77.52	15.45	69.77	71.72	57.92	13.80	5.196	
2,050.00	2,050.00	2,036.40	2,034.99	7.14	7.08	77.06	16.97	73.86	76.09	61.94	14.15	5.376	
2,100.00	2,100.00	2,085.85	2,084.22	7.32	7.26	76.63	18.57	78.15	80.68	66.17	14.50	5.562	
2,150.00	2,150.00	2,135.26	2,133.40	7.50	7.44	76.23	20.24	82.62	85.48	70.63	14.85	5.755	
2,200.00	2,200.00	2,184.63	2,182.52	7.68	7.62	75.86	21.98	87.30	90.50	75.30	15.20	5.953	
2,250.00	2,250.00	2,234.23	2,231.85	7.86	7.80	75.52	23.79	92.15	95.69	80.13	15.56	6.150	
2,300.00	2,300.00	2,283.96	2,281.31	8.04	7.98	75.21	25.61	97.02	100.89	84.97	15.91	6.340	
2,350.00	2,350.00	2,333.68	2,330.76	8.21	8.17	74.93	27.43	101.89	106.09	89.82	16.27	6.521	
2,400.00	2,400.00	2,383.41	2,380.21	8.39	8.35	74.68	29.24	106.76	111.29	94.67	16.63	6.694	
2,450.00	2,450.00	2,433.14	2,429.67	8.57	8.54	74.45	31.06	111.63	116.50	99.52	16.98	6.860	
2,500.00	2,500.00	2,482.86	2,479.12	8.75	8.72	74.24	32.88	116.50	121.71	104.37	17.34	7.019	
2,550.00	2,550.00	2,532.57	2,528.55	8.93	8.91	156.14	34.69	121.36	127.12	109.42	17.69	7.185	

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

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Van Doo Dah 21-33 Fed Com 233H
Project:	Lea County (NAD83 New Mexico East)	TVD Reference:	RKB @ 3415.20ft
Reference Site:	Sec 21-T25S-R32E	MD Reference:	RKB @ 3415.20ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Van Doo Dah 21-33 Fed Com 233H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 2	Offset TVD Reference:	Offset Datum

Offset Design Sec 21-T25S-R32E - Marwari 21-16 State Fed Com 234H - Wellbore #1 - Permit Plan 1 (Pro Directiona													Offset Site Error:	0.00 ft
Survey Program: 0-MWD+HDGM													Offset Well Error:	0.50 ft
Reference		Offset		Semi-Major Axis		Distance		Minimum Separation		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)	Separation Factor		
2,600.00	2,599.99	2,582.23	2,577.94	9.10	9.09	156.06	36.51	126.23	132.92	114.88	18.05	7.366		
2,650.00	2,649.98	2,631.84	2,627.28	9.27	9.28	156.05	38.32	131.09	139.12	120.73	18.39	7.563		
2,700.00	2,699.96	2,681.78	2,676.95	9.45	9.46	156.10	40.14	135.96	145.70	126.95	18.75	7.771		
2,750.00	2,749.92	2,732.65	2,727.58	9.62	9.65	156.24	41.87	140.61	152.35	133.23	19.11	7.971		
2,800.00	2,799.88	2,783.59	2,778.32	9.79	9.84	156.43	43.45	144.84	158.95	139.47	19.48	8.161		
2,850.00	2,849.78	2,834.59	2,829.15	9.97	10.03	156.69	44.88	148.66	165.52	145.68	19.84	8.342		
2,900.00	2,899.68	2,885.65	2,880.09	10.14	10.22	157.00	46.14	152.05	172.05	151.84	20.20	8.515		
2,950.00	2,949.54	2,936.77	2,931.11	10.31	10.40	157.35	47.25	155.02	178.54	157.97	20.57	8.681		
3,000.00	2,999.37	2,987.95	2,982.21	10.49	10.59	157.75	48.20	157.57	185.00	164.07	20.93	8.840		
3,050.00	3,049.16	3,039.19	3,033.40	10.66	10.77	158.19	48.99	159.69	191.43	170.14	21.29	8.993		
3,100.00	3,098.90	3,090.48	3,084.66	10.84	10.96	158.66	49.63	161.39	197.83	176.19	21.64	9.140		
3,150.00	3,148.61	3,141.82	3,135.99	11.02	11.14	159.17	50.10	162.66	204.21	182.21	22.00	9.282		
3,200.00	3,198.26	3,193.22	3,187.38	11.20	11.32	159.70	50.41	163.49	210.57	188.21	22.36	9.419		
3,250.00	3,247.86	3,244.66	3,238.81	11.38	11.51	160.26	50.56	163.90	216.92	194.21	22.71	9.551		
3,300.00	3,297.40	3,304.95	3,289.20	11.56	11.72	160.83	50.58	163.94	223.33	200.23	23.10	9.670		
3,350.00	3,346.89	3,344.53	3,338.69	11.74	11.85	161.40	50.58	163.94	230.12	206.71	23.41	9.831		
3,400.00	3,396.30	3,406.05	3,388.10	11.92	12.07	161.96	50.58	163.94	237.35	213.55	23.80	9.974		
3,450.00	3,445.65	3,443.30	3,437.45	12.10	12.20	162.52	50.58	163.94	245.01	220.91	24.10	10.165		
3,500.00	3,494.93	3,507.42	3,486.73	12.29	12.42	163.07	50.58	163.94	253.11	228.81	24.50	10.330		
3,550.00	3,544.13	3,541.78	3,535.93	12.47	12.54	163.62	50.58	163.94	261.64	236.84	24.80	10.551		
3,600.00	3,593.32	3,609.04	3,585.12	12.66	12.78	164.15	50.58	163.94	270.31	245.10	25.21	10.723		
3,650.00	3,642.50	3,640.14	3,634.30	12.85	12.89	164.66	50.58	163.94	279.00	253.51	25.49	10.944		
3,700.00	3,691.68	3,689.32	3,683.48	13.04	13.06	165.13	50.58	163.94	287.72	261.87	25.84	11.134		
3,750.00	3,740.86	3,738.50	3,732.66	13.23	13.23	165.58	50.58	163.94	296.45	270.26	26.19	11.319		
3,800.00	3,790.04	3,787.68	3,781.84	13.42	13.40	166.00	50.58	163.94	305.20	278.66	26.54	11.500		
3,850.00	3,839.22	3,836.86	3,831.02	13.62	13.58	166.40	50.58	163.94	313.96	287.07	26.89	11.677		
3,900.00	3,888.40	3,886.04	3,880.20	13.81	13.75	166.77	50.58	163.94	322.74	295.50	27.24	11.849		
3,950.00	3,937.58	3,935.23	3,929.38	14.01	13.92	167.13	50.58	163.94	331.53	303.94	27.59	12.017		
4,000.00	3,986.76	3,984.41	3,978.56	14.20	14.09	167.47	50.58	163.94	340.33	312.39	27.94	12.182		
4,050.00	4,035.94	4,033.59	4,027.74	14.40	14.27	167.79	50.58	163.94	349.14	320.85	28.29	12.342		
4,100.00	4,085.12	4,082.77	4,076.92	14.59	14.44	168.09	50.58	163.94	357.96	329.32	28.64	12.499		
4,150.00	4,134.30	4,131.95	4,126.10	14.79	14.61	168.38	50.58	163.94	366.79	337.80	28.99	12.652		
4,200.00	4,183.48	4,181.13	4,175.28	14.99	14.79	168.66	50.58	163.94	375.63	346.29	29.34	12.802		
4,250.00	4,232.66	4,230.31	4,224.46	15.19	14.96	168.93	50.58	163.94	384.48	354.79	29.69	12.948		
4,300.00	4,281.84	4,279.49	4,273.64	15.39	15.13	169.18	50.58	163.94	393.34	363.29	30.05	13.091		
4,350.00	4,331.02	4,328.67	4,322.82	15.59	15.31	169.42	50.58	163.94	402.20	371.80	30.40	13.231		
4,400.00	4,380.20	4,377.85	4,372.00	15.79	15.48	169.65	50.58	163.94	411.07	380.32	30.75	13.368		
4,450.00	4,429.38	4,427.03	4,421.18	15.99	15.65	169.87	50.58	163.94	419.95	388.85	31.10	13.501		
4,500.00	4,478.57	4,476.21	4,470.37	16.19	15.83	170.08	50.58	163.94	428.83	397.37	31.46	13.632		
4,550.00	4,527.75	4,525.39	4,519.55	16.39	16.00	170.28	50.58	163.94	437.72	405.91	31.81	13.760		
4,600.00	4,576.93	4,574.57	4,568.73	16.59	16.17	170.48	50.58	163.94	446.61	414.45	32.16	13.885		
4,650.00	4,626.11	4,623.75	4,617.91	16.80	16.35	170.67	50.58	163.94	455.51	422.99	32.52	14.008		
4,700.00	4,675.29	4,672.93	4,667.09	17.00	16.52	170.85	50.58	163.94	464.41	431.54	32.87	14.128		
4,750.00	4,724.47	4,722.11	4,716.27	17.21	16.70	171.02	50.58	163.94	473.32	440.09	33.23	14.245		
4,800.00	4,773.65	4,771.29	4,765.45	17.41	16.87	171.19	50.58	163.94	482.23	448.65	33.58	14.360		
4,850.00	4,822.83	4,820.48	4,814.63	17.61	17.04	171.35	50.58	163.94	491.14	457.21	33.94	14.473		
4,900.00	4,872.01	4,869.66	4,863.81	17.82	17.22	171.50	50.58	163.94	500.06	465.77	34.29	14.583		
4,950.00	4,921.19	4,918.84	4,912.99	18.03	17.39	171.65	50.58	163.94	508.98	474.33	34.65	14.691		
5,000.00	4,970.37	4,968.02	4,962.17	18.23	17.57	171.80	50.58	163.94	517.90	482.90	35.00	14.797		
5,050.00	5,019.55	5,017.20	5,011.35	18.44	17.74	171.94	50.58	163.94	526.83	491.48	35.36	14.900		
5,100.00	5,068.73	5,066.38	5,060.53	18.64	17.91	172.07	50.58	163.94	535.76	500.05	35.71	15.002		
5,150.00	5,117.91	5,115.56	5,109.71	18.85	18.09	172.21	50.58	163.94	544.70	508.63	36.07	15.102		

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

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Van Doo Dah 21-33 Fed Com 233H
Project:	Lea County (NAD83 New Mexico East)	TVD Reference:	RKB @ 3415.20ft
Reference Site:	Sec 21-T25S-R32E	MD Reference:	RKB @ 3415.20ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Van Doo Dah 21-33 Fed Com 233H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 2	Offset TVD Reference:	Offset Datum

Offset Design Sec 21-T25S-R32E - Marwari 21-16 State Fed Com 234H - Wellbore #1 - Permit Plan 1 (Pro Directiona													Offset Site Error:	0.00 ft
Survey Program: 0-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		
5,200.00	5,167.09	5,164.74	5,158.89	19.08	18.26	172.33	50.58	163.94	553.63	517.21	36.42	15.200		
5,250.00	5,216.27	5,213.92	5,208.07	19.27	18.44	172.45	50.58	163.94	562.57	525.79	36.78	15.295		
5,300.00	5,265.45	5,263.10	5,257.25	19.47	18.61	172.57	50.58	163.94	571.51	534.37	37.14	15.389		
5,350.00	5,314.63	5,312.28	5,306.43	19.68	18.79	172.69	50.58	163.94	580.45	542.96	37.49	15.482		
5,400.00	5,363.81	5,361.46	5,355.61	19.89	18.96	172.80	50.58	163.94	589.40	551.55	37.85	15.572		
5,450.00	5,413.00	5,410.64	5,404.80	20.10	19.14	172.91	50.58	163.94	598.35	560.14	38.21	15.661		
5,500.00	5,462.18	5,459.82	5,453.98	20.31	19.31	173.01	50.58	163.94	607.30	568.73	38.56	15.748		
5,550.00	5,511.36	5,509.00	5,503.16	20.52	19.48	173.11	50.58	163.94	616.25	577.33	38.92	15.833		
5,600.00	5,560.54	5,558.18	5,552.34	20.73	19.66	173.21	50.58	163.94	625.20	585.92	39.28	15.917		
5,650.00	5,609.72	5,607.36	5,601.52	20.94	19.83	173.31	50.58	163.94	634.16	594.52	39.64	16.000		
5,700.00	5,658.90	5,656.54	5,650.70	21.15	20.01	173.40	50.58	163.94	643.11	603.12	39.99	16.081		
5,750.00	5,708.08	5,705.72	5,699.88	21.36	20.18	173.49	50.58	163.94	652.07	611.72	40.35	16.160		
5,800.00	5,757.26	5,754.91	5,749.06	21.57	20.36	173.58	50.58	163.94	661.03	620.32	40.71	16.238		
5,850.00	5,806.44	5,804.09	5,798.24	21.78	20.53	173.67	50.58	163.94	669.99	628.93	41.07	16.315		
5,900.00	5,855.62	5,853.27	5,847.42	21.99	20.71	173.75	50.58	163.94	678.95	637.53	41.42	16.391		
5,950.00	5,904.80	5,902.45	5,896.60	22.20	20.88	173.83	50.58	163.94	687.92	646.14	41.78	16.465		
6,000.00	5,953.98	5,951.63	5,945.78	22.41	21.06	173.91	50.58	163.94	696.88	654.74	42.14	16.537		
6,050.00	6,003.16	6,000.81	5,994.96	22.62	21.23	173.99	50.58	163.94	705.85	663.35	42.50	16.609		
6,100.00	6,052.34	6,049.99	6,044.14	22.83	21.41	174.07	50.58	163.94	714.82	671.96	42.86	16.679		
6,150.00	6,101.52	6,100.83	6,093.32	23.04	21.59	174.14	50.58	163.94	723.79	680.57	43.22	16.746		
6,200.00	6,150.70	6,148.35	6,142.50	23.26	21.76	174.21	50.58	163.94	732.76	689.18	43.57	16.817		
6,250.00	6,199.88	6,202.47	6,191.68	23.47	21.95	174.28	50.58	163.94	741.73	697.78	43.95	16.877		
6,300.00	6,249.06	6,246.71	6,240.86	23.68	22.11	174.35	50.58	163.94	750.70	706.41	44.29	16.949		
6,350.00	6,298.25	6,304.11	6,290.05	23.89	22.31	174.42	50.58	163.94	759.67	715.00	44.68	17.003		
6,400.00	6,347.43	6,345.07	6,339.23	24.11	22.46	174.48	50.58	163.94	768.65	723.64	45.01	17.078		
6,450.00	6,396.61	6,405.75	6,388.41	24.32	22.67	174.55	50.58	163.94	777.62	732.22	45.41	17.125		
6,500.00	6,445.79	6,443.43	6,437.59	24.53	22.81	174.61	50.58	163.94	786.60	740.87	45.73	17.202		
6,550.00	6,494.97	6,507.39	6,486.77	24.74	23.03	174.67	50.58	163.94	795.58	749.44	46.14	17.243		
6,600.00	6,544.15	6,541.79	6,535.95	24.96	23.16	174.73	50.58	163.94	804.56	758.11	46.45	17.322		
6,650.00	6,593.33	6,609.03	6,585.13	25.17	23.39	174.79	50.58	163.94	813.53	766.68	46.87	17.357		
6,700.00	6,642.51	6,640.16	6,634.31	25.38	23.51	174.85	50.58	163.94	822.51	775.35	47.16	17.439		
6,750.00	6,691.69	6,689.34	6,683.49	25.60	23.68	174.90	50.58	163.94	831.49	783.97	47.52	17.498		
6,800.00	6,740.87	6,738.52	6,732.67	25.81	23.86	174.96	50.58	163.94	840.48	792.59	47.88	17.552		
6,850.00	6,790.05	6,787.70	6,781.85	26.02	24.03	175.01	50.58	163.94	849.46	801.21	48.24	17.608		
6,900.00	6,839.23	6,836.88	6,831.03	26.24	24.21	175.06	50.58	163.94	858.44	809.84	48.60	17.662		
6,950.00	6,888.41	6,886.06	6,880.21	26.45	24.38	175.11	50.58	163.94	867.42	818.46	48.96	17.716		
7,000.00	6,937.59	6,935.24	6,929.39	26.67	24.56	175.16	50.58	163.94	876.41	827.08	49.32	17.769		
7,050.00	6,986.77	6,984.42	6,978.57	26.88	24.73	175.21	50.58	163.94	885.39	835.71	49.68	17.821		
7,100.00	7,035.95	7,033.60	7,027.75	27.10	24.91	175.26	50.58	163.94	894.38	844.33	50.04	17.872		
7,150.00	7,085.13	7,082.78	7,076.93	27.31	25.08	175.31	50.58	163.94	903.36	852.96	50.40	17.922		
7,200.00	7,134.31	7,131.96	7,126.11	27.52	25.26	175.35	50.58	163.94	912.35	861.58	50.76	17.972		
7,250.00	7,183.49	7,181.14	7,175.29	27.74	25.43	175.40	50.58	163.94	921.34	870.21	51.12	18.021		
7,300.00	7,232.68	7,230.32	7,224.48	27.95	25.61	175.44	50.58	163.94	930.32	878.84	51.49	18.070		
7,350.00	7,281.86	7,279.50	7,273.66	28.17	25.78	175.49	50.58	163.94	939.31	887.46	51.85	18.117		
7,400.00	7,331.04	7,328.68	7,322.84	28.38	25.96	175.53	50.58	163.94	948.30	896.09	52.21	18.164		
7,450.00	7,380.22	7,377.86	7,372.02	28.60	26.13	175.57	50.58	163.94	957.29	904.72	52.57	18.211		
7,500.00	7,429.40	7,427.04	7,421.20	28.81	26.31	175.61	50.58	163.94	966.28	913.35	52.93	18.257		
7,550.00	7,478.58	7,476.22	7,470.38	29.03	26.48	175.65	50.58	163.94	975.27	921.98	53.29	18.302		
7,600.00	7,527.76	7,525.41	7,519.56	29.24	26.66	175.69	50.58	163.94	984.26	930.61	53.65	18.346		
7,650.00	7,576.94	7,574.59	7,568.74	29.46	26.83	175.73	50.58	163.94	993.25	939.24	54.01	18.390		
7,700.00	7,626.12	7,623.77	7,617.92	29.68	27.01	175.77	50.58	163.94	1,002.24	947.87	54.37	18.433		
7,750.00	7,675.30	7,672.95	7,667.10	29.89	27.19	175.81	50.58	163.94	1,011.23	956.50	54.73	18.476		

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

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Van Doo Dah 21-33 Fed Com 233H
Project:	Lea County (NAD83 New Mexico East)	TVD Reference:	RKB @ 3415.20ft
Reference Site:	Sec 21-T25S-R32E	MD Reference:	RKB @ 3415.20ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Van Doo Dah 21-33 Fed Com 233H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 2	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:		0.00 ft
Survey Program: 0-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		
7,800.00	7,724.48	7,722.13	7,716.28	30.11	27.36	175.85	50.58	163.94	1,020.22	985.13	55.09	18.518			
7,850.00	7,773.66	7,771.31	7,765.46	30.32	27.54	175.88	50.58	163.94	1,029.22	973.76	55.45	18.560			
7,900.00	7,822.84	7,820.49	7,814.64	30.54	27.71	175.92	50.58	163.94	1,038.21	982.39	55.82	18.601			
7,950.00	7,872.02	7,869.67	7,863.82	30.75	27.89	175.95	50.58	163.94	1,047.20	991.03	56.18	18.641			
8,000.00	7,921.20	7,918.85	7,913.00	30.97	28.06	175.99	50.58	163.94	1,056.20	999.66	56.54	18.681			
8,050.00	7,970.38	7,968.03	7,962.18	31.19	28.24	176.02	50.58	163.94	1,065.19	1,008.29	56.90	18.721			
8,100.00	8,019.56	8,017.21	8,011.36	31.40	28.41	176.06	50.58	163.94	1,074.18	1,016.92	57.26	18.760			
8,150.00	8,068.74	8,066.39	8,060.54	31.62	28.59	176.09	50.58	163.94	1,083.18	1,025.56	57.62	18.798			
8,200.00	8,117.93	8,115.57	8,109.73	31.83	28.76	176.12	50.58	163.94	1,092.17	1,034.19	57.98	18.836			
8,250.00	8,167.11	8,164.75	8,158.91	32.05	28.94	176.15	50.58	163.94	1,101.17	1,042.82	58.34	18.873			
8,300.00	8,216.29	8,213.93	8,208.09	32.27	29.12	176.18	50.58	163.94	1,110.17	1,051.46	58.71	18.910			
8,350.00	8,265.47	8,263.11	8,257.27	32.48	29.29	176.21	50.58	163.94	1,119.16	1,060.09	59.07	18.947			
8,400.00	8,314.65	8,312.29	8,306.45	32.70	29.47	176.24	50.58	163.94	1,128.16	1,068.73	59.43	18.983			
8,450.00	8,363.83	8,361.47	8,355.63	32.92	29.64	176.27	50.58	163.94	1,137.15	1,077.36	59.79	19.019			
8,500.00	8,413.01	8,410.65	8,404.81	33.13	29.82	176.30	50.58	163.94	1,146.15	1,086.00	60.15	19.054			
8,550.00	8,462.19	8,459.84	8,453.99	33.35	29.99	176.33	50.58	163.94	1,155.15	1,094.63	60.52	19.089			
8,600.00	8,511.37	8,509.02	8,503.17	33.57	30.17	176.36	50.58	163.94	1,164.15	1,103.27	60.88	19.123			
8,650.00	8,560.55	8,558.20	8,552.35	33.78	30.34	176.39	50.58	163.94	1,173.14	1,111.90	61.24	19.157			
8,700.00	8,609.73	8,607.38	8,601.53	34.00	30.52	176.42	50.58	163.94	1,182.14	1,120.54	61.60	19.190			
8,750.00	8,658.91	8,656.56	8,650.71	34.22	30.70	176.44	50.58	163.94	1,191.14	1,129.18	61.96	19.223			
8,800.00	8,708.09	8,705.74	8,699.89	34.43	30.87	176.47	50.58	163.94	1,200.14	1,137.81	62.33	19.256			
8,850.00	8,757.27	8,754.92	8,749.07	34.65	31.05	176.50	50.58	163.94	1,209.14	1,146.45	62.69	19.288			
8,900.00	8,806.45	8,804.10	8,798.25	34.87	31.22	176.52	50.58	163.94	1,218.14	1,155.09	63.05	19.320			
8,950.00	8,855.63	8,853.28	8,847.43	35.09	31.40	176.55	50.58	163.94	1,227.14	1,163.72	63.41	19.352			
9,000.00	8,904.81	8,902.46	8,896.61	35.30	31.57	176.57	50.58	163.94	1,236.14	1,172.36	63.77	19.383			
9,050.00	8,953.99	8,951.64	8,945.79	35.52	31.75	176.60	50.58	163.94	1,245.14	1,181.00	64.14	19.414			
9,100.00	9,003.17	9,000.82	8,994.97	35.74	31.93	176.62	50.58	163.94	1,254.14	1,189.64	64.50	19.444			
9,150.00	9,052.39	9,050.04	9,044.19	35.95	32.10	176.65	50.58	163.94	1,262.93	1,198.07	64.86	19.471			
9,200.00	9,101.72	9,100.64	9,093.52	36.17	32.28	176.68	50.58	163.94	1,271.10	1,205.87	65.23	19.487			
9,250.00	9,151.15	9,148.79	9,142.95	36.37	32.45	176.71	50.58	163.94	1,278.62	1,213.04	65.58	19.496			
9,300.00	9,200.67	9,201.68	9,192.47	36.58	32.64	176.73	50.58	163.94	1,285.50	1,219.54	65.96	19.490			
9,350.00	9,250.28	9,247.93	9,242.08	36.77	32.81	176.75	50.58	163.94	1,291.72	1,225.42	66.31	19.482			
9,400.00	9,299.97	9,302.39	9,291.77	36.97	33.00	176.77	50.58	163.94	1,297.30	1,230.62	66.68	19.455			
9,450.00	9,349.72	9,347.37	9,341.52	37.16	33.16	176.79	50.58	163.94	1,302.23	1,235.21	67.02	19.429			
9,500.00	9,399.54	9,402.82	9,391.34	37.34	33.36	176.80	50.58	163.94	1,306.51	1,239.11	67.40	19.384			
9,550.00	9,449.40	9,447.05	9,441.20	37.52	33.52	176.81	50.58	163.94	1,310.14	1,242.40	67.74	19.341			
9,600.00	9,499.31	9,503.04	9,491.11	37.70	33.72	176.82	50.58	163.94	1,313.11	1,245.00	68.12	19.277			
9,650.00	9,549.26	9,546.91	9,541.06	37.87	33.88	176.83	50.58	163.94	1,315.44	1,246.99	68.45	19.217			
9,700.00	9,599.23	9,603.12	9,591.03	38.05	34.08	176.84	50.58	163.94	1,317.11	1,248.28	68.83	19.136			
9,750.00	9,649.22	9,646.87	9,641.02	38.21	34.23	176.84	50.58	163.94	1,318.12	1,248.97	69.16	19.060			
9,800.00	9,699.22	9,704.81	9,698.92	38.37	34.44	176.77	52.11	163.94	1,318.38	1,248.83	69.55	18.956			
9,850.00	9,749.22	9,765.57	9,759.18	38.53	34.66	94.36	59.75	163.94	1,317.88	1,247.93	69.95	18.840			
9,900.00	9,799.22	9,824.10	9,816.13	38.69	34.86	93.78	73.11	163.94	1,317.05	1,246.71	70.34	18.725			
9,950.00	9,849.22	9,879.37	9,868.41	38.85	35.04	93.01	90.99	163.94	1,316.04	1,245.34	70.70	18.615			
10,000.00	9,899.22	9,930.72	9,915.23	39.00	35.21	92.09	112.04	163.94	1,315.04	1,244.00	71.04	18.511			
10,050.00	9,949.22	9,977.82	9,956.35	39.16	35.35	91.09	134.97	163.94	1,314.27	1,242.91	71.36	18.418			
10,100.00	9,999.22	10,020.62	9,991.98	39.32	35.48	90.06	158.67	163.94	1,313.94	1,242.29	71.65	18.338			
10,102.80	10,002.02	10,022.89	9,993.82	39.33	35.48	90.00	160.00	163.94	1,313.94	1,242.27	71.67	18.334			
10,150.00	10,049.22	10,059.26	10,022.55	39.48	35.59	89.03	182.30	163.94	1,314.26	1,242.35	71.91	18.276			
10,200.00	10,099.17	10,095.19	10,049.48	39.64	35.69	88.14	206.07	163.94	1,315.34	1,243.20	72.14	18.233			
10,250.00	10,148.75	10,130.10	10,074.17	39.80	35.80	87.03	230.73	163.94	1,317.13	1,244.78	72.35	18.205			
10,300.00	10,197.61	10,164.14	10,096.76	39.96	35.90	85.91	256.20	163.94	1,319.54	1,247.01	72.53	18.194			

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

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Van Doo Dah 21-33 Fed Com 233H
Project:	Lea County (NAD83 New Mexico East)	TVD Reference:	RKB @ 3415.20ft
Reference Site:	Sec 21-T25S-R32E	MD Reference:	RKB @ 3415.20ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Van Doo Dah 21-33 Fed Com 233H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 2	Offset TVD Reference:	Offset Datum

Offset Design Sec 21-T25S-R32E - Marwari 21-16 State Fed Com 234H - Wellbore #1 - Permit Plan 1 (Pro Directiona													Offset Site Error:	0.00 ft
Survey Program: 0-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		
10,350.00	10,245.35	10,197.46	10,117.37	40.12	36.01	84.80	282.37	163.94	1,322.49	1,249.81	72.68	18.196		
10,400.00	10,291.62	10,230.16	10,136.08	40.27	36.11	83.70	309.19	163.94	1,325.89	1,253.09	72.80	18.212		
10,450.00	10,338.07	10,262.34	10,152.97	40.42	36.21	82.61	336.57	163.94	1,329.65	1,256.75	72.90	18.239		
10,500.00	10,378.36	10,294.06	10,168.09	40.56	36.30	81.54	364.45	163.94	1,333.69	1,260.71	72.97	18.276		
10,550.00	10,418.17	10,325.39	10,181.49	40.70	36.40	80.51	392.77	163.94	1,337.90	1,264.87	73.03	18.320		
10,600.00	10,455.18	10,356.39	10,193.20	40.82	36.50	79.52	421.47	163.94	1,342.21	1,269.14	73.07	18.369		
10,650.00	10,489.13	10,387.10	10,203.25	40.95	36.59	78.58	450.49	163.94	1,346.54	1,273.44	73.10	18.421		
10,700.00	10,519.76	10,417.56	10,211.68	41.06	36.69	77.69	479.76	163.94	1,350.80	1,277.67	73.13	18.472		
10,750.00	10,546.82	10,450.00	10,218.92	41.17	36.79	76.83	511.37	163.94	1,354.93	1,281.76	73.17	18.518		
10,800.00	10,570.12	10,477.87	10,223.71	41.28	36.88	76.10	538.82	163.94	1,358.84	1,285.65	73.19	18.567		
10,850.00	10,589.47	10,507.78	10,227.36	41.39	36.97	75.42	568.50	163.94	1,362.48	1,289.24	73.23	18.605		
10,900.00	10,604.74	10,537.55	10,229.45	41.51	37.07	74.81	598.19	163.94	1,365.79	1,292.50	73.30	18.634		
10,950.00	10,615.80	10,570.05	10,230.01	41.63	37.17	74.26	630.68	163.94	1,368.72	1,295.33	73.39	18.649		
11,000.00	10,622.57	10,619.57	10,230.01	41.75	37.34	73.80	680.21	163.94	1,370.77	1,297.14	73.63	18.617		
11,050.00	10,624.99	10,669.50	10,230.01	41.89	37.52	73.62	730.13	163.94	1,371.62	1,297.70	73.93	18.554		
11,100.00	10,625.00	10,719.50	10,230.01	42.04	37.71	73.62	780.13	163.94	1,371.80	1,297.52	74.27	18.470		
11,150.00	10,625.00	10,769.50	10,230.01	42.20	37.91	73.62	830.13	163.94	1,371.97	1,297.32	74.65	18.379		
11,200.00	10,625.00	10,819.49	10,230.01	42.38	38.13	73.63	880.13	163.94	1,372.14	1,297.10	75.04	18.286		
11,250.00	10,625.00	10,869.49	10,230.01	42.56	38.36	73.63	930.13	163.94	1,372.31	1,296.84	75.47	18.185		
11,300.00	10,625.00	10,919.49	10,230.01	42.77	38.60	73.63	980.13	163.94	1,372.48	1,296.57	75.90	18.082		
11,350.00	10,625.00	10,969.49	10,230.01	42.98	38.86	73.63	1,030.13	163.94	1,372.65	1,296.27	76.38	17.972		
11,400.00	10,625.00	11,019.49	10,230.01	43.21	39.12	73.64	1,080.13	163.94	1,372.82	1,295.96	76.86	17.861		
11,450.00	10,625.00	11,069.49	10,230.01	43.45	39.40	73.64	1,130.13	163.94	1,372.99	1,295.61	77.38	17.743		
11,500.00	10,625.00	11,119.49	10,230.01	43.70	39.69	73.64	1,180.13	163.94	1,373.16	1,295.25	77.91	17.625		
11,550.00	10,625.00	11,169.49	10,230.01	43.96	39.99	73.64	1,230.13	163.94	1,373.33	1,294.85	78.47	17.501		
11,600.00	10,625.00	11,219.49	10,230.01	44.24	40.30	73.64	1,280.13	163.94	1,373.50	1,294.45	79.04	17.376		
11,650.00	10,625.00	11,269.49	10,230.01	44.53	40.62	73.65	1,330.13	163.94	1,373.67	1,294.02	79.65	17.246		
11,700.00	10,625.00	11,319.49	10,230.01	44.82	40.95	73.65	1,380.13	163.94	1,373.84	1,293.57	80.26	17.117		
11,750.00	10,625.00	11,369.49	10,230.01	45.13	41.29	73.65	1,430.13	163.94	1,374.01	1,293.10	80.91	16.982		
11,800.00	10,625.00	11,419.49	10,230.01	45.45	41.64	73.65	1,480.13	163.94	1,374.18	1,292.61	81.56	16.848		
11,850.00	10,625.00	11,469.49	10,230.01	45.78	42.00	73.65	1,530.13	163.94	1,374.35	1,292.10	82.25	16.710		
11,900.00	10,625.00	11,519.49	10,230.01	46.11	42.37	73.66	1,580.13	163.94	1,374.52	1,291.58	82.94	16.573		
11,950.00	10,625.00	11,569.49	10,230.01	46.46	42.75	73.66	1,630.13	163.94	1,374.69	1,291.03	83.66	16.432		
12,000.00	10,625.00	11,619.49	10,230.01	46.82	43.14	73.66	1,680.13	163.94	1,374.86	1,290.47	84.38	16.293		
12,050.00	10,625.00	11,669.49	10,230.01	47.18	43.54	73.66	1,730.13	163.94	1,375.03	1,289.89	85.14	16.150		
12,100.00	10,625.00	11,719.49	10,230.01	47.56	43.94	73.66	1,780.13	163.94	1,375.20	1,289.30	85.90	16.009		
12,150.00	10,625.00	11,769.49	10,230.01	47.94	44.36	73.67	1,830.13	163.94	1,375.37	1,288.68	86.69	15.866		
12,200.00	10,625.00	11,819.49	10,230.01	48.33	44.78	73.67	1,880.13	163.94	1,375.54	1,288.06	87.48	15.724		
12,250.00	10,625.00	11,869.49	10,230.01	48.73	45.21	73.67	1,930.12	163.94	1,375.71	1,287.41	88.30	15.580		
12,300.00	10,625.00	11,919.49	10,230.01	49.13	45.64	73.67	1,980.12	163.94	1,375.88	1,286.76	89.12	15.438		
12,350.00	10,625.00	11,969.49	10,230.01	49.55	46.09	73.67	2,030.12	163.94	1,376.05	1,286.08	89.97	15.295		
12,400.00	10,625.00	12,019.49	10,230.01	49.97	46.54	73.68	2,080.12	163.94	1,376.22	1,285.40	90.82	15.153		
12,450.00	10,625.00	12,069.49	10,230.01	50.40	46.99	73.68	2,130.12	163.94	1,376.39	1,284.69	91.70	15.010		
12,500.00	10,625.00	12,119.49	10,230.01	50.83	47.46	73.68	2,180.12	163.94	1,376.56	1,283.98	92.58	14.869		
12,550.00	10,625.00	12,169.49	10,230.01	51.28	47.93	73.68	2,230.12	163.94	1,376.73	1,283.25	93.48	14.728		
12,600.00	10,625.00	12,219.49	10,230.01	51.72	48.41	73.69	2,280.12	163.94	1,376.90	1,282.52	94.38	14.588		
12,650.00	10,625.00	12,269.49	10,230.01	52.18	48.89	73.69	2,330.12	163.94	1,377.07	1,281.76	95.31	14.448		
12,700.00	10,625.00	12,319.49	10,230.01	52.64	49.38	73.69	2,380.12	163.94	1,377.24	1,281.00	96.24	14.311		
12,750.00	10,625.00	12,369.49	10,230.01	53.11	49.88	73.69	2,430.12	163.94	1,377.41	1,280.22	97.19	14.173		
12,800.00	10,625.00	12,419.48	10,230.01	53.58	50.38	73.69	2,480.12	163.94	1,377.58	1,279.44	98.14	14.037		
12,850.00	10,625.00	12,469.48	10,230.01	54.06	50.88	73.70	2,530.12	163.94	1,377.75	1,278.64	99.11	13.901		
12,900.00	10,625.00	12,519.48	10,230.01	54.54	51.39	73.70	2,580.12	163.94	1,377.92	1,277.83	100.09	13.767		

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

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Van Doo Dah 21-33 Fed Com 233H
Project:	Lea County (NAD83 New Mexico East)	TVD Reference:	RKB @ 3415.20ft
Reference Site:	Sec 21-T25S-R32E	MD Reference:	RKB @ 3415.20ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Van Doo Dah 21-33 Fed Com 233H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 2	Offset TVD Reference:	Offset Datum

Offset Design Sec 21-T25S-R32E - Marwari 21-16 State Fed Com 234H - Wellbore #1 - Permit Plan 1 (Pro Directiona													Offset Site Error:	0.00 ft
Survey Program: 0-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		
12,950.00	10,625.00	12,569.48	10,230.01	55.03	51.91	73.70	2,630.12	163.94	1,378.09	1,277.01	101.08	13.634		
13,000.00	10,625.00	12,619.48	10,230.01	55.53	52.43	73.70	2,680.12	163.94	1,378.26	1,276.19	102.08	13.502		
13,050.00	10,625.00	12,669.48	10,230.01	56.03	52.98	73.70	2,730.12	163.94	1,378.43	1,275.34	103.09	13.372		
13,100.00	10,625.00	12,719.48	10,230.01	56.53	53.49	73.71	2,780.12	163.94	1,378.60	1,274.50	104.10	13.243		
13,150.00	10,625.00	12,769.48	10,230.01	57.04	54.02	73.71	2,830.12	163.94	1,378.77	1,273.64	105.13	13.115		
13,200.00	10,625.00	12,819.48	10,230.01	57.56	54.56	73.71	2,880.12	163.94	1,378.94	1,272.78	106.16	12.989		
13,250.00	10,625.00	12,869.48	10,230.01	58.08	55.11	73.71	2,930.12	163.94	1,379.11	1,271.90	107.21	12.864		
13,300.00	10,625.00	12,919.48	10,230.01	58.60	55.66	73.71	2,980.12	163.94	1,379.28	1,271.02	108.26	12.740		
13,350.00	10,625.00	12,969.48	10,230.01	59.13	56.21	73.72	3,030.12	163.94	1,379.45	1,270.13	109.32	12.618		
13,400.00	10,625.00	13,019.48	10,230.01	59.66	56.77	73.72	3,080.12	163.94	1,379.62	1,269.23	110.39	12.498		
13,450.00	10,625.00	13,069.48	10,230.01	60.20	57.33	73.72	3,130.12	163.94	1,379.79	1,268.32	111.47	12.378		
13,500.00	10,625.00	13,119.48	10,230.01	60.73	57.89	73.72	3,180.12	163.94	1,379.96	1,267.41	112.55	12.261		
13,550.00	10,625.00	13,169.48	10,230.01	61.28	58.46	73.72	3,230.12	163.94	1,380.13	1,266.49	113.64	12.144		
13,600.00	10,625.00	13,219.48	10,230.01	61.83	59.03	73.73	3,280.12	163.94	1,380.30	1,265.56	114.74	12.030		
13,650.00	10,625.00	13,269.48	10,230.01	62.38	59.60	73.73	3,330.12	163.94	1,380.47	1,264.63	115.85	11.916		
13,700.00	10,625.00	13,319.48	10,230.01	62.93	60.18	73.73	3,380.12	163.94	1,380.64	1,263.69	116.96	11.805		
13,750.00	10,625.00	13,369.48	10,230.01	63.49	60.76	73.73	3,430.12	163.94	1,380.81	1,262.74	118.08	11.694		
13,800.00	10,625.00	13,419.48	10,230.01	64.05	61.34	73.73	3,480.12	163.94	1,380.98	1,261.78	119.20	11.586		
13,850.00	10,625.00	13,469.48	10,230.01	64.62	61.93	73.74	3,530.11	163.94	1,381.15	1,260.82	120.33	11.478		
13,900.00	10,625.00	13,519.48	10,230.01	65.19	62.52	73.74	3,580.11	163.94	1,381.32	1,259.86	121.47	11.372		
13,950.00	10,625.00	13,569.48	10,230.01	65.76	63.11	73.74	3,630.11	163.94	1,381.49	1,258.88	122.61	11.267		
14,000.00	10,625.00	13,619.48	10,230.01	66.33	63.71	73.74	3,680.11	163.94	1,381.66	1,257.91	123.76	11.164		
14,050.00	10,625.00	13,669.48	10,230.01	66.91	64.31	73.75	3,730.11	163.94	1,381.83	1,256.92	124.91	11.063		
14,100.00	10,625.00	13,719.48	10,230.01	67.49	64.91	73.75	3,780.11	163.94	1,382.00	1,255.94	126.07	10.962		
14,150.00	10,625.00	13,769.48	10,230.01	68.08	65.51	73.75	3,830.11	163.94	1,382.17	1,254.94	127.23	10.863		
14,200.00	10,625.00	13,819.48	10,230.01	68.66	66.12	73.75	3,880.11	163.94	1,382.35	1,253.95	128.40	10.766		
14,250.00	10,625.00	13,869.48	10,230.01	69.25	66.72	73.75	3,930.11	163.94	1,382.52	1,252.94	129.57	10.670		
14,300.00	10,625.00	13,919.48	10,230.01	69.84	67.33	73.76	3,980.11	163.94	1,382.69	1,251.93	130.75	10.575		
14,350.00	10,625.00	13,969.48	10,230.01	70.44	67.95	73.76	4,030.11	163.94	1,382.86	1,250.92	131.94	10.481		
14,400.00	10,625.00	14,019.47	10,230.01	71.03	68.56	73.76	4,080.11	163.94	1,383.03	1,249.90	133.12	10.389		
14,450.00	10,625.00	14,069.47	10,230.01	71.63	69.18	73.76	4,130.11	163.94	1,383.20	1,248.88	134.32	10.298		
14,500.00	10,625.00	14,119.47	10,230.01	72.23	69.80	73.76	4,180.11	163.94	1,383.37	1,247.86	135.51	10.209		
14,550.00	10,625.00	14,169.47	10,230.01	72.84	70.42	73.77	4,230.11	163.94	1,383.54	1,246.82	136.71	10.120		
14,600.00	10,625.00	14,219.47	10,230.01	73.44	71.04	73.77	4,280.11	163.94	1,383.71	1,245.79	137.92	10.033		
14,650.00	10,625.00	14,269.47	10,230.01	74.05	71.67	73.77	4,330.11	163.94	1,383.88	1,244.75	139.12	9.947		
14,700.00	10,625.00	14,319.47	10,230.01	74.66	72.29	73.77	4,380.11	163.94	1,384.05	1,243.71	140.34	9.862		
14,750.00	10,625.00	14,369.47	10,230.01	75.27	72.92	73.77	4,430.11	163.94	1,384.22	1,242.66	141.55	9.779		
14,800.00	10,625.00	14,419.47	10,230.01	75.88	73.55	73.78	4,480.11	163.94	1,384.39	1,241.62	142.77	9.697		
14,850.00	10,625.00	14,469.47	10,230.01	76.50	74.18	73.78	4,530.11	163.94	1,384.56	1,240.56	144.00	9.615		
14,900.00	10,625.00	14,519.47	10,230.01	77.12	74.82	73.78	4,580.11	163.94	1,384.73	1,239.51	145.22	9.535		
14,950.00	10,625.00	14,569.47	10,230.01	77.74	75.45	73.78	4,630.11	163.94	1,384.90	1,238.45	146.45	9.456		
15,000.00	10,625.00	14,619.47	10,230.01	78.36	76.09	73.78	4,680.11	163.94	1,385.07	1,237.38	147.68	9.379		
15,050.00	10,625.00	14,669.47	10,230.01	78.98	76.73	73.79	4,730.11	163.94	1,385.24	1,236.32	148.92	9.302		
15,100.00	10,625.00	14,719.47	10,230.01	79.61	77.37	73.79	4,780.11	163.94	1,385.41	1,235.25	150.16	9.226		
15,150.00	10,625.00	14,769.47	10,230.01	80.24	78.01	73.79	4,830.11	163.94	1,385.58	1,234.18	151.40	9.152		
15,200.00	10,625.00	14,819.47	10,230.01	80.86	78.66	73.79	4,880.11	163.94	1,385.75	1,233.10	152.65	9.078		
15,250.00	10,625.00	14,869.47	10,230.01	81.49	79.30	73.79	4,930.11	163.94	1,385.92	1,232.02	153.90	9.005		
15,300.00	10,625.00	14,919.47	10,230.01	82.13	79.95	73.80	4,980.11	163.94	1,386.09	1,230.94	155.15	8.934		
15,350.00	10,625.00	14,969.47	10,230.01	82.76	80.59	73.80	5,030.11	163.94	1,386.26	1,229.86	156.40	8.863		
15,400.00	10,625.00	15,019.47	10,230.01	83.39	81.24	73.80	5,080.11	163.94	1,386.43	1,228.77	157.66	8.794		
15,450.00	10,625.00	15,069.47	10,230.01	84.03	81.89	73.80	5,130.10	163.94	1,386.60	1,227.68	158.92	8.725		
15,500.00	10,625.00	15,119.47	10,230.01	84.67	82.55	73.80	5,180.10	163.94	1,386.77	1,226.59	160.18	8.657		

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

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Van Doo Dah 21-33 Fed Com 233H
Project:	Lea County (NAD83 New Mexico East)	TVD Reference:	RKB @ 3415.20ft
Reference Site:	Sec 21-T25S-R32E	MD Reference:	RKB @ 3415.20ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Van Doo Dah 21-33 Fed Com 233H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 2	Offset TVD Reference:	Offset Datum

Offset Design Sec 21-T25S-R32E - Marwari 21-16 State Fed Com 234H - Wellbore #1 - Permit Plan 1 (Pro Directiona													Offset Site Error:	0.00 ft
Survey Program: 0-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		
15,550.00	10,625.00	15,169.47	10,230.01	85.31	83.20	73.81	5,230.10	163.94	1,386.94	1,225.49	161.45	8.591		
15,600.00	10,625.00	15,219.47	10,230.01	85.95	83.85	73.81	5,280.10	163.94	1,387.11	1,224.40	162.71	8.525		
15,650.00	10,625.00	15,269.47	10,230.01	86.59	84.51	73.81	5,330.10	163.94	1,387.28	1,223.30	163.98	8.460		
15,700.00	10,625.00	15,319.47	10,230.01	87.23	85.16	73.81	5,380.10	163.94	1,387.45	1,222.20	165.26	8.396		
15,750.00	10,625.00	15,369.47	10,230.01	87.88	85.82	73.81	5,430.10	163.94	1,387.62	1,221.09	166.53	8.333		
15,800.00	10,625.00	15,419.47	10,230.01	88.52	86.48	73.82	5,480.10	163.94	1,387.79	1,219.99	167.81	8.270		
15,850.00	10,625.00	15,469.47	10,230.01	89.17	87.14	73.82	5,530.10	163.94	1,387.96	1,218.88	169.09	8.209		
15,900.00	10,625.00	15,519.47	10,230.01	89.82	87.80	73.82	5,580.10	163.94	1,388.13	1,217.77	170.37	8.148		
15,950.00	10,625.00	15,569.47	10,230.01	90.47	88.46	73.82	5,630.10	163.94	1,388.30	1,216.65	171.65	8.088		
16,000.00	10,625.00	15,619.46	10,230.01	91.12	89.12	73.83	5,680.10	163.94	1,388.47	1,215.54	172.93	8.029		
16,050.00	10,625.00	15,669.46	10,230.01	91.77	89.79	73.83	5,730.10	163.94	1,388.64	1,214.42	174.22	7.971		
16,100.00	10,625.00	15,719.46	10,230.01	92.42	90.45	73.83	5,780.10	163.94	1,388.81	1,213.30	175.51	7.913		
16,150.00	10,625.00	15,769.46	10,230.01	93.08	91.12	73.83	5,830.10	163.94	1,388.98	1,212.18	176.80	7.856		
16,200.00	10,625.00	15,819.46	10,230.01	93.73	91.78	73.83	5,880.10	163.94	1,389.15	1,211.06	178.09	7.800		
16,250.00	10,625.00	15,869.46	10,230.01	94.39	92.45	73.84	5,930.10	163.94	1,389.32	1,209.94	179.39	7.745		
16,300.00	10,625.00	15,919.46	10,230.01	95.05	93.12	73.84	5,980.10	163.94	1,389.50	1,208.81	180.68	7.690		
16,350.00	10,625.00	15,969.46	10,230.01	95.71	93.79	73.84	6,030.10	163.94	1,389.67	1,207.68	181.98	7.636		
16,400.00	10,625.00	16,019.46	10,230.01	96.37	94.46	73.84	6,080.10	163.94	1,389.84	1,206.55	183.28	7.583		
16,450.00	10,625.00	16,069.46	10,230.01	97.03	95.13	73.84	6,130.10	163.94	1,390.01	1,205.42	184.59	7.530		
16,500.00	10,625.00	16,119.46	10,230.01	97.69	95.80	73.85	6,180.10	163.94	1,390.18	1,204.29	185.89	7.479		
16,550.00	10,625.00	16,169.46	10,230.01	98.35	96.47	73.85	6,230.10	163.94	1,390.35	1,203.15	187.19	7.427		
16,600.00	10,625.00	16,219.46	10,230.01	99.01	97.14	73.85	6,280.10	163.94	1,390.52	1,202.02	188.50	7.377		
16,650.00	10,625.00	16,269.46	10,230.01	99.68	97.82	73.85	6,330.10	163.94	1,390.69	1,200.88	189.81	7.327		
16,700.00	10,625.00	16,319.46	10,230.01	100.34	98.49	73.85	6,380.10	163.94	1,390.86	1,199.74	191.12	7.278		
16,750.00	10,625.00	16,369.46	10,230.01	101.01	99.17	73.86	6,430.10	163.94	1,391.03	1,198.60	192.43	7.229		
16,800.00	10,625.00	16,419.46	10,230.01	101.67	99.84	73.86	6,480.10	163.94	1,391.20	1,197.46	193.74	7.181		
16,850.00	10,625.00	16,469.46	10,230.01	102.34	100.52	73.86	6,530.10	163.94	1,391.37	1,196.31	195.06	7.133		
16,900.00	10,625.00	16,519.46	10,230.01	103.01	101.20	73.86	6,580.10	163.94	1,391.54	1,195.17	196.37	7.086		
16,950.00	10,625.00	16,569.46	10,230.01	103.68	101.88	73.86	6,630.10	163.94	1,391.71	1,194.02	197.69	7.040		
17,000.00	10,625.00	16,619.46	10,230.01	104.35	102.55	73.87	6,680.10	163.94	1,391.88	1,192.87	199.01	6.994		
17,050.00	10,625.00	16,669.46	10,230.01	105.02	103.23	73.87	6,730.09	163.94	1,392.05	1,191.72	200.33	6.949		
17,100.00	10,625.00	16,719.46	10,230.01	105.69	103.91	73.87	6,780.09	163.94	1,392.22	1,190.57	201.65	6.904		
17,150.00	10,625.00	16,769.46	10,230.01	106.36	104.59	73.87	6,830.09	163.94	1,392.39	1,189.42	202.97	6.860		
17,200.00	10,625.00	16,819.46	10,230.01	107.03	105.27	73.87	6,880.09	163.94	1,392.56	1,188.27	204.29	6.817		
17,250.00	10,625.00	16,869.46	10,230.01	107.71	105.96	73.88	6,930.09	163.94	1,392.73	1,187.11	205.62	6.773		
17,300.00	10,625.00	16,919.46	10,230.01	108.38	106.64	73.88	6,980.09	163.94	1,392.90	1,185.96	206.94	6.731		
17,350.00	10,625.00	16,969.46	10,230.01	109.05	107.32	73.88	7,030.09	163.94	1,393.07	1,184.80	208.27	6.689		
17,400.00	10,625.00	17,019.46	10,230.01	109.73	108.01	73.88	7,080.09	163.94	1,393.24	1,183.65	209.60	6.647		
17,450.00	10,625.00	17,069.46	10,230.01	110.41	108.69	73.88	7,130.09	163.94	1,393.41	1,182.49	210.93	6.606		
17,500.00	10,625.00	17,119.46	10,230.01	111.08	109.37	73.89	7,180.09	163.94	1,393.58	1,181.33	212.26	6.566		
17,550.00	10,625.00	17,169.46	10,230.01	111.76	110.06	73.89	7,230.09	163.94	1,393.75	1,180.16	213.59	6.525		
17,600.00	10,625.00	17,219.45	10,230.01	112.44	110.74	73.89	7,280.09	163.94	1,393.92	1,179.00	214.92	6.486		
17,650.00	10,625.00	17,269.45	10,230.01	113.12	111.43	73.89	7,330.09	163.94	1,394.09	1,177.84	216.25	6.447		
17,700.00	10,625.00	17,319.45	10,230.01	113.79	112.12	73.89	7,380.09	163.94	1,394.26	1,176.68	217.59	6.408		
17,750.00	10,625.00	17,369.45	10,230.01	114.47	112.80	73.90	7,430.09	163.94	1,394.43	1,175.51	218.92	6.369		
17,800.00	10,625.00	17,419.45	10,230.01	115.15	113.49	73.90	7,480.09	163.94	1,394.60	1,174.34	220.26	6.332		
17,850.00	10,625.00	17,469.45	10,230.01	115.84	114.18	73.90	7,530.09	163.94	1,394.77	1,173.18	221.60	6.294		
17,900.00	10,625.00	17,519.45	10,230.01	116.52	114.87	73.90	7,580.09	163.94	1,394.94	1,172.01	222.94	6.257		
17,950.00	10,625.00	17,569.45	10,230.01	117.20	115.56	73.90	7,630.09	163.94	1,395.12	1,170.84	224.28	6.220		
18,000.00	10,625.00	17,619.45	10,230.01	117.88	116.25	73.91	7,680.09	163.94	1,395.29	1,169.67	225.62	6.184		
18,050.00	10,625.00	17,669.45	10,230.01	118.56	116.94	73.91	7,730.09	163.94	1,395.46	1,168.50	226.96	6.148		
18,100.00	10,625.00	17,719.45	10,230.01	119.25	117.63	73.91	7,780.09	163.94	1,395.63	1,167.33	228.30	6.113		

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

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Van Doo Dah 21-33 Fed Com 233H
Project:	Lea County (NAD83 New Mexico East)	TVD Reference:	RKB @ 3415.20ft
Reference Site:	Sec 21-T25S-R32E	MD Reference:	RKB @ 3415.20ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Van Doo Dah 21-33 Fed Com 233H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 2	Offset TVD Reference:	Offset Datum

Offset Design Sec 21-T25S-R32E - Marwari 21-16 State Fed Com 234H - Wellbore #1 - Permit Plan 1 (Pro Directiona													Offset Site Error:	0.00 ft
Survey Program: 0-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		
18,150.00	10,625.00	17,769.45	10,230.01	119.93	118.32	73.91	7,830.09	163.94	1,395.80	1,166.15	229.64	6.078		
18,200.00	10,625.00	17,819.45	10,230.01	120.62	119.01	73.91	7,880.09	163.94	1,395.97	1,164.98	230.99	6.043		
18,250.00	10,625.00	17,869.45	10,230.01	121.30	119.70	73.92	7,930.09	163.94	1,396.14	1,163.80	232.33	6.009		
18,300.00	10,625.00	17,919.45	10,230.01	121.99	120.39	73.92	7,980.09	163.94	1,396.31	1,162.63	233.68	5.975		
18,350.00	10,625.00	17,969.45	10,230.01	122.67	121.09	73.92	8,030.09	163.94	1,396.48	1,161.45	235.03	5.942		
18,400.00	10,625.00	18,019.45	10,230.01	123.36	121.78	73.92	8,080.09	163.94	1,396.65	1,160.28	236.37	5.909		
18,450.00	10,625.00	18,069.45	10,230.01	124.05	122.47	73.92	8,130.09	163.94	1,396.82	1,159.10	237.72	5.876		
18,500.00	10,625.00	18,119.45	10,230.01	124.73	123.16	73.93	8,180.09	163.94	1,396.99	1,157.92	239.07	5.843		
18,550.00	10,625.00	18,169.45	10,230.01	125.42	123.86	73.93	8,230.09	163.94	1,397.16	1,156.74	240.42	5.811		
18,600.00	10,625.00	18,219.45	10,230.01	126.11	124.55	73.93	8,280.09	163.94	1,397.33	1,155.56	241.77	5.780		
18,650.00	10,625.00	18,269.45	10,230.01	126.80	125.25	73.93	8,330.08	163.94	1,397.50	1,154.38	243.12	5.748		
18,700.00	10,625.00	18,319.45	10,230.01	127.49	125.94	73.93	8,380.08	163.94	1,397.67	1,153.20	244.47	5.717		
18,750.00	10,625.00	18,369.45	10,230.01	128.18	126.64	73.94	8,430.08	163.94	1,397.84	1,152.01	245.83	5.686		
18,800.00	10,625.00	18,419.45	10,230.01	128.87	127.33	73.94	8,480.08	163.94	1,398.01	1,150.83	247.18	5.656		
18,850.00	10,625.00	18,469.45	10,230.01	129.56	128.03	73.94	8,530.08	163.94	1,398.18	1,149.65	248.53	5.626		
18,900.00	10,625.00	18,519.45	10,230.01	130.25	128.73	73.94	8,580.08	163.94	1,398.35	1,148.46	249.89	5.596		
18,950.00	10,625.00	18,569.45	10,230.01	130.94	129.42	73.94	8,630.08	163.94	1,398.52	1,147.28	251.25	5.566		
19,000.00	10,625.00	18,619.45	10,230.01	131.63	130.12	73.95	8,680.08	163.94	1,398.69	1,146.09	252.60	5.537		
19,050.00	10,625.00	18,669.45	10,230.01	132.32	130.82	73.95	8,730.08	163.94	1,398.86	1,144.90	253.96	5.508		
19,100.00	10,625.00	18,719.45	10,230.01	133.01	131.51	73.95	8,780.08	163.94	1,399.03	1,143.72	255.32	5.480		
19,150.00	10,625.00	18,769.45	10,230.01	133.71	132.21	73.95	8,830.08	163.94	1,399.20	1,142.53	256.67	5.451		
19,200.00	10,625.00	18,819.44	10,230.01	134.40	132.91	73.95	8,880.08	163.94	1,399.37	1,141.34	258.03	5.423		
19,250.00	10,625.00	18,869.44	10,230.01	135.09	133.61	73.96	8,930.08	163.94	1,399.54	1,140.15	259.39	5.395		
19,300.00	10,625.00	18,919.44	10,230.01	135.79	134.31	73.96	8,980.08	163.94	1,399.71	1,138.96	260.75	5.368		
19,350.00	10,625.00	18,969.44	10,230.01	136.48	135.01	73.96	9,030.08	163.94	1,399.89	1,137.77	262.11	5.341		
19,400.00	10,625.00	19,019.44	10,230.01	137.17	135.71	73.96	9,080.08	163.94	1,400.06	1,136.58	263.47	5.314		
19,450.00	10,625.00	19,069.44	10,230.01	137.87	136.41	73.96	9,130.08	163.94	1,400.23	1,135.39	264.84	5.287		
19,500.00	10,625.00	19,119.44	10,230.01	138.56	137.11	73.97	9,180.08	163.94	1,400.40	1,134.20	266.20	5.261		
19,550.00	10,625.00	19,169.44	10,230.01	139.26	137.81	73.97	9,230.08	163.94	1,400.57	1,133.01	267.56	5.235		
19,600.00	10,625.00	19,219.44	10,230.01	139.96	138.51	73.97	9,280.08	163.94	1,400.74	1,131.81	268.92	5.209		
19,650.00	10,625.00	19,269.44	10,230.01	140.65	139.21	73.97	9,330.08	163.94	1,400.91	1,130.62	270.29	5.183		
19,700.00	10,625.00	19,319.44	10,230.01	141.35	139.91	73.97	9,380.08	163.94	1,401.08	1,129.42	271.65	5.158		
19,750.00	10,625.00	19,369.44	10,230.01	142.04	140.61	73.98	9,430.08	163.94	1,401.25	1,128.23	273.02	5.132		
19,800.00	10,625.00	19,419.44	10,230.01	142.74	141.31	73.98	9,480.08	163.94	1,401.42	1,127.03	274.38	5.108		
19,850.00	10,625.00	19,469.44	10,230.01	143.44	142.01	73.98	9,530.08	163.94	1,401.59	1,125.84	275.75	5.083		
19,900.00	10,625.00	19,519.44	10,230.01	144.14	142.71	73.98	9,580.08	163.94	1,401.76	1,124.64	277.12	5.058		
19,950.00	10,625.00	19,569.44	10,230.01	144.83	143.42	73.98	9,630.08	163.94	1,401.93	1,123.45	278.48	5.034		
20,000.00	10,625.00	19,619.44	10,230.01	145.53	144.12	73.99	9,680.08	163.94	1,402.10	1,122.25	279.85	5.010		
20,050.00	10,625.00	19,669.44	10,230.01	146.23	144.82	73.99	9,730.08	163.94	1,402.27	1,121.05	281.22	4.986 Alert		
20,100.00	10,625.00	19,719.44	10,230.01	146.93	145.52	73.99	9,780.08	163.94	1,402.44	1,119.85	282.59	4.963 Alert		
20,150.00	10,625.00	19,769.44	10,230.01	147.63	146.23	73.99	9,830.08	163.94	1,402.61	1,118.65	283.96	4.939 Alert		
20,200.00	10,625.00	19,819.44	10,230.01	148.33	146.93	73.99	9,880.08	163.94	1,402.78	1,117.45	285.33	4.916 Alert		
20,250.00	10,625.00	19,869.44	10,230.01	149.03	147.64	74.00	9,930.07	163.94	1,402.95	1,116.25	286.70	4.893 Alert		
20,300.00	10,625.00	19,919.44	10,230.01	149.73	148.34	74.00	9,980.07	163.94	1,403.12	1,115.05	288.07	4.871 Alert		
20,348.88	10,625.00	19,945.78	10,230.01	150.41	148.71	74.00	10,006.42	163.94	1,403.47	1,114.59	288.89	4.858 Alert		

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Van Doo Dah 21-33 Fed Com 233H
Project:	Lea County (NAD83 New Mexico East)	TVD Reference:	RKB @ 3415.20ft
Reference Site:	Sec 21-T25S-R32E	MD Reference:	RKB @ 3415.20ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Van Doo Dah 21-33 Fed Com 233H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 2	Offset TVD Reference:	Offset Datum

Offset Design Sec 21-T25S-R32E - Marwari 21-16 State Fed Com 332H - Wellbore #1 - Permit Plan 1												Offset Site Error:	0.00 ft
Survey Program: 0-MWD+HDGM												Offset Well Error:	0.50 ft
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	0.10	-0.10	0.50	0.50	157.73	-148.79	60.93	160.78				
50.00	50.00	49.90	49.90	0.50	0.50	157.73	-148.79	60.93	160.78	159.78	1.01	159.754	
100.00	100.00	100.10	99.90	0.52	0.52	157.73	-148.79	60.93	160.78	159.75	1.04	155.276	
150.00	150.00	149.90	149.90	0.59	0.59	157.73	-148.79	60.93	160.78	159.60	1.18	136.256	
200.00	200.00	200.10	199.90	0.70	0.70	157.73	-148.79	60.93	160.78	159.38	1.40	114.511	
250.00	250.00	249.90	249.90	0.84	0.84	157.73	-148.79	60.93	160.78	159.11	1.67	96.006	
300.00	300.00	300.10	299.90	0.99	0.99	157.73	-148.79	60.93	160.78	158.81	1.97	81.429	
350.00	350.00	349.90	349.90	1.15	1.15	157.73	-148.79	60.93	160.78	158.49	2.29	70.205	
400.00	400.00	400.10	399.90	1.31	1.31	157.73	-148.79	60.93	160.78	158.16	2.62	61.414	
450.00	450.00	449.90	449.90	1.48	1.48	157.73	-148.79	60.93	160.78	157.83	2.95	54.469	
500.00	500.00	500.10	499.90	1.65	1.65	157.73	-148.79	60.93	160.78	157.49	3.29	48.840	
550.00	550.00	549.90	549.90	1.82	1.82	157.73	-148.79	60.93	160.78	157.15	3.63	44.238	
600.00	600.00	600.10	599.90	1.99	1.99	157.73	-148.79	60.93	160.78	156.80	3.98	40.387	
650.00	650.00	649.90	649.90	2.16	2.16	157.73	-148.79	60.93	160.78	156.45	4.33	37.147	
700.00	700.00	700.10	699.90	2.34	2.34	157.73	-148.79	60.93	160.78	156.10	4.68	34.367	
750.00	750.00	749.90	749.90	2.51	2.51	157.73	-148.79	60.93	160.78	155.75	5.03	31.974	
800.00	800.00	800.10	799.90	2.69	2.69	157.73	-148.79	60.93	160.78	155.40	5.38	29.880	
850.00	850.00	849.90	849.90	2.87	2.87	157.73	-148.79	60.93	160.78	155.05	5.73	28.045	
900.00	900.00	900.10	899.90	3.04	3.04	157.73	-148.79	60.93	160.78	154.70	6.09	26.414	
950.00	950.00	949.90	949.90	3.22	3.22	157.73	-148.79	60.93	160.78	154.34	6.44	24.966	
1,000.00	1,000.00	1,000.10	999.90	3.40	3.40	157.73	-148.79	60.93	160.78	153.99	6.80	23.661	
1,050.00	1,050.00	1,049.90	1,049.90	3.57	3.57	157.73	-148.79	60.93	160.78	153.63	7.15	22.490	
1,100.00	1,100.00	1,100.10	1,099.90	3.75	3.75	157.73	-148.79	60.93	160.78	153.28	7.51	21.423	
1,150.00	1,150.00	1,149.90	1,149.90	3.93	3.93	157.73	-148.79	60.93	160.78	152.92	7.86	20.456	
1,200.00	1,200.00	1,200.10	1,199.90	4.11	4.11	157.73	-148.79	60.93	160.78	152.57	8.22	19.569	
1,250.00	1,250.00	1,249.90	1,249.90	4.29	4.29	157.73	-148.79	60.93	160.78	152.21	8.57	18.758	
1,300.00	1,300.00	1,300.10	1,299.90	4.46	4.46	157.73	-148.79	60.93	160.78	151.85	8.93	18.008	
1,350.00	1,350.00	1,349.90	1,349.90	4.64	4.64	157.73	-148.79	60.93	160.78	151.50	9.28	17.319	
1,400.00	1,400.00	1,400.10	1,399.90	4.82	4.82	157.73	-148.79	60.93	160.78	151.14	9.64	16.677	
1,450.00	1,450.00	1,449.90	1,449.90	5.00	5.00	157.73	-148.79	60.93	160.78	150.79	10.00	16.083	
1,500.00	1,500.00	1,500.10	1,499.90	5.18	5.18	157.73	-148.79	60.93	160.78	150.43	10.35	15.528	
1,550.00	1,550.00	1,549.90	1,549.90	5.36	5.36	157.73	-148.79	60.93	160.78	150.07	10.71	15.012	
1,600.00	1,600.00	1,600.10	1,599.90	5.53	5.53	157.73	-148.79	60.93	160.78	149.71	11.07	14.527	
1,650.00	1,650.00	1,649.90	1,649.90	5.71	5.71	157.73	-148.79	60.93	160.78	149.36	11.42	14.074	
1,700.00	1,700.00	1,700.10	1,699.90	5.89	5.89	157.73	-148.79	60.93	160.78	149.00	11.78	13.646	
1,750.00	1,750.00	1,749.90	1,749.90	6.07	6.07	157.73	-148.79	60.93	160.78	148.64	12.14	13.245	
1,800.00	1,800.00	1,800.10	1,799.90	6.25	6.25	157.73	-148.79	60.93	160.78	148.29	12.50	12.866	
1,850.00	1,850.00	1,849.90	1,849.90	6.43	6.43	157.73	-148.79	60.93	160.78	147.93	12.85	12.509	
1,900.00	1,900.00	1,900.10	1,899.90	6.61	6.61	157.73	-148.79	60.93	160.78	147.57	13.21	12.170	
1,950.00	1,950.00	1,949.90	1,949.90	6.78	6.78	157.73	-148.79	60.93	160.78	147.21	13.57	11.850	
2,000.00	2,000.00	2,000.10	1,999.90	6.96	6.96	157.73	-148.79	60.93	160.78	146.86	13.93	11.545	
2,050.00	2,050.00	2,049.90	2,049.90	7.14	7.14	157.73	-148.79	60.93	160.78	146.50	14.28	11.257	
2,100.00	2,100.00	2,100.10	2,099.90	7.32	7.32	157.73	-148.79	60.93	160.78	146.14	14.64	10.981	
2,150.00	2,150.00	2,149.90	2,149.90	7.50	7.50	157.73	-148.79	60.93	160.78	145.78	15.00	10.720	
2,200.00	2,200.00	2,200.10	2,199.90	7.68	7.68	157.73	-148.79	60.93	160.78	145.43	15.36	10.470	
2,250.00	2,250.00	2,249.90	2,249.90	7.86	7.86	157.73	-148.79	60.93	160.78	145.07	15.71	10.232	
2,300.00	2,300.00	2,300.10	2,299.90	8.04	8.04	157.73	-148.79	60.93	160.78	144.71	16.07	10.004	
2,350.00	2,350.00	2,349.90	2,349.90	8.21	8.21	157.73	-148.79	60.93	160.78	144.35	16.43	9.786	
2,400.00	2,400.00	2,400.10	2,399.90	8.39	8.39	157.73	-148.79	60.93	160.78	143.99	16.79	9.577	
2,450.00	2,450.00	2,449.90	2,449.90	8.57	8.57	157.73	-148.79	60.93	160.78	143.64	17.15	9.378	
2,500.00	2,500.00	2,499.90	2,499.90	8.75	8.75	157.73	-148.79	60.93	160.78	143.28	17.50	9.186 CC	
2,550.00	2,550.00	2,549.01	2,549.01	8.93	8.92	-120.31	-148.85	61.13	161.03	143.18	17.85	9.022 ES	

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

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Van Doo Dah 21-33 Fed Com 233H
Project:	Lea County (NAD83 New Mexico East)	TVD Reference:	RKB @ 3415.20ft
Reference Site:	Sec 21-T25S-R32E	MD Reference:	RKB @ 3415.20ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Van Doo Dah 21-33 Fed Com 233H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 2	Offset TVD Reference:	Offset Datum

Offset Design Sec 21-T25S-R32E - Marwari 21-16 State Fed Com 332H - Wellbore #1 - Permit Plan 1														Offset Site Error:	0.00 ft
Survey Program: 0-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			
2,600.00	2,599.99	2,598.10	2,598.10	9.10	9.09	-120.67	-149.05	61.73	161.78	143.58	18.19	8.892			
2,650.00	2,649.98	2,647.15	2,647.13	9.27	9.26	-121.27	-149.36	62.73	163.04	144.51	18.53	8.799			
2,700.00	2,699.96	2,696.13	2,696.09	9.45	9.42	-122.08	-149.81	64.13	164.83	145.97	18.86	8.738			
2,750.00	2,749.92	2,745.02	2,744.95	9.62	9.59	-123.10	-150.38	65.92	167.19	147.99	19.20	8.709 SF			
2,800.00	2,799.86	2,793.81	2,793.68	9.79	9.75	-124.30	-151.08	68.10	170.14	150.61	19.53	8.711			
2,850.00	2,849.78	2,842.46	2,842.26	9.97	9.92	-125.66	-151.90	70.68	173.73	153.86	19.87	8.745			
2,900.00	2,899.68	2,890.97	2,890.67	10.14	10.08	-127.16	-152.84	73.63	177.99	157.79	20.20	8.813			
2,950.00	2,949.54	2,939.30	2,938.87	10.31	10.25	-128.77	-153.91	76.97	182.97	162.44	20.53	8.913			
3,000.00	2,999.37	2,987.45	2,986.86	10.49	10.41	-130.46	-155.09	80.67	188.70	167.84	20.86	9.047			
3,050.00	3,049.16	3,035.38	3,034.60	10.66	10.58	-132.20	-156.39	84.74	195.21	174.03	21.19	9.215			
3,100.00	3,098.90	3,083.08	3,082.07	10.84	10.74	-133.97	-157.80	89.17	202.55	181.04	21.51	9.417			
3,150.00	3,148.61	3,130.53	3,129.25	11.02	10.91	-135.75	-159.33	93.95	210.74	188.91	21.83	9.653			
3,200.00	3,198.26	3,177.71	3,176.13	11.20	11.08	-137.50	-160.96	99.07	219.79	197.64	22.15	9.922			
3,250.00	3,247.86	3,227.29	3,226.62	11.38	11.25	-139.23	-162.70	104.52	229.73	207.25	22.48	10.221			
3,300.00	3,297.40	3,272.86	3,270.54	11.56	11.41	-140.95	-164.56	110.33	240.40	217.60	22.80	10.543			
3,350.00	3,346.89	3,321.05	3,318.35	11.74	11.58	-142.58	-166.41	116.13	251.62	228.48	23.14	10.875			
3,400.00	3,396.30	3,369.13	3,366.04	11.92	11.75	-144.12	-168.25	121.92	263.38	239.90	23.47	11.221			
3,450.00	3,445.65	3,417.08	3,413.61	12.10	11.93	-145.57	-170.10	127.69	275.67	251.86	23.81	11.579			
3,500.00	3,494.93	3,464.91	3,461.05	12.29	12.10	-146.94	-171.93	133.45	288.48	264.34	24.14	11.949			
3,550.00	3,544.13	3,512.61	3,508.37	12.47	12.27	-148.25	-173.77	139.19	301.81	277.33	24.48	12.329			
3,600.00	3,593.32	3,560.27	3,555.65	12.66	12.44	-149.51	-175.60	144.93	315.39	290.58	24.81	12.710			
3,650.00	3,642.50	3,607.94	3,602.94	12.85	12.61	-150.67	-177.43	150.67	329.11	303.96	25.15	13.086			
3,700.00	3,691.68	3,655.60	3,650.22	13.04	12.79	-151.74	-179.26	156.40	342.94	317.45	25.49	13.456			
3,750.00	3,740.86	3,703.27	3,697.50	13.23	12.96	-152.72	-181.09	162.14	356.87	331.05	25.82	13.820			
3,800.00	3,790.04	3,750.93	3,744.78	13.42	13.14	-153.64	-182.92	167.88	370.90	344.74	26.16	14.178			
3,850.00	3,839.22	3,798.59	3,792.06	13.62	13.31	-154.48	-184.75	173.62	385.01	358.51	26.50	14.530			
3,900.00	3,888.40	3,846.26	3,839.34	13.81	13.49	-155.27	-186.59	179.35	399.19	372.36	26.84	14.875			
3,950.00	3,937.58	3,906.08	3,896.63	14.01	13.71	-156.01	-188.42	185.09	413.44	386.22	27.22	15.190			
4,000.00	3,986.76	3,941.58	3,933.91	14.20	13.84	-156.69	-190.25	190.83	427.74	400.23	27.51	15.546			
4,050.00	4,035.94	3,989.25	3,981.19	14.40	14.01	-157.34	-192.08	196.57	442.10	414.25	27.85	15.872			
4,100.00	4,085.12	4,036.91	4,028.47	14.59	14.19	-157.94	-193.91	202.30	456.51	428.32	28.20	16.191			
4,150.00	4,134.30	4,084.58	4,075.75	14.79	14.37	-158.50	-195.74	208.04	470.96	442.42	28.54	16.504			
4,200.00	4,183.48	4,132.24	4,123.03	14.99	14.54	-159.03	-197.57	213.78	485.45	456.57	28.88	16.811			
4,250.00	4,232.66	4,179.90	4,170.32	15.19	14.72	-159.54	-199.40	219.52	499.98	470.76	29.22	17.111			
4,300.00	4,281.84	4,227.57	4,217.60	15.39	14.90	-160.01	-201.23	225.25	514.54	484.98	29.56	17.405			
4,350.00	4,331.02	4,275.23	4,264.88	15.59	15.08	-160.46	-203.07	230.99	529.13	499.23	29.91	17.694			
4,400.00	4,380.20	4,322.89	4,312.16	15.79	15.26	-160.88	-204.90	236.73	543.75	513.50	30.25	17.976			
4,450.00	4,429.38	4,370.56	4,359.44	15.99	15.44	-161.28	-206.73	242.47	558.39	527.80	30.59	18.253			
4,500.00	4,478.57	4,418.22	4,406.72	16.19	15.62	-161.66	-208.56	248.21	573.06	542.13	30.94	18.524			
4,550.00	4,527.75	4,465.89	4,454.01	16.39	15.80	-162.02	-210.39	253.94	587.75	556.47	31.28	18.790			
4,600.00	4,576.93	4,513.55	4,501.29	16.59	15.98	-162.37	-212.22	259.68	602.47	570.84	31.62	19.051			
4,650.00	4,626.11	4,561.21	4,548.57	16.80	16.16	-162.69	-214.05	265.42	617.20	585.23	31.97	19.306			
4,700.00	4,675.29	4,608.88	4,595.85	17.00	16.34	-163.01	-215.88	271.16	631.94	599.63	32.31	19.556			
4,750.00	4,724.47	4,656.54	4,643.13	17.21	16.52	-163.31	-217.71	276.89	646.71	614.05	32.66	19.801			
4,800.00	4,773.65	4,704.20	4,690.42	17.41	16.70	-163.59	-219.55	282.63	661.49	628.48	33.01	20.041			
4,850.00	4,822.83	4,751.87	4,737.70	17.61	16.88	-163.86	-221.38	288.37	676.28	642.93	33.35	20.276			
4,900.00	4,872.01	4,799.53	4,784.98	17.82	17.06	-164.13	-223.21	294.11	691.09	657.39	33.70	20.507			
4,950.00	4,921.19	4,847.20	4,832.26	18.03	17.24	-164.38	-225.04	299.84	705.91	671.85	34.05	20.734			
5,000.00	4,970.37	4,905.14	4,879.54	18.23	17.46	-164.62	-226.87	305.58	720.74	686.31	34.43	20.933			
5,050.00	5,019.55	4,942.52	4,926.82	18.44	17.60	-164.85	-228.70	311.32	735.59	700.85	34.74	21.173			
5,100.00	5,068.73	5,009.81	4,974.11	18.64	17.86	-165.07	-230.53	317.06	750.44	715.28	35.16	21.344			
5,150.00	5,117.91	5,037.85	5,021.39	18.85	17.97	-165.28	-232.36	322.79	765.30	729.87	35.44	21.596			

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

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Van Doo Dah 21-33 Fed Com 233H
Project:	Lea County (NAD83 New Mexico East)	TVD Reference:	RKB @ 3415.20ft
Reference Site:	Sec 21-T25S-R32E	MD Reference:	RKB @ 3415.20ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Van Doo Dah 21-33 Fed Com 233H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 2	Offset TVD Reference:	Offset Datum

Offset Design Sec 21-T25S-R32E - Manwari 21-16 State Fed Com 332H - Wellbore #1 - Permit Plan 1														Offset Site Error:	0.00 ft
Survey Program: 0-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		
5,200.00	5,167.09	5,085.51	5,068.67	19.06	18.15	-165.48	-234.19	328.53	780.18	744.39	35.79	21.802			
5,250.00	5,216.27	5,133.18	5,115.95	19.27	18.33	-165.68	-236.03	334.27	795.06	758.92	36.13	22.003			
5,300.00	5,265.45	5,180.84	5,163.23	19.47	18.52	-165.87	-237.86	340.01	809.95	773.47	36.48	22.201			
5,350.00	5,314.63	5,228.51	5,210.51	19.68	18.70	-166.05	-239.69	345.74	824.85	788.01	36.83	22.395			
5,400.00	5,363.81	5,276.17	5,257.80	19.89	18.88	-166.23	-241.52	351.48	839.75	802.57	37.18	22.585			
5,450.00	5,413.00	5,323.83	5,305.08	20.10	19.07	-166.40	-243.35	357.22	854.66	817.13	37.53	22.772			
5,500.00	5,462.18	5,371.50	5,352.36	20.31	19.25	-166.57	-245.18	362.96	869.58	831.70	37.88	22.956			
5,550.00	5,511.36	5,419.16	5,399.64	20.52	19.43	-166.72	-247.01	368.69	884.51	846.28	38.23	23.136			
5,600.00	5,560.54	5,466.82	5,446.82	20.73	19.62	-166.88	-248.84	374.43	899.44	860.88	38.58	23.313			
5,650.00	5,609.72	5,514.49	5,494.20	20.94	19.80	-167.03	-250.68	380.17	914.38	875.45	38.93	23.487			
5,700.00	5,658.90	5,562.15	5,541.49	21.15	19.98	-167.17	-252.51	385.91	929.32	890.04	39.28	23.658			
5,750.00	5,708.08	5,609.82	5,588.77	21.36	20.17	-167.31	-254.34	391.64	944.27	904.63	39.63	23.826			
5,800.00	5,757.26	5,657.48	5,636.05	21.57	20.35	-167.45	-256.17	397.38	959.22	919.24	39.98	23.991			
5,850.00	5,806.44	5,705.14	5,683.33	21.78	20.54	-167.58	-258.00	403.12	974.18	933.84	40.33	24.153			
5,900.00	5,855.62	5,752.81	5,730.81	21.99	20.72	-167.70	-259.83	408.86	989.14	948.45	40.69	24.312			
5,950.00	5,904.80	5,800.47	5,777.89	22.20	20.90	-167.83	-261.66	414.60	1,004.10	963.07	41.04	24.468			
6,000.00	5,953.98	5,848.13	5,825.18	22.41	21.09	-167.95	-263.49	420.33	1,019.07	977.69	41.39	24.622			
6,050.00	6,003.16	5,904.20	5,872.46	22.62	21.31	-168.06	-265.32	426.07	1,034.05	992.28	41.77	24.755			
6,100.00	6,052.34	5,943.46	5,919.74	22.83	21.46	-168.17	-267.16	431.81	1,049.03	1,006.93	42.09	24.922			
6,150.00	6,101.52	6,008.87	5,987.02	23.04	21.71	-168.28	-268.99	437.55	1,064.01	1,021.50	42.51	25.030			
6,200.00	6,150.70	6,038.79	6,014.30	23.26	21.83	-168.39	-270.82	443.28	1,078.99	1,036.19	42.80	25.212			
6,250.00	6,199.88	6,086.45	6,061.58	23.47	22.01	-168.49	-272.65	449.02	1,093.98	1,050.83	43.15	25.353			
6,300.00	6,249.06	6,134.12	6,108.87	23.68	22.20	-168.60	-274.48	454.76	1,108.97	1,065.47	43.50	25.492			
6,350.00	6,298.25	6,181.78	6,156.15	23.89	22.38	-168.69	-276.31	460.50	1,123.97	1,080.11	43.86	25.629			
6,400.00	6,347.43	6,229.44	6,203.43	24.11	22.57	-168.79	-278.14	466.23	1,138.96	1,094.75	44.21	25.764			
6,450.00	6,396.61	6,277.11	6,250.71	24.32	22.76	-168.88	-279.97	471.97	1,153.96	1,109.40	44.56	25.896			
6,500.00	6,445.79	6,324.77	6,297.99	24.53	22.94	-168.97	-281.80	477.71	1,168.97	1,124.05	44.91	26.026			
6,550.00	6,494.97	6,372.44	6,345.27	24.74	23.13	-169.06	-283.64	483.45	1,183.97	1,138.70	45.27	26.155			
6,600.00	6,544.15	6,420.10	6,392.56	24.96	23.31	-169.15	-285.47	489.18	1,198.98	1,153.36	45.62	26.281			
6,650.00	6,593.33	6,467.76	6,439.84	25.17	23.50	-169.23	-287.30	494.92	1,213.99	1,168.01	45.98	26.405			
6,700.00	6,642.51	6,515.43	6,487.12	25.38	23.68	-169.31	-289.13	500.66	1,229.00	1,182.67	46.33	26.528			
6,750.00	6,691.69	6,563.09	6,534.40	25.60	23.87	-169.39	-290.96	506.40	1,244.02	1,197.33	46.68	26.648			
6,800.00	6,740.87	6,610.75	6,581.68	25.81	24.06	-169.47	-292.79	512.13	1,259.03	1,212.00	47.04	26.767			
6,850.00	6,790.05	6,658.42	6,628.97	26.02	24.24	-169.55	-294.62	517.87	1,274.05	1,226.66	47.39	26.884			
6,900.00	6,839.23	6,706.08	6,676.25	26.24	24.43	-169.62	-296.45	523.61	1,289.07	1,241.33	47.75	26.999			
6,950.00	6,888.41	6,753.75	6,723.53	26.45	24.62	-169.70	-298.29	529.35	1,304.10	1,256.00	48.10	27.112			
7,000.00	6,937.59	6,801.41	6,770.81	26.67	24.80	-169.77	-300.12	535.08	1,319.12	1,270.67	48.46	27.224			
7,050.00	6,986.77	6,849.07	6,818.09	26.88	24.99	-169.84	-301.95	540.82	1,334.15	1,285.34	48.81	27.334			
7,100.00	7,035.95	6,896.74	6,865.37	27.10	25.17	-169.90	-303.78	546.56	1,349.18	1,300.01	49.16	27.442			
7,150.00	7,085.13	6,944.40	6,912.66	27.31	25.36	-169.97	-305.61	552.30	1,364.21	1,314.69	49.52	27.549			
7,200.00	7,134.31	7,007.94	6,959.94	27.52	25.61	-170.04	-307.44	558.03	1,379.24	1,329.31	49.93	27.622			
7,250.00	7,183.49	7,039.73	7,007.22	27.74	25.73	-170.10	-309.27	563.77	1,394.27	1,344.04	50.23	27.758			
7,300.00	7,232.68	7,087.39	7,054.50	27.95	25.92	-170.16	-311.10	569.51	1,409.31	1,358.72	50.59	27.860			
7,350.00	7,281.86	7,135.06	7,101.78	28.17	26.11	-170.22	-312.93	575.25	1,424.35	1,373.40	50.94	27.961			
7,400.00	7,331.04	7,182.72	7,149.06	28.38	26.29	-170.28	-314.77	580.99	1,439.38	1,388.09	51.30	28.060			
7,450.00	7,380.22	7,230.38	7,196.35	28.60	26.48	-170.34	-316.60	586.72	1,454.42	1,402.77	51.65	28.158			
7,500.00	7,429.40	7,278.05	7,243.63	28.81	26.67	-170.40	-318.43	592.46	1,469.46	1,417.46	52.01	28.255			
7,550.00	7,478.58	7,325.71	7,290.81	29.03	26.86	-170.45	-320.26	598.20	1,484.51	1,432.14	52.36	28.350			
7,600.00	7,527.76	7,373.37	7,338.19	29.24	27.04	-170.51	-322.09	603.94	1,499.55	1,446.83	52.72	28.444			

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Van Doo Dah 21-33 Fed Com 233H
Project:	Lea County (NAD83 New Mexico East)	TVD Reference:	RKB @ 3415.20ft
Reference Site:	Sec 21-T25S-R32E	MD Reference:	RKB @ 3415.20ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Van Doo Dah 21-33 Fed Com 233H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 2	Offset TVD Reference:	Offset Datum

Offset Design Sec 21-T25S-R32E - Marwari 21-16 State Fed Com 622H - Wellbore #1 - Permit Plan 1												Offset Site Error:	0.00 ft
Survey Program: 0-MWD+HDGM												Offset Well Error:	0.50 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Semi Major Axis Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Distance Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
0.00	0.00	0.00	0.00	0.50	0.50	179.64	-149.98	0.95	152.93				
50.00	50.00	20.10	20.10	0.50	0.50	179.64	-149.98	0.95	149.98	148.98	1.00	149.582	
100.00	100.00	70.10	70.10	0.52	0.51	179.64	-149.98	0.95	149.98	148.96	1.03	146.123	
150.00	150.00	120.10	120.10	0.59	0.54	179.64	-149.98	0.95	149.98	148.85	1.13	132.622	
200.00	200.00	170.10	170.10	0.70	0.63	179.64	-149.98	0.95	149.98	148.65	1.33	112.498	
250.00	250.00	220.10	220.10	0.84	0.75	179.64	-149.98	0.95	149.98	148.39	1.59	94.227	
300.00	300.00	270.10	270.10	0.99	0.90	179.64	-149.98	0.95	149.98	148.10	1.88	79.633	
350.00	350.00	320.10	320.10	1.15	1.05	179.64	-149.98	0.95	149.98	147.79	2.20	68.326	
400.00	400.00	370.10	370.10	1.31	1.21	179.64	-149.98	0.95	149.98	147.46	2.52	58.533	
450.00	450.00	420.10	420.10	1.48	1.38	179.64	-149.98	0.95	149.98	147.13	2.85	52.593	
500.00	500.00	470.10	470.10	1.65	1.54	179.64	-149.98	0.95	149.98	146.79	3.19	47.018	
550.00	550.00	520.10	520.10	1.82	1.71	179.64	-149.98	0.95	149.98	146.45	3.53	42.464	
600.00	600.00	570.10	570.10	1.99	1.89	179.64	-149.98	0.95	149.98	146.11	3.88	38.684	
650.00	650.00	620.10	620.10	2.16	2.06	179.64	-149.98	0.95	149.98	145.76	4.22	35.504	
700.00	700.00	670.10	670.10	2.34	2.23	179.64	-149.98	0.95	149.98	145.41	4.57	32.794	
750.00	750.00	720.10	720.10	2.51	2.41	179.64	-149.98	0.95	149.98	145.06	4.92	30.460	
800.00	800.00	770.10	770.10	2.69	2.59	179.64	-149.98	0.95	149.98	144.71	5.28	28.431	
850.00	850.00	820.10	820.10	2.87	2.76	179.64	-149.98	0.95	149.98	144.36	5.63	26.650	
900.00	900.00	870.10	870.10	3.04	2.94	179.64	-149.98	0.95	149.98	144.00	5.98	25.077	
950.00	950.00	920.10	920.10	3.22	3.11	179.64	-149.98	0.95	149.98	143.65	6.33	23.677	
1,000.00	1,000.00	970.10	970.10	3.40	3.29	179.64	-149.98	0.95	149.98	143.29	6.69	22.423	
1,050.00	1,050.00	1,020.10	1,020.10	3.57	3.47	179.64	-149.98	0.95	149.98	142.94	7.04	21.294	
1,100.00	1,100.00	1,070.10	1,070.10	3.75	3.65	179.64	-149.98	0.95	149.98	142.58	7.40	20.272	
1,150.00	1,150.00	1,120.10	1,120.10	3.93	3.82	179.64	-149.98	0.95	149.98	142.23	7.75	19.343	
1,200.00	1,200.00	1,170.10	1,170.10	4.11	4.00	179.64	-149.98	0.95	149.98	141.87	8.11	18.495	
1,250.00	1,250.00	1,220.10	1,220.10	4.29	4.18	179.64	-149.98	0.95	149.98	141.52	8.47	17.718	
1,300.00	1,300.00	1,270.10	1,270.10	4.46	4.36	179.64	-149.98	0.95	149.98	141.16	8.82	17.002	
1,350.00	1,350.00	1,320.10	1,320.10	4.64	4.54	179.64	-149.98	0.95	149.98	140.81	9.18	16.342	
1,400.00	1,400.00	1,370.10	1,370.10	4.82	4.71	179.64	-149.98	0.95	149.98	140.45	9.53	15.731	
1,450.00	1,450.00	1,420.10	1,420.10	5.00	4.89	179.64	-149.98	0.95	149.98	140.09	9.89	15.164	
1,500.00	1,500.00	1,470.10	1,470.10	5.18	5.07	179.64	-149.98	0.95	149.98	139.74	10.25	14.636	
1,550.00	1,550.00	1,520.10	1,520.10	5.36	5.25	179.64	-149.98	0.95	149.98	139.38	10.60	14.144	
1,600.00	1,600.00	1,570.10	1,570.10	5.53	5.43	179.64	-149.98	0.95	149.98	139.02	10.96	13.683	
1,650.00	1,650.00	1,620.10	1,620.10	5.71	5.61	179.64	-149.98	0.95	149.98	138.67	11.32	13.252	
1,700.00	1,700.00	1,670.10	1,670.10	5.89	5.78	179.64	-149.98	0.95	149.98	138.31	11.68	12.846	
1,750.00	1,750.00	1,720.10	1,720.10	6.07	5.96	179.64	-149.98	0.95	149.98	137.95	12.03	12.465	
1,800.00	1,800.00	1,770.10	1,770.10	6.25	6.14	179.64	-149.98	0.95	149.98	137.59	12.39	12.106	
1,850.00	1,850.00	1,820.10	1,820.10	6.43	6.32	179.64	-149.98	0.95	149.98	137.24	12.75	11.766	
1,900.00	1,900.00	1,870.10	1,870.10	6.61	6.50	179.64	-149.98	0.95	149.98	136.88	13.10	11.445	
1,950.00	1,950.00	1,920.10	1,920.10	6.78	6.68	179.64	-149.98	0.95	149.98	136.52	13.46	11.141	
2,000.00	2,000.00	1,970.10	1,970.10	6.96	6.86	179.64	-149.98	0.95	149.98	136.16	13.82	10.853	
2,050.00	2,050.00	2,020.10	2,020.10	7.14	7.04	179.64	-149.98	0.95	149.98	135.81	14.18	10.579	
2,100.00	2,100.00	2,070.10	2,070.10	7.32	7.21	179.64	-149.98	0.95	149.98	135.45	14.53	10.319	
2,150.00	2,150.00	2,120.10	2,120.10	7.50	7.39	179.64	-149.98	0.95	149.98	135.09	14.89	10.071	
2,200.00	2,200.00	2,170.10	2,170.10	7.68	7.57	179.64	-149.98	0.95	149.98	134.73	15.25	9.835	
2,250.00	2,250.00	2,220.10	2,220.10	7.86	7.75	179.64	-149.98	0.95	149.98	134.38	15.61	9.610	
2,300.00	2,300.00	2,270.10	2,270.10	8.04	7.93	179.64	-149.98	0.95	149.98	134.02	15.97	9.394	
2,350.00	2,350.00	2,320.10	2,320.10	8.21	8.11	179.64	-149.98	0.95	149.98	133.66	16.32	9.188	
2,400.00	2,400.00	2,370.10	2,370.10	8.39	8.29	179.64	-149.98	0.95	149.98	133.30	16.68	8.991	
2,450.00	2,450.00	2,420.10	2,420.10	8.57	8.47	179.64	-149.98	0.95	149.98	132.94	17.04	8.803	
2,500.00	2,500.00	2,470.10	2,470.10	8.75	8.65	179.64	-149.98	0.95	149.98	132.59	17.40	8.621 CC	
2,550.00	2,550.00	2,520.10	2,520.10	8.93	8.82	-98.37	-149.98	0.95	150.01	132.26	17.75	8.451	

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 Van Doo Dah 21-33 Fed Com 233H
Project:	Lea County (NAD83 New Mexico East)	TVD Reference:	RKB @ 3415.20ft
Reference Site:	Sec 21-T25S-R32E	MD Reference:	RKB @ 3415.20ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Van Doo Dah 21-33 Fed Com 233H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 2	Offset TVD Reference:	Offset Datum

Offset Design Sec 21-T25S-R32E - Marwari 21-16 State Fed Com 622H - Wellbore #1 - Permit Plan 1													Offset Site Error:	0.00 ft
Survey Program: 0-MWD+HDGM													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis		Distance		Minimum		Separation		Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
2,600.00	2,599.99	2,570.09	2,570.09	9.10	9.00	-98.61	-149.98	0.95	150.11	132.01	18.10	8.291		
2,650.00	2,649.98	2,620.08	2,620.08	9.27	9.18	-99.02	-149.98	0.95	150.28	131.82	18.46	8.143		
2,700.00	2,699.96	2,670.06	2,670.06	9.45	9.36	-99.59	-149.98	0.95	150.53	131.72	18.81	8.004		
2,750.00	2,749.92	2,720.02	2,720.02	9.62	9.54	-100.32	-149.98	0.95	150.87	131.71	19.16	7.875 ES		
2,800.00	2,799.86	2,769.96	2,769.96	9.79	9.72	-101.21	-149.98	0.95	151.31	131.80	19.51	7.756		
2,850.00	2,849.78	2,819.88	2,819.88	9.97	9.90	-102.25	-149.98	0.95	151.89	132.03	19.86	7.647		
2,900.00	2,899.68	2,869.78	2,869.78	10.14	10.08	-103.44	-149.98	0.95	152.62	132.41	20.21	7.550		
2,950.00	2,949.54	2,919.64	2,919.64	10.31	10.25	-104.78	-149.98	0.95	153.53	132.96	20.57	7.464		
3,000.00	2,999.37	2,969.47	2,969.47	10.49	10.43	-106.25	-149.98	0.95	154.64	133.72	20.92	7.392		
3,050.00	3,049.16	3,019.26	3,019.26	10.66	10.61	-107.84	-149.98	0.95	155.98	134.71	21.27	7.332		
3,100.00	3,098.90	3,069.00	3,069.00	10.84	10.79	-109.55	-149.98	0.95	157.60	135.97	21.63	7.286		
3,150.00	3,148.61	3,118.71	3,118.71	11.02	10.97	-111.37	-149.98	0.95	159.51	137.53	21.98	7.256		
3,200.00	3,198.26	3,168.36	3,168.36	11.20	11.14	-113.27	-149.98	0.95	161.75	139.42	22.34	7.241 SF		
3,250.00	3,247.86	3,217.96	3,217.96	11.38	11.32	-115.26	-149.98	0.95	164.37	141.67	22.69	7.243		
3,300.00	3,297.40	3,267.50	3,267.50	11.56	11.50	-117.30	-149.98	0.95	167.37	144.32	23.05	7.261		
3,350.00	3,346.89	3,316.99	3,316.99	11.74	11.68	-119.40	-149.98	0.95	170.81	147.40	23.41	7.298		
3,400.00	3,396.30	3,366.40	3,366.40	11.92	11.85	-121.52	-149.98	0.95	174.70	150.94	23.76	7.352		
3,450.00	3,445.65	3,415.75	3,415.75	12.10	12.03	-123.65	-149.98	0.95	179.07	154.95	24.12	7.425		
3,500.00	3,494.93	3,465.03	3,465.03	12.29	12.21	-125.79	-149.98	0.95	183.94	159.47	24.47	7.516		
3,550.00	3,544.13	3,514.23	3,514.23	12.47	12.38	-127.92	-149.98	0.95	189.32	164.49	24.83	7.625		
3,600.00	3,593.32	3,563.42	3,563.42	12.66	12.56	-129.99	-149.98	0.95	195.05	169.86	25.19	7.744		
3,650.00	3,642.50	3,612.60	3,612.60	12.85	12.74	-131.94	-149.98	0.95	201.02	175.47	25.54	7.870		
3,700.00	3,691.68	3,661.78	3,661.78	13.04	12.91	-133.78	-149.98	0.95	207.20	181.31	25.90	8.001		
3,750.00	3,740.86	3,710.96	3,710.96	13.23	13.09	-135.51	-149.98	0.95	213.59	187.34	26.25	8.136		
3,800.00	3,790.04	3,760.14	3,760.14	13.42	13.26	-137.14	-149.98	0.95	220.16	193.56	26.61	8.274		
3,850.00	3,839.22	3,809.32	3,809.32	13.62	13.44	-138.68	-149.98	0.95	226.90	199.94	26.96	8.415		
3,900.00	3,888.40	3,858.50	3,858.50	13.81	13.62	-140.13	-149.98	0.95	233.80	206.48	27.32	8.558		
3,950.00	3,937.58	3,907.68	3,907.68	14.01	13.79	-141.49	-149.98	0.95	240.83	213.16	27.67	8.702		
4,000.00	3,986.76	3,956.86	3,956.86	14.20	13.97	-142.78	-149.98	0.95	247.99	219.96	28.03	8.848		
4,050.00	4,035.94	4,006.04	4,006.04	14.40	14.15	-144.00	-149.98	0.95	255.27	226.89	28.38	8.993		
4,100.00	4,085.12	4,055.19	4,055.19	14.59	14.30	-145.08	-150.19	1.24	263.04	234.33	28.71	9.162		
4,150.00	4,134.30	4,097.33	4,097.32	14.79	14.46	-146.11	-150.74	1.97	271.51	242.47	29.04	9.351		
4,200.00	4,183.48	4,142.86	4,142.82	14.99	14.61	-147.08	-151.63	3.14	280.67	251.32	29.35	9.564		
4,250.00	4,232.66	4,188.16	4,188.08	15.19	14.76	-148.00	-152.84	4.76	290.51	260.85	29.66	9.796		
4,300.00	4,281.84	4,233.24	4,233.08	15.39	14.91	-148.86	-154.37	6.80	301.02	271.06	29.96	10.048		
4,350.00	4,331.02	4,278.37	4,277.79	15.59	15.06	-149.67	-156.21	9.26	312.19	281.94	30.26	10.318		
4,400.00	4,380.20	4,326.51	4,326.11	15.79	15.22	-150.48	-158.39	12.16	323.72	293.13	30.59	10.582		
4,450.00	4,429.38	4,374.96	4,374.43	15.99	15.38	-151.23	-160.56	15.05	335.31	304.37	30.93	10.841		
4,500.00	4,478.57	4,423.41	4,422.75	16.19	15.54	-151.94	-162.73	17.95	346.94	315.67	31.27	11.096		
4,550.00	4,527.75	4,471.87	4,471.07	16.39	15.71	-152.60	-164.90	20.85	358.63	327.02	31.61	11.346		
4,600.00	4,576.93	4,520.32	4,519.36	16.59	15.87	-153.22	-167.08	23.75	370.36	338.41	31.95	11.593		
4,650.00	4,626.11	4,568.77	4,567.70	16.80	16.03	-153.80	-169.25	26.64	382.12	349.83	32.29	11.835		
4,700.00	4,675.29	4,617.23	4,616.02	17.00	16.20	-154.35	-171.42	29.54	393.92	361.29	32.63	12.073		
4,750.00	4,724.47	4,665.68	4,664.34	17.21	16.36	-154.86	-173.59	32.44	405.76	372.79	32.97	12.307		
4,800.00	4,773.65	4,714.13	4,712.66	17.41	16.53	-155.35	-175.77	35.33	417.62	384.31	33.31	12.537		
4,850.00	4,822.83	4,762.59	4,760.97	17.61	16.69	-155.80	-177.94	38.23	429.51	395.85	33.65	12.763		
4,900.00	4,872.01	4,811.04	4,809.29	17.82	16.86	-156.24	-180.11	41.13	441.42	407.43	33.99	12.985		
4,950.00	4,921.19	4,859.49	4,857.61	18.03	17.02	-156.65	-182.28	44.02	453.36	419.02	34.34	13.203		
5,000.00	4,970.37	4,907.95	4,905.93	18.23	17.19	-157.04	-184.46	46.92	465.32	430.63	34.68	13.417		
5,050.00	5,019.55	4,956.40	4,954.25	18.44	17.35	-157.41	-186.63	49.82	477.29	442.27	35.02	13.627		
5,100.00	5,068.73	5,004.85	5,002.56	18.64	17.52	-157.76	-188.80	52.71	489.29	453.92	35.37	13.834		
5,150.00	5,117.91	5,053.31	5,050.88	18.85	17.69	-158.10	-190.98	55.61	501.30	465.59	35.71	14.037		

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

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Van Doo Dah 21-33 Fed Com 233H
Project:	Lea County (NAD83 New Mexico East)	TVD Reference:	RKB @ 3415.20ft
Reference Site:	Sec 21-T25S-R32E	MD Reference:	RKB @ 3415.20ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Van Doo Dah 21-33 Fed Com 233H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 2	Offset TVD Reference:	Offset Datum

Offset Design Sec 21-T25S-R32E - Marwari 21-16 State Fed Com 622H - Wellbore #1 - Permit Plan 1													Offset Site Error:	0.00 ft
Survey Program: 0-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		
5,200.00	5,167.09	5,101.76	5,099.20	19.06	17.85	-158.42	-193.15	58.51	513.33	477.27	36.06	14.236		
5,250.00	5,216.27	5,150.22	5,147.52	19.27	18.02	-158.73	-195.32	61.40	525.37	488.97	36.40	14.432		
5,300.00	5,265.45	5,201.33	5,195.84	19.47	18.20	-159.02	-197.49	64.30	537.42	500.67	36.76	14.621		
5,350.00	5,314.63	5,247.12	5,244.15	19.68	18.36	-159.30	-199.67	67.20	549.49	512.40	37.09	14.813		
5,400.00	5,363.81	5,304.42	5,292.47	19.89	18.55	-159.57	-201.84	70.09	561.57	524.10	37.47	14.987		
5,450.00	5,413.00	5,344.03	5,340.79	20.10	18.69	-159.82	-204.01	72.99	573.66	535.88	37.79	15.181		
5,500.00	5,462.18	5,407.52	5,389.11	20.31	18.91	-160.07	-206.18	75.89	585.76	547.58	38.19	15.340		
5,550.00	5,511.36	5,440.94	5,437.43	20.52	19.03	-160.30	-208.36	78.78	597.87	559.39	38.48	15.537		
5,600.00	5,560.54	5,489.39	5,485.74	20.73	19.20	-160.53	-210.53	81.68	609.99	571.17	38.83	15.710		
5,650.00	5,609.72	5,537.84	5,534.06	20.94	19.37	-160.75	-212.70	84.58	622.12	582.95	39.18	15.880		
5,700.00	5,658.90	5,586.30	5,582.38	21.15	19.54	-160.96	-214.87	87.48	634.26	594.74	39.52	16.047		
5,750.00	5,708.08	5,634.75	5,630.70	21.36	19.71	-161.16	-217.05	90.37	646.40	606.53	39.87	16.212		
5,800.00	5,757.26	5,683.20	5,679.02	21.57	19.88	-161.35	-219.22	93.27	658.56	618.34	40.22	16.373		
5,850.00	5,806.44	5,731.66	5,727.33	21.78	20.05	-161.54	-221.39	96.17	670.72	630.14	40.57	16.532		
5,900.00	5,855.62	5,780.11	5,775.65	21.99	20.22	-161.72	-223.56	99.06	682.88	641.96	40.92	16.688		
5,950.00	5,904.80	5,828.56	5,823.97	22.20	20.39	-161.89	-225.74	101.96	695.05	653.78	41.27	16.842		
6,000.00	5,953.98	5,877.02	5,872.29	22.41	20.56	-162.06	-227.91	104.86	707.23	665.61	41.62	16.993		
6,050.00	6,003.16	5,925.47	5,920.61	22.62	20.73	-162.22	-230.08	107.75	719.41	677.44	41.97	17.142		
6,100.00	6,052.34	5,973.92	5,968.92	22.83	20.90	-162.38	-232.26	110.65	731.60	689.28	42.32	17.288		
6,150.00	6,101.52	6,022.38	6,017.24	23.04	21.07	-162.53	-234.43	113.55	743.79	701.12	42.67	17.431		
6,200.00	6,150.70	6,070.83	6,065.56	23.26	21.24	-162.68	-236.60	116.44	755.99	712.97	43.02	17.573		
6,250.00	6,199.88	6,119.28	6,113.88	23.47	21.41	-162.82	-238.77	119.34	768.19	724.82	43.37	17.712		
6,300.00	6,249.06	6,167.74	6,162.20	23.68	21.59	-162.96	-240.95	122.24	780.40	736.68	43.72	17.849		
6,350.00	6,298.25	6,216.19	6,210.51	23.89	21.76	-163.09	-243.12	125.13	792.61	748.54	44.07	17.984		
6,400.00	6,347.43	6,264.65	6,258.83	24.11	21.93	-163.22	-245.29	128.03	804.82	760.40	44.43	18.116		
6,450.00	6,396.61	6,313.10	6,307.15	24.32	22.10	-163.35	-247.46	130.93	817.04	772.26	44.78	18.247		
6,500.00	6,445.79	6,361.55	6,355.47	24.53	22.27	-163.47	-249.64	133.82	829.26	784.13	45.13	18.375		
6,550.00	6,494.97	6,410.01	6,403.79	24.74	22.45	-163.59	-251.81	136.72	841.49	796.01	45.48	18.502		
6,600.00	6,544.15	6,458.46	6,452.10	24.96	22.62	-163.70	-253.98	139.62	853.72	807.88	45.83	18.627		
6,650.00	6,593.33	6,506.91	6,500.42	25.17	22.79	-163.81	-256.15	142.51	865.95	819.76	46.19	18.749		
6,700.00	6,642.51	6,555.37	6,548.74	25.38	22.96	-163.92	-258.33	145.41	878.18	831.65	46.54	18.870		
6,750.00	6,691.69	6,603.82	6,597.06	25.60	23.14	-164.03	-260.50	148.31	890.42	843.53	46.89	18.989		
6,800.00	6,740.87	6,652.27	6,645.37	25.81	23.31	-164.13	-262.67	151.21	902.66	855.42	47.24	19.106		
6,850.00	6,790.05	6,700.73	6,693.69	26.02	23.48	-164.23	-264.84	154.10	914.90	867.31	47.60	19.221		
6,900.00	6,839.23	6,749.18	6,742.01	26.24	23.66	-164.33	-267.02	157.00	927.15	879.20	47.95	19.335		
6,950.00	6,888.41	6,797.63	6,790.33	26.45	23.83	-164.42	-269.19	159.90	939.40	891.09	48.31	19.447		
7,000.00	6,937.59	6,846.09	6,838.65	26.67	24.00	-164.51	-271.36	162.79	951.65	902.99	48.66	19.557		
7,050.00	6,986.77	6,895.46	6,886.96	26.88	24.22	-164.60	-273.53	165.69	963.90	914.85	49.05	19.651		
7,100.00	7,035.95	6,942.99	6,935.28	27.10	24.35	-164.69	-275.71	168.59	976.16	926.79	49.37	19.773		
7,150.00	7,085.13	7,008.55	6,983.60	27.31	24.59	-164.78	-277.88	171.48	988.41	938.63	49.78	19.855		
7,200.00	7,134.31	7,039.90	7,031.92	27.52	24.70	-164.86	-280.05	174.38	1,000.67	950.60	50.08	19.983		
7,250.00	7,183.49	7,088.35	7,080.24	27.74	24.87	-164.94	-282.23	177.28	1,012.93	962.50	50.43	20.086		
7,300.00	7,232.68	7,136.81	7,128.55	27.95	25.05	-165.02	-284.40	180.17	1,025.20	974.41	50.79	20.187		
7,350.00	7,281.86	7,185.26	7,176.87	28.17	25.22	-165.10	-286.57	183.07	1,037.46	986.32	51.14	20.287		
7,400.00	7,331.04	7,233.71	7,225.19	28.38	25.40	-165.18	-288.74	185.97	1,049.73	998.23	51.50	20.385		
7,450.00	7,380.22	7,282.17	7,273.51	28.60	25.57	-165.25	-290.92	188.86	1,062.00	1,010.14	51.85	20.482		
7,500.00	7,429.40	7,330.62	7,321.83	28.81	25.74	-165.32	-293.09	191.76	1,074.27	1,022.06	52.21	20.577		
7,550.00	7,478.58	7,379.08	7,370.14	29.03	25.92	-165.39	-295.26	194.66	1,086.54	1,033.97	52.56	20.672		
7,600.00	7,527.76	7,427.53	7,418.46	29.24	26.09	-165.46	-297.43	197.55	1,098.81	1,045.89	52.92	20.765		
7,650.00	7,576.94	7,475.98	7,466.78	29.46	26.27	-165.53	-299.61	200.45	1,111.08	1,057.81	53.27	20.856		
7,700.00	7,626.12	7,524.44	7,515.10	29.68	26.44	-165.60	-301.78	203.35	1,123.36	1,069.73	53.63	20.947		
7,750.00	7,675.30	7,572.89	7,563.42	29.89	26.62	-165.66	-303.95	206.25	1,135.64	1,081.65	53.99	21.036		

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

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Van Doo Dah 21-33 Fed Com 233H
Project:	Lea County (NAD83 New Mexico East)	TVD Reference:	RKB @ 3415.20ft
Reference Site:	Sec 21-T25S-R32E	MD Reference:	RKB @ 3415.20ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Van Doo Dah 21-33 Fed Com 233H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 2	Offset TVD Reference:	Offset Datum

Offset Design Sec 21-T25S-R32E - Marwari 21-16 State Fed Com 622H - Wellbore #1 - Permit Plan 1											Offset Site Error:	0.00 ft	
Survey Program: 0-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 Tooface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)		Separation Factor
7,800.00	7,724.48	7,621.34	7,611.73	30.11	26.79	-165.72	-306.12	209.14	1,147.91	1,093.57	54.34	21.124	
7,850.00	7,773.66	7,669.80	7,660.05	30.32	26.97	-165.79	-308.30	212.04	1,160.19	1,105.50	54.70	21.211	
7,900.00	7,822.84	7,718.25	7,708.37	30.54	27.14	-165.85	-310.47	214.94	1,172.48	1,117.42	55.05	21.297	
7,950.00	7,872.02	7,766.70	7,756.69	30.75	27.32	-165.91	-312.64	217.83	1,184.76	1,129.35	55.41	21.381	
8,000.00	7,921.20	7,815.16	7,805.01	30.97	27.49	-165.97	-314.81	220.73	1,197.04	1,141.27	55.77	21.465	
8,050.00	7,970.38	7,863.61	7,853.32	31.19	27.67	-166.02	-316.99	223.63	1,209.33	1,153.20	56.12	21.547	
8,100.00	8,019.56	7,912.06	7,901.64	31.40	27.85	-166.08	-319.16	226.52	1,221.61	1,165.13	56.48	21.629	
8,150.00	8,068.74	7,960.52	7,949.96	31.62	28.02	-166.13	-321.33	229.42	1,233.90	1,177.06	56.84	21.709	
8,200.00	8,117.93	8,008.97	8,008.28	31.83	28.20	-166.19	-323.51	232.32	1,246.19	1,188.99	57.20	21.788	
8,250.00	8,167.11	8,057.42	8,046.60	32.05	28.37	-166.24	-325.68	235.21	1,258.47	1,200.92	57.55	21.867	
8,300.00	8,216.29	8,105.88	8,094.91	32.27	28.55	-166.29	-327.85	238.11	1,270.76	1,212.85	57.91	21.944	
8,350.00	8,265.47	8,154.33	8,143.23	32.48	28.72	-166.34	-330.02	241.01	1,283.06	1,224.79	58.27	22.020	
8,400.00	8,314.65	8,202.78	8,191.55	32.70	28.90	-166.39	-332.20	243.90	1,295.35	1,236.72	58.62	22.095	
8,450.00	8,363.83	8,251.24	8,239.87	32.92	29.08	-166.44	-334.37	246.80	1,307.64	1,248.66	58.98	22.170	
8,500.00	8,413.01	8,300.31	8,288.19	33.13	29.25	-166.49	-336.54	249.70	1,319.93	1,260.59	59.34	22.243	
8,550.00	8,462.19	8,348.14	8,336.50	33.35	29.43	-166.54	-338.71	252.59	1,332.23	1,272.53	59.70	22.316	
8,600.00	8,511.37	8,403.40	8,384.82	33.57	29.63	-166.58	-340.89	255.49	1,344.52	1,284.44	60.08	22.379	
8,650.00	8,560.55	8,445.05	8,433.14	33.78	29.78	-166.63	-343.06	258.39	1,356.82	1,296.40	60.41	22.458	
8,700.00	8,609.73	8,506.50	8,481.46	34.00	30.00	-166.67	-345.23	261.28	1,369.11	1,308.30	60.82	22.511	
8,750.00	8,658.91	8,541.96	8,529.78	34.22	30.13	-166.72	-347.40	264.18	1,381.41	1,320.28	61.13	22.598	
8,800.00	8,708.09	8,609.59	8,578.09	34.43	30.38	-166.76	-349.58	267.08	1,393.71	1,332.15	61.56	22.641	
8,850.00	8,757.27	8,638.87	8,626.41	34.65	30.49	-166.80	-351.75	269.98	1,406.01	1,344.16	61.85	22.733	
8,900.00	8,806.45	8,687.32	8,674.73	34.87	30.66	-166.84	-353.92	272.87	1,418.31	1,356.10	62.21	22.800	
8,950.00	8,855.63	8,735.77	8,723.05	35.09	30.84	-166.88	-356.09	275.77	1,430.61	1,368.04	62.57	22.866	
9,000.00	8,904.81	8,784.23	8,771.37	35.30	31.02	-166.92	-358.27	278.67	1,442.91	1,379.99	62.92	22.931	
9,050.00	8,953.99	8,832.68	8,819.68	35.52	31.19	-166.96	-360.44	281.56	1,455.21	1,391.93	63.28	22.995	
9,100.00	9,003.17	8,881.13	8,868.00	35.74	31.37	-167.00	-362.61	284.46	1,467.51	1,403.87	63.64	23.059	
9,150.00	9,052.39	8,929.64	8,916.37	35.95	31.55	-167.07	-364.79	287.36	1,479.62	1,415.62	64.00	23.119	
9,200.00	9,101.72	8,978.29	8,964.89	36.17	31.72	-167.14	-366.97	290.27	1,491.12	1,426.76	64.36	23.168	

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Van Doo Dah 21-33 Fed Com 233H
Project:	Lea County (NAD83 New Mexico East)	TVD Reference:	RKB @ 3415.20ft
Reference Site:	Sec 21-T25S-R32E	MD Reference:	RKB @ 3415.20ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Van Doo Dah 21-33 Fed Com 233H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 2	Offset TVD Reference:	Offset Datum

Offset Design Sec 21-T25S-R32E - Marwari 21-16 State Fed Com 714H - Wellbore #1 - Permit Plan 1												Offset Site Error:	0.00 ft
Survey Program: 0-MWD+HDGM												Offset Well Error:	0.50 ft
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	0.50	168.30	-149.38	30.93	152.55				
50.00	50.00	50.00	50.00	0.50	0.50	168.30	-149.38	30.93	152.55	151.54	1.01	151.571	
100.00	100.00	100.00	100.00	0.52	0.52	168.30	-149.38	30.93	152.55	151.51	1.04	147.337	
150.00	150.00	150.00	150.00	0.59	0.59	168.30	-149.38	30.93	152.55	151.37	1.18	129.257	
200.00	200.00	200.00	200.00	0.70	0.70	168.30	-149.38	30.93	152.55	151.14	1.40	108.666	
250.00	250.00	250.00	250.00	0.84	0.84	168.30	-149.38	30.93	152.55	150.87	1.67	91.074	
300.00	300.00	300.00	300.00	0.99	0.99	168.30	-149.38	30.93	152.55	150.57	1.97	77.271	
350.00	350.00	350.00	350.00	1.15	1.15	168.30	-149.38	30.93	152.55	150.26	2.29	66.601	
400.00	400.00	400.00	400.00	1.31	1.31	168.30	-149.38	30.93	152.55	149.93	2.62	58.276	
450.00	450.00	450.00	450.00	1.48	1.48	168.30	-149.38	30.93	152.55	149.60	2.95	51.674	
500.00	500.00	500.00	500.00	1.65	1.65	168.30	-149.38	30.93	152.55	149.26	3.29	46.344	
550.00	550.00	550.00	550.00	1.82	1.82	168.30	-149.38	30.93	152.55	148.91	3.63	41.969	
600.00	600.00	600.00	600.00	1.99	1.99	168.30	-149.38	30.93	152.55	148.57	3.98	38.322	
650.00	650.00	650.00	650.00	2.16	2.16	168.30	-149.38	30.93	152.55	148.22	4.33	35.242	
700.00	700.00	700.00	700.00	2.34	2.34	168.30	-149.38	30.93	152.55	147.87	4.68	32.609	
750.00	750.00	750.00	750.00	2.51	2.51	168.30	-149.38	30.93	152.55	147.52	5.03	30.335	
800.00	800.00	800.00	800.00	2.69	2.69	168.30	-149.38	30.93	152.55	147.17	5.38	28.351	
850.00	850.00	850.00	850.00	2.87	2.87	168.30	-149.38	30.93	152.55	146.82	5.73	26.608	
900.00	900.00	900.00	900.00	3.04	3.04	168.30	-149.38	30.93	152.55	146.46	6.09	25.063	
950.00	950.00	950.00	950.00	3.22	3.22	168.30	-149.38	30.93	152.55	146.11	6.44	23.686	
1,000.00	1,000.00	1,000.00	1,000.00	3.40	3.40	168.30	-149.38	30.93	152.55	145.75	6.79	22.451	
1,050.00	1,050.00	1,050.00	1,050.00	3.57	3.58	168.30	-149.38	30.93	152.55	145.40	7.15	21.337	
1,100.00	1,100.00	1,100.00	1,100.00	3.75	3.75	168.30	-149.38	30.93	152.55	145.04	7.50	20.327	
1,150.00	1,150.00	1,150.00	1,150.00	3.93	3.93	168.30	-149.38	30.93	152.55	144.69	7.86	19.408	
1,200.00	1,200.00	1,200.00	1,200.00	4.11	4.11	168.30	-149.38	30.93	152.55	144.33	8.22	18.568	
1,250.00	1,250.00	1,250.00	1,250.00	4.29	4.29	168.30	-149.38	30.93	152.55	143.98	8.57	17.797	
1,300.00	1,300.00	1,300.00	1,300.00	4.46	4.46	168.30	-149.38	30.93	152.55	143.62	8.93	17.087	
1,350.00	1,350.00	1,350.00	1,350.00	4.64	4.64	168.30	-149.38	30.93	152.55	143.26	9.28	16.431	
1,400.00	1,400.00	1,400.00	1,400.00	4.82	4.82	168.30	-149.38	30.93	152.55	142.91	9.64	15.824	
1,450.00	1,450.00	1,450.00	1,450.00	5.00	5.00	168.30	-149.38	30.93	152.55	142.55	10.00	15.259	
1,500.00	1,500.00	1,500.00	1,500.00	5.18	5.18	168.30	-149.38	30.93	152.55	142.19	10.35	14.733	
1,550.00	1,550.00	1,550.00	1,550.00	5.36	5.36	168.30	-149.38	30.93	152.55	141.84	10.71	14.243	
1,600.00	1,600.00	1,600.00	1,600.00	5.53	5.53	168.30	-149.38	30.93	152.55	141.48	11.07	13.783	
1,650.00	1,650.00	1,650.00	1,650.00	5.71	5.71	168.30	-149.38	30.93	152.55	141.12	11.42	13.352	
1,700.00	1,700.00	1,700.00	1,700.00	5.89	5.89	168.30	-149.38	30.93	152.55	140.77	11.78	12.948	
1,750.00	1,750.00	1,750.00	1,750.00	6.07	6.07	168.30	-149.38	30.93	152.55	140.41	12.14	12.567	
1,800.00	1,800.00	1,800.00	1,800.00	6.25	6.25	168.30	-149.38	30.93	152.55	140.05	12.50	12.207	
1,850.00	1,850.00	1,850.00	1,850.00	6.43	6.43	168.30	-149.38	30.93	152.55	139.70	12.85	11.868	
1,900.00	1,900.00	1,900.00	1,900.00	6.61	6.61	168.30	-149.38	30.93	152.55	139.34	13.21	11.547	
1,950.00	1,950.00	1,950.00	1,950.00	6.78	6.78	168.30	-149.38	30.93	152.55	138.98	13.57	11.243	
2,000.00	2,000.00	2,000.00	2,000.00	6.96	6.96	168.30	-149.38	30.93	152.55	138.62	13.93	10.954	
2,050.00	2,050.00	2,050.00	2,050.00	7.14	7.14	168.30	-149.38	30.93	152.55	138.27	14.28	10.680	
2,100.00	2,100.00	2,100.00	2,100.00	7.32	7.32	168.30	-149.38	30.93	152.55	137.91	14.64	10.419	
2,150.00	2,150.00	2,150.00	2,150.00	7.50	7.50	168.30	-149.38	30.93	152.55	137.55	15.00	10.171	
2,200.00	2,200.00	2,200.00	2,200.00	7.68	7.68	168.30	-149.38	30.93	152.55	137.19	15.36	9.934	
2,250.00	2,250.00	2,250.00	2,250.00	7.86	7.86	168.30	-149.38	30.93	152.55	136.83	15.71	9.708	
2,300.00	2,300.00	2,300.00	2,300.00	8.04	8.04	168.30	-149.38	30.93	152.55	136.48	16.07	9.491	
2,350.00	2,350.00	2,350.00	2,350.00	8.21	8.22	168.30	-149.38	30.93	152.55	136.12	16.43	9.285	
2,400.00	2,400.00	2,400.00	2,400.00	8.39	8.39	168.30	-149.38	30.93	152.55	135.76	16.79	9.087	
2,450.00	2,450.00	2,450.00	2,450.00	8.57	8.57	168.30	-149.38	30.93	152.55	135.40	17.15	8.897	
2,500.00	2,500.00	2,500.00	2,500.00	8.75	8.75	168.30	-149.38	30.93	152.55	135.05	17.50	8.715 CC	
2,550.00	2,550.00	2,550.00	2,550.00	8.93	8.93	-109.70	-149.38	30.93	152.62	134.76	17.86	8.547	

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

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Van Doo Dah 21-33 Fed Com 233H
Project:	Lea County (NAD83 New Mexico East)	TVD Reference:	RKB @ 3415.20ft
Reference Site:	Sec 21-T25S-R32E	MD Reference:	RKB @ 3415.20ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Van Doo Dah 21-33 Fed Com 233H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 2	Offset TVD Reference:	Offset Datum

Offset Design Sec 21-T25S-R32E - Marwan 21-16 State Fed Com 714H - Wellbore #1 - Permit Plan 1													Offset Site Error:	0.00 ft
Survey Program: 0-MWD+HDGM													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis		Distance		Minimum Separation		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)	Separation Factor		
2,600.00	2,599.99	2,600.01	2,599.99	9.10	9.11	-109.92	-149.38	30.93	152.84	134.63	18.21	8.393 ES		
2,650.00	2,649.98	2,649.98	2,649.98	9.27	9.29	-110.30	-149.38	30.93	153.22	134.66	18.56	8.254		
2,700.00	2,699.96	2,700.04	2,699.96	9.45	9.47	-110.83	-149.38	30.93	153.76	134.84	18.91	8.129		
2,750.00	2,749.92	2,749.92	2,749.92	9.62	9.65	-111.51	-149.38	30.93	154.47	135.20	19.27	8.018		
2,800.00	2,799.86	2,799.86	2,799.86	9.79	9.83	-112.32	-149.38	30.93	155.36	135.74	19.62	7.920		
2,850.00	2,849.78	2,848.93	2,848.93	9.97	9.99	-113.31	-149.47	31.12	156.60	136.64	19.96	7.846		
2,900.00	2,899.68	2,897.91	2,897.91	10.14	10.16	-114.53	-149.72	31.69	158.34	138.04	20.30	7.799		
2,950.00	2,949.54	2,946.78	2,946.77	10.31	10.33	-115.97	-150.15	32.65	160.63	140.00	20.64	7.783 SF		
3,000.00	2,999.37	2,995.53	2,995.49	10.49	10.49	-117.60	-150.74	33.97	163.53	142.56	20.97	7.797		
3,050.00	3,049.16	3,044.12	3,044.05	10.65	10.65	-119.38	-151.51	35.68	167.08	145.77	21.31	7.841		
3,100.00	3,098.90	3,092.55	3,092.42	10.84	10.82	-121.29	-152.43	37.75	171.33	149.69	21.64	7.917		
3,150.00	3,148.61	3,140.78	3,140.58	11.02	10.98	-123.30	-153.52	40.18	176.33	154.36	21.97	8.025		
3,200.00	3,198.26	3,188.81	3,188.51	11.20	11.14	-125.37	-154.77	42.97	182.14	159.84	22.30	8.167		
3,250.00	3,247.86	3,236.60	3,236.18	11.38	11.31	-127.47	-156.18	46.11	188.79	166.16	22.63	8.343		
3,300.00	3,297.40	3,284.15	3,283.57	11.56	11.47	-129.57	-157.73	49.59	196.32	173.36	22.95	8.553		
3,350.00	3,346.89	3,340.60	3,330.53	11.74	11.66	-131.64	-159.44	53.39	204.75	181.44	23.31	8.785		
3,400.00	3,396.30	3,379.81	3,378.84	11.92	11.80	-133.72	-161.29	57.53	213.96	190.35	23.61	9.062		
3,450.00	3,445.65	3,428.23	3,427.04	12.10	11.96	-135.69	-163.14	61.66	223.76	199.81	23.95	9.343		
3,500.00	3,494.93	3,476.53	3,475.13	12.29	12.13	-137.57	-164.98	65.78	234.12	209.84	24.29	9.640		
3,550.00	3,544.13	3,524.72	3,523.11	12.47	12.30	-139.36	-166.82	69.88	245.05	220.43	24.62	9.952		
3,600.00	3,593.32	3,572.88	3,571.06	12.66	12.46	-141.07	-168.66	73.99	256.30	231.34	24.96	10.268		
3,650.00	3,642.50	3,621.03	3,619.01	12.85	12.63	-142.63	-170.50	78.09	267.75	242.46	25.30	10.584		
3,700.00	3,691.68	3,669.19	3,666.95	13.04	12.80	-144.07	-172.34	82.20	279.39	253.75	25.64	10.899		
3,750.00	3,740.86	3,717.35	3,714.90	13.23	12.97	-145.40	-174.17	86.30	291.18	265.20	25.97	11.210		
3,800.00	3,790.04	3,765.50	3,762.85	13.42	13.14	-146.63	-176.01	90.41	303.10	276.79	26.31	11.519		
3,850.00	3,839.22	3,813.66	3,810.79	13.62	13.31	-147.76	-177.85	94.52	315.15	288.50	26.65	11.825		
3,900.00	3,888.40	3,861.82	3,858.74	13.81	13.48	-148.81	-179.69	98.62	327.31	300.32	26.99	12.126		
3,950.00	3,937.58	3,909.97	3,906.68	14.01	13.65	-149.78	-181.53	102.73	339.57	312.24	27.33	12.424		
4,000.00	3,986.76	3,958.13	3,954.63	14.20	13.82	-150.69	-183.37	106.83	351.91	324.24	27.67	12.717		
4,050.00	4,035.94	4,006.29	4,002.58	14.40	13.99	-151.54	-185.20	110.94	364.33	336.32	28.01	13.005		
4,100.00	4,085.12	4,054.45	4,050.52	14.59	14.16	-152.33	-187.04	115.04	376.83	348.47	28.36	13.289		
4,150.00	4,134.30	4,102.60	4,098.47	14.79	14.33	-153.07	-188.88	119.15	389.38	360.68	28.70	13.568		
4,200.00	4,183.48	4,150.76	4,146.42	14.99	14.51	-153.77	-190.72	123.25	402.00	372.96	29.04	13.843		
4,250.00	4,232.66	4,201.08	4,194.36	15.19	14.89	-154.42	-192.56	127.36	414.66	385.27	29.39	14.109		
4,300.00	4,281.84	4,247.07	4,242.31	15.39	14.85	-155.04	-194.39	131.46	427.38	397.65	29.73	14.377		
4,350.00	4,331.02	4,304.77	4,290.26	15.59	15.06	-155.62	-196.23	135.57	440.14	410.03	30.10	14.621		
4,400.00	4,380.20	4,343.39	4,338.20	15.79	15.20	-156.16	-198.07	139.67	452.94	422.52	30.41	14.892		
4,450.00	4,429.38	4,408.46	4,386.15	15.99	15.43	-156.68	-199.91	143.78	465.77	434.95	30.82	15.113		
4,500.00	4,478.57	4,439.70	4,434.09	16.19	15.54	-157.17	-201.75	147.88	478.64	447.54	31.10	15.388		
4,550.00	4,527.75	4,487.86	4,482.04	16.39	15.72	-157.63	-203.59	151.99	491.54	460.09	31.45	15.629		
4,600.00	4,576.93	4,536.01	4,529.99	16.59	15.89	-158.07	-205.42	156.09	504.47	472.67	31.80	15.866		
4,650.00	4,626.11	4,584.17	4,577.93	16.80	16.07	-158.49	-207.26	160.20	517.42	485.28	32.14	16.098		
4,700.00	4,675.29	4,632.33	4,625.88	17.00	16.24	-158.89	-209.10	164.31	530.40	497.92	32.49	16.326		
4,750.00	4,724.47	4,680.49	4,673.83	17.21	16.42	-159.27	-210.94	168.41	543.41	510.57	32.83	16.550		
4,800.00	4,773.65	4,728.64	4,721.77	17.41	16.59	-159.63	-212.78	172.52	556.43	523.25	33.18	16.769		
4,850.00	4,822.83	4,776.80	4,769.72	17.61	16.77	-159.98	-214.62	176.62	569.48	535.95	33.53	16.985		
4,900.00	4,872.01	4,824.96	4,817.67	17.82	16.94	-160.31	-216.45	180.73	582.54	548.68	33.88	17.196		
4,950.00	4,921.19	4,873.11	4,865.61	18.03	17.12	-160.62	-218.29	184.83	595.62	561.39	34.22	17.403		
5,000.00	4,970.37	4,921.27	4,913.56	18.23	17.29	-160.92	-220.13	188.94	608.71	574.14	34.57	17.607		
5,050.00	5,019.55	4,969.43	4,961.50	18.44	17.47	-161.21	-221.97	193.04	621.82	586.90	34.92	17.807		
5,100.00	5,068.73	5,017.58	5,009.45	18.64	17.64	-161.49	-223.81	197.15	634.95	599.68	35.27	18.003		
5,150.00	5,117.91	5,065.74	5,057.40	18.85	17.82	-161.76	-225.64	201.25	648.09	612.47	35.62	18.195		

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

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Van Doo Dah 21-33 Fed.Com 233H
Project:	Lea County (NAD83 New Mexico East)	TVD Reference:	RKB @ 3415.20ft
Reference Site:	Sec 21-T25S-R32E	MD Reference:	RKB @ 3415.20ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Van Doo Dah 21-33 Fed Com 233H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 2	Offset TVD Reference:	Offset Datum

Offset Design														Offset Site Error:	0.00 ft
Survey Program: 0-MWD+HDGM														Offset Well Error:	0.50 ft
Sec 21-T25S-R32E - Marwari 21-16 State Fed Com 714H - Wellbore #1 - Permit Plan 1															
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		
5,200.00	5,167.09	5,113.90	5,105.34	19.06	18.00	-162.01	-227.48	205.36	661.24	625.27	35.97	18.384			
5,250.00	5,216.27	5,162.05	5,153.29	19.27	18.17	-162.26	-229.32	209.46	674.40	638.09	36.32	18.570			
5,300.00	5,265.45	5,210.21	5,201.24	19.47	18.35	-162.49	-231.16	213.57	687.58	650.91	36.67	18.752			
5,350.00	5,314.63	5,258.37	5,249.18	19.68	18.53	-162.72	-233.00	217.67	700.76	663.74	37.02	18.931			
5,400.00	5,363.81	5,306.53	5,297.13	19.89	18.70	-162.94	-234.84	221.78	713.96	676.59	37.37	19.107			
5,450.00	5,413.00	5,354.68	5,345.08	20.10	18.88	-163.15	-236.67	225.88	727.16	689.44	37.72	19.279			
5,500.00	5,462.18	5,402.84	5,393.02	20.31	19.06	-163.35	-238.51	229.99	740.37	702.30	38.07	19.449			
5,550.00	5,511.36	5,451.00	5,440.97	20.52	19.23	-163.55	-240.35	234.09	753.59	715.17	38.42	19.615			
5,600.00	5,560.54	5,500.85	5,488.92	20.73	19.42	-163.74	-242.19	238.20	766.82	728.05	38.78	19.776			
5,650.00	5,609.72	5,547.31	5,536.86	20.94	19.59	-163.92	-244.03	242.31	780.06	740.94	39.12	19.940			
5,700.00	5,658.90	5,604.53	5,584.81	21.15	19.80	-164.10	-245.86	246.41	793.30	753.80	39.50	20.081			
5,750.00	5,708.08	5,643.62	5,632.75	21.36	19.94	-164.27	-247.70	250.52	806.55	766.73	39.82	20.253			
5,800.00	5,757.26	5,708.22	5,680.70	21.57	20.18	-164.44	-249.54	254.62	819.81	779.58	40.23	20.376			
5,850.00	5,806.44	5,739.94	5,728.65	21.78	20.30	-164.60	-251.38	258.73	833.07	792.55	40.53	20.555			
5,900.00	5,855.62	5,788.09	5,776.59	21.99	20.48	-164.75	-253.22	262.83	846.34	805.46	40.88	20.703			
5,950.00	5,904.80	5,836.25	5,824.54	22.20	20.66	-164.90	-255.06	266.94	859.62	818.39	41.23	20.848			
6,000.00	5,953.98	5,884.41	5,872.49	22.41	20.83	-165.05	-256.89	271.04	872.90	831.31	41.59	20.991			
6,050.00	6,003.16	5,932.57	5,920.43	22.62	21.01	-165.19	-258.73	275.15	886.18	844.25	41.94	21.131			
6,100.00	6,052.34	5,980.72	5,968.38	22.83	21.19	-165.33	-260.57	279.25	899.47	857.18	42.29	21.269			
6,150.00	6,101.52	6,028.88	6,016.33	23.04	21.37	-165.46	-262.41	283.36	912.77	870.12	42.64	21.404			
6,200.00	6,150.70	6,077.04	6,064.27	23.25	21.55	-165.59	-264.25	287.46	926.07	883.07	43.00	21.538			
6,250.00	6,199.88	6,125.19	6,112.22	23.47	21.73	-165.72	-266.08	291.57	939.37	896.02	43.35	21.669			
6,300.00	6,249.06	6,173.35	6,160.16	23.68	21.91	-165.84	-267.92	295.67	952.68	908.98	43.70	21.798			
6,350.00	6,298.25	6,221.51	6,208.11	23.89	22.08	-165.96	-269.76	299.78	965.99	921.93	44.06	21.925			
6,400.00	6,347.43	6,269.66	6,256.06	24.11	22.26	-166.08	-271.60	303.88	979.31	934.90	44.41	22.050			
6,450.00	6,396.61	6,317.82	6,304.00	24.32	22.44	-166.19	-273.44	307.99	992.63	947.86	44.77	22.174			
6,500.00	6,445.79	6,365.98	6,351.95	24.53	22.62	-166.30	-275.28	312.10	1,005.95	960.83	45.12	22.295			
6,550.00	6,494.97	6,414.13	6,399.90	24.74	22.80	-166.41	-277.11	316.20	1,019.28	973.80	45.47	22.414			
6,600.00	6,544.15	6,462.29	6,447.84	24.96	22.98	-166.51	-278.95	320.31	1,032.60	986.78	45.83	22.532			
6,650.00	6,593.33	6,510.45	6,495.79	25.17	23.16	-166.61	-280.79	324.41	1,045.94	999.75	46.18	22.647			
6,700.00	6,642.51	6,558.61	6,543.74	25.38	23.34	-166.71	-282.63	328.52	1,059.27	1,012.73	46.54	22.761			
6,750.00	6,691.69	6,606.76	6,591.68	25.60	23.52	-166.81	-284.47	332.62	1,072.61	1,025.72	46.89	22.873			
6,800.00	6,740.87	6,654.92	6,639.63	25.81	23.70	-166.90	-286.30	336.73	1,085.95	1,038.70	47.25	22.984			
6,850.00	6,790.05	6,703.08	6,687.58	26.02	23.88	-166.99	-288.14	340.83	1,099.30	1,051.69	47.60	23.093			
6,900.00	6,839.23	6,751.23	6,735.52	26.24	24.06	-167.08	-289.98	344.94	1,112.64	1,064.68	47.96	23.200			
6,950.00	6,888.41	6,800.61	6,783.47	26.45	24.24	-167.17	-291.82	349.04	1,125.99	1,077.67	48.32	23.303			
7,000.00	6,937.59	6,847.55	6,831.41	26.67	24.42	-167.26	-293.66	353.15	1,139.34	1,090.67	48.67	23.410			
7,050.00	6,986.77	6,904.30	6,879.36	26.88	24.63	-167.34	-295.50	357.25	1,152.69	1,103.64	49.06	23.497			
7,100.00	7,035.95	6,943.86	6,927.31	27.10	24.78	-167.42	-297.33	361.36	1,166.05	1,116.67	49.38	23.613			
7,150.00	7,085.13	6,992.02	6,975.25	27.31	24.96	-167.50	-299.17	365.46	1,179.41	1,129.67	49.74	23.713			
7,200.00	7,134.31	7,040.17	7,023.20	27.52	25.14	-167.58	-301.01	369.57	1,192.77	1,142.68	50.09	23.811			
7,250.00	7,183.49	7,088.33	7,071.15	27.74	25.32	-167.66	-302.85	373.67	1,206.13	1,155.68	50.45	23.908			
7,300.00	7,232.68	7,136.49	7,119.09	27.95	25.50	-167.73	-304.69	377.78	1,219.49	1,168.69	50.81	24.003			
7,350.00	7,281.86	7,184.65	7,167.04	28.17	25.68	-167.80	-306.52	381.89	1,232.86	1,181.70	51.16	24.097			
7,400.00	7,331.04	7,232.80	7,214.99	28.38	25.86	-167.88	-308.36	385.99	1,246.23	1,194.71	51.52	24.190			
7,450.00	7,380.22	7,280.96	7,262.93	28.60	26.04	-167.95	-310.20	390.10	1,259.60	1,207.72	51.87	24.282			
7,500.00	7,429.40	7,329.12	7,310.88	28.81	26.22	-168.01	-312.04	394.20	1,272.97	1,220.74	52.23	24.372			
7,550.00	7,478.58	7,377.27	7,358.82	29.03	26.40	-168.08	-313.88	398.31	1,286.34	1,233.75	52.59	24.461			
7,600.00	7,527.76	7,425.43	7,406.77	29.24	26.58	-168.15	-315.72	402.41	1,299.71	1,246.77	52.94	24.549			
7,650.00	7,576.94	7,473.59	7,454.72	29.46	26.76	-168.21	-317.55	406.52	1,313.09	1,259.79	53.30	24.635			
7,700.00	7,626.12	7,521.74	7,502.66	29.68	26.94	-168.27	-319.39	410.62	1,326.47	1,272.81	53.66	24.720			
7,750.00	7,675.30	7,569.90	7,550.81	29.89	27.12	-168.34	-321.23	414.73	1,339.85	1,285.83	54.02	24.805			

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

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Van Doo Dah 21-33 Fed Com 233H
Project:	Lea County (NAD83 New Mexico East)	TVD Reference:	RKB @ 3415.20ft
Reference Site:	Sec 21-T25S-R32E	MD Reference:	RKB @ 3415.20ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Van Doo Dah 21-33 Fed Com 233H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore:	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 2	Offset TVD Reference:	Offset Datum

Offset Design														Offset Site Error:	0.00 ft
Survey Program: 0-MWD+HDGM														Offset Well Error:	0.50 ft
Reference															
Offset															
Semi Major Axis															
Distance															
Measured	Vertical	Measured	Vertical	Reference	Offset	Highside	Offset Wellbore Centre	Between	Between	Minimum	Separation	Warning			
Depth	Depth	Depth	Depth			Toolface	+N-S	Centres	Ellipses	Separation	Factor				
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)				
7,800.00	7,724.48	7,618.06	7,598.56	30.11	27.30	-168.40	-323.07	418.83	1,353.23	1,298.85	54.37	24.888			
7,850.00	7,773.66	7,668.21	7,648.50	30.32	27.48	-168.46	-324.91	422.94	1,366.81	1,311.88	54.73	24.970			
7,900.00	7,822.84	7,714.37	7,694.45	30.54	27.66	-168.51	-326.74	427.04	1,379.99	1,324.90	55.09	25.051			
7,950.00	7,872.02	7,762.53	7,742.40	30.75	27.84	-168.57	-328.58	431.15	1,393.38	1,337.93	55.45	25.131			
8,000.00	7,921.20	7,810.69	7,790.34	30.97	28.02	-168.63	-330.42	435.25	1,406.76	1,350.96	55.80	25.209			
8,050.00	7,970.38	7,858.84	7,838.29	31.19	28.20	-168.68	-332.26	439.36	1,420.15	1,363.99	56.16	25.287			
8,100.00	8,019.56	7,907.00	7,886.24	31.40	28.38	-168.74	-334.10	443.46	1,433.54	1,377.02	56.52	25.364			
8,150.00	8,068.74	7,955.16	7,934.18	31.62	28.57	-168.79	-335.94	447.57	1,446.92	1,390.05	56.88	25.440			
8,200.00	8,117.93	8,003.31	7,982.13	31.83	28.75	-168.84	-337.77	451.68	1,460.31	1,403.08	57.23	25.515			
8,250.00	8,167.11	8,051.47	8,030.07	32.05	28.93	-168.89	-339.61	455.78	1,473.71	1,416.11	57.59	25.589			
8,300.00	8,216.29	8,099.63	8,078.02	32.27	29.11	-168.94	-341.45	459.89	1,487.10	1,429.15	57.95	25.662			

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Van Doo Dah 21-33 Fed Com 233H
Project:	Lea County (NAD83 New Mexico East)	TVD Reference:	RKB @ 3415.20ft
Reference Site:	Sec 21-T25S-R32E	MD Reference:	RKB @ 3415.20ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Van Doo Dah 21-33 Fed Com 233H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 2	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 0-MWD+HDGM													Offset Well Error:	0.50 ft
Reference														
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Semi Major Axis	Highside	Offset Wellbore Centre	Distance	Between Centres	Between Ellipses	Minimum Separation	Separation Factor	Warning
				(ft)	(ft)	Reference	Footface	+N/S (ft)	+E/W (ft)	(ft)	(ft)	(ft)		
0.00	0.00	0.20	-0.20	0.50	0.50	148.47	148.47	-148.19	90.91	173.85				
50.00	50.00	49.80	49.80	0.50	0.50	148.47	148.47	-148.19	90.91	173.85	172.85	1.01	172.745	
100.00	100.00	100.20	99.80	0.52	0.52	148.47	148.47	-148.19	90.91	173.85	172.82	1.04	167.884	
150.00	150.00	149.80	149.80	0.59	0.59	148.47	148.47	-148.19	90.91	173.85	172.67	1.18	147.356	
200.00	200.00	200.20	199.80	0.70	0.70	148.47	148.47	-148.19	90.91	173.85	172.45	1.40	123.798	
250.00	250.00	249.80	249.80	0.84	0.84	148.47	148.47	-148.19	90.91	173.85	172.18	1.67	103.829	
300.00	300.00	300.20	299.80	0.99	0.99	148.47	148.47	-148.19	90.91	173.85	171.88	1.97	88.035	
350.00	350.00	349.80	349.80	1.15	1.14	148.47	148.47	-148.19	90.91	173.85	171.56	2.29	75.923	
400.00	400.00	400.20	399.80	1.31	1.31	148.47	148.47	-148.19	90.91	173.85	171.24	2.62	66.398	
450.00	450.00	449.80	449.80	1.48	1.48	148.47	148.47	-148.19	90.91	173.85	170.90	2.95	58.904	
500.00	500.00	500.20	499.80	1.65	1.65	148.47	148.47	-148.19	90.91	173.85	170.56	3.29	52.805	
550.00	550.00	549.80	549.80	1.82	1.82	148.47	148.47	-148.19	90.91	173.85	170.22	3.63	47.839	
600.00	600.00	600.20	599.80	1.99	1.99	148.47	148.47	-148.19	90.91	173.85	169.87	3.98	43.667	
650.00	650.00	649.80	649.80	2.16	2.16	148.47	148.47	-148.19	90.91	173.85	169.53	4.33	40.170	
700.00	700.00	700.20	699.80	2.34	2.34	148.47	148.47	-148.19	90.91	173.85	169.17	4.68	37.158	
750.00	750.00	749.80	749.80	2.51	2.51	148.47	148.47	-148.19	90.91	173.85	168.83	5.03	34.576	
800.00	800.00	800.20	799.80	2.69	2.69	148.47	148.47	-148.19	90.91	173.85	168.47	5.38	32.307	
850.00	850.00	849.80	849.80	2.87	2.87	148.47	148.47	-148.19	90.91	173.85	168.12	5.73	30.327	
900.00	900.00	900.20	899.80	3.04	3.04	148.47	148.47	-148.19	90.91	173.85	167.77	6.09	28.560	
950.00	950.00	949.80	949.80	3.22	3.22	148.47	148.47	-148.19	90.91	173.85	167.41	6.44	26.997	
1,000.00	1,000.00	1,000.20	999.80	3.40	3.40	148.47	148.47	-148.19	90.91	173.85	167.06	6.80	25.584	
1,050.00	1,050.00	1,049.80	1,049.80	3.57	3.57	148.47	148.47	-148.19	90.91	173.85	166.70	7.15	24.319	
1,100.00	1,100.00	1,100.20	1,099.80	3.75	3.75	148.47	148.47	-148.19	90.91	173.85	166.35	7.51	23.164	
1,150.00	1,150.00	1,149.80	1,149.80	3.93	3.93	148.47	148.47	-148.19	90.91	173.85	165.99	7.86	22.121	
1,200.00	1,200.00	1,200.20	1,199.80	4.11	4.11	148.47	148.47	-148.19	90.91	173.85	165.64	8.22	21.159	
1,250.00	1,250.00	1,249.80	1,249.80	4.29	4.29	148.47	148.47	-148.19	90.91	173.85	165.28	8.57	20.284	
1,300.00	1,300.00	1,300.20	1,299.80	4.46	4.46	148.47	148.47	-148.19	90.91	173.85	164.92	8.93	19.472	
1,350.00	1,350.00	1,349.80	1,349.80	4.64	4.64	148.47	148.47	-148.19	90.91	173.85	164.57	9.28	18.727	
1,400.00	1,400.00	1,400.20	1,399.80	4.82	4.82	148.47	148.47	-148.19	90.91	173.85	164.21	9.64	18.032	
1,450.00	1,450.00	1,449.80	1,449.80	5.00	5.00	148.47	148.47	-148.19	90.91	173.85	163.86	10.00	17.391	
1,500.00	1,500.00	1,500.20	1,499.80	5.18	5.18	148.47	148.47	-148.19	90.91	173.85	163.50	10.35	16.790	
1,550.00	1,550.00	1,549.80	1,549.80	5.36	5.35	148.47	148.47	-148.19	90.91	173.85	163.14	10.71	16.233	
1,600.00	1,600.00	1,600.20	1,599.80	5.53	5.53	148.47	148.47	-148.19	90.91	173.85	162.79	11.07	15.707	
1,650.00	1,650.00	1,649.80	1,649.80	5.71	5.71	148.47	148.47	-148.19	90.91	173.85	162.43	11.42	15.218	
1,700.00	1,700.00	1,700.20	1,699.80	5.89	5.89	148.47	148.47	-148.19	90.91	173.85	162.07	11.78	14.755	
1,750.00	1,750.00	1,749.80	1,749.80	6.07	6.07	148.47	148.47	-148.19	90.91	173.85	161.72	12.14	14.323	
1,800.00	1,800.00	1,800.20	1,799.80	6.25	6.25	148.47	148.47	-148.19	90.91	173.85	161.36	12.50	13.911	
1,850.00	1,850.00	1,849.80	1,849.80	6.43	6.43	148.47	148.47	-148.19	90.91	173.85	161.00	12.85	13.526	
1,900.00	1,900.00	1,900.20	1,899.80	6.61	6.61	148.47	148.47	-148.19	90.91	173.85	160.64	13.21	13.159	
1,950.00	1,950.00	1,949.80	1,949.80	6.78	6.78	148.47	148.47	-148.19	90.91	173.85	160.29	13.57	12.814	
2,000.00	2,000.00	2,000.20	1,999.80	6.96	6.96	148.47	148.47	-148.19	90.91	173.85	159.93	13.93	12.483	
2,050.00	2,050.00	2,049.80	2,049.80	7.14	7.14	148.47	148.47	-148.19	90.91	173.85	159.57	14.28	12.172	
2,100.00	2,100.00	2,100.20	2,099.80	7.32	7.32	148.47	148.47	-148.19	90.91	173.85	159.21	14.64	11.874	
2,150.00	2,150.00	2,149.80	2,149.80	7.50	7.50	148.47	148.47	-148.19	90.91	173.85	158.86	15.00	11.592	
2,200.00	2,200.00	2,199.80	2,199.80	7.68	7.68	148.47	148.47	-148.19	90.91	173.85	158.50	15.36	11.322 CC	
2,250.00	2,250.00	2,248.74	2,248.74	7.86	7.85	148.42	148.42	-148.24	91.11	174.00	158.30	15.70	11.080 ES	
2,300.00	2,300.00	2,297.68	2,297.67	8.04	8.02	148.28	148.28	-148.39	91.72	174.46	158.41	16.05	10.868	
2,350.00	2,350.00	2,346.60	2,346.58	8.21	8.18	148.04	148.04	-148.64	92.73	175.22	158.83	16.39	10.688	
2,400.00	2,400.00	2,395.50	2,395.46	8.39	8.35	147.71	147.71	-148.99	94.15	176.30	159.56	16.74	10.534	
2,450.00	2,450.00	2,444.36	2,444.29	8.57	8.51	147.29	147.29	-149.44	95.97	177.69	160.61	17.08	10.404	
2,500.00	2,500.00	2,493.20	2,493.07	8.75	8.68	146.79	146.79	-150.00	98.19	179.40	161.98	17.42	10.299	
2,550.00	2,550.00	2,541.98	2,541.77	8.93	8.85	-131.75	-131.75	-150.65	100.81	181.59	163.83	17.76	10.226	

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

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Van Doo Dah 21-33 Fed Com 233H
Project:	Lea County (NAD83 New Mexico East)	TVD Reference:	RKB @ 3415.20ft
Reference Site:	Sec 21-T25S-R32E	MD Reference:	RKB @ 3415.20ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Van Doo Dah 21-33 Fed Com 233H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 2	Offset TVD Reference:	Offset Datum

Offset Design Sec 21-T25S-R32E - Marwari 21-16 State Fed Com 732H - Wellbore #1 - Permit Plan 1													Offset Site Error:	0.00 ft
Survey Program: 0-MWD+HDGM													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis		Distance		Minimum Separation		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)	Separation Factor		
2,600.00	2,599.99	2,590.67	2,590.37	9.10	9.01	-132.52	-151.39	103.83	184.41	166.32	18.09	10.192 SF		
2,650.00	2,649.98	2,639.25	2,638.82	9.27	9.18	-133.45	-152.24	107.24	187.89	169.48	18.43	10.197		
2,700.00	2,699.96	2,687.71	2,687.12	9.45	9.35	-134.50	-153.18	111.05	192.05	173.29	18.76	10.239		
2,750.00	2,749.92	2,736.02	2,735.24	9.62	9.52	-135.66	-154.22	115.23	196.92	177.83	19.09	10.318		
2,800.00	2,799.86	2,784.16	2,783.14	9.79	9.68	-136.91	-155.35	119.79	202.53	183.11	19.41	10.432		
2,850.00	2,849.78	2,832.10	2,830.82	9.97	9.85	-138.22	-156.57	124.72	208.90	189.16	19.74	10.582		
2,900.00	2,899.68	2,879.84	2,878.25	10.14	10.02	-139.58	-157.88	130.01	216.05	195.99	20.06	10.768		
2,950.00	2,949.54	2,927.35	2,925.40	10.31	10.19	-140.97	-159.29	135.66	224.01	203.63	20.39	10.989		
3,000.00	2,999.37	2,974.61	2,972.25	10.49	10.36	-142.37	-160.77	141.66	232.80	212.10	20.71	11.244		
3,050.00	3,049.16	3,021.60	3,018.79	10.66	10.52	-143.76	-162.34	147.99	242.43	221.41	21.02	11.532		
3,100.00	3,098.90	3,069.21	3,065.89	10.84	10.70	-145.15	-164.01	154.73	252.87	231.52	21.35	11.846		
3,150.00	3,148.61	3,117.58	3,113.73	11.02	10.87	-146.51	-165.72	161.63	263.86	242.18	21.68	12.169		
3,200.00	3,198.26	3,165.84	3,161.47	11.20	11.05	-147.80	-167.43	168.51	275.35	253.33	22.02	12.505		
3,250.00	3,247.86	3,213.98	3,209.08	11.38	11.23	-149.03	-169.13	175.38	287.35	264.99	22.36	12.853		
3,300.00	3,297.40	3,262.00	3,256.58	11.56	11.40	-150.20	-170.83	182.23	299.84	277.15	22.69	13.213		
3,350.00	3,346.89	3,309.89	3,303.96	11.74	11.58	-151.31	-172.53	189.06	312.82	289.79	23.03	13.584		
3,400.00	3,396.30	3,357.66	3,351.21	11.92	11.76	-152.36	-174.21	195.87	326.29	302.93	23.36	13.965		
3,450.00	3,445.65	3,405.30	3,398.33	12.10	11.93	-153.36	-175.90	202.67	340.24	316.54	23.70	14.356		
3,500.00	3,494.93	3,452.81	3,445.32	12.29	12.11	-154.30	-177.58	209.44	354.67	330.64	24.04	14.756		
3,550.00	3,544.13	3,500.18	3,492.18	12.47	12.29	-155.21	-179.25	216.20	369.57	345.20	24.37	15.163		
3,600.00	3,593.32	3,547.51	3,538.99	12.66	12.47	-156.11	-180.93	222.95	384.67	359.96	24.71	15.569		
3,650.00	3,642.50	3,605.16	3,595.81	12.85	12.68	-156.94	-182.60	229.70	399.84	374.76	25.08	15.942		
3,700.00	3,691.68	3,642.17	3,632.62	13.04	12.83	-157.71	-184.28	236.45	415.09	389.71	25.38	16.355		
3,750.00	3,740.86	3,689.50	3,679.44	13.23	13.00	-158.42	-185.95	243.20	430.40	404.69	25.72	16.736		
3,800.00	3,790.04	3,736.83	3,726.26	13.42	13.18	-159.09	-187.62	249.95	445.77	419.72	26.05	17.109		
3,850.00	3,839.22	3,784.15	3,773.07	13.62	13.37	-159.71	-189.30	256.70	461.19	434.80	26.39	17.474		
3,900.00	3,888.40	3,831.48	3,819.89	13.81	13.55	-160.29	-190.97	263.45	476.66	449.93	26.73	17.832		
3,950.00	3,937.58	3,878.81	3,866.70	14.01	13.73	-160.84	-192.64	270.20	492.17	465.10	27.07	18.181		
4,000.00	3,986.76	3,926.14	3,913.52	14.20	13.91	-161.35	-194.32	276.95	507.72	480.31	27.41	18.523		
4,050.00	4,035.94	3,973.47	3,960.33	14.40	14.09	-161.83	-195.99	283.71	523.30	495.55	27.75	18.857		
4,100.00	4,085.12	4,020.80	4,007.15	14.59	14.27	-162.29	-197.66	290.46	538.92	510.82	28.09	19.185		
4,150.00	4,134.30	4,069.13	4,053.96	14.79	14.46	-162.72	-199.34	297.21	554.58	526.13	28.43	19.504		
4,200.00	4,183.48	4,115.46	4,100.78	14.99	14.64	-163.12	-201.01	303.96	570.23	541.46	28.77	19.818		
4,250.00	4,232.66	4,162.79	4,147.59	15.19	14.82	-163.51	-202.69	310.71	585.92	556.81	29.12	20.124		
4,300.00	4,281.84	4,210.12	4,194.41	15.39	15.01	-163.87	-204.36	317.46	601.64	572.18	29.46	20.423		
4,350.00	4,331.02	4,257.45	4,241.23	15.59	15.19	-164.22	-206.03	324.21	617.38	587.58	29.80	20.716		
4,400.00	4,380.20	4,304.78	4,288.04	15.79	15.38	-164.54	-207.71	330.96	633.14	602.99	30.14	21.003		
4,450.00	4,429.38	4,352.10	4,334.86	15.99	15.56	-164.86	-209.38	337.71	648.91	618.42	30.49	21.284		
4,500.00	4,478.57	4,399.43	4,381.67	16.19	15.75	-165.16	-211.05	344.46	664.70	633.87	30.83	21.559		
4,550.00	4,527.75	4,446.76	4,428.49	16.39	15.93	-165.44	-212.73	351.21	680.51	649.34	31.18	21.827		
4,600.00	4,576.93	4,505.91	4,475.30	16.59	16.16	-165.71	-214.40	357.96	696.33	664.77	31.56	22.061		
4,650.00	4,626.11	4,541.42	4,522.12	16.80	16.30	-165.97	-216.07	364.71	712.17	680.30	31.87	22.348		
4,700.00	4,675.29	4,588.75	4,568.93	17.00	16.49	-166.22	-217.75	371.46	728.02	695.81	32.21	22.601		
4,750.00	4,724.47	4,636.08	4,615.75	17.21	16.68	-166.46	-219.42	378.21	743.88	711.32	32.56	22.848		
4,800.00	4,773.65	4,683.41	4,662.56	17.41	16.86	-166.68	-221.10	384.96	759.75	726.85	32.90	23.090		
4,850.00	4,822.83	4,730.74	4,709.38	17.61	17.05	-166.90	-222.77	391.71	775.63	742.38	33.25	23.327		
4,900.00	4,872.01	4,778.07	4,756.19	17.82	17.24	-167.11	-224.44	398.46	791.52	757.93	33.60	23.560		
4,950.00	4,921.19	4,825.40	4,803.01	18.03	17.42	-167.31	-226.12	405.21	807.42	773.48	33.94	23.787		
5,000.00	4,970.37	4,872.73	4,849.83	18.23	17.61	-167.51	-227.79	411.96	823.33	789.04	34.29	24.010		
5,050.00	5,019.55	4,920.06	4,896.64	18.44	17.80	-167.69	-229.46	418.71	839.25	804.61	34.64	24.229		
5,100.00	5,068.73	4,967.38	4,943.46	18.64	17.99	-167.87	-231.14	425.46	855.17	820.19	34.99	24.443		
5,150.00	5,117.91	5,014.71	4,990.27	18.85	18.17	-168.05	-232.81	432.21	871.11	835.77	35.33	24.654		

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

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Van Doo Dah 21-33 Fed Com 233H
Project:	Lea County (NAD83 New Mexico East)	TVD Reference:	RKB @ 3415.20ft
Reference Site:	Sec 21-T25S-R32E	MD Reference:	RKB @ 3415.20ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Van Doo Dah 21-33 Fed Com 233H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 2	Offset TVD Reference:	Offset Datum

Offset Design Sec 21-T25S-R32E - Marwari 21-16 State Fed Com 732H - Wellbore #1 - Permit Plan 1														Offset Site Error:	0.00 ft
Survey Program: 0-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 Tooface (")	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning		
5,200.00	5,167.09	5,062.04	5,037.09	19.06	18.36	-168.21	-234.48	438.97	887.05	851.36	35.68	24.860			
5,250.00	5,216.27	5,109.37	5,083.90	19.27	18.55	-168.37	-236.16	445.72	902.99	866.96	36.03	25.062			
5,300.00	5,265.45	5,156.70	5,130.72	19.47	18.74	-168.53	-237.83	452.47	918.94	882.56	36.38	25.260			
5,350.00	5,314.63	5,204.03	5,177.53	19.68	18.93	-168.68	-239.51	459.22	934.90	898.17	36.73	25.455			
5,400.00	5,363.81	5,251.36	5,224.35	19.89	19.12	-168.82	-241.18	465.97	950.86	913.79	37.08	25.645			
5,450.00	5,413.00	5,301.31	5,271.16	20.10	19.32	-168.96	-242.85	472.72	966.83	929.40	37.44	25.826			
5,500.00	5,462.18	5,346.02	5,317.98	20.31	19.50	-169.10	-244.53	479.47	982.81	945.03	37.78	26.017			
5,550.00	5,511.36	5,406.65	5,364.79	20.52	19.74	-169.23	-246.20	486.22	998.79	960.61	38.17	26.164			
5,600.00	5,560.54	5,440.68	5,411.61	20.73	19.87	-169.36	-247.87	492.97	1,014.77	976.29	38.48	26.374			
5,650.00	5,609.72	5,488.01	5,458.43	20.94	20.06	-169.48	-249.55	499.72	1,030.76	991.93	38.83	26.548			
5,700.00	5,658.90	5,535.33	5,505.24	21.15	20.25	-169.60	-251.22	506.47	1,046.75	1,007.57	39.18	26.719			
5,750.00	5,708.08	5,582.66	5,552.06	21.36	20.44	-169.72	-252.90	513.22	1,062.74	1,023.22	39.53	26.886			
5,800.00	5,757.26	5,629.99	5,598.87	21.57	20.63	-169.83	-254.57	519.97	1,078.74	1,038.86	39.88	27.051			
5,850.00	5,806.44	5,677.32	5,645.69	21.78	20.82	-169.94	-256.24	526.72	1,094.75	1,054.52	40.23	27.213			
5,900.00	5,855.62	5,724.65	5,692.50	21.99	21.01	-170.04	-257.92	533.47	1,110.75	1,070.17	40.58	27.372			
5,950.00	5,904.80	5,771.98	5,739.32	22.20	21.20	-170.15	-259.59	540.22	1,126.76	1,085.83	40.93	27.528			
6,000.00	5,953.98	5,819.31	5,786.13	22.41	21.39	-170.25	-261.26	546.97	1,142.77	1,101.49	41.28	27.681			
6,050.00	6,003.16	5,866.64	5,832.95	22.62	21.58	-170.34	-262.94	553.72	1,158.79	1,117.16	41.63	27.832			
6,100.00	6,052.34	5,913.97	5,879.76	22.83	21.77	-170.44	-264.61	560.47	1,174.81	1,132.82	41.99	27.981			
6,150.00	6,101.52	5,961.30	5,926.58	23.04	21.96	-170.53	-266.28	567.22	1,190.83	1,148.49	42.34	28.126			
6,200.00	6,150.70	6,008.63	5,973.40	23.26	22.16	-170.62	-267.96	573.97	1,206.86	1,164.16	42.69	28.270			
6,250.00	6,199.88	6,055.96	6,020.21	23.47	22.35	-170.71	-269.63	580.72	1,222.88	1,179.84	43.04	28.411			
6,300.00	6,249.06	6,103.28	6,067.03	23.68	22.54	-170.79	-271.31	587.47	1,238.91	1,195.52	43.40	28.549			
6,350.00	6,298.25	6,150.61	6,113.84	23.89	22.73	-170.88	-272.98	594.23	1,254.94	1,211.20	43.75	28.686			
6,400.00	6,347.43	6,202.06	6,160.66	24.11	22.94	-170.96	-274.65	600.98	1,270.98	1,226.86	44.12	28.810			
6,450.00	6,396.61	6,245.27	6,207.47	24.32	23.11	-171.04	-276.33	607.73	1,287.01	1,242.56	44.45	28.952			
6,500.00	6,445.79	6,307.40	6,254.29	24.53	23.36	-171.11	-278.00	614.48	1,303.05	1,258.19	44.86	29.046			
6,550.00	6,494.97	6,339.93	6,301.10	24.74	23.49	-171.19	-279.67	621.23	1,319.09	1,273.93	45.16	29.209			
6,600.00	6,544.15	6,387.26	6,347.92	24.96	23.68	-171.26	-281.35	627.98	1,335.14	1,289.62	45.51	29.335			
6,650.00	6,593.33	6,434.59	6,394.73	25.17	23.88	-171.33	-283.02	634.73	1,351.18	1,305.31	45.87	29.459			
6,700.00	6,642.51	6,481.92	6,441.55	25.38	24.07	-171.40	-284.69	641.48	1,367.23	1,321.01	46.22	29.580			
6,750.00	6,691.69	6,529.25	6,488.36	25.60	24.26	-171.47	-286.37	648.23	1,383.27	1,336.70	46.57	29.700			
6,800.00	6,740.87	6,576.58	6,535.18	25.81	24.45	-171.54	-288.04	654.98	1,399.32	1,352.40	46.93	29.818			
6,850.00	6,790.05	6,623.91	6,582.00	26.02	24.64	-171.60	-289.72	661.73	1,415.38	1,368.09	47.28	29.935			
6,900.00	6,839.23	6,671.24	6,628.81	26.24	24.83	-171.67	-291.39	668.48	1,431.43	1,383.79	47.64	30.049			
6,950.00	6,888.41	6,718.56	6,675.63	26.45	25.03	-171.73	-293.06	675.23	1,447.48	1,399.49	47.99	30.162			
7,000.00	6,937.59	6,765.89	6,722.44	26.67	25.22	-171.79	-294.74	681.98	1,463.54	1,415.19	48.35	30.273			
7,050.00	6,986.77	6,813.22	6,769.26	26.88	25.41	-171.85	-296.41	688.73	1,479.60	1,430.90	48.70	30.382			
7,100.00	7,035.95	6,860.55	6,816.07	27.10	25.60	-171.91	-298.08	695.48	1,495.66	1,446.60	49.05	30.490			

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Van Doo Dah 21-33 Fed Com 233H
Project:	Lea County (NAD83 New Mexico East)	TVD Reference:	RKB @ 3415.20ft
Reference Site:	Sec 21-T25S-R32E	MD Reference:	RKB @ 3415.20ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Van Doo Dah 21-33 Fed Com 233H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 2	Offset TVD Reference:	Offset Datum

Offset Design													Sec 28-T25S-R32E - Cotton Draw Unit 47 (P&A) - 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)					
0.00	0.00	0.00	0.00	0.50	10.00	155.67	-1,137.78	514.33	1,248.70							
50.00	50.00	36.80	36.80	0.50	10.01	155.67	-1,137.78	514.33	1,248.63	1,238.12	10.51	118.804				
100.00	100.00	86.80	86.80	0.52	10.07	155.67	-1,137.78	514.33	1,248.63	1,238.05	10.58	117.978				
150.00	150.00	136.80	136.80	0.59	10.18	155.67	-1,137.78	514.33	1,248.63	1,237.86	10.77	115.950				
200.00	200.00	186.80	186.80	0.70	10.34	155.67	-1,137.78	514.33	1,248.63	1,237.58	11.05	113.036				
250.00	250.00	236.80	236.80	0.84	10.56	155.67	-1,137.78	514.33	1,248.63	1,237.23	11.40	109.544				
300.00	300.00	286.80	286.80	0.99	10.83	155.67	-1,137.78	514.33	1,248.63	1,236.82	11.81	105.708				
350.00	350.00	336.80	336.80	1.15	11.13	155.67	-1,137.78	514.33	1,248.63	1,236.35	12.28	101.693				
400.00	400.00	386.80	386.80	1.31	11.48	155.67	-1,137.78	514.33	1,248.63	1,235.84	12.79	97.618				
450.00	450.00	436.80	436.80	1.48	11.87	155.67	-1,137.78	514.33	1,248.63	1,235.29	13.34	93.572				
500.00	500.00	486.80	486.80	1.65	12.29	155.67	-1,137.78	514.33	1,248.63	1,234.70	13.93	89.614				
550.00	550.00	536.80	536.80	1.82	12.74	155.67	-1,137.78	514.33	1,248.63	1,234.08	14.55	85.789				
600.00	600.00	586.80	586.80	1.99	13.21	155.67	-1,137.78	514.33	1,248.63	1,233.43	15.20	82.122				
650.00	650.00	636.80	636.80	2.16	13.72	155.67	-1,137.78	514.33	1,248.63	1,232.75	15.88	78.631				
700.00	700.00	686.80	686.80	2.34	14.24	155.67	-1,137.78	514.33	1,248.63	1,232.05	16.58	75.321				
750.00	750.00	736.80	736.80	2.51	14.78	155.67	-1,137.78	514.33	1,248.63	1,231.33	17.30	72.195				
800.00	800.00	786.80	786.80	2.69	15.34	155.67	-1,137.78	514.33	1,248.63	1,230.60	18.03	69.250				
850.00	850.00	836.80	836.80	2.87	15.92	155.67	-1,137.78	514.33	1,248.63	1,229.85	18.78	66.478				
900.00	900.00	886.80	886.80	3.04	16.51	155.67	-1,137.78	514.33	1,248.63	1,229.08	19.55	63.874				
950.00	950.00	936.80	936.80	3.22	17.11	155.67	-1,137.78	514.33	1,248.63	1,228.30	20.33	61.427				
1,000.00	1,000.00	986.80	986.80	3.40	17.72	155.67	-1,137.78	514.33	1,248.63	1,227.51	21.12	59.128				
1,050.00	1,050.00	1,036.80	1,036.80	3.57	18.34	155.67	-1,137.78	514.33	1,248.63	1,226.71	21.92	56.969				
1,100.00	1,100.00	1,086.80	1,086.80	3.75	18.98	155.67	-1,137.78	514.33	1,248.63	1,225.90	22.73	54.939				
1,150.00	1,150.00	1,136.80	1,136.80	3.93	19.62	155.67	-1,137.78	514.33	1,248.63	1,225.08	23.55	53.031				
1,200.00	1,200.00	1,186.80	1,186.80	4.11	20.26	155.67	-1,137.78	514.33	1,248.63	1,224.26	24.37	51.234				
1,250.00	1,250.00	1,236.80	1,236.80	4.29	20.92	155.67	-1,137.78	514.33	1,248.63	1,223.43	25.20	49.542				
1,300.00	1,300.00	1,286.80	1,286.80	4.46	21.58	155.67	-1,137.78	514.33	1,248.63	1,222.59	26.04	47.946				
1,350.00	1,350.00	1,336.80	1,336.80	4.64	22.25	155.67	-1,137.78	514.33	1,248.63	1,221.74	26.89	46.440				
1,400.00	1,400.00	1,386.80	1,386.80	4.82	22.92	155.67	-1,137.78	514.33	1,248.63	1,220.89	27.74	45.018				
1,450.00	1,450.00	1,436.80	1,436.80	5.00	23.59	155.67	-1,137.78	514.33	1,248.63	1,220.04	28.59	43.673				
1,500.00	1,500.00	1,486.80	1,486.80	5.18	24.27	155.67	-1,137.78	514.33	1,248.63	1,219.18	29.45	42.399				
1,550.00	1,550.00	1,536.80	1,536.80	5.36	24.96	155.67	-1,137.78	514.33	1,248.63	1,218.32	30.31	41.193				
1,600.00	1,600.00	1,586.80	1,586.80	5.53	25.64	155.67	-1,137.78	514.33	1,248.63	1,217.45	31.18	40.048				
1,650.00	1,650.00	1,636.80	1,636.80	5.71	26.34	155.67	-1,137.78	514.33	1,248.63	1,216.58	32.05	38.961				
1,700.00	1,700.00	1,686.80	1,686.80	5.89	27.03	155.67	-1,137.78	514.33	1,248.63	1,215.71	32.92	37.928				
1,750.00	1,750.00	1,736.80	1,736.80	6.07	27.73	155.67	-1,137.78	514.33	1,248.63	1,214.83	33.80	36.946				
1,800.00	1,800.00	1,786.80	1,786.80	6.25	28.43	155.67	-1,137.78	514.33	1,248.63	1,213.96	34.67	36.010				
1,850.00	1,850.00	1,836.80	1,836.80	6.43	29.13	155.67	-1,137.78	514.33	1,248.63	1,213.07	35.56	35.118				
1,900.00	1,900.00	1,886.80	1,886.80	6.61	29.83	155.67	-1,137.78	514.33	1,248.63	1,212.19	36.44	34.267				
1,950.00	1,950.00	1,936.80	1,936.80	6.78	30.54	155.67	-1,137.78	514.33	1,248.63	1,211.31	37.32	33.454				
2,000.00	2,000.00	1,986.80	1,986.80	6.96	31.25	155.67	-1,137.78	514.33	1,248.63	1,210.42	38.21	32.677				
2,050.00	2,050.00	2,036.80	2,036.80	7.14	31.96	155.67	-1,137.78	514.33	1,248.63	1,209.53	39.10	31.934				
2,100.00	2,100.00	2,086.80	2,086.80	7.32	32.67	155.67	-1,137.78	514.33	1,248.63	1,208.64	39.99	31.223				
2,150.00	2,150.00	2,136.80	2,136.80	7.50	33.38	155.67	-1,137.78	514.33	1,248.63	1,207.75	40.88	30.541				
2,200.00	2,200.00	2,186.80	2,186.80	7.68	34.10	155.67	-1,137.78	514.33	1,248.63	1,206.85	41.78	29.887				
2,250.00	2,250.00	2,236.80	2,236.80	7.86	34.82	155.67	-1,137.78	514.33	1,248.63	1,205.96	42.67	29.260				
2,300.00	2,300.00	2,286.80	2,286.80	8.04	35.53	155.67	-1,137.78	514.33	1,248.63	1,205.06	43.57	28.658				
2,350.00	2,350.00	2,336.80	2,336.80	8.21	36.25	155.67	-1,137.78	514.33	1,248.63	1,204.16	44.47	28.079				
2,400.00	2,400.00	2,386.80	2,386.80	8.39	36.97	155.67	-1,137.78	514.33	1,248.63	1,203.26	45.37	27.523				
2,450.00	2,450.00	2,436.80	2,436.80	8.57	37.70	155.67	-1,137.78	514.33	1,248.63	1,202.36	46.27	26.987				
2,500.00	2,500.00	2,486.80	2,486.80	8.75	38.42	155.67	-1,137.78	514.33	1,248.63	1,201.46	47.17	26.471 CC				
2,550.00	2,550.00	2,536.80	2,536.80	8.93	39.14	-122.25	-1,137.78	514.33	1,248.75	1,200.68	48.07	25.979				

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

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Van Doo Dah 21-33 Fed Com 233H
Project:	Lea County (NAD83 New Mexico East)	TVD Reference:	RKB @ 3415.20ft
Reference Site:	Sec 21-T25S-R32E	MD Reference:	RKB @ 3415.20ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Van Doo Dah 21-33 Fed Com 233H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore:	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 2	Offset TVD Reference:	Offset Datum

Offset Design											Sec 28-T25S-R32E - Cotton Draw Unit 47 (P&A) - 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 Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	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		
2,600.00	2,599.99	2,586.79	2,586.79	9.10	39.87	-122.28	-1,137.78	514.33	1,249.10	1,200.13	48.97	25.509			
2,650.00	2,649.98	2,636.78	2,636.78	9.27	40.59	-122.31	-1,137.78	514.33	1,249.68	1,199.81	49.86	25.062			
2,700.00	2,699.96	2,686.76	2,686.76	9.45	41.32	-122.37	-1,137.78	514.33	1,250.50	1,199.73	50.76	24.635 ES			
2,750.00	2,749.92	2,736.72	2,736.72	9.62	42.04	-122.43	-1,137.78	514.33	1,251.55	1,199.89	51.66	24.226			
2,800.00	2,799.86	2,786.66	2,786.66	9.79	42.77	-122.51	-1,137.78	514.33	1,252.84	1,200.28	52.56	23.836			
2,850.00	2,849.78	2,836.58	2,836.58	9.97	43.50	-122.61	-1,137.78	514.33	1,254.36	1,200.90	53.46	23.463			
2,900.00	2,899.68	2,886.48	2,886.48	10.14	44.22	-122.72	-1,137.78	514.33	1,256.13	1,201.77	54.36	23.107			
2,950.00	2,949.54	2,936.34	2,936.34	10.31	44.95	-122.85	-1,137.78	514.33	1,258.14	1,202.88	55.26	22.766			
3,000.00	2,999.37	2,986.17	2,986.17	10.49	45.68	-122.98	-1,137.78	514.33	1,260.40	1,204.23	56.17	22.440			
3,050.00	3,049.16	3,035.96	3,035.96	10.68	46.41	-123.14	-1,137.78	514.33	1,262.90	1,205.83	57.07	22.129			
3,100.00	3,098.90	3,085.70	3,085.70	10.84	47.14	-123.30	-1,137.78	514.33	1,265.66	1,207.68	57.97	21.832			
3,150.00	3,148.61	3,135.41	3,135.41	11.02	47.86	-123.48	-1,137.78	514.33	1,268.66	1,209.79	58.88	21.548			
3,200.00	3,198.26	3,185.06	3,185.06	11.20	48.59	-123.68	-1,137.78	514.33	1,271.93	1,212.15	59.78	21.276			
3,250.00	3,247.86	3,234.66	3,234.66	11.38	49.32	-123.88	-1,137.78	514.33	1,275.46	1,214.77	60.69	21.017			
3,300.00	3,297.40	3,284.20	3,284.20	11.56	50.04	-124.10	-1,137.78	514.33	1,279.25	1,217.66	61.59	20.770			
3,350.00	3,346.89	3,333.69	3,333.69	11.74	50.77	-124.33	-1,137.78	514.33	1,283.31	1,220.82	62.50	20.534			
3,400.00	3,396.30	3,383.10	3,383.10	11.92	51.50	-124.57	-1,137.78	514.33	1,287.65	1,224.25	63.40	20.309			
3,450.00	3,445.65	3,432.45	3,432.45	12.10	52.22	-124.82	-1,137.78	514.33	1,292.27	1,227.96	64.31	20.095			
3,500.00	3,494.93	3,481.73	3,481.73	12.29	52.95	-125.09	-1,137.78	514.33	1,297.16	1,231.95	65.21	19.891			
3,550.00	3,544.13	3,530.93	3,530.93	12.47	53.67	-125.37	-1,137.78	514.33	1,302.34	1,236.22	66.12	19.697			
3,600.00	3,593.32	3,580.12	3,580.12	12.66	54.39	-125.69	-1,137.78	514.33	1,307.64	1,240.61	67.03	19.509			
3,650.00	3,642.50	3,629.30	3,629.30	12.85	55.12	-126.00	-1,137.78	514.33	1,312.98	1,245.04	67.94	19.327			
3,700.00	3,691.68	3,678.48	3,678.48	13.04	55.84	-126.32	-1,137.78	514.33	1,318.35	1,249.51	68.84	19.150			
3,750.00	3,740.86	3,727.66	3,727.66	13.23	56.57	-126.63	-1,137.78	514.33	1,323.77	1,254.02	69.75	18.978			
3,800.00	3,790.04	3,776.84	3,776.84	13.42	57.29	-126.94	-1,137.78	514.33	1,329.23	1,258.56	70.67	18.810			
3,850.00	3,839.22	3,826.02	3,826.02	13.62	58.02	-127.24	-1,137.78	514.33	1,334.72	1,263.14	71.58	18.647			
3,900.00	3,888.40	3,875.20	3,875.20	13.81	58.74	-127.55	-1,137.78	514.33	1,340.25	1,267.76	72.49	18.489			
3,950.00	3,937.58	3,924.38	3,924.38	14.01	59.47	-127.85	-1,137.78	514.33	1,345.82	1,272.42	73.40	18.335			
4,000.00	3,986.76	3,973.56	3,973.56	14.20	60.20	-128.15	-1,137.78	514.33	1,351.43	1,277.11	74.32	18.185			
4,050.00	4,035.94	4,022.74	4,022.74	14.40	60.92	-128.44	-1,137.78	514.33	1,357.07	1,281.84	75.23	18.039			
4,100.00	4,085.12	4,071.92	4,071.92	14.59	61.65	-128.74	-1,137.78	514.33	1,362.75	1,286.61	76.15	17.897			
4,150.00	4,134.30	4,121.10	4,121.10	14.79	62.38	-129.03	-1,137.78	514.33	1,368.47	1,291.41	77.06	17.758			
4,200.00	4,183.48	4,170.28	4,170.28	14.99	63.10	-129.32	-1,137.78	514.33	1,374.22	1,296.24	77.98	17.623			
4,250.00	4,232.66	4,219.46	4,219.46	15.19	63.83	-129.61	-1,137.78	514.33	1,380.01	1,301.11	78.89	17.492			
4,300.00	4,281.84	4,268.64	4,268.64	15.39	64.56	-129.89	-1,137.78	514.33	1,385.83	1,306.01	79.81	17.364			
4,350.00	4,331.02	4,317.82	4,317.82	15.59	65.29	-130.17	-1,137.78	514.33	1,391.68	1,310.95	80.73	17.239			
4,400.00	4,380.20	4,367.00	4,367.00	15.79	66.01	-130.45	-1,137.78	514.33	1,397.57	1,315.92	81.65	17.117			
4,450.00	4,429.38	4,416.18	4,416.18	15.99	66.74	-130.73	-1,137.78	514.33	1,403.49	1,320.92	82.57	16.998			
4,500.00	4,478.57	4,465.37	4,465.37	16.19	67.47	-131.00	-1,137.78	514.33	1,409.44	1,325.96	83.49	16.882			
4,550.00	4,527.75	4,514.55	4,514.55	16.39	68.20	-131.28	-1,137.78	514.33	1,415.43	1,331.03	84.41	16.769			
4,600.00	4,576.93	4,563.73	4,563.73	16.59	68.93	-131.55	-1,137.78	514.33	1,421.45	1,336.13	85.32	16.659			
4,650.00	4,626.11	4,612.91	4,612.91	16.80	69.66	-131.82	-1,137.78	514.33	1,427.50	1,341.26	86.24	16.552			
4,700.00	4,675.29	4,662.09	4,662.09	17.00	70.39	-132.08	-1,137.78	514.33	1,433.58	1,346.42	87.17	16.447			
4,750.00	4,724.47	4,711.27	4,711.27	17.21	71.11	-132.35	-1,137.78	514.33	1,439.69	1,351.61	88.09	16.344			
4,800.00	4,773.65	4,760.45	4,760.45	17.41	71.84	-132.61	-1,137.78	514.33	1,445.84	1,356.83	89.01	16.244			
4,850.00	4,822.83	4,809.63	4,809.63	17.61	72.57	-132.87	-1,137.78	514.33	1,452.01	1,362.08	89.93	16.146			
4,900.00	4,872.01	4,858.81	4,858.81	17.82	73.30	-133.12	-1,137.78	514.33	1,458.21	1,367.36	90.85	16.051			
4,950.00	4,921.19	4,907.99	4,907.99	18.03	74.03	-133.38	-1,137.78	514.33	1,464.44	1,372.67	91.77	15.958			
5,000.00	4,970.37	4,957.17	4,957.17	18.23	74.76	-133.63	-1,137.78	514.33	1,470.70	1,378.01	92.69	15.866			
5,050.00	5,019.55	5,006.35	5,006.35	18.44	75.49	-133.88	-1,137.78	514.33	1,476.99	1,383.38	93.61	15.777			
5,100.00	5,068.73	5,055.53	5,055.53	18.64	76.22	-134.13	-1,137.78	514.33	1,483.31	1,388.77	94.54	15.690			
5,150.00	5,117.91	5,104.71	5,104.71	18.85	76.95	-134.38	-1,137.78	514.33	1,489.65	1,394.19	95.46	15.605			

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

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Van Doo Dah 21-33 Fed Com 233H
Project:	Lea County (NAD83 New Mexico East)	TVD Reference:	RKB @ 3415.20ft
Reference Site:	Sec 21-T25S-R32E	MD Reference:	RKB @ 3415.20ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Van Doo Dah 21-33 Fed Com 233H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 2	Offset TVD Reference:	Offset Datum

Offset Design Sec 28-T25S-R32E - Cotton Draw Unit 47 (P&A) - 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)			
5,200.00	5,167.09	5,153.89	5,153.89	19.06	77.68	-134.62	-1,137.78	514.33	1,496.02	1,399.64	96.38	15,522 SF		

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Van Doo Dah 21-33 Fed Com 233H
Project:	Lea County (NAD83 New Mexico East)	TVD Reference:	RKB @ 3415.20ft
Reference Site:	Sec 21-T25S-R32E	MD Reference:	RKB @ 3415.20ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Van Doo Dah 21-33 Fed Com 233H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 2	Offset TVD Reference:	Offset Datum

Offset Design Sec 28-T25S-R32E - Marwari 21-16 Fed Com 232H (28-33) - Wellbore #1 - Actual.													Offset Site Error:	0.00 ft
Survey Program: 132-MWD+HDGM													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance				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)	Minimum Separation (ft)	Separation Factor		
0.00	0.00	0.00	0.00	0.50	0.50	-123.18	-696.06	-1,064.57	1,271.94					
50.00	50.00	45.29	45.29	0.50	0.50	-123.17	-695.99	-1,064.61	1,271.93	1,270.92	1.01	1,264.786		
100.00	100.00	95.49	95.49	0.52	0.52	-123.16	-695.77	-1,064.75	1,271.92	1,270.89	1.03	1,230.295		
150.00	150.00	145.27	145.27	0.59	0.55	-123.14	-695.38	-1,064.98	1,271.90	1,270.76	1.14	1,117.385		
156.36	156.36	151.47	151.46	0.60	0.56	-123.14	-695.33	-1,065.01	1,271.90	1,270.74	1.16	1,096.294		
200.00	200.00	193.93	193.93	0.70	0.64	-123.12	-694.99	-1,065.26	1,271.92	1,270.58	1.34	947.989		
250.00	250.00	243.93	243.92	0.84	0.77	-123.10	-694.59	-1,065.59	1,271.98	1,270.38	1.60	794.015		
300.00	300.00	296.09	296.07	0.99	0.91	-123.07	-694.08	-1,065.93	1,271.99	1,270.09	1.90	669.051		
350.00	350.00	346.58	346.56	1.15	1.07	-123.04	-693.47	-1,066.25	1,271.92	1,269.71	2.22	574.121		
400.00	400.00	395.29	395.27	1.31	1.23	-123.01	-692.82	-1,066.63	1,271.89	1,269.36	2.54	501.500		
450.00	450.00	446.77	446.74	1.48	1.40	-122.97	-692.07	-1,067.11	1,271.88	1,269.00	2.87	442.541		
500.00	500.00	500.13	500.09	1.65	1.58	-122.92	-691.15	-1,067.53	1,271.75	1,268.52	3.22	394.470		
550.00	550.00	550.88	550.83	1.82	1.75	-122.88	-690.21	-1,067.88	1,271.53	1,267.96	3.57	356.267		
600.00	600.00	601.31	601.25	1.99	1.93	-122.83	-689.27	-1,068.21	1,271.30	1,267.38	3.92	324.645		
650.00	650.00	651.36	651.29	2.16	2.10	-122.79	-688.31	-1,068.54	1,271.06	1,266.79	4.26	298.106		
700.00	700.00	701.22	701.14	2.34	2.27	-122.74	-687.31	-1,068.89	1,270.81	1,266.20	4.61	275.505		
750.00	750.00	750.45	750.36	2.51	2.45	-122.69	-686.29	-1,069.29	1,270.59	1,265.63	4.96	256.130		
800.00	800.00	799.84	799.73	2.69	2.62	-122.64	-685.23	-1,069.74	1,270.40	1,265.09	5.31	239.227		
850.00	850.00	851.21	851.08	2.87	2.80	-122.59	-684.08	-1,070.22	1,270.19	1,264.52	5.67	224.101		
900.00	900.00	902.62	902.48	3.04	2.98	-122.53	-682.95	-1,070.62	1,269.93	1,263.90	6.03	210.731		
950.00	950.00	954.03	953.89	3.22	3.17	-122.48	-681.85	-1,070.94	1,269.61	1,263.22	6.39	198.834		
1,000.00	1,000.00	1,003.09	1,002.93	3.40	3.34	-122.44	-680.82	-1,071.20	1,269.27	1,262.53	6.74	188.421		
1,050.00	1,050.00	1,051.59	1,051.42	3.57	3.51	-122.40	-679.86	-1,071.49	1,268.99	1,261.91	7.09	179.087		
1,100.00	1,100.00	1,101.08	1,100.90	3.75	3.69	-122.35	-678.94	-1,071.80	1,268.75	1,261.32	7.44	170.547		
1,150.00	1,150.00	1,150.91	1,150.72	3.93	3.86	-122.31	-678.06	-1,072.09	1,268.53	1,260.74	7.79	162.755		
1,200.00	1,200.00	1,204.23	1,204.04	4.11	4.05	-122.27	-677.17	-1,072.29	1,268.25	1,260.09	8.16	155.403		
1,250.00	1,250.00	1,257.56	1,257.36	4.29	4.24	-122.24	-676.31	-1,072.31	1,267.83	1,259.30	8.53	148.666		
1,300.00	1,300.00	1,310.00	1,309.79	4.46	4.43	-122.21	-675.49	-1,072.16	1,267.29	1,258.40	8.89	142.533		
1,350.00	1,350.00	1,362.56	1,362.34	4.64	4.61	-122.19	-674.67	-1,071.90	1,266.67	1,257.42	9.25	136.870		
1,400.00	1,400.00	1,420.23	1,420.01	4.82	4.81	-122.17	-673.82	-1,071.31	1,265.84	1,256.21	9.63	131.405		
1,450.00	1,450.00	1,475.42	1,475.18	5.00	5.01	-122.16	-673.08	-1,070.32	1,264.73	1,254.73	10.00	126.450		
1,500.00	1,500.00	1,527.96	1,527.70	5.18	5.19	-122.17	-672.51	-1,069.14	1,263.49	1,253.13	10.36	121.956		
1,550.00	1,550.00	1,576.43	1,576.16	5.36	5.35	-122.18	-672.11	-1,067.93	1,262.21	1,251.50	10.70	117.914		
1,600.00	1,600.00	1,623.43	1,623.14	5.53	5.51	-122.20	-671.84	-1,066.80	1,261.03	1,249.99	11.04	114.185		
1,650.00	1,650.00	1,672.87	1,672.57	5.71	5.68	-122.22	-671.59	-1,065.68	1,259.94	1,248.55	11.39	110.596		
1,700.00	1,700.00	1,722.85	1,722.54	5.89	5.85	-122.23	-671.20	-1,064.64	1,258.85	1,247.11	11.74	107.202		
1,750.00	1,750.00	1,768.24	1,767.92	6.07	6.01	-122.23	-670.79	-1,063.82	1,257.86	1,245.78	12.08	104.125		
1,800.00	1,800.00	1,813.71	1,813.38	6.25	6.17	-122.23	-670.40	-1,063.19	1,257.04	1,244.62	12.42	101.228		
1,850.00	1,850.00	1,866.34	1,866.01	6.43	6.36	-122.23	-669.95	-1,062.52	1,256.27	1,243.49	12.78	98.295		
1,900.00	1,900.00	1,919.52	1,919.18	6.61	6.54	-122.23	-669.47	-1,061.70	1,255.37	1,242.23	13.15	95.500		
1,950.00	1,950.00	1,968.11	1,967.76	6.78	6.71	-122.24	-669.04	-1,060.91	1,254.46	1,240.96	13.49	92.962		
2,000.00	2,000.00	2,018.91	2,018.55	6.96	6.89	-122.24	-668.63	-1,060.09	1,253.56	1,239.71	13.85	90.505		
2,050.00	2,050.00	2,075.94	2,075.56	7.14	7.09	-122.25	-668.15	-1,058.95	1,252.49	1,238.26	14.23	88.030		
2,100.00	2,100.00	2,131.73	2,131.33	7.32	7.29	-122.27	-667.64	-1,057.50	1,251.14	1,236.54	14.60	85.691		
2,150.00	2,150.00	2,186.48	2,186.06	7.50	7.48	-122.29	-667.11	-1,055.84	1,249.60	1,234.63	14.97	83.474		
2,200.00	2,200.00	2,244.82	2,244.36	7.68	7.68	-122.31	-666.43	-1,053.79	1,247.81	1,232.46	15.35	81.287		
2,250.00	2,250.00	2,304.91	2,304.39	7.86	7.90	-122.34	-665.51	-1,051.29	1,245.65	1,229.91	15.74	79.157		
2,300.00	2,300.00	2,368.81	2,367.99	8.04	8.12	-122.37	-664.35	-1,048.02	1,242.99	1,226.86	16.13	77.050		
2,350.00	2,350.00	2,430.46	2,429.71	8.21	8.34	-122.41	-663.02	-1,044.21	1,239.81	1,223.29	16.52	75.042		
2,400.00	2,400.00	2,491.51	2,490.60	8.39	8.56	-122.45	-661.23	-1,040.08	1,236.17	1,219.26	16.91	73.115		
2,450.00	2,450.00	2,543.06	2,541.98	8.57	8.74	-122.47	-659.55	-1,036.42	1,232.30	1,215.04	17.27	71.367		
2,500.00	2,500.00	2,595.11	2,593.87	8.75	8.93	-122.50	-657.80	-1,032.62	1,228.32	1,210.69	17.63	69.679		

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

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Van Doo Dah 21-33 Fed Com 233H
Project:	Lea County (NAD83 New Mexico East)	TVD Reference:	RKB @ 3415.20ft
Reference Site:	Sec 21-T25S-R32E	MD Reference:	RKB @ 3415.20ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Van Doo Dah 21-33 Fed Com 233H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 2	Offset TVD Reference:	Offset Datum

Offset Design Sec 28-T25S-R32E - Marwari 21-16 Fed Com 232H (28-33) - Wellbore #1 - Actual													Offset Site Error:	0.00 ft
Survey Program: 132-MWD+HDDM													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		
2,550.00	2,550.00	2,645.80	2,644.39	8.93	9.11	-40.48	-656.11	-1,028.85	1,224.11	1,206.13	17.98	68.075		
2,600.00	2,599.99	2,698.56	2,696.96	9.10	9.30	-40.56	-654.35	-1,024.84	1,219.52	1,201.18	18.34	66.491		
2,650.00	2,649.98	2,753.50	2,751.71	9.27	9.50	-40.67	-652.48	-1,020.45	1,214.42	1,195.71	18.70	64.933		
2,700.00	2,699.96	2,813.26	2,811.20	9.45	9.72	-40.81	-650.35	-1,015.32	1,208.69	1,189.61	19.08	63.362		
2,750.00	2,749.92	2,874.25	2,871.87	9.62	9.94	-40.99	-648.01	-1,009.51	1,202.17	1,182.72	19.45	61.806		
2,800.00	2,799.86	2,924.70	2,922.03	9.79	10.12	-41.16	-645.96	-1,004.53	1,195.13	1,175.32	19.80	60.357		
2,850.00	2,849.78	2,980.74	2,977.73	9.97	10.33	-41.37	-643.57	-998.85	1,187.60	1,167.44	20.16	58.897		
2,900.00	2,899.68	3,042.24	3,038.79	10.14	10.56	-41.62	-640.79	-992.07	1,179.32	1,158.78	20.54	57.424		
2,950.00	2,949.54	3,104.35	3,100.38	10.31	10.79	-41.91	-637.68	-984.64	1,170.20	1,149.29	20.91	55.964		
3,000.00	2,999.37	3,164.97	3,160.40	10.49	11.01	-42.22	-634.14	-976.92	1,160.23	1,138.95	21.28	54.530		
3,050.00	3,049.16	3,222.60	3,217.40	10.66	11.23	-42.53	-630.44	-969.22	1,149.54	1,127.90	21.64	53.127		
3,100.00	3,098.90	3,277.54	3,271.67	10.84	11.44	-42.87	-626.66	-961.58	1,138.21	1,116.22	21.99	51.753		
3,150.00	3,148.61	3,331.10	3,324.54	11.02	11.64	-43.22	-622.89	-953.90	1,126.36	1,104.02	22.35	50.404		
3,200.00	3,198.26	3,387.63	3,380.29	11.20	11.86	-43.63	-618.76	-945.48	1,113.94	1,091.23	22.70	49.067		
3,250.00	3,247.86	3,443.99	3,435.79	11.38	12.08	-44.07	-614.45	-936.71	1,100.87	1,077.81	23.06	47.747		
3,300.00	3,297.40	3,498.19	3,489.11	11.56	12.29	-44.53	-610.08	-928.00	1,087.21	1,063.80	23.41	46.447		
3,350.00	3,346.89	3,551.84	3,541.83	11.74	12.50	-45.02	-605.57	-919.13	1,073.00	1,049.24	23.76	45.164		
3,400.00	3,396.30	3,604.63	3,593.64	11.92	12.71	-45.55	-601.14	-910.05	1,058.28	1,034.17	24.11	43.900		
3,450.00	3,445.65	3,650.62	3,638.75	12.10	12.90	-46.07	-597.31	-901.96	1,043.18	1,018.73	24.45	42.660		
3,500.00	3,494.93	3,694.56	3,681.87	12.29	13.07	-46.59	-593.70	-894.35	1,027.98	1,003.18	24.80	41.450		
3,550.00	3,544.13	3,738.10	3,724.64	12.47	13.25	-47.12	-590.17	-886.93	1,012.71	987.56	25.15	40.268		
3,600.00	3,593.32	3,781.49	3,767.27	12.66	13.42	-47.57	-586.77	-879.64	997.58	972.08	25.50	39.123		
3,650.00	3,642.50	3,829.27	3,814.25	12.85	13.61	-48.09	-583.11	-871.68	982.64	956.79	25.85	38.012		
3,700.00	3,691.68	3,882.01	3,866.04	13.04	13.82	-48.68	-578.96	-862.69	967.55	941.35	26.20	36.924		
3,750.00	3,740.86	3,936.39	3,919.39	13.23	14.05	-49.31	-574.53	-853.09	952.24	925.68	26.56	35.856		
3,800.00	3,790.04	3,991.35	3,973.19	13.42	14.27	-50.00	-569.98	-842.83	936.60	909.69	26.91	34.806		
3,850.00	3,839.22	4,037.25	4,018.09	13.62	14.46	-50.59	-566.04	-834.15	920.86	893.59	27.27	33.771		
3,900.00	3,888.40	4,082.88	4,062.75	13.81	14.65	-51.16	-561.85	-825.79	905.26	877.63	27.63	32.767		
3,950.00	3,937.58	4,127.60	4,106.54	14.01	14.84	-51.74	-557.66	-817.77	889.82	861.83	27.99	31.791		
4,000.00	3,986.76	4,172.16	4,150.19	14.20	15.02	-52.34	-553.66	-809.75	874.60	846.24	28.35	30.845		
4,050.00	4,035.94	4,219.47	4,196.54	14.40	15.22	-53.01	-549.58	-801.17	859.53	830.81	28.72	29.927		
4,100.00	4,085.12	4,267.57	4,243.63	14.59	15.42	-53.73	-545.48	-792.29	844.50	815.41	29.09	29.034		
4,150.00	4,134.30	4,313.66	4,288.75	14.79	15.61	-54.44	-541.59	-783.71	829.56	800.10	29.46	28.160		
4,200.00	4,183.48	4,359.26	4,333.40	14.99	15.80	-55.17	-537.74	-775.29	814.80	784.97	29.83	27.312		
4,250.00	4,232.66	4,406.14	4,379.32	15.19	16.00	-55.94	-533.72	-766.74	800.21	770.00	30.21	26.490		
4,300.00	4,281.84	4,453.62	4,425.83	15.39	16.20	-56.72	-529.39	-758.28	785.71	755.13	30.58	25.691		
4,350.00	4,331.02	4,499.34	4,470.65	15.59	16.39	-57.47	-524.97	-750.38	771.35	740.39	30.96	24.911		
4,400.00	4,380.20	4,544.56	4,515.03	15.79	16.58	-58.20	-520.36	-742.97	757.22	725.87	31.35	24.157		
4,450.00	4,429.38	4,589.74	4,559.40	15.99	16.77	-58.93	-515.53	-735.95	743.32	711.59	31.73	23.427		
4,500.00	4,478.57	4,634.92	4,603.80	16.19	16.96	-59.65	-510.62	-729.21	729.67	697.56	32.12	22.720		
4,550.00	4,527.75	4,683.62	4,651.68	16.39	17.16	-60.45	-505.22	-722.16	716.21	683.72	32.50	22.040		
4,600.00	4,576.93	4,735.10	4,702.25	16.59	17.38	-61.33	-499.35	-714.49	702.64	669.77	32.87	21.375		
4,650.00	4,626.11	4,787.00	4,753.15	16.80	17.59	-62.26	-493.26	-706.45	688.90	655.65	33.25	20.720		
4,700.00	4,675.29	4,838.87	4,803.96	17.00	17.81	-63.25	-487.01	-698.03	674.97	641.35	33.62	20.074		
4,750.00	4,724.47	4,885.82	4,849.89	17.21	18.01	-64.20	-481.28	-690.16	661.01	626.99	34.02	19.430		
4,800.00	4,773.65	4,932.00	4,895.06	17.41	18.21	-65.17	-475.73	-682.39	647.27	612.85	34.42	18.804		
4,850.00	4,822.83	4,977.33	4,939.42	17.61	18.41	-66.17	-470.36	-674.74	633.79	598.96	34.83	18.196		
4,900.00	4,872.01	5,022.50	4,983.64	17.82	18.60	-67.22	-465.13	-667.15	620.65	585.41	35.25	17.609		
4,950.00	4,921.19	5,067.19	5,027.41	18.03	18.79	-68.29	-460.08	-659.69	607.87	572.21	35.67	17.044		
5,000.00	4,970.37	5,111.76	5,071.10	18.23	18.98	-69.40	-455.20	-652.31	595.51	559.42	36.09	16.501		
5,050.00	5,019.55	5,156.40	5,114.87	18.44	19.17	-70.56	-450.47	-644.98	583.59	547.07	36.52	15.981		
5,100.00	5,068.73	5,201.07	5,158.71	18.64	19.36	-71.77	-445.93	-637.65	572.13	535.18	36.95	15.483		

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

Anticollision Report

Company: WCDSC Permian NM
 Project: Lea County (NAD83 New Mexico East)
 Reference Site: Sec 21-T25S-R32E
 Site Error: 0.00 ft
 Reference Well: Van Doo Dah 21-33 Fed Com 233H
 Well Error: 0.50 ft
 Reference Wellbore: Wellbore #1
 Reference Design: Permit Plan 2

Local Co-ordinate Reference: Well Van Doo Dah 21-33 Fed Com 233H
 TVD Reference: RKB @ 3415.20ft
 MD Reference: RKB @ 3415.20ft
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Output errors are at: 2.00 sigma
 Database: EDM r5000.141_Prod US
 Offset TVD Reference: Offset Datum

Offset Design Sec 28-T25S-R32E - Marwari 21-16 Fed Com 232H (28-33) - Wellbore #1 - Actual														Offset Site Error:	0.00 ft
Survey Program: 132-MWD+HOGM														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			
5,150.00	5,117.91	5,246.17	5,202.98	18.85	19.56	-73.04	-441.53	-630.26	561.14	523.76	37.39	15.009			
5,200.00	5,167.09	5,292.02	5,248.01	19.06	19.75	-74.37	-437.11	-622.88	550.59	512.77	37.82	14.557			
5,250.00	5,216.27	5,337.99	5,293.20	19.27	19.94	-75.73	-432.70	-615.66	540.47	502.21	38.26	14.125			
5,300.00	5,265.45	5,384.09	5,338.54	19.47	20.14	-77.13	-428.30	-608.59	530.78	492.07	38.70	13.713			
5,350.00	5,314.63	5,437.93	5,391.44	19.68	20.37	-78.84	-422.93	-600.10	521.19	482.06	39.13	13.320			
5,400.00	5,363.81	5,491.37	5,443.77	19.89	20.60	-80.64	-417.13	-591.02	511.38	471.83	39.55	12.929			
5,450.00	5,413.00	5,535.96	5,487.43	20.10	20.79	-82.21	-412.20	-583.41	501.89	461.87	40.02	12.541			
5,500.00	5,462.18	5,582.30	5,532.83	20.31	20.99	-83.87	-407.06	-575.63	492.89	452.41	40.48	12.176			
5,550.00	5,511.36	5,628.45	5,578.07	20.52	21.19	-85.56	-401.94	-568.07	484.40	443.46	40.84	11.831			
5,600.00	5,560.54	5,674.81	5,623.55	20.73	21.39	-87.29	-396.80	-560.70	476.46	435.05	41.41	11.507			
5,650.00	5,609.72	5,717.33	5,665.29	20.94	21.58	-88.92	-392.36	-553.94	469.29	427.41	41.88	11.205			
5,700.00	5,658.90	5,760.40	5,707.59	21.15	21.76	-90.63	-388.22	-546.99	463.03	420.68	42.36	10.932			
5,750.00	5,708.08	5,809.88	5,756.17	21.36	21.97	-92.67	-383.59	-539.80	457.42	414.60	42.82	10.683			
5,800.00	5,757.26	5,859.35	5,804.66	21.57	22.19	-94.78	-378.71	-530.31	452.12	408.84	43.28	10.447			
5,850.00	5,806.44	5,903.37	5,847.77	21.78	22.38	-96.74	-374.40	-522.50	447.48	403.73	43.75	10.228			
5,900.00	5,855.62	5,947.50	5,890.96	21.99	22.57	-98.75	-370.34	-514.45	443.78	399.56	44.22	10.036			
5,950.00	5,904.80	5,993.83	5,936.31	22.20	22.78	-100.92	-366.23	-505.83	440.95	396.27	44.68	9.869			
6,000.00	5,953.98	6,040.42	5,981.88	22.41	22.98	-103.12	-362.10	-497.14	438.85	393.72	45.13	9.724			
6,050.00	6,003.16	6,088.04	6,028.48	22.62	23.19	-105.38	-357.82	-488.28	437.46	391.88	45.58	9.597			
6,100.00	6,052.34	6,135.84	6,075.25	22.83	23.41	-107.65	-353.41	-479.45	436.69	390.67	46.02	9.489			
6,122.55	6,074.52	6,155.75	6,094.73	22.93	23.49	-108.60	-351.56	-475.79	436.58	390.36	46.21	9.447 CC			
6,150.00	6,101.52	6,179.34	6,117.82	23.04	23.60	-109.72	-349.46	-471.43	436.75	390.31	46.44	9.404 ES			
6,200.00	6,150.70	6,222.29	6,159.87	23.26	23.79	-111.76	-345.91	-463.41	437.94	391.10	46.84	9.349			
6,250.00	6,199.88	6,269.70	6,206.30	23.47	24.00	-114.00	-342.23	-454.57	440.11	392.86	47.25	9.315			
6,300.00	6,249.06	6,319.40	6,255.01	23.68	24.21	-116.28	-338.15	-445.61	442.73	395.07	47.66	9.290			
6,350.00	6,298.25	6,362.95	6,297.72	23.89	24.40	-118.25	-334.54	-437.88	445.97	397.95	48.02	9.287 SF			
6,400.00	6,347.43	6,404.46	6,338.41	24.11	24.59	-120.11	-331.50	-430.26	450.40	402.05	48.36	9.314			
6,450.00	6,396.61	6,448.17	6,381.25	24.32	24.78	-122.05	-328.70	-422.02	455.98	407.29	48.69	9.365			
6,500.00	6,445.79	6,494.49	6,426.67	24.53	24.98	-124.03	-325.87	-413.37	462.31	413.27	49.03	9.428			
6,550.00	6,494.97	6,541.24	6,472.54	24.74	25.18	-125.96	-323.12	-404.78	469.26	419.88	49.37	9.504			
6,600.00	6,544.15	6,588.53	6,518.97	24.96	25.39	-127.84	-320.41	-396.29	476.73	427.02	49.71	9.591			
6,650.00	6,593.33	6,636.52	6,566.14	25.17	25.59	-129.67	-317.68	-387.86	484.66	434.62	50.05	9.684			
6,700.00	6,642.51	6,685.20	6,613.97	25.38	25.80	-131.49	-314.71	-379.29	492.93	442.55	50.39	9.783			
6,750.00	6,691.69	6,733.63	6,661.51	25.60	26.02	-133.27	-311.46	-370.67	501.51	450.79	50.72	9.888			
6,800.00	6,740.87	6,781.59	6,708.50	25.81	26.23	-135.03	-307.80	-361.77	510.44	459.40	51.04	10.000			
6,850.00	6,790.05	6,828.82	6,754.68	26.02	26.44	-136.76	-303.81	-352.69	519.75	468.40	51.36	10.121			
6,900.00	6,839.23	6,875.71	6,800.53	26.24	26.65	-138.42	-299.84	-343.73	529.51	477.84	51.66	10.249			
6,950.00	6,888.41	6,922.66	6,846.47	26.45	26.86	-140.02	-295.92	-334.86	539.67	487.70	51.97	10.385			
7,000.00	6,937.59	6,969.72	6,892.55	26.67	27.07	-141.54	-292.07	-326.13	550.21	497.94	52.27	10.526			
7,050.00	6,986.77	7,017.79	6,939.66	26.88	27.28	-143.03	-288.21	-317.34	561.08	508.49	52.59	10.670			
7,100.00	7,035.95	7,066.80	6,987.66	27.10	27.50	-144.51	-284.03	-308.43	572.13	519.22	52.91	10.813			
7,150.00	7,085.13	7,114.51	7,034.37	27.31	27.71	-145.92	-279.67	-299.71	583.36	530.14	53.22	10.961			
7,200.00	7,134.31	7,160.91	7,079.70	27.52	27.92	-147.29	-275.05	-290.93	594.93	541.42	53.51	11.117			
7,250.00	7,183.49	7,208.45	7,126.05	27.74	28.14	-148.68	-269.99	-281.70	606.83	553.01	53.82	11.276			
7,300.00	7,232.68	7,257.46	7,173.91	27.95	28.36	-150.04	-264.83	-272.44	618.90	564.76	54.14	11.431			
7,350.00	7,281.86	7,306.54	7,221.90	28.17	28.58	-151.32	-259.79	-263.51	631.08	576.61	54.47	11.587			
7,400.00	7,331.04	7,355.70	7,270.04	28.38	28.80	-152.54	-254.83	-254.86	643.35	588.58	54.79	11.742			
7,450.00	7,380.22	7,401.03	7,314.47	28.60	29.00	-153.61	-250.36	-247.05	655.79	600.71	55.08	11.906			
7,500.00	7,429.40	7,444.26	7,356.81	28.81	29.19	-154.59	-246.17	-239.41	668.69	613.35	55.34	12.082			
7,550.00	7,478.58	7,486.89	7,398.53	29.03	29.38	-155.54	-242.13	-231.66	682.06	626.46	55.60	12.267			
7,600.00	7,527.76	7,528.89	7,439.62	29.24	29.57	-156.43	-238.33	-223.82	695.95	640.10	55.85	12.461			
7,650.00	7,576.94	7,573.79	7,483.53	29.46	29.77	-157.35	-234.49	-215.25	710.31	654.17	56.14	12.653			

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

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Van Doo Dah 21-33 Fed Com 233H
Project:	Lea County (NAD83 New Mexico East)	TVD Reference:	RKB @ 3415.20ft
Reference Site:	Sec 21-T25S-R32E	MD Reference:	RKB @ 3415.20ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Van Doo Dah 21-33 Fed Com 233H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 2	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:		0.00 ft
Survey Program: 132-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			
7,700.00	7,626.12	7,626.67	7,535.31	29.68	30.01	-158.36	-230.06	-205.50	724.62	668.10	56.52	12.820			
7,750.00	7,675.30	7,675.46	7,583.16	29.89	30.23	-159.25	-225.99	-198.90	738.76	681.90	56.86	12.993			
7,800.00	7,724.48	7,719.78	7,626.59	30.11	30.43	-160.04	-222.13	-188.93	753.13	695.99	57.14	13.180			
7,850.00	7,773.66	7,765.58	7,671.41	30.32	30.63	-160.85	-217.97	-180.47	767.78	710.34	57.45	13.366			
7,900.00	7,822.84	7,813.92	7,718.75	30.54	30.85	-161.66	-213.67	-171.65	782.52	724.74	57.78	13.543			
7,950.00	7,872.02	7,859.99	7,763.89	30.75	31.05	-162.39	-209.69	-163.37	797.32	739.23	58.09	13.725			
8,000.00	7,921.20	7,903.10	7,806.09	30.97	31.25	-163.07	-205.89	-155.43	812.41	754.04	58.37	13.919			
8,050.00	7,970.38	7,947.55	7,849.55	31.19	31.45	-163.76	-201.85	-147.00	827.80	769.14	58.66	14.112			
8,100.00	8,019.56	7,996.00	7,896.92	31.40	31.67	-164.48	-197.46	-137.85	843.29	784.29	59.00	14.292			
8,150.00	8,068.74	8,045.01	7,944.87	31.62	31.89	-165.17	-193.08	-128.74	858.78	799.43	59.35	14.469			
8,200.00	8,117.93	8,095.04	7,993.87	31.83	32.11	-165.85	-188.69	-119.66	874.21	814.49	59.72	14.639			
8,250.00	8,167.11	8,141.19	8,039.11	32.05	32.32	-166.44	-184.69	-111.44	889.60	829.56	60.04	14.817			
8,300.00	8,216.29	8,182.10	8,079.16	32.27	32.50	-166.96	-181.09	-103.93	905.29	845.00	60.30	15.014			
8,350.00	8,265.47	8,224.44	8,120.56	32.48	32.69	-167.49	-177.28	-95.85	921.37	860.80	60.58	15.210			
8,400.00	8,314.65	8,277.09	8,172.05	32.70	32.93	-168.12	-172.62	-85.93	937.45	876.48	60.88	15.374			
8,450.00	8,363.83	8,324.99	8,218.98	32.92	33.15	-168.66	-168.54	-77.24	953.34	892.02	61.32	15.547			
8,500.00	8,413.01	8,363.83	8,257.03	33.13	33.32	-169.08	-165.48	-70.07	969.54	907.98	61.56	15.749			
8,550.00	8,462.19	8,402.51	8,294.89	33.35	33.49	-169.46	-162.70	-62.68	986.18	924.38	61.80	15.957			
8,600.00	8,511.37	8,460.05	8,351.26	33.57	33.75	-170.01	-158.79	-51.82	1,002.85	940.58	62.27	16.106			
8,650.00	8,560.55	8,517.56	8,407.73	33.78	34.00	-170.52	-154.88	-41.67	1,018.98	956.26	62.73	16.245			
8,700.00	8,609.73	8,570.40	8,459.69	34.00	34.23	-170.96	-151.22	-32.75	1,034.82	971.69	63.13	16.392			
8,750.00	8,658.91	8,624.90	8,513.33	34.22	34.47	-171.41	-147.43	-23.88	1,050.41	986.86	63.55	16.530			
8,800.00	8,708.09	8,680.94	8,568.58	34.43	34.71	-171.83	-143.75	-15.28	1,065.66	1,001.68	63.98	16.657			
8,850.00	8,757.27	8,739.05	8,625.98	34.65	34.95	-172.22	-140.20	-6.98	1,080.52	1,016.09	64.42	16.773			
8,900.00	8,806.45	8,802.85	8,689.15	34.87	35.21	-172.62	-136.61	1.31	1,094.89	1,029.97	64.91	16.867			
8,950.00	8,855.63	8,862.42	8,768.17	35.09	35.52	-173.04	-132.59	9.65	1,108.16	1,042.65	65.51	16.916			
9,000.00	8,904.81	8,936.38	8,821.86	35.30	35.72	-173.30	-129.96	14.38	1,120.68	1,054.78	65.90	17.007			
9,050.00	8,953.99	8,993.32	8,878.54	35.52	35.93	-173.56	-127.11	18.99	1,132.87	1,066.57	66.30	17.087			
9,100.00	9,003.17	9,052.33	8,937.31	35.74	36.15	-173.83	-124.07	23.26	1,144.66	1,077.95	66.72	17.157			
9,150.00	9,052.39	9,130.95	9,015.70	35.95	36.43	-174.17	-119.97	27.62	1,155.50	1,088.27	67.23	17.187			
9,200.00	9,101.72	9,197.74	9,082.37	36.17	36.66	-174.44	-116.43	29.71	1,164.50	1,096.84	67.66	17.211			
9,250.00	9,151.15	9,256.34	9,140.85	36.37	36.86	-174.68	-112.93	31.05	1,172.42	1,104.38	68.04	17.230			
9,300.00	9,200.67	9,312.10	9,196.51	36.58	37.05	-174.88	-109.79	31.90	1,179.39	1,110.98	68.41	17.240			
9,350.00	9,250.28	9,366.76	9,251.10	36.77	37.23	-175.05	-107.19	32.33	1,185.45	1,116.67	68.77	17.237			
9,400.00	9,299.97	9,419.52	9,303.80	36.97	37.40	-175.20	-104.63	32.58	1,190.71	1,121.59	69.13	17.225			
9,450.00	9,349.72	9,468.59	9,352.81	37.16	37.56	-175.34	-102.26	32.73	1,195.26	1,125.80	69.47	17.207			
9,500.00	9,399.54	9,516.18	9,400.37	37.34	37.71	-175.45	-100.36	32.88	1,199.25	1,129.45	69.80	17.181			
9,550.00	9,449.40	9,566.58	9,450.74	37.52	37.87	-175.55	-98.63	33.01	1,202.63	1,132.49	70.14	17.146			
9,600.00	9,499.31	9,617.83	9,501.96	37.70	38.04	-175.65	-96.81	33.11	1,205.32	1,134.83	70.49	17.100			
9,650.00	9,549.26	9,664.85	9,548.94	37.87	38.19	-175.74	-95.15	33.23	1,207.39	1,136.57	70.82	17.050			
9,700.00	9,599.23	9,711.79	9,595.85	38.05	38.34	-175.82	-93.59	33.44	1,208.93	1,137.78	71.14	16.993			
9,750.00	9,649.22	9,764.24	9,648.28	38.21	38.51	-175.90	-91.92	33.68	1,209.83	1,138.34	71.49	16.923			
9,800.00	9,699.22	9,816.73	9,700.74	38.37	38.68	-175.98	-90.30	33.79	1,209.98	1,138.15	71.83	16.844			
9,850.00	9,749.22	9,866.82	9,750.82	38.53	38.84	-101.87	-88.84	33.83	1,209.72	1,137.56	72.16	16.763			
9,900.00	9,799.22	9,916.85	9,800.63	38.69	39.00	-101.81	-87.48	33.84	1,209.45	1,136.95	72.50	16.683			
9,950.00	9,849.22	9,965.20	9,849.16	38.85	39.16	-101.75	-86.29	33.86	1,209.22	1,136.39	72.82	16.605			
10,000.00	9,899.22	10,014.10	9,898.05	39.00	39.32	-101.70	-85.22	33.91	1,209.05	1,135.89	73.15	16.528			
10,034.38	9,933.60	10,044.75	9,928.70	39.11	39.41	-101.68	-84.72	33.95	1,208.98	1,135.62	73.36	16.479			
10,050.00	9,949.22	10,058.29	9,942.24	39.16	39.45	-101.67	-84.64	33.98	1,209.00	1,135.54	73.46	16.458			
10,100.00	9,999.22	10,097.05	9,981.00	39.32	39.57	-101.68	-84.89	34.12	1,209.25	1,135.50	73.74	16.398			
10,150.00	10,049.22	10,121.00	10,004.92	39.48	39.64	-101.73	-85.93	34.37	1,210.27	1,136.32	73.95	16.366			
10,200.00	10,099.17	10,152.00	10,035.77	39.64	39.73	-101.89	-86.85	35.09	1,212.76	1,138.58	74.18	16.349			

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

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Van Doo Dah 21-33 Fed Com 233H
Project:	Lea County (NAD83 New Mexico East)	TVD Reference:	RKB @ 3415.20ft
Reference Site:	Sec 21-T25S-R32E	MD Reference:	RKB @ 3415.20ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Van Doo Dah 21-33 Fed Com 233H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 2	Offset TVD Reference:	Offset Datum

Offset Design Sec 28-T25S-R32E - Marwari 21-16 Fed Com 232H (28-33) - Wellbore #1 - Actual													Offset Site Error: 0.00 ft	
Survey Program: 132-MWD+HDGM													Offset Well Error: 0.50 ft	
Reference		Offset		Semi Major Axis			Distance				Minimum Separation	Separation Factor	Warning	
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre +N/-S	+E/-W	Between Centres	Between Ellipses				
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)			
10,250.00	10,148.75	10,168.80	10,052.38	39.80	39.78	101.66	-91.25	35.71	1,217.24	1,142.92	74.32	16.379		
10,300.00	10,197.61	10,184.00	10,067.33	39.96	39.82	101.26	-93.89	36.40	1,223.84	1,149.43	74.41	16.448		
10,350.00	10,245.35	10,214.00	10,096.56	40.12	39.90	101.07	-100.45	38.06	1,232.45	1,157.83	74.62	16.517		
10,400.00	10,291.62	10,226.05	10,108.16	40.27	39.93	100.32	-103.60	38.86	1,243.23	1,168.57	74.66	16.653		
10,450.00	10,336.07	10,238.76	10,120.30	40.42	39.96	99.39	-107.24	39.83	1,256.25	1,181.57	74.68	16.821		
10,500.00	10,378.36	10,249.00	10,130.00	40.56	39.98	98.17	-110.40	40.72	1,271.47	1,196.80	74.68	17.027		
10,550.00	10,418.17	10,260.05	10,140.37	40.70	40.01	96.77	-114.06	41.76	1,288.78	1,214.11	74.67	17.259		
10,600.00	10,455.18	10,268.26	10,148.02	40.82	40.03	95.03	-116.94	42.58	1,308.07	1,233.43	74.65	17.524		
10,650.00	10,489.13	10,282.00	10,160.68	40.95	40.06	93.32	-122.07	44.02	1,329.25	1,254.55	74.70	17.793		
10,700.00	10,519.76	10,282.00	10,160.68	41.06	40.06	90.77	-122.07	44.02	1,351.98	1,277.38	74.60	18.122		
10,750.00	10,546.82	10,282.00	10,160.68	41.17	40.06	88.00	-122.07	44.02	1,376.20	1,301.68	74.52	18.467		
10,800.00	10,570.12	10,282.00	10,160.68	41.28	40.06	85.05	-122.07	44.02	1,401.65	1,327.18	74.48	18.820		
10,850.00	10,589.47	10,282.00	10,160.68	41.39	40.06	81.96	-122.07	44.02	1,428.09	1,353.62	74.46	19.178		
10,900.00	10,604.74	10,282.00	10,160.68	41.51	40.06	78.77	-122.07	44.02	1,455.25	1,380.76	74.49	19.536		
10,950.00	10,615.80	10,282.00	10,160.68	41.63	40.06	75.53	-122.07	44.02	1,482.91	1,408.35	74.56	19.888		

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Van Doo Dah 21-33 Fed Com 233H
Project:	Lea County (NAD83 New Mexico East)	TVD Reference:	RKB @ 3415.20ft
Reference Site:	Sec 21-T25S-R32E	MD Reference:	RKB @ 3415.20ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Van Doo Dah 21-33 Fed Com 233H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 2	Offset TVD Reference:	Offset Datum

Offset Design														Offset Site Error:	0.00 ft
Survey Program: 0-MWD+HDGM														Offset Well Error:	0.50 ft
Sec 28-T25S-R32E - Marwari 21-16 Fed Com 232H (28-33) - Wellbore #1 - Permit Plan 1															
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	4.90	-4.90	0.50	0.50	-123.18	-696.06	-1,064.57	1,271.93						
50.00	50.00	45.10	45.10	0.50	0.50	-123.18	-696.06	-1,064.57	1,271.93	1,270.93	1.00	1,265.756			
100.00	100.00	104.90	95.10	0.52	0.52	-123.18	-696.06	-1,064.57	1,271.93	1,270.90	1.04	1,227.476			
150.00	150.00	145.10	145.10	0.59	0.57	-123.18	-696.06	-1,064.57	1,271.93	1,270.77	1.16	1,092.840			
200.00	200.00	204.90	195.10	0.70	0.70	-123.18	-696.06	-1,064.57	1,271.93	1,270.53	1.41	904.584			
250.00	250.00	245.10	245.10	0.84	0.81	-123.18	-696.06	-1,064.57	1,271.93	1,270.28	1.65	771.046			
300.00	300.00	304.90	295.10	0.99	0.99	-123.18	-696.06	-1,064.57	1,271.93	1,269.96	1.98	643.369			
350.00	350.00	345.10	345.10	1.15	1.12	-123.18	-696.06	-1,064.57	1,271.93	1,269.67	2.26	562.335			
400.00	400.00	404.90	395.10	1.31	1.31	-123.18	-696.06	-1,064.57	1,271.93	1,269.31	2.62	485.348			
450.00	450.00	445.10	445.10	1.48	1.45	-123.18	-696.06	-1,064.57	1,271.93	1,269.01	2.92	435.271			
500.00	500.00	504.90	495.10	1.65	1.65	-123.18	-696.06	-1,064.57	1,271.93	1,268.64	3.29	386.050			
550.00	550.00	545.10	545.10	1.82	1.79	-123.18	-696.06	-1,064.57	1,271.93	1,268.33	3.60	352.908			
600.00	600.00	604.90	595.10	1.99	1.99	-123.18	-696.06	-1,064.57	1,271.93	1,267.95	3.98	319.276			
650.00	650.00	645.10	645.10	2.16	2.13	-123.18	-696.06	-1,064.57	1,271.93	1,267.64	4.30	295.966			
700.00	700.00	704.90	695.10	2.34	2.34	-123.18	-696.06	-1,064.57	1,271.93	1,267.25	4.68	271.708			
750.00	750.00	745.10	745.10	2.51	2.48	-123.18	-696.06	-1,064.57	1,271.93	1,266.94	5.00	254.508			
800.00	800.00	804.90	795.10	2.69	2.69	-123.18	-696.06	-1,064.57	1,271.93	1,266.55	5.38	236.251			
850.00	850.00	845.10	845.10	2.87	2.84	-123.18	-696.06	-1,064.57	1,271.93	1,266.23	5.70	223.073			
900.00	900.00	904.90	895.10	3.04	3.05	-123.18	-696.06	-1,064.57	1,271.93	1,265.84	6.09	208.865			
950.00	950.00	945.10	945.10	3.22	3.19	-123.18	-696.06	-1,064.57	1,271.93	1,265.52	6.41	198.463			
1,000.00	1,000.00	1,004.90	995.10	3.40	3.40	-123.18	-696.06	-1,064.57	1,271.93	1,265.14	6.80	187.105			
1,050.00	1,050.00	1,045.10	1,045.10	3.57	3.54	-123.18	-696.06	-1,064.57	1,271.93	1,264.82	7.12	178.693			
1,100.00	1,100.00	1,104.90	1,095.10	3.75	3.76	-123.18	-696.06	-1,064.57	1,271.93	1,264.43	7.51	169.413			
1,150.00	1,150.00	1,145.10	1,145.10	3.93	3.90	-123.18	-696.06	-1,064.57	1,271.93	1,264.11	7.83	162.476			
1,200.00	1,200.00	1,204.90	1,195.10	4.11	4.11	-123.18	-696.06	-1,064.57	1,271.93	1,263.71	8.22	154.756			
1,250.00	1,250.00	1,245.10	1,245.10	4.29	4.25	-123.18	-696.06	-1,064.57	1,271.93	1,263.39	8.54	148.938			
1,300.00	1,300.00	1,304.90	1,295.10	4.46	4.47	-123.18	-696.06	-1,064.57	1,271.93	1,263.00	8.93	142.418			
1,350.00	1,350.00	1,345.10	1,345.10	4.64	4.61	-123.18	-696.06	-1,064.57	1,271.93	1,262.68	9.25	137.471			
1,400.00	1,400.00	1,404.90	1,395.10	4.82	4.82	-123.18	-696.06	-1,064.57	1,271.93	1,262.29	9.64	131.891			
1,450.00	1,450.00	1,445.10	1,445.10	5.00	4.97	-123.18	-696.06	-1,064.57	1,271.93	1,261.97	9.97	127.634			
1,500.00	1,500.00	1,504.90	1,495.10	5.18	5.18	-123.18	-696.06	-1,064.57	1,271.93	1,261.58	10.36	122.807			
1,550.00	1,550.00	1,545.10	1,545.10	5.36	5.32	-123.18	-696.06	-1,064.57	1,271.93	1,261.25	10.68	119.106			
1,600.00	1,600.00	1,604.90	1,595.10	5.53	5.54	-123.18	-696.06	-1,064.57	1,271.93	1,260.86	11.07	114.889			
1,650.00	1,650.00	1,645.10	1,645.10	5.71	5.68	-123.18	-696.06	-1,064.57	1,271.93	1,260.54	11.39	111.642			
1,700.00	1,700.00	1,704.90	1,695.10	5.89	5.89	-123.18	-696.06	-1,064.57	1,271.93	1,260.15	11.79	107.927			
1,750.00	1,750.00	1,745.10	1,745.10	6.07	6.04	-123.18	-696.06	-1,064.57	1,271.93	1,259.83	12.11	105.055			
1,800.00	1,800.00	1,804.90	1,795.10	6.25	6.25	-123.18	-696.06	-1,064.57	1,271.93	1,259.43	12.50	101.758			
1,850.00	1,850.00	1,845.10	1,845.10	6.43	6.40	-123.18	-696.06	-1,064.57	1,271.93	1,259.11	12.82	99.200			
1,900.00	1,900.00	1,904.90	1,895.10	6.61	6.61	-123.18	-696.06	-1,064.57	1,271.93	1,258.72	13.21	96.254			
1,950.00	1,950.00	1,945.10	1,945.10	6.78	6.75	-123.18	-696.06	-1,064.57	1,271.93	1,258.40	13.54	93.961			
2,000.00	2,000.00	2,004.90	1,995.10	6.96	6.97	-123.18	-696.06	-1,064.57	1,271.93	1,258.00	13.93	91.313			
2,050.00	2,050.00	2,045.10	2,045.10	7.14	7.11	-123.18	-696.06	-1,064.57	1,271.93	1,257.68	14.25	89.246			
2,100.00	2,100.00	2,104.90	2,095.10	7.32	7.32	-123.18	-696.06	-1,064.57	1,271.93	1,257.29	14.64	86.854			
2,150.00	2,150.00	2,145.10	2,145.10	7.50	7.47	-123.18	-696.06	-1,064.57	1,271.93	1,256.97	14.97	84.981			
2,200.00	2,200.00	2,204.90	2,195.10	7.68	7.68	-123.18	-696.06	-1,064.57	1,271.93	1,256.57	15.36	82.809			
2,250.00	2,250.00	2,245.10	2,245.10	7.86	7.83	-123.18	-696.06	-1,064.57	1,271.93	1,256.25	15.68	81.105			
2,300.00	2,300.00	2,304.90	2,295.10	8.04	8.04	-123.18	-696.06	-1,064.57	1,271.93	1,255.86	16.08	79.123			
2,350.00	2,350.00	2,345.10	2,345.10	8.21	8.18	-123.18	-696.06	-1,064.57	1,271.93	1,255.54	16.40	77.566			
2,400.00	2,400.00	2,404.90	2,395.10	8.39	8.40	-123.18	-696.06	-1,064.57	1,271.93	1,255.14	16.79	75.751			
2,450.00	2,450.00	2,445.10	2,445.10	8.57	8.54	-123.18	-696.06	-1,064.57	1,271.93	1,254.82	17.11	74.322			
2,500.00	2,500.00	2,495.10	2,495.10	8.75	8.72	-123.18	-696.06	-1,064.57	1,271.93	1,254.46	17.47	72.800			
2,550.00	2,550.00	2,556.16	2,556.16	8.93	8.93	-41.12	-696.03	-1,064.30	1,271.57	1,253.71	17.86	71.196			

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

Anticollision Report

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Reference Well:	Van Doo Dah 21-33 Fed Com 233H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 2	Offset TVD Reference:	Offset Datum

Offset Design Sec 28-T25S-R32E - Marwari 21-16 Fed Com 232H (28-33) - Wellbore #1 - Permit Plan 1														Offset Site Error:	0.00 ft
Survey Program: 0-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			
2,600.00	2,599.99	2,618.39	2,618.38	9.10	9.15	-41.17	-695.94	-1,063.36	1,270.40	1,252.15	18.25	69.607			
2,650.00	2,649.98	2,680.55	2,680.52	9.27	9.36	-41.25	-695.78	-1,061.74	1,268.43	1,249.80	18.63	68.081			
2,700.00	2,699.96	2,742.60	2,742.53	9.45	9.58	-41.38	-695.55	-1,059.46	1,265.64	1,246.63	19.01	66.574			
2,750.00	2,749.92	2,804.51	2,804.37	9.62	9.79	-41.54	-695.25	-1,056.52	1,262.06	1,242.67	19.39	65.089			
2,800.00	2,799.86	2,866.24	2,865.99	9.79	10.01	-41.73	-694.89	-1,052.93	1,257.68	1,237.91	19.77	63.626			
2,850.00	2,849.78	2,927.76	2,927.36	9.97	10.22	-41.97	-694.46	-1,048.69	1,252.51	1,232.37	20.14	62.182			
2,900.00	2,899.68	2,989.02	2,988.43	10.14	10.43	-42.24	-693.97	-1,043.82	1,246.57	1,226.05	20.52	60.760			
2,950.00	2,949.54	3,050.00	3,049.16	10.31	10.65	-42.55	-693.42	-1,038.33	1,239.85	1,218.96	20.89	59.356			
3,000.00	2,999.37	3,110.67	3,109.51	10.49	10.86	-42.90	-692.80	-1,032.22	1,232.38	1,211.12	21.26	57.972			
3,050.00	3,049.16	3,170.98	3,169.45	10.66	11.08	-43.29	-692.13	-1,025.53	1,224.16	1,202.53	21.63	56.605			
3,100.00	3,098.90	3,230.91	3,228.93	10.84	11.29	-43.72	-691.39	-1,018.25	1,215.20	1,193.21	21.99	55.256			
3,150.00	3,148.81	3,290.44	3,287.93	11.02	11.50	-44.19	-690.60	-1,010.41	1,205.53	1,183.18	22.36	53.923			
3,200.00	3,198.26	3,349.52	3,346.41	11.20	11.72	-44.71	-689.76	-1,002.03	1,195.16	1,172.44	22.72	52.607			
3,250.00	3,247.86	3,408.13	3,404.33	11.38	11.93	-45.27	-688.86	-993.12	1,184.11	1,161.03	23.08	51.306			
3,300.00	3,297.40	3,466.24	3,461.66	11.56	12.14	-45.88	-687.91	-983.70	1,172.40	1,148.96	23.44	50.020			
3,350.00	3,346.89	3,523.82	3,518.38	11.74	12.36	-46.54	-686.91	-973.80	1,160.05	1,136.26	23.80	48.749			
3,400.00	3,396.30	3,580.86	3,574.46	11.92	12.57	-47.24	-685.87	-963.44	1,147.09	1,122.94	24.15	47.493			
3,450.00	3,445.65	3,635.40	3,627.98	12.10	12.78	-47.98	-684.82	-953.02	1,133.55	1,109.04	24.51	46.254			
3,500.00	3,494.93	3,682.12	3,673.80	12.29	12.95	-48.68	-683.90	-943.94	1,119.70	1,094.85	24.86	45.047			
3,550.00	3,544.13	3,728.69	3,719.48	12.47	13.13	-49.35	-682.99	-934.89	1,105.71	1,080.50	25.21	43.863			
3,600.00	3,593.32	3,775.21	3,765.11	12.66	13.31	-49.98	-682.08	-925.86	1,091.75	1,066.19	25.56	42.711			
3,650.00	3,642.50	3,821.74	3,810.74	12.85	13.49	-50.62	-681.17	-916.82	1,077.93	1,052.01	25.92	41.592			
3,700.00	3,691.68	3,868.26	3,856.37	13.04	13.67	-51.27	-680.26	-907.78	1,064.24	1,037.97	26.27	40.505			
3,750.00	3,740.86	3,914.79	3,901.99	13.23	13.86	-51.94	-679.34	-898.75	1,050.70	1,024.06	26.63	39.449			
3,800.00	3,790.04	3,961.31	3,947.62	13.42	14.04	-52.63	-678.43	-889.71	1,037.30	1,010.30	27.00	38.423			
3,850.00	3,839.22	4,007.83	3,993.25	13.62	14.22	-53.33	-677.52	-880.67	1,024.05	996.69	27.36	37.427			
3,900.00	3,888.40	4,054.36	4,038.88	13.81	14.41	-54.05	-676.61	-871.63	1,010.96	983.23	27.73	36.459			
3,950.00	3,937.58	4,100.88	4,084.51	14.01	14.59	-54.79	-675.70	-862.60	998.04	969.94	28.10	35.519			
4,000.00	3,986.76	4,147.41	4,130.14	14.20	14.78	-55.55	-674.79	-853.56	985.28	956.81	28.47	34.607			
4,050.00	4,035.94	4,206.07	4,175.77	14.40	15.01	-56.32	-673.88	-844.52	972.71	943.82	28.89	33.667			
4,100.00	4,085.12	4,240.45	4,221.40	14.59	15.15	-57.12	-672.97	-835.49	960.32	931.09	29.22	32.861			
4,150.00	4,134.30	4,286.98	4,267.02	14.79	15.34	-57.93	-672.06	-826.45	948.12	918.51	29.60	32.027			
4,200.00	4,183.48	4,333.50	4,312.65	14.99	15.53	-58.76	-671.15	-817.41	936.12	906.13	29.99	31.218			
4,250.00	4,232.66	4,380.03	4,358.28	15.19	15.72	-59.61	-670.23	-808.37	924.32	893.95	30.37	30.433			
4,300.00	4,281.84	4,426.55	4,403.91	15.39	15.91	-60.48	-669.32	-799.34	912.75	881.99	30.76	29.672			
4,350.00	4,331.02	4,473.07	4,449.54	15.59	16.10	-61.37	-668.41	-790.30	901.39	870.24	31.15	28.935			
4,400.00	4,380.20	4,519.60	4,495.17	15.79	16.29	-62.28	-667.50	-781.26	890.27	858.73	31.55	28.221			
4,450.00	4,429.38	4,566.12	4,540.80	15.99	16.48	-63.21	-666.59	-772.23	879.39	847.45	31.94	27.530			
4,500.00	4,478.57	4,612.65	4,586.43	16.19	16.67	-64.17	-665.68	-763.19	868.76	836.42	32.34	26.861			
4,550.00	4,527.75	4,659.17	4,632.06	16.39	16.86	-65.14	-664.77	-754.15	858.39	825.64	32.75	26.214			
4,600.00	4,576.93	4,705.69	4,677.68	16.59	17.06	-66.14	-663.86	-745.11	848.29	815.14	33.15	25.589			
4,650.00	4,626.11	4,752.22	4,723.31	16.80	17.25	-67.15	-662.95	-736.08	838.46	804.90	33.56	24.985			
4,700.00	4,675.29	4,801.26	4,768.94	17.00	17.45	-68.19	-662.04	-727.04	828.93	794.95	33.98	24.395			
4,750.00	4,724.47	4,845.27	4,814.57	17.21	17.64	-69.25	-661.12	-718.00	819.69	785.31	34.38	23.840			
4,800.00	4,773.65	4,908.21	4,880.20	17.41	17.90	-70.33	-660.21	-708.96	810.76	775.90	34.87	23.254			
4,850.00	4,822.83	4,938.31	4,905.83	17.61	18.03	-71.43	-659.30	-699.93	802.15	766.93	35.22	22.777			
4,900.00	4,872.01	4,984.84	4,951.46	17.82	18.22	-72.55	-658.39	-690.89	793.87	758.23	35.64	22.276			
4,950.00	4,921.19	5,031.36	4,997.09	18.03	18.42	-73.70	-657.48	-681.85	785.93	749.87	36.06	21.795			
5,000.00	4,970.37	5,077.89	5,042.71	18.23	18.61	-74.86	-656.57	-672.82	778.34	741.85	36.49	21.333			
5,050.00	5,019.55	5,124.41	5,088.34	18.44	18.81	-76.04	-655.66	-663.78	771.11	734.20	36.91	20.891			
5,100.00	5,068.73	5,170.93	5,133.97	18.64	19.00	-77.25	-654.75	-654.74	764.25	726.91	37.34	20.467			
5,150.00	5,117.91	5,217.46	5,179.60	18.85	19.20	-78.47	-653.84	-645.70	757.77	720.00	37.77	20.063			

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

Anticollision Report

Company: WCDSC Permian NM
 Project: Lea County (NAD83 New Mexico East)
 Reference Site: Sec 21-T25S-R32E
 Site Error: 0.00 ft
 Reference Well: Van Doo Dah 21-33 Fed Com 233H
 Well Error: 0.50 ft
 Reference Wellbore: Wellbore #1
 Reference Design: Permit Plan 2

Local Co-ordinate Reference: Well Van Doo Dah 21-33 Fed Com 233H
 TVD Reference: RKB @ 3415.20ft
 MD Reference: RKB @ 3415.20ft
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Output errors are at: 2.00 sigma
 Database: EDM r5000.141_Prod US
 Offset TVD Reference: Offset Datum

Offset Design Sec 28-T25S-R32E - Marwari 21-16 Fed Com 232H (28-33) - Wellbore #1 - Permit Plan 1														Offset Site Error: 0.00 ft
Survey Program: 0-MWD+HDGM														Offset Well Error: 0.50 ft
Reference		Offset		Semi Major Axis		Distance		Minimum Separation		Warning				
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
5,200.00	5,167.09	5,263.98	5,225.23	19.06	19.40	-79.70	-652.93	-636.67	751.68	713.48	38.20	19.678		
5,250.00	5,216.27	5,310.51	5,270.86	19.27	19.60	-80.96	-652.01	-627.63	745.99	707.36	38.63	19.311		
5,300.00	5,265.45	5,357.03	5,316.49	19.47	19.79	-82.23	-651.10	-618.59	740.72	701.65	39.06	18.962		
5,350.00	5,314.63	5,403.55	5,362.12	19.68	19.99	-83.52	-650.19	-609.56	735.86	696.36	39.50	18.632		
5,400.00	5,363.81	5,450.08	5,407.74	19.89	20.19	-84.82	-649.28	-600.52	731.42	691.49	39.93	18.319		
5,450.00	5,413.00	5,503.40	5,453.37	20.10	20.42	-86.14	-648.37	-591.48	727.42	687.04	40.39	18.011		
5,500.00	5,462.18	5,543.13	5,499.00	20.31	20.59	-87.46	-647.46	-582.44	723.86	683.08	40.79	17.746		
5,550.00	5,511.36	5,589.65	5,544.63	20.52	20.79	-88.80	-646.55	-573.41	720.76	679.54	41.22	17.486		
5,600.00	5,560.54	5,636.17	5,590.26	20.73	20.99	-90.15	-645.64	-564.37	718.10	676.45	41.65	17.243		
5,650.00	5,609.72	5,682.70	5,635.89	20.94	21.19	-91.50	-644.73	-555.33	715.90	673.83	42.07	17.016		
5,700.00	5,658.90	5,729.22	5,681.52	21.15	21.39	-92.86	-643.82	-546.30	714.17	671.67	42.50	16.805		
5,750.00	5,708.08	5,775.75	5,727.15	21.36	21.59	-94.23	-642.90	-537.26	712.90	669.98	42.92	16.611		
5,800.00	5,757.26	5,822.27	5,772.77	21.57	21.79	-95.60	-641.99	-528.22	712.10	668.77	43.34	16.432		
5,850.00	5,806.44	5,868.79	5,818.40	21.78	21.99	-96.97	-641.08	-519.18	711.78	668.02	43.75	16.269		
5,859.74	5,816.02	5,877.86	5,827.29	21.82	22.03	-97.24	-640.91	-517.42	711.77	667.93	43.83	16.238 CC		
5,900.00	5,855.62	5,915.32	5,864.03	21.99	22.19	-98.34	-640.17	-510.15	711.92	667.76	44.16	16.120 ES		
5,950.00	5,904.80	5,961.84	5,909.66	22.20	22.39	-99.71	-639.26	-501.11	712.53	667.96	44.57	15.986		
6,000.00	5,953.98	6,008.37	5,955.29	22.41	22.59	-101.08	-638.35	-492.07	713.62	668.64	44.98	15.867		
6,050.00	6,003.16	6,054.89	6,000.92	22.62	22.79	-102.45	-637.44	-483.04	715.17	669.80	45.38	15.761		
6,100.00	6,052.34	6,101.41	6,046.55	22.83	22.99	-103.80	-636.53	-474.00	717.19	671.42	45.77	15.669		
6,150.00	6,101.52	6,147.94	6,092.18	23.04	23.20	-105.15	-635.62	-464.96	719.67	673.50	46.16	15.590		
6,200.00	6,150.70	6,205.54	6,137.80	23.26	23.44	-106.49	-634.71	-455.92	722.60	676.00	46.60	15.507		
6,250.00	6,199.88	6,240.99	6,183.43	23.47	23.60	-107.83	-633.79	-446.89	725.98	679.05	46.93	15.468		
6,300.00	6,249.06	6,287.51	6,229.06	23.68	23.80	-109.15	-632.88	-437.85	729.81	682.50	47.31	15.426		
6,350.00	6,298.25	6,334.03	6,274.69	23.89	24.00	-110.45	-631.97	-428.81	734.08	686.39	47.69	15.394		
6,400.00	6,347.43	6,380.56	6,320.32	24.11	24.21	-111.75	-631.06	-419.78	738.77	690.72	48.06	15.373		
6,450.00	6,396.61	6,427.08	6,365.95	24.32	24.41	-113.02	-630.15	-410.74	743.89	695.47	48.42	15.363		
6,500.00	6,445.79	6,473.61	6,411.58	24.53	24.61	-114.29	-629.24	-401.70	749.42	700.64	48.78	15.363 SF		
6,550.00	6,494.97	6,520.13	6,457.21	24.74	24.81	-115.53	-628.33	-392.66	755.35	706.21	49.14	15.372		
6,600.00	6,544.15	6,566.66	6,502.83	24.96	25.02	-116.76	-627.42	-383.63	761.68	712.19	49.49	15.390		
6,650.00	6,593.33	6,613.18	6,548.46	25.17	25.22	-117.97	-626.51	-374.59	768.39	718.55	49.84	15.416		
6,700.00	6,642.51	6,659.70	6,594.09	25.38	25.42	-119.16	-625.60	-365.55	775.48	725.29	50.19	15.451		
6,750.00	6,691.69	6,706.23	6,639.72	25.60	25.63	-120.33	-624.68	-356.52	782.93	732.40	50.53	15.494		
6,800.00	6,740.87	6,752.75	6,685.35	25.81	25.83	-121.48	-623.77	-347.48	790.74	739.86	50.87	15.543		
6,850.00	6,790.05	6,800.73	6,730.98	26.02	26.04	-122.61	-622.86	-338.44	798.88	747.67	51.22	15.598		
6,900.00	6,839.23	6,845.80	6,776.61	26.24	26.24	-123.72	-621.95	-329.40	807.37	755.82	51.55	15.663		
6,950.00	6,888.41	6,907.68	6,822.24	26.45	26.51	-124.81	-621.04	-320.37	816.17	764.23	51.94	15.713		
7,000.00	6,937.59	6,938.85	6,867.86	26.67	26.65	-125.88	-620.13	-311.33	825.29	773.08	52.21	15.808		
7,050.00	6,986.77	6,985.37	6,913.49	26.88	26.85	-126.92	-619.22	-302.29	834.71	782.18	52.54	15.888		
7,100.00	7,035.95	7,031.90	6,959.12	27.10	27.06	-127.95	-618.31	-293.26	844.43	791.56	52.86	15.974		
7,150.00	7,085.13	7,078.42	7,004.75	27.31	27.26	-128.95	-617.40	-284.22	854.42	801.23	53.19	16.064		
7,200.00	7,134.31	7,124.94	7,050.38	27.52	27.47	-129.93	-616.49	-275.18	864.89	811.18	53.51	16.159		
7,250.00	7,183.49	7,171.47	7,096.01	27.74	27.67	-130.90	-615.57	-266.14	875.22	821.39	53.83	16.258		
7,300.00	7,232.68	7,217.99	7,141.64	27.95	27.88	-131.84	-614.66	-257.11	886.00	831.85	54.16	16.360		
7,350.00	7,281.86	7,264.52	7,187.27	28.17	28.08	-132.75	-613.75	-248.07	897.03	842.56	54.48	16.467		
7,400.00	7,331.04	7,311.04	7,232.89	28.38	28.29	-133.65	-612.84	-239.03	908.30	853.50	54.80	16.576		
7,450.00	7,380.22	7,357.56	7,278.52	28.60	28.49	-134.53	-611.93	-230.00	919.79	864.67	55.11	16.689		
7,500.00	7,429.40	7,404.09	7,324.15	28.81	28.70	-135.39	-611.02	-220.96	931.50	876.06	55.43	16.804		
7,550.00	7,478.58	7,450.61	7,369.78	29.03	28.90	-136.23	-610.11	-211.92	943.42	887.67	55.75	16.922		
7,600.00	7,527.76	7,502.86	7,415.41	29.24	29.13	-137.05	-609.20	-202.88	955.54	899.45	56.09	17.035		
7,650.00	7,576.94	7,543.66	7,461.04	29.46	29.31	-137.85	-608.29	-193.85	967.86	911.47	56.39	17.165		
7,700.00	7,626.12	7,609.82	7,506.67	29.68	29.61	-138.63	-607.38	-184.81	980.36	923.57	56.79	17.264		

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

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Van Doo Dah 21-33 Fed Com 233H
Project:	Lea County (NAD83 New Mexico East)	TVD Reference:	RKB @ 3415.20ft
Reference Site:	Sec 21-T25S-R32E	MD Reference:	RKB @ 3415.20ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Van Doo Dah 21-33 Fed Com 233H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 2	Offset TVD Reference:	Offset Datum

Offset Design Sec 28-T25S-R32E - Marwari 21-16 Fed Com 232H (28-33) - Wellbore #1 - Permit Plan 1														Offset Site Error:	0.00 ft
Survey Program: 0-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		
7,750.00	7,675.30	7,636.71	7,552.30	29.89	29.72	-139.39	-606.46	-175.77	993.05	936.02	57.02	17.415			
7,800.00	7,724.48	7,683.23	7,597.92	30.11	29.93	-140.14	-605.55	-168.74	1,005.91	948.58	57.34	17.543			
7,850.00	7,773.66	7,729.76	7,643.55	30.32	30.14	-140.87	-604.64	-157.70	1,018.93	961.27	57.66	17.672			
7,900.00	7,822.84	7,776.28	7,689.18	30.54	30.34	-141.58	-603.73	-148.66	1,032.12	974.14	57.98	17.802			
7,950.00	7,872.02	7,822.80	7,734.81	30.75	30.55	-142.27	-602.82	-139.62	1,045.46	987.16	58.30	17.934			
8,000.00	7,921.20	7,869.33	7,780.44	30.97	30.75	-142.95	-601.91	-130.59	1,058.95	1,000.33	58.61	18.066			
8,050.00	7,970.38	7,915.85	7,826.07	31.19	30.96	-143.61	-601.00	-121.55	1,072.58	1,013.65	58.93	18.200			
8,100.00	8,019.56	7,962.38	7,871.70	31.40	31.17	-144.25	-600.09	-112.51	1,086.35	1,027.10	59.25	18.334			
8,150.00	8,068.74	8,008.90	7,917.33	31.62	31.37	-144.88	-599.18	-103.48	1,100.26	1,040.68	59.57	18.469			
8,200.00	8,117.93	8,055.42	7,962.96	31.83	31.58	-145.50	-598.27	-94.44	1,114.29	1,054.39	59.90	18.604			
8,250.00	8,167.11	8,101.95	8,008.58	32.05	31.79	-146.10	-597.35	-85.40	1,128.44	1,068.22	60.22	18.740			
8,300.00	8,216.29	8,148.47	8,054.21	32.27	31.99	-146.69	-596.44	-76.36	1,142.71	1,082.17	60.54	18.876			
8,350.00	8,265.47	8,205.00	8,099.84	32.48	32.24	-147.26	-595.53	-67.33	1,157.10	1,096.20	60.90	18.999			
8,400.00	8,314.65	8,241.52	8,145.47	32.70	32.41	-147.82	-594.62	-58.29	1,171.59	1,110.41	61.18	19.149			
8,450.00	8,363.83	8,288.04	8,191.10	32.92	32.61	-148.37	-593.71	-49.25	1,186.20	1,124.69	61.51	19.285			
8,500.00	8,413.01	8,334.57	8,236.73	33.13	32.82	-148.90	-592.80	-40.22	1,200.90	1,139.07	61.83	19.422			
8,550.00	8,462.19	8,381.09	8,282.36	33.35	33.03	-149.42	-591.89	-31.18	1,215.70	1,153.54	62.16	19.559			
8,600.00	8,511.37	8,427.62	8,327.99	33.57	33.23	-149.93	-590.98	-22.14	1,230.60	1,168.12	62.48	19.695			
8,650.00	8,560.55	8,474.14	8,373.61	33.78	33.44	-150.43	-590.07	-13.10	1,245.58	1,182.78	62.81	19.832			
8,700.00	8,609.73	8,520.66	8,419.24	34.00	33.65	-150.92	-589.16	-4.07	1,260.66	1,197.53	63.13	19.968			
8,750.00	8,658.91	8,567.19	8,464.87	34.22	33.85	-151.39	-588.24	4.97	1,275.82	1,212.36	63.46	20.104			
8,800.00	8,708.09	8,613.71	8,510.50	34.43	34.06	-151.86	-587.33	14.01	1,291.06	1,227.27	63.79	20.239			
8,850.00	8,757.27	8,660.24	8,556.13	34.65	34.27	-152.31	-586.42	23.05	1,306.38	1,242.26	64.12	20.374			
8,900.00	8,806.45	8,706.76	8,601.76	34.87	34.48	-152.76	-585.51	32.08	1,321.78	1,257.33	64.45	20.509			
8,950.00	8,855.63	8,753.28	8,647.39	35.09	34.68	-153.19	-584.60	41.12	1,337.25	1,272.47	64.78	20.644			
9,000.00	8,904.81	8,800.19	8,693.02	35.30	34.89	-153.62	-583.69	50.16	1,352.79	1,287.68	65.11	20.777			
9,050.00	8,953.99	8,846.33	8,738.64	35.52	35.10	-154.03	-582.78	59.19	1,368.40	1,302.97	65.44	20.911			
9,100.00	9,003.17	8,892.86	8,784.27	35.74	35.31	-154.44	-581.87	68.23	1,384.08	1,318.31	65.77	21.044			
9,150.00	9,052.39	8,939.45	8,829.97	35.95	35.51	-154.92	-580.96	77.28	1,399.64	1,333.54	66.10	21.174			
9,200.00	9,101.72	8,986.28	8,875.90	36.17	35.72	-155.39	-580.04	86.38	1,414.72	1,348.28	66.44	21.294			
9,250.00	9,151.15	9,033.33	8,922.04	36.37	35.93	-155.85	-579.12	95.52	1,429.27	1,362.50	66.77	21.406			
9,300.00	9,200.67	9,086.02	8,973.72	36.58	36.17	-156.31	-578.09	105.71	1,443.28	1,376.13	67.16	21.491			
9,350.00	9,250.28	9,154.80	9,041.36	36.77	36.47	-156.84	-576.83	118.15	1,456.26	1,388.58	67.68	21.516			
9,400.00	9,299.97	9,224.61	9,110.22	36.97	36.76	-157.30	-575.69	129.54	1,467.99	1,399.78	68.21	21.523			
9,450.00	9,349.72	9,295.34	9,180.20	37.16	37.05	-157.71	-574.65	139.80	1,478.44	1,409.71	68.72	21.513			
9,500.00	9,399.54	9,366.89	9,251.17	37.34	37.34	-158.06	-573.74	148.86	1,487.57	1,418.34	69.23	21.487			
9,550.00	9,449.40	9,439.16	9,323.01	37.52	37.61	-158.36	-572.95	156.67	1,495.37	1,425.64	69.73	21.445			

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

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Van Doo Dah 21-33 Fed Com 233H
Project:	Lea County (NAD83 New Mexico East)	TVD Reference:	RKB @ 3415.20ft
Reference Site:	Sec 21-T25S-R32E	MD Reference:	RKB @ 3415.20ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Van Doo Dah 21-33 Fed Com 233H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 2	Offset TVD Reference:	Offset Datum

Offset Design Sec 28-T25S-R32E - Marwari 21-16 Fed Com 232H (28-33) - Wellbore #1 - Sperry Plan 2													Offset Site Error:	0.00 ft
Survey Program: 0-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	4.90	-4.90	0.50	0.50	-123.18	-696.06	-1,064.57	1,271.93					
50.00	50.00	45.10	45.10	0.50	0.50	-123.18	-696.06	-1,064.57	1,271.93	1,270.93	1.00	1,265.756		
100.00	100.00	104.90	95.10	0.52	0.52	-123.18	-696.06	-1,064.57	1,271.93	1,270.90	1.04	1,227.476		
150.00	150.00	145.10	145.10	0.59	0.57	-123.18	-696.06	-1,064.57	1,271.93	1,270.77	1.16	1,092.840		
200.00	200.00	204.90	195.10	0.70	0.70	-123.18	-696.06	-1,064.57	1,271.93	1,270.53	1.41	904.584		
250.00	250.00	245.10	245.10	0.84	0.81	-123.18	-696.06	-1,064.57	1,271.93	1,270.28	1.65	771.046		
300.00	300.00	304.90	295.10	0.99	0.99	-123.18	-696.06	-1,064.57	1,271.93	1,269.96	1.98	643.369		
350.00	350.00	345.10	345.10	1.15	1.12	-123.18	-696.06	-1,064.57	1,271.93	1,269.67	2.26	562.335		
400.00	400.00	404.90	395.10	1.31	1.31	-123.18	-696.06	-1,064.57	1,271.93	1,269.31	2.62	485.348		
450.00	450.00	445.10	445.10	1.48	1.45	-123.18	-696.06	-1,064.57	1,271.93	1,269.01	2.92	435.271		
500.00	500.00	504.90	495.10	1.65	1.65	-123.18	-696.06	-1,064.57	1,271.93	1,268.64	3.29	386.050		
550.00	550.00	545.10	545.10	1.82	1.79	-123.18	-696.06	-1,064.57	1,271.93	1,268.33	3.60	352.906		
600.00	600.00	604.90	595.10	1.99	1.99	-123.18	-696.06	-1,064.57	1,271.93	1,267.95	3.98	319.276		
650.00	650.00	645.10	645.10	2.16	2.13	-123.18	-696.06	-1,064.57	1,271.93	1,267.84	4.30	295.966		
700.00	700.00	704.90	695.10	2.34	2.34	-123.18	-696.06	-1,064.57	1,271.93	1,267.25	4.68	271.708		
750.00	750.00	745.10	745.10	2.51	2.48	-123.18	-696.06	-1,064.57	1,271.93	1,266.94	5.00	254.508		
800.00	800.00	804.90	795.10	2.69	2.69	-123.18	-696.06	-1,064.57	1,271.93	1,266.55	5.38	236.251		
850.00	850.00	845.10	845.10	2.87	2.84	-123.18	-696.06	-1,064.57	1,271.93	1,266.23	5.70	223.073		
900.00	900.00	904.90	895.10	3.04	3.05	-123.18	-696.06	-1,064.57	1,271.93	1,265.84	6.09	208.865		
950.00	950.00	945.10	945.10	3.22	3.19	-123.18	-696.06	-1,064.57	1,271.93	1,265.52	6.41	198.463		
1,000.00	1,000.00	1,004.90	995.10	3.40	3.40	-123.18	-696.06	-1,064.57	1,271.93	1,265.14	6.80	187.105		
1,050.00	1,050.00	1,045.10	1,045.10	3.57	3.54	-123.18	-696.06	-1,064.57	1,271.93	1,264.82	7.12	178.693		
1,100.00	1,100.00	1,104.90	1,095.10	3.75	3.76	-123.18	-696.06	-1,064.57	1,271.93	1,264.43	7.51	169.413		
1,150.00	1,150.00	1,145.10	1,145.10	3.93	3.90	-123.18	-696.06	-1,064.57	1,271.93	1,264.11	7.83	162.476		
1,200.00	1,200.00	1,204.90	1,195.10	4.11	4.11	-123.18	-696.06	-1,064.57	1,271.93	1,263.71	8.22	154.756		
1,250.00	1,250.00	1,245.10	1,245.10	4.29	4.25	-123.18	-696.06	-1,064.57	1,271.93	1,263.39	8.54	148.938		
1,300.00	1,300.00	1,304.90	1,295.10	4.46	4.47	-123.18	-696.06	-1,064.57	1,271.93	1,263.00	8.93	142.418		
1,350.00	1,350.00	1,345.10	1,345.10	4.64	4.61	-123.18	-696.06	-1,064.57	1,271.93	1,262.68	9.25	137.471		
1,400.00	1,400.00	1,404.90	1,395.10	4.82	4.82	-123.18	-696.06	-1,064.57	1,271.93	1,262.29	9.64	131.891		
1,450.00	1,450.00	1,445.10	1,445.10	5.00	4.97	-123.18	-696.06	-1,064.57	1,271.93	1,261.97	9.97	127.634		
1,500.00	1,500.00	1,504.90	1,495.10	5.18	5.18	-123.18	-696.06	-1,064.57	1,271.93	1,261.58	10.36	122.807		
1,550.00	1,550.00	1,545.10	1,545.10	5.36	5.32	-123.18	-696.06	-1,064.57	1,271.93	1,261.25	10.68	119.106		
1,600.00	1,600.00	1,604.90	1,595.10	5.53	5.54	-123.18	-696.06	-1,064.57	1,271.93	1,260.86	11.07	114.889		
1,650.00	1,650.00	1,645.10	1,645.10	5.71	5.68	-123.18	-696.06	-1,064.57	1,271.93	1,260.54	11.39	111.642		
1,700.00	1,700.00	1,704.90	1,695.10	5.89	5.89	-123.18	-696.06	-1,064.57	1,271.93	1,260.15	11.79	107.927		
1,750.00	1,750.00	1,745.10	1,745.10	6.07	6.04	-123.18	-696.06	-1,064.57	1,271.93	1,259.83	12.11	105.055		
1,800.00	1,800.00	1,804.90	1,795.10	6.25	6.25	-123.18	-696.06	-1,064.57	1,271.93	1,259.43	12.50	101.758		
1,850.00	1,850.00	1,845.10	1,845.10	6.43	6.40	-123.18	-696.06	-1,064.57	1,271.93	1,259.11	12.82	99.200		
1,900.00	1,900.00	1,904.90	1,895.10	6.61	6.61	-123.18	-696.06	-1,064.57	1,271.93	1,258.72	13.21	96.254		
1,950.00	1,950.00	1,945.10	1,945.10	6.78	6.75	-123.18	-696.06	-1,064.57	1,271.93	1,258.40	13.54	93.961		
2,000.00	2,000.00	2,004.90	1,995.10	6.96	6.97	-123.18	-696.06	-1,064.57	1,271.93	1,258.00	13.93	91.313		
2,050.00	2,050.00	2,045.10	2,045.10	7.14	7.11	-123.18	-696.06	-1,064.57	1,271.93	1,257.68	14.25	89.246		
2,100.00	2,100.00	2,095.10	2,095.10	7.32	7.29	-123.18	-696.06	-1,064.57	1,271.93	1,257.32	14.61	87.062		
2,150.00	2,150.00	2,157.95	2,157.95	7.50	7.51	-123.18	-695.91	-1,064.32	1,271.71	1,256.70	15.01	84.724		
2,200.00	2,200.00	2,222.17	2,222.16	7.68	7.74	-123.18	-695.40	-1,063.45	1,270.92	1,255.51	15.41	82.460		
2,250.00	2,250.00	2,286.37	2,286.34	7.86	7.96	-123.19	-694.53	-1,061.96	1,269.58	1,253.76	15.81	80.293		
2,300.00	2,300.00	2,350.52	2,350.44	8.04	8.19	-123.19	-693.30	-1,059.85	1,267.67	1,251.46	16.21	78.206		
2,350.00	2,350.00	2,414.61	2,414.45	8.21	8.41	-123.20	-691.70	-1,057.12	1,265.21	1,248.61	16.61	76.195		
2,400.00	2,400.00	2,478.62	2,478.34	8.39	8.64	-123.21	-689.75	-1,053.78	1,262.19	1,245.19	17.00	74.252		
2,450.00	2,450.00	2,542.53	2,542.09	8.57	8.86	-123.22	-687.44	-1,049.83	1,258.62	1,241.23	17.39	72.373		
2,500.00	2,500.00	2,606.34	2,605.68	8.75	9.09	-123.23	-684.77	-1,045.27	1,254.49	1,236.71	17.78	70.555		
2,550.00	2,550.00	2,669.99	2,669.05	8.93	9.32	-41.20	-681.76	-1,040.12	1,249.64	1,231.48	18.16	68.799		

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

Anticollision Report

Company: WCDSC Permian NM
 Project: Lea County (NAD83 New Mexico East)
 Reference Site: Sec 21-T25S-R32E
 Site Error: 0.00 ft
 Reference Well: Van Doo Dah 21-33 Fed Com 233H
 Well Error: 0.50 ft
 Reference Wellbore: Wellbore #1
 Reference Design: Permit Plan 2

Local Co-ordinate Reference: Well Van Doo Dah 21-33 Fed Com 233H
 TVD Reference: RKB @ 3415.20ft
 MD Reference: RKB @ 3415.20ft
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Output errors are at: 2.00 sigma
 Database: EDM r5000.141_Prod US
 Offset TVD Reference: Offset Datum

Offset Design Sec 28-T25S-R32E - Marwari 21-16 Fed Com 232H (28-33) - Wellbore #1 - Sperry Plan 2														Offset Site Error: 0.00 ft
Survey Program: 0-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		
2,600.00	2,599.99	2,733.45	2,732.16	9.10	9.54	-41.28	-678.40	-1,034.38	1,243.92	1,225.37	18.54	67.077		
2,650.00	2,649.98	2,796.67	2,794.96	9.27	9.77	-41.39	-674.70	-1,028.06	1,237.32	1,218.40	18.92	65.400		
2,700.00	2,699.96	2,859.63	2,857.41	9.45	10.00	-41.52	-670.67	-1,021.17	1,229.86	1,210.56	19.29	63.752		
2,750.00	2,749.92	2,922.29	2,919.47	9.62	10.23	-41.67	-666.31	-1,013.73	1,221.53	1,201.87	19.66	62.131		
2,800.00	2,799.86	2,984.62	2,981.11	9.79	10.45	-41.86	-661.64	-1,005.75	1,212.35	1,192.33	20.03	60.537		
2,850.00	2,849.78	3,046.58	3,042.28	9.97	10.68	-42.07	-656.66	-997.24	1,202.33	1,181.94	20.39	58.965		
2,900.00	2,899.68	3,108.16	3,102.96	10.14	10.91	-42.31	-651.39	-988.21	1,191.47	1,170.72	20.75	57.420		
2,950.00	2,949.54	3,169.31	3,163.11	10.31	11.14	-42.58	-645.82	-978.70	1,179.78	1,158.67	21.11	55.895		
3,000.00	2,999.37	3,230.01	3,222.69	10.49	11.38	-42.88	-639.97	-968.71	1,167.27	1,145.81	21.46	54.392		
3,050.00	3,049.16	3,290.23	3,281.69	10.66	11.61	-43.21	-633.85	-958.25	1,153.96	1,132.15	21.81	52.909		
3,100.00	3,098.90	3,349.95	3,340.05	10.84	11.84	-43.58	-627.48	-947.36	1,139.86	1,117.70	22.16	51.445		
3,150.00	3,148.61	3,409.13	3,397.77	11.02	12.07	-43.98	-620.86	-936.05	1,124.97	1,102.47	22.50	49.999		
3,200.00	3,198.26	3,467.77	3,454.81	11.20	12.31	-44.42	-614.01	-924.33	1,109.33	1,086.49	22.84	48.570		
3,250.00	3,247.86	3,524.29	3,509.67	11.38	12.54	-44.89	-607.12	-912.56	1,092.93	1,069.75	23.18	47.156		
3,300.00	3,297.40	3,571.03	3,554.98	11.56	12.73	-45.34	-601.34	-902.68	1,076.10	1,052.58	23.52	45.758		
3,350.00	3,346.89	3,617.63	3,600.16	11.74	12.92	-45.81	-595.58	-892.83	1,059.01	1,035.15	23.86	44.387		
3,400.00	3,396.30	3,664.08	3,645.20	11.92	13.12	-46.32	-589.83	-883.01	1,041.67	1,017.47	24.20	43.045		
3,450.00	3,445.85	3,710.38	3,690.09	12.10	13.31	-46.86	-584.11	-873.22	1,024.09	999.55	24.54	41.728		
3,500.00	3,494.93	3,756.52	3,734.83	12.29	13.51	-47.43	-578.40	-863.47	1,006.29	981.40	24.89	40.437		
3,550.00	3,544.13	3,802.52	3,779.42	12.47	13.70	-48.01	-572.71	-853.75	988.27	963.04	25.23	39.170		
3,600.00	3,593.32	3,848.47	3,823.97	12.66	13.90	-48.50	-567.02	-844.03	970.23	944.65	25.58	37.935		
3,650.00	3,642.50	3,905.58	3,888.52	12.85	14.14	-49.01	-561.34	-834.32	952.25	926.29	25.96	36.675		
3,700.00	3,691.68	3,940.37	3,913.07	13.04	14.29	-49.54	-555.66	-824.60	934.35	908.08	26.27	35.565		
3,750.00	3,740.86	3,986.31	3,957.62	13.23	14.49	-50.09	-549.97	-814.89	916.52	889.90	26.62	34.426		
3,800.00	3,790.04	4,032.26	4,002.17	13.42	14.69	-50.66	-544.29	-805.18	898.77	871.80	26.98	33.318		
3,850.00	3,839.22	4,078.21	4,046.72	13.62	14.89	-51.25	-538.61	-795.46	881.11	853.78	27.33	32.238		
3,900.00	3,888.40	4,124.16	4,091.27	13.81	15.09	-51.87	-532.92	-785.75	863.53	835.84	27.69	31.188		
3,950.00	3,937.58	4,170.11	4,135.81	14.01	15.30	-52.51	-527.24	-776.04	846.05	818.00	28.05	30.164		
4,000.00	3,986.76	4,216.06	4,180.36	14.20	15.50	-53.17	-521.56	-766.32	828.67	800.26	28.41	29.168		
4,050.00	4,035.94	4,262.01	4,224.91	14.40	15.70	-53.87	-515.87	-756.61	811.39	782.61	28.78	28.198		
4,100.00	4,085.12	4,307.95	4,269.46	14.59	15.91	-54.59	-510.19	-746.89	794.23	765.09	29.14	27.254		
4,150.00	4,134.30	4,353.90	4,314.01	14.79	16.11	-55.34	-504.51	-737.18	777.19	747.67	29.51	26.334		
4,200.00	4,183.48	4,400.15	4,358.56	14.99	16.32	-56.12	-498.82	-727.47	760.28	730.39	29.89	25.439		
4,250.00	4,232.66	4,445.80	4,403.11	15.19	16.53	-56.94	-493.14	-717.75	743.50	713.24	30.26	24.568		
4,300.00	4,281.84	4,508.25	4,447.66	15.39	16.81	-57.79	-487.46	-708.04	726.88	696.17	30.71	23.672		
4,350.00	4,331.02	4,537.70	4,492.21	15.59	16.94	-58.69	-481.77	-698.33	710.41	679.38	31.03	22.897		
4,400.00	4,380.20	4,583.65	4,536.76	15.79	17.15	-59.62	-476.09	-688.61	694.11	662.70	31.41	22.096		
4,450.00	4,429.38	4,629.59	4,581.30	15.99	17.36	-60.59	-470.41	-678.90	678.00	646.19	31.81	21.317		
4,500.00	4,478.57	4,675.54	4,625.85	16.19	17.57	-61.61	-464.72	-669.19	662.07	629.87	32.20	20.561		
4,550.00	4,527.75	4,721.49	4,670.40	16.39	17.78	-62.67	-459.04	-659.47	646.36	613.76	32.60	19.826		
4,600.00	4,576.93	4,767.44	4,714.95	16.59	17.99	-63.78	-453.36	-649.76	630.87	597.87	33.01	19.113		
4,650.00	4,626.11	4,813.39	4,759.50	16.80	18.20	-64.95	-447.67	-640.04	615.63	582.21	33.42	18.421		
4,700.00	4,675.29	4,859.34	4,804.05	17.00	18.41	-66.17	-441.99	-630.33	600.64	566.81	33.84	17.751		
4,750.00	4,724.47	4,905.29	4,848.60	17.21	18.62	-67.44	-436.31	-620.62	585.94	551.68	34.26	17.103		
4,800.00	4,773.65	4,951.23	4,893.15	17.41	18.84	-68.78	-430.62	-610.90	571.54	536.85	34.69	16.476		
4,850.00	4,822.83	5,002.82	4,937.70	17.61	19.08	-70.18	-424.94	-601.19	557.46	522.31	35.15	15.860		
4,900.00	4,872.01	5,043.13	4,982.24	17.82	19.26	-71.64	-419.26	-591.48	543.73	508.16	35.57	15.286		
4,950.00	4,921.19	5,089.08	5,026.79	18.03	19.48	-73.17	-413.57	-581.76	530.38	494.36	36.02	14.724		
5,000.00	4,970.37	5,135.03	5,071.34	18.23	19.69	-74.77	-407.89	-572.05	517.44	480.96	36.48	14.184		
5,050.00	5,019.55	5,180.98	5,115.89	18.44	19.90	-76.45	-402.21	-562.33	504.93	467.99	36.95	13.666		
5,100.00	5,068.73	5,226.92	5,160.44	18.64	20.12	-78.20	-396.52	-552.62	492.90	455.48	37.42	13.171		
5,150.00	5,117.91	5,272.87	5,204.99	18.85	20.33	-80.03	-390.84	-542.91	481.38	443.47	37.90	12.700		

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

Anticollision Report

Company: WCDSC Permian NM
 Project: Lea County (NAD83 New Mexico East)
 Reference Site: Sec 21-T25S-R32E
 Site Error: 0.00 ft
 Reference Well: Van Doo Dah 21-33 Fed Com 233H
 Well Error: 0.50 ft
 Reference Wellbore: Wellbore #1
 Reference Design: Permit Plan 2

Local Co-ordinate Reference: Well Van Doo Dah 21-33 Fed Com 233H
 TVD Reference: RKB @ 3415.20ft
 MD Reference: RKB @ 3415.20ft
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Output errors are at: 2.00 sigma
 Database: EDM r5000.141_Prod US
 Offset TVD Reference: Offset Datum

Offset Design Sec 28-T25S-R32E - Marwari 21-16 Fed Com 232H (28-33) - Wellbore #1 - Sperry Plan 2														Offset Site Error: 0.00 ft
Survey Program: 0-MWD+HDGM														Offset Well Error: 0.50 ft
Reference		Offset		Semi Major Axis		Distance		Minimum Separation		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)	Separation Factor	Warning	
5,200.00	5,167.09	5,318.82	5,249.54	19.06	20.55	-81.93	-385.15	-533.19	470.40	432.00	38.39	12.252		
5,250.00	5,216.27	5,384.77	5,294.09	19.27	20.77	-83.91	-379.47	-523.48	460.00	421.11	38.89	11.827		
5,300.00	5,265.45	5,410.72	5,338.64	19.47	20.98	-85.97	-373.79	-513.77	450.22	410.83	39.40	11.428		
5,350.00	5,314.63	5,456.67	5,383.19	19.68	21.20	-88.11	-368.10	-504.05	441.12	401.21	39.91	11.054		
5,400.00	5,363.81	5,502.62	5,427.73	19.89	21.41	-90.32	-362.42	-494.34	432.71	392.29	40.42	10.706		
5,450.00	5,413.00	5,548.56	5,472.28	20.10	21.63	-92.61	-356.74	-484.62	425.06	384.13	40.94	10.383		
5,500.00	5,462.18	5,605.49	5,516.83	20.31	21.90	-94.96	-351.05	-474.91	418.20	376.70	41.50	10.076		
5,550.00	5,511.36	5,640.46	5,561.38	20.52	22.07	-97.37	-345.37	-465.20	412.17	370.20	41.97	9.821		
5,600.00	5,560.54	5,686.41	5,605.93	20.73	22.28	-99.85	-339.69	-455.48	407.00	364.52	42.48	9.581		
5,650.00	5,609.72	5,732.36	5,650.48	20.94	22.50	-102.37	-334.00	-445.77	402.74	359.75	42.99	9.368		
5,700.00	5,658.90	5,778.31	5,695.03	21.15	22.72	-104.93	-328.32	-436.06	399.40	355.91	43.49	9.185		
5,750.00	5,708.08	5,824.26	5,739.58	21.36	22.94	-107.53	-322.64	-426.34	397.01	353.04	43.97	9.029		
5,800.00	5,757.26	5,870.20	5,784.13	21.57	23.16	-110.14	-316.95	-416.63	395.60	351.15	44.45	8.901		
5,847.15	5,803.63	5,913.53	5,826.13	21.76	23.36	-112.62	-311.59	-407.47	395.16	350.28	44.88	8.805 CC		
5,850.00	5,806.44	5,916.15	5,828.68	21.78	23.37	-112.77	-311.27	-406.92	395.16	350.26	44.90	8.800 ES		
5,900.00	5,855.62	5,962.10	5,873.22	21.99	23.59	-115.39	-305.59	-397.20	395.71	350.36	45.35	8.727		
5,950.00	5,904.80	6,008.05	5,917.77	22.20	23.81	-118.00	-299.90	-387.49	397.24	351.47	45.77	8.679		
6,000.00	5,953.98	6,054.00	5,962.32	22.41	24.03	-120.60	-294.22	-377.77	399.73	353.56	46.17	8.657 SF		
6,050.00	6,003.16	6,100.05	6,006.87	22.62	24.25	-123.15	-288.54	-368.06	403.18	356.61	46.56	8.659		
6,100.00	6,052.34	6,145.90	6,051.42	22.83	24.47	-125.67	-282.85	-358.35	407.55	360.62	46.93	8.684		
6,150.00	6,101.52	6,208.16	6,095.97	23.04	24.77	-128.14	-277.17	-348.63	412.81	365.45	47.36	8.716		
6,200.00	6,150.70	6,237.79	6,140.52	23.26	24.91	-130.55	-271.49	-338.92	418.94	371.32	47.62	8.798		
6,250.00	6,199.88	6,283.74	6,185.07	23.47	25.13	-132.89	-265.80	-329.21	425.90	377.95	47.94	8.884		
6,300.00	6,249.06	6,329.69	6,229.62	23.68	25.35	-135.17	-260.12	-319.49	433.64	385.38	48.25	8.987		
6,350.00	6,298.25	6,375.64	6,274.16	23.89	25.57	-137.37	-254.44	-309.78	442.12	393.57	48.55	9.106		
6,400.00	6,347.43	6,421.59	6,318.71	24.11	25.79	-139.50	-248.75	-300.06	451.31	402.46	48.84	9.240		
6,450.00	6,396.61	6,467.53	6,363.26	24.32	26.02	-141.55	-243.07	-290.35	461.15	412.03	49.13	9.387		
6,500.00	6,445.79	6,513.48	6,407.81	24.53	26.24	-143.52	-237.39	-280.64	471.62	422.21	49.41	9.546		
6,550.00	6,494.97	6,559.43	6,452.36	24.74	26.46	-145.42	-231.70	-270.92	482.67	432.98	49.68	9.715		
6,600.00	6,544.15	6,605.38	6,498.91	24.96	26.68	-147.24	-226.02	-261.21	494.25	444.30	49.95	9.894		
6,650.00	6,593.33	6,651.33	6,541.46	25.17	26.90	-148.98	-220.34	-251.50	506.34	456.11	50.23	10.081		
6,700.00	6,642.51	6,697.28	6,586.01	25.38	27.12	-150.65	-214.65	-241.78	518.89	468.40	50.50	10.276		
6,750.00	6,691.69	6,743.23	6,630.56	25.60	27.35	-152.24	-208.97	-232.07	531.88	481.12	50.77	10.477		
6,800.00	6,740.87	6,789.17	6,675.11	25.81	27.57	-153.76	-203.29	-222.36	545.28	494.24	51.04	10.683		
6,850.00	6,790.05	6,835.12	6,719.65	26.02	27.79	-155.22	-197.60	-212.64	559.05	507.73	51.31	10.895		
6,900.00	6,839.23	6,881.07	6,764.20	26.24	28.01	-156.61	-191.92	-202.93	573.16	521.57	51.59	11.110		
6,950.00	6,888.41	6,927.02	6,808.75	26.45	28.23	-157.94	-186.23	-193.21	587.60	535.73	51.87	11.329		
7,000.00	6,937.59	6,972.97	6,853.30	26.67	28.46	-159.21	-180.55	-183.50	602.34	550.19	52.15	11.551		
7,050.00	6,986.77	7,018.92	6,897.85	26.88	28.68	-160.42	-174.87	-173.79	617.36	564.92	52.43	11.775		
7,100.00	7,035.95	7,064.87	6,942.40	27.10	28.90	-161.58	-169.18	-164.07	632.63	579.91	52.72	12.000		
7,150.00	7,085.13	7,110.81	6,986.95	27.31	29.13	-162.69	-163.50	-154.36	648.14	595.14	53.01	12.228		
7,200.00	7,134.31	7,156.78	7,031.50	27.52	29.35	-163.75	-157.82	-144.65	663.88	610.58	53.30	12.456		
7,250.00	7,183.49	7,202.71	7,076.05	27.74	29.57	-164.76	-152.13	-134.93	679.83	626.23	53.59	12.685		
7,300.00	7,232.68	7,248.66	7,120.60	27.95	29.79	-165.73	-146.45	-125.22	695.96	642.07	53.89	12.915		
7,350.00	7,281.86	7,294.61	7,165.14	28.17	30.02	-166.65	-140.77	-115.50	712.28	658.09	54.19	13.144		
7,400.00	7,331.04	7,340.56	7,209.69	28.38	30.24	-167.54	-135.08	-105.79	728.77	674.27	54.49	13.374		
7,450.00	7,380.22	7,386.51	7,254.24	28.60	30.47	-168.39	-129.40	-96.08	745.41	690.61	54.80	13.603		
7,500.00	7,429.40	7,432.45	7,298.79	28.81	30.69	-169.20	-123.72	-86.36	762.20	707.09	55.11	13.832		
7,550.00	7,478.58	7,478.40	7,343.34	29.03	30.91	-169.98	-118.03	-76.65	779.13	723.71	55.42	14.060		
7,600.00	7,527.76	7,524.35	7,387.89	29.24	31.14	-170.73	-112.35	-66.94	796.18	740.45	55.73	14.287		
7,650.00	7,576.94	7,570.30	7,432.44	29.46	31.36	-171.45	-106.67	-57.22	813.36	757.31	56.04	14.513		
7,700.00	7,626.12	7,616.25	7,476.99	29.68	31.58	-172.14	-100.98	-47.51	830.64	774.28	56.36	14.738		

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

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Van Doo Dah 21-33 Fed Com 233H
Project:	Lea County (NAD83 New Mexico East)	TVD Reference:	RKB @ 3415.20ft
Reference Site:	Sec 21-T25S-R32E	MD Reference:	RKB @ 3415.20ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Van Doo Dah 21-33 Fed Com 233H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 2	Offset TVD Reference:	Offset Datum

Offset Design Sec 28-T25S-R32E - Marwari 21-16 Fed Com 232H (28-33) - Wellbore #1 - Sperry Plan 2														Offset Site Error:	0.00 ft
Survey Program: 0-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		
7,750.00	7,675.30	7,662.20	7,521.54	29.89	31.81	-172.80	-95.30	-37.80	848.04	791.36	56.68	14.962			
7,800.00	7,724.48	7,713.54	7,571.35	30.11	32.06	-173.50	-89.02	-27.06	865.45	808.38	57.07	15.165			
7,850.00	7,773.66	7,769.02	7,625.34	30.32	32.32	-174.20	-82.59	-16.07	882.50	824.99	57.51	15.346			
7,900.00	7,822.84	7,825.12	7,680.13	30.54	32.58	-174.83	-76.49	-5.65	899.13	841.18	57.95	15.516			
7,950.00	7,872.02	7,881.83	7,735.69	30.75	32.84	-175.41	-70.74	4.18	915.32	856.93	58.39	15.676			
8,000.00	7,921.20	7,939.15	7,792.00	30.97	33.09	-175.93	-65.35	13.39	931.04	872.21	58.83	15.825			
8,050.00	7,970.38	7,997.04	7,849.04	31.19	33.34	-176.40	-60.34	21.96	946.27	887.00	59.28	15.964			
8,100.00	8,019.56	8,055.50	7,906.77	31.40	33.58	-176.82	-55.72	29.84	961.00	901.28	59.72	16.093			
8,150.00	8,068.74	8,114.50	7,965.18	31.62	33.82	-177.19	-51.52	37.03	975.20	915.04	60.16	16.211			
8,200.00	8,117.93	8,174.02	8,024.23	31.83	34.05	-177.52	-47.74	43.49	988.86	928.27	60.59	16.321			
8,250.00	8,167.11	8,234.04	8,083.89	32.05	34.28	-177.80	-44.40	49.20	1,001.97	940.95	61.02	16.421			
8,300.00	8,216.29	8,294.54	8,144.12	32.27	34.50	-178.04	-41.51	54.13	1,014.51	953.06	61.44	16.511			
8,350.00	8,265.47	8,355.49	8,204.88	32.48	34.71	-178.24	-39.09	58.27	1,026.47	964.61	61.86	16.593			
8,400.00	8,314.65	8,416.87	8,266.13	32.70	34.93	-178.40	-37.15	61.60	1,037.84	975.56	62.28	16.665			
8,450.00	8,363.83	8,478.64	8,327.84	32.92	35.13	-178.52	-35.69	64.08	1,048.61	985.92	62.68	16.728			
8,500.00	8,413.01	8,540.78	8,389.95	33.13	35.33	-178.60	-34.74	65.71	1,058.77	995.69	63.08	16.784			
8,550.00	8,462.19	8,603.26	8,452.42	33.35	35.52	-178.65	-34.30	66.47	1,068.32	1,004.84	63.48	16.830			
8,600.00	8,511.37	8,657.31	8,506.47	33.57	35.69	-178.66	-34.26	66.53	1,077.37	1,013.53	63.84	16.877			
8,650.00	8,560.55	8,706.49	8,565.65	33.78	35.83	-178.67	-34.26	66.53	1,086.38	1,022.20	64.18	16.928			
8,700.00	8,609.73	8,755.67	8,604.83	34.00	35.98	-178.68	-34.26	66.53	1,095.39	1,030.87	64.52	16.978			
8,750.00	8,658.91	8,804.85	8,654.01	34.22	36.13	-178.69	-34.26	66.53	1,104.41	1,039.55	64.86	17.027			
8,800.00	8,708.09	8,854.03	8,703.19	34.43	36.28	-178.70	-34.26	66.53	1,113.42	1,048.22	65.20	17.076			
8,850.00	8,757.27	8,903.21	8,752.37	34.65	36.43	-178.71	-34.26	66.53	1,122.43	1,056.89	65.55	17.124			
8,900.00	8,806.45	8,952.39	8,801.55	34.87	36.58	-178.72	-34.26	66.53	1,131.45	1,065.56	65.89	17.172			
8,950.00	8,855.63	9,001.57	8,850.73	35.09	36.73	-178.73	-34.26	66.53	1,140.46	1,074.23	66.23	17.219			
9,000.00	8,904.81	9,050.75	8,899.91	35.30	36.87	-178.74	-34.26	66.53	1,149.47	1,082.90	66.58	17.265			
9,050.00	8,953.99	9,100.07	8,949.09	35.52	37.02	-178.75	-34.26	66.53	1,158.49	1,091.56	66.92	17.311			
9,100.00	9,003.17	9,149.11	8,998.27	35.74	37.17	-178.76	-34.26	66.53	1,167.50	1,100.23	67.26	17.357			
9,150.00	9,052.35	9,201.67	9,047.49	35.95	37.33	-178.78	-34.26	66.53	1,176.31	1,108.69	67.62	17.396			
9,200.00	9,101.72	9,247.66	9,096.82	36.17	37.47	-178.79	-34.26	66.53	1,184.49	1,116.54	67.95	17.431			
9,250.00	9,151.15	9,302.91	9,146.25	36.37	37.64	-178.80	-34.26	66.53	1,192.02	1,123.71	68.31	17.449			
9,300.00	9,200.67	9,346.61	9,195.77	36.58	37.78	-178.81	-34.26	66.53	1,198.91	1,130.27	68.64	17.467			
9,350.00	9,250.28	9,403.78	9,245.38	36.77	37.95	-178.81	-34.26	66.53	1,205.14	1,136.14	69.01	17.464			
9,400.00	9,299.97	9,445.90	9,295.07	36.97	38.08	-178.82	-34.26	66.53	1,210.73	1,141.40	69.32	17.465			
9,450.00	9,349.72	9,504.34	9,344.82	37.16	38.26	-178.83	-34.26	66.53	1,215.66	1,145.97	69.69	17.443			
9,500.00	9,399.54	9,545.48	9,394.64	37.34	38.39	-178.83	-34.26	66.53	1,219.95	1,149.94	70.01	17.426			
9,550.00	9,449.40	9,604.66	9,444.50	37.52	38.57	-178.84	-34.26	66.53	1,223.58	1,153.20	70.38	17.386			
9,600.00	9,499.31	9,645.25	9,494.41	37.70	38.70	-178.84	-34.26	66.53	1,226.56	1,155.87	70.69	17.352			
9,650.00	9,549.26	9,704.80	9,544.36	37.87	38.88	-178.84	-34.26	66.53	1,228.89	1,157.83	71.06	17.294			
9,700.00	9,599.23	9,745.17	9,594.33	38.05	39.01	-178.85	-34.26	66.53	1,230.56	1,159.19	71.37	17.243			
9,750.00	9,649.22	9,804.84	9,644.32	38.21	39.19	-178.85	-34.26	66.53	1,231.58	1,159.84	71.73	17.169			
9,800.00	9,699.22	9,845.16	9,694.32	38.37	39.32	-178.85	-34.26	66.53	1,231.94	1,159.91	72.03	17.102			
9,850.00	9,749.22	9,904.84	9,744.32	38.53	39.50	99.07	-34.26	66.53	1,231.94	1,159.54	72.40	17.016			
9,900.00	9,799.22	9,945.16	9,794.32	38.69	39.63	99.07	-34.26	66.53	1,231.94	1,159.24	72.70	16.946			
9,950.00	9,849.22	10,004.84	9,844.32	38.85	39.81	99.07	-34.26	66.53	1,231.94	1,158.88	73.06	16.862			
10,000.00	9,899.22	10,045.16	9,894.32	39.00	39.94	99.07	-34.26	66.53	1,231.94	1,158.58	73.36	16.792			
10,050.00	9,949.22	10,095.16	9,944.32	39.16	40.10	99.07	-34.26	66.53	1,231.94	1,158.25	73.70	16.717			
10,051.52	9,950.74	10,096.68	9,945.84	39.17	40.10	99.07	-34.26	66.53	1,231.94	1,158.24	73.71	16.714			
10,100.00	9,999.22	10,135.42	9,984.57	39.32	40.22	99.09	-34.56	66.55	1,232.05	1,158.06	73.99	16.652			
10,150.00	10,049.22	10,168.12	10,017.21	39.48	40.31	99.18	-36.55	66.73	1,232.80	1,158.56	74.24	16.605			
10,200.00	10,099.17	10,200.00	10,048.87	39.64	40.40	99.43	-40.27	67.05	1,234.58	1,160.09	74.49	16.574			
10,250.00	10,148.75	10,231.00	10,079.40	39.80	40.47	99.52	-45.56	67.52	1,237.85	1,163.12	74.73	16.564			

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

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Van Doo Dah 21-33 Fed Com 233H
Project:	Lea County (NAD83 New Mexico East)	TVD Reference:	RKB @ 3415.20ft
Reference Site:	Sec 21-T25S-R32E	MD Reference:	RKB @ 3415.20ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Van Doo Dah 21-33 Fed Com 233H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 2	Offset TVD Reference:	Offset Datum

Offset Design Sec 28-T25S-R32E - Marwari 21-16 Fed Com 232H (28-33) - Wellbore #1 - Sperry Plan 2													Offset Site Error:	0.00 ft
Survey Program: 0-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		
10,300.00	10,197.61	10,259.54	10,107.23	39.96	40.54	99.59	-51.88	68.07	1,242.73	1,167.77	74.96	16.579		
10,350.00	10,245.35	10,285.35	10,132.09	40.12	40.60	99.56	-58.78	68.67	1,249.36	1,174.19	75.17	16.621		
10,400.00	10,291.62	10,308.08	10,153.71	40.27	40.65	99.37	-65.78	69.29	1,257.87	1,182.52	75.35	16.695		
10,450.00	10,336.07	10,327.57	10,172.01	40.42	40.68	98.96	-72.45	69.87	1,268.39	1,192.90	75.49	16.802		
10,500.00	10,378.36	10,350.00	10,192.78	40.56	40.73	98.51	-80.89	70.61	1,281.01	1,205.35	75.66	16.931		
10,550.00	10,418.17	10,350.00	10,192.78	40.70	40.73	96.99	-80.89	70.61	1,295.71	1,220.09	75.62	17.135		
10,600.00	10,455.18	10,366.99	10,208.27	40.82	40.75	95.93	-87.82	71.21	1,312.43	1,236.69	75.73	17.330		
10,650.00	10,489.13	10,374.34	10,214.91	40.95	40.77	94.24	-90.86	71.49	1,331.15	1,255.39	75.76	17.571		
10,700.00	10,519.76	10,379.17	10,219.26	41.06	40.77	92.21	-93.07	71.67	1,351.69	1,275.92	75.77	17.841		
10,750.00	10,546.82	10,381.73	10,221.55	41.17	40.78	89.86	-94.20	71.77	1,373.87	1,298.11	75.76	18.134		
10,800.00	10,570.12	10,382.24	10,222.01	41.28	40.78	87.20	-94.43	71.79	1,397.48	1,321.72	75.75	18.448		
10,850.00	10,589.47	10,380.92	10,220.82	41.39	40.78	84.30	-93.84	71.74	1,422.26	1,346.51	75.75	18.776		
10,900.00	10,604.74	10,377.96	10,218.17	41.51	40.77	81.19	-92.54	71.63	1,447.97	1,372.21	75.76	19.114		
10,950.00	10,615.80	10,373.56	10,214.21	41.63	40.77	77.94	-90.62	71.46	1,474.34	1,398.57	75.77	19.457		

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Van Doo Dah 21-33 Fed Com 233H
Project:	Lea County (NAD83 New Mexico East)	TVD Reference:	RKB @ 3415.20ft
Reference Site:	Sec 21-T25S-R32E	MD Reference:	RKB @ 3415.20ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Van Doo Dah 21-33 Fed Com 233H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 2	Offset TVD Reference:	Offset Datum

Offset Design Sec 28-T25S-R32E - Marwari 21-16 State Fed Com 331H - Wellbore #1 - Permit Plan 1													Offset Site Error:	0.00 ft
Survey Program: 0-MWD+HDGM													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis		Distance		Minimum		Separation		Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
2,200.00	2,200.00	2,302.10	2,301.46	7.68	7.99	-124.55	-847.69	-1,230.89	1,498.94	1,483.31	15.62	95.938		
2,250.00	2,250.00	2,366.61	2,365.69	7.86	8.22	-124.67	-847.12	-1,224.91	1,494.87	1,478.85	16.02	93.324		
2,300.00	2,300.00	2,430.97	2,429.70	8.04	8.44	-124.79	-846.49	-1,218.23	1,490.32	1,473.91	16.41	90.814		
2,350.00	2,350.00	2,495.18	2,493.47	8.21	8.67	-124.93	-845.80	-1,210.85	1,485.28	1,468.48	16.80	88.399		
2,400.00	2,400.00	2,548.41	2,546.30	8.39	8.87	-125.06	-845.18	-1,204.31	1,479.91	1,462.74	17.16	86.217		
2,450.00	2,450.00	2,601.98	2,595.53	8.57	9.06	-125.18	-844.60	-1,198.19	1,474.52	1,456.99	17.53	84.100		
2,500.00	2,500.00	2,647.64	2,644.76	8.75	9.23	-125.30	-844.02	-1,192.08	1,469.14	1,451.27	17.87	82.197		
2,550.00	2,550.00	2,702.77	2,693.97	8.93	9.43	-125.38	-843.45	-1,185.96	1,463.61	1,445.37	18.24	80.223		
2,600.00	2,598.99	2,746.76	2,743.12	9.10	9.59	-125.46	-842.87	-1,179.86	1,457.77	1,439.20	18.58	78.476		
2,650.00	2,649.98	2,803.77	2,792.21	9.27	9.80	-125.76	-842.30	-1,173.76	1,451.63	1,432.68	18.95	76.597		
2,700.00	2,699.96	2,845.64	2,841.24	9.45	9.95	-125.97	-841.72	-1,167.67	1,445.19	1,425.91	19.27	74.984		
2,750.00	2,749.92	2,905.02	2,890.20	9.62	10.17	-126.20	-841.15	-1,161.59	1,438.45	1,418.79	19.66	73.173		
2,800.00	2,799.86	2,944.25	2,939.09	9.79	10.32	-126.44	-840.58	-1,155.52	1,431.41	1,411.44	19.97	71.672		
2,850.00	2,849.78	3,006.58	2,987.91	9.97	10.55	-126.70	-840.00	-1,149.45	1,424.08	1,403.71	20.37	69.914		
2,900.00	2,899.68	3,042.56	3,036.64	10.14	10.68	-126.97	-839.43	-1,143.40	1,416.46	1,395.79	20.67	68.522		
2,950.00	2,949.54	3,091.59	3,085.30	10.31	10.87	-127.27	-838.86	-1,137.36	1,408.57	1,387.54	21.02	67.004		
3,000.00	2,999.37	3,140.54	3,133.87	10.49	11.05	-127.58	-838.29	-1,131.32	1,400.39	1,379.02	21.37	65.522		
3,050.00	3,049.16	3,189.39	3,182.35	10.66	11.23	-127.90	-837.73	-1,125.30	1,391.94	1,370.22	21.72	64.074		
3,100.00	3,098.90	3,238.15	3,230.74	10.84	11.41	-128.25	-837.16	-1,119.29	1,383.23	1,361.15	22.08	62.659		
3,150.00	3,148.61	3,286.82	3,279.03	11.02	11.60	-128.61	-836.59	-1,113.29	1,374.25	1,351.82	22.43	61.275		
3,200.00	3,198.26	3,335.38	3,327.22	11.20	11.78	-128.97	-836.03	-1,107.31	1,365.01	1,342.23	22.78	59.922		
3,250.00	3,247.86	3,383.84	3,375.30	11.38	11.96	-129.40	-835.46	-1,101.33	1,355.53	1,332.40	23.13	58.598		
3,300.00	3,297.40	3,432.19	3,423.28	11.56	12.15	-129.83	-834.90	-1,095.37	1,345.81	1,322.32	23.49	57.302		
3,350.00	3,346.89	3,480.43	3,471.15	11.74	12.33	-130.27	-834.34	-1,089.43	1,335.85	1,312.01	23.84	56.033		
3,400.00	3,396.30	3,528.55	3,518.90	11.92	12.51	-130.74	-833.78	-1,083.50	1,325.66	1,301.47	24.19	54.791		
3,450.00	3,445.65	3,576.55	3,566.53	12.10	12.69	-131.23	-833.22	-1,077.58	1,315.26	1,290.71	24.55	53.573		
3,500.00	3,494.93	3,624.43	3,614.04	12.29	12.88	-131.74	-832.67	-1,071.68	1,304.64	1,279.74	24.91	52.380		
3,550.00	3,544.13	3,672.18	3,661.43	12.47	13.06	-132.25	-832.11	-1,065.79	1,293.84	1,268.57	25.27	51.211		
3,600.00	3,593.32	3,719.90	3,708.77	12.65	13.24	-132.77	-831.56	-1,059.91	1,283.03	1,257.41	25.62	50.072		
3,650.00	3,642.50	3,767.61	3,756.12	12.85	13.42	-133.30	-831.00	-1,054.03	1,272.31	1,246.32	25.98	48.965		
3,700.00	3,691.68	3,815.33	3,803.47	13.04	13.60	-133.83	-830.45	-1,048.15	1,261.67	1,235.33	26.34	47.891		
3,750.00	3,740.86	3,863.05	3,850.82	13.23	13.79	-134.36	-829.89	-1,042.27	1,251.12	1,224.41	26.71	46.844		
3,800.00	3,790.04	3,910.76	3,898.17	13.42	13.97	-134.89	-829.34	-1,036.38	1,240.66	1,213.59	27.07	45.828		
3,850.00	3,839.22	3,958.48	3,945.52	13.62	14.15	-135.42	-828.78	-1,030.50	1,230.29	1,202.86	27.44	44.839		
3,900.00	3,888.40	4,006.19	3,992.87	13.81	14.34	-135.96	-828.23	-1,024.62	1,220.02	1,192.22	27.80	43.878		
3,950.00	3,937.58	4,053.91	4,040.22	14.01	14.52	-136.49	-827.67	-1,018.74	1,209.85	1,181.67	28.17	42.943		
4,000.00	3,986.76	4,101.63	4,087.57	14.20	14.70	-137.02	-827.12	-1,012.86	1,199.77	1,171.23	28.54	42.034		
4,050.00	4,035.94	4,149.34	4,134.91	14.40	14.89	-137.55	-826.56	-1,006.98	1,189.80	1,160.88	28.91	41.148		
4,100.00	4,085.12	4,202.94	4,182.26	14.59	15.09	-138.08	-826.01	-1,001.10	1,179.93	1,150.62	29.31	40.258		
4,150.00	4,134.30	4,244.77	4,229.61	14.79	15.25	-138.62	-825.45	-995.21	1,170.17	1,140.51	29.66	39.450		
4,200.00	4,183.48	4,307.51	4,276.96	14.99	15.50	-139.15	-824.90	-989.33	1,160.52	1,130.43	30.09	38.563		
4,250.00	4,232.66	4,340.21	4,324.31	15.19	15.62	-139.68	-824.34	-983.45	1,150.98	1,120.57	30.41	37.843		
4,300.00	4,281.84	4,387.92	4,371.66	15.39	15.81	-140.21	-823.79	-977.57	1,141.56	1,110.77	30.79	37.072		
4,350.00	4,331.02	4,435.64	4,419.01	15.59	15.99	-140.74	-823.23	-971.69	1,132.26	1,101.09	31.17	36.321		
4,400.00	4,380.20	4,483.35	4,466.36	15.79	16.17	-141.27	-822.68	-965.81	1,123.08	1,091.52	31.55	35.591		
4,450.00	4,429.38	4,531.07	4,513.71	15.99	16.36	-141.80	-822.12	-959.93	1,114.02	1,082.08	31.94	34.881		
4,500.00	4,478.57	4,578.79	4,561.05	16.19	16.54	-142.33	-821.57	-954.04	1,105.09	1,072.77	32.32	34.190		
4,550.00	4,527.75	4,626.50	4,608.40	16.39	16.73	-142.86	-821.01	-948.16	1,096.30	1,063.59	32.71	33.518		
4,600.00	4,576.93	4,674.22	4,655.75	16.59	16.91	-143.39	-820.46	-942.28	1,087.63	1,054.54	33.09	32.864		
4,650.00	4,626.11	4,721.93	4,703.10	16.80	17.10	-143.92	-819.90	-936.40	1,079.10	1,045.62	33.48	32.228		
4,700.00	4,675.29	4,769.65	4,750.45	17.00	17.28	-144.45	-819.35	-930.52	1,070.72	1,036.85	33.87	31.610		
4,750.00	4,724.47	4,817.37	4,797.80	17.21	17.47	-144.98	-818.79	-924.64	1,062.48	1,028.21	34.26	31.008		

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

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Van Doo Dah 21-33 Fed Com 233H
Project:	Lea County (NAD83 New Mexico East)	TVD Reference:	RKB @ 3415.20ft
Reference Site:	Sec 21-T25S-R32E	MD Reference:	RKB @ 3415.20ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Van Doo Dah 21-33 Fed Com 233H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 2	Offset TVD Reference:	Offset Datum

Offset Design Sec 28-T25S-R32E - Marwari 21-16 State Fed Com 331H - Wellbore #1 - Permit Plan 1														Offset Site Error:	0.00 ft
Survey Program: 0-MWD+HDGM														Offset Well Error:	0.50 ft
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)					
4,800.00	4,773.65	4,865.08	4,845.15	17.41	17.65	-64.21	-818.24	-918.76	1,054.38	1,019.73	34.66	30.423			
4,850.00	4,822.83	4,912.80	4,892.50	17.61	17.84	-64.88	-817.68	-912.87	1,046.44	1,011.39	35.05	29.854			
4,900.00	4,872.01	4,960.51	4,939.85	17.82	18.03	-65.57	-817.13	-906.99	1,038.65	1,003.20	35.45	29.302			
4,950.00	4,921.19	5,008.23	4,987.19	18.03	18.21	-66.26	-816.58	-901.11	1,031.02	995.17	35.84	28.764			
5,000.00	4,970.37	5,055.95	5,034.54	18.23	18.40	-66.97	-816.02	-895.23	1,023.54	987.30	36.24	28.242			
5,050.00	5,019.55	5,103.66	5,081.89	18.44	18.58	-67.68	-815.47	-889.35	1,016.24	979.60	36.64	27.735			
5,100.00	5,068.73	5,151.38	5,129.24	18.64	18.77	-68.40	-814.91	-883.47	1,009.10	972.06	37.04	27.243			
5,150.00	5,117.91	5,200.91	5,176.59	18.85	18.96	-69.14	-814.36	-877.59	1,002.13	964.68	37.45	26.759			
5,200.00	5,167.09	5,246.81	5,223.94	19.06	19.14	-69.88	-813.80	-871.70	995.34	957.50	37.85	26.300			
5,250.00	5,216.27	5,305.47	5,271.29	19.27	19.37	-70.63	-813.25	-865.82	988.73	950.44	38.29	25.821			
5,300.00	5,265.45	5,342.24	5,318.64	19.47	19.51	-71.39	-812.69	-859.94	982.30	943.65	38.65	25.412			
5,350.00	5,314.63	5,389.96	5,365.99	19.68	19.70	-72.16	-812.14	-854.06	976.06	937.00	39.06	24.988			
5,400.00	5,363.81	5,437.67	5,413.33	19.89	19.88	-72.94	-811.58	-848.18	970.01	930.54	39.47	24.577			
5,450.00	5,413.00	5,485.39	5,460.68	20.10	20.07	-73.73	-811.03	-842.30	964.15	924.27	39.88	24.179			
5,500.00	5,462.18	5,533.11	5,508.03	20.31	20.26	-74.52	-810.47	-836.42	958.49	918.20	40.28	23.793			
5,550.00	5,511.36	5,580.82	5,555.38	20.52	20.44	-75.33	-809.92	-830.53	953.02	912.33	40.69	23.419			
5,600.00	5,560.54	5,628.54	5,602.73	20.73	20.63	-76.14	-809.36	-824.65	947.77	906.66	41.10	23.058			
5,650.00	5,609.72	5,676.25	5,650.08	20.94	20.82	-76.96	-808.81	-818.77	942.72	901.20	41.52	22.708			
5,700.00	5,658.90	5,723.97	5,697.43	21.15	21.00	-77.79	-808.25	-812.89	937.88	895.95	41.93	22.370			
5,750.00	5,708.08	5,771.69	5,744.78	21.36	21.19	-78.63	-807.70	-807.01	933.25	890.91	42.34	22.043			
5,800.00	5,757.26	5,819.40	5,792.13	21.57	21.38	-79.48	-807.14	-801.13	928.84	886.09	42.75	21.727			
5,850.00	5,806.44	5,867.12	5,839.47	21.78	21.56	-80.33	-806.59	-795.25	924.66	881.49	43.16	21.422			
5,900.00	5,855.62	5,914.83	5,886.82	21.99	21.75	-81.19	-806.03	-789.36	920.69	877.12	43.58	21.129			
5,950.00	5,904.80	5,962.55	5,934.17	22.20	21.94	-82.05	-805.48	-783.48	916.95	872.97	43.99	20.845			
6,000.00	5,953.98	6,010.27	5,981.52	22.41	22.12	-82.93	-804.92	-777.60	913.44	869.04	44.40	20.573			
6,050.00	6,003.16	6,057.98	6,028.87	22.62	22.31	-83.80	-804.37	-771.72	910.17	865.35	44.81	20.310			
6,100.00	6,052.34	6,105.70	6,076.22	22.83	22.50	-84.69	-803.81	-765.84	907.12	861.90	45.23	20.057			
6,150.00	6,101.52	6,153.41	6,123.57	23.04	22.68	-85.58	-803.26	-759.96	904.32	858.68	45.64	19.815			
6,200.00	6,150.70	6,201.13	6,170.92	23.26	22.87	-86.47	-802.70	-754.08	901.75	855.70	46.05	19.582			
6,250.00	6,199.88	6,248.85	6,218.27	23.47	23.06	-87.37	-802.15	-748.19	899.42	852.96	46.46	19.359			
6,300.00	6,249.06	6,303.44	6,265.61	23.68	23.27	-88.27	-801.59	-742.31	897.34	850.44	46.90	19.134			
6,350.00	6,298.25	6,344.28	6,312.96	23.89	23.43	-89.17	-801.04	-736.43	895.50	848.22	47.28	18.940			
6,400.00	6,347.43	6,408.01	6,360.31	24.11	23.68	-90.08	-800.48	-730.55	893.91	846.15	47.75	18.719			
6,450.00	6,396.61	6,439.71	6,407.66	24.32	23.81	-90.99	-799.93	-724.67	892.56	844.48	48.10	18.557			
6,500.00	6,445.79	6,487.43	6,455.01	24.53	23.99	-91.91	-799.37	-718.79	891.46	842.96	48.51	18.379			
6,550.00	6,494.97	6,535.14	6,502.36	24.74	24.18	-92.82	-798.82	-712.91	890.61	841.70	48.91	18.209			
6,600.00	6,544.15	6,582.86	6,549.71	24.96	24.37	-93.74	-798.27	-707.02	890.01	840.70	49.32	18.047			
6,650.00	6,593.33	6,630.57	6,597.06	25.17	24.56	-94.66	-797.71	-701.14	889.67	839.95	49.72	17.894			
6,694.44	6,637.04	6,672.98	6,639.14	25.36	24.72	-95.47	-797.22	-695.92	889.57	839.49	50.08	17.764 CC			
6,700.00	6,642.51	6,678.29	6,644.41	25.38	24.74	-95.58	-797.16	-695.26	889.57	839.45	50.12	17.749			
6,750.00	6,691.69	6,726.01	6,691.75	25.60	24.93	-96.49	-796.60	-689.38	889.72	839.20	50.52	17.611 ES			
6,800.00	6,740.87	6,773.72	6,739.10	25.81	25.12	-97.41	-796.05	-683.50	890.13	839.21	50.92	17.481			
6,850.00	6,790.05	6,821.44	6,786.45	26.02	25.31	-98.33	-795.49	-677.62	890.78	839.47	51.32	17.359			
6,900.00	6,839.23	6,869.15	6,833.80	26.24	25.49	-99.24	-794.94	-671.74	891.69	839.97	51.71	17.244			
6,950.00	6,888.41	6,916.87	6,881.15	26.45	25.68	-100.16	-794.38	-665.85	892.84	840.73	52.10	17.135			
7,000.00	6,937.59	6,964.59	6,928.50	26.67	25.87	-101.07	-793.83	-659.97	894.24	841.74	52.50	17.034			
7,050.00	6,986.77	7,012.30	6,975.85	26.88	26.06	-101.98	-793.27	-654.09	895.89	843.00	52.89	16.940			
7,100.00	7,035.95	7,060.02	7,023.20	27.10	26.24	-102.88	-792.72	-648.21	897.78	844.51	53.27	16.852			
7,150.00	7,085.13	7,107.73	7,070.55	27.31	26.43	-103.78	-792.16	-642.33	899.92	846.26	53.66	16.771			
7,200.00	7,134.31	7,155.45	7,117.89	27.52	26.62	-104.68	-791.61	-636.45	902.30	848.26	54.04	16.696			
7,250.00	7,183.49	7,203.17	7,165.24	27.74	26.81	-105.57	-791.05	-630.57	904.92	850.50	54.43	16.627			
7,300.00	7,232.68	7,250.88	7,212.59	27.95	26.99	-106.46	-790.50	-624.68	907.78	852.98	54.81	16.563			

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

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Van Doo Dah 21-33 Fed Com 233H
Project:	Lea County (NAD83 New Mexico East)	TVD Reference:	RKB @ 3415.20ft
Reference Site:	Sec 21-T25S-R32E	MD Reference:	RKB @ 3415.20ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Van Doo Dah 21-33 Fed Com 233H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 2	Offset TVD Reference:	Offset Datum

Offset Design														Offset Site Error:	0.00 ft
Survey Program: 0-MWD+HDGM														Offset Well Error:	0.50 ft
Sec 28-T25S-R32E - Marwari 21-16 State Fed Com 331H - Wellbore #1 - Permit Plan 1															
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		
7,350.00	7,281.86	7,301.40	7,259.94	28.17	27.19	-107.34	-789.94	-618.80	910.88	855.68	55.20	16.503			
7,400.00	7,331.04	7,346.31	7,307.29	28.38	27.37	-108.22	-789.39	-612.92	914.21	858.65	55.56	16.454			
7,450.00	7,380.22	7,405.97	7,354.64	28.60	27.61	-109.09	-788.83	-607.04	917.77	861.78	55.98	16.394			
7,500.00	7,429.40	7,441.75	7,401.99	28.81	27.75	-109.95	-788.28	-601.16	921.55	865.25	56.31	16.367			
7,550.00	7,478.58	7,489.46	7,449.34	29.03	27.93	-110.81	-787.72	-595.28	925.57	868.89	56.68	16.330			
7,600.00	7,527.76	7,537.18	7,496.69	29.24	28.12	-111.66	-787.17	-589.39	929.81	872.76	57.05	16.299			
7,650.00	7,576.94	7,584.89	7,544.03	29.46	28.31	-112.50	-786.61	-583.51	934.26	876.85	57.41	16.273			
7,700.00	7,626.12	7,632.61	7,591.38	29.68	28.50	-113.34	-786.06	-577.63	938.94	881.16	57.78	16.251			
7,750.00	7,675.30	7,680.33	7,638.73	29.89	28.69	-114.17	-785.50	-571.75	943.82	885.68	58.14	16.233			
7,800.00	7,724.48	7,728.04	7,686.08	30.11	28.87	-114.99	-784.95	-565.87	948.92	890.42	58.50	16.220			
7,850.00	7,773.66	7,775.76	7,733.43	30.32	29.06	-115.80	-784.39	-559.99	954.22	895.36	58.86	16.211			
7,900.00	7,822.84	7,823.47	7,780.78	30.54	29.25	-116.60	-783.84	-554.11	959.73	900.51	59.22	16.206			
7,950.00	7,872.02	7,871.19	7,828.13	30.75	29.44	-117.40	-783.28	-548.22	965.44	905.86	59.58	16.205 SF			
8,000.00	7,921.20	7,918.91	7,875.48	30.97	29.63	-118.18	-782.73	-542.34	971.34	911.41	59.93	16.208			
8,050.00	7,970.38	7,966.62	7,922.83	31.19	29.81	-118.96	-782.17	-536.46	977.43	917.15	60.28	16.214			
8,100.00	8,019.56	8,014.34	7,970.17	31.40	30.00	-119.73	-781.62	-530.58	983.72	923.08	60.64	16.223			
8,150.00	8,068.74	8,062.05	8,017.52	31.62	30.19	-120.49	-781.06	-524.70	990.19	929.20	60.99	16.236			
8,200.00	8,117.93	8,109.77	8,064.87	31.83	30.38	-121.24	-780.51	-518.82	996.84	935.50	61.34	16.252			
8,250.00	8,167.11	8,157.49	8,112.22	32.05	30.57	-121.98	-779.95	-512.94	1,003.67	941.98	61.68	16.271			
8,300.00	8,216.29	8,205.20	8,159.57	32.27	30.75	-122.71	-779.40	-507.05	1,010.67	948.64	62.03	16.293			
8,350.00	8,265.47	8,252.92	8,206.92	32.48	30.94	-123.43	-778.85	-501.17	1,017.85	955.47	62.38	16.318			
8,400.00	8,314.65	8,300.63	8,254.27	32.70	31.13	-124.14	-778.29	-495.29	1,025.19	962.47	62.72	16.345			
8,450.00	8,363.83	8,348.35	8,301.62	32.92	31.32	-124.84	-777.74	-489.41	1,032.70	969.63	63.07	16.375			
8,500.00	8,413.01	8,403.93	8,348.97	33.13	31.54	-125.53	-777.18	-483.53	1,040.37	976.93	63.44	16.399			
8,550.00	8,462.19	8,443.78	8,396.31	33.35	31.70	-126.22	-776.63	-477.65	1,048.19	984.44	63.75	16.442			
8,600.00	8,511.37	8,508.50	8,443.66	33.57	31.95	-126.89	-776.07	-471.77	1,056.17	992.01	64.16	16.462			
8,650.00	8,560.55	8,539.21	8,491.01	33.78	32.07	-127.55	-775.52	-465.88	1,064.30	999.87	64.43	16.518			
8,700.00	8,609.73	8,586.93	8,538.36	34.00	32.26	-128.21	-774.96	-460.00	1,072.57	1,007.80	64.77	16.559			
8,750.00	8,658.91	8,634.65	8,585.71	34.22	32.45	-128.85	-774.41	-454.12	1,080.99	1,015.88	65.11	16.602			
8,800.00	8,708.09	8,682.36	8,633.06	34.43	32.64	-129.49	-773.85	-448.24	1,089.55	1,024.10	65.45	16.647			
8,850.00	8,757.27	8,730.08	8,680.41	34.65	32.82	-130.12	-773.30	-442.36	1,098.24	1,032.45	65.79	16.693			
8,900.00	8,806.45	8,777.79	8,727.76	34.87	33.01	-130.73	-772.74	-436.48	1,107.07	1,040.94	66.13	16.741			
8,950.00	8,855.63	8,825.51	8,775.11	35.09	33.20	-131.34	-772.19	-430.60	1,116.03	1,049.56	66.46	16.791			
9,000.00	8,904.81	8,873.23	8,822.45	35.30	33.39	-131.94	-771.63	-424.71	1,125.11	1,058.31	66.80	16.843			
9,050.00	8,953.99	8,920.94	8,869.80	35.52	33.58	-132.53	-771.08	-418.83	1,134.32	1,067.18	67.14	16.895			
9,100.00	9,003.17	8,968.66	8,917.15	35.74	33.77	-133.11	-770.52	-412.95	1,143.65	1,076.17	67.47	16.949			
9,150.00	9,052.39	9,016.44	8,964.56	35.95	33.96	-133.76	-769.97	-407.06	1,152.96	1,085.15	67.81	17.003			
9,200.00	9,101.72	9,064.40	9,012.15	36.17	34.14	-134.39	-769.41	-401.15	1,161.94	1,093.79	68.15	17.051			
9,250.00	9,151.15	9,112.54	9,059.92	36.37	34.33	-134.99	-768.85	-395.22	1,170.56	1,102.08	68.48	17.093			
9,300.00	9,200.67	9,160.85	9,107.86	36.58	34.53	-135.56	-768.29	-389.26	1,178.82	1,110.01	68.82	17.130			
9,350.00	9,250.28	9,209.33	9,155.97	36.77	34.72	-136.09	-767.72	-383.29	1,186.70	1,117.55	69.15	17.161			
9,400.00	9,299.97	9,257.96	9,204.22	36.97	34.91	-136.60	-767.16	-377.29	1,194.18	1,124.69	69.49	17.186			
9,450.00	9,349.72	9,306.73	9,252.63	37.16	35.10	-137.07	-766.59	-371.28	1,201.25	1,131.43	69.82	17.205			
9,500.00	9,399.54	9,355.65	9,301.17	37.34	35.29	-137.51	-766.02	-365.25	1,207.91	1,137.75	70.16	17.217			
9,550.00	9,449.40	9,404.70	9,349.83	37.52	35.49	-137.93	-765.45	-359.21	1,214.13	1,143.64	70.49	17.224			
9,600.00	9,499.31	9,453.86	9,398.62	37.70	35.68	-138.32	-764.88	-353.15	1,219.92	1,149.09	70.83	17.223			
9,650.00	9,549.26	9,503.14	9,447.53	37.87	35.88	-138.67	-764.31	-347.07	1,225.25	1,154.09	71.16	17.218			
9,700.00	9,599.23	9,552.53	9,496.53	38.05	36.07	-139.01	-763.73	-340.98	1,230.14	1,158.64	71.50	17.205			
9,750.00	9,649.22	9,602.01	9,545.63	38.21	36.27	-139.31	-763.16	-334.88	1,234.55	1,162.72	71.83	17.187			
9,800.00	9,699.22	9,651.58	9,594.82	38.37	36.46	-139.59	-762.58	-328.77	1,238.50	1,166.33	72.17	17.162			
9,850.00	9,749.22	9,701.20	9,644.06	38.53	36.66	-139.80	-762.00	-322.66	1,242.19	1,169.70	72.50	17.134			
9,900.00	9,799.22	9,750.81	9,693.29	38.69	36.86	-139.87	-761.43	-316.54	1,245.90	1,173.08	72.83	17.107			

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 Van Doo Dah 21-33 Fed Com 233H
Project:	Lea County (NAD83 New Mexico East)	TVD Reference:	RKB @ 3415.20ft
Reference Site:	Sec 21-T25S-R32E	MD Reference:	RKB @ 3415.20ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Van Doo Dah 21-33 Fed Com 233H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 2	Offset TVD Reference:	Offset Datum

Offset Design														Offset Site Error:	0.00 ft
Survey Program: 0-MWD+HDGM														Offset Well Error:	0.50 ft
Sec 28-T25S-R32E - Marwari 21-16 State Fed Com 331H - Wellbore #1 - Permit Plan 1															
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		
9,950.00	9,849.22	9,800.43	9,742.52	38.85	37.05	137.64	-760.85	-310.43	1,249.64	1,176.47	73.16	17.081			
10,000.00	9,899.22	9,850.04	9,791.76	39.00	37.25	137.42	-760.27	-304.31	1,253.39	1,179.89	73.49	17.054			
10,050.00	9,949.22	9,900.34	9,840.99	39.16	37.45	137.19	-759.70	-298.20	1,257.16	1,183.33	73.83	17.028			
10,100.00	9,999.22	9,949.27	9,890.22	39.32	37.64	136.97	-759.12	-292.08	1,260.94	1,186.79	74.16	17.003			
10,150.00	10,049.22	10,001.11	9,939.46	39.48	37.85	136.75	-758.54	-285.97	1,264.75	1,190.25	74.50	16.977			
10,200.00	10,099.17	10,048.47	9,988.66	39.64	38.03	136.45	-757.97	-279.85	1,269.99	1,195.16	74.83	16.972			
10,250.00	10,148.75	10,102.25	10,037.56	39.80	38.25	135.84	-757.39	-273.78	1,278.35	1,203.16	75.19	17.002			
10,300.00	10,197.61	10,146.34	10,085.78	39.96	38.42	135.13	-756.83	-267.79	1,289.78	1,214.26	75.52	17.079			
10,350.00	10,245.35	10,206.11	10,132.95	40.12	38.66	134.31	-756.28	-261.93	1,304.21	1,228.30	75.91	17.180			
10,400.00	10,291.62	10,240.02	10,178.73	40.27	38.79	133.35	-755.74	-256.24	1,321.57	1,245.36	76.21	17.342			
10,450.00	10,336.07	10,284.36	10,222.75	40.42	38.97	132.24	-755.22	-250.78	1,341.77	1,265.23	76.54	17.530			
10,500.00	10,378.38	10,326.64	10,264.69	40.56	39.13	130.92	-754.73	-245.57	1,364.73	1,287.87	76.86	17.755			
10,550.00	10,418.17	10,366.48	10,304.22	40.70	39.29	129.35	-754.27	-240.66	1,390.35	1,313.18	77.17	18.017			
10,600.00	10,455.18	10,403.59	10,341.04	40.82	39.44	127.49	-753.84	-236.08	1,418.51	1,341.06	77.46	18.314			
10,650.00	10,489.13	10,437.69	10,374.88	40.95	39.57	125.25	-753.44	-231.88	1,449.08	1,371.35	77.72	18.645			
10,700.00	10,519.76	10,468.51	10,405.47	41.06	39.69	122.56	-753.08	-228.08	1,481.89	1,403.92	77.96	19.008			

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

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Van Doo Dah 21-33 Fed Com 233H
Project:	Lea County (NAD83 New Mexico East)	TVD Reference:	RKB @ 3415.20ft
Reference Site:	Sec 21-T25S-R32E	MD Reference:	RKB @ 3415.20ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Van Doo Dah 21-33 Fed Com 233H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore:	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 2	Offset TVD Reference:	Offset Datum

Offset Design														Offset Site Error:	0.00 ft
Sec 28-T25S-R32E - Manwari 21-16 State Fed Com 621H - Wellbore #1 - Permit Plan 1														Offset Well Error:	0.50 ft
Survey Program: 0-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			
3,100.00	3,098.90	3,172.47	3,171.05	10.84	11.08	-42.76	-841.62	-1,264.28	1,497.89	1,476.02	21.87	68.498			
3,150.00	3,148.61	3,221.75	3,220.24	11.02	11.26	-43.00	-841.04	-1,261.27	1,491.05	1,468.83	22.22	67.117			
3,200.00	3,198.26	3,270.97	3,269.36	11.20	11.43	-43.25	-840.46	-1,258.27	1,483.91	1,461.35	22.56	65.765			
3,250.00	3,247.86	3,320.10	3,318.39	11.38	11.61	-43.51	-839.89	-1,255.27	1,476.48	1,453.56	22.91	64.440			
3,300.00	3,297.40	3,369.15	3,367.35	11.56	11.78	-43.80	-839.31	-1,252.28	1,468.75	1,445.49	23.26	63.141			
3,350.00	3,346.89	3,418.12	3,416.22	11.74	11.96	-44.10	-838.74	-1,249.29	1,460.74	1,437.13	23.61	61.867			
3,400.00	3,396.30	3,466.99	3,465.00	11.92	12.13	-44.41	-838.16	-1,246.30	1,452.45	1,428.49	23.96	60.618			
3,450.00	3,445.65	3,515.77	3,513.69	12.10	12.31	-44.75	-837.59	-1,243.33	1,443.89	1,419.57	24.31	59.391			
3,500.00	3,494.93	3,564.46	3,562.28	12.29	12.48	-45.10	-837.02	-1,240.36	1,435.05	1,410.38	24.66	58.188			
3,550.00	3,544.13	3,613.04	3,610.77	12.47	12.65	-45.45	-836.45	-1,237.39	1,425.95	1,400.94	25.01	57.006			
3,600.00	3,593.32	3,661.60	3,659.23	12.66	12.83	-45.76	-835.88	-1,234.43	1,416.80	1,391.44	25.37	55.854			
3,650.00	3,642.50	3,710.15	3,707.69	12.85	13.00	-46.08	-835.31	-1,231.47	1,407.70	1,381.98	25.72	54.732			
3,700.00	3,691.68	3,758.71	3,756.15	13.04	13.18	-46.39	-834.74	-1,228.50	1,398.64	1,372.56	26.07	53.642			
3,750.00	3,740.86	3,807.26	3,804.62	13.23	13.35	-46.72	-834.17	-1,225.54	1,389.62	1,363.19	26.43	52.579			
3,800.00	3,790.04	3,855.82	3,853.08	13.42	13.53	-47.04	-833.60	-1,222.58	1,380.65	1,353.86	26.79	51.545			
3,850.00	3,839.22	3,904.37	3,901.54	13.62	13.70	-47.37	-833.03	-1,219.61	1,371.72	1,344.57	27.14	50.538			
3,900.00	3,888.40	3,952.93	3,950.00	13.81	13.88	-47.71	-832.46	-1,216.65	1,362.83	1,335.33	27.50	49.557			
3,950.00	3,937.58	4,001.48	3,998.46	14.01	14.05	-48.05	-831.89	-1,213.69	1,354.00	1,326.14	27.86	48.601			
4,000.00	3,986.76	4,050.04	4,046.92	14.20	14.23	-48.39	-831.32	-1,210.73	1,345.21	1,316.99	28.22	47.669			
4,050.00	4,035.94	4,101.41	4,095.38	14.40	14.41	-48.74	-830.75	-1,207.76	1,336.47	1,307.88	28.59	46.745			
4,100.00	4,085.12	4,147.15	4,143.85	14.59	14.58	-49.09	-830.18	-1,204.80	1,327.78	1,298.84	28.94	45.877			
4,150.00	4,134.30	4,204.30	4,192.31	14.79	14.78	-49.45	-829.61	-1,201.84	1,319.14	1,289.80	29.34	44.967			
4,200.00	4,183.48	4,244.26	4,240.77	14.99	14.93	-49.81	-829.04	-1,198.87	1,310.55	1,280.88	29.67	44.173			
4,250.00	4,232.66	4,307.19	4,289.23	15.19	15.15	-50.17	-828.47	-1,195.91	1,302.02	1,271.93	30.08	43.278			
4,300.00	4,281.84	4,341.37	4,337.69	15.39	15.28	-50.55	-827.90	-1,192.95	1,293.54	1,263.14	30.40	42.552			
4,350.00	4,331.02	4,389.93	4,386.15	15.59	15.45	-50.92	-827.33	-1,189.99	1,285.11	1,254.34	30.77	41.771			
4,400.00	4,380.20	4,438.48	4,434.61	15.79	15.63	-51.30	-826.76	-1,187.02	1,276.74	1,245.61	31.13	41.010			
4,450.00	4,429.38	4,487.04	4,483.07	15.99	15.80	-51.69	-826.19	-1,184.06	1,268.43	1,236.92	31.50	40.267			
4,500.00	4,478.57	4,535.59	4,531.54	16.19	15.98	-52.08	-825.62	-1,181.10	1,260.17	1,228.30	31.87	39.542			
4,550.00	4,527.75	4,584.15	4,580.00	16.39	16.16	-52.47	-825.05	-1,178.13	1,251.97	1,219.73	32.24	38.834			
4,600.00	4,576.93	4,632.70	4,628.46	16.59	16.33	-52.87	-824.48	-1,175.17	1,243.84	1,211.23	32.61	38.143			
4,650.00	4,626.11	4,681.26	4,676.92	16.80	16.51	-53.28	-823.91	-1,172.21	1,235.76	1,202.78	32.98	37.468			
4,700.00	4,675.29	4,729.81	4,725.38	17.00	16.68	-53.69	-823.34	-1,169.24	1,227.75	1,194.40	33.35	36.810			
4,750.00	4,724.47	4,778.37	4,773.84	17.21	16.86	-54.10	-822.77	-1,166.28	1,219.81	1,186.08	33.73	36.167			
4,800.00	4,773.65	4,826.92	4,822.30	17.41	17.04	-54.52	-822.20	-1,163.32	1,211.93	1,177.82	34.10	35.539			
4,850.00	4,822.83	4,875.48	4,870.77	17.61	17.21	-54.95	-821.63	-1,160.36	1,204.11	1,169.63	34.48	34.926			
4,900.00	4,872.01	4,924.03	4,919.23	17.82	17.39	-55.38	-821.06	-1,157.39	1,196.36	1,161.51	34.85	34.327			
4,950.00	4,921.19	4,972.59	4,967.69	18.03	17.56	-55.81	-820.50	-1,154.43	1,188.69	1,153.46	35.23	33.742			
5,000.00	4,970.37	5,021.14	5,016.15	18.23	17.74	-56.26	-819.93	-1,151.47	1,181.08	1,145.47	35.61	33.170			
5,050.00	5,019.55	5,069.70	5,064.61	18.44	17.92	-56.70	-819.36	-1,148.50	1,173.55	1,137.56	35.99	32.612			
5,100.00	5,068.73	5,118.25	5,113.07	18.64	18.09	-57.16	-818.79	-1,145.54	1,166.08	1,129.72	36.36	32.067			
5,150.00	5,117.91	5,166.81	5,161.53	18.85	18.27	-57.62	-818.22	-1,142.58	1,158.70	1,121.95	36.74	31.534			
5,200.00	5,167.09	5,215.36	5,210.00	19.06	18.45	-58.08	-817.65	-1,139.62	1,151.39	1,114.26	37.13	31.014			
5,250.00	5,216.27	5,263.92	5,258.46	19.27	18.62	-58.55	-817.08	-1,136.65	1,144.16	1,106.55	37.51	30.505			
5,300.00	5,265.45	5,312.47	5,306.92	19.47	18.80	-59.03	-816.51	-1,133.69	1,137.00	1,099.11	37.89	30.008			
5,350.00	5,314.63	5,361.03	5,355.38	19.68	18.98	-59.51	-815.94	-1,130.73	1,129.93	1,091.66	38.27	29.523			
5,400.00	5,363.81	5,409.58	5,403.84	19.89	19.15	-59.99	-815.37	-1,127.76	1,122.94	1,084.28	38.66	29.048			
5,450.00	5,413.00	5,458.14	5,452.30	20.10	19.33	-60.49	-814.80	-1,124.80	1,116.03	1,076.99	39.04	28.585			
5,500.00	5,462.18	5,506.69	5,500.76	20.31	19.51	-60.99	-814.23	-1,121.84	1,109.21	1,069.78	39.43	28.132			
5,550.00	5,511.36	5,555.25	5,549.22	20.52	19.68	-61.49	-813.66	-1,118.87	1,102.48	1,062.66	39.82	27.690			
5,600.00	5,560.54	5,603.81	5,597.69	20.73	19.86	-62.00	-813.09	-1,115.91	1,095.83	1,055.63	40.20	27.258			
5,650.00	5,609.72	5,652.36	5,646.15	20.94	20.04	-62.52	-812.52	-1,112.95	1,089.28	1,048.69	40.59	26.835			

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

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Van Doo Dah 21-33 Fed Com 233H
Project:	Lea County (NAD83 New Mexico East)	TVD Reference:	RKB @ 3415.20ft
Reference Site:	Sec 21-T25S-R32E	MD Reference:	RKB @ 3415.20ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Van Doo Dah 21-33 Fed Com 233H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 2	Offset TVD Reference:	Offset Datum

Offset Design														Offset Site Error:	0.00 ft
Survey Program: 0-MWD+HDGM														Offset Well Error:	0.50 ft
Sec 28-T25S-R32E - Marwari 21-16 State Fed Com 621H - Wellbore #1 - Permit Plan 1															
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		
5,700.00	5,658.90	5,700.92	5,694.61	21.15	20.21	-63.04	-811.95	-1,109.99	1,082.81	1,041.83	40.98	26.423			
5,750.00	5,708.08	5,749.47	5,743.07	21.36	20.39	-63.57	-811.38	-1,107.02	1,076.44	1,035.07	41.37	26.020			
5,800.00	5,757.26	5,801.97	5,791.53	21.57	20.58	-64.10	-810.81	-1,104.06	1,070.17	1,028.39	41.78	25.617			
5,850.00	5,806.44	5,846.58	5,839.99	21.78	20.74	-64.64	-810.24	-1,101.10	1,063.99	1,021.84	42.15	25.242			
5,900.00	5,855.62	5,904.86	5,888.45	21.99	20.96	-65.19	-809.67	-1,098.13	1,057.91	1,015.33	42.58	24.845			
5,950.00	5,904.80	5,943.69	5,936.92	22.20	21.10	-65.74	-809.10	-1,095.17	1,051.93	1,008.99	42.94	24.499			
6,000.00	5,953.98	6,007.75	5,985.38	22.41	21.33	-66.30	-808.53	-1,092.21	1,046.06	1,002.67	43.39	24.110			
6,050.00	6,003.16	6,040.80	6,033.84	22.62	21.45	-66.87	-807.96	-1,089.24	1,040.28	996.56	43.73	23.791			
6,100.00	6,052.34	6,089.36	6,082.30	22.83	21.63	-67.44	-807.39	-1,086.28	1,034.61	990.49	44.12	23.450			
6,150.00	6,101.52	6,137.91	6,130.76	23.04	21.81	-68.01	-806.82	-1,083.32	1,029.05	984.54	44.52	23.116			
6,200.00	6,150.70	6,186.47	6,179.22	23.26	21.98	-68.60	-806.25	-1,080.36	1,023.60	978.69	44.91	22.791			
6,250.00	6,199.88	6,235.02	6,227.68	23.47	22.16	-69.18	-805.68	-1,077.39	1,018.26	972.95	45.31	22.473			
6,300.00	6,249.06	6,283.58	6,276.15	23.68	22.34	-69.78	-805.11	-1,074.43	1,013.03	967.32	45.71	22.163			
6,350.00	6,298.25	6,332.13	6,324.61	23.89	22.51	-70.38	-804.54	-1,071.47	1,007.91	961.81	46.11	21.861			
6,400.00	6,347.43	6,380.69	6,373.07	24.11	22.69	-70.98	-803.97	-1,068.50	1,002.92	956.41	46.50	21.566			
6,450.00	6,396.61	6,429.24	6,421.53	24.32	22.87	-71.60	-803.40	-1,065.54	998.03	951.13	46.90	21.279			
6,500.00	6,445.79	6,477.80	6,469.99	24.53	23.05	-72.21	-802.83	-1,062.58	993.27	945.97	47.30	20.998			
6,550.00	6,494.97	6,526.35	6,518.45	24.74	23.22	-72.84	-802.26	-1,059.62	988.63	940.93	47.70	20.725			
6,600.00	6,544.15	6,574.91	6,566.91	24.96	23.40	-73.46	-801.69	-1,056.65	984.11	936.01	48.10	20.458			
6,650.00	6,593.33	6,623.46	6,615.37	25.17	23.58	-74.10	-801.12	-1,053.69	979.72	931.21	48.51	20.198			
6,700.00	6,642.51	6,672.02	6,663.84	25.38	23.76	-74.74	-800.55	-1,050.73	975.45	926.55	48.91	19.945			
6,750.00	6,691.69	6,720.57	6,712.30	25.60	23.93	-75.38	-799.98	-1,047.76	971.31	922.00	49.31	19.699			
6,800.00	6,740.87	6,769.13	6,760.76	25.81	24.11	-76.03	-799.41	-1,044.80	967.30	917.59	49.71	19.459			
6,850.00	6,790.05	6,817.69	6,809.22	26.02	24.29	-76.68	-798.84	-1,041.84	963.42	913.31	50.11	19.225			
6,900.00	6,839.23	6,866.24	6,857.68	26.24	24.46	-77.34	-798.27	-1,038.87	959.68	909.16	50.52	18.998			
6,950.00	6,888.41	6,914.80	6,906.14	26.45	24.64	-78.01	-797.70	-1,035.91	956.07	905.15	50.92	18.776			
7,000.00	6,937.59	6,963.35	6,954.60	26.67	24.82	-78.68	-797.13	-1,032.95	952.59	901.27	51.32	18.561			
7,050.00	6,986.77	7,011.91	7,003.07	26.88	25.00	-79.35	-796.56	-1,029.99	949.25	897.53	51.72	18.352			
7,100.00	7,035.95	7,060.46	7,051.53	27.10	25.17	-80.03	-795.99	-1,027.02	946.05	893.92	52.13	18.149			
7,150.00	7,085.13	7,109.02	7,099.99	27.31	25.35	-80.71	-795.42	-1,024.06	942.99	890.46	52.53	17.951			
7,200.00	7,134.31	7,157.57	7,148.45	27.52	25.53	-81.39	-794.85	-1,021.10	940.07	887.14	52.93	17.760			
7,250.00	7,183.49	7,206.13	7,196.91	27.74	25.71	-82.08	-794.28	-1,018.13	937.30	883.96	53.34	17.573			
7,300.00	7,232.68	7,254.68	7,245.37	27.95	25.88	-82.78	-793.71	-1,015.17	934.66	880.93	53.74	17.393			
7,350.00	7,281.86	7,303.24	7,293.83	28.17	26.06	-83.48	-793.14	-1,012.21	932.18	878.04	54.14	17.217			
7,400.00	7,331.04	7,351.79	7,342.29	28.38	26.24	-84.18	-792.57	-1,009.25	929.84	875.30	54.54	17.048			
7,450.00	7,380.22	7,400.35	7,390.76	28.60	26.42	-84.88	-792.01	-1,006.28	927.65	872.70	54.95	16.883			
7,500.00	7,429.40	7,448.90	7,439.22	28.81	26.60	-85.59	-791.44	-1,003.32	925.60	870.26	55.35	16.723			
7,550.00	7,478.58	7,502.54	7,487.68	29.03	26.79	-86.30	-790.87	-1,000.36	923.71	867.94	55.77	16.564			
7,600.00	7,527.76	7,546.01	7,536.14	29.24	26.95	-87.01	-790.30	-997.39	921.97	865.82	56.15	16.420			
7,650.00	7,576.94	7,605.43	7,584.60	29.46	27.17	-87.73	-789.73	-994.43	920.37	863.78	56.59	16.264			
7,700.00	7,626.12	7,643.12	7,633.06	29.68	27.31	-88.44	-789.16	-991.47	918.94	861.98	56.95	16.136			
7,750.00	7,675.30	7,708.32	7,681.52	29.89	27.54	-89.16	-788.59	-988.50	917.65	860.24	57.41	15.984			
7,800.00	7,724.48	7,740.23	7,729.99	30.11	27.66	-89.88	-788.02	-985.54	916.52	858.77	57.75	15.871			
7,850.00	7,773.66	7,788.79	7,778.45	30.32	27.84	-90.61	-787.45	-982.58	915.54	857.39	58.15	15.745			
7,900.00	7,822.84	7,837.34	7,826.91	30.54	28.02	-91.33	-786.88	-979.62	914.71	856.17	58.54	15.624			
7,950.00	7,872.02	7,885.90	7,875.37	30.75	28.19	-92.06	-786.31	-976.65	914.04	855.10	58.94	15.508			
8,000.00	7,921.20	7,934.45	7,923.83	30.97	28.37	-92.78	-785.74	-973.69	913.53	854.19	59.34	15.396			
8,050.00	7,970.38	7,983.01	7,972.29	31.19	28.55	-93.51	-785.17	-970.73	913.17	853.44	59.73	15.288			
8,100.00	8,019.56	8,031.56	8,020.75	31.40	28.73	-94.23	-784.60	-967.76	912.97	852.84	60.13	15.184			
8,139.87	8,058.78	8,070.28	8,059.40	31.57	28.87	-94.81	-784.14	-965.40	912.92	852.48	60.44	15.105 CC			
8,150.00	8,068.74	8,080.12	8,069.22	31.62	28.91	-94.96	-784.03	-964.80	912.92	852.40	60.52	15.085			
8,200.00	8,117.93	8,128.68	8,117.68	31.83	29.08	-95.69	-783.46	-961.84	913.03	852.12	60.91	14.990			

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

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Van Doo Dah 21-33 Fed Com 233H
Project:	Lea County (NAD83 New Mexico East)	TVD Reference:	RKB @ 3415.20ft
Reference Site:	Sec 21-T25S-R32E	MD Reference:	RKB @ 3415.20ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Van Doo Dah 21-33 Fed Com 233H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 2	Offset TVD Reference:	Offset Datum

Offset Design Sec 28-T25S-R32E - Marwari 21-16 State Fed Com 621H - Wellbore #1 - Permit Plan 1													Offset Site Error:	0.00 ft
Survey Program: 0-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		
8,250.00	8,167.11	8,177.23	8,166.14	32.05	29.26	-96.42	-782.89	-958.88	913.30	852.00	61.30	14.898 ES		
8,300.00	8,216.29	8,225.79	8,214.60	32.27	29.44	-97.14	-782.32	-955.91	913.72	852.03	61.69	14.811		
8,350.00	8,265.47	8,274.34	8,263.06	32.48	29.62	-97.87	-781.75	-952.95	914.30	852.21	62.08	14.727		
8,400.00	8,314.65	8,322.90	8,311.52	32.70	29.79	-98.59	-781.18	-949.99	915.03	852.56	62.47	14.648		
8,450.00	8,363.83	8,371.45	8,359.98	32.92	29.97	-99.32	-780.61	-947.02	915.91	853.06	62.86	14.572		
8,500.00	8,413.01	8,420.01	8,408.44	33.13	30.15	-100.04	-780.04	-944.06	916.96	853.71	63.24	14.499		
8,550.00	8,462.19	8,468.56	8,456.91	33.35	30.33	-100.76	-779.47	-941.10	918.15	854.52	63.63	14.430		
8,600.00	8,511.37	8,517.12	8,505.37	33.57	30.51	-101.48	-778.90	-938.13	919.50	855.49	64.01	14.365		
8,650.00	8,560.55	8,565.67	8,553.83	33.78	30.68	-102.19	-778.33	-935.17	921.00	856.61	64.39	14.303		
8,700.00	8,609.73	8,614.23	8,602.29	34.00	30.86	-102.91	-777.76	-932.21	922.65	857.88	64.77	14.244		
8,750.00	8,658.91	8,662.78	8,650.75	34.22	31.04	-103.62	-777.19	-929.25	924.46	859.31	65.15	14.189		
8,800.00	8,708.09	8,711.34	8,699.21	34.43	31.22	-104.33	-776.62	-926.28	926.41	860.88	65.53	14.137		
8,850.00	8,757.27	8,759.89	8,747.67	34.65	31.39	-105.03	-776.05	-923.32	928.52	862.61	65.91	14.088		
8,900.00	8,806.45	8,808.45	8,796.14	34.87	31.57	-105.74	-775.48	-920.36	930.77	864.48	66.29	14.042		
8,950.00	8,855.63	8,857.00	8,844.60	35.09	31.75	-106.44	-774.91	-917.39	933.17	866.51	66.66	13.998		
9,000.00	8,904.81	8,905.56	8,893.06	35.30	31.93	-107.13	-774.34	-914.43	935.71	868.68	67.04	13.958		
9,050.00	8,953.99	8,954.11	8,941.52	35.52	32.11	-107.82	-773.77	-911.47	938.40	870.99	67.41	13.921		
9,100.00	9,003.17	9,002.67	8,989.98	35.74	32.28	-108.51	-773.20	-908.51	941.24	873.46	67.78	13.886		
9,150.00	9,052.39	9,051.27	9,038.49	35.95	32.46	-109.22	-772.63	-905.54	944.15	876.00	68.15	13.854		
9,200.00	9,101.72	9,100.02	9,087.15	36.17	32.64	-109.90	-772.06	-902.56	946.97	878.46	68.52	13.821		
9,250.00	9,151.15	9,148.91	9,135.94	36.37	32.82	-110.53	-771.49	-899.58	949.69	880.81	68.88	13.788		
9,300.00	9,200.67	9,202.07	9,184.87	36.58	33.02	-111.13	-770.91	-896.59	952.28	883.03	69.26	13.750		
9,350.00	9,250.28	9,247.08	9,233.92	36.77	33.18	-111.69	-770.33	-893.59	954.73	885.13	69.60	13.718		
9,400.00	9,299.97	9,303.66	9,283.09	36.97	33.39	-112.21	-769.76	-890.58	957.01	887.03	69.98	13.676		
9,450.00	9,349.72	9,345.71	9,332.36	37.16	33.54	-112.69	-769.18	-887.57	959.11	888.80	70.30	13.643		
9,500.00	9,399.54	9,404.82	9,381.73	37.34	33.76	-113.13	-768.60	-884.55	961.01	890.32	70.69	13.595		
9,550.00	9,449.40	9,444.74	9,431.19	37.52	33.91	-113.54	-768.01	-881.53	962.70	891.70	71.00	13.559		
9,600.00	9,499.31	9,505.63	9,480.74	37.70	34.13	-113.90	-767.43	-878.50	964.17	892.78	71.39	13.506		
9,650.00	9,549.26	9,544.09	9,530.35	37.87	34.27	-114.23	-766.85	-875.47	965.41	893.72	71.69	13.467		
9,700.00	9,599.23	9,606.14	9,580.03	38.05	34.50	-114.51	-766.26	-872.43	966.40	894.33	72.08	13.408		
9,750.00	9,649.22	9,643.70	9,629.77	38.21	34.63	-114.76	-765.68	-869.39	967.14	894.78	72.37	13.364		
9,800.00	9,699.22	9,706.42	9,679.55	38.37	34.86	-114.97	-765.09	-866.34	967.63	894.87	72.75	13.300		
9,850.00	9,749.22	9,743.48	9,729.36	38.53	35.00	-115.17	-764.51	-863.30	967.97	894.93	73.04	13.253		
9,900.00	9,799.22	9,806.62	9,779.17	38.69	35.23	-115.39	-763.92	-860.25	968.31	894.89	73.42	13.188		
9,950.00	9,849.22	9,843.29	9,828.97	38.85	35.37	-115.61	-763.34	-857.21	968.67	894.96	73.71	13.142		
10,000.00	9,899.22	9,906.81	9,878.78	39.00	35.60	-115.82	-762.75	-854.16	969.04	894.95	74.09	13.079		
10,050.00	9,949.22	9,943.09	9,928.59	39.16	35.73	-116.04	-762.17	-851.12	969.42	895.04	74.38	13.034		
10,100.00	9,999.22	10,007.00	9,978.39	39.32	35.97	-116.26	-761.58	-848.07	969.81	895.04	74.76	12.972		
10,150.00	10,049.22	10,042.90	10,028.20	39.48	36.10	-116.48	-760.99	-845.03	970.21	895.16	75.05	12.928		
10,200.00	10,099.17	10,107.23	10,077.98	39.64	36.33	-116.67	-760.41	-841.98	972.46	897.02	75.44	12.891		
10,250.00	10,148.75	10,142.34	10,127.45	39.80	36.46	-116.84	-759.83	-838.96	978.83	903.11	75.72	12.927		
10,300.00	10,197.61	10,208.78	10,178.23	39.96	36.71	-117.07	-759.25	-835.98	989.27	913.16	76.11	12.997		
10,350.00	10,245.35	10,239.04	10,223.96	40.12	36.82	-117.26	-758.69	-833.06	1,003.72	927.34	76.37	13.142		
10,400.00	10,291.62	10,285.44	10,270.27	40.27	36.99	-117.42	-758.15	-830.23	1,022.05	945.37	76.68	13.328		
10,450.00	10,336.07	10,330.07	10,314.81	40.42	37.15	-117.59	-757.62	-827.50	1,044.15	967.17	76.98	13.564		
10,500.00	10,378.36	10,372.58	10,357.25	40.56	37.31	-117.73	-757.13	-824.91	1,069.86	992.60	77.26	13.847		
10,550.00	10,418.17	10,412.66	10,397.24	40.70	37.45	-117.88	-756.66	-822.46	1,099.01	1,021.49	77.52	14.177		
10,600.00	10,455.18	10,449.99	10,434.50	40.82	37.59	-118.01	-756.22	-820.19	1,131.39	1,053.63	77.76	14.550		
10,650.00	10,489.13	10,484.30	10,468.75	40.95	37.72	-118.13	-755.81	-818.09	1,166.76	1,088.79	77.97	14.964		
10,700.00	10,519.76	10,515.32	10,499.70	41.06	37.83	-118.24	-755.45	-816.20	1,204.89	1,126.74	78.16	15.416		
10,750.00	10,546.82	10,542.81	10,527.15	41.17	37.93	-118.34	-755.13	-814.52	1,245.50	1,167.18	78.31	15.904		
10,800.00	10,570.12	10,566.57	10,550.86	41.28	38.02	-118.43	-754.85	-813.07	1,288.28	1,209.83	78.45	16.423		

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

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Van Doo Dah 21-33 Fed Com 233H
Project:	Lea County (NAD83 New Mexico East)	TVD Reference:	RKB @ 3415.20ft
Reference Site:	Sec 21-T25S-R32E	MD Reference:	RKB @ 3415.20ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Van Doo Dah 21-33 Fed Com 233H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 2	Offset TVD Reference:	Offset Datum

Offset Design Sec 28-T25S-R32E - Marwari 21-16 State Fed Com 621H - Wellbore #1 - Permit Plan 1														Offset Site Error:	0.00 ft
Survey Program: 0-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			
10,850.00	10,589.47	10,586.42	10,570.67	41.39	38.09	142.85	-754.62	-811.86	1,332.92	1,254.37	78.55	16.969			
10,900.00	10,604.74	10,602.21	10,586.43	41.51	38.15	135.99	-754.43	-810.90	1,379.10	1,300.48	78.62	17.540			
10,950.00	10,615.80	13,078.39	11,925.00	41.63	47.33	164.80	632.07	-798.18	1,368.83	1,315.90	52.83	25.863			
11,000.00	10,622.57	13,127.91	11,925.00	41.75	47.65	164.90	681.60	-798.38	1,362.29	1,309.04	53.24	25.585			
11,050.00	10,624.99	13,177.83	11,925.00	41.89	47.98	164.94	731.52	-798.58	1,359.94	1,306.39	53.55	25.397			
11,093.49	10,625.11	13,221.33	11,925.00	42.02	48.28	164.94	775.01	-798.75	1,359.82	1,306.01	53.81	25.273			
11,100.00	10,625.00	13,227.83	11,925.00	42.04	48.32	164.94	781.52	-798.77	1,359.93	1,306.08	53.84	25.257			
11,150.00	10,625.00	13,277.83	11,925.00	42.20	48.67	164.94	831.52	-798.97	1,359.92	1,305.77	54.16	25.111			
11,200.00	10,625.00	13,327.83	11,925.00	42.38	49.03	164.94	881.52	-799.16	1,359.92	1,305.45	54.47	24.965			
11,250.00	10,625.00	13,377.83	11,925.00	42.56	49.39	164.94	931.52	-799.36	1,359.91	1,305.11	54.81	24.812			
11,300.00	10,625.00	13,427.83	11,925.00	42.77	49.77	164.94	981.52	-799.56	1,359.91	1,304.76	55.15	24.659			
11,350.00	10,625.00	13,477.83	11,925.00	42.98	50.15	164.94	1,031.52	-799.75	1,359.90	1,304.40	55.51	24.501			
11,400.00	10,625.00	13,527.83	11,925.00	43.21	50.54	164.94	1,081.52	-799.95	1,359.90	1,304.03	55.87	24.342			
11,450.00	10,625.00	13,577.83	11,925.00	43.45	50.93	164.94	1,131.52	-800.15	1,359.89	1,303.65	56.24	24.178			
11,500.00	10,625.00	13,627.83	11,925.00	43.70	51.33	164.94	1,181.52	-800.34	1,359.89	1,303.26	56.63	24.015			
11,550.00	10,625.00	13,677.83	11,925.00	43.96	51.74	164.94	1,231.52	-800.54	1,359.88	1,302.86	57.02	23.848			
11,600.00	10,625.00	13,727.83	11,925.00	44.24	52.16	164.94	1,281.52	-800.74	1,359.88	1,302.45	57.43	23.680			
11,650.00	10,625.00	13,777.83	11,925.00	44.53	52.58	164.95	1,331.52	-800.93	1,359.87	1,302.03	57.84	23.510			
11,700.00	10,625.00	13,827.83	11,925.00	44.82	53.01	164.95	1,381.52	-801.13	1,359.87	1,301.60	58.26	23.340			
11,750.00	10,625.00	13,877.83	11,925.00	45.13	53.45	164.95	1,431.52	-801.32	1,359.86	1,301.16	58.70	23.166			
11,800.00	10,625.00	13,927.83	11,925.00	45.45	53.89	164.95	1,481.51	-801.52	1,359.86	1,300.72	59.14	22.994			
11,850.00	10,625.00	13,977.83	11,925.00	45.78	54.34	164.95	1,531.51	-801.72	1,359.85	1,300.26	59.59	22.819			
11,900.00	10,625.00	14,027.83	11,925.00	46.11	54.79	164.95	1,581.51	-801.91	1,359.85	1,299.80	60.05	22.645			
11,950.00	10,625.00	14,077.83	11,925.00	46.46	55.25	164.95	1,631.51	-802.11	1,359.84	1,299.33	60.52	22.470			
12,000.00	10,625.00	14,127.83	11,925.00	46.82	55.72	164.95	1,681.51	-802.31	1,359.84	1,298.85	60.99	22.295			
12,050.00	10,625.00	14,177.83	11,925.00	47.18	56.19	164.95	1,731.51	-802.50	1,359.83	1,298.36	61.48	22.119			
12,100.00	10,625.00	14,227.83	11,925.00	47.56	56.67	164.95	1,781.51	-802.70	1,359.83	1,297.86	61.97	21.944			
12,150.00	10,625.00	14,277.83	11,925.00	47.94	57.15	164.95	1,831.51	-802.90	1,359.82	1,297.35	62.47	21.768			
12,200.00	10,625.00	14,327.83	11,925.00	48.33	57.64	164.95	1,881.51	-803.09	1,359.82	1,296.84	62.98	21.593			
12,250.00	10,625.00	14,377.83	11,925.00	48.73	58.13	164.95	1,931.51	-803.29	1,359.81	1,296.32	63.49	21.417			
12,300.00	10,625.00	14,427.83	11,925.00	49.13	58.63	164.96	1,981.51	-803.49	1,359.81	1,295.80	64.01	21.244			
12,350.00	10,625.00	14,477.83	11,925.00	49.55	59.13	164.96	2,031.51	-803.68	1,359.80	1,295.26	64.54	21.069			
12,400.00	10,625.00	14,527.83	11,925.00	49.97	59.63	164.96	2,081.51	-803.88	1,359.80	1,294.73	65.07	20.896			
12,450.00	10,625.00	14,577.83	11,925.00	50.40	60.14	164.96	2,131.51	-804.07	1,359.80	1,294.18	65.62	20.723			
12,500.00	10,625.00	14,627.83	11,925.00	50.83	60.66	164.96	2,181.51	-804.27	1,359.79	1,293.63	66.16	20.552			
12,550.00	10,625.00	14,677.83	11,925.00	51.28	61.18	164.96	2,231.51	-804.47	1,359.79	1,293.07	66.72	20.381			
12,600.00	10,625.00	14,727.83	11,925.00	51.72	61.70	164.96	2,281.51	-804.66	1,359.78	1,292.50	67.28	20.212			
12,650.00	10,625.00	14,777.83	11,925.00	52.18	62.23	164.96	2,331.51	-804.86	1,359.78	1,291.93	67.84	20.043			
12,700.00	10,625.00	14,827.83	11,925.00	52.64	62.76	164.96	2,381.51	-805.06	1,359.77	1,291.36	68.41	19.875			
12,750.00	10,625.00	14,877.83	11,925.00	53.11	63.30	164.96	2,431.51	-805.25	1,359.77	1,290.77	68.99	19.709			
12,800.00	10,625.00	14,927.83	11,925.00	53.58	63.84	164.96	2,481.51	-805.45	1,359.76	1,290.19	69.58	19.544			
12,850.00	10,625.00	14,977.83	11,925.00	54.06	64.38	164.96	2,531.51	-805.65	1,359.76	1,289.59	70.16	19.379			
12,900.00	10,625.00	15,027.83	11,925.00	54.54	64.93	164.96	2,581.51	-805.84	1,359.75	1,288.99	70.76	19.217			
12,950.00	10,625.00	15,077.83	11,925.00	55.03	65.48	164.97	2,631.51	-806.04	1,359.75	1,288.39	71.36	19.056			
13,000.00	10,625.00	15,127.83	11,925.00	55.53	66.03	164.97	2,681.51	-806.23	1,359.74	1,287.78	71.96	18.896			
13,050.00	10,625.00	15,177.83	11,925.00	56.03	66.59	164.97	2,731.51	-806.43	1,359.74	1,287.17	72.57	18.737			
13,100.00	10,625.00	15,227.83	11,925.00	56.53	67.15	164.97	2,781.50	-806.63	1,359.73	1,286.55	73.18	18.580			
13,150.00	10,625.00	15,277.83	11,925.00	57.04	67.71	164.97	2,831.50	-806.82	1,359.73	1,285.93	73.80	18.424			
13,200.00	10,625.00	15,327.83	11,925.00	57.56	68.28	164.97	2,881.50	-807.02	1,359.72	1,285.30	74.42	18.270			
13,250.00	10,625.00	15,377.83	11,925.00	58.08	68.85	164.97	2,931.50	-807.22	1,359.72	1,284.67	75.05	18.118			
13,300.00	10,625.00	15,427.83	11,925.00	58.60	69.42	164.97	2,981.50	-807.41	1,359.71	1,284.03	75.68	17.967			
13,350.00	10,625.00	15,477.83	11,925.00	59.13	70.00	164.97	3,031.50	-807.61	1,359.71	1,283.39	76.32	17.817			

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

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Van Doo Dah 21-33 Fed Com 233H
Project:	Lea County (NAD83 New Mexico East)	TVD Reference:	RKB @ 3415.20ft
Reference Site:	Sec 21-T25S-R32E	MD Reference:	RKB @ 3415.20ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Van Doo Dah 21-33 Fed Com 233H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore:	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 2	Offset TVD Reference:	Offset Datum

Offset Design														Offset Site Error:	0.00 ft
Survey Program: 0-MWD+HDGM														Offset Well Error:	0.50 ft
Reference: Sec 28-T25S-R32E - Marwari 21-16 State Fed Com 621H - Wellbore #1 - Permit Plan 1															
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Semi-Major Axis	Highside Toolface (°)	Offset Wellbore Centre	Distance	Between Centres	Between Ellipses	Minimum Separation	Separation Factor	Warning	
				(ft)	(ft)			+N-S (ft)	+E-W (ft)	(ft)	(ft)	(ft)			
13,400.00	10,625.00	15,527.83	11,925.00	59.66	70.57	164.97		3,081.50	-807.81	1,359.70	1,282.75	76.95	17.669		
13,450.00	10,625.00	15,577.83	11,925.00	60.20	71.15	164.97		3,131.50	-808.00	1,359.70	1,282.10	77.60	17.522		
13,500.00	10,625.00	15,627.83	11,925.00	60.73	71.74	164.97		3,181.50	-808.20	1,359.69	1,281.45	78.24	17.378		
13,550.00	10,625.00	15,677.83	11,925.00	61.28	72.32	164.97		3,231.50	-808.39	1,359.69	1,280.79	78.90	17.234		
13,600.00	10,625.00	15,727.83	11,925.00	61.83	72.91	164.98		3,281.50	-808.59	1,359.68	1,280.13	79.55	17.092		
13,650.00	10,625.00	15,777.83	11,925.00	62.38	73.50	164.98		3,331.50	-808.79	1,359.68	1,279.47	80.21	16.952		
13,700.00	10,625.00	15,827.83	11,925.00	62.93	74.10	164.98		3,381.50	-808.98	1,359.67	1,278.80	80.87	16.813		
13,750.00	10,625.00	15,877.83	11,925.00	63.49	74.69	164.98		3,431.50	-809.18	1,359.67	1,278.13	81.53	16.676		
13,800.00	10,625.00	15,927.83	11,925.00	64.05	75.29	164.98		3,481.50	-809.38	1,359.66	1,277.46	82.20	16.540		
13,850.00	10,625.00	15,977.83	11,925.00	64.62	75.89	164.98		3,531.50	-809.57	1,359.66	1,276.78	82.87	16.406		
13,900.00	10,625.00	16,027.83	11,925.00	65.19	76.49	164.98		3,581.50	-809.77	1,359.65	1,276.10	83.55	16.274		
13,950.00	10,625.00	16,077.83	11,925.00	65.76	77.10	164.98		3,631.50	-809.97	1,359.65	1,275.42	84.23	16.143		
14,000.00	10,625.00	16,127.83	11,925.00	66.33	77.71	164.98		3,681.50	-810.16	1,359.64	1,274.73	84.91	16.013		
14,050.00	10,625.00	16,177.83	11,925.00	66.91	78.31	164.98		3,731.50	-810.36	1,359.64	1,274.05	85.59	15.885		
14,100.00	10,625.00	16,227.83	11,925.00	67.49	78.92	164.98		3,781.50	-810.55	1,359.63	1,273.35	86.28	15.759		
14,150.00	10,625.00	16,277.83	11,925.00	68.08	79.54	164.98		3,831.50	-810.75	1,359.63	1,272.66	86.97	15.634		
14,200.00	10,625.00	16,327.83	11,925.00	68.66	80.15	164.98		3,881.50	-810.95	1,359.62	1,271.96	87.66	15.510		
14,250.00	10,625.00	16,377.83	11,925.00	69.25	80.77	164.99		3,931.50	-811.14	1,359.62	1,271.26	88.35	15.388		
14,300.00	10,625.00	16,427.83	11,925.00	69.84	81.39	164.99		3,981.50	-811.34	1,359.61	1,270.56	89.05	15.268		
14,350.00	10,625.00	16,477.83	11,925.00	70.44	82.01	164.99		4,031.50	-811.54	1,359.61	1,269.86	89.75	15.149		
14,400.00	10,625.00	16,527.83	11,925.00	71.03	82.63	164.99		4,081.49	-811.73	1,359.60	1,269.15	90.45	15.031		
14,450.00	10,625.00	16,577.83	11,925.00	71.63	83.25	164.99		4,131.49	-811.93	1,359.60	1,268.44	91.16	14.915		
14,500.00	10,625.00	16,627.83	11,925.00	72.23	83.88	164.99		4,181.49	-812.13	1,359.59	1,267.73	91.86	14.800		
14,550.00	10,625.00	16,677.83	11,925.00	72.84	84.50	164.99		4,231.49	-812.32	1,359.59	1,267.01	92.57	14.686		
14,600.00	10,625.00	16,727.83	11,925.00	73.44	85.13	164.99		4,281.49	-812.52	1,359.58	1,266.30	93.29	14.574		
14,650.00	10,625.00	16,777.83	11,925.00	74.05	85.76	164.99		4,331.49	-812.72	1,359.58	1,265.58	94.00	14.463		
14,700.00	10,625.00	16,827.83	11,925.00	74.66	86.40	164.99		4,381.49	-812.91	1,359.57	1,264.86	94.72	14.354		
14,750.00	10,625.00	16,877.83	11,925.00	75.27	87.03	164.99		4,431.49	-813.11	1,359.57	1,264.13	95.43	14.246		
14,800.00	10,625.00	16,927.83	11,925.00	75.88	87.66	164.99		4,481.49	-813.30	1,359.56	1,263.41	96.15	14.139		
14,850.00	10,625.00	16,977.83	11,925.00	76.50	88.30	164.99		4,531.49	-813.50	1,359.56	1,262.68	96.88	14.034		
14,900.00	10,625.00	17,027.83	11,925.00	77.12	88.94	165.00		4,581.49	-813.70	1,359.55	1,261.95	97.60	13.930		
14,950.00	10,625.00	17,077.83	11,925.00	77.74	89.57	165.00		4,631.49	-813.89	1,359.55	1,261.22	98.33	13.827		
15,000.00	10,625.00	17,127.83	11,925.00	78.36	90.21	165.00		4,681.49	-814.09	1,359.54	1,260.49	99.06	13.725		
15,050.00	10,625.00	17,177.83	11,925.00	78.98	90.86	165.00		4,731.49	-814.29	1,359.54	1,259.75	99.79	13.625		
15,100.00	10,625.00	17,227.83	11,925.00	79.61	91.50	165.00		4,781.49	-814.48	1,359.53	1,259.02	100.52	13.525		
15,150.00	10,625.00	17,277.83	11,925.00	80.24	92.14	165.00		4,831.49	-814.68	1,359.53	1,258.28	101.25	13.427		
15,200.00	10,625.00	17,327.83	11,925.00	80.86	92.79	165.00		4,881.49	-814.88	1,359.52	1,257.54	101.99	13.331		
15,250.00	10,625.00	17,377.83	11,925.00	81.49	93.43	165.00		4,931.49	-815.07	1,359.52	1,256.79	102.72	13.235		
15,300.00	10,625.00	17,427.83	11,925.00	82.13	94.08	165.00		4,981.49	-815.27	1,359.51	1,256.05	103.46	13.140		
15,350.00	10,625.00	17,477.83	11,925.00	82.76	94.73	165.00		5,031.49	-815.46	1,359.51	1,255.31	104.20	13.047		
15,400.00	10,625.00	17,527.83	11,925.00	83.39	95.38	165.00		5,081.49	-815.66	1,359.50	1,254.56	104.94	12.955		
15,450.00	10,625.00	17,577.83	11,925.00	84.03	96.03	165.00		5,131.49	-815.86	1,359.50	1,253.81	105.69	12.864		
15,500.00	10,625.00	17,627.83	11,925.00	84.67	96.68	165.00		5,181.49	-816.05	1,359.49	1,253.06	106.43	12.773		
15,550.00	10,625.00	17,677.83	11,925.00	85.31	97.33	165.01		5,231.49	-816.25	1,359.49	1,252.31	107.18	12.684		
15,600.00	10,625.00	17,727.83	11,925.00	85.95	97.99	165.01		5,281.49	-816.45	1,359.48	1,251.56	107.92	12.597		
15,650.00	10,625.00	17,777.83	11,925.00	86.59	98.64	165.01		5,331.49	-816.64	1,359.48	1,250.80	108.67	12.510		
15,700.00	10,625.00	17,827.83	11,925.00	87.23	99.30	165.01		5,381.48	-816.84	1,359.47	1,250.05	109.42	12.424		
15,750.00	10,625.00	17,877.83	11,925.00	87.88	99.96	165.01		5,431.48	-817.04	1,359.47	1,249.29	110.18	12.339		
15,800.00	10,625.00	17,927.83	11,925.00	88.52	100.61	165.01		5,481.48	-817.23	1,359.46	1,248.53	110.93	12.255		
15,850.00	10,625.00	17,977.83	11,925.00	89.17	101.27	165.01		5,531.48	-817.43	1,359.46	1,247.77	111.68	12.172		
15,900.00	10,625.00	18,027.83	11,925.00	89.82	101.93	165.01		5,581.48	-817.62	1,359.45	1,247.01	112.44	12.091		
15,950.00	10,625.00	18,077.83	11,925.00	90.47	102.59	165.01		5,631.48	-817.82	1,359.45	1,246.25	113.20	12.010		

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

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Van Doo Dah 21-33 Fed Com 233H
Project:	Lea County (NAD83 New Mexico East)	TVD Reference:	RKB @ 3415.20ft
Reference Site:	Sec 21-T25S-R32E	MD Reference:	RKB @ 3415.20ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Van Doo Dah 21-33 Fed Com 233H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 2	Offset TVD Reference:	Offset Datum

Offset Design Sec 28-T25S-R32E - Marwari 21-16 State Fed Com 621H - Wellbore #1 - Permit Plan 1														Offset Site Error:	0.00 ft
Survey Program: 0-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		
16,000.00	10,625.00	18,127.83	11,925.00	91.12	103.26	165.01	5,681.48	-818.02	1,359.44	1,245.49	113.95	11.930			
16,050.00	10,625.00	18,177.83	11,925.00	91.77	103.92	165.01	5,731.48	-818.21	1,359.44	1,244.72	114.71	11.851			
16,100.00	10,625.00	18,227.83	11,925.00	92.42	104.58	165.01	5,781.48	-818.41	1,359.43	1,243.96	115.47	11.773			
16,150.00	10,625.00	18,277.83	11,925.00	93.08	105.25	165.02	5,831.48	-818.61	1,359.43	1,243.19	116.24	11.695			
16,200.00	10,625.00	18,327.83	11,925.00	93.73	105.91	165.02	5,881.48	-818.80	1,359.42	1,242.42	117.00	11.619			
16,250.00	10,625.00	18,377.83	11,925.00	94.39	106.58	165.02	5,931.48	-819.00	1,359.42	1,241.66	117.76	11.544			
16,300.00	10,625.00	18,427.83	11,925.00	95.05	107.24	165.02	5,981.48	-819.20	1,359.41	1,240.89	118.53	11.469			
16,350.00	10,625.00	18,477.83	11,925.00	95.71	107.91	165.02	6,031.48	-819.39	1,359.41	1,240.11	119.30	11.395			
16,400.00	10,625.00	18,527.83	11,925.00	96.37	108.58	165.02	6,081.48	-819.59	1,359.40	1,239.34	120.06	11.323			
16,450.00	10,625.00	18,577.83	11,925.00	97.03	109.25	165.02	6,131.48	-819.79	1,359.40	1,238.57	120.83	11.250			
16,500.00	10,625.00	18,627.83	11,925.00	97.69	109.92	165.02	6,181.48	-819.98	1,359.39	1,237.79	121.60	11.179			
16,550.00	10,625.00	18,677.83	11,925.00	98.35	110.59	165.02	6,231.48	-820.18	1,359.39	1,237.02	122.37	11.109			
16,600.00	10,625.00	18,727.83	11,925.00	99.01	111.26	165.02	6,281.48	-820.37	1,359.38	1,236.24	123.14	11.039			
16,650.00	10,625.00	18,777.83	11,925.00	99.68	111.93	165.02	6,331.48	-820.57	1,359.38	1,235.47	123.91	10.970			
16,700.00	10,625.00	18,827.83	11,925.00	100.34	112.60	165.02	6,381.48	-820.77	1,359.37	1,234.69	124.69	10.902			
16,750.00	10,625.00	18,877.83	11,925.00	101.01	113.28	165.02	6,431.48	-820.96	1,359.37	1,233.91	125.46	10.835			
16,800.00	10,625.00	18,927.83	11,925.00	101.67	113.95	165.03	6,481.48	-821.16	1,359.36	1,233.13	126.24	10.769			
16,850.00	10,625.00	18,977.83	11,925.00	102.34	114.62	165.03	6,531.48	-821.36	1,359.36	1,232.35	127.01	10.703			
16,900.00	10,625.00	19,027.83	11,925.00	103.01	115.30	165.03	6,581.48	-821.55	1,359.35	1,231.57	127.79	10.638			
16,950.00	10,625.00	19,077.83	11,925.00	103.68	115.98	165.03	6,631.47	-821.75	1,359.35	1,230.78	128.57	10.573			
17,000.00	10,625.00	19,127.83	11,925.00	104.35	116.65	165.03	6,681.47	-821.95	1,359.34	1,230.00	129.34	10.510			
17,050.00	10,625.00	19,177.83	11,925.00	105.02	117.33	165.03	6,731.47	-822.14	1,359.34	1,229.22	130.12	10.447			
17,100.00	10,625.00	19,227.83	11,925.00	105.69	118.01	165.03	6,781.47	-822.34	1,359.34	1,228.43	130.90	10.384			
17,150.00	10,625.00	19,277.83	11,925.00	106.36	118.68	165.03	6,831.47	-822.53	1,359.33	1,227.65	131.68	10.323			
17,200.00	10,625.00	19,327.83	11,925.00	107.03	119.36	165.03	6,881.47	-822.73	1,359.33	1,226.86	132.46	10.262			
17,250.00	10,625.00	19,377.83	11,925.00	107.71	120.04	165.03	6,931.47	-822.93	1,359.32	1,226.07	133.25	10.201			
17,300.00	10,625.00	19,427.83	11,925.00	108.38	120.72	165.03	6,981.47	-823.12	1,359.32	1,225.29	134.03	10.142			
17,350.00	10,625.00	19,477.83	11,925.00	109.05	121.40	165.03	7,031.47	-823.32	1,359.31	1,224.50	134.81	10.083			
17,400.00	10,625.00	19,527.83	11,925.00	109.73	122.08	165.03	7,081.47	-823.52	1,359.31	1,223.71	135.60	10.025			
17,450.00	10,625.00	19,577.83	11,925.00	110.41	122.76	165.04	7,131.47	-823.71	1,359.30	1,222.92	136.38	9.967			
17,500.00	10,625.00	19,627.83	11,925.00	111.08	123.45	165.04	7,181.47	-823.91	1,359.30	1,222.13	137.17	9.910			
17,550.00	10,625.00	19,677.83	11,925.00	111.76	124.13	165.04	7,231.47	-824.11	1,359.29	1,221.33	137.96	9.853			
17,600.00	10,625.00	19,727.83	11,925.00	112.44	124.81	165.04	7,281.47	-824.30	1,359.29	1,220.54	138.74	9.797			
17,650.00	10,625.00	19,777.83	11,925.00	113.12	125.50	165.04	7,331.47	-824.50	1,359.28	1,219.75	139.53	9.742			
17,700.00	10,625.00	19,827.83	11,925.00	113.79	126.18	165.04	7,381.47	-824.69	1,359.28	1,218.96	140.32	9.687			
17,750.00	10,625.00	19,877.83	11,925.00	114.47	126.86	165.04	7,431.47	-824.89	1,359.27	1,218.16	141.11	9.633			
17,800.00	10,625.00	19,927.83	11,925.00	115.15	127.55	165.04	7,481.47	-825.09	1,359.27	1,217.37	141.90	9.579			
17,850.00	10,625.00	19,977.83	11,925.00	115.84	128.23	165.04	7,531.47	-825.28	1,359.26	1,216.57	142.69	9.526			
17,900.00	10,625.00	20,027.83	11,925.00	116.52	128.92	165.04	7,581.47	-825.48	1,359.26	1,215.78	143.48	9.473			
17,950.00	10,625.00	20,077.83	11,925.00	117.20	129.61	165.04	7,631.47	-825.68	1,359.25	1,214.98	144.27	9.421			
18,000.00	10,625.00	20,127.83	11,925.00	117.88	130.29	165.04	7,681.47	-825.87	1,359.25	1,214.18	145.06	9.370			
18,050.00	10,625.00	20,177.83	11,925.00	118.56	130.98	165.04	7,731.47	-826.07	1,359.24	1,213.38	145.86	9.319			
18,100.00	10,625.00	20,227.83	11,925.00	119.25	131.67	165.05	7,781.47	-826.27	1,359.24	1,212.59	146.65	9.269			
18,150.00	10,625.00	20,277.83	11,925.00	119.93	132.36	165.05	7,831.47	-826.46	1,359.23	1,211.79	147.44	9.219			
18,200.00	10,625.00	20,327.83	11,925.00	120.62	133.04	165.05	7,881.47	-826.66	1,359.23	1,210.99	148.24	9.169			
18,250.00	10,625.00	20,377.83	11,925.00	121.30	133.73	165.05	7,931.46	-826.86	1,359.22	1,210.19	149.03	9.120			
18,300.00	10,625.00	20,427.83	11,925.00	121.99	134.42	165.05	7,981.46	-827.05	1,359.22	1,209.39	149.83	9.072			
18,350.00	10,625.00	20,477.83	11,925.00	122.67	135.11	165.05	8,031.46	-827.25	1,359.21	1,208.59	150.62	9.024			
18,400.00	10,625.00	20,527.83	11,925.00	123.36	135.80	165.05	8,081.46	-827.44	1,359.21	1,207.79	151.42	8.976			
18,450.00	10,625.00	20,577.83	11,925.00	124.05	136.49	165.05	8,131.46	-827.64	1,359.20	1,206.98	152.22	8.929			
18,500.00	10,625.00	20,627.83	11,925.00	124.73	137.18	165.05	8,181.46	-827.84	1,359.20	1,206.18	153.02	8.883			
18,550.00	10,625.00	20,677.83	11,925.00	125.42	137.87	165.05	8,231.46	-828.03	1,359.19	1,205.38	153.81	8.837			

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

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Van Doo Dah 21-33 Fed Com 233H
Project:	Lea County (NAD83 New Mexico East)	TVD Reference:	RKB @ 3415.20ft
Reference Site:	Sec 21-T25S-R32E	MD Reference:	RKB @ 3415.20ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Van Doo Dah 21-33 Fed Com 233H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 2	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 0-MWD+HDGM													Offset Well Error:	0.50 ft
Sec 28-T25S-R32E - Marwan 21-16 State Fed Com 621H - Wellbore #1 - Permit Plan 1														
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
18,600.00	10,625.00	20,727.83	11,925.00	126.11	138.57	165.05	8,281.46	-828.23	1,359.19	1,204.57	154.61	8.791		
18,650.00	10,625.00	20,777.83	11,925.00	126.80	139.26	165.05	8,331.46	-828.43	1,359.18	1,203.77	155.41	8.746		
18,700.00	10,625.00	20,827.83	11,925.00	127.49	139.95	165.05	8,381.46	-828.62	1,359.18	1,202.97	156.21	8.701		
18,750.00	10,625.00	20,877.83	11,925.00	128.18	140.64	165.06	8,431.46	-828.82	1,359.17	1,202.16	157.01	8.657		
18,800.00	10,625.00	20,927.83	11,925.00	128.87	141.33	165.06	8,481.46	-829.02	1,359.17	1,201.36	157.81	8.613		
18,850.00	10,625.00	20,977.83	11,925.00	129.56	142.03	165.06	8,531.46	-829.21	1,359.16	1,200.55	158.61	8.569		
18,900.00	10,625.00	21,027.83	11,925.00	130.25	142.72	165.06	8,581.46	-829.41	1,359.16	1,199.74	159.41	8.526		
18,950.00	10,625.00	21,077.83	11,925.00	130.94	143.42	165.06	8,631.46	-829.60	1,359.15	1,198.94	160.22	8.483		
19,000.00	10,625.00	21,127.83	11,925.00	131.63	144.11	165.06	8,681.46	-829.80	1,359.15	1,198.13	161.02	8.441		
19,050.00	10,625.00	21,177.83	11,925.00	132.32	144.80	165.06	8,731.46	-830.00	1,359.14	1,197.32	161.82	8.399		
19,100.00	10,625.00	21,227.83	11,925.00	133.01	145.50	165.06	8,781.46	-830.19	1,359.14	1,196.52	162.62	8.358		
19,150.00	10,625.00	21,277.83	11,925.00	133.71	146.19	165.06	8,831.46	-830.39	1,359.13	1,195.71	163.43	8.317		
19,200.00	10,625.00	21,327.83	11,925.00	134.40	146.89	165.06	8,881.46	-830.59	1,359.13	1,194.90	164.23	8.276		
19,250.00	10,625.00	21,377.83	11,925.00	135.09	147.59	165.06	8,931.46	-830.78	1,359.12	1,194.09	165.03	8.235		
19,300.00	10,625.00	21,427.83	11,925.00	135.79	148.28	165.06	8,981.46	-830.98	1,359.12	1,193.28	165.84	8.195		
19,350.00	10,625.00	21,477.83	11,925.00	136.48	148.98	165.06	9,031.46	-831.18	1,359.11	1,192.47	166.64	8.156		
19,400.00	10,625.00	21,527.83	11,925.00	137.17	149.67	165.07	9,081.46	-831.37	1,359.11	1,191.66	167.45	8.117		
19,450.00	10,625.00	21,577.83	11,925.00	137.87	150.37	165.07	9,131.46	-831.57	1,359.10	1,190.85	168.25	8.078		
19,500.00	10,625.00	21,627.83	11,925.00	138.56	151.07	165.07	9,181.46	-831.76	1,359.10	1,190.04	169.06	8.039		
19,550.00	10,625.00	21,677.83	11,925.00	139.26	151.77	165.07	9,231.45	-831.96	1,359.09	1,189.23	169.87	8.001		
19,600.00	10,625.00	21,727.83	11,925.00	139.96	152.46	165.07	9,281.45	-832.16	1,359.09	1,188.42	170.67	7.963		
19,650.00	10,625.00	21,777.83	11,925.00	140.65	153.16	165.07	9,331.45	-832.35	1,359.08	1,187.60	171.48	7.926		
19,700.00	10,625.00	21,827.83	11,925.00	141.35	153.86	165.07	9,381.45	-832.55	1,359.08	1,186.79	172.29	7.888		
19,750.00	10,625.00	21,877.83	11,925.00	142.04	154.56	165.07	9,431.45	-832.75	1,359.07	1,185.98	173.10	7.852		
19,800.00	10,625.00	21,927.83	11,925.00	142.74	155.26	165.07	9,481.45	-832.94	1,359.07	1,185.17	173.90	7.815		
19,850.00	10,625.00	21,977.83	11,925.00	143.44	155.96	165.07	9,531.45	-833.14	1,359.06	1,184.35	174.71	7.779		
19,900.00	10,625.00	22,027.83	11,925.00	144.14	156.66	165.07	9,581.45	-833.34	1,359.06	1,183.54	175.52	7.743		
19,950.00	10,625.00	22,077.83	11,925.00	144.83	157.36	165.07	9,631.45	-833.53	1,359.05	1,182.72	176.33	7.707		
20,000.00	10,625.00	22,127.83	11,925.00	145.53	158.06	165.07	9,681.45	-833.73	1,359.05	1,181.91	177.14	7.672		
20,050.00	10,625.00	22,177.83	11,925.00	146.23	158.76	165.08	9,731.45	-833.92	1,359.04	1,181.10	177.95	7.637		
20,100.00	10,625.00	22,227.83	11,925.00	146.93	159.46	165.08	9,781.45	-834.12	1,359.04	1,180.28	178.76	7.603		
20,150.00	10,625.00	22,277.83	11,925.00	147.63	160.16	165.08	9,831.45	-834.32	1,359.03	1,179.47	179.57	7.568		
20,200.00	10,625.00	22,327.83	11,925.00	148.33	160.86	165.08	9,881.45	-834.51	1,359.03	1,178.65	180.38	7.534		
20,250.00	10,625.00	22,377.83	11,925.00	149.03	161.56	165.08	9,931.45	-834.71	1,359.02	1,177.83	181.19	7.501		
20,300.00	10,625.00	22,427.83	11,925.00	149.73	162.26	165.08	9,981.45	-834.91	1,359.02	1,177.02	182.00	7.467		
20,348.88	10,625.00	22,476.71	11,925.00	150.41	162.95	165.08	10,030.32	-835.10	1,359.01	1,176.22	182.80	7.435 SF		

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Van Doo Dah 21-33 Fed Com 233H
Project:	Lea County (NAD83 New Mexico East)	TVD Reference:	RKB @ 3415.20ft
Reference Site:	Sec 21-T25S-R32E	MD Reference:	RKB @ 3415.20ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Van Doo Dah 21-33 Fed Com 233H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 2	Offset TVD Reference:	Offset Datum

Offset Design Sec 28-T25S-R32E - Marwari 21-16 State Fed Com 712H - Wellbore #1 - Permit Plan 1														Offset Site Error:	0.00 ft
Survey Program: 0-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		
2,700.00	2,699.96	2,809.74	2,807.83	9.45	9.80	-42.53	-844.07	-1,233.23	1,496.76	1,477.58	19.17	78.060			
2,750.00	2,749.92	2,859.33	2,857.21	9.62	9.97	-42.70	-843.51	-1,228.76	1,491.27	1,471.75	19.52	76.391			
2,800.00	2,799.86	2,908.85	2,906.53	9.79	10.15	-42.88	-842.94	-1,224.29	1,485.48	1,465.61	19.87	74.765			
2,850.00	2,849.78	2,958.31	2,955.79	9.97	10.33	-43.08	-842.38	-1,219.83	1,479.38	1,459.17	20.22	73.177			
2,900.00	2,899.68	3,007.71	3,004.98	10.14	10.51	-43.29	-841.81	-1,215.38	1,472.98	1,452.41	20.56	71.630			
2,950.00	2,949.54	3,057.04	3,054.11	10.31	10.68	-43.52	-841.25	-1,210.93	1,466.27	1,445.36	20.91	70.116			
3,000.00	2,999.37	3,106.30	3,103.16	10.49	10.86	-43.76	-840.69	-1,206.48	1,459.27	1,438.01	21.26	68.639			
3,050.00	3,049.16	3,155.49	3,152.14	10.66	11.04	-44.02	-840.12	-1,202.05	1,451.97	1,430.36	21.61	67.193			
3,100.00	3,098.90	3,204.59	3,201.04	10.84	11.22	-44.30	-839.56	-1,197.62	1,444.38	1,422.43	21.96	65.781			
3,150.00	3,148.61	3,253.61	3,249.85	11.02	11.40	-44.59	-839.00	-1,193.20	1,436.51	1,414.20	22.31	64.398			
3,200.00	3,198.26	3,302.54	3,298.58	11.20	11.58	-44.90	-838.45	-1,188.78	1,428.36	1,405.70	22.66	63.045			
3,250.00	3,247.86	3,351.38	3,347.22	11.38	11.75	-45.23	-837.89	-1,184.38	1,419.93	1,396.92	23.01	61.719			
3,300.00	3,297.40	3,400.13	3,395.77	11.56	11.93	-45.57	-837.33	-1,179.98	1,411.23	1,387.87	23.36	60.422			
3,350.00	3,346.89	3,448.77	3,444.21	11.74	12.11	-45.94	-836.78	-1,175.59	1,402.26	1,378.56	23.71	59.149			
3,400.00	3,396.30	3,502.68	3,492.56	11.92	12.31	-46.32	-836.22	-1,171.21	1,393.04	1,368.96	24.08	57.857			
3,450.00	3,445.65	3,545.76	3,540.80	12.10	12.46	-46.72	-835.67	-1,166.84	1,383.57	1,359.15	24.41	56.679			
3,500.00	3,494.93	3,605.91	3,598.93	12.29	12.68	-47.14	-835.12	-1,162.49	1,373.84	1,349.04	24.81	55.385			
3,550.00	3,544.13	3,642.31	3,636.95	12.47	12.82	-47.56	-834.57	-1,158.14	1,363.89	1,338.78	25.12	54.302			
3,600.00	3,593.32	3,709.50	3,684.93	12.66	13.06	-47.94	-834.02	-1,153.79	1,353.91	1,328.37	25.54	53.013			
3,650.00	3,642.50	3,738.68	3,732.92	12.85	13.17	-48.32	-833.47	-1,149.44	1,343.99	1,318.16	25.83	52.039			
3,700.00	3,691.68	3,786.87	3,780.91	13.04	13.35	-48.70	-832.92	-1,145.10	1,334.12	1,307.94	26.18	50.955			
3,750.00	3,740.86	3,835.05	3,828.89	13.23	13.53	-49.10	-832.37	-1,140.75	1,324.32	1,297.78	26.54	49.899			
3,800.00	3,790.04	3,883.24	3,876.88	13.42	13.70	-49.49	-831.82	-1,136.40	1,314.58	1,287.68	26.90	48.872			
3,850.00	3,839.22	3,931.42	3,924.86	13.62	13.88	-49.90	-831.27	-1,132.06	1,304.90	1,277.65	27.26	47.871			
3,900.00	3,888.40	3,979.61	3,972.85	13.81	14.06	-50.30	-830.71	-1,127.71	1,295.29	1,267.67	27.62	46.898			
3,950.00	3,937.58	4,027.79	4,020.84	14.01	14.24	-50.72	-830.16	-1,123.36	1,285.75	1,257.77	27.98	45.949			
4,000.00	3,986.76	4,075.98	4,068.82	14.20	14.41	-51.14	-829.61	-1,119.02	1,276.27	1,247.93	28.34	45.027			
4,050.00	4,035.94	4,124.17	4,116.81	14.40	14.59	-51.56	-829.06	-1,114.67	1,266.87	1,238.16	28.71	44.127			
4,100.00	4,085.12	4,172.35	4,164.79	14.59	14.77	-52.00	-828.51	-1,110.33	1,257.53	1,228.46	29.07	43.252			
4,150.00	4,134.30	4,220.54	4,212.78	14.79	14.95	-52.44	-827.96	-1,105.98	1,248.27	1,218.83	29.44	42.398			
4,200.00	4,183.48	4,268.72	4,260.77	14.99	15.13	-52.88	-827.41	-1,101.63	1,239.08	1,209.27	29.81	41.567			
4,250.00	4,232.66	4,316.91	4,308.75	15.19	15.31	-53.33	-826.86	-1,097.29	1,229.97	1,199.79	30.18	40.757			
4,300.00	4,281.84	4,365.09	4,356.74	15.39	15.48	-53.79	-826.31	-1,092.94	1,220.94	1,190.39	30.55	39.968			
4,350.00	4,331.02	4,413.28	4,404.72	15.59	15.66	-54.25	-825.76	-1,088.59	1,211.98	1,181.06	30.92	39.199			
4,400.00	4,380.20	4,461.47	4,452.71	15.79	15.84	-54.72	-825.21	-1,084.25	1,203.11	1,171.82	31.29	38.450			
4,450.00	4,429.38	4,509.65	4,500.70	15.99	16.02	-55.20	-824.66	-1,079.90	1,194.32	1,162.66	31.66	37.719			
4,500.00	4,478.57	4,557.84	4,548.68	16.19	16.20	-55.69	-824.11	-1,075.55	1,185.62	1,153.58	32.04	37.007			
4,550.00	4,527.75	4,606.02	4,596.67	16.39	16.38	-56.18	-823.56	-1,071.21	1,177.00	1,144.59	32.41	36.312			
4,600.00	4,576.93	4,654.21	4,644.65	16.59	16.56	-56.67	-823.01	-1,066.86	1,168.47	1,135.68	32.79	35.635			
4,650.00	4,626.11	4,702.39	4,692.64	16.80	16.74	-57.18	-822.46	-1,062.52	1,160.03	1,126.87	33.17	34.975			
4,700.00	4,675.29	4,750.58	4,740.63	17.00	16.92	-57.69	-821.91	-1,058.17	1,151.69	1,118.14	33.55	34.332			
4,750.00	4,724.47	4,801.24	4,788.61	17.21	17.10	-58.21	-821.36	-1,053.82	1,143.44	1,109.50	33.93	33.695			
4,800.00	4,773.65	4,846.95	4,836.60	17.41	17.27	-58.74	-820.81	-1,049.48	1,135.29	1,100.98	34.31	33.093			
4,850.00	4,822.83	4,904.86	4,884.58	17.61	17.49	-59.27	-820.26	-1,045.13	1,127.23	1,092.51	34.72	32.463			
4,900.00	4,872.01	4,943.32	4,932.57	17.82	17.63	-59.81	-819.71	-1,040.78	1,119.28	1,084.21	35.07	31.915			
4,950.00	4,921.19	5,008.49	4,980.56	18.03	17.88	-60.36	-819.16	-1,036.44	1,111.43	1,075.91	35.52	31.293			
5,000.00	4,970.37	5,039.69	5,028.54	18.23	17.99	-60.91	-818.61	-1,032.09	1,103.69	1,067.85	35.84	30.795			
5,050.00	5,019.55	5,087.88	5,076.53	18.44	18.17	-61.48	-818.06	-1,027.74	1,096.05	1,059.63	36.23	30.256			
5,100.00	5,068.73	5,136.06	5,124.51	18.64	18.35	-62.05	-817.51	-1,023.40	1,088.53	1,051.92	36.61	29.731			
5,150.00	5,117.91	5,184.25	5,172.50	18.85	18.53	-62.62	-816.96	-1,019.05	1,081.12	1,044.11	37.00	29.218			
5,200.00	5,167.09	5,232.43	5,220.49	19.06	18.71	-63.21	-816.41	-1,014.71	1,073.82	1,036.43	37.39	28.719			
5,250.00	5,216.27	5,280.62	5,268.47	19.27	18.89	-63.80	-815.86	-1,010.36	1,066.64	1,028.86	37.78	28.232			

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

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Van Doo Dah 21-33 Fed Com 233H
Project:	Lea County (NAD83 New Mexico East)	TVD Reference:	RKB @ 3415.20ft
Reference Site:	Sec 21-T25S-R32E	MD Reference:	RKB @ 3415.20ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Van Doo Dah 21-33 Fed Com 233H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 2	Offset TVD Reference:	Offset Datum

Offset Design Sec 28-T25S-R32E - Marwari 21-16 State Fed Com 712H - Wellbore #1 - Permit Plan 1													Offset Site Error:	0.00 ft
Survey Program: 0-MWD+HDGM													Offset Well Error:	0.50 ft
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
5,300.00	5,265.45	5,328.81	5,316.46	19.47	19.07	-84.40	-815.31	-1,006.01	1,059.57	1,021.40	38.17	27.758		
5,350.00	5,314.63	5,376.99	5,364.44	19.68	19.25	-85.01	-814.76	-1,001.67	1,052.63	1,014.07	38.56	27.296		
5,400.00	5,363.81	5,425.18	5,412.43	19.89	19.43	-85.63	-814.21	-997.32	1,045.82	1,006.86	38.96	26.845		
5,450.00	5,413.00	5,473.36	5,460.42	20.10	19.61	-86.25	-813.66	-992.97	1,039.13	999.78	39.35	26.406		
5,500.00	5,462.18	5,521.55	5,508.40	20.31	19.79	-86.88	-813.11	-988.63	1,032.57	992.82	39.75	25.979		
5,550.00	5,511.36	5,569.73	5,556.39	20.52	19.97	-87.52	-812.56	-984.28	1,026.14	986.00	40.14	25.563		
5,600.00	5,560.54	5,617.92	5,604.38	20.73	20.15	-88.16	-812.01	-979.93	1,019.85	979.31	40.54	25.157		
5,650.00	5,609.72	5,666.11	5,652.36	20.94	20.33	-88.82	-811.46	-975.59	1,013.69	972.75	40.94	24.762		
5,700.00	5,658.90	5,714.29	5,700.35	21.15	20.51	-89.48	-810.91	-971.24	1,007.67	966.34	41.34	24.378		
5,750.00	5,708.08	5,762.48	5,748.33	21.36	20.69	-70.14	-810.36	-966.90	1,001.80	960.06	41.74	24.004		
5,800.00	5,757.26	5,810.66	5,796.32	21.57	20.87	-70.82	-809.81	-962.55	996.07	953.93	42.14	23.640		
5,850.00	5,806.44	5,858.85	5,844.31	21.78	21.06	-71.50	-809.26	-958.20	990.48	947.94	42.54	23.286		
5,900.00	5,855.62	5,907.03	5,892.29	21.99	21.24	-72.19	-808.71	-953.86	985.04	942.11	42.94	22.941		
5,950.00	5,904.80	5,955.22	5,940.28	22.20	21.42	-72.89	-808.16	-949.51	979.76	936.42	43.34	22.606		
6,000.00	5,953.98	6,003.40	5,988.26	22.41	21.60	-73.59	-807.61	-945.16	974.63	930.89	43.74	22.281		
6,050.00	6,003.16	6,051.59	6,036.25	22.62	21.78	-74.30	-807.06	-940.82	969.66	925.51	44.15	21.965		
6,100.00	6,052.34	6,100.22	6,084.24	22.83	21.96	-75.02	-806.51	-936.47	964.84	920.29	44.55	21.656		
6,150.00	6,101.52	6,147.96	6,132.22	23.04	22.14	-75.74	-805.96	-932.12	960.19	915.23	44.96	21.359		
6,200.00	6,150.70	6,203.85	6,180.21	23.26	22.35	-76.47	-805.41	-927.78	955.70	910.31	45.39	21.056		
6,250.00	6,199.88	6,244.33	6,228.19	23.47	22.50	-77.21	-804.86	-923.43	951.38	905.61	45.77	20.788		
6,300.00	6,249.06	6,307.48	6,276.18	23.68	22.74	-77.95	-804.31	-919.09	947.22	900.99	46.23	20.491		
6,350.00	6,298.25	6,340.70	6,324.17	23.89	22.86	-78.70	-803.76	-914.74	943.24	896.66	46.58	20.251		
6,400.00	6,347.43	6,388.89	6,372.15	24.11	23.04	-79.46	-803.21	-910.39	939.42	892.44	46.98	19.995		
6,450.00	6,396.61	6,437.07	6,420.14	24.32	23.22	-80.22	-802.66	-906.05	935.79	888.40	47.39	19.747		
6,500.00	6,445.79	6,485.26	6,468.12	24.53	23.40	-80.98	-802.11	-901.70	932.33	884.53	47.80	19.507		
6,550.00	6,494.97	6,533.45	6,516.11	24.74	23.59	-81.75	-801.56	-897.35	928.05	880.84	48.20	19.274		
6,600.00	6,544.15	6,581.63	6,564.10	24.96	23.77	-82.53	-801.01	-893.01	925.95	877.34	48.61	19.049		
6,650.00	6,593.33	6,629.82	6,612.08	25.17	23.95	-83.31	-800.46	-888.66	923.03	874.01	49.01	18.832		
6,700.00	6,642.51	6,678.00	6,660.07	25.38	24.13	-84.10	-799.91	-884.31	920.30	870.88	49.42	18.622		
6,750.00	6,691.69	6,726.19	6,708.05	25.60	24.31	-84.88	-799.36	-879.97	917.75	867.92	49.83	18.419		
6,800.00	6,740.87	6,774.37	6,756.04	25.81	24.49	-85.68	-798.80	-875.62	915.39	865.16	50.23	18.224		
6,850.00	6,790.05	6,822.56	6,804.03	26.02	24.67	-86.47	-798.25	-871.28	913.22	862.58	50.64	18.035		
6,900.00	6,839.23	6,870.75	6,852.01	26.24	24.85	-87.27	-797.70	-866.93	911.24	860.20	51.04	17.853		
6,950.00	6,888.41	6,919.93	6,900.00	26.45	25.03	-88.08	-797.15	-862.58	909.45	858.00	51.44	17.678		
7,000.00	6,937.59	6,967.12	6,947.98	26.67	25.22	-88.88	-796.60	-858.24	907.85	856.00	51.85	17.510		
7,050.00	6,986.77	7,015.30	6,995.97	26.88	25.40	-89.69	-796.05	-853.89	906.45	854.20	52.25	17.348		
7,100.00	7,035.95	7,063.49	7,043.96	27.10	25.58	-90.50	-795.50	-849.54	905.24	852.59	52.65	17.193		
7,150.00	7,085.13	7,111.67	7,091.94	27.31	25.76	-91.32	-794.95	-845.20	904.23	851.18	53.05	17.044		
7,200.00	7,134.31	7,159.86	7,139.93	27.52	25.94	-92.13	-794.40	-840.85	903.41	849.96	53.45	16.901		
7,250.00	7,183.49	7,208.04	7,187.91	27.74	26.12	-92.95	-793.85	-836.50	902.79	848.94	53.85	16.764		
7,300.00	7,232.68	7,256.23	7,235.90	27.95	26.30	-93.76	-793.30	-832.16	902.37	848.12	54.25	16.634		
7,350.00	7,281.86	7,304.42	7,283.89	28.17	26.48	-94.58	-792.75	-827.81	902.15	847.50	54.65	16.509		
7,382.05	7,313.38	7,335.30	7,314.65	28.31	26.60	-95.10	-792.40	-825.03	902.11	847.20	54.90	16.431 CC		
7,400.00	7,331.04	7,352.60	7,331.87	28.38	26.67	-95.40	-792.20	-823.47	902.12	847.08	55.04	16.389		
7,450.00	7,380.22	7,400.79	7,379.86	28.60	26.85	-96.21	-791.65	-819.12	902.29	846.85	55.44	16.276		
7,500.00	7,429.40	7,448.97	7,427.84	28.81	27.03	-97.03	-791.10	-814.77	902.66	846.82	55.83	16.168 ES		
7,550.00	7,478.58	7,502.84	7,475.83	29.03	27.23	-97.84	-790.55	-810.43	903.22	846.97	56.24	16.059		
7,600.00	7,527.76	7,545.34	7,523.82	29.24	27.39	-98.66	-790.00	-806.08	903.98	847.37	56.61	15.967		
7,650.00	7,576.94	7,606.47	7,571.80	29.46	27.62	-99.47	-789.45	-801.73	904.94	847.88	57.05	15.861		
7,700.00	7,626.12	7,641.72	7,619.79	29.68	27.75	-100.28	-788.90	-797.39	906.09	848.70	57.39	15.788		
7,750.00	7,675.30	7,689.90	7,667.77	29.89	27.94	-101.09	-788.35	-793.04	907.44	849.66	57.78	15.705		
7,800.00	7,724.48	7,738.09	7,715.76	30.11	28.12	-101.90	-787.80	-788.69	908.98	850.81	58.16	15.628		

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 Van Doo Dah 21-33 Fed Com 233H
Project:	Lea County (NAD83 New Mexico East)	TVD Reference:	RKB @ 3415.20ft
Reference Site:	Sec 21-T25S-R32E	MD Reference:	RKB @ 3415.20ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Van Doo Dah 21-33 Fed Com 233H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 2	Offset TVD Reference:	Offset Datum

Offset Design Sec 28-T25S-R32E - Marwari 21-16 State Fed Com 712H - Wellbore #1 - Permit Plan 1													Offset Site Error:	0.00 ft
Survey Program: 0-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)			
7,850.00	7,773.66	7,786.27	7,763.75	30.32	28.30	-102.70	-787.25	-784.35	910.71	852.16	58.55	15.555		
7,900.00	7,822.84	7,834.46	7,811.73	30.54	28.48	-103.50	-786.70	-780.00	912.64	853.71	58.93	15.487		
7,950.00	7,872.02	7,882.64	7,859.72	30.75	28.66	-104.30	-786.15	-775.66	914.76	855.45	59.31	15.423		
8,000.00	7,921.20	7,930.83	7,907.70	30.97	28.84	-105.10	-785.60	-771.31	917.06	857.37	59.69	15.363		
8,050.00	7,970.38	7,979.01	7,955.69	31.19	29.02	-105.89	-785.05	-766.96	919.56	859.49	60.07	15.308		
8,100.00	8,019.56	8,027.20	8,003.68	31.40	29.21	-106.67	-784.50	-762.62	922.24	861.79	60.45	15.257		
8,150.00	8,068.74	8,075.39	8,051.66	31.62	29.39	-107.45	-783.95	-758.27	925.11	864.28	60.82	15.210		
8,200.00	8,117.93	8,123.57	8,099.65	31.83	29.57	-108.23	-783.40	-753.92	928.15	866.96	61.19	15.167		
8,250.00	8,167.11	8,171.76	8,147.63	32.05	29.75	-109.00	-782.85	-749.58	931.38	869.82	61.57	15.128		
8,300.00	8,216.29	8,219.94	8,195.62	32.27	29.93	-109.77	-782.30	-745.23	934.79	872.86	61.94	15.093		
8,350.00	8,265.47	8,268.13	8,243.61	32.48	30.11	-110.53	-781.75	-740.88	938.38	876.07	62.31	15.061		
8,400.00	8,314.65	8,316.31	8,291.59	32.70	30.30	-111.29	-781.20	-736.54	942.14	879.47	62.67	15.032		
8,450.00	8,363.83	8,364.50	8,339.58	32.92	30.48	-112.04	-780.65	-732.19	946.08	883.04	63.04	15.007		
8,500.00	8,413.01	8,412.68	8,387.56	33.13	30.66	-112.78	-780.10	-727.85	950.19	886.78	63.41	14.986		
8,550.00	8,462.19	8,460.87	8,435.55	33.35	30.84	-113.52	-779.55	-723.50	954.46	890.69	63.77	14.967		
8,600.00	8,511.37	8,509.06	8,483.54	33.57	31.02	-114.26	-779.00	-719.15	958.91	894.77	64.13	14.952		
8,650.00	8,560.55	8,557.24	8,531.52	33.78	31.20	-114.98	-778.45	-714.81	963.51	899.02	64.49	14.940		
8,700.00	8,609.73	8,605.43	8,579.51	34.00	31.39	-115.70	-777.90	-710.46	968.28	903.43	64.85	14.931		
8,750.00	8,658.91	8,653.61	8,627.50	34.22	31.57	-116.41	-777.35	-706.11	973.21	908.00	65.21	14.924		
8,800.00	8,708.09	8,701.80	8,675.48	34.43	31.75	-117.12	-776.80	-701.77	978.30	912.73	65.57	14.920		
8,850.00	8,757.27	8,749.98	8,723.47	34.65	31.93	-117.82	-776.25	-697.42	983.54	917.61	65.92	14.919		
8,900.00	8,806.45	8,801.83	8,771.45	34.87	32.13	-118.51	-775.70	-693.07	988.93	922.64	66.29	14.918		
8,950.00	8,855.63	8,846.36	8,819.44	35.09	32.29	-119.19	-775.15	-688.73	994.48	927.84	66.63	14.925		
9,000.00	8,904.81	8,905.46	8,867.43	35.30	32.52	-119.87	-774.60	-684.38	1,000.17	933.14	67.03	14.922		
9,050.00	8,953.99	8,942.73	8,915.41	35.52	32.66	-120.54	-774.05	-680.04	1,006.00	938.66	67.34	14.940		
9,100.00	9,003.17	9,009.09	8,963.40	35.74	32.91	-121.20	-773.50	-675.69	1,011.98	944.22	67.76	14.935		
9,150.00	9,052.39	9,039.15	9,011.44	35.95	33.02	-121.91	-772.95	-671.34	1,017.99	949.95	68.04	14.962		
9,200.00	9,101.72	9,087.56	9,059.64	36.17	33.20	-122.60	-772.39	-666.97	1,023.79	955.40	68.39	14.970		
9,250.00	9,151.15	9,136.12	9,108.00	36.37	33.39	-123.24	-771.84	-662.59	1,029.36	960.62	68.73	14.976		
9,300.00	9,200.67	9,184.83	9,156.51	36.58	33.57	-123.85	-771.28	-658.20	1,034.67	965.59	69.08	14.978		
9,350.00	9,250.28	9,233.69	9,205.17	36.77	33.76	-124.43	-770.72	-653.79	1,039.71	970.28	69.42	14.977		
9,400.00	9,299.97	9,282.68	9,253.95	36.97	33.94	-124.97	-770.17	-649.37	1,044.45	974.69	69.76	14.971		
9,450.00	9,349.72	9,331.79	9,302.87	37.16	34.13	-125.47	-769.60	-644.94	1,048.90	978.79	70.10	14.962		
9,500.00	9,399.54	9,381.03	9,351.90	37.34	34.31	-125.93	-769.04	-640.50	1,053.03	982.58	70.45	14.948		
9,550.00	9,449.40	9,430.37	9,401.03	37.52	34.50	-126.36	-768.48	-636.05	1,056.82	986.04	70.78	14.930		
9,600.00	9,499.31	9,479.81	9,450.27	37.70	34.69	-126.76	-767.91	-631.59	1,060.28	989.15	71.12	14.908		
9,650.00	9,549.26	9,529.35	9,499.60	37.87	34.87	-127.12	-767.35	-627.12	1,063.38	991.92	71.46	14.881		
9,700.00	9,599.23	9,578.96	9,549.01	38.05	35.06	-127.45	-766.78	-622.65	1,066.12	994.32	71.80	14.849		
9,750.00	9,649.22	9,628.66	9,598.50	38.21	35.25	-127.75	-766.22	-618.16	1,068.48	996.35	72.13	14.813		
9,800.00	9,699.22	9,678.42	9,648.05	38.37	35.43	-128.01	-765.65	-613.68	1,070.47	998.01	72.46	14.772		
9,850.00	9,749.22	9,728.21	9,697.64	38.53	35.62	-128.69	-765.08	-609.18	1,072.25	999.46	72.80	14.729		
9,900.00	9,799.22	9,778.00	9,747.23	38.69	35.81	-129.47	-764.51	-604.69	1,074.05	1,000.92	73.13	14.687		
9,950.00	9,849.22	9,827.80	9,796.81	38.85	36.00	-129.24	-763.94	-600.20	1,075.86	1,002.40	73.46	14.645		
10,000.00	9,899.22	9,877.59	9,846.40	39.00	36.19	-129.02	-763.37	-595.71	1,077.69	1,003.90	73.79	14.604		
10,050.00	9,949.22	9,927.38	9,895.99	39.16	36.37	-128.80	-762.80	-591.22	1,079.54	1,005.42	74.12	14.564		
10,100.00	9,999.22	9,977.17	9,945.57	39.32	36.56	-128.58	-762.24	-586.73	1,081.40	1,006.94	74.46	14.524		
10,150.00	10,049.22	10,026.97	9,995.16	39.48	36.75	-128.37	-761.67	-582.24	1,083.28	1,008.49	74.79	14.484		
10,200.00	10,099.17	10,076.73	10,044.72	39.64	36.94	-128.22	-761.10	-577.75	1,086.02	1,011.70	75.13	14.467 SF		
10,250.00	10,148.75	10,126.18	10,093.96	39.80	37.13	-127.99	-760.53	-573.29	1,088.05	1,015.59	75.46	14.498		
10,300.00	10,197.61	10,174.95	10,142.53	39.96	37.31	-127.28	-759.98	-568.89	1,104.91	1,029.11	75.80	14.576		
10,350.00	10,245.35	10,222.66	10,190.04	40.12	37.49	-126.66	-759.43	-564.58	1,119.32	1,043.19	76.13	14.702		
10,400.00	10,291.62	10,268.95	10,236.14	40.27	37.67	-125.92	-758.90	-560.41	1,137.21	1,060.75	76.46	14.874		

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

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Van Doo Dah 21-33 Fed Com 233H
Project:	Lea County (NAD83 New Mexico East)	TVD Reference:	RKB @ 3415.20ft
Reference Site:	Sec 21-T25S-R32E	MD Reference:	RKB @ 3415.20ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Van Doo Dah 21-33 Fed Com 233H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 2	Offset TVD Reference:	Offset Datum

Offset Design Sec 28-T25S-R32E - Marwari 21-16 State Fed Com 712H - Wellbore #1 - Permit Plan 1													Offset Site Error:	0.00 ft
Survey Program: 0-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		
10,450.00	10,336.07	10,313.47	10,280.48	40.42	37.83	145.02	-758.40	-556.39	1,158.46	1,081.69	76.77	15.090		
10,500.00	10,378.36	10,355.88	10,322.71	40.56	37.99	143.94	-757.91	-552.57	1,182.96	1,105.89	77.07	15.350		
10,550.00	10,418.17	10,404.15	10,362.52	40.70	38.18	142.60	-757.46	-548.96	1,210.56	1,133.19	77.38	15.645		
10,600.00	10,455.18	10,433.09	10,399.60	40.82	38.29	140.95	-757.03	-545.60	1,241.12	1,163.52	77.60	15.993		
10,650.00	10,489.13	10,467.31	10,433.68	40.95	38.41	138.90	-756.64	-542.52	1,274.44	1,196.60	77.84	16.373		
10,700.00	10,519.76	10,501.76	10,464.48	41.06	38.54	136.33	-756.29	-539.73	1,310.31	1,232.25	78.06	16.787		
10,750.00	10,546.82	10,525.66	10,491.79	41.17	38.63	133.09	-755.97	-537.25	1,348.51	1,270.28	78.22	17.240		
10,800.00	10,570.12	10,549.35	10,515.38	41.28	38.72	128.96	-755.70	-535.12	1,388.77	1,310.40	78.37	17.720		
10,850.00	10,589.47	10,569.14	10,535.09	41.39	38.80	123.71	-755.48	-533.33	1,430.82	1,352.33	78.49	18.229		
10,900.00	10,604.74	10,584.87	10,550.75	41.51	38.86	117.03	-755.30	-531.91	1,474.36	1,395.78	78.58	18.762		

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Van Doo Dah 21-33 Fed Com 233H
Project:	Lea County (NAD83 New Mexico East)	TVD Reference:	RKB @ 3415.20ft
Reference Site:	Sec 21-T25S-R32E	MD Reference:	RKB @ 3415.20ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Van Doo Dah 21-33 Fed Com 233H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 2	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:		0.00 ft
Survey Program: 0-MWD+HDGM													Offset Well Error:		0.50 ft
Reference		Offset		Semi Major Axis				Distance				Minimum Separation (ft)	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)	Offset Wellbore Centre +E-W (ft)	Between Centres (ft)	Between Ellipses (ft)					
0.00	0.00	0.00	0.00	0.50	0.50	-124.78	-849.15	-1,222.79	1,488.78						
50.00	50.00	36.80	36.80	0.50	0.50	-124.78	-849.15	-1,222.79	1,488.72	1,487.71	1.00	1,482.435			
100.00	100.00	86.80	86.80	0.52	0.51	-124.78	-849.15	-1,222.79	1,488.72	1,487.69	1.03	1,445.104			
150.00	150.00	136.80	136.80	0.59	0.56	-124.78	-849.15	-1,222.79	1,488.72	1,487.56	1.15	1,289.628			
200.00	200.00	186.80	186.80	0.70	0.67	-124.78	-849.15	-1,222.79	1,488.72	1,487.35	1.37	1,087.858			
250.00	250.00	236.80	236.80	0.84	0.80	-124.78	-849.15	-1,222.79	1,488.72	1,487.08	1.63	911.068			
300.00	300.00	286.80	286.80	0.99	0.94	-124.78	-849.15	-1,222.79	1,488.72	1,486.79	1.93	771.394			
350.00	350.00	336.80	336.80	1.15	1.10	-124.78	-849.15	-1,222.79	1,488.72	1,486.47	2.24	663.384			
400.00	400.00	386.80	386.80	1.31	1.26	-124.78	-849.15	-1,222.79	1,488.72	1,486.15	2.57	579.275			
450.00	450.00	436.80	436.80	1.48	1.43	-124.78	-849.15	-1,222.79	1,488.72	1,485.81	2.90	512.730			
500.00	500.00	486.80	486.80	1.65	1.60	-124.78	-849.15	-1,222.79	1,488.72	1,485.48	3.24	459.142			
550.00	550.00	536.80	536.80	1.82	1.77	-124.78	-849.15	-1,222.79	1,488.72	1,485.13	3.59	415.254			
600.00	600.00	586.80	586.80	1.99	1.94	-124.78	-849.15	-1,222.79	1,488.72	1,484.79	3.93	378.752			
650.00	650.00	636.80	636.80	2.16	2.11	-124.78	-849.15	-1,222.79	1,488.72	1,484.44	4.28	347.975			
700.00	700.00	686.80	686.80	2.34	2.29	-124.78	-849.15	-1,222.79	1,488.72	1,484.09	4.63	321.709			
750.00	750.00	736.80	736.80	2.51	2.46	-124.78	-849.15	-1,222.79	1,488.72	1,483.74	4.98	299.051			
800.00	800.00	786.80	786.80	2.69	2.64	-124.78	-849.15	-1,222.79	1,488.72	1,483.39	5.33	279.321			
850.00	850.00	836.80	836.80	2.87	2.82	-124.78	-849.15	-1,222.79	1,488.72	1,483.04	5.68	261.993			
900.00	900.00	886.80	886.80	3.04	2.99	-124.78	-849.15	-1,222.79	1,488.72	1,482.68	6.04	246.661			
950.00	950.00	936.80	936.80	3.22	3.17	-124.78	-849.15	-1,222.79	1,488.72	1,482.33	6.39	233.002			
1,000.00	1,000.00	986.80	986.80	3.40	3.35	-124.78	-849.15	-1,222.79	1,488.72	1,481.97	6.74	220.761			
1,050.00	1,050.00	1,036.80	1,036.80	3.57	3.52	-124.78	-849.15	-1,222.79	1,488.72	1,481.62	7.10	209.730			
1,100.00	1,100.00	1,086.80	1,086.80	3.75	3.70	-124.78	-849.15	-1,222.79	1,488.72	1,481.26	7.45	199.738			
1,150.00	1,150.00	1,136.80	1,136.80	3.93	3.88	-124.78	-849.15	-1,222.79	1,488.72	1,480.91	7.81	190.648			
1,200.00	1,200.00	1,186.80	1,186.80	4.11	4.06	-124.78	-849.15	-1,222.79	1,488.72	1,480.55	8.16	182.343			
1,250.00	1,250.00	1,236.80	1,236.80	4.29	4.23	-124.78	-849.15	-1,222.79	1,488.72	1,480.20	8.52	174.727			
1,300.00	1,300.00	1,286.80	1,286.80	4.46	4.41	-124.78	-849.15	-1,222.79	1,488.72	1,479.84	8.88	167.717			
1,350.00	1,350.00	1,336.80	1,336.80	4.64	4.59	-124.78	-849.15	-1,222.79	1,488.72	1,479.48	9.23	161.245			
1,400.00	1,400.00	1,386.80	1,386.80	4.82	4.77	-124.78	-849.15	-1,222.79	1,488.72	1,479.13	9.59	155.252			
1,450.00	1,450.00	1,436.80	1,436.80	5.00	4.95	-124.78	-849.15	-1,222.79	1,488.72	1,478.77	9.95	149.685			
1,500.00	1,500.00	1,486.80	1,486.80	5.18	5.13	-124.78	-849.15	-1,222.79	1,488.72	1,478.42	10.30	144.502			
1,550.00	1,550.00	1,536.80	1,536.80	5.36	5.30	-124.78	-849.15	-1,222.79	1,488.72	1,478.06	10.66	139.665			
1,600.00	1,600.00	1,586.80	1,586.80	5.53	5.48	-124.78	-849.15	-1,222.79	1,488.72	1,477.70	11.02	135.140			
1,650.00	1,650.00	1,646.42	1,646.42	5.71	5.69	-124.78	-849.16	-1,222.60	1,488.60	1,477.20	11.40	130.544			
1,700.00	1,700.00	1,709.47	1,709.46	5.89	5.91	-124.80	-849.19	-1,221.75	1,488.06	1,476.26	11.80	126.105			
1,750.00	1,750.00	1,772.50	1,772.47	6.07	6.12	-124.84	-849.26	-1,220.20	1,487.08	1,474.88	12.19	121.982			
1,800.00	1,800.00	1,835.49	1,835.42	6.25	6.34	-124.89	-849.35	-1,217.96	1,485.66	1,473.08	12.58	118.075			
1,850.00	1,850.00	1,898.42	1,898.28	6.43	6.56	-124.96	-849.47	-1,215.03	1,483.80	1,470.83	12.97	114.373			
1,900.00	1,900.00	1,961.27	1,961.03	6.61	6.77	-125.04	-849.62	-1,211.42	1,481.51	1,468.15	13.36	110.854			
1,950.00	1,950.00	2,024.05	2,023.66	6.78	6.99	-125.14	-849.79	-1,207.12	1,478.79	1,465.04	13.76	107.508			
2,000.00	2,000.00	2,086.71	2,086.13	6.96	7.21	-125.26	-849.99	-1,202.15	1,475.64	1,461.50	14.15	104.321			
2,050.00	2,050.00	2,149.27	2,148.43	7.14	7.43	-125.40	-850.22	-1,196.51	1,472.06	1,457.53	14.54	101.276			
2,100.00	2,100.00	2,211.69	2,210.53	7.32	7.65	-125.55	-850.48	-1,190.20	1,468.06	1,453.14	14.92	98.368			
2,150.00	2,150.00	2,273.96	2,272.41	7.50	7.88	-125.72	-850.77	-1,183.23	1,463.64	1,448.32	15.31	95.579			
2,200.00	2,200.00	2,336.08	2,334.06	7.68	8.10	-125.90	-851.08	-1,175.61	1,458.80	1,443.09	15.70	92.906			
2,250.00	2,250.00	2,408.45	2,389.04	7.86	8.36	-126.08	-851.38	-1,168.31	1,453.60	1,437.47	16.13	90.102			
2,300.00	2,300.00	2,441.10	2,438.15	8.04	8.48	-126.24	-851.64	-1,161.71	1,448.37	1,431.94	16.43	88.164			
2,350.00	2,350.00	2,509.34	2,487.27	8.21	8.73	-126.41	-851.91	-1,155.11	1,443.15	1,426.30	16.85	85.640			
2,400.00	2,400.00	2,540.21	2,536.38	8.39	8.85	-126.57	-852.18	-1,148.52	1,437.94	1,420.80	17.14	83.889			
2,450.00	2,450.00	2,589.77	2,585.49	8.57	9.03	-126.74	-852.45	-1,141.92	1,432.75	1,415.25	17.50	81.879			
2,500.00	2,500.00	2,639.32	2,634.60	8.75	9.21	-126.91	-852.72	-1,135.33	1,427.57	1,409.71	17.86	79.946			
2,550.00	2,550.00	2,688.85	2,683.69	8.93	9.40	-127.04	-852.99	-1,128.73	1,422.24	1,404.03	18.21	78.097			

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

Anticollision Report

Company: WCDSC Permian NM
Project: Lea County (NAD83 New Mexico East)
Reference Site: Sec 21-T25S-R32E
Site Error: 0.00 ft
Reference Well: Van Doo Dah 21-33 Fed Com 233H
Well Error: 0.50 ft
Reference Wellbore: Wellbore #1
Reference Design: Permit Plan 2

Local Co-ordinate Reference: Well Van Doo Dah 21-33 Fed Com 233H
TVD Reference: RKB @ 3415.20ft
MD Reference: RKB @ 3415.20ft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: EDM r5000.141_Prod US
Offset TVD Reference: Offset Datum

Offset Design Sec 28-T25S-R32E - Marwari 21-16 State Fed Com 731H - Wellbore #1 - Permit Plan 1														Offset Site Error:	0.00 ft
Survey Program: 0-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			
2,600.00	2,599.99	2,738.31	2,732.71	9.10	9.58	-45.27	-853.26	-1,122.15	1,416.63	1,398.06	18.57	76.300			
2,650.00	2,649.98	2,787.71	2,781.67	9.27	9.77	-45.52	-853.53	-1,115.58	1,410.72	1,391.80	18.92	74.569			
2,700.00	2,699.96	2,837.04	2,830.56	9.45	9.95	-45.78	-853.80	-1,109.01	1,404.53	1,385.26	19.27	72.884			
2,750.00	2,749.92	2,886.29	2,879.37	9.62	10.14	-46.06	-854.06	-1,102.45	1,398.06	1,378.44	19.62	71.244			
2,800.00	2,799.86	2,935.47	2,928.11	9.79	10.33	-46.35	-854.33	-1,095.91	1,391.32	1,371.34	19.98	69.646			
2,850.00	2,849.78	2,984.57	2,976.78	9.97	10.51	-46.67	-854.60	-1,089.37	1,384.30	1,363.97	20.33	68.088			
2,900.00	2,899.68	3,033.58	3,025.35	10.14	10.70	-47.00	-854.86	-1,082.85	1,377.02	1,356.33	20.69	66.570			
2,950.00	2,949.54	3,082.51	3,073.84	10.31	10.89	-47.35	-855.13	-1,076.33	1,369.48	1,348.44	21.04	65.089			
3,000.00	2,999.37	3,131.34	3,122.24	10.49	11.07	-47.72	-855.39	-1,069.83	1,361.68	1,340.28	21.39	63.645			
3,050.00	3,049.16	3,180.08	3,170.55	10.66	11.26	-48.10	-855.66	-1,063.35	1,353.64	1,331.88	21.75	62.234			
3,100.00	3,098.90	3,228.73	3,218.76	10.84	11.45	-48.51	-855.92	-1,056.87	1,345.35	1,323.24	22.11	60.857			
3,150.00	3,148.61	3,277.26	3,266.86	11.02	11.63	-48.93	-856.19	-1,050.41	1,336.83	1,314.37	22.46	59.511			
3,200.00	3,198.26	3,325.69	3,314.86	11.20	11.82	-49.38	-856.45	-1,043.97	1,328.08	1,305.26	22.82	58.197			
3,250.00	3,247.86	3,374.02	3,362.75	11.38	12.00	-49.85	-856.71	-1,037.53	1,319.12	1,295.94	23.18	56.911			
3,300.00	3,297.40	3,422.22	3,410.53	11.56	12.19	-50.34	-856.98	-1,031.12	1,309.94	1,286.41	23.54	55.654			
3,350.00	3,346.89	3,470.31	3,458.19	11.74	12.38	-50.85	-857.24	-1,024.72	1,300.57	1,276.67	23.90	54.424			
3,400.00	3,396.30	3,518.28	3,505.73	11.92	12.56	-51.38	-857.50	-1,018.33	1,291.00	1,266.75	24.26	53.222			
3,450.00	3,445.65	3,566.13	3,553.15	12.10	12.75	-51.93	-857.76	-1,011.96	1,281.25	1,256.64	24.62	52.044			
3,500.00	3,494.93	3,613.84	3,600.44	12.29	12.93	-52.51	-858.02	-1,005.61	1,271.34	1,246.36	24.98	50.893			
3,550.00	3,544.13	3,661.43	3,647.60	12.47	13.12	-53.09	-858.27	-999.28	1,261.27	1,235.92	25.34	49.764			
3,600.00	3,593.32	3,708.98	3,694.73	12.66	13.30	-53.63	-858.53	-992.95	1,251.23	1,225.52	25.71	48.667			
3,650.00	3,642.50	3,756.52	3,741.85	12.85	13.49	-54.17	-858.79	-986.62	1,241.31	1,215.23	26.08	47.602			
3,700.00	3,691.68	3,804.07	3,788.97	13.04	13.67	-54.71	-859.05	-980.29	1,231.49	1,205.05	26.44	46.569			
3,750.00	3,740.86	3,851.62	3,836.10	13.23	13.86	-55.27	-859.31	-973.96	1,221.80	1,194.98	26.81	45.565			
3,800.00	3,790.04	3,900.84	3,883.22	13.42	14.05	-55.84	-859.57	-967.63	1,212.22	1,185.03	27.19	44.580			
3,850.00	3,839.22	3,946.71	3,930.34	13.62	14.23	-56.41	-859.82	-961.30	1,202.77	1,175.21	27.56	43.644			
3,900.00	3,888.40	3,994.26	3,977.47	13.81	14.41	-56.99	-860.08	-954.97	1,193.45	1,165.51	27.93	42.725			
3,950.00	3,937.58	4,041.80	4,024.59	14.01	14.60	-57.58	-860.34	-948.65	1,184.25	1,155.94	28.31	41.832			
4,000.00	3,986.76	4,089.35	4,071.71	14.20	14.79	-58.18	-860.60	-942.32	1,175.18	1,146.50	28.69	40.966			
4,050.00	4,035.94	4,136.90	4,118.83	14.40	14.97	-58.79	-860.86	-935.99	1,166.25	1,137.18	29.07	40.124			
4,100.00	4,085.12	4,184.45	4,165.96	14.59	15.16	-59.40	-861.12	-929.66	1,157.46	1,128.01	29.45	39.307			
4,150.00	4,134.30	4,231.99	4,213.08	14.79	15.35	-60.03	-861.37	-923.33	1,148.80	1,118.97	29.83	38.512			
4,200.00	4,183.48	4,279.54	4,260.20	14.99	15.53	-60.66	-861.63	-917.00	1,140.30	1,110.08	30.21	37.742			
4,250.00	4,232.66	4,327.09	4,307.33	15.19	15.72	-61.30	-861.89	-910.67	1,131.93	1,101.34	30.60	36.993			
4,300.00	4,281.84	4,374.63	4,354.45	15.39	15.91	-61.95	-862.15	-904.34	1,123.72	1,092.74	30.99	36.266			
4,350.00	4,331.02	4,422.18	4,401.57	15.59	16.10	-62.61	-862.41	-898.01	1,115.67	1,084.29	31.37	35.561			
4,400.00	4,380.20	4,469.73	4,448.70	15.79	16.28	-63.28	-862.67	-891.69	1,107.77	1,076.01	31.76	34.876			
4,450.00	4,429.38	4,517.27	4,495.82	15.99	16.47	-63.96	-862.92	-885.36	1,100.03	1,067.88	32.15	34.211			
4,500.00	4,478.57	4,564.82	4,542.94	16.19	16.66	-64.64	-863.18	-879.03	1,092.46	1,059.91	32.55	33.566			
4,550.00	4,527.75	4,612.37	4,590.07	16.39	16.84	-65.34	-863.44	-872.70	1,085.05	1,052.11	32.94	32.939			
4,600.00	4,576.93	4,659.91	4,637.19	16.59	17.03	-66.04	-863.70	-866.37	1,077.82	1,044.48	33.34	32.332			
4,650.00	4,626.11	4,707.46	4,684.31	16.80	17.22	-66.76	-863.96	-860.04	1,070.76	1,037.02	33.73	31.742			
4,700.00	4,675.29	4,755.01	4,731.43	17.00	17.41	-67.48	-864.22	-853.71	1,063.88	1,029.74	34.13	31.171			
4,750.00	4,724.47	4,802.56	4,778.56	17.21	17.60	-68.21	-864.47	-847.38	1,057.17	1,022.64	34.53	30.616			
4,800.00	4,773.65	4,850.10	4,825.68	17.41	17.78	-68.94	-864.73	-841.06	1,050.66	1,015.73	34.93	30.079			
4,850.00	4,822.83	4,902.35	4,878.80	17.61	17.99	-69.69	-864.99	-834.73	1,044.33	1,008.98	35.35	29.543			
4,900.00	4,872.01	4,945.20	4,919.93	17.82	18.16	-70.44	-865.25	-828.40	1,038.20	1,002.46	35.73	29.054			
4,950.00	4,921.19	5,007.26	4,987.05	18.03	18.41	-71.21	-865.51	-822.07	1,032.26	996.06	36.19	28.520			
5,000.00	4,970.37	5,040.29	5,014.17	18.23	18.54	-71.98	-865.77	-815.74	1,026.52	989.97	36.54	28.092			
5,050.00	5,019.55	5,087.84	5,061.30	18.44	18.73	-72.76	-866.02	-809.41	1,020.98	984.03	36.95	27.633			
5,100.00	5,068.73	5,135.38	5,108.42	18.64	18.91	-73.54	-866.28	-803.08	1,015.64	978.29	37.35	27.190			
5,150.00	5,117.91	5,182.93	5,155.54	18.85	19.10	-74.33	-866.54	-796.75	1,010.52	972.76	37.76	26.761			

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

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Van Doo Dah 21-33 Fed Com 233H
Project:	Lea County (NAD83 New Mexico East)	TVD Reference:	RKB @ 3415.20ft
Reference Site:	Sec 21-T25S-R32E	MD Reference:	RKB @ 3415.20ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Van Doo Dah 21-33 Fed Com 233H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 2	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:		0.00 ft
Survey Program: 0-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			
5,200.00	5,167.09	5,230.48	5,202.87	19.06	19.29	-75.14	-866.80	-790.42	1,005.61	987.44	38.17	26.347			
5,250.00	5,216.27	5,278.02	5,249.79	19.27	19.48	-75.94	-867.06	-784.10	1,000.91	982.33	38.58	25.946			
5,300.00	5,265.45	5,325.57	5,296.91	19.47	19.67	-76.76	-867.32	-777.77	996.43	957.44	38.99	25.559			
5,350.00	5,314.63	5,373.12	5,344.03	19.68	19.86	-77.58	-867.57	-771.44	992.17	952.78	39.40	25.185			
5,400.00	5,363.81	5,420.66	5,391.16	19.89	20.05	-78.41	-867.83	-765.11	988.14	948.33	39.80	24.825			
5,450.00	5,413.00	5,468.21	5,438.28	20.10	20.24	-79.24	-868.09	-758.78	984.33	944.11	40.21	24.477			
5,500.00	5,462.18	5,515.76	5,485.40	20.31	20.43	-80.08	-868.35	-752.45	980.75	940.12	40.62	24.142			
5,550.00	5,511.36	5,563.31	5,532.53	20.52	20.61	-80.92	-868.61	-746.12	977.40	936.36	41.04	23.818			
5,600.00	5,560.54	5,610.85	5,579.65	20.73	20.80	-81.77	-868.87	-739.79	974.29	932.84	41.45	23.508			
5,650.00	5,609.72	5,658.40	5,626.77	20.94	20.99	-82.62	-869.12	-733.47	971.41	929.55	41.86	23.208			
5,700.00	5,658.90	5,705.95	5,673.90	21.15	21.18	-83.48	-869.38	-727.14	968.77	926.51	42.27	22.921			
5,750.00	5,708.08	5,753.49	5,721.02	21.36	21.37	-84.35	-869.64	-720.81	966.37	923.70	42.68	22.645			
5,800.00	5,757.26	5,801.04	5,768.14	21.57	21.56	-85.21	-869.90	-714.48	964.22	921.13	43.09	22.379			
5,850.00	5,806.44	5,848.59	5,815.27	21.78	21.75	-86.08	-870.16	-708.15	962.31	918.81	43.49	22.125			
5,900.00	5,855.62	5,903.87	5,862.39	21.99	21.97	-86.95	-870.42	-701.82	960.64	916.71	43.93	21.866			
5,950.00	5,904.80	5,943.68	5,909.51	22.20	22.13	-87.83	-870.67	-695.49	959.22	914.91	44.31	21.648			
6,000.00	5,953.98	6,008.77	5,956.64	22.41	22.39	-88.71	-870.93	-689.16	958.05	913.26	44.79	21.391			
6,050.00	6,003.16	6,038.77	6,003.76	22.62	22.51	-89.59	-871.19	-682.83	957.12	912.00	45.12	21.212			
6,100.00	6,052.34	6,086.32	6,050.88	22.83	22.70	-90.47	-871.45	-676.51	956.45	910.92	45.53	21.008			
6,150.00	6,101.52	6,133.87	6,098.00	23.04	22.89	-91.35	-871.71	-670.18	956.02	910.09	45.93	20.814			
6,200.00	6,150.70	6,181.41	6,145.13	23.26	23.08	-92.23	-871.97	-663.85	955.85	909.52	46.33	20.629			
6,209.81	6,160.35	6,209.26	6,154.37	23.30	23.19	-92.40	-872.02	-662.61	955.85	909.36	46.49	20.561 CC			
6,250.00	6,199.88	6,228.96	6,192.25	23.47	23.27	-93.11	-872.22	-657.52	955.93	909.19	46.74	20.454			
6,300.00	6,249.06	6,276.51	6,239.37	23.68	23.46	-93.99	-872.48	-651.19	956.25	909.12	47.14	20.287 ES			
6,350.00	6,298.25	6,324.06	6,286.50	23.89	23.65	-94.87	-872.74	-644.86	956.83	909.29	47.54	20.129			
6,400.00	6,347.43	6,371.60	6,333.62	24.11	23.84	-95.75	-873.00	-638.53	957.65	909.72	47.93	19.979			
6,450.00	6,396.61	6,419.15	6,380.74	24.32	24.03	-96.63	-873.26	-632.20	958.73	910.40	48.33	19.838			
6,500.00	6,445.79	6,466.70	6,427.87	24.53	24.22	-97.51	-873.52	-625.88	960.05	911.33	48.72	19.704			
6,550.00	6,494.97	6,514.24	6,474.99	24.74	24.41	-98.38	-873.77	-619.55	961.62	912.51	49.12	19.578			
6,600.00	6,544.15	6,561.79	6,522.11	24.96	24.60	-99.25	-874.03	-613.22	963.44	913.93	49.51	19.460			
6,650.00	6,593.33	6,609.34	6,569.24	25.17	24.79	-100.12	-874.29	-606.89	965.50	915.60	49.90	19.350			
6,700.00	6,642.51	6,656.88	6,616.36	25.38	24.98	-100.98	-874.55	-600.56	967.80	917.52	50.28	19.246			
6,750.00	6,691.69	6,704.43	6,663.48	25.60	25.17	-101.84	-874.81	-594.23	970.35	919.68	50.67	19.150			
6,800.00	6,740.87	6,751.98	6,710.60	25.81	25.36	-102.70	-875.07	-587.90	973.13	922.07	51.06	19.060			
6,850.00	6,790.05	6,800.48	6,757.73	26.02	25.55	-103.55	-875.32	-581.57	976.15	924.71	51.44	18.976			
6,900.00	6,839.23	6,847.07	6,804.85	26.24	25.74	-104.39	-875.58	-575.24	979.41	927.59	51.82	18.901			
6,950.00	6,888.41	6,905.38	6,851.97	26.45	25.97	-105.24	-875.84	-568.92	982.89	930.65	52.24	18.815			
7,000.00	6,937.59	6,942.17	6,899.10	26.67	26.12	-106.07	-876.10	-562.59	986.61	934.04	52.57	18.766			
7,050.00	6,986.77	6,989.71	6,946.22	26.88	26.31	-106.90	-876.36	-556.26	990.56	937.61	52.95	18.707			
7,100.00	7,035.95	7,037.26	6,993.34	27.10	26.50	-107.72	-876.62	-549.93	994.73	941.41	53.32	18.654			
7,150.00	7,085.13	7,084.81	7,040.47	27.31	26.69	-108.54	-876.87	-543.60	999.12	945.43	53.70	18.607			
7,200.00	7,134.31	7,132.35	7,087.59	27.52	26.88	-109.35	-877.13	-537.27	1,003.74	949.67	54.07	18.565			
7,250.00	7,183.49	7,179.90	7,134.71	27.74	27.07	-110.15	-877.39	-530.94	1,008.57	954.13	54.44	18.528			
7,300.00	7,232.68	7,227.45	7,181.84	27.95	27.26	-110.95	-877.65	-524.61	1,013.61	958.81	54.80	18.496			
7,350.00	7,281.86	7,274.99	7,228.96	28.17	27.45	-111.74	-877.91	-518.29	1,018.86	963.69	55.17	18.469			
7,400.00	7,331.04	7,322.54	7,276.08	28.38	27.64	-112.52	-878.17	-511.96	1,024.32	968.79	55.53	18.446			
7,450.00	7,380.22	7,370.09	7,323.20	28.60	27.83	-113.29	-878.42	-505.63	1,029.98	974.09	55.89	18.428			
7,500.00	7,429.40	7,417.63	7,370.33	28.81	28.02	-114.06	-878.68	-499.30	1,035.84	979.59	56.25	18.414			
7,550.00	7,478.58	7,465.18	7,417.45	29.03	28.21	-114.82	-878.94	-492.97	1,041.90	985.29	56.61	18.404			
7,600.00	7,527.76	7,512.73	7,464.57	29.24	28.40	-115.57	-879.20	-486.64	1,048.15	991.18	56.97	18.398			
7,650.00	7,576.94	7,560.27	7,511.70	29.46	28.59	-116.31	-879.46	-480.31	1,054.60	997.27	57.33	18.396 SF			
7,700.00	7,626.12	7,607.82	7,558.82	29.68	28.78	-117.04	-879.72	-473.98	1,061.22	1,003.54	57.68	18.398			

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

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Van Doo Dah 21-33 Fed Com 233H
Project:	Lea County (NAD83 New Mexico East)	TVD Reference:	RKB @ 3415.20ft
Reference Site:	Sec 21-T25S-R32E	MD Reference:	RKB @ 3415.20ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Van Doo Dah 21-33 Fed Com 233H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore:	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 2	Offset TVD Reference:	Offset Datum

Offset Design														Offset Site Error:	0.00 ft
Survey Program: 0-MWD+HDMG														Offset Well Error:	0.50 ft
Reference															
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference	Offset	Semi Major Axis	Highside	Offset Wellbore Centre	Distance	Between Centres	Between Ellipses	Minimum Separation	Separation Factor	Warning	
				(ft)	(ft)	(ft)	(ft)	+N-S (ft)	+E-W (ft)	(ft)	(ft)	(ft)			
7,750.00	7,675.30	7,655.37	7,605.94	29.89	28.97	-117.76		-879.97	-467.65	1,068.04	1,010.00	58.04	18.403		
7,800.00	7,724.48	7,702.92	7,653.07	30.11	29.17	-118.48		-880.23	-461.33	1,075.03	1,016.84	58.39	18.412		
7,850.00	7,773.66	7,750.46	7,700.19	30.32	29.36	-119.19		-880.49	-455.00	1,082.19	1,023.45	58.74	18.424		
7,900.00	7,822.84	7,801.99	7,747.31	30.54	29.56	-119.89		-880.75	-448.67	1,089.53	1,030.43	59.11	18.434		
7,950.00	7,872.02	7,845.56	7,794.44	30.75	29.74	-120.58		-881.01	-442.34	1,097.04	1,037.60	59.44	18.457		
8,000.00	7,921.20	7,906.90	7,841.56	30.97	29.98	-121.26		-881.27	-436.01	1,104.71	1,044.87	59.84	18.461		
8,050.00	7,970.38	7,940.65	7,888.68	31.19	30.12	-121.93		-881.52	-429.68	1,112.55	1,052.42	60.13	18.501		
8,100.00	8,019.56	7,988.20	7,935.81	31.40	30.31	-122.59		-881.78	-423.35	1,120.55	1,060.06	60.48	18.527		
8,150.00	8,068.74	8,035.74	7,982.93	31.62	30.50	-123.25		-882.04	-417.02	1,128.70	1,067.87	60.83	18.556		
8,200.00	8,117.93	8,083.29	8,030.05	31.83	30.69	-123.89		-882.30	-410.69	1,137.00	1,075.83	61.17	18.587		
8,250.00	8,167.11	8,130.84	8,077.17	32.05	30.88	-124.53		-882.56	-404.37	1,145.45	1,083.93	61.52	18.621		
8,300.00	8,216.29	8,178.38	8,124.30	32.27	31.07	-125.16		-882.82	-398.04	1,154.04	1,092.19	61.86	18.656		
8,350.00	8,265.47	8,225.93	8,171.42	32.48	31.26	-125.78		-883.07	-391.71	1,162.78	1,100.58	62.20	18.694		
8,400.00	8,314.65	8,273.48	8,218.54	32.70	31.45	-126.39		-883.33	-385.38	1,171.66	1,109.12	62.54	18.734		
8,450.00	8,363.83	8,321.03	8,265.67	32.92	31.65	-126.99		-883.59	-379.05	1,180.67	1,117.79	62.88	18.775		
8,500.00	8,413.01	8,368.57	8,312.79	33.13	31.84	-127.58		-883.85	-372.72	1,189.82	1,126.60	63.23	18.819		
8,550.00	8,462.19	8,416.12	8,359.91	33.35	32.03	-128.17		-884.11	-366.39	1,199.10	1,135.53	63.57	18.864		
8,600.00	8,511.37	8,463.67	8,407.04	33.57	32.22	-128.74		-884.37	-360.06	1,208.50	1,144.59	63.91	18.911		
8,650.00	8,560.55	8,511.21	8,454.16	33.78	32.41	-129.31		-884.62	-353.74	1,218.03	1,153.78	64.25	18.959		
8,700.00	8,609.73	8,558.76	8,501.28	34.00	32.60	-129.87		-884.88	-347.41	1,227.68	1,163.09	64.58	19.009		
8,750.00	8,658.91	8,606.31	8,548.41	34.22	32.79	-130.42		-885.14	-341.08	1,237.44	1,172.52	64.92	19.060		
8,800.00	8,708.09	8,653.85	8,595.53	34.43	32.98	-130.96		-885.40	-334.75	1,247.32	1,182.06	65.26	19.113		
8,850.00	8,757.27	8,701.40	8,642.65	34.65	33.17	-131.50		-885.66	-328.42	1,257.32	1,191.72	65.60	19.166		
8,900.00	8,806.45	8,748.95	8,689.77	34.87	33.36	-132.03		-885.92	-322.09	1,267.42	1,201.48	65.94	19.221		
8,950.00	8,855.63	8,803.51	8,736.90	35.09	33.58	-132.55		-886.17	-315.76	1,277.63	1,211.33	66.30	19.269		
9,000.00	8,904.81	8,844.04	8,784.02	35.30	33.75	-133.06		-886.43	-309.43	1,287.95	1,221.34	66.61	19.334		
9,050.00	8,953.99	8,891.59	8,831.14	35.52	33.94	-133.56		-886.69	-303.10	1,298.37	1,231.42	66.95	19.393		
9,100.00	9,003.17	8,939.13	8,878.27	35.74	34.13	-134.06		-886.95	-296.78	1,308.89	1,241.60	67.29	19.452		
9,150.00	9,052.39	8,986.74	8,925.45	35.95	34.32	-134.63		-887.21	-290.44	1,319.36	1,251.74	67.63	19.510		
9,200.00	9,101.72	9,034.55	8,972.83	36.17	34.51	-135.20		-887.47	-284.08	1,329.49	1,261.52	67.96	19.562		
9,250.00	9,151.15	9,082.54	9,020.39	36.37	34.70	-135.73		-887.73	-277.69	1,339.23	1,270.93	68.30	19.608		
9,300.00	9,200.67	9,130.70	9,068.13	36.58	34.90	-136.24		-887.99	-271.28	1,348.60	1,279.96	68.64	19.648		
9,350.00	9,250.28	9,179.04	9,116.04	36.77	35.09	-136.72		-888.25	-264.84	1,357.56	1,288.58	68.97	19.682		
9,400.00	9,299.97	9,227.55	9,164.11	36.97	35.29	-137.17		-888.52	-258.39	1,366.11	1,296.79	69.31	19.709		
9,450.00	9,349.72	9,276.20	9,212.33	37.16	35.48	-137.60		-888.78	-251.91	1,374.24	1,304.59	69.65	19.731		
9,500.00	9,399.54	9,325.01	9,260.70	37.34	35.68	-138.00		-889.04	-245.41	1,381.93	1,311.95	69.99	19.745		
9,550.00	9,449.40	9,373.95	9,309.21	37.52	35.87	-138.37		-889.31	-238.90	1,389.19	1,318.87	70.32	19.754		
9,600.00	9,499.31	9,423.02	9,357.84	37.70	36.07	-138.71		-889.58	-232.37	1,396.00	1,325.33	70.66	19.756		
9,650.00	9,549.26	9,472.21	9,406.59	37.87	36.27	-139.03		-889.84	-225.82	1,402.35	1,331.35	71.00	19.752		
9,700.00	9,599.23	9,521.52	9,455.46	38.05	36.47	-139.33		-890.11	-219.26	1,408.23	1,336.90	71.34	19.740		
9,750.00	9,649.22	9,570.92	9,504.43	38.21	36.67	-139.60		-890.38	-212.68	1,413.65	1,341.98	71.67	19.724		
9,800.00	9,699.22	9,620.43	9,553.49	38.37	36.87	-139.85		-890.65	-206.09	1,418.59	1,346.58	72.01	19.700		
9,850.00	9,749.22	9,669.98	9,602.60	38.53	37.06	-139.87		-890.92	-199.49	1,423.27	1,350.93	72.34	19.674		
9,900.00	9,799.22	9,719.54	9,651.71	38.69	37.26	-139.68		-891.19	-192.90	1,427.96	1,355.29	72.68	19.649		
9,950.00	9,849.22	9,769.09	9,700.83	38.85	37.46	-139.49		-891.46	-186.30	1,432.67	1,359.66	73.01	19.623		
10,000.00	9,899.22	9,818.65	9,749.94	39.00	37.66	-139.31		-891.73	-179.71	1,437.40	1,364.06	73.34	19.598		
10,050.00	9,949.22	9,868.20	9,799.05	39.16	37.86	-139.12		-892.00	-173.11	1,442.14	1,368.46	73.68	19.573		
10,100.00	9,999.22	9,917.75	9,848.16	39.32	38.06	-138.94		-892.27	-166.51	1,446.90	1,372.88	74.01	19.549		
10,150.00	10,049.22	9,967.31	9,897.28	39.48	38.26	-138.75		-892.53	-159.92	1,451.67	1,377.32	74.35	19.525		
10,200.00	10,099.17	10,016.80	9,946.33	39.64	38.46	-138.51		-892.80	-153.33	1,456.46	1,381.77	74.69	19.519		
10,250.00	10,148.75	10,065.91	9,995.00	39.80	38.66	-138.25		-893.07	-146.79	1,461.27	1,386.23	75.03	19.554		
10,300.00	10,197.61	10,114.26	10,042.92	39.96	38.85	-137.98		-893.33	-140.36	1,466.04	1,390.71	75.38	19.628		

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

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Van Doo Dah 21-33 Fed Com 233H
Project:	Lea County (NAD83 New Mexico East)	TVD Reference:	RKB @ 3415.20ft
Reference Site:	Sec 21-T25S-R32E	MD Reference:	RKB @ 3415.20ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Van Doo Dah 21-33 Fed Com 233H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 2	Offset TVD Reference:	Offset Datum

Offset Design Sec 28-T25S-R32E - Marwari 21-16 State Fed Com 731H - Wellbore #1 - Permit Plan 1													Offset Site Error:	0.00 ft
Survey Program: 0-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)			
10,350.00	10,245.35	10,161.49	10,089.73	40.12	39.04	134.04	-893.59	-134.07	1,494.86	1,419.14	75.72	19.741		

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Van Doo Dah 21-33 Fed Com 233H
Project:	Lea County (NAD83 New Mexico East)	TVD Reference:	RKB @ 3415.20ft
Reference Site:	Sec 21-T25S-R32E	MD Reference:	RKB @ 3415.20ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Van Doo Dah 21-33 Fed Com 233H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 2	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.00 ft
Survey Program: 141-MWD+HDGM													Offset Well Error:	0.50 ft
Sec 28-T25S-R32E - Van Doo Dah 28-33 Fed Com 231H - Wellbore #1 - Actual														
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	0.50	-124.30	-726.00	-1,064.26	1,288.32					
50.00	50.00	42.67	42.67	0.50	0.50	-124.30	-725.99	-1,064.31	1,288.34	1,287.34	1.01	1,281.448		
100.00	100.00	90.29	90.29	0.52	0.52	-124.29	-725.95	-1,064.49	1,288.47	1,287.44	1.03	1,247.536		
150.00	150.00	137.91	137.91	0.59	0.53	-124.28	-725.88	-1,064.79	1,288.69	1,287.57	1.12	1,145.802		
200.00	200.00	188.99	188.99	0.70	0.62	-124.27	-725.79	-1,065.16	1,288.94	1,287.62	1.32	975.561		
250.00	250.00	240.33	240.32	0.84	0.74	-124.26	-725.71	-1,065.47	1,289.14	1,287.56	1.58	815.796		
300.00	300.00	291.71	291.70	0.99	0.89	-124.24	-725.51	-1,065.78	1,289.29	1,287.42	1.87	687.914		
350.00	350.00	342.82	342.81	1.15	1.04	-124.22	-725.15	-1,066.15	1,289.39	1,287.20	2.19	589.240		
400.00	400.00	393.16	393.15	1.31	1.20	-124.20	-724.72	-1,066.52	1,289.46	1,286.94	2.51	513.201		
450.00	450.00	444.00	443.99	1.48	1.37	-124.17	-724.24	-1,066.92	1,289.51	1,286.66	2.85	452.939		
500.00	500.00	495.47	495.44	1.65	1.54	-124.14	-723.62	-1,067.34	1,289.51	1,286.32	3.19	404.326		
550.00	550.00	546.09	546.06	1.82	1.72	-124.10	-722.89	-1,067.78	1,289.47	1,285.94	3.53	364.986		
600.00	600.00	596.27	596.24	1.99	1.89	-124.06	-722.13	-1,068.23	1,289.42	1,285.54	3.88	332.488		
650.00	650.00	649.56	649.51	2.16	2.07	-124.02	-721.25	-1,068.68	1,289.31	1,285.07	4.24	304.361		
700.00	700.00	703.41	703.35	2.34	2.26	-123.97	-720.18	-1,069.07	1,289.05	1,284.45	4.60	280.359		
750.00	750.00	754.43	754.36	2.51	2.44	-123.92	-719.13	-1,069.36	1,288.71	1,283.76	4.95	260.305		
800.00	800.00	805.09	805.01	2.69	2.61	-123.88	-718.12	-1,069.56	1,288.31	1,283.01	5.30	242.909		
850.00	850.00	854.64	854.56	2.87	2.79	-123.84	-717.12	-1,069.77	1,287.93	1,282.27	5.65	227.802		
900.00	900.00	904.20	904.10	3.04	2.96	-123.79	-716.09	-1,070.02	1,287.56	1,281.55	6.00	214.431		
950.00	950.00	953.82	953.71	3.22	3.14	-123.74	-715.00	-1,070.32	1,287.20	1,280.85	6.36	202.501		
1,000.00	1,000.00	1,004.27	1,004.15	3.40	3.32	-123.69	-713.85	-1,070.66	1,286.85	1,280.14	6.71	191.721		
1,050.00	1,050.00	1,054.80	1,054.66	3.57	3.49	-123.64	-712.69	-1,070.98	1,286.48	1,279.41	7.07	182.004		
1,100.00	1,100.00	1,102.31	1,102.16	3.75	3.66	-123.59	-711.60	-1,071.33	1,286.15	1,278.73	7.41	173.460		
1,150.00	1,150.00	1,149.93	1,149.76	3.93	3.83	-123.54	-710.54	-1,071.76	1,285.91	1,278.14	7.76	165.675		
1,200.00	1,200.00	1,196.76	1,196.58	4.11	4.00	-123.49	-709.48	-1,072.31	1,285.78	1,277.67	8.11	158.614		
1,227.90	1,227.90	1,222.90	1,222.70	4.21	4.09	-123.46	-708.89	-1,072.68	1,285.76	1,277.46	8.30	154.934		
1,250.00	1,250.00	1,243.40	1,243.20	4.29	4.17	-123.43	-708.43	-1,073.00	1,285.77	1,277.32	8.45	152.153		
1,300.00	1,300.00	1,289.47	1,289.25	4.46	4.33	-123.38	-707.43	-1,073.81	1,285.91	1,277.12	8.79	146.245		
1,350.00	1,350.00	1,335.83	1,335.59	4.64	4.50	-123.32	-706.48	-1,074.76	1,286.20	1,277.06	9.14	140.780		
1,400.00	1,400.00	1,382.90	1,382.64	4.82	4.66	-123.26	-705.61	-1,075.80	1,286.61	1,277.13	9.48	135.689		
1,450.00	1,450.00	1,429.91	1,429.63	5.00	4.83	-123.21	-704.84	-1,076.90	1,287.14	1,277.32	9.83	130.973		
1,500.00	1,500.00	1,476.79	1,476.49	5.18	5.00	-123.16	-704.27	-1,078.00	1,287.79	1,277.62	10.17	126.601		
1,550.00	1,550.00	1,524.26	1,523.95	5.36	5.17	-123.12	-703.92	-1,079.10	1,288.56	1,278.04	10.52	122.507		
1,600.00	1,600.00	1,572.55	1,572.23	5.53	5.34	-123.08	-703.71	-1,080.20	1,289.40	1,278.54	10.87	118.655		
1,650.00	1,650.00	1,622.01	1,621.67	5.71	5.51	-123.05	-703.63	-1,081.32	1,290.30	1,279.08	11.22	115.005		
1,700.00	1,700.00	1,672.46	1,672.11	5.89	5.69	-123.02	-703.54	-1,082.44	1,291.19	1,279.61	11.58	111.543		
1,750.00	1,750.00	1,723.80	1,723.44	6.07	5.87	-122.99	-703.44	-1,083.56	1,292.04	1,280.11	11.94	108.253		
1,800.00	1,800.00	1,775.48	1,775.11	6.25	6.05	-122.97	-703.39	-1,084.57	1,292.84	1,280.54	12.30	105.139		
1,850.00	1,850.00	1,830.10	1,829.73	6.43	6.25	-122.94	-703.34	-1,085.42	1,293.46	1,280.80	12.67	102.103		
1,900.00	1,900.00	1,877.84	1,877.46	6.61	6.41	-122.92	-703.29	-1,086.16	1,294.09	1,281.08	13.02	99.428		
1,950.00	1,950.00	1,923.90	1,923.51	6.78	6.58	-122.90	-703.24	-1,087.00	1,294.82	1,281.46	13.36	96.943		
2,000.00	2,000.00	1,967.54	1,967.14	6.96	6.73	-122.87	-703.18	-1,088.01	1,295.76	1,282.07	13.69	94.658		
2,050.00	2,050.00	2,011.62	2,011.20	7.14	6.89	-122.84	-703.12	-1,089.30	1,296.95	1,282.93	14.02	92.490		
2,100.00	2,100.00	2,057.15	2,056.70	7.32	7.05	-122.80	-703.11	-1,090.80	1,298.33	1,283.97	14.36	90.404		
2,150.00	2,150.00	2,102.93	2,102.46	7.50	7.21	-122.77	-703.17	-1,092.45	1,299.88	1,285.18	14.70	88.420		
2,200.00	2,200.00	2,150.62	2,150.11	7.68	7.38	-122.73	-703.33	-1,094.25	1,301.56	1,286.51	15.05	86.494		
2,250.00	2,250.00	2,198.83	2,198.29	7.86	7.55	-122.70	-703.58	-1,096.10	1,303.32	1,287.92	15.40	84.650		
2,300.00	2,300.00	2,250.05	2,249.47	8.04	7.74	-122.67	-704.02	-1,097.96	1,305.08	1,289.32	15.76	82.832		
2,350.00	2,350.00	2,299.99	2,299.38	8.21	7.91	-122.65	-704.64	-1,099.61	1,306.80	1,290.69	16.11	81.117		
2,400.00	2,400.00	2,346.94	2,346.29	8.39	8.08	-122.64	-705.23	-1,101.23	1,308.59	1,292.14	16.45	79.536		
2,450.00	2,450.00	2,396.01	2,395.33	8.57	8.25	-122.61	-705.78	-1,103.10	1,310.49	1,293.69	16.80	77.986		
2,500.00	2,500.00	2,450.78	2,450.05	8.75	8.45	-122.58	-706.22	-1,105.15	1,312.29	1,295.11	17.18	76.391		

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 Van Doo Dah 21-33 Fed Com 233H
Project:	Lea County (NAD83 New Mexico East)	TVD Reference:	RKB @ 3415.20ft
Reference Site:	Sec 21-T25S-R32E	MD Reference:	RKB @ 3415.20ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Van Doo Dah 21-33 Fed Com 233H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 2	Offset TVD Reference:	Offset Datum

Offset Design Sec 28-T25S-R32E - Van Doo Dah 28-33 Fed Com 231H - Wellbore #1 - Actual														Offset Site Error:	0.00 ft
Survey Program: 141-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			
2,550.00	2,550.00	2,503.95	2,503.19	8.93	8.64	-40.46	-706.49	-1,107.04	1,313.75	1,296.21	17.54	74.889			
2,600.00	2,599.99	2,555.77	2,554.99	9.10	8.82	-40.45	-706.83	-1,108.72	1,314.80	1,296.90	17.90	73.445			
2,650.00	2,648.98	2,603.53	2,602.73	9.27	8.99	-40.45	-707.24	-1,110.20	1,315.51	1,297.27	18.24	72.115			
2,700.00	2,699.96	2,649.60	2,648.76	9.45	9.15	-40.47	-707.70	-1,111.73	1,316.02	1,297.44	18.57	70.849			
2,750.00	2,749.92	2,698.13	2,697.25	9.62	9.33	-40.50	-708.23	-1,113.46	1,316.32	1,297.40	18.92	69.579			
2,800.00	2,799.86	2,748.00	2,747.10	9.79	9.50	-40.55	-708.76	-1,115.25	1,316.30	1,297.03	19.27	68.319			
2,850.00	2,849.78	2,801.38	2,800.44	9.97	9.69	-40.61	-709.32	-1,117.12	1,315.90	1,296.27	19.63	67.035			
2,900.00	2,899.68	2,855.84	2,854.87	10.14	9.89	-40.70	-709.88	-1,118.83	1,315.01	1,295.02	20.00	65.759			
2,950.00	2,949.54	2,910.13	2,909.13	10.31	10.08	-40.81	-710.41	-1,120.32	1,313.63	1,293.26	20.36	64.507			
3,000.00	2,999.37	2,964.37	2,963.36	10.49	10.27	-40.93	-710.89	-1,121.64	1,311.75	1,291.02	20.73	63.276			
3,050.00	3,049.16	3,015.50	3,014.47	10.66	10.46	-41.07	-711.25	-1,122.82	1,309.46	1,288.37	21.09	62.099			
3,100.00	3,098.90	3,069.34	3,068.30	10.84	10.65	-41.22	-711.52	-1,124.02	1,308.75	1,285.29	21.45	60.913			
3,150.00	3,148.61	3,126.12	3,125.07	11.02	10.85	-41.41	-711.68	-1,125.05	1,303.49	1,281.65	21.83	59.709			
3,200.00	3,198.26	3,180.23	3,179.17	11.20	11.04	-41.60	-711.76	-1,125.79	1,299.68	1,277.48	22.20	58.548			
3,250.00	3,247.86	3,233.41	3,232.35	11.38	11.23	-41.82	-711.82	-1,126.34	1,295.42	1,272.85	22.56	57.412			
3,300.00	3,297.40	3,283.74	3,282.67	11.56	11.41	-42.04	-711.91	-1,126.75	1,290.76	1,267.84	22.92	56.321			
3,350.00	3,346.89	3,334.42	3,333.35	11.74	11.59	-42.29	-712.05	-1,127.09	1,285.77	1,262.50	23.27	55.245			
3,400.00	3,396.30	3,389.81	3,388.75	11.92	11.79	-42.58	-712.13	-1,127.31	1,280.34	1,256.69	23.64	54.150			
3,450.00	3,445.65	3,443.85	3,442.79	12.10	11.97	-42.89	-712.07	-1,127.34	1,274.39	1,250.38	24.01	53.079			
3,500.00	3,494.93	3,496.09	3,495.02	12.29	12.15	-43.20	-711.91	-1,127.26	1,268.01	1,243.64	24.37	52.039			
3,550.00	3,544.13	3,545.29	3,544.22	12.47	12.32	-43.51	-711.71	-1,127.12	1,261.26	1,236.55	24.71	51.035			
3,600.00	3,593.32	3,592.66	3,591.60	12.66	12.48	-43.77	-711.56	-1,127.02	1,254.52	1,229.46	25.06	50.070			
3,650.00	3,642.50	3,641.35	3,640.29	12.85	12.65	-44.05	-711.45	-1,126.96	1,247.85	1,222.45	25.40	49.121			
3,700.00	3,691.68	3,690.80	3,689.74	13.04	12.82	-44.34	-711.30	-1,126.91	1,241.21	1,215.45	25.75	48.194			
3,750.00	3,740.86	3,740.04	3,738.97	13.23	12.99	-44.62	-711.12	-1,126.88	1,234.59	1,208.48	26.11	47.288			
3,800.00	3,790.04	3,789.19	3,788.13	13.42	13.16	-44.91	-710.95	-1,126.85	1,228.00	1,201.54	26.46	46.408			
3,850.00	3,839.22	3,839.84	3,838.77	13.62	13.33	-45.21	-710.79	-1,126.76	1,221.42	1,194.61	26.82	45.545			
3,900.00	3,888.40	3,890.79	3,889.73	13.81	13.50	-45.53	-710.72	-1,126.52	1,214.81	1,187.63	27.17	44.703			
3,950.00	3,937.58	3,939.12	3,938.05	14.01	13.66	-45.83	-710.74	-1,126.20	1,208.20	1,180.68	27.52	43.900			
4,000.00	3,986.76	3,987.32	3,986.25	14.20	13.82	-46.15	-710.84	-1,125.85	1,201.67	1,173.80	27.87	43.119			
4,050.00	4,035.94	4,037.08	4,036.01	14.40	13.99	-46.48	-711.04	-1,125.44	1,195.18	1,166.98	28.22	42.351			
4,100.00	4,085.12	4,087.04	4,085.97	14.59	14.15	-46.82	-711.32	-1,124.92	1,188.71	1,160.13	28.57	41.601			
4,150.00	4,134.30	4,139.60	4,138.52	14.79	14.33	-47.19	-711.63	-1,124.24	1,182.18	1,153.24	28.94	40.855			
4,200.00	4,183.48	4,190.32	4,189.23	14.99	14.49	-47.56	-711.91	-1,123.41	1,175.56	1,146.27	29.29	40.130			
4,250.00	4,232.66	4,236.63	4,235.54	15.19	14.65	-47.90	-712.23	-1,122.67	1,169.03	1,139.39	29.64	39.441			
4,300.00	4,281.84	4,284.24	4,283.14	15.39	14.81	-48.25	-712.65	-1,121.96	1,162.66	1,132.67	29.99	38.767			
4,350.00	4,331.02	4,335.92	4,334.80	15.59	14.98	-48.65	-713.18	-1,121.06	1,156.29	1,125.94	30.35	38.093			
4,400.00	4,380.20	4,383.43	4,382.30	15.79	15.14	-49.03	-713.75	-1,120.07	1,149.90	1,119.19	30.71	37.447			
4,450.00	4,429.38	4,425.29	4,424.15	15.99	15.28	-49.36	-714.37	-1,119.36	1,143.79	1,112.75	31.05	36.842			
4,500.00	4,478.57	4,467.66	4,466.52	16.19	15.42	-49.70	-715.15	-1,118.86	1,138.05	1,106.66	31.39	36.261			
4,550.00	4,527.75	4,512.71	4,511.55	16.39	15.58	-50.06	-716.00	-1,118.58	1,132.58	1,100.84	31.74	35.689			
4,600.00	4,576.93	4,557.86	4,556.69	16.59	15.73	-50.41	-716.80	-1,118.56	1,127.33	1,095.25	32.09	35.136			
4,650.00	4,626.11	4,603.10	4,601.93	16.80	15.89	-50.75	-717.56	-1,118.79	1,122.31	1,089.87	32.44	34.598			
4,700.00	4,675.29	4,648.43	4,647.26	17.00	16.04	-51.09	-718.31	-1,119.26	1,117.51	1,084.71	32.79	34.078			
4,750.00	4,724.47	4,703.77	4,702.58	17.21	16.24	-51.50	-719.12	-1,119.85	1,112.71	1,079.53	33.18	33.534			
4,800.00	4,773.65	4,759.38	4,758.19	17.41	16.43	-51.92	-719.78	-1,120.16	1,107.68	1,074.10	33.57	32.995			
4,850.00	4,822.83	4,804.83	4,803.63	17.61	16.59	-52.27	-720.33	-1,120.40	1,102.69	1,068.76	33.93	32.500			
4,900.00	4,872.01	4,853.00	4,851.80	17.82	16.75	-52.64	-720.97	-1,120.68	1,097.81	1,063.52	34.30	32.010			
4,950.00	4,921.19	4,902.78	4,901.57	18.03	16.93	-53.03	-721.64	-1,120.95	1,092.98	1,058.32	34.67	31.527			
5,000.00	4,970.37	4,953.20	4,951.99	18.23	17.10	-53.43	-722.31	-1,121.20	1,088.18	1,053.13	35.04	31.052			
5,050.00	5,019.55	5,004.75	5,003.54	18.44	17.28	-53.84	-722.87	-1,121.44	1,083.33	1,047.91	35.42	30.582			
5,100.00	5,068.73	5,054.74	5,053.52	18.64	17.46	-54.24	-723.30	-1,121.67	1,078.45	1,042.65	35.80	30.125			

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

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Van Doo Dah 21-33 Fed Com 233H
Project:	Lea County (NAD83 New Mexico East)	TVD Reference:	RKB @ 3415.20ft
Reference Site:	Sec 21-T25S-R32E	MD Reference:	RKB @ 3415.20ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Van Doo Dah 21-33 Fed Com 233H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 2	Offset TVD Reference:	Offset Datum

Offset Design Sec 28-T25S-R32E - Van Doo Dah 28-33 Fed Com 231H - Wellbore #1 - Actual													Offset Site Error:	0.00 ft
Survey Program: 141-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		
5,150.00	5,117.91	5,103.33	5,102.11	18.85	17.63	-54.63	-723.73	-1,121.90	1,073.63	1,037.45	36.17	29.681		
5,200.00	5,167.09	5,151.42	5,150.20	19.06	17.79	-55.02	-724.20	-1,122.12	1,068.89	1,032.35	36.54	29.250		
5,250.00	5,216.27	5,199.18	5,197.96	19.27	17.96	-55.41	-724.71	-1,122.39	1,064.28	1,027.36	36.91	28.831		
5,300.00	5,265.45	5,250.55	5,249.32	19.47	18.14	-55.83	-725.27	-1,122.69	1,059.73	1,022.43	37.30	28.413		
5,350.00	5,314.63	5,301.92	5,300.69	19.68	18.32	-56.26	-725.76	-1,122.86	1,055.10	1,017.42	37.68	28.002		
5,400.00	5,363.81	5,353.08	5,351.85	19.89	18.50	-56.70	-726.25	-1,122.87	1,050.44	1,012.38	38.06	27.598		
5,450.00	5,413.00	5,402.61	5,401.37	20.10	18.67	-57.12	-726.73	-1,122.86	1,045.82	1,007.38	38.44	27.206		
5,500.00	5,462.18	5,456.09	5,454.85	20.31	18.86	-57.56	-726.78	-1,123.14	1,041.11	1,002.28	38.83	26.811		
5,550.00	5,511.36	5,508.26	5,507.02	20.52	19.04	-57.97	-726.37	-1,123.68	1,036.26	997.04	39.22	26.422		
5,600.00	5,560.54	5,559.78	5,558.53	20.73	19.22	-58.36	-725.80	-1,124.18	1,031.35	991.74	39.61	26.039		
5,650.00	5,609.72	5,622.10	5,620.84	20.94	19.44	-58.84	-724.70	-1,124.63	1,026.16	986.14	40.02	25.641		
5,700.00	5,658.90	5,683.19	5,681.90	21.15	19.65	-59.31	-722.89	-1,124.67	1,020.33	979.91	40.42	25.241		
5,750.00	5,708.08	5,739.44	5,738.11	21.36	19.85	-59.72	-720.61	-1,124.69	1,014.13	973.32	40.81	24.847		
5,800.00	5,757.26	5,798.25	5,796.84	21.57	20.05	-60.14	-717.59	-1,124.77	1,007.59	966.38	41.21	24.452		
5,850.00	5,806.44	5,858.08	5,856.54	21.78	20.26	-60.54	-713.74	-1,124.83	1,000.56	958.97	41.60	24.054		
5,900.00	5,855.62	5,910.99	5,909.30	21.99	20.45	-60.87	-709.73	-1,125.07	993.24	951.26	41.98	23.661		
5,950.00	5,904.80	5,966.98	5,965.08	22.20	20.64	-61.19	-704.88	-1,125.64	985.69	943.33	42.36	23.269		
6,000.00	5,953.98	6,027.23	6,025.02	22.41	20.85	-61.50	-698.84	-1,126.37	977.68	934.94	42.74	22.875		
6,050.00	6,003.16	6,082.45	6,079.87	22.62	21.04	-61.77	-692.59	-1,127.13	969.23	926.12	43.12	22.479		
6,100.00	6,052.34	6,136.20	6,133.22	22.83	21.23	-62.00	-686.01	-1,128.09	960.56	917.06	43.49	22.085		
6,150.00	6,101.52	6,191.33	6,187.86	23.04	21.42	-62.22	-678.77	-1,129.22	951.61	907.75	43.87	21.693		
6,200.00	6,150.70	6,246.38	6,242.34	23.26	21.61	-62.42	-671.02	-1,130.46	942.37	898.14	44.24	21.303		
6,250.00	6,199.88	6,294.44	6,289.89	23.47	21.78	-62.58	-664.07	-1,131.68	933.07	888.45	44.62	20.913		
6,300.00	6,249.06	6,342.95	6,337.84	23.68	21.95	-62.74	-656.93	-1,133.03	923.73	878.73	45.00	20.528		
6,350.00	6,298.25	6,389.60	6,383.99	23.89	22.12	-62.90	-650.22	-1,134.26	914.50	869.12	45.38	20.151		
6,400.00	6,347.43	6,436.84	6,430.77	24.11	22.29	-63.08	-643.66	-1,135.38	905.41	859.64	45.77	19.784		
6,450.00	6,396.61	6,485.17	6,478.64	24.32	22.46	-63.29	-637.15	-1,136.36	896.38	850.23	46.15	19.424		
6,500.00	6,445.79	6,533.93	6,526.97	24.53	22.63	-63.52	-630.75	-1,137.17	887.41	840.87	46.53	19.071		
6,550.00	6,494.97	6,583.34	6,575.95	24.74	22.81	-63.76	-624.29	-1,137.93	878.43	831.52	46.91	18.724		
6,600.00	6,544.15	6,635.07	6,627.23	24.96	23.00	-64.03	-617.51	-1,138.65	869.43	822.13	47.29	18.384		
6,650.00	6,593.33	6,689.19	6,680.87	25.17	23.19	-64.32	-610.31	-1,139.07	860.18	812.51	47.67	18.046		
6,700.00	6,642.51	6,738.91	6,730.14	25.38	23.37	-64.61	-603.63	-1,139.21	850.76	802.71	48.05	17.706		
6,750.00	6,691.69	6,787.17	6,777.96	25.60	23.54	-64.90	-597.20	-1,139.30	841.38	792.94	48.44	17.371		
6,800.00	6,740.87	6,835.18	6,825.55	25.81	23.72	-65.20	-590.87	-1,139.37	832.07	783.25	48.82	17.042		
6,850.00	6,790.05	6,883.12	6,873.09	26.02	23.89	-65.51	-584.63	-1,139.43	822.84	773.63	49.21	16.720		
6,900.00	6,839.23	6,933.76	6,923.31	26.24	24.07	-65.85	-578.06	-1,139.43	813.64	764.04	49.60	16.405		
6,950.00	6,888.41	6,985.04	6,974.13	26.45	24.26	-66.21	-571.34	-1,139.29	804.31	754.34	49.98	16.094		
7,000.00	6,937.59	7,033.08	7,021.76	26.67	24.43	-66.55	-565.03	-1,139.08	794.97	744.60	50.37	15.783		
7,050.00	6,986.77	7,080.94	7,069.21	26.88	24.61	-66.91	-558.80	-1,138.88	785.72	734.96	50.76	15.479		
7,100.00	7,035.95	7,132.93	7,120.75	27.10	24.80	-67.29	-551.93	-1,138.73	776.44	725.30	51.14	15.183		
7,150.00	7,085.13	7,185.09	7,172.40	27.31	24.99	-67.67	-544.72	-1,138.68	766.98	715.47	51.52	14.888		
7,200.00	7,134.31	7,229.50	7,216.39	27.52	25.15	-68.00	-538.59	-1,138.76	757.63	705.71	51.92	14.591		
7,250.00	7,183.49	7,275.55	7,262.02	27.74	25.32	-68.34	-532.39	-1,138.96	748.53	696.20	52.32	14.305		
7,300.00	7,232.68	7,328.65	7,314.62	27.95	25.51	-68.73	-525.12	-1,139.27	739.39	686.69	52.70	14.030		
7,350.00	7,281.86	7,380.96	7,366.39	28.17	25.70	-69.11	-517.61	-1,139.62	730.02	676.94	53.08	13.754		
7,400.00	7,331.04	7,431.48	7,416.36	28.38	25.89	-69.48	-510.21	-1,139.88	720.52	667.05	53.46	13.477		
7,450.00	7,380.22	7,479.67	7,464.03	28.60	26.07	-69.86	-503.12	-1,140.05	710.97	657.11	53.86	13.201		
7,500.00	7,429.40	7,524.69	7,508.59	28.81	26.23	-70.23	-496.72	-1,140.18	701.66	647.39	54.27	12.929		
7,550.00	7,478.58	7,572.19	7,555.65	29.03	26.41	-70.64	-490.24	-1,140.29	692.61	637.94	54.67	12.669		
7,600.00	7,527.76	7,623.73	7,606.70	29.24	26.60	-71.11	-483.21	-1,140.20	683.51	628.46	55.05	12.416		
7,650.00	7,576.94	7,673.48	7,655.98	29.46	26.78	-71.60	-476.37	-1,139.88	674.30	618.86	55.44	12.162		
7,700.00	7,626.12	7,721.80	7,703.86	29.68	26.96	-72.10	-469.84	-1,139.36	665.15	609.31	55.84	11.911		

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

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Van Doo Dah 21-33 Fed Com 233H
Project:	Lea County (NAD83 New Mexico East)	TVD Reference:	RKB @ 3415.20ft
Reference Site:	Sec 21-T25S-R32E	MD Reference:	RKB @ 3415.20ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Van Doo Dah 21-33 Fed Com 233H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 2	Offset TVD Reference:	Offset Datum

Offset Design Sec 28-T25S-R32E - Van Doo Dah 28-33 Fed Com 231H - Wellbore #1 - Actual													Offset Site Error:	0.00 ft
Survey Program: 141-MWD+HDGM													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis		Distance		Minimum Separation		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)	Separation Factor		
7,750.00	7,875.30	7,773.27	7,754.86	29.89	27.15	-72.67	-462.94	-1,138.62	656.01	599.79	56.23	11.667		
7,800.00	7,724.48	7,826.60	7,807.64	30.11	27.35	-73.27	-455.41	-1,137.85	646.62	590.02	56.60	11.425		
7,850.00	7,773.66	7,875.32	7,855.84	30.32	27.53	-73.81	-448.31	-1,137.16	637.09	580.09	56.99	11.178		
7,900.00	7,822.84	7,923.34	7,903.35	30.54	27.71	-74.37	-441.34	-1,136.52	627.66	570.27	57.40	10.936		
7,950.00	7,872.02	7,970.01	7,949.54	30.75	27.88	-74.93	-434.69	-1,135.88	618.40	560.59	57.81	10.697		
8,000.00	7,921.20	8,016.55	7,995.63	30.97	28.05	-75.52	-428.28	-1,135.15	609.38	551.16	58.22	10.466		
8,050.00	7,970.38	8,068.47	8,047.04	31.19	28.25	-76.20	-421.11	-1,134.33	600.42	541.82	58.60	10.246		
8,100.00	8,019.56	8,121.21	8,099.21	31.40	28.44	-76.88	-413.39	-1,133.65	591.22	532.24	58.97	10.025		
8,150.00	8,068.74	8,166.13	8,143.64	31.62	28.61	-77.47	-406.79	-1,133.16	582.10	522.69	59.40	9.799		
8,200.00	8,117.93	8,211.73	8,188.78	31.83	28.78	-78.09	-400.33	-1,132.74	573.32	513.49	59.83	9.583		
8,250.00	8,167.11	8,258.75	8,235.35	32.05	28.96	-78.75	-393.86	-1,132.38	564.83	504.59	60.24	9.376		
8,300.00	8,216.29	8,305.87	8,282.03	32.27	29.13	-79.42	-387.51	-1,132.09	556.57	495.92	60.66	9.176		
8,350.00	8,265.47	8,355.04	8,330.75	32.48	29.32	-80.13	-380.89	-1,131.92	548.46	487.40	61.06	8.982		
8,400.00	8,314.65	8,404.26	8,379.52	32.70	29.50	-80.84	-374.17	-1,131.96	540.41	478.95	61.46	8.793		
8,450.00	8,363.83	8,450.86	8,425.69	32.92	29.68	-81.52	-367.86	-1,132.12	532.53	470.65	61.88	8.606		
8,500.00	8,413.01	8,498.04	8,472.45	33.13	29.85	-82.22	-361.65	-1,132.36	524.93	462.64	62.30	8.426		
8,550.00	8,462.19	8,548.73	8,522.70	33.35	30.05	-83.00	-354.95	-1,132.62	517.41	454.72	62.69	8.254		
8,600.00	8,511.37	8,598.04	8,571.56	33.57	30.23	-83.78	-348.30	-1,132.82	509.83	446.74	63.09	8.081		
8,650.00	8,560.55	8,642.82	8,615.96	33.78	30.40	-84.51	-342.48	-1,132.99	502.58	439.06	63.52	7.912		
8,700.00	8,609.73	8,688.15	8,660.95	34.00	30.57	-85.28	-336.98	-1,133.18	495.83	431.88	63.95	7.753		
8,750.00	8,658.91	8,737.54	8,710.00	34.22	30.75	-86.16	-331.13	-1,133.32	489.34	424.99	64.35	7.604		
8,800.00	8,708.09	8,786.14	8,758.26	34.43	30.93	-87.06	-325.38	-1,133.34	482.93	418.17	64.76	7.458		
8,850.00	8,757.27	8,831.69	8,803.52	34.65	31.10	-87.96	-320.26	-1,133.07	476.88	411.70	65.18	7.316		
8,900.00	8,806.45	8,877.68	8,849.26	34.87	31.27	-88.94	-315.50	-1,132.43	471.32	405.72	65.60	7.185		
8,950.00	8,855.63	8,926.93	8,898.25	35.09	31.46	-90.05	-310.55	-1,131.48	466.04	400.04	66.00	7.061		
9,000.00	8,904.81	8,975.41	8,946.47	35.30	31.63	-91.19	-305.68	-1,130.39	460.92	394.52	66.40	6.941		
9,050.00	8,953.99	9,021.62	8,992.45	35.52	31.80	-92.27	-301.19	-1,129.57	456.18	389.37	66.81	6.828		
9,100.00	9,003.17	9,067.58	9,038.22	35.74	31.97	-93.32	-296.94	-1,129.17	451.91	384.69	67.22	6.723		
9,150.00	9,052.39	9,111.94	9,082.42	35.95	32.14	-94.24	-293.21	-1,129.15	448.25	380.62	67.63	6.628		
9,200.00	9,101.72	9,156.77	9,127.12	36.17	32.30	-95.07	-289.89	-1,129.47	445.20	377.17	68.03	6.544		
9,250.00	9,151.15	9,203.71	9,173.95	36.37	32.47	-95.85	-286.76	-1,129.99	442.58	374.17	68.41	6.469		
9,300.00	9,200.67	9,250.91	9,221.06	36.58	32.64	-96.57	-283.88	-1,130.56	440.28	371.49	68.79	6.400		
9,350.00	9,250.28	9,299.10	9,269.17	36.77	32.82	-97.24	-281.14	-1,131.12	438.18	369.02	69.16	6.336		
9,400.00	9,299.97	9,347.32	9,317.32	36.97	32.99	-97.84	-278.56	-1,131.61	436.23	366.70	69.53	6.274		
9,450.00	9,349.72	9,395.54	9,365.48	37.16	33.16	-98.37	-276.15	-1,132.15	434.42	364.53	69.89	6.216		
9,500.00	9,399.54	9,443.25	9,413.13	37.34	33.34	-98.79	-273.95	-1,132.81	432.74	362.49	70.25	6.160		
9,550.00	9,449.40	9,489.65	9,459.50	37.52	33.50	-99.16	-272.13	-1,133.28	431.33	360.74	70.59	6.110		
9,600.00	9,499.31	9,536.51	9,506.33	37.70	33.67	-99.48	-270.65	-1,133.51	430.23	359.30	70.93	6.065		
9,650.00	9,549.26	9,584.27	9,554.07	37.87	33.84	-99.76	-269.42	-1,133.52	429.32	358.05	71.27	6.024		
9,700.00	9,599.23	9,633.29	9,603.08	38.05	34.01	-99.99	-268.36	-1,133.35	428.54	356.93	71.61	5.984		
9,750.00	9,649.22	9,684.21	9,653.99	38.21	34.19	-100.13	-267.23	-1,133.25	427.61	355.66	71.95	5.943		
9,800.00	9,699.22	9,735.15	9,704.92	38.37	34.37	-100.17	-265.98	-1,133.28	426.45	354.16	72.30	5.899		
9,850.00	9,749.22	9,786.10	9,755.85	38.53	34.55	-177.75	-264.62	-1,133.33	425.12	352.48	72.64	5.853		
9,900.00	9,799.22	9,838.22	9,807.94	38.69	34.74	-177.76	-263.07	-1,133.44	423.62	350.64	72.98	5.805		
9,950.00	9,849.22	9,890.75	9,860.44	38.85	34.92	-177.79	-261.19	-1,133.77	421.82	348.50	73.32	5.753		
10,000.00	9,899.22	9,939.27	9,908.92	39.00	35.10	-177.84	-259.28	-1,134.22	419.84	346.19	73.66	5.700		
10,050.00	9,949.22	9,975.47	9,945.11	39.16	35.22	-177.88	-258.46	-1,134.54	418.74	344.82	73.92	5.665		
10,052.94	9,952.16	9,977.32	9,946.96	39.17	35.23	-177.89	-258.45	-1,134.55	418.74	344.80	73.93	5.664 CC, ES, SF		
10,100.00	9,999.22	10,004.23	9,973.86	39.32	35.32	-177.90	-259.05	-1,134.67	419.81	345.78	74.03	5.671		
10,150.00	10,049.22	10,032.03	10,001.57	39.48	35.41	-177.92	-261.15	-1,134.70	423.56	349.57	73.99	5.725		
10,200.00	10,099.17	10,061.79	10,031.10	39.64	35.50	-178.13	-264.84	-1,134.75	431.66	357.80	73.86	5.844		
10,250.00	10,148.75	10,091.12	10,060.02	39.80	35.59	-178.11	-269.70	-1,134.70	446.08	372.42	73.67	6.055		

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

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Van Doo Dah 21-33 Fed Com 233H
Project:	Lea County (NAD83 New Mexico East)	TVD Reference:	RKB @ 3415.20ft
Reference Site:	Sec 21-T25S-R32E	MD Reference:	RKB @ 3415.20ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Van Doo Dah 21-33 Fed Com 233H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 2	Offset TVD Reference:	Offset Datum

Offset Design Sec 28-T25S-R32E - Van Doo Dah 28-33 Fed Com 231H - Wellbore #1 - Actual													Offset Site Error:	0.00 ft
Survey Program: 141-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		
10,300.00	10,197.61	10,114.00	10,082.41	39.96	35.66	178.10	-274.41	-1,134.82	466.62	393.37	73.25	6.370		
10,350.00	10,245.35	10,140.27	10,107.87	40.12	35.73	178.09	-280.88	-1,135.00	492.80	419.84	72.96	6.754		
10,400.00	10,291.62	10,160.30	10,127.06	40.27	35.79	178.02	-286.62	-1,135.06	524.15	451.62	72.53	7.227		
10,450.00	10,336.07	10,177.00	10,142.88	40.42	35.83	177.92	-291.95	-1,135.17	560.02	487.93	72.08	7.769		
10,500.00	10,378.36	10,193.78	10,158.62	40.56	35.88	177.77	-297.76	-1,135.21	599.66	527.88	71.77	8.355		
10,550.00	10,418.17	10,206.00	10,171.85	40.70	35.91	177.50	-302.99	-1,135.09	642.39	570.87	71.52	8.983		
10,600.00	10,455.18	10,217.53	10,180.64	40.82	35.94	177.05	-306.65	-1,134.96	687.61	616.37	71.24	9.652		
10,650.00	10,489.13	10,225.29	10,187.77	40.95	35.96	176.30	-309.73	-1,134.85	734.76	663.71	71.05	10.341		
10,700.00	10,519.76	10,230.68	10,192.69	41.06	35.97	174.82	-311.92	-1,134.76	783.30	712.37	70.93	11.043		
10,750.00	10,546.82	10,241.00	10,202.06	41.17	35.99	171.35	-316.24	-1,134.59	832.82	761.73	71.09	11.715		
10,800.00	10,570.12	10,241.00	10,202.06	41.28	35.99	138.50	-316.24	-1,134.59	882.70	811.66	71.04	12.425		
10,850.00	10,589.47	10,241.00	10,202.06	41.39	35.99	12.16	-316.24	-1,134.59	932.66	861.56	71.10	13.117		
10,900.00	10,604.74	10,232.07	10,193.96	41.51	35.97	4.99	-312.50	-1,134.74	982.24	911.21	71.02	13.830		
10,950.00	10,615.80	10,228.27	10,190.49	41.63	35.96	3.16	-310.94	-1,134.80	1,031.23	960.05	71.17	14.489		
11,000.00	10,622.57	10,223.13	10,185.79	41.75	35.95	2.28	-308.87	-1,134.88	1,079.26	1,007.90	71.36	15.124		
11,050.00	10,624.99	10,208.00	10,171.85	41.89	35.91	1.72	-302.99	-1,135.09	1,126.18	1,054.79	71.39	15.775		
11,100.00	10,625.00	10,208.00	10,171.85	42.04	35.91	1.70	-302.99	-1,135.09	1,172.22	1,100.43	71.78	16.330		
11,150.00	10,625.00	10,208.00	10,171.85	42.20	35.91	1.70	-302.99	-1,135.09	1,218.57	1,146.43	72.14	16.891		
11,200.00	10,625.00	10,196.94	10,161.57	42.38	35.88	1.65	-298.89	-1,135.20	1,265.06	1,192.81	72.25	17.509		
11,250.00	10,625.00	10,190.83	10,155.87	42.56	35.87	1.63	-296.71	-1,135.22	1,311.74	1,239.30	72.44	18.108		
11,300.00	10,625.00	10,177.00	10,142.88	42.77	35.83	1.59	-291.95	-1,135.17	1,358.66	1,286.18	72.48	18.746		
11,350.00	10,625.00	10,177.00	10,142.88	42.98	35.83	1.59	-291.95	-1,135.17	1,405.58	1,332.84	72.75	19.322		
11,400.00	10,625.00	10,177.00	10,142.88	43.21	35.83	1.59	-291.95	-1,135.17	1,452.71	1,379.72	72.99	19.903		

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Van Doo Dah 21-33 Fed Com 233H
Project:	Lea County (NAD83 New Mexico East)	TVD Reference:	RKB @ 3415.20ft
Reference Site:	Sec 21-T25S-R32E	MD Reference:	RKB @ 3415.20ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Van Doo Dah 21-33 Fed Com 233H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 2	Offset TVD Reference:	Offset Datum

Offset Design Sec 28-T25S-R32E - Van Doo Dah 28-33 Fed Com 621H (est) - Wellbore #1 - Prelim Plan 1													Offset Site Error:	0.00 ft
Survey Program: 0-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		
4,000.00	3,986.76	4,031.30	4,028.52	14.20	14.09	-54.09	-1,042.72	-1,227.33	1,499.46	1,471.30	28.16	53.249		
4,050.00	4,035.94	4,079.78	4,076.89	14.40	14.27	-54.47	-1,043.32	-1,224.19	1,492.31	1,463.78	28.52	52.321		
4,100.00	4,085.12	4,128.26	4,125.27	14.59	14.44	-54.85	-1,043.93	-1,221.05	1,485.22	1,456.34	28.89	51.418		
4,150.00	4,134.30	4,176.74	4,173.64	14.79	14.61	-55.23	-1,044.53	-1,217.91	1,478.21	1,448.96	29.25	50.537		
4,200.00	4,183.48	4,225.22	4,222.01	14.99	14.79	-55.62	-1,045.13	-1,214.77	1,471.26	1,441.64	29.62	49.679		
4,250.00	4,232.66	4,273.70	4,270.39	15.19	14.96	-56.01	-1,045.74	-1,211.63	1,464.38	1,434.40	29.98	48.842		
4,300.00	4,281.84	4,322.18	4,318.76	15.39	15.13	-56.40	-1,046.34	-1,208.49	1,457.57	1,427.22	30.35	48.026		
4,350.00	4,331.02	4,370.66	4,367.14	15.59	15.31	-56.80	-1,046.95	-1,205.35	1,450.83	1,420.12	30.72	47.230		
4,400.00	4,380.20	4,419.14	4,415.51	15.79	15.48	-57.20	-1,047.55	-1,202.21	1,444.17	1,413.08	31.09	46.455		
4,450.00	4,429.38	4,467.62	4,463.88	15.99	15.66	-57.61	-1,048.15	-1,199.07	1,437.58	1,406.12	31.46	45.698		
4,500.00	4,478.57	4,516.10	4,512.26	16.19	15.83	-58.01	-1,048.76	-1,195.93	1,431.06	1,399.23	31.83	44.961		
4,550.00	4,527.75	4,564.58	4,560.83	16.39	16.00	-58.43	-1,049.36	-1,192.79	1,424.62	1,392.42	32.20	44.241		
4,600.00	4,576.93	4,613.06	4,609.01	16.59	16.18	-58.84	-1,049.97	-1,189.65	1,418.25	1,385.88	32.57	43.539		
4,650.00	4,626.11	4,661.54	4,657.38	16.80	16.35	-59.26	-1,050.57	-1,186.51	1,411.97	1,379.02	32.95	42.854		
4,700.00	4,675.29	4,710.02	4,705.76	17.00	16.53	-59.68	-1,051.17	-1,183.38	1,405.76	1,372.43	33.32	42.186		
4,750.00	4,724.47	4,758.50	4,754.13	17.21	16.70	-60.11	-1,051.78	-1,180.24	1,399.62	1,365.93	33.70	41.533		
4,800.00	4,773.65	4,806.98	4,802.50	17.41	16.88	-60.54	-1,052.38	-1,177.10	1,393.57	1,359.50	34.08	40.897		
4,850.00	4,822.83	4,855.46	4,850.88	17.61	17.05	-60.97	-1,052.98	-1,173.96	1,387.61	1,353.15	34.45	40.276		
4,900.00	4,872.01	4,903.94	4,899.25	17.82	17.23	-61.41	-1,053.59	-1,170.82	1,381.72	1,346.89	34.83	39.670		
4,950.00	4,921.19	4,952.42	4,947.63	18.03	17.40	-61.85	-1,054.19	-1,167.68	1,375.92	1,340.71	35.21	39.078		
5,000.00	4,970.37	5,000.90	4,996.00	18.23	17.58	-62.29	-1,054.80	-1,164.54	1,370.20	1,334.61	35.59	38.500		
5,050.00	5,019.55	5,049.38	5,044.37	18.44	17.75	-62.74	-1,055.40	-1,161.40	1,364.57	1,328.60	35.97	37.936		
5,100.00	5,068.73	5,102.14	5,092.75	18.64	17.94	-63.19	-1,056.00	-1,158.26	1,359.02	1,322.66	36.37	37.370		
5,150.00	5,117.91	5,146.34	5,141.12	18.85	18.10	-63.64	-1,056.61	-1,155.12	1,353.57	1,316.83	36.73	36.848		
5,200.00	5,167.09	5,194.81	5,189.50	19.06	18.28	-64.10	-1,057.21	-1,151.98	1,348.20	1,311.08	37.12	36.324		
5,250.00	5,216.27	5,243.29	5,237.87	19.27	18.45	-64.56	-1,057.81	-1,148.84	1,342.92	1,305.42	37.50	35.811		
5,300.00	5,265.45	5,308.23	5,298.25	19.47	18.69	-65.02	-1,058.42	-1,145.70	1,337.73	1,299.79	37.94	35.256		
5,350.00	5,314.63	5,340.25	5,334.62	19.68	18.81	-65.49	-1,059.02	-1,142.56	1,332.64	1,294.37	38.27	34.823		
5,400.00	5,363.81	5,388.73	5,382.99	19.89	18.98	-65.96	-1,059.63	-1,139.42	1,327.64	1,288.98	38.65	34.346		
5,450.00	5,413.00	5,437.21	5,431.37	20.10	19.16	-66.44	-1,060.23	-1,136.28	1,322.73	1,283.69	39.04	33.880		
5,500.00	5,462.18	5,485.69	5,479.74	20.31	19.33	-66.91	-1,060.83	-1,133.14	1,317.92	1,278.49	39.43	33.426		
5,550.00	5,511.36	5,534.17	5,528.12	20.52	19.51	-67.40	-1,061.44	-1,130.00	1,313.20	1,273.38	39.82	32.982		
5,600.00	5,560.54	5,582.65	5,576.49	20.73	19.69	-67.88	-1,062.04	-1,126.86	1,308.58	1,268.38	40.20	32.549		
5,650.00	5,609.72	5,631.13	5,624.86	20.94	19.86	-68.37	-1,062.64	-1,123.72	1,304.06	1,263.47	40.59	32.125		
5,700.00	5,658.90	5,679.61	5,673.24	21.15	20.04	-68.86	-1,063.25	-1,120.58	1,299.64	1,258.66	40.98	31.712		
5,750.00	5,708.08	5,728.09	5,721.61	21.36	20.21	-69.35	-1,063.85	-1,117.44	1,295.32	1,253.95	41.37	31.309		
5,800.00	5,757.26	5,776.57	5,769.99	21.57	20.39	-69.85	-1,064.46	-1,114.30	1,291.10	1,249.34	41.76	30.915		
5,850.00	5,806.44	5,825.05	5,818.36	21.78	20.57	-70.35	-1,065.06	-1,111.16	1,286.99	1,244.83	42.15	30.531		
5,900.00	5,855.62	5,873.53	5,866.74	21.99	20.74	-70.85	-1,065.66	-1,108.02	1,282.97	1,240.43	42.55	30.155		
5,950.00	5,904.80	5,922.01	5,915.11	22.20	20.92	-71.36	-1,066.27	-1,104.88	1,279.07	1,236.13	42.94	29.789		
6,000.00	5,953.98	5,970.49	5,963.48	22.41	21.10	-71.87	-1,066.87	-1,101.74	1,275.26	1,231.93	43.33	29.431		
6,050.00	6,003.16	6,018.97	6,011.86	22.62	21.27	-72.38	-1,067.48	-1,098.60	1,271.57	1,227.84	43.72	29.082		
6,100.00	6,052.34	6,067.45	6,060.23	22.83	21.45	-72.89	-1,068.08	-1,095.46	1,267.98	1,223.86	44.12	28.741		
6,150.00	6,101.52	6,115.93	6,108.61	23.04	21.63	-73.41	-1,068.68	-1,092.32	1,264.50	1,219.99	44.51	28.409		
6,200.00	6,150.70	6,164.41	6,156.98	23.26	21.80	-73.93	-1,069.29	-1,089.18	1,261.13	1,216.22	44.90	28.084		
6,250.00	6,199.88	6,212.89	6,205.35	23.47	21.98	-74.45	-1,069.89	-1,086.04	1,257.87	1,212.57	45.30	27.768		
6,300.00	6,249.06	6,261.37	6,253.73	23.68	22.16	-74.98	-1,070.49	-1,082.90	1,254.72	1,209.02	45.69	27.459		
6,350.00	6,298.25	6,309.85	6,302.10	23.89	22.33	-75.50	-1,071.10	-1,079.76	1,251.68	1,205.59	46.09	27.157		
6,400.00	6,347.43	6,358.33	6,350.48	24.11	22.51	-76.03	-1,071.70	-1,076.63	1,248.75	1,202.26	46.49	26.863		
6,450.00	6,396.61	6,406.81	6,398.85	24.32	22.69	-76.57	-1,072.31	-1,073.49	1,245.94	1,199.06	46.88	26.577		
6,500.00	6,445.79	6,455.29	6,447.23	24.53	22.86	-77.10	-1,072.91	-1,070.35	1,243.24	1,195.96	47.28	26.297		
6,550.00	6,494.97	6,503.77	6,495.60	24.74	23.04	-77.64	-1,073.51	-1,067.21	1,240.65	1,192.98	47.67	26.024		

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

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Van Doo Dah 21-33 Fed Com 233H
Project:	Lea County (NAD83 New Mexico East)	TVD Reference:	RKB @ 3415.20ft
Reference Site:	Sec 21-T25S-R32E	MD Reference:	RKB @ 3415.20ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Van Doo Dah 21-33 Fed Com 233H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 2	Offset TVD Reference:	Offset Datum

Offset Design Sec 28-T25S-R32E - Van Doo Dah 28-33 Fed Com 621H (est) - Wellbore #1 - Prelim Plan 1														Offset Site Error: 0.00 ft	
Survey Program: 0-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		
6,600.00	6,544.15	6,552.25	6,543.97	24.96	23.22	-78.18	-1,074.12	-1,064.07	1,238.18	1,190.12	48.07	25.758			
6,650.00	6,593.33	6,600.73	6,592.35	25.17	23.39	-78.72	-1,074.72	-1,060.93	1,235.83	1,187.37	48.47	25.499			
6,700.00	6,642.51	6,649.21	6,640.72	25.38	23.57	-79.26	-1,075.32	-1,057.79	1,233.60	1,184.73	48.86	25.246			
6,750.00	6,691.69	6,702.31	6,689.10	25.60	23.76	-79.80	-1,075.93	-1,054.65	1,231.48	1,182.20	49.28	24.991			
6,800.00	6,740.87	6,746.17	6,737.47	25.81	23.92	-80.35	-1,076.53	-1,051.51	1,229.48	1,179.82	49.66	24.760			
6,850.00	6,790.05	6,805.35	6,785.84	26.02	24.14	-80.90	-1,077.14	-1,048.37	1,227.60	1,177.50	50.09	24.506			
6,900.00	6,839.23	6,843.13	6,834.22	26.24	24.28	-81.44	-1,077.74	-1,045.23	1,225.84	1,175.38	50.45	24.298			
6,950.00	6,888.41	6,908.40	6,882.59	26.45	24.52	-82.00	-1,078.34	-1,042.09	1,224.19	1,173.28	50.91	24.047			
7,000.00	6,937.59	6,940.08	6,930.97	26.67	24.63	-82.55	-1,078.95	-1,038.95	1,222.67	1,171.43	51.24	23.860			
7,050.00	6,986.77	6,988.56	6,979.34	26.88	24.81	-83.10	-1,079.55	-1,035.81	1,221.27	1,169.63	51.64	23.649			
7,100.00	7,035.95	7,037.04	7,027.72	27.10	24.99	-83.65	-1,080.15	-1,032.67	1,219.99	1,167.95	52.04	23.444			
7,150.00	7,085.13	7,085.52	7,076.09	27.31	25.17	-84.21	-1,080.76	-1,029.53	1,218.83	1,166.40	52.43	23.245			
7,200.00	7,134.31	7,134.00	7,124.46	27.52	25.34	-84.77	-1,081.36	-1,026.39	1,217.79	1,164.96	52.83	23.051			
7,250.00	7,183.49	7,182.48	7,172.84	27.74	25.52	-85.32	-1,081.97	-1,023.25	1,216.88	1,163.65	53.23	22.862			
7,300.00	7,232.68	7,230.96	7,221.21	27.95	25.70	-85.88	-1,082.57	-1,020.11	1,216.09	1,162.46	53.62	22.678			
7,350.00	7,281.86	7,279.44	7,269.59	28.17	25.87	-86.44	-1,083.17	-1,016.97	1,215.42	1,161.40	54.02	22.500			
7,400.00	7,331.04	7,327.92	7,317.96	28.38	26.05	-87.00	-1,083.78	-1,013.83	1,214.87	1,160.46	54.42	22.326			
7,450.00	7,380.22	7,376.40	7,366.33	28.60	26.23	-87.56	-1,084.38	-1,010.69	1,214.45	1,159.64	54.81	22.157			
7,500.00	7,429.40	7,424.88	7,414.71	28.81	26.41	-88.12	-1,084.98	-1,007.55	1,214.15	1,158.94	55.21	21.993			
7,550.00	7,478.58	7,473.36	7,463.08	29.03	26.58	-88.68	-1,085.59	-1,004.41	1,213.97	1,158.37	55.60	21.834			
7,596.85	7,524.66	7,518.79	7,508.41	29.23	26.75	-89.20	-1,086.15	-1,001.47	1,213.92	1,157.95	55.97	21.689 CC			
7,600.00	7,527.76	7,521.84	7,511.46	29.24	26.76	-89.24	-1,086.19	-1,001.27	1,213.92	1,157.92	55.99	21.679			
7,650.00	7,576.94	7,570.32	7,559.83	29.46	26.94	-89.80	-1,086.80	-998.13	1,213.99	1,157.60	56.39	21.529			
7,700.00	7,626.12	7,618.80	7,608.21	29.68	27.12	-90.36	-1,087.40	-994.99	1,214.18	1,157.40	56.78	21.383			
7,750.00	7,675.30	7,667.28	7,656.58	29.89	27.30	-90.92	-1,088.00	-991.85	1,214.49	1,157.32	57.18	21.242 ES			
7,800.00	7,724.48	7,715.76	7,704.95	30.11	27.47	-91.48	-1,088.61	-988.71	1,214.93	1,157.37	57.57	21.104			
7,850.00	7,773.66	7,764.24	7,753.33	30.32	27.65	-92.03	-1,089.21	-985.57	1,215.50	1,157.54	57.96	20.971			
7,900.00	7,822.84	7,812.72	7,801.70	30.54	27.83	-92.59	-1,089.82	-982.43	1,216.18	1,157.83	58.35	20.842			
7,950.00	7,872.02	7,861.20	7,850.08	30.75	28.01	-93.15	-1,090.42	-979.29	1,216.99	1,158.24	58.74	20.717			
8,000.00	7,921.20	7,909.68	7,898.45	30.97	28.18	-93.71	-1,091.02	-976.15	1,217.92	1,158.78	59.13	20.596			
8,050.00	7,970.38	7,958.16	7,946.82	31.19	28.36	-94.26	-1,091.63	-973.02	1,218.97	1,159.45	59.52	20.478			
8,100.00	8,019.56	8,006.64	7,995.20	31.40	28.54	-94.82	-1,092.23	-969.88	1,220.14	1,160.23	59.91	20.365			
8,150.00	8,068.74	8,055.12	8,043.57	31.62	28.72	-95.37	-1,092.83	-966.74	1,221.44	1,161.14	60.30	20.255			
8,200.00	8,117.93	8,103.60	8,091.95	31.83	28.89	-95.93	-1,093.44	-963.60	1,222.86	1,162.16	60.69	20.149			
8,250.00	8,167.11	8,152.08	8,140.32	32.05	29.07	-96.48	-1,094.04	-960.46	1,224.39	1,163.31	61.08	20.046			
8,300.00	8,216.29	8,200.56	8,188.70	32.27	29.25	-97.03	-1,094.65	-957.32	1,226.05	1,164.58	61.47	19.947			
8,350.00	8,265.47	8,249.04	8,237.07	32.48	29.43	-97.58	-1,095.25	-954.18	1,227.83	1,165.97	61.85	19.851			
8,400.00	8,314.65	8,302.48	8,285.44	32.70	29.62	-98.12	-1,095.85	-951.04	1,229.72	1,167.47	62.26	19.752			
8,450.00	8,363.83	8,346.00	8,333.82	32.92	29.78	-98.67	-1,096.46	-947.90	1,231.74	1,169.11	62.62	19.669			
8,500.00	8,413.01	8,405.52	8,382.19	33.13	30.00	-99.21	-1,097.06	-944.76	1,233.87	1,170.82	63.05	19.570			
8,550.00	8,462.19	8,442.96	8,430.57	33.35	30.14	-99.75	-1,097.66	-941.62	1,236.12	1,172.73	63.39	19.499			
8,600.00	8,511.37	8,508.56	8,478.94	33.57	30.38	-100.30	-1,098.27	-938.48	1,238.49	1,174.65	63.84	19.400			
8,650.00	8,560.55	8,539.92	8,527.31	33.78	30.50	-100.83	-1,098.87	-935.34	1,240.97	1,176.81	64.16	19.342			
8,700.00	8,609.73	8,588.39	8,575.69	34.00	30.67	-101.37	-1,099.48	-932.20	1,243.57	1,179.03	64.54	19.268			
8,750.00	8,658.91	8,636.87	8,624.06	34.22	30.85	-101.90	-1,100.08	-929.06	1,246.28	1,181.36	64.92	19.196			
8,800.00	8,708.09	8,685.35	8,672.44	34.43	31.03	-102.44	-1,100.68	-925.92	1,249.11	1,183.81	65.30	19.128			
8,850.00	8,757.27	8,733.83	8,720.81	34.65	31.21	-102.98	-1,101.29	-922.78	1,252.05	1,186.37	65.68	19.062			
8,900.00	8,806.45	8,782.31	8,769.19	34.87	31.39	-103.49	-1,101.89	-919.64	1,255.11	1,189.04	66.06	18.999			
8,950.00	8,855.63	8,830.79	8,817.56	35.09	31.56	-104.02	-1,102.49	-916.50	1,258.27	1,191.83	66.44	18.938			
9,000.00	8,904.81	8,879.27	8,865.93	35.30	31.74	-104.54	-1,103.10	-913.36	1,261.55	1,194.73	66.82	18.880			
9,050.00	8,953.99	8,927.75	8,914.31	35.52	31.92	-105.06	-1,103.70	-910.22	1,264.93	1,197.74	67.20	18.824			
9,100.00	9,003.17	8,976.23	8,962.68	35.74	32.10	-105.57	-1,104.31	-907.08	1,268.43	1,200.85	67.57	18.771			

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

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Van Doo Dah 21-33 Fed Com 233H
Project:	Lea County (NAD83 New Mexico East)	TVD Reference:	RKB @ 3415.20ft
Reference Site:	Sec 21-T25S-R32E	MD Reference:	RKB @ 3415.20ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Van Doo Dah 21-33 Fed Com 233H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 2	Offset TVD Reference:	Offset Datum

Offset Design Sec 28-T25S-R32E - Van Doo Dah 28-33 Fed Com 621H (est) - Wellbore #1 - Prelim Plan 1														Offset Site Error: 0.00 ft	
Survey Program: 0-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			
9,150.00	9,052.39	9,024.76	9,011.11	35.95	32.28	-106.12	-1,104.91	-903.94	1,271.97	1,204.02	67.95	18.720			
9,200.00	9,101.72	9,073.44	9,059.68	36.17	32.46	-106.65	-1,105.52	-900.79	1,275.44	1,207.12	68.32	18.669			
9,250.00	9,151.15	9,122.27	9,108.40	36.37	32.64	-107.15	-1,106.12	-897.62	1,278.80	1,210.12	68.69	18.618			
9,300.00	9,200.67	9,171.23	9,157.25	36.58	32.82	-107.62	-1,106.73	-894.45	1,282.05	1,213.00	69.05	18.566			
9,350.00	9,250.28	9,220.32	9,206.24	36.77	33.00	-108.06	-1,107.35	-891.27	1,285.18	1,215.76	69.41	18.515			
9,400.00	9,299.97	9,269.53	9,255.34	36.97	33.18	-108.47	-1,107.96	-888.09	1,288.15	1,218.38	69.77	18.462			
9,450.00	9,349.72	9,318.85	9,304.55	37.16	33.36	-108.84	-1,108.57	-884.89	1,290.97	1,220.84	70.13	18.408			
9,500.00	9,399.54	9,368.28	9,353.87	37.34	33.54	-109.19	-1,109.19	-881.69	1,293.62	1,223.14	70.48	18.353			
9,550.00	9,449.40	9,417.80	9,403.28	37.52	33.72	-109.51	-1,109.81	-878.48	1,296.09	1,225.26	70.83	18.298			
9,600.00	9,499.31	9,467.40	9,452.78	37.70	33.90	-109.80	-1,110.42	-875.27	1,298.38	1,227.19	71.18	18.240			
9,650.00	9,549.26	9,517.08	9,502.36	37.87	34.09	-110.06	-1,111.04	-872.05	1,300.46	1,228.93	71.53	18.181			
9,700.00	9,599.23	9,566.84	9,552.00	38.05	34.27	-110.29	-1,111.66	-868.83	1,302.34	1,230.46	71.87	18.120			
9,750.00	9,649.22	9,616.65	9,601.71	38.21	34.45	-110.48	-1,112.28	-865.61	1,304.00	1,231.79	72.21	18.058			
9,800.00	9,699.22	9,666.52	9,651.46	38.37	34.64	-110.65	-1,112.90	-862.38	1,305.45	1,232.90	72.55	17.993			
9,850.00	9,749.22	9,716.41	9,701.25	38.53	34.82	-110.74	-1,113.52	-859.15	1,306.78	1,233.89	72.89	17.928			
9,900.00	9,799.22	9,766.30	9,751.03	38.69	35.00	-110.80	-1,114.15	-855.91	1,308.11	1,234.89	73.22	17.864			
9,950.00	9,849.22	9,816.19	9,800.81	38.85	35.19	-110.87	-1,114.77	-852.68	1,309.45	1,235.89	73.56	17.801			
10,000.00	9,899.22	9,866.08	9,850.59	39.00	35.37	-110.94	-1,115.39	-849.45	1,310.80	1,236.91	73.90	17.738			
10,050.00	9,949.22	9,915.97	9,900.38	39.16	35.55	-111.01	-1,116.01	-846.22	1,312.16	1,237.92	74.23	17.676			
10,100.00	9,999.22	9,965.86	9,950.16	39.32	35.74	-111.08	-1,116.63	-842.99	1,313.52	1,238.95	74.57	17.615			
10,150.00	10,049.22	10,015.75	9,999.94	39.48	35.92	-111.15	-1,117.25	-839.76	1,314.89	1,239.98	74.91	17.554			
10,200.00	10,099.17	10,065.57	10,049.65	39.64	36.10	-111.22	-1,117.87	-836.53	1,316.15	1,242.90	75.24	17.519 SF			
10,250.00	10,148.75	10,114.97	10,098.94	39.80	36.29	-111.29	-1,118.49	-833.33	1,317.42	1,245.04	75.58	17.540			
10,300.00	10,197.81	10,163.58	10,147.44	39.96	36.46	-111.36	-1,119.09	-830.18	1,317.24	1,241.34	75.91	17.617			
10,350.00	10,245.35	10,211.03	10,194.79	40.12	36.64	-111.43	-1,119.68	-827.11	1,317.24	1,237.71	76.23	17.749			
10,400.00	10,291.62	10,256.96	10,240.63	40.27	36.81	-111.50	-1,120.26	-824.14	1,317.58	1,236.04	76.53	17.934			
10,450.00	10,336.07	10,301.03	10,284.59	40.42	36.97	-111.57	-1,120.81	-821.28	1,317.02	1,231.19	76.83	18.171			
10,500.00	10,378.36	10,342.89	10,326.36	40.56	37.12	-111.63	-1,121.33	-818.57	1,317.09	1,231.00	77.10	18.458			
10,550.00	10,418.17	10,382.22	10,365.61	40.70	37.27	-111.69	-1,121.82	-816.03	1,317.60	1,231.25	77.35	18.792			
10,600.00	10,455.18	10,418.73	10,402.04	40.82	37.40	-111.74	-1,122.27	-813.66	1,317.31	1,231.73	77.58	19.172			

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Van Doo Dah 21-33 Fed Com 233H
Project:	Lea County (NAD83 New Mexico East)	TVD Reference:	RKB @ 3415.20ft
Reference Site:	Sec 21-T25S-R32E	MD Reference:	RKB @ 3415.20ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Van Doo Dah 21-33 Fed Com 233H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 2	Offset TVD Reference:	Offset Datum

Offset Design														Offset Site Error:		0.00 ft
Survey Program: 0-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			
3,750.00	3,740.86	3,822.29	3,817.70	13.23	13.40	-54.02	-1,038.85	-1,182.75	1,494.05	1,467.55	26.50	56.389				
3,800.00	3,790.04	3,870.34	3,865.52	13.42	13.57	-54.44	-1,039.45	-1,178.06	1,485.72	1,458.86	26.85	55.328				
3,850.00	3,839.22	3,918.40	3,913.34	13.62	13.74	-54.86	-1,040.04	-1,173.37	1,477.47	1,450.25	27.21	54.289				
3,900.00	3,888.40	3,966.45	3,961.16	13.81	13.92	-55.29	-1,040.63	-1,168.68	1,469.30	1,441.72	27.58	53.282				
3,950.00	3,937.58	4,014.51	4,008.99	14.01	14.09	-55.72	-1,041.23	-1,163.99	1,461.22	1,433.28	27.94	52.300				
4,000.00	3,986.76	4,062.56	4,056.81	14.20	14.27	-56.16	-1,041.82	-1,159.30	1,453.22	1,424.92	28.30	51.345				
4,050.00	4,035.94	4,110.62	4,104.63	14.40	14.44	-56.60	-1,042.41	-1,154.61	1,445.32	1,416.65	28.67	50.414				
4,100.00	4,085.12	4,158.67	4,152.45	14.59	14.62	-57.04	-1,043.01	-1,149.92	1,437.50	1,408.46	29.04	49.509				
4,150.00	4,134.30	4,206.73	4,200.28	14.79	14.80	-57.49	-1,043.60	-1,145.23	1,429.77	1,400.37	29.40	48.626				
4,200.00	4,183.48	4,254.78	4,248.10	14.99	14.97	-57.95	-1,044.19	-1,140.54	1,422.13	1,392.36	29.77	47.767				
4,250.00	4,232.66	4,302.84	4,295.92	15.19	15.15	-58.41	-1,044.79	-1,135.85	1,414.59	1,384.45	30.14	46.930				
4,300.00	4,281.84	4,350.89	4,343.74	15.39	15.32	-58.87	-1,045.38	-1,131.16	1,407.15	1,376.63	30.51	46.115				
4,350.00	4,331.02	4,401.05	4,391.57	15.59	15.51	-59.34	-1,045.98	-1,126.47	1,399.80	1,368.90	30.89	45.310				
4,400.00	4,380.20	4,447.00	4,439.39	15.79	15.68	-59.82	-1,046.57	-1,121.78	1,392.54	1,361.28	31.26	44.547				
4,450.00	4,429.38	4,504.94	4,487.21	15.99	15.89	-60.29	-1,047.16	-1,117.09	1,385.39	1,353.72	31.67	43.743				
4,500.00	4,478.57	4,543.12	4,535.03	16.19	16.03	-60.78	-1,047.76	-1,112.41	1,378.34	1,346.33	32.01	43.059				
4,550.00	4,527.75	4,608.83	4,582.85	16.39	16.27	-61.26	-1,048.35	-1,107.72	1,371.39	1,338.94	32.45	42.259				
4,600.00	4,576.93	4,639.23	4,630.68	16.59	16.39	-61.76	-1,048.94	-1,103.03	1,364.55	1,331.78	32.77	41.646				
4,650.00	4,626.11	4,687.28	4,678.50	16.80	16.56	-62.25	-1,049.54	-1,098.34	1,357.81	1,324.66	33.14	40.966				
4,700.00	4,675.29	4,735.34	4,726.32	17.00	16.74	-62.75	-1,050.13	-1,093.65	1,351.18	1,317.65	33.52	40.304				
4,750.00	4,724.47	4,783.39	4,774.14	17.21	16.92	-63.26	-1,050.72	-1,088.96	1,344.66	1,310.75	33.91	39.659				
4,800.00	4,773.65	4,831.45	4,821.97	17.41	17.10	-63.77	-1,051.32	-1,084.27	1,338.25	1,303.96	34.29	39.030				
4,850.00	4,822.83	4,879.50	4,869.79	17.61	17.27	-64.28	-1,051.91	-1,079.58	1,331.95	1,297.28	34.67	38.417				
4,900.00	4,872.01	4,927.56	4,917.61	17.82	17.45	-64.80	-1,052.51	-1,074.89	1,325.76	1,290.71	35.05	37.820				
4,950.00	4,921.19	4,975.61	4,965.43	18.03	17.63	-65.33	-1,053.10	-1,070.20	1,319.69	1,284.25	35.44	37.238				
5,000.00	4,970.37	5,023.67	5,013.25	18.23	17.81	-65.86	-1,053.69	-1,065.51	1,313.74	1,277.92	35.83	36.671				
5,050.00	5,019.55	5,071.72	5,061.08	18.44	17.99	-66.39	-1,054.29	-1,060.82	1,307.91	1,271.70	36.21	36.118				
5,100.00	5,068.73	5,119.78	5,108.90	18.64	18.17	-66.93	-1,054.88	-1,056.13	1,302.20	1,265.60	36.60	35.580				
5,150.00	5,117.91	5,167.83	5,156.72	18.85	18.35	-67.47	-1,055.47	-1,051.44	1,296.61	1,259.82	36.99	35.055				
5,200.00	5,167.09	5,215.89	5,204.54	19.06	18.53	-68.02	-1,056.07	-1,046.75	1,291.14	1,253.76	37.38	34.543				
5,250.00	5,216.27	5,263.95	5,252.37	19.27	18.70	-68.57	-1,056.66	-1,042.06	1,285.80	1,248.03	37.77	34.045				
5,300.00	5,265.45	5,312.00	5,300.19	19.47	18.88	-69.12	-1,057.25	-1,037.37	1,280.58	1,242.42	38.16	33.560				
5,350.00	5,314.63	5,360.06	5,348.01	19.68	19.06	-69.68	-1,057.85	-1,032.68	1,275.49	1,236.94	38.55	33.087				
5,400.00	5,363.81	5,408.11	5,395.83	19.89	19.24	-70.24	-1,058.44	-1,027.99	1,270.53	1,231.59	38.94	32.626				
5,450.00	5,413.00	5,456.17	5,443.66	20.10	19.42	-70.81	-1,059.03	-1,023.30	1,265.71	1,226.37	39.34	32.177				
5,500.00	5,462.18	5,504.22	5,491.48	20.31	19.60	-71.38	-1,059.63	-1,018.62	1,261.01	1,221.28	39.73	31.740				
5,550.00	5,511.36	5,552.28	5,539.30	20.52	19.78	-71.96	-1,060.22	-1,013.93	1,256.45	1,216.33	40.12	31.315				
5,600.00	5,560.54	5,600.33	5,587.12	20.73	19.96	-72.53	-1,060.82	-1,009.24	1,252.03	1,211.51	40.52	30.900				
5,650.00	5,609.72	5,648.39	5,634.94	20.94	20.14	-73.12	-1,061.41	-1,004.55	1,247.74	1,206.83	40.91	30.496				
5,700.00	5,658.90	5,696.44	5,682.77	21.15	20.32	-73.70	-1,062.00	-999.86	1,243.60	1,202.28	41.31	30.104				
5,750.00	5,708.08	5,744.50	5,730.59	21.36	20.50	-74.29	-1,062.60	-995.17	1,239.59	1,197.88	41.71	29.721				
5,800.00	5,757.26	5,807.45	5,778.41	21.57	20.74	-74.89	-1,063.19	-990.48	1,235.72	1,193.56	42.16	29.310				
5,850.00	5,806.44	5,840.61	5,826.23	21.78	20.86	-75.48	-1,063.78	-985.79	1,232.00	1,189.49	42.50	28.987				
5,900.00	5,855.62	5,888.66	5,874.06	21.99	21.04	-76.08	-1,064.38	-981.10	1,228.42	1,185.52	42.90	28.635				
5,950.00	5,904.80	5,936.72	5,921.88	22.20	21.22	-76.69	-1,064.97	-976.41	1,224.98	1,181.68	43.30	28.292				
6,000.00	5,953.98	5,984.78	5,969.70	22.41	21.40	-77.29	-1,065.56	-971.72	1,221.69	1,177.99	43.70	27.958				
6,050.00	6,003.16	6,032.83	6,017.52	22.62	21.58	-77.90	-1,066.16	-967.03	1,218.55	1,174.45	44.10	27.634				
6,100.00	6,052.34	6,080.89	6,065.35	22.83	21.76	-78.51	-1,066.75	-962.34	1,215.56	1,171.06	44.50	27.319				
6,150.00	6,101.52	6,128.94	6,113.17	23.04	21.94	-79.13	-1,067.35	-957.65	1,212.72	1,167.82	44.89	27.012				
6,200.00	6,150.70	6,177.00	6,160.99	23.26	22.12	-79.75	-1,067.94	-952.96	1,210.02	1,164.73	45.29	26.715				
6,250.00	6,199.88	6,225.05	6,208.81	23.47	22.30	-80.37	-1,068.53	-948.27	1,207.48	1,161.79	45.69	26.425				
6,300.00	6,249.06	6,273.11	6,256.63	23.68	22.48	-80.99	-1,069.13	-943.58	1,205.10	1,159.00	46.09	26.144				

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

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Van Doo Dah 21-33 Fed Com 233H
Project:	Lea County (NAD83 New Mexico East)	TVD Reference:	RKB @ 3415.20ft
Reference Site:	Sec 21-T25S-R32E	MD Reference:	RKB @ 3415.20ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Van Doo Dah 21-33 Fed Com 233H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 2	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error: 0.00 ft	
Survey Program: 0-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		
6,350.00	6,298.25	6,321.16	6,304.46	23.89	22.66	-81.61	-1,069.72	-938.89	1,202.86	1,156.37	46.49	25.871		
6,400.00	6,347.43	6,369.22	6,352.28	24.11	22.84	-82.24	-1,070.31	-934.20	1,200.79	1,153.89	46.89	25.606		
6,450.00	6,396.61	6,417.27	6,400.10	24.32	23.03	-82.87	-1,070.91	-929.51	1,198.86	1,151.57	47.29	25.349		
6,500.00	6,445.79	6,465.33	6,447.92	24.53	23.21	-83.50	-1,071.50	-924.83	1,197.10	1,149.40	47.69	25.100		
6,550.00	6,494.97	6,513.38	6,495.75	24.74	23.39	-84.13	-1,072.09	-920.14	1,195.49	1,147.39	48.09	24.857		
6,600.00	6,544.15	6,561.44	6,543.57	24.96	23.57	-84.76	-1,072.69	-915.45	1,194.03	1,145.54	48.49	24.623		
6,650.00	6,593.33	6,609.49	6,591.39	25.17	23.75	-85.40	-1,073.28	-910.76	1,192.74	1,143.85	48.89	24.395		
6,700.00	6,642.51	6,657.55	6,639.21	25.38	23.93	-86.04	-1,073.87	-906.07	1,191.60	1,142.31	49.29	24.174		
6,750.00	6,691.69	6,705.61	6,687.04	25.60	24.11	-86.67	-1,074.47	-901.38	1,190.63	1,140.94	49.69	23.961		
6,800.00	6,740.87	6,753.66	6,734.86	25.81	24.29	-87.31	-1,075.06	-896.69	1,189.81	1,139.72	50.09	23.754		
6,850.00	6,790.05	6,801.72	6,782.68	26.02	24.47	-87.95	-1,075.66	-892.00	1,189.15	1,138.67	50.49	23.553		
6,900.00	6,839.23	6,849.77	6,830.50	26.24	24.66	-88.59	-1,076.25	-887.31	1,188.66	1,137.77	50.89	23.359		
6,950.00	6,888.41	6,902.17	6,878.32	26.45	24.85	-89.23	-1,076.84	-882.62	1,188.32	1,137.02	51.30	23.164		
7,000.00	6,937.59	6,945.88	6,926.15	26.67	25.02	-89.87	-1,077.44	-877.93	1,188.14	1,136.46	51.68	22.991		
7,029.95	6,967.05	6,974.66	6,954.79	26.79	25.13	-90.25	-1,077.79	-875.12	1,188.12	1,136.20	51.92	22.885 CC		
7,050.00	6,986.77	7,006.06	6,973.97	26.88	25.25	-90.51	-1,078.03	-873.24	1,188.13	1,136.01	52.12	22.795		
7,100.00	7,035.95	7,041.99	7,021.79	27.10	25.38	-91.15	-1,078.62	-868.55	1,188.27	1,135.80	52.47	22.646		
7,150.00	7,085.13	7,109.95	7,069.61	27.31	25.64	-91.79	-1,079.22	-863.86	1,188.58	1,135.64	52.94	22.450 ES		
7,200.00	7,134.31	7,138.10	7,117.44	27.52	25.74	-92.43	-1,079.81	-859.17	1,189.04	1,135.78	53.26	22.324		
7,250.00	7,183.49	7,186.16	7,165.26	27.74	25.93	-93.07	-1,080.40	-854.48	1,189.67	1,136.01	53.66	22.172		
7,300.00	7,232.68	7,234.21	7,213.08	27.95	26.11	-93.70	-1,081.00	-849.79	1,190.45	1,136.40	54.05	22.025		
7,350.00	7,281.86	7,282.27	7,260.90	28.17	26.29	-94.34	-1,081.59	-845.10	1,191.40	1,136.96	54.44	21.884		
7,400.00	7,331.04	7,330.32	7,308.72	28.38	26.47	-94.98	-1,082.19	-840.41	1,192.50	1,137.67	54.83	21.747		
7,450.00	7,380.22	7,378.38	7,356.55	28.60	26.65	-95.61	-1,082.78	-835.72	1,193.77	1,138.54	55.23	21.616		
7,500.00	7,429.40	7,426.44	7,404.37	28.81	26.83	-96.25	-1,083.37	-831.03	1,195.19	1,139.57	55.62	21.490		
7,550.00	7,478.58	7,474.49	7,452.19	29.03	27.02	-96.88	-1,083.97	-826.35	1,196.77	1,140.76	56.01	21.369		
7,600.00	7,527.76	7,522.55	7,500.01	29.24	27.20	-97.51	-1,084.56	-821.66	1,198.50	1,142.11	56.39	21.252		
7,650.00	7,576.94	7,570.60	7,547.84	29.46	27.38	-98.14	-1,085.15	-816.97	1,200.39	1,143.61	56.78	21.140		
7,700.00	7,626.12	7,618.66	7,595.66	29.68	27.56	-98.77	-1,085.75	-812.28	1,202.44	1,145.27	57.17	21.033		
7,750.00	7,675.30	7,666.71	7,643.48	29.89	27.74	-99.39	-1,086.34	-807.59	1,204.64	1,147.09	57.56	20.930		
7,800.00	7,724.48	7,714.77	7,691.30	30.11	27.93	-100.01	-1,086.93	-802.90	1,207.00	1,149.06	57.94	20.832		
7,850.00	7,773.66	7,762.82	7,739.13	30.32	28.11	-100.63	-1,087.53	-798.21	1,209.51	1,151.18	58.33	20.737		
7,900.00	7,822.84	7,810.88	7,786.95	30.54	28.29	-101.25	-1,088.12	-793.52	1,212.17	1,153.46	58.71	20.647		
7,950.00	7,872.02	7,858.93	7,834.77	30.75	28.47	-101.87	-1,088.72	-788.83	1,214.98	1,155.89	59.09	20.561		
8,000.00	7,921.20	7,906.99	7,882.59	30.97	28.65	-102.48	-1,089.31	-784.14	1,217.95	1,158.47	59.47	20.479		
8,050.00	7,970.38	7,955.04	7,930.41	31.19	28.84	-103.09	-1,089.90	-779.45	1,221.06	1,161.20	59.85	20.401		
8,100.00	8,019.56	8,003.10	7,978.24	31.40	29.02	-103.70	-1,090.50	-774.76	1,224.32	1,164.08	60.23	20.326		
8,150.00	8,068.74	8,051.15	8,026.06	31.62	29.20	-104.30	-1,091.09	-770.07	1,227.72	1,167.11	60.61	20.255		
8,200.00	8,117.93	8,100.79	8,073.88	31.83	29.39	-104.90	-1,091.68	-765.38	1,231.28	1,170.28	61.00	20.186		
8,250.00	8,167.11	8,147.27	8,121.70	32.05	29.56	-105.50	-1,092.28	-760.69	1,234.97	1,173.60	61.37	20.124		
8,300.00	8,216.29	8,204.68	8,169.53	32.27	29.78	-106.09	-1,092.87	-756.00	1,238.81	1,177.03	61.78	20.052		
8,350.00	8,265.47	8,243.38	8,217.35	32.48	29.93	-106.68	-1,093.46	-751.31	1,242.79	1,180.67	62.12	20.007		
8,400.00	8,314.65	8,308.57	8,265.17	32.70	30.18	-107.27	-1,094.06	-746.62	1,246.91	1,184.35	62.56	19.932		
8,450.00	8,363.83	8,339.49	8,312.99	32.92	30.29	-107.85	-1,094.65	-741.93	1,251.17	1,188.30	62.87	19.902		
8,500.00	8,413.01	8,387.54	8,360.82	33.13	30.48	-108.43	-1,095.24	-737.24	1,255.57	1,192.33	63.24	19.854		
8,550.00	8,462.19	8,435.60	8,408.64	33.35	30.66	-109.01	-1,095.84	-732.56	1,260.10	1,196.49	63.61	19.810		
8,600.00	8,511.37	8,483.65	8,456.46	33.57	30.84	-109.58	-1,096.43	-727.87	1,264.77	1,200.79	63.98	19.768		
8,650.00	8,560.55	8,531.71	8,504.28	33.78	31.02	-110.15	-1,097.03	-723.18	1,269.57	1,205.22	64.35	19.729		
8,700.00	8,609.73	8,579.76	8,552.10	34.00	31.21	-110.71	-1,097.62	-718.49	1,274.50	1,209.78	64.72	19.693		
8,750.00	8,658.91	8,627.82	8,599.93	34.22	31.39	-111.27	-1,098.21	-713.80	1,279.56	1,214.48	65.09	19.659		
8,800.00	8,708.09	8,675.87	8,647.75	34.43	31.57	-111.83	-1,098.81	-709.11	1,284.75	1,219.30	65.45	19.628		
8,850.00	8,757.27	8,723.93	8,695.57	34.65	31.75	-112.38	-1,099.40	-704.42	1,290.07	1,224.25	65.82	19.600		

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

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Van Doo Dah 21-33 Fed Com 233H
Project:	Lea County (NAD83 New Mexico East)	TVD Reference:	RKB @ 3415.20ft
Reference Site:	Sec 21-T25S-R32E	MD Reference:	RKB @ 3415.20ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Van Doo Dah 21-33 Fed Com 233H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 2	Offset TVD Reference:	Offset Datum

Offset Design														Offset Site Error:	0.00 ft
Survey Program: 0-MWD+HDGM														Offset Well Error:	0.50 ft
Sec 28-T25S-R32E - Van Doo Dah 28-33 Fed Com 711H (est) - Wellbore #1 - Prelim Plan 1															
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		
8,900.00	8,806.45	8,771.98	8,743.39	34.87	31.94	-112.93	-1,099.99	-699.73	1,295.51	1,229.33	66.19	19.574			
8,950.00	8,855.63	8,820.04	8,791.22	35.09	32.12	-113.47	-1,100.59	-695.04	1,301.08	1,234.53	66.55	19.550			
9,000.00	8,904.81	8,868.10	8,839.04	35.30	32.30	-114.01	-1,101.18	-690.35	1,306.77	1,239.85	66.92	19.529			
9,050.00	8,953.99	8,916.15	8,886.86	35.52	32.48	-114.54	-1,101.77	-685.66	1,312.58	1,245.30	67.28	19.510			
9,100.00	9,003.17	8,964.21	8,934.68	35.74	32.67	-115.07	-1,102.37	-680.97	1,318.51	1,250.87	67.64	19.493			
9,150.00	9,052.39	9,012.32	8,982.56	35.95	32.85	-115.65	-1,102.96	-676.28	1,324.46	1,256.46	68.00	19.477			
9,200.00	9,101.72	9,060.80	9,030.61	36.17	33.03	-116.22	-1,103.56	-671.56	1,330.25	1,261.89	68.36	19.459			
9,250.00	9,151.15	9,109.05	9,078.82	36.37	33.22	-116.76	-1,104.16	-666.84	1,335.85	1,267.14	68.72	19.440			
9,300.00	9,200.67	9,157.65	9,127.19	36.58	33.40	-117.27	-1,104.76	-662.09	1,341.24	1,272.17	69.07	19.418			
9,350.00	9,250.28	9,206.41	9,175.71	36.77	33.59	-117.76	-1,105.36	-657.34	1,346.41	1,276.99	69.42	19.395			
9,400.00	9,299.97	9,255.30	9,224.37	36.97	33.77	-118.21	-1,105.96	-652.56	1,351.35	1,281.57	69.77	19.367			
9,450.00	9,349.72	9,304.33	9,273.16	37.16	33.96	-118.63	-1,106.57	-647.78	1,356.03	1,285.91	70.12	19.338			
9,500.00	9,399.54	9,353.49	9,322.07	37.34	34.15	-119.02	-1,107.18	-642.98	1,360.46	1,289.99	70.47	19.305			
9,550.00	9,449.40	9,402.75	9,371.10	37.52	34.33	-119.39	-1,107.79	-638.17	1,364.61	1,293.79	70.81	19.270			
9,600.00	9,499.31	9,452.13	9,420.24	37.70	34.52	-119.73	-1,108.40	-633.36	1,368.48	1,297.32	71.16	19.231			
9,650.00	9,549.26	9,501.60	9,469.47	37.87	34.71	-120.03	-1,109.01	-628.53	1,372.05	1,300.55	71.50	19.189			
9,700.00	9,599.23	9,551.17	9,518.80	38.05	34.90	-120.31	-1,109.62	-623.69	1,375.33	1,303.49	71.84	19.144			
9,750.00	9,649.22	9,600.82	9,568.20	38.21	35.09	-120.56	-1,110.23	-618.85	1,378.30	1,306.12	72.18	19.096			
9,800.00	9,699.22	9,650.54	9,617.68	38.37	35.28	-120.79	-1,110.85	-613.99	1,380.95	1,308.43	72.52	19.043			
9,850.00	9,749.22	9,700.29	9,667.20	38.53	35.47	-156.96	-1,111.46	-609.14	1,383.43	1,310.58	72.85	18.990			
9,900.00	9,799.22	9,750.05	9,716.72	38.69	35.65	-156.78	-1,112.08	-604.28	1,385.92	1,312.74	73.19	18.937			
9,950.00	9,849.22	9,800.19	9,766.23	38.85	35.85	-156.61	-1,112.69	-599.43	1,388.43	1,314.91	73.52	18.884			
10,000.00	9,899.22	9,849.57	9,815.75	39.00	36.03	-156.43	-1,113.30	-594.57	1,390.95	1,317.09	73.86	18.833			
10,050.00	9,949.22	9,900.68	9,865.26	39.16	36.23	-156.26	-1,113.92	-589.72	1,393.48	1,319.29	74.20	18.781			
10,100.00	9,999.22	9,949.08	9,914.78	39.32	36.41	-156.09	-1,114.53	-584.86	1,396.03	1,321.50	74.53	18.732			
10,150.00	10,049.22	10,001.16	9,964.30	39.48	36.61	-155.92	-1,115.15	-580.01	1,398.59	1,323.71	74.87	18.680			
10,200.00	10,099.17	10,048.52	10,013.74	39.64	36.79	-155.81	-1,115.76	-575.16	1,402.92	1,327.73	75.20	18.656 SF			
10,250.00	10,148.75	10,102.22	10,062.76	39.80	37.00	-155.40	-1,116.37	-570.35	1,411.21	1,335.66	75.55	18.679			
10,300.00	10,197.61	10,146.27	10,111.01	39.96	37.16	-154.88	-1,116.97	-565.62	1,423.37	1,347.50	75.87	18.762			
10,350.00	10,245.35	10,206.41	10,158.11	40.12	37.39	-154.24	-1,117.55	-561.00	1,439.32	1,363.09	76.24	18.879			
10,400.00	10,291.62	10,239.40	10,203.69	40.27	37.52	-153.46	-1,118.12	-556.53	1,458.95	1,382.45	76.50	19.070			
10,450.00	10,336.07	10,283.34	10,247.42	40.42	37.68	-152.52	-1,118.66	-552.24	1,482.13	1,405.32	76.80	19.298			

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Van Doo Dah 21-33 Fed Com 233H
Project:	Lea County (NAD83 New Mexico East)	TVD Reference:	RKB @ 3415.20ft
Reference Site:	Sec 21-T25S-R32E	MD Reference:	RKB @ 3415.20ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Van Doo Dah 21-33 Fed Com 233H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 2	Offset TVD Reference:	Offset Datum

Offset Design Sec 28-T25S-R32E - Van Doo Dah 28-33 Fed Com 731H (est) - Wellbore #1 - Prelim Plan 1														Offset Site Error: 0.00 ft	
Survey Program: 0-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			
3,300.00	3,297.40	3,429.49	3,420.69	11.56	12.09	-53.51	-1,037.95	-1,110.86	1,492.09	1,468.60	23.50	63.497			
3,350.00	3,346.89	3,477.48	3,468.21	11.74	12.27	-54.00	-1,038.51	-1,104.16	1,483.27	1,459.42	23.86	62.176			
3,400.00	3,396.30	3,525.35	3,515.60	11.92	12.45	-54.51	-1,039.07	-1,097.48	1,474.28	1,450.07	24.21	60.885			
3,450.00	3,445.65	3,573.09	3,562.87	12.10	12.84	-55.03	-1,039.62	-1,090.82	1,465.13	1,440.56	24.57	59.622			
3,500.00	3,494.93	3,620.69	3,610.01	12.29	12.82	-55.58	-1,040.18	-1,084.18	1,455.83	1,430.90	24.93	58.387			
3,550.00	3,544.13	3,668.17	3,657.02	12.47	13.00	-56.13	-1,040.73	-1,077.56	1,446.40	1,421.11	25.30	57.178			
3,600.00	3,593.32	3,715.61	3,703.99	12.66	13.18	-56.62	-1,041.28	-1,070.94	1,437.01	1,411.35	25.66	56.003			
3,650.00	3,642.50	3,763.04	3,750.96	12.85	13.36	-57.13	-1,041.83	-1,064.32	1,427.73	1,401.71	26.02	54.860			
3,700.00	3,691.68	3,810.48	3,797.93	13.04	13.55	-57.64	-1,042.38	-1,057.70	1,418.57	1,392.18	26.39	53.752			
3,750.00	3,740.86	3,857.91	3,844.90	13.23	13.73	-58.15	-1,042.93	-1,051.08	1,409.53	1,382.77	26.76	52.674			
3,800.00	3,790.04	3,905.35	3,891.86	13.42	13.91	-58.67	-1,043.49	-1,044.46	1,400.60	1,373.47	27.13	51.628			
3,850.00	3,839.22	3,952.79	3,938.83	13.62	14.10	-59.20	-1,044.04	-1,037.84	1,391.80	1,364.30	27.50	50.610			
3,900.00	3,888.40	4,000.22	3,985.80	13.81	14.28	-59.73	-1,044.59	-1,031.22	1,383.12	1,355.25	27.87	49.622			
3,950.00	3,937.58	4,047.66	4,032.77	14.01	14.46	-60.27	-1,045.14	-1,024.60	1,374.57	1,346.32	28.25	48.660			
4,000.00	3,986.76	4,104.91	4,079.74	14.20	14.69	-60.82	-1,045.69	-1,017.98	1,366.15	1,337.48	28.66	47.665			
4,050.00	4,035.94	4,162.53	4,126.71	14.40	14.83	-61.37	-1,046.24	-1,011.36	1,357.86	1,328.85	29.00	46.820			
4,100.00	4,085.12	4,189.96	4,173.67	14.59	15.02	-61.93	-1,046.80	-1,004.75	1,349.70	1,320.32	29.38	45.939			
4,150.00	4,134.30	4,237.40	4,220.64	14.79	15.20	-62.50	-1,047.35	-998.13	1,341.68	1,311.92	29.76	45.081			
4,200.00	4,183.48	4,284.83	4,267.61	14.99	15.39	-63.07	-1,047.90	-991.51	1,333.80	1,303.66	30.14	44.249			
4,250.00	4,232.66	4,332.27	4,314.58	15.19	15.57	-63.64	-1,048.45	-984.89	1,326.06	1,295.53	30.53	43.439			
4,300.00	4,281.84	4,379.71	4,361.55	15.39	15.76	-64.23	-1,049.00	-978.27	1,318.47	1,287.56	30.91	42.653			
4,350.00	4,331.02	4,427.14	4,408.52	15.59	15.95	-64.82	-1,049.55	-971.65	1,311.02	1,279.72	31.30	41.888			
4,400.00	4,380.20	4,474.58	4,455.48	15.79	16.13	-65.41	-1,050.10	-965.03	1,303.72	1,272.03	31.69	41.146			
4,450.00	4,429.38	4,522.01	4,502.45	15.99	16.32	-66.01	-1,050.66	-958.41	1,296.57	1,264.50	32.07	40.424			
4,500.00	4,478.57	4,569.45	4,549.42	16.19	16.50	-66.62	-1,051.21	-951.79	1,289.58	1,257.12	32.46	39.723			
4,550.00	4,527.75	4,616.88	4,596.39	16.39	16.69	-67.24	-1,051.76	-945.17	1,282.74	1,249.89	32.86	39.042			
4,600.00	4,576.93	4,664.32	4,643.36	16.59	16.88	-67.86	-1,052.31	-938.56	1,276.07	1,242.82	33.25	38.380			
4,650.00	4,626.11	4,711.76	4,690.33	16.80	17.06	-68.48	-1,052.86	-931.94	1,269.55	1,235.91	33.64	37.737			
4,700.00	4,675.29	4,759.19	4,737.29	17.00	17.25	-69.11	-1,053.41	-925.32	1,263.20	1,229.16	34.04	37.112			
4,750.00	4,724.47	4,806.63	4,784.26	17.21	17.44	-69.75	-1,053.97	-918.70	1,257.01	1,222.58	34.43	36.506			
4,800.00	4,773.65	4,854.06	4,831.23	17.41	17.63	-70.39	-1,054.52	-912.08	1,251.00	1,216.17	34.83	35.917			
4,850.00	4,822.83	4,901.50	4,878.20	17.61	17.81	-71.04	-1,055.07	-905.46	1,245.16	1,209.93	35.23	35.345			
4,900.00	4,872.01	4,948.93	4,925.17	17.82	18.00	-71.70	-1,055.62	-898.84	1,239.49	1,203.86	35.63	34.790			
4,950.00	4,921.19	5,003.63	4,972.14	18.03	18.22	-72.35	-1,056.17	-892.22	1,233.99	1,197.93	36.06	34.223			
5,000.00	4,970.37	5,043.81	5,019.10	18.23	18.38	-73.02	-1,056.72	-885.60	1,228.68	1,192.25	36.43	33.728			
5,050.00	5,019.55	5,108.76	5,066.07	18.44	18.63	-73.69	-1,057.28	-878.98	1,223.54	1,186.64	36.90	33.158			
5,100.00	5,068.73	5,138.68	5,113.04	18.64	18.75	-74.36	-1,057.83	-872.37	1,218.59	1,181.36	37.23	32.728			
5,150.00	5,117.91	5,186.11	5,160.01	18.85	18.94	-75.04	-1,058.38	-865.75	1,213.83	1,176.19	37.64	32.250			
5,200.00	5,167.09	5,233.55	5,206.98	19.06	19.13	-75.73	-1,058.93	-859.13	1,209.25	1,171.21	38.04	31.788			
5,250.00	5,216.27	5,280.98	5,253.95	19.27	19.32	-76.42	-1,059.48	-852.51	1,204.87	1,166.42	38.45	31.339			
5,300.00	5,265.45	5,328.42	5,300.91	19.47	19.51	-77.11	-1,060.03	-845.89	1,200.67	1,161.82	38.85	30.904			
5,350.00	5,314.63	5,375.85	5,347.88	19.68	19.70	-77.81	-1,060.58	-839.27	1,196.67	1,157.41	39.26	30.482			
5,400.00	5,363.81	5,423.29	5,394.85	19.89	19.88	-78.51	-1,061.14	-832.65	1,192.87	1,153.20	39.66	30.074			
5,450.00	5,413.00	5,470.73	5,441.82	20.10	20.07	-79.22	-1,061.69	-826.03	1,189.26	1,149.19	40.07	29.679			
5,500.00	5,462.18	5,518.16	5,488.79	20.31	20.26	-79.93	-1,062.24	-819.41	1,185.86	1,145.38	40.48	29.296			
5,550.00	5,511.36	5,565.60	5,535.76	20.52	20.45	-80.64	-1,062.79	-812.79	1,182.65	1,141.77	40.89	28.926			
5,600.00	5,560.54	5,613.03	5,582.72	20.73	20.64	-81.36	-1,063.34	-806.17	1,179.65	1,138.36	41.29	28.568			
5,650.00	5,609.72	5,660.47	5,629.69	20.94	20.83	-82.08	-1,063.89	-799.56	1,176.85	1,135.15	41.70	28.222			
5,700.00	5,658.90	5,707.90	5,676.66	21.15	21.02	-82.80	-1,064.45	-792.94	1,174.26	1,132.15	42.11	27.887			
5,750.00	5,708.08	5,755.34	5,723.63	21.36	21.21	-83.53	-1,065.00	-786.32	1,171.88	1,129.36	42.52	27.563			
5,800.00	5,757.26	5,802.78	5,770.60	21.57	21.40	-84.25	-1,065.55	-779.70	1,169.70	1,126.78	42.92	27.251			
5,850.00	5,806.44	5,850.21	5,817.57	21.78	21.59	-84.99	-1,066.10	-773.08	1,167.74	1,124.41	43.33	26.950			

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

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Van Doo Dah 21-33 Fed Com 233H
Project:	Lea County (NAD83 New Mexico East)	TVD Reference:	RKB @ 3415.20ft
Reference Site:	Sec 21-T25S-R32E	MD Reference:	RKB @ 3415.20ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Van Doo Dah 21-33 Fed Com 233H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 2	Offset TVD Reference:	Offset Datum

Offset Design Sec 28-T25S-R32E - Van Doo Dah 28-33 Fed Com 731H (est) - Wellbore #1 - Prelim Plan 1														Offset Site Error:	0.00 ft
Survey Program: 0-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)							
5,900.00	5,855.62	5,902.35	5,864.53	21.99	21.80	-85.72	-1,066.65	-766.46	1,165.98	1,122.23	43.76	26.647			
5,950.00	5,904.80	5,945.08	5,911.50	22.20	21.97	-86.45	-1,067.20	-759.84	1,164.44	1,120.30	44.14	26.378			
6,000.00	5,953.98	6,007.48	5,958.47	22.41	22.22	-87.19	-1,067.76	-753.22	1,163.11	1,118.50	44.61	26.073			
6,050.00	6,003.16	6,039.95	6,005.44	22.62	22.35	-87.93	-1,068.31	-746.60	1,162.00	1,117.04	44.96	25.847			
6,100.00	6,052.34	6,087.39	6,052.41	22.83	22.54	-88.67	-1,068.86	-739.98	1,161.09	1,115.73	45.36	25.596			
6,150.00	6,101.52	6,134.82	6,099.38	23.04	22.73	-89.40	-1,069.41	-733.37	1,160.41	1,114.64	45.77	25.355			
6,200.00	6,150.70	6,182.26	6,146.34	23.26	22.92	-90.15	-1,069.96	-726.75	1,159.94	1,113.77	46.17	25.123			
6,250.00	6,199.88	6,229.70	6,193.31	23.47	23.11	-90.89	-1,070.51	-720.13	1,159.68	1,113.11	46.57	24.899			
6,284.53	6,233.85	6,262.46	6,225.75	23.61	23.24	-91.40	-1,070.89	-715.56	1,159.63	1,112.78	46.85	24.750 CC			
6,300.00	6,249.06	6,277.13	6,240.28	23.68	23.30	-91.63	-1,071.06	-713.51	1,159.64	1,112.66	46.98	24.685			
6,350.00	6,298.25	6,324.57	6,287.25	23.89	23.49	-92.37	-1,071.62	-706.89	1,159.81	1,112.43	47.38	24.479			
6,400.00	6,347.43	6,372.00	6,334.22	24.11	23.68	-93.11	-1,072.17	-700.27	1,160.20	1,112.42	47.78	24.282 ES			
6,450.00	6,396.61	6,419.44	6,381.19	24.32	23.87	-93.85	-1,072.72	-693.65	1,160.81	1,112.63	48.18	24.093			
6,500.00	6,445.79	6,466.87	6,428.15	24.53	24.06	-94.59	-1,073.27	-687.03	1,161.63	1,113.05	48.58	23.912			
6,550.00	6,494.97	6,514.31	6,475.12	24.74	24.25	-95.33	-1,073.82	-680.41	1,162.66	1,113.68	48.98	23.738			
6,600.00	6,544.15	6,561.75	6,522.09	24.96	24.44	-96.06	-1,074.37	-673.79	1,163.91	1,114.53	49.38	23.573			
6,650.00	6,593.33	6,609.18	6,569.06	25.17	24.63	-96.80	-1,074.93	-667.18	1,165.37	1,115.60	49.77	23.415			
6,700.00	6,642.51	6,656.62	6,616.03	25.38	24.82	-97.53	-1,075.48	-660.56	1,167.04	1,116.88	50.17	23.264			
6,750.00	6,691.69	6,704.05	6,663.00	25.60	25.01	-98.26	-1,076.03	-653.94	1,168.93	1,118.37	50.56	23.120			
6,800.00	6,740.87	6,751.49	6,709.96	25.81	25.20	-98.99	-1,076.58	-647.32	1,171.02	1,120.07	50.95	22.983			
6,850.00	6,790.05	6,801.08	6,756.93	26.02	25.40	-99.72	-1,077.13	-640.70	1,173.33	1,121.98	51.35	22.849			
6,900.00	6,839.23	6,846.36	6,803.90	26.24	25.59	-100.44	-1,077.68	-634.08	1,175.84	1,124.11	51.73	22.729			
6,950.00	6,888.41	6,906.21	6,850.87	26.45	25.83	-101.16	-1,078.24	-627.46	1,178.56	1,126.39	52.17	22.590			
7,000.00	6,937.59	6,941.23	6,897.84	26.67	25.97	-101.88	-1,078.79	-620.84	1,181.48	1,128.97	52.51	22.501			
7,050.00	6,986.77	6,988.67	6,944.81	26.88	26.16	-102.60	-1,079.34	-614.22	1,184.61	1,131.72	52.89	22.396			
7,100.00	7,035.95	7,036.10	6,991.77	27.10	26.35	-103.31	-1,079.89	-607.60	1,187.94	1,134.66	53.28	22.297			
7,150.00	7,085.13	7,083.54	7,038.74	27.31	26.54	-104.02	-1,080.44	-600.98	1,191.47	1,137.81	53.66	22.203			
7,200.00	7,134.31	7,130.97	7,085.71	27.52	26.73	-104.72	-1,080.99	-594.37	1,195.20	1,141.15	54.04	22.115			
7,250.00	7,183.49	7,178.41	7,132.68	27.74	26.92	-105.42	-1,081.55	-587.75	1,199.12	1,144.70	54.42	22.033			
7,300.00	7,232.68	7,225.84	7,179.65	27.95	27.11	-106.11	-1,082.10	-581.13	1,203.24	1,148.44	54.80	21.956			
7,350.00	7,281.86	7,273.28	7,226.62	28.17	27.31	-106.80	-1,082.65	-574.51	1,207.56	1,152.38	55.18	21.884			
7,400.00	7,331.04	7,320.72	7,273.58	28.38	27.50	-107.49	-1,083.20	-567.89	1,212.06	1,156.51	55.56	21.817			
7,450.00	7,380.22	7,368.15	7,320.55	28.60	27.69	-108.17	-1,083.75	-561.27	1,216.76	1,160.82	55.93	21.754			
7,500.00	7,429.40	7,415.59	7,367.52	28.81	27.88	-108.85	-1,084.30	-554.65	1,221.63	1,165.33	56.31	21.697			
7,550.00	7,478.58	7,463.02	7,414.48	29.03	28.07	-109.52	-1,084.85	-548.03	1,226.70	1,170.02	56.68	21.643			
7,600.00	7,527.76	7,510.46	7,461.46	29.24	28.26	-110.19	-1,085.41	-541.41	1,231.94	1,174.90	57.05	21.585			
7,650.00	7,576.94	7,557.89	7,508.43	29.46	28.45	-110.85	-1,085.96	-534.79	1,237.37	1,179.95	57.42	21.550			
7,700.00	7,626.12	7,605.33	7,555.39	29.68	28.65	-111.51	-1,086.51	-528.18	1,242.97	1,185.19	57.79	21.510			
7,750.00	7,675.30	7,652.77	7,602.36	29.89	28.84	-112.16	-1,087.06	-521.56	1,248.75	1,190.60	58.15	21.473			
7,800.00	7,724.48	7,700.20	7,649.33	30.11	29.03	-112.80	-1,087.61	-514.94	1,254.70	1,196.18	58.52	21.441			
7,850.00	7,773.66	7,747.64	7,696.30	30.32	29.22	-113.44	-1,088.16	-508.32	1,260.82	1,201.94	58.88	21.412			
7,900.00	7,822.84	7,804.93	7,743.27	30.54	29.45	-114.07	-1,088.72	-501.70	1,267.11	1,207.82	59.29	21.372			
7,950.00	7,872.02	7,842.51	7,790.24	30.75	29.60	-114.70	-1,089.27	-495.08	1,273.56	1,213.95	59.61	21.365			
8,000.00	7,921.20	7,889.94	7,837.20	30.97	29.79	-115.32	-1,089.82	-488.46	1,280.18	1,220.21	59.97	21.346			
8,050.00	7,970.38	7,937.38	7,884.17	31.19	29.99	-115.94	-1,090.37	-481.84	1,286.95	1,226.62	60.33	21.331			
8,100.00	8,019.56	7,984.81	7,931.14	31.40	30.18	-116.55	-1,090.92	-475.22	1,293.89	1,233.20	60.69	21.319			
8,150.00	8,068.74	8,032.25	7,978.11	31.62	30.37	-117.15	-1,091.47	-468.60	1,300.98	1,239.93	61.05	21.310			
8,200.00	8,117.93	8,079.69	8,025.08	31.83	30.56	-117.75	-1,092.03	-461.99	1,308.22	1,246.81	61.41	21.304			
8,250.00	8,167.11	8,127.12	8,072.05	32.05	30.75	-118.34	-1,092.58	-455.37	1,315.61	1,253.85	61.76	21.301			
8,300.00	8,216.29	8,174.56	8,119.01	32.27	30.95	-118.93	-1,093.13	-448.75	1,323.15	1,261.03	62.12	21.300 SF			
8,350.00	8,265.47	8,221.99	8,165.98	32.48	31.14	-119.51	-1,093.68	-442.13	1,330.83	1,268.36	62.47	21.302			
8,400.00	8,314.65	8,269.43	8,212.95	32.70	31.33	-120.08	-1,094.23	-435.51	1,338.66	1,275.83	62.83	21.307			

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

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Van Doo Dah 21-33 Fed Com 233H
Project:	Lea County (NAD83 New Mexico East)	TVD Reference:	RKB @ 3415.20ft
Reference Site:	Sec 21-T25S-R32E	MD Reference:	RKB @ 3415.20ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Van Doo Dah 21-33 Fed Com 233H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 2	Offset TVD Reference:	Offset Datum

Offset Design Sec 28-T25S-R32E - Van Doo Dah 28-33 Fed Com 731H (est) - Wellbore #1 - Prelim Plan 1														Offset Site Error:	0.00 ft
Survey Program: 0-MWD+HDGM														Offset Well Error:	0.50 ft
Reference		Offset		Semi-Major Axis		Highside		Distance		Minimum		Separation		Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor			
8,450.00	8,363.83	8,316.86	8,259.92	32.92	31.52	-120.65	-1,094.78	-428.89	1,346.63	1,283.45	63.18	21.314			
8,500.00	8,413.01	8,364.30	8,308.89	33.13	31.71	-121.21	-1,095.33	-422.27	1,354.73	1,291.20	63.53	21.324			
8,550.00	8,462.19	8,411.74	8,353.86	33.35	31.91	-121.77	-1,095.89	-415.65	1,362.97	1,299.09	63.88	21.336			
8,600.00	8,511.37	8,459.17	8,400.82	33.57	32.10	-122.31	-1,096.44	-409.03	1,371.34	1,307.11	64.23	21.349			
8,650.00	8,560.55	8,506.61	8,447.79	33.78	32.29	-122.86	-1,096.99	-402.41	1,379.84	1,315.26	64.58	21.365			
8,700.00	8,609.73	8,554.04	8,494.76	34.00	32.48	-123.39	-1,097.54	-395.79	1,388.47	1,323.54	64.93	21.384			
8,750.00	8,658.91	8,601.48	8,541.73	34.22	32.67	-123.92	-1,098.09	-389.18	1,397.23	1,331.95	65.28	21.403			
8,800.00	8,708.09	8,648.91	8,588.70	34.43	32.87	-124.45	-1,098.64	-382.56	1,406.11	1,340.48	65.63	21.425			
8,850.00	8,757.27	8,703.65	8,635.67	34.65	33.09	-124.96	-1,099.20	-375.94	1,415.11	1,349.10	66.00	21.440			
8,900.00	8,806.45	8,743.78	8,682.63	34.87	33.25	-125.47	-1,099.75	-369.32	1,424.23	1,357.90	66.32	21.474			
8,950.00	8,855.63	8,808.78	8,729.60	35.09	33.51	-125.98	-1,100.30	-362.70	1,433.46	1,366.72	66.74	21.479			
9,000.00	8,904.81	8,838.66	8,776.57	35.30	33.63	-126.48	-1,100.85	-356.08	1,442.81	1,375.80	67.01	21.530			
9,050.00	8,953.99	8,886.09	8,823.54	35.52	33.83	-126.97	-1,101.40	-349.46	1,452.27	1,384.91	67.36	21.560			
9,100.00	9,003.17	8,933.53	8,870.51	35.74	34.02	-127.46	-1,101.95	-342.84	1,461.84	1,394.14	67.70	21.591			
9,150.00	9,052.39	8,981.03	8,917.54	35.95	34.21	-128.03	-1,102.51	-336.21	1,471.39	1,403.35	68.05	21.623			
9,200.00	9,101.72	9,028.72	8,964.77	36.17	34.41	-128.59	-1,103.06	-329.56	1,480.66	1,412.27	68.39	21.649			
9,250.00	9,151.15	9,076.61	9,012.18	36.37	34.60	-129.13	-1,103.62	-322.88	1,489.61	1,420.88	68.73	21.672			
9,300.00	9,200.67	9,124.68	9,059.78	36.58	34.79	-129.63	-1,104.18	-316.17	1,498.24	1,429.16	69.08	21.689			

Anticollision Report

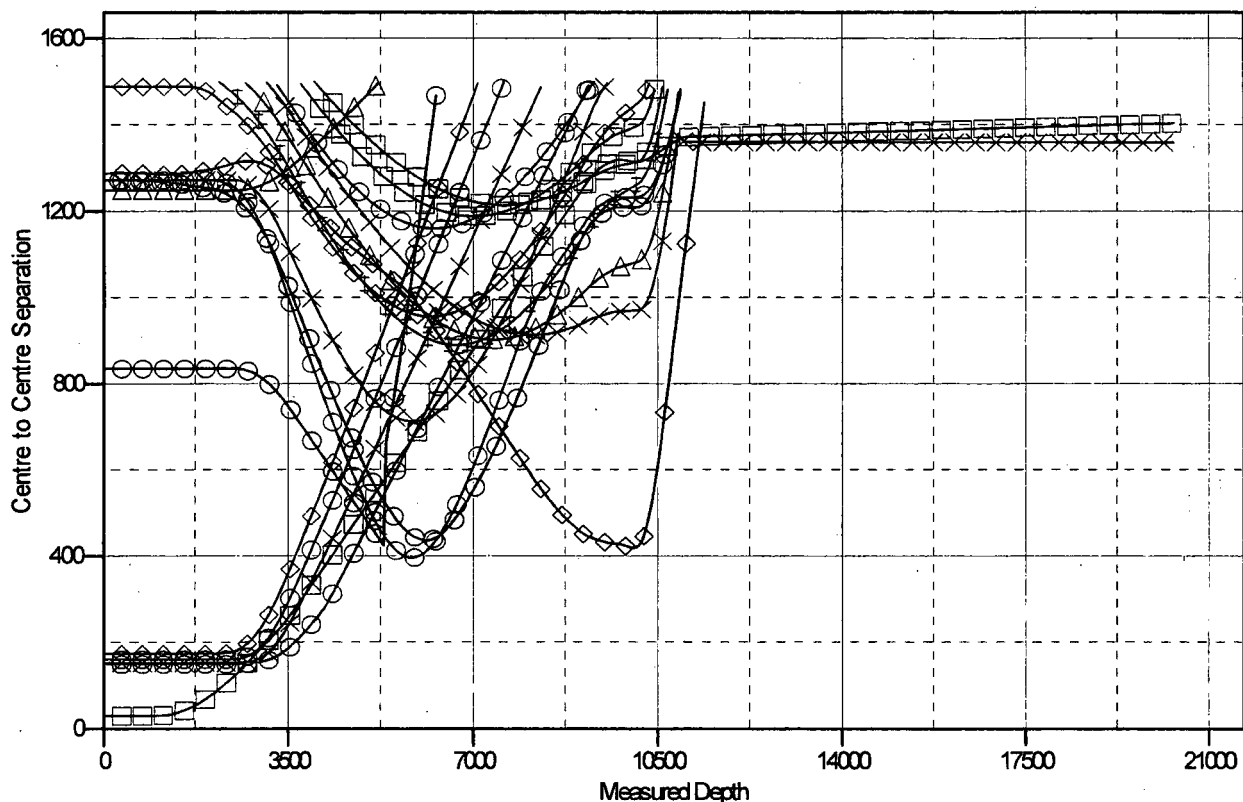
Company: WCDSC Permian NM
Project: Lea County (NAD83 New Mexico East)
Reference Site: Sec 21-T25S-R32E
Site Error: 0.00 ft
Reference Well: Van Doo Dah 21-33 Fed Com 233H
Well Error: 0.50 ft
Reference Wellbore: Wellbore #1
Reference Design: Permit Plan 2

Local Co-ordinate Reference: Well Van Doo Dah 21-33 Fed Com 233H
TVD Reference: RKB @ 3415.20ft
MD Reference: RKB @ 3415.20ft
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Output errors are at 2.00 sigma
Database: EDM r5000.141_Prod US
Offset TVD Reference: Offset Datum

Reference Depths are relative to RKB @ 3415.20ft
 Offset Depths are relative to Offset Datum
 Central Meridian is -104.333334

Coordinates are relative to: Van Doo Dah 21-33 Fed Com 233H
 Coordinate System is US State Plane 1983, New Mexico Eastern Zone
 Grid Convergence at Surface is: 0.35°

Ladder Plot



LEGEND

Marwan 21-16 State Fed Com 332H, W ellbore #1, Permit Plan 1 VO
 Marwan 21-16 State Fed Com 234H, W ellbore #1, Permit Plan 1 (Pro Direction) VO
 Marwan 21-16 State Fed Com 714H, W ellbore #1, Permit Plan 1 VO
 Cotton Draw Unit 37 (P & A), Wellbore #1, Wellbore #1 VO
 Marwan 21-16 State Fed Com 622H, W ellbore #1, Permit Plan 1 VO
 Marwan 21-16 State Fed Com 732H, W ellbore #1, Permit Plan 1 VO

Marwan 21-16 State Fed Com 621H, W ellbore #1, Permit Plan 1 VO
 Van Doo Dah 28-33 Fed Com 231H, W ellbore #1, Actual VO
 Van Doo Dah 28-33 Fed Com 731H (e st), Wellbore #1, Prelim Plan 1 VO
 Marwan 21-16 State Fed Com 331H, W ellbore #1, Permit Plan 1 VO
 Marwan 21-16 State Fed Com 712H, W ellbore #1, Permit Plan 1 VO
 Van Doo Dah 28-33 Fed Com 711H (e st), Wellbore #1, Prelim Plan 1 VO

Marwan 21-16 Fed Com 232H (28-33), Wellbore #1, Actual VO
 Marwan 21-16 Fed Com 232H (28-33), Wellbore #1, Permit Plan 2 VO
 Marwan 21-16 Fed Com 232H (28-33), Wellbore #1, Permit Plan 1 VO
 Cotton Draw Unit 47 (P & A), Wellbore #1, Wellbore #1 VO
 Van Doo Dah 28-33 Fed Com 621H (e st), Wellbore #1, Prelim Plan 1 VO
 Marwan 21-16 State Fed Com 731H, W ellbore #1, Permit Plan 1 VO

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

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Van Doo Dah 21-33 Fed Com 233H
Project:	Lea County (NAD83 New Mexico East)	TVD Reference:	RKB @ 3415.20ft
Reference Site:	Sec 21-T25S-R32E	MD Reference:	RKB @ 3415.20ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Van Doo Dah 21-33 Fed Com 233H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 2	Offset TVD Reference:	Offset Datum

Reference Depths are relative to RKB @ 3415.20ft

Offset Depths are relative to Offset Datum

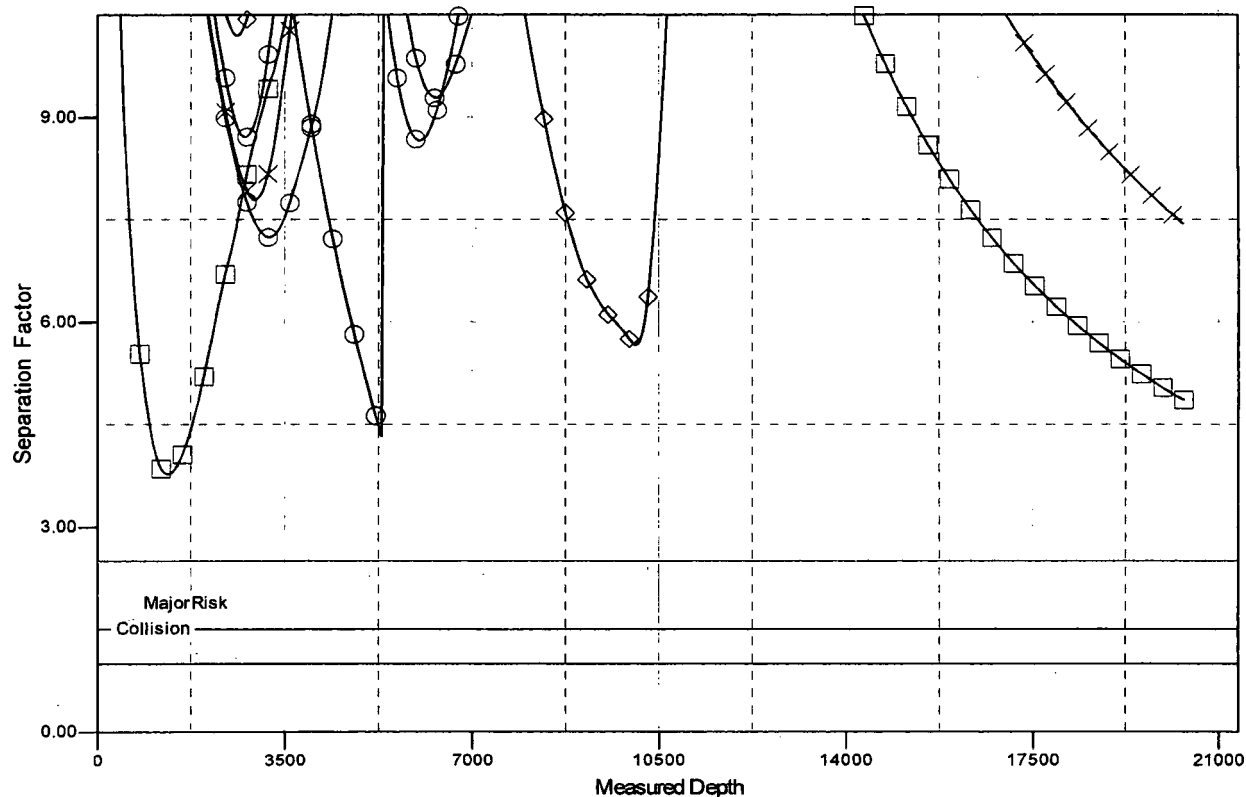
Central Meridian is -104.333334

Coordinates are relative to: Van Doo Dah 21-33 Fed Com 233H

Coordinate System is US State Plane 1983, New Mexico Eastern Zone

Grid Convergence at Surface is: 0.35°

Separation Factor Plot



LEGEND

- Marwan 21-16 State Fed Com 332H, Wellbore #1, Permit Plan 1 VO - Marwan 21-16 State Fed Com 234H, Wellbore #1, Permit Plan 1 (P & A) VO - Marwan 21-16 State Fed Com 714H, Wellbore #1, Permit Plan 1 VO - Cotton Draw Unit 37 (P & A), Wellbore #1, Wellbore #1 VO - Marwan 21-16 State Fed Com 622H, Wellbore #1, Permit Plan 1 VO - Marwan 21-16 State Fed Com 722H, Wellbore #1, Permit Plan 1 VO	- Marwan 21-16 State Fed Com 621H, Wellbore #1, Permit Plan 1 VO - Van Doo Dah 26-33 Fed Com 231H, Wellbore #1, Actual VO - Van Doo Dah 26-33 Fed Com 731H, Wellbore #1, Permit Plan 1 VO - Marwan 21-16 State Fed Com 331H, Wellbore #1, Permit Plan 1 VO - Marwan 21-16 State Fed Com 712H, Wellbore #1, Permit Plan 1 VO - Van Doo Dah 26-33 Fed Com 711H, Wellbore #1, Permit Plan 1 VO	- Marwan 21-16 Fed Com 232H (26-33), Wellbore #1, Actual VO - Marwan 21-16 Fed Com 232H (26-33), Wellbore #1, Permit Plan 2 VO - Marwan 21-16 Fed Com 232H (26-33), Wellbore #1, Permit Plan 1 VO - Cotton Draw Unit 47 (P & A), Wellbore #1, Wellbore #1 VO - Van Doo Dah 26-33 Fed Com 621H, Wellbore #1, Permit Plan 1 VO - Marwan 21-16 State Fed Com 731H, Wellbore #1, Permit Plan 1 VO
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CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation