

Submit 1 Copy To Appropriate District Office
District I - (575) 393-6161
1625 N. French Dr., Hobbs, NM 88240
District II - (575) 748-1283
811 S. First St., Artesia, NM 88210
District III - (505) 334-6178
1000 Rio Brazos Rd., Aztec, NM 87410
District IV - (505) 476-3460
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals and Natural Resources

Form C-103
Revised July 18, 2013

OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

WELL API NO. 30-015-44984
5. Indicate Type of Lease STATE ☒ FEE ☐
6. State Oil & Gas Lease No.
7. Lease Name or Unit Agreement Name Turquoise PWU 27
8. Well Number 61H
9. OGRID Number 6137
10. Pool name or Wildcat 98199 PARKWAY; BONE SPRING, WEST

SUNDRY NOTICES AND REPORTS ON WELLS

(DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.)

1. Type of Well: Oil Well ☐ Gas Well ☒ Other

2. Name of Operator

DEVON ENERGY PRODUCTION COMPANY, LP.

3. Address of Operator

333 WEST SHERIDAN AVENUE, OKC, OK 73102

4. Well Location

Unit Letter D : 800 feet from the North line and 165 feet from the West line

Section 27 Township 19S Range 29E NMPM Eddy, County New Mexico

11. Elevation (Show whether DR, RKB, RT, GR, etc.)
3343'

12. Check Appropriate Box to Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO:

PERFORM REMEDIAL WORK ☐ PLUG AND ABANDON ☐
TEMPORARILY ABANDON ☐ CHANGE PLANS ☐
PULL OR ALTER CASING ☐ MULTIPLE COMPL ☐
DOWNHOLE COMMINGLE ☐
CLOSED-LOOP SYSTEM ☐
OTHER: Change to original APD ☒

OF:

REMEDIAL WORK ☐ ALTERING CASING ☐
COMMENCE DRILLING OPNS. ☐ P AND A ☐
CASING/CEMENT JOB ☐
OTHER: ☐

13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 19.15.7.14 NMAC. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

Devon Energy Production Company, LP Respectfully requests approval of a location change for the subject well:

From: SHL Section 28, T19S, R29E 800 FNL/165 FWL,
BHL Section 27, T19S, R29E 1310 FNL/230 FEL
Elevation: 3343

TO: SHL Section 28, T19S, R29E 992 FNL//273 FEL
BHL Section 27, T19S, R29E 1310 FNL/230 FEL
Elevation: 3345.1

NM OIL CONSERVATION
ARTESIA DISTRICT

AUG 01 2018

RECEIVED

Attachments: C-102

Directional Survey
Drilling Plan
Plot plan

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

SIGNATURE Erin Workman TITLE Regulatory Compliance Analyst DATE 07.31.18

Type or print name Erin Workman E-mail address: Erin.workman@dmr.com PHONE: (405)552-7970

For State Use Only

APPROVED BY: Raymond M. Sordani TITLE Geologist DATE 8-2-18

Conditions of Approval (if any):

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-015-44984	Pool Code 98199	Pool Name PARKWAY; BONE SPRING, WEST
Property Code 38434	Property Name TURQUOISE PWU 27	Well Number 61H
OGRIID No. 6137	Operator Name DEVON ENERGY PRODUCTION COMPANY, L.P.	Elevation 3345.1'

Surface Location

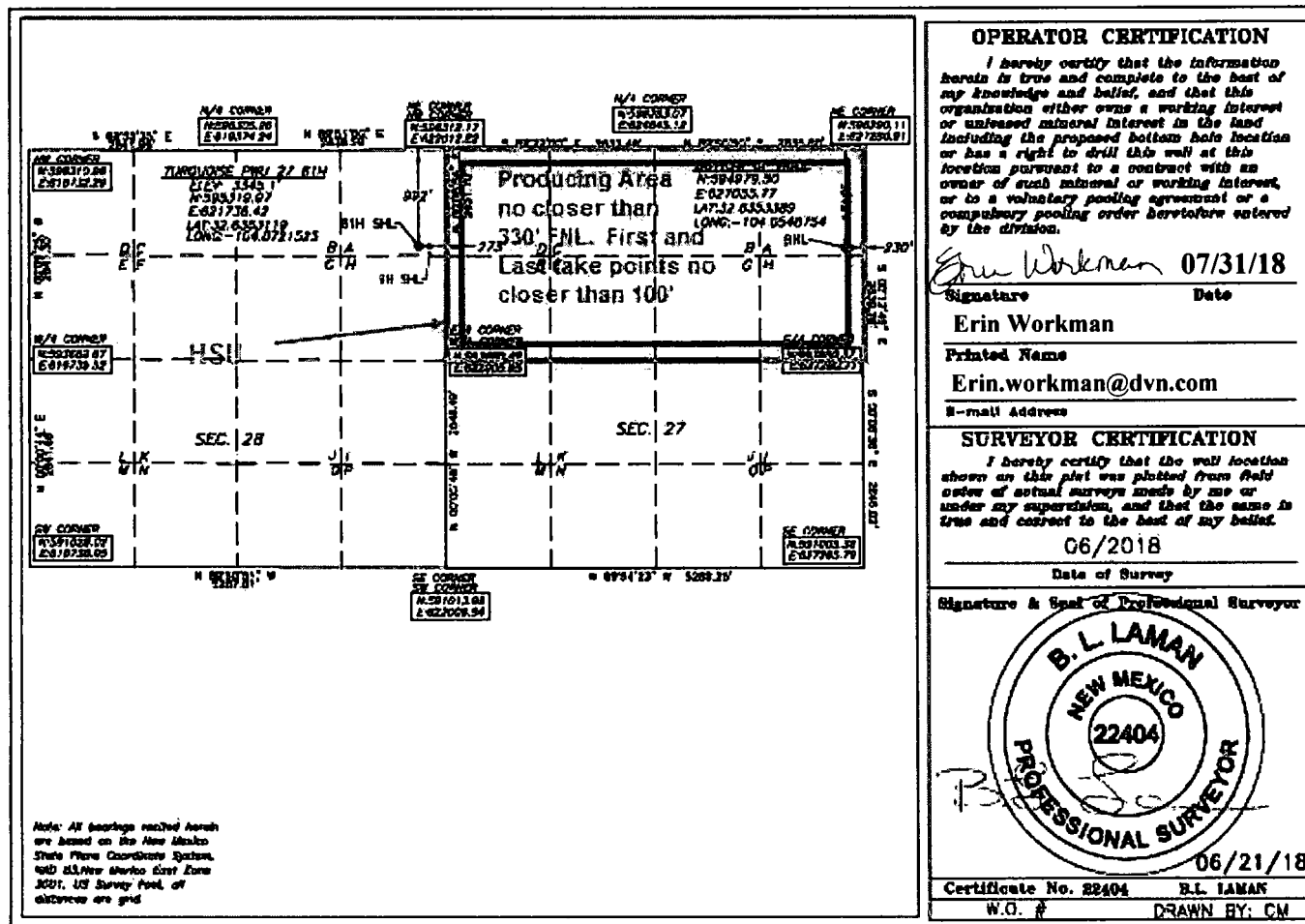
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	28	19-S	29-E		992	NORTH	273	EAST	EDDY

Bottom Hole Location If Different From Surface

U/L or lot No.	Section	Township	Range	Lot 14n	Feet from the	North/South line	Feet from the	East/West line	County
A	27	19-S	29-E		1310	NORTH	230	EAST	EDDY

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
320			

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



Intent ☒ As Drilled ☐

API # 30-015-44984		
Operator Name: DEVON ENERGY PROD. CO., LP	Property Name: TURQUOISE PWU 27	Well Number 61H

Kick Off Point (KOP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
	27	19S	19S	29E	1292'	NORTH	123'	EAST	EDDY
Latitude 32.635459					Longitude -104.071642				NAD

First Take Point (FTP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
	27	19S	29E		1357'	NORTH	100'	WEST	EDDY
Latitude 32.635286					Longitude -104.070731				NAD

Last Take Point (LTP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
	27	19S	29E		1310'	NORTH	230'	EAST	
Latitude 32.635339					Longitude -104.054876				NAD

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

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

WCDSC Permian NM

Eddy County (NAD 83 NM Eastern)

Sec 27-T19S-R29E

Turquoise PWU 27-61H

Wellbore #1

Permit Plan 3

Anticollision Report

24 July, 2018

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Turquoise PWU 27-61H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3370.00ft
Reference Site:	Sec 27-T19S-R29E	MD Reference:	RKB @ 3370.00ft
Site Error:	5.00 ft	North Reference:	Grid
Reference Well:	Turquoise PWU 27-61H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 3	Offset TVD Reference:	Offset Datum

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

Survey Tool Program	Date	7/24/2018
From (ft)	To (ft)	Survey (Wellbore)
0.00	13,993.69	Permit Plan 3 (Wellbore #1)
		Tool Name
		MWD+IFR1
		Description
		OWSG MWD + IFR1

Summary						
Site Name	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
Sec 27-T19S-R29E						
Coral PWU 28-27 11H - Wellbore #1 - Permit Plan 2						Out of range
Coral PWU 28-27 11H - Wellbore #1 - Prelim Plan 1						Out of range
Coral PWU 28-27 12H - Wellbore #1 - Permit Plan 2						Out of range
Coral PWU 28-27 12H - Wellbore #1 - Prelim Plan 1						Out of range
Coral PWU 28-27 62H - Wellbore #1 - Prelim Plan 1						Out of range
Coral PWU 28-27 62H - Wellbore #1 - Permit Plan 2						Out of range
Parkway West Unit #20 (Active) - Wellbore #1 - Wellbore						Out of range
Parkway West Unit 10 - Original Hole - Original Hole	12,278.57	9,038.75	843.21	735.84	7.854	CC
Parkway West Unit 10 - Original Hole - Original Hole	12,300.00	9,038.51	843.48	735.69	7.826	ES
Parkway West Unit 10 - Original Hole - Original Hole	12,350.00	9,037.93	846.23	737.61	7.791	SF
Parkway West Unit SWD - Wellbore #1 - Wellbore #1	9,445.43	9,053.63	289.84	222.86	4.327	Alert, CC, ES
Parkway West Unit SWD - Wellbore #1 - Wellbore #1	9,450.00	9,053.57	289.87	222.87	4.326	Alert, SF
Turquoise PWU 27-10H - Wellbore #1 - Wellbore #1	9,777.80	10,034.41	926.38	842.97	11.106	CC
Turquoise PWU 27-10H - Wellbore #1 - Wellbore #1	13,993.84	14,223.00	990.86	714.99	3.592	Alert, ES, SF
Turquoise PWU 27-4H - Wellbore #1 - Wellbore #1						Out of range
Turquoise PWU 27-5H - Wellbore #1 - Wellbore #1	7,054.30	11,814.00	984.86	819.19	5.945	CC, ES
Turquoise PWU 27-5H - Wellbore #1 - Wellbore #1	7,100.00	11,814.00	985.92	819.87	5.938	SF
Turquoise PWU 27-1H - Pilot Wellbore - Pilot Wellbore	0.00	0.00	612.18			
Turquoise PWU 27-1H - Pilot Wellbore - Pilot Wellbore	7,150.00	7,144.29	622.28	572.51	12.502	ES
Turquoise PWU 27-1H - Pilot Wellbore - Pilot Wellbore	8,250.00	8,238.32	636.47	579.07	11.089	SF
Turquoise PWU 27-1H - Wellbore #1 - Wellbore #1	0.00	0.00	612.18			
Turquoise PWU 27-1H - Wellbore #1 - Wellbore #1	7,150.00	7,144.18	622.12	567.46	11.381	ES
Turquoise PWU 27-1H - Wellbore #1 - Wellbore #1	13,993.84	12,345.00	1,321.12	1,136.30	7.148	SF
Turquoise PWU 27-3H - Wellbore #1 - Wellbore #1						Out of range
Turquoise PWU 27-7H - Wellbore #1 - Wellbore #1						Out of range
Turquoise PWU 27-8H - Wellbore #1 - Wellbore #1						Out of range
Turquoise PWU 27-9H - Wellbore #1 - Permit Plan 3	2,703.98	2,706.98	30.00	11.03	1.582	Minor Risk, CC
Turquoise PWU 27-9H - Wellbore #1 - Permit Plan 3	2,850.00	2,852.77	30.44	10.42	1.521	Minor Risk, ES
Turquoise PWU 27-9H - Wellbore #1 - Permit Plan 3	2,900.00	2,902.65	30.93	10.56	1.518	Minor Risk, SF

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

Anticollision Report

Company: WCDSC Permian NM
Project: Eddy County (NAD 83 NM Eastern)
Reference Site: Sec 27-T19S-R29E
Site Error: 5.00 ft
Reference Well: Turquoise PWU 27-61H
Well Error: 0.50 ft
Reference Wellbore: Wellbore #1
Reference Design: Permit Plan 3

Local Co-ordinate Reference: Well Turquoise PWU 27-61H
TVD Reference: RKB @ 3370.00ft
MD Reference: RKB @ 3370.00ft
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

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 28-T19S-R29E						
Coral PWU 28-3H - Wellbore #1 - Wellbore #1						Out of range
Coral PWU 28-4H - Wellbore #1 - Wellbore #1	7,982.30	11,402.33	729.64	624.18	6.918	CC, ES
Coral PWU 28-4H - Wellbore #1 - Wellbore #1	8,000.00	11,400.97	729.86	624.34	6.917	SF
Coral PWU 28-7H - Wellbore #1 - Wellbore #1						Out of range
Onyx PWU 29-28 61H - Wellbore #1 - Wellbore #1						Out of range
Onyx PWU 29-28 62H - Wellbore #1 - Wellbore #1						Out of range
Onyx PWU 29-28011H - Wellbore #1 - Wellbore #1						Out of range
Parkway #021 (Active) - Wellbore #1 - Wellbore #1						Out of range
Parkway Unit 16 (Active) - Wellbore #1 - Wellbore #1						Out of range
Parkway West Unit #3 - Wellbore #1 - Wellbore #1						Out of range
Parkway West Unit 15 (Active) - Wellbore #1 - Wellbore #1	5,715.68	5,691.61	508.86	402.61	4.789	Alert, CC
Parkway West Unit 15 (Active) - Wellbore #1 - Wellbore #1	8,100.00	8,071.36	529.80	379.90	3.534	Alert, ES
Parkway West Unit 15 (Active) - Wellbore #1 - Wellbore #1	8,550.00	8,517.64	546.38	388.23	3.455	Alert, SF
Turquoise PWU 27 10H - Original Hole - Actuals	9,779.23	10,035.82	926.24	842.31	11.036	CC
Turquoise PWU 27 10H - Original Hole - Actuals	13,993.84	14,223.00	990.10	714.84	3.597	Alert, ES, SF
Turquoise PWU 27 10H - Original Hole - P3v1	9,362.52	9,617.73	927.05	855.07	12.878	CC
Turquoise PWU 27 10H - Original Hole - P3v1	13,950.00	14,206.08	993.84	720.84	3.640	Alert, ES, SF
Turquoise PWU 27 10H - Original Hole - Plan 1	9,365.96	9,555.29	902.02	831.58	12.805	CC
Turquoise PWU 27 10H - Original Hole - Plan 1	13,950.00	14,131.09	968.93	706.91	3.698	Alert, ES, SF
Turquoise PWU 27 10H - Original Hole - PTL	9,330.08	9,562.71	935.75	864.77	13.183	CC, ES
Turquoise PWU 27 10H - Original Hole - PTL	9,400.00	9,562.71	939.42	868.01	13.157	SF
Turquoise PWU 27 10H - Original Hole - T&D	8,839.35	8,818.57	1,074.37	1,038.15	29.656	CC, ES
Turquoise PWU 27 10H - Original Hole - T&D	8,950.00	8,914.36	1,080.41	1,043.78	29.494	SF
Sec 29-19S-29E						
Onyx PWU 29 28 061H - Wellbore #1 - Wellbore #1	8,850.00	19,087.00	359.32	268.67	3.964	Alert, SF
Onyx PWU 29 28 061H - Wellbore #1 - Wellbore #1	8,900.00	19,087.00	350.09	263.36	4.037	Alert, ES
Onyx PWU 29 28 061H - Wellbore #1 - Wellbore #1	8,915.82	19,087.00	349.51	264.20	4.097	Alert, CC
Onyx PWU 29-28 9H - Original Hole - Original Hole	8,800.80	18,909.00	980.27	747.27	4.207	Alert, CC, ES
Onyx PWU 29-28 9H - Original Hole - Original Hole	8,850.00	18,909.00	981.87	747.75	4.194	Alert, SF

Offset Design												Offset Site Error: 5.00 ft
Survey Program: 100-GYRO-NS-CT												Offset Well Error: 0.00 ft
Sec 27-T19S-R29E - Parkway West Unit 10 - Original Hole - Original Hole												
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
11,050.00	9,050.16	9,053.15	9,049.76	54.16	31.62	90.53	-1,199.18	3,611.60	1,490.03	1,419.12	70.90	21.014
11,100.00	9,050.16	9,052.55	9,049.17	54.99	31.62	90.49	-1,199.18	3,611.60	1,449.08	1,377.39	71.70	20.211
11,150.00	9,050.16	9,051.96	9,048.57	55.83	31.62	90.45	-1,199.17	3,611.61	1,408.72	1,336.16	72.56	19.415
11,200.00	9,050.16	9,051.36	9,047.98	56.67	31.61	90.41	-1,199.17	3,611.62	1,369.00	1,295.51	73.49	18.628
11,250.00	9,050.16	9,050.77	9,047.39	57.52	31.61	90.37	-1,199.16	3,611.62	1,329.97	1,255.46	74.50	17.851
11,300.00	9,050.16	9,050.18	9,046.80	58.38	31.61	90.33	-1,199.16	3,611.63	1,291.69	1,216.10	75.59	17.088
11,350.00	9,050.16	9,049.59	9,046.20	59.24	31.61	90.29	-1,199.16	3,611.64	1,254.24	1,177.48	76.77	16.338
11,400.00	9,050.16	9,049.00	9,045.61	60.10	31.61	90.25	-1,199.15	3,611.64	1,217.70	1,139.67	78.03	15.606
11,450.00	9,050.16	9,048.41	9,045.02	60.97	31.60	90.21	-1,199.15	3,611.65	1,182.13	1,102.76	79.38	14.892
11,500.00	9,050.16	9,047.82	9,044.44	61.85	31.60	90.17	-1,199.14	3,611.66	1,147.65	1,066.83	80.82	14.201
11,550.00	9,050.16	9,047.23	9,043.85	62.73	31.60	90.13	-1,199.14	3,611.67	1,114.34	1,031.99	82.35	13.532
11,600.00	9,050.16	9,046.65	9,043.26	63.61	31.60	90.09	-1,199.13	3,611.67	1,082.31	998.35	83.96	12.891
11,650.00	9,050.16	9,046.06	9,042.67	64.50	31.60	90.05	-1,199.13	3,611.68	1,051.69	966.03	85.66	12.277
11,700.00	9,050.16	9,045.47	9,042.09	65.39	31.59	90.01	-1,199.12	3,611.69	1,022.59	935.16	87.43	11.696

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

Anticollision Report

Company: WCDSC Permian NM
Project: Eddy County (NAD 83 NM Eastern)
Reference Site: Sec 27-T19S-R29E
Site Error: 5.00 ft
Reference Well: Turquoise PWU 27-61H
Well Error: 0.50 ft
Reference Wellbore: Wellbore #1
Reference Design: Permit Plan 3

Local Co-ordinate Reference: Well Turquoise PWU 27-61H
TVD Reference: RKB @ 3370.00ft
MD Reference: RKB @ 3370.00ft
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 27-T19S-R29E - Parkway West Unit 10 - Original Hole - Original Hole													Offset Site Error:	5.00 ft
Survey Program: 100-GYRO-NS-CT													Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)						
11,750.00	9,050.16	9,044.89	9,041.50	66.29	31.59	89.97	-1,199.12	3,611.69	995.16	905.89	89.28	11.147		
11,800.00	9,050.16	9,044.31	9,040.92	67.19	31.59	89.93	-1,199.11	3,611.70	969.54	878.37	91.17	10.634		
11,850.00	9,050.16	9,043.72	9,040.34	68.09	31.59	89.89	-1,199.11	3,611.71	945.88	852.76	93.10	10.159		
11,900.00	9,050.16	9,043.14	9,039.75	68.99	31.59	89.85	-1,199.10	3,611.71	924.28	826.24	95.05	9.725		
11,950.00	9,050.16	9,042.56	9,039.17	69.91	31.58	89.81	-1,199.10	3,611.72	904.95	807.97	96.98	9.331		
12,000.00	9,050.16	9,041.98	9,038.59	70.82	31.58	89.77	-1,199.09	3,611.73	888.03	789.15	98.88	8.981		
12,050.00	9,050.16	9,041.40	9,038.01	71.73	31.58	89.73	-1,199.09	3,611.73	873.63	772.92	100.71	8.675		
12,100.00	9,050.16	9,040.82	9,037.43	72.65	31.58	89.69	-1,199.09	3,611.74	861.91	759.46	102.44	8.414		
12,150.00	9,050.16	9,040.24	9,036.85	73.57	31.58	89.65	-1,199.08	3,611.75	852.95	748.91	104.04	8.198		
12,200.00	9,050.16	9,039.66	9,036.28	74.50	31.57	89.61	-1,199.08	3,611.75	846.88	741.38	105.48	8.028		
12,250.00	9,050.16	9,039.08	9,035.70	75.42	31.57	89.57	-1,199.07	3,611.76	843.69	736.95	106.74	7.904		
12,278.57	9,050.16	9,038.75	9,035.37	75.95	31.57	89.55	-1,199.07	3,611.76	843.21	735.84	107.36	7.854 CC		
12,300.00	9,050.16	9,038.51	9,035.12	76.35	31.57	89.53	-1,199.07	3,611.77	843.48	735.69	107.78	7.826 ES		
12,350.00	9,050.16	9,037.93	9,034.55	77.28	31.57	89.50	-1,199.06	3,611.77	846.23	737.61	108.61	7.791 SF		
12,400.00	9,050.16	9,037.35	9,033.97	78.22	31.57	89.46	-1,199.06	3,611.78	851.90	742.69	109.22	7.800		
12,450.00	9,050.16	9,036.78	9,033.40	79.15	31.56	89.42	-1,199.05	3,611.79	860.45	750.86	109.60	7.851		
12,500.00	9,050.16	9,036.21	9,032.82	80.09	31.56	89.38	-1,199.05	3,611.79	871.79	762.03	109.76	7.943		
12,550.00	9,050.16	9,035.63	9,032.25	81.03	31.56	89.34	-1,199.04	3,611.80	885.81	776.08	109.72	8.073		
12,600.00	9,050.16	9,035.06	9,031.68	81.97	31.56	89.30	-1,199.04	3,611.81	902.38	792.88	109.51	8.241		
12,650.00	9,050.16	9,034.49	9,031.11	82.92	31.56	89.26	-1,199.04	3,611.81	921.38	812.25	109.13	8.443		
12,700.00	9,050.16	9,033.92	9,030.54	83.86	31.55	89.22	-1,199.03	3,611.82	942.64	834.03	108.61	8.679		
12,750.00	9,050.16	9,033.35	9,029.97	84.81	31.55	89.18	-1,199.03	3,611.83	966.03	858.04	107.98	8.948		
12,800.00	9,050.16	9,032.78	9,029.40	85.76	31.55	89.15	-1,199.02	3,611.83	991.39	884.13	107.26	9.243		
12,850.00	9,050.16	9,032.21	9,028.83	86.71	31.55	89.11	-1,199.02	3,611.84	1,018.57	912.10	106.47	9.567		
12,900.00	9,050.16	9,031.65	9,028.26	87.66	31.55	89.07	-1,199.01	3,611.85	1,047.43	941.81	105.62	9.917		
12,950.00	9,050.16	9,031.08	9,027.69	88.61	31.54	89.03	-1,199.01	3,611.85	1,077.85	973.11	104.74	10.291		
13,000.00	9,050.16	9,030.51	9,027.13	89.57	31.54	88.99	-1,199.00	3,611.86	1,109.68	1,005.84	103.83	10.687		
13,050.00	9,050.16	9,029.95	9,026.56	90.53	31.54	88.95	-1,199.00	3,611.86	1,142.81	1,039.89	102.92	11.104		
13,100.00	9,050.16	9,029.38	9,026.00	91.49	31.54	88.92	-1,199.00	3,611.87	1,177.14	1,075.13	102.00	11.540		
13,150.00	9,050.16	9,028.82	9,025.43	92.45	31.54	88.88	-1,198.99	3,611.88	1,212.55	1,111.46	101.09	11.994		
13,200.00	9,050.16	9,028.25	9,024.87	93.41	31.53	88.84	-1,198.99	3,611.88	1,248.96	1,148.77	100.20	12.465		
13,250.00	9,050.16	9,027.69	9,024.31	94.37	31.53	88.80	-1,198.98	3,611.89	1,286.29	1,186.97	99.32	12.951		
13,300.00	9,050.16	9,027.13	9,023.75	95.33	31.53	88.76	-1,198.98	3,611.90	1,324.45	1,225.99	98.46	13.452		
13,350.00	9,050.16	9,026.57	9,023.19	96.30	31.53	88.72	-1,198.97	3,611.90	1,363.38	1,265.75	97.62	13.966		
13,400.00	9,050.16	9,026.01	9,022.63	97.26	31.53	88.69	-1,198.97	3,611.91	1,403.01	1,306.19	96.82	14.491		
13,450.00	9,050.16	9,025.45	9,022.07	98.23	31.52	88.65	-1,198.96	3,611.92	1,443.28	1,347.24	96.04	15.029		
13,500.00	9,050.16	9,024.89	9,021.51	99.20	31.52	88.61	-1,198.96	3,611.92	1,484.14	1,388.88	95.28	15.576		

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

Anticollision Report

Company: WCDSC Permian NM
Project: Eddy County (NAD 83 NM Eastern)
Reference Site: Sec 27-T19S-R29E
Site Error: 5.00 ft
Reference Well: Turquoise PWU 27-61H
Well Error: 0.50 ft
Reference Wellbore: Wellbore #1
Reference Design: Permit Plan 3

Local Co-ordinate Reference: Well Turquoise PWU 27-61H
TVD Reference: RKB @ 3370.00ft
MD Reference: RKB @ 3370.00ft
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 27-T19S-R29E - Parkway West Unit SWD - Wellbore #1 - Wellbore #1													Offset Site Error:
Survey Program: 200-MWD+IGRF													Offset Well Error:
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	112.83	-290.74	690.62	749.34				
50.00	50.00	41.29	41.29	0.50	10.00	112.81	-290.51	690.79	749.40	738.90	10.50	71.356	
100.00	100.00	88.20	88.19	0.52	10.00	112.73	-289.69	691.42	749.68	739.16	10.52	71.270	
150.00	150.00	135.06	135.01	0.59	10.00	112.60	-288.28	692.51	750.17	739.58	10.59	70.819	
200.00	200.00	181.85	181.74	0.70	10.01	112.42	-286.29	694.06	750.88	740.18	10.71	70.134	
250.00	250.00	231.65	231.42	0.84	10.01	112.17	-283.62	696.08	751.75	740.90	10.85	69.300	
300.00	300.00	283.38	283.02	0.99	10.02	111.90	-280.65	698.15	752.53	741.52	11.01	68.363	
350.00	350.00	333.84	333.36	1.15	10.04	111.63	-277.64	700.12	753.24	742.06	11.18	67.372	
400.00	400.00	381.93	381.33	1.31	10.05	111.38	-274.80	702.02	753.99	742.63	11.36	66.371	
450.00	450.00	429.19	428.47	1.48	10.07	111.14	-272.21	703.97	754.92	743.38	11.55	65.382	
500.00	500.00	476.45	475.63	1.65	10.09	110.92	-269.83	706.02	756.05	744.31	11.74	64.410	
550.00	550.00	523.73	522.81	1.82	10.12	110.70	-267.65	708.16	757.35	745.42	11.93	63.461	
600.00	600.00	572.14	571.13	1.99	10.15	110.50	-265.63	710.45	758.83	746.70	12.14	62.529	
650.00	650.00	623.53	622.42	2.16	10.19	110.29	-263.56	712.83	760.30	747.95	12.34	61.591	
700.00	700.00	674.10	672.90	2.34	10.22	110.09	-261.55	715.06	761.68	749.13	12.56	60.663	
750.00	750.00	723.73	722.44	2.51	10.26	109.90	-259.68	717.21	763.08	750.31	12.77	59.755	
800.00	800.00	773.37	772.01	2.69	10.31	109.73	-257.93	719.35	764.51	751.52	12.99	58.862	
850.00	850.00	823.01	821.58	2.87	10.35	109.56	-256.29	721.46	765.96	752.75	13.21	57.986	
900.00	900.00	873.55	872.05	3.04	10.40	109.39	-254.72	723.58	767.42	753.98	13.43	57.121	
950.00	950.00	924.59	923.02	3.22	10.45	109.23	-253.12	725.65	768.81	755.15	13.66	56.263	
1,000.00	1,000.00	975.64	974.00	3.40	10.51	109.07	-251.50	727.65	770.15	756.25	13.90	55.416	
1,050.00	1,050.00	1,026.69	1,024.99	3.58	10.57	108.91	-249.86	729.58	771.41	757.28	14.13	54.580	
1,100.00	1,100.00	1,076.50	1,074.74	3.75	10.63	108.75	-248.28	731.41	772.64	758.27	14.37	53.764	
1,150.00	1,150.00	1,125.92	1,124.11	3.93	10.69	108.60	-246.75	733.25	773.91	759.30	14.61	52.970	
1,200.00	1,200.00	1,175.34	1,173.47	4.11	10.76	108.45	-245.29	735.10	775.21	760.36	14.85	52.194	
1,250.00	1,250.00	1,224.77	1,222.84	4.29	10.83	108.31	-243.87	736.96	776.55	761.46	15.10	51.436	
1,300.00	1,300.00	1,275.66	1,273.68	4.46	10.90	108.17	-242.47	738.86	777.89	762.54	15.35	50.686	
1,350.00	1,350.00	1,326.70	1,324.67	4.64	10.98	108.03	-241.11	740.67	779.17	763.57	15.60	49.946	
1,400.00	1,400.00	1,377.74	1,375.66	4.82	11.05	107.90	-239.78	742.40	780.37	764.52	15.86	49.217	
1,450.00	1,450.00	1,428.88	1,426.78	5.00	11.13	107.77	-238.50	744.03	781.51	765.40	16.11	48.499	
1,500.00	1,500.00	1,480.43	1,478.27	5.18	11.22	107.65	-237.25	745.57	782.57	766.19	16.38	47.790	
1,550.00	1,550.00	1,531.99	1,529.80	5.36	11.30	107.54	-236.05	746.99	783.52	766.89	16.64	47.090	
1,600.00	1,600.00	1,583.57	1,581.34	5.53	11.39	107.43	-234.89	748.28	784.38	767.48	16.90	46.399	
1,650.00	1,650.00	1,635.17	1,632.93	5.71	11.48	107.32	-233.78	749.44	785.14	767.96	17.17	45.719	
1,700.00	1,700.00	1,686.80	1,684.53	5.89	11.57	107.22	-232.66	750.50	785.79	768.35	17.44	45.048	
1,750.00	1,750.00	1,738.43	1,736.14	6.07	11.67	107.13	-231.54	751.44	786.34	768.63	17.72	44.386	
1,800.00	1,800.00	1,790.07	1,787.76	6.25	11.76	107.03	-230.42	752.27	786.79	768.80	17.99	43.734	
1,850.00	1,850.00	1,841.71	1,839.38	6.43	11.86	106.94	-229.30	752.98	787.14	768.87	18.27	43.090	
1,900.00	1,900.00	1,893.35	1,891.01	6.61	11.96	106.85	-228.17	753.58	787.38	768.83	18.55	42.456	
1,950.00	1,950.00	1,942.77	1,940.41	6.78	12.06	106.76	-227.16	754.12	787.60	768.78	18.82	41.846	
2,000.00	2,000.00	1,992.53	1,990.17	6.96	12.16	106.69	-226.24	754.64	787.83	768.73	19.10	41.249	
2,050.00	2,050.00	2,042.30	2,039.93	7.14	12.26	106.62	-225.41	755.15	788.08	768.71	19.38	40.666	
2,100.00	2,100.00	2,092.07	2,089.69	7.32	12.36	106.56	-224.68	755.64	788.35	768.69	19.66	40.096	
2,150.00	2,150.00	2,141.85	2,139.46	7.50	12.47	106.51	-224.05	756.12	788.63	768.69	19.94	39.540	
2,200.00	2,200.00	2,191.69	2,189.29	7.68	12.58	106.46	-223.51	756.59	788.93	768.70	20.23	38.998	
2,250.00	2,250.00	2,241.66	2,239.26	7.86	12.68	106.41	-223.01	757.05	789.23	768.71	20.52	38.467	
2,300.00	2,300.00	2,291.63	2,289.22	8.04	12.79	106.37	-222.52	757.51	789.53	768.72	20.81	37.948	
2,350.00	2,350.00	2,341.59	2,339.19	8.22	12.91	106.33	-222.04	757.96	789.83	768.74	21.10	37.441	
2,400.00	2,400.00	2,391.56	2,389.15	8.39	13.02	106.29	-221.59	758.41	790.14	768.75	21.39	36.945	
2,450.00	2,450.00	2,441.54	2,439.12	8.57	13.13	106.25	-221.15	758.86	790.44	768.76	21.68	36.460	
2,500.00	2,500.00	2,491.66	2,489.24	8.75	13.25	106.21	-220.73	759.30	790.75	768.78	21.97	35.985	
2,550.00	2,550.00	2,541.96	2,539.54	8.93	13.37	106.17	-220.30	759.74	791.04	768.77	22.27	35.519	

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

Anticollision Report

Company: WCDSC Permian NM
Project: Eddy County (NAD 83 NM Eastern)
Reference Site: Sec 27-T19S-R29E
Site Error: 5.00 ft
Reference Well: Turquoise PWU 27-61H
Well Error: 0.50 ft
Reference Wellbore: Wellbore #1
Reference Design: Permit Plan 3

Local Co-ordinate Reference: Well Turquoise PWU 27-61H
TVD Reference: RKB @ 3370.00ft
MD Reference: RKB @ 3370.00ft
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 27-T19S-R29E - Parkway West Unit SWD - Wellbore #1 - Wellbore #1													Offset Site Error:
Survey Program: 200-MWD+IGRF													Offset Well Error:
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
2,600.00	2,600.00	2,592.27	2,589.84	9.11	13.49	106.13	-219.85	760.15	791.32	768.75	22.57	35.062	
2,650.00	2,650.00	2,642.57	2,640.14	9.29	13.61	106.09	-219.39	760.55	791.57	768.70	22.87	34.614	
2,700.00	2,700.00	2,692.87	2,690.44	9.47	13.73	106.05	-218.93	760.93	791.80	768.63	23.17	34.175	
2,750.00	2,750.00	2,743.17	2,740.73	9.65	13.85	106.01	-218.44	761.29	792.02	768.55	23.47	33.745	
2,800.00	2,800.00	2,793.47	2,791.03	9.83	13.97	105.97	-217.95	761.64	792.22	768.44	23.77	33.323	
2,850.00	2,850.00	2,843.78	2,841.33	10.01	14.10	105.93	-217.45	761.97	792.39	768.32	24.08	32.909	
2,900.00	2,900.00	2,894.08	2,891.63	10.18	14.23	105.89	-216.93	762.28	792.55	768.17	24.38	32.504	
2,950.00	2,950.00	2,944.38	2,941.93	10.36	14.35	105.84	-216.40	762.58	792.69	768.00	24.69	32.106	
3,000.00	3,000.00	2,994.68	2,992.23	10.54	14.48	105.80	-215.86	762.86	792.81	767.82	25.00	31.716	
3,050.00	3,050.00	3,045.02	3,042.56	10.72	14.61	105.76	-215.30	763.12	792.92	767.61	25.31	31.333	
3,100.00	3,100.00	3,095.66	3,093.20	10.90	14.74	105.71	-214.74	763.36	792.99	767.37	25.62	30.957	
3,150.00	3,150.00	3,146.31	3,143.84	11.08	14.88	105.67	-214.19	763.54	793.02	767.09	25.93	30.587	
3,200.00	3,200.00	3,196.95	3,194.48	11.26	15.01	105.63	-213.64	763.69	793.01	766.77	26.24	30.223	
3,250.00	3,250.00	3,247.60	3,245.13	11.44	15.14	105.59	-213.10	763.79	792.96	766.41	26.55	29.865	
3,300.00	3,300.00	3,298.25	3,295.77	11.62	15.28	105.55	-212.56	763.84	792.87	766.00	26.86	29.513	
3,350.00	3,350.00	3,348.89	3,346.41	11.80	15.41	105.51	-212.02	763.85	792.73	765.55	27.18	29.167	
3,400.00	3,400.00	3,399.54	3,397.06	11.97	15.55	105.48	-211.49	763.82	792.56	765.07	27.49	28.826	
3,450.00	3,450.00	3,450.18	3,447.70	12.15	15.69	-47.73	-210.97	763.74	792.16	764.36	27.80	28.493	
3,500.00	3,499.99	3,499.97	3,497.48	12.32	15.82	-47.82	-210.42	763.67	791.40	763.29	28.11	28.157	
3,550.00	3,549.97	3,550.03	3,547.54	12.48	15.96	-47.94	-209.86	763.59	790.26	761.86	28.41	27.821	
3,600.00	3,599.94	3,600.08	3,597.58	12.64	16.09	-48.09	-209.27	763.51	788.76	760.05	28.70	27.478	
3,650.00	3,649.88	3,650.08	3,647.58	12.80	16.23	-48.29	-208.64	763.44	786.89	757.88	29.01	27.129	
3,700.00	3,699.79	3,700.04	3,697.54	12.97	16.37	-48.51	-207.95	763.38	784.68	755.37	29.31	26.774	
3,750.00	3,749.69	3,749.98	3,747.47	13.13	16.51	-48.73	-207.19	763.33	782.39	752.78	29.61	26.422	
3,800.00	3,799.60	3,799.92	3,797.40	13.30	16.65	-48.96	-206.36	763.29	780.11	750.20	29.92	26.078	
3,850.00	3,849.50	3,849.78	3,847.26	13.46	16.79	-49.19	-205.50	763.26	777.84	747.62	30.22	25.739	
3,900.00	3,899.40	3,899.64	3,897.11	13.63	16.93	-49.43	-204.66	763.22	775.58	745.05	30.53	25.406	
3,950.00	3,949.31	3,949.50	3,946.96	13.79	17.08	-49.66	-203.85	763.17	773.34	742.50	30.84	25.080	
4,000.00	3,999.21	3,999.43	3,996.89	13.96	17.22	-49.89	-203.06	763.12	771.10	739.96	31.14	24.759	
4,050.00	4,049.12	4,050.08	4,047.53	14.12	17.37	-50.13	-202.21	763.04	768.85	737.39	31.46	24.442	
4,100.00	4,099.02	4,100.71	4,098.15	14.29	17.51	-50.37	-201.28	762.94	766.56	734.79	31.77	24.129	
4,150.00	4,148.93	4,151.33	4,148.76	14.46	17.66	-50.63	-200.25	762.80	764.23	732.15	32.08	23.821	
4,200.00	4,198.83	4,201.93	4,199.35	14.62	17.81	-50.89	-199.13	762.62	761.87	729.47	32.40	23.517	
4,250.00	4,248.73	4,250.06	4,247.47	14.79	17.95	-51.14	-198.02	762.52	759.57	726.86	32.71	23.223	
4,300.00	4,298.64	4,298.75	4,296.15	14.96	18.10	-51.41	-196.85	762.50	757.36	724.34	33.02	22.937	
4,350.00	4,348.54	4,347.44	4,344.82	15.13	18.24	-51.68	-195.64	762.56	755.25	721.91	33.33	22.657	
4,400.00	4,398.45	4,396.61	4,393.97	15.30	18.39	-51.96	-194.36	762.70	753.22	719.57	33.65	22.385	
4,450.00	4,448.35	4,446.57	4,443.91	15.47	18.54	-52.25	-192.94	762.88	751.21	717.24	33.97	22.115	
4,500.00	4,498.26	4,496.50	4,493.82	15.64	18.69	-52.56	-191.39	763.07	749.22	714.93	34.29	21.850	
4,550.00	4,548.16	4,546.42	4,543.70	15.80	18.84	-52.87	-189.70	763.28	747.24	712.63	34.61	21.591	
4,600.00	4,598.06	4,595.80	4,593.06	15.97	18.99	-53.20	-187.93	763.50	745.28	710.35	34.93	21.337	
4,650.00	4,647.97	4,644.78	4,642.00	16.14	19.14	-53.52	-186.20	763.77	743.40	708.15	35.25	21.089	
4,700.00	4,697.87	4,693.77	4,690.96	16.31	19.30	-53.84	-184.53	764.08	741.60	706.03	35.57	20.848	
4,750.00	4,747.78	4,742.77	4,739.93	16.49	19.45	-54.16	-182.91	764.43	739.87	703.98	35.89	20.613	
4,800.00	4,797.68	4,793.09	4,790.23	16.66	19.60	-54.48	-181.27	764.82	738.19	701.97	36.22	20.381	
4,850.00	4,847.59	4,844.11	4,841.22	16.83	19.76	-54.82	-179.56	765.14	736.46	699.91	36.55	20.151	
4,900.00	4,897.49	4,895.12	4,892.20	17.00	19.92	-55.16	-177.79	765.38	734.67	697.80	36.88	19.922	
4,950.00	4,947.39	4,946.11	4,943.16	17.17	20.08	-55.50	-175.96	765.55	732.83	695.62	37.21	19.696	
5,000.00	4,997.30	4,995.45	4,992.46	17.34	20.24	-55.84	-174.15	765.68	730.98	693.44	37.53	19.476	
5,050.00	5,047.20	5,044.62	5,041.59	17.51	20.39	-56.19	-172.33	765.86	729.19	691.33	37.86	19.261	
5,100.00	5,097.11	5,093.78	5,090.72	17.68	20.54	-56.53	-170.49	766.08	727.48	689.29	38.19	19.051	
5,150.00	5,147.01	5,142.99	5,139.89	17.86	20.70	-56.88	-168.63	766.34	725.83	687.32	38.51	18.846	

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

Anticollision Report

Company: WCDSC Permian NM
Project: Eddy County (NAD 83 NM Eastern)
Reference Site: Sec 27-T19S-R29E
Site Error: 5.00 ft
Reference Well: Turquoise PWU 27-61H
Well Error: 0.50 ft
Reference Wellbore: Wellbore #1
Reference Design: Permit Plan 3

Local Co-ordinate Reference: Well Turquoise PWU 27-61H
TVD Reference: RKB @ 3370.00ft
MD Reference: RKB @ 3370.00ft
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 27-T19S-R29E - Parkway West Unit SWD - Wellbore #1 - Wellbore #1													Offset Site Error:
Survey Program: 200-MWD+IGRF													Offset Well Error:
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	5,196.92	5,194.87	5,191.74	18.03	20.86	-57.25	-166.69	766.56	724.16	685.31	38.85	18.640	
5,250.00	5,246.82	5,246.75	5,243.59	18.20	21.03	-57.61	-164.80	766.63	722.37	683.18	39.18	18.435	
5,300.00	5,296.72	5,298.64	5,295.44	18.37	21.19	-57.97	-162.96	766.53	720.46	680.94	39.52	18.230	
5,350.00	5,346.63	5,348.36	5,345.13	18.55	21.35	-58.31	-161.26	766.34	718.48	678.63	39.85	18.030	
5,400.00	5,396.53	5,397.18	5,393.93	18.72	21.50	-58.64	-159.66	766.20	716.59	676.41	40.18	17.835	
5,450.00	5,446.44	5,446.03	5,442.75	18.89	21.66	-58.97	-158.13	766.13	714.78	674.27	40.51	17.646	
5,500.00	5,496.34	5,494.89	5,491.58	19.07	21.82	-59.30	-156.68	766.11	713.07	672.23	40.84	17.461	
5,550.00	5,546.25	5,544.35	5,541.03	19.24	21.97	-59.62	-155.29	766.14	711.44	670.27	41.17	17.281	
5,600.00	5,596.15	5,594.75	5,591.41	19.42	22.13	-59.95	-153.84	766.16	709.81	668.30	41.50	17.103	
5,650.00	5,646.05	5,644.87	5,641.60	19.59	22.30	-60.29	-152.33	766.14	708.16	666.32	41.84	16.926	
5,700.00	5,695.96	5,694.97	5,691.57	19.76	22.46	-60.65	-150.61	766.11	706.52	664.35	42.17	16.753	
5,750.00	5,745.86	5,745.41	5,741.98	19.94	22.62	-61.03	-148.69	766.06	704.89	662.38	42.51	16.582	
5,800.00	5,795.77	5,796.10	5,792.63	20.11	22.78	-61.40	-146.77	765.94	703.22	660.37	42.85	16.413	
5,850.00	5,845.67	5,846.79	5,843.29	20.29	22.95	-61.78	-144.88	765.76	701.51	658.33	43.18	16.245	
5,900.00	5,895.58	5,897.48	5,893.94	20.46	23.11	-62.16	-143.01	765.52	699.77	656.25	43.52	16.079	
5,950.00	5,945.48	5,948.17	5,944.60	20.64	23.28	-62.54	-141.16	765.20	698.00	654.14	43.86	15.915	
6,000.00	5,995.38	5,998.86	5,995.26	20.81	23.44	-62.92	-139.34	764.82	696.18	651.99	44.20	15.752	
6,050.00	6,045.29	6,048.70	6,045.06	20.99	23.60	-63.29	-137.58	764.40	694.36	649.83	44.53	15.592	
6,100.00	6,095.19	6,098.57	6,094.90	21.16	23.76	-63.66	-135.88	763.98	692.57	647.70	44.87	15.435	
6,150.00	6,145.10	6,148.78	6,145.08	21.34	23.93	-64.02	-134.29	763.54	690.78	645.57	45.21	15.280	
6,200.00	6,195.00	6,199.02	6,195.30	21.51	24.09	-64.37	-132.91	763.07	688.98	643.44	45.55	15.127	
6,250.00	6,244.91	6,247.33	6,243.60	21.69	24.24	-64.70	-131.66	762.67	687.27	641.39	45.88	14.980	
6,300.00	6,294.81	6,295.95	6,292.20	21.86	24.40	-65.03	-130.42	762.35	685.66	639.44	46.21	14.837	
6,350.00	6,344.71	6,344.58	6,340.81	22.04	24.56	-65.36	-129.21	762.11	684.16	637.61	46.55	14.698	
6,400.00	6,394.62	6,393.89	6,390.11	22.21	24.72	-65.69	-128.01	761.95	682.76	635.87	46.89	14.562	
6,450.00	6,444.52	6,445.23	6,441.43	22.39	24.89	-66.05	-126.74	761.73	681.33	634.10	47.23	14.426	
6,500.00	6,494.43	6,495.88	6,492.06	22.57	25.06	-66.39	-125.47	761.40	679.83	632.26	47.57	14.291	
6,550.00	6,544.33	6,545.42	6,541.58	22.74	25.22	-66.73	-124.30	761.08	678.34	630.43	47.91	14.160	
6,600.00	6,594.24	6,594.97	6,591.13	22.92	25.38	-67.06	-123.21	760.79	676.90	628.65	48.25	14.030	
6,650.00	6,644.14	6,644.55	6,640.69	23.09	25.54	-67.39	-122.21	760.52	675.50	626.92	48.58	13.904	
6,700.00	6,694.04	6,693.92	6,690.06	23.27	25.70	-67.71	-121.29	760.28	674.14	625.22	48.92	13.780	
6,750.00	6,743.95	6,743.14	6,739.27	23.45	25.86	-68.02	-120.44	760.08	672.85	623.59	49.26	13.659	
6,800.00	6,793.85	6,792.37	6,788.49	23.62	26.03	-68.33	-119.65	759.94	671.63	622.03	49.60	13.541	
6,850.00	6,843.76	6,841.61	6,837.72	23.80	26.19	-68.64	-118.91	759.85	670.47	620.53	49.94	13.426	
6,900.00	6,893.66	6,890.91	6,887.02	23.98	26.35	-68.94	-118.24	759.81	669.37	619.10	50.28	13.314	
6,950.00	6,943.57	6,940.24	6,936.35	24.15	26.51	-69.23	-117.64	759.82	668.34	617.72	50.62	13.204	
7,000.00	6,993.47	6,989.59	6,985.69	24.33	26.68	-69.52	-117.10	759.87	667.36	616.40	50.96	13.097	
7,050.00	7,043.37	7,038.94	7,035.05	24.51	26.84	-69.81	-116.65	759.97	666.44	615.14	51.30	12.992	
7,100.00	7,093.28	7,089.15	7,085.25	24.68	27.01	-70.09	-116.23	760.10	665.55	613.91	51.64	12.888	
7,150.00	7,143.18	7,139.55	7,135.65	24.86	27.17	-70.38	-115.84	760.18	664.63	612.65	51.98	12.788	
7,200.00	7,193.09	7,189.95	7,186.05	25.04	27.34	-70.66	-115.46	760.23	663.70	611.37	52.33	12.684	
7,250.00	7,242.99	7,240.36	7,236.45	25.21	27.51	-70.95	-115.10	760.25	662.74	610.07	52.67	12.583	
7,300.00	7,292.90	7,288.44	7,284.54	25.39	27.67	-71.22	-114.77	760.31	661.84	608.84	53.01	12.486	
7,350.00	7,342.80	7,336.56	7,332.65	25.57	27.83	-71.49	-114.46	760.50	661.10	607.76	53.34	12.393	
7,400.00	7,392.70	7,384.68	7,380.77	25.75	27.98	-71.75	-114.17	760.83	660.50	606.82	53.68	12.305	
7,450.00	7,442.61	7,432.85	7,428.94	25.92	28.14	-72.02	-113.89	761.29	660.06	606.04	54.02	12.220	
7,500.00	7,492.51	7,482.21	7,478.30	26.10	28.31	-72.30	-113.47	761.83	659.71	605.35	54.36	12.137	
7,550.00	7,542.42	7,531.54	7,527.62	26.28	28.47	-72.60	-112.80	762.36	659.42	604.72	54.70	12.058	
7,600.00	7,592.32	7,580.84	7,576.90	26.46	28.64	-72.92	-111.87	762.89	659.20	604.16	55.04	11.977	
7,650.00	7,642.23	7,630.20	7,626.24	26.63	28.80	-73.27	-110.88	763.42	659.04	603.65	55.38	11.900	
7,700.00	7,692.13	7,680.01	7,676.03	26.81	28.97	-73.64	-109.28	763.94	658.92	603.19	55.73	11.824	
7,750.00	7,742.03	7,729.79	7,725.79	26.99	29.14	-74.02	-107.70	764.42	658.83	602.75	56.07	11.748	

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

Anticollision Report

Company: WCDSC Permian NM
Project: Eddy County (NAD 83 NM Eastern)
Reference Site: Sec 27-T19S-R29E
Site Error: 5.00 ft
Reference Well: Turquoise PWU 27-61H
Well Error: 0.50 ft
Reference Wellbore: Wellbore #1
Reference Design: Permit Plan 3

Local Co-ordinate Reference: Well Turquoise PWU 27-61H
TVD Reference: RKB @ 3370.00ft
MD Reference: RKB @ 3370.00ft
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 27-T19S-R29E - Parkway West Unit SWD - Wellbore #1 - Wellbore #1													Offset Site Error: 5.00 ft
Survey Program: 200-MWD+IGRF													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	
7,800.00	7,791.94	7,779.54	7,775.50	27.17	29.31	-74.42	-105.95	764.87	658.77	602.35	56.42	11.676	
7,850.00	7,841.84	7,829.77	7,825.70	27.35	29.48	-74.84	-104.03	765.30	658.74	601.98	56.77	11.604	
7,900.00	7,891.75	7,880.99	7,876.89	27.52	29.66	-75.25	-102.21	765.67	658.67	601.55	57.12	11.531	
7,950.00	7,941.65	7,931.12	7,926.99	27.70	29.83	-75.64	-100.64	765.99	658.53	601.07	57.47	11.459	
8,000.00	7,991.56	7,980.10	7,975.94	27.88	29.99	-76.02	-99.15	766.34	658.47	600.66	57.81	11.390	
8,009.58	8,001.11	7,989.49	7,985.32	27.91	30.03	-76.09	-98.86	766.42	658.47	600.59	57.88	11.377	
8,050.00	8,041.46	8,030.36	8,026.17	28.06	30.17	-76.40	-97.66	766.76	658.47	600.31	58.16	11.322	
8,100.00	8,091.36	8,081.75	8,077.54	28.24	30.34	-76.95	-96.35	767.14	658.40	599.89	58.51	11.252	
8,150.00	8,141.23	8,130.50	8,126.29	28.41	30.51	-77.90	-95.27	767.48	658.23	599.37	58.86	11.184	
8,200.00	8,191.05	8,177.99	8,173.76	28.59	30.67	-78.73	-94.20	767.96	658.14	598.95	59.20	11.118	
8,214.16	8,205.15	8,191.43	8,187.19	28.64	30.71	-78.95	-93.90	768.13	658.14	598.85	59.29	11.100	
8,250.00	8,240.81	8,225.86	8,221.62	28.77	30.83	-79.51	-93.10	768.60	658.16	598.62	59.54	11.055	
8,300.00	8,290.51	8,273.85	8,269.59	28.95	31.00	-80.29	-91.90	769.33	658.26	598.38	59.88	10.994	
8,350.00	8,340.12	8,324.80	8,320.51	29.13	31.17	-81.10	-90.62	770.15	658.38	598.15	60.23	10.931	
8,400.00	8,389.65	8,377.09	8,372.79	29.31	31.35	-81.94	-89.54	770.85	658.30	597.71	60.59	10.865	
8,450.00	8,439.09	8,430.04	8,425.73	29.50	31.53	-82.82	-88.71	771.38	658.00	597.05	60.95	10.796	
8,500.00	8,488.43	8,483.05	8,478.73	29.68	31.71	-83.71	-88.16	771.66	657.46	596.15	61.31	10.724	
8,550.00	8,537.64	8,533.05	8,528.73	29.88	31.87	-84.89	-87.92	771.85	656.70	595.05	61.65	10.652	
8,600.00	8,586.49	8,583.13	8,578.81	30.04	32.03	-86.19	-87.97	772.06	653.05	591.06	62.00	10.534	
8,650.00	8,634.56	8,633.43	8,629.11	30.23	32.19	-87.56	-88.15	772.17	645.35	583.02	62.33	10.353	
8,700.00	8,681.50	8,682.46	8,678.14	30.41	32.34	-87.59	-88.38	772.13	633.70	571.04	62.66	10.113	
8,750.00	8,726.94	8,728.64	8,724.32	30.58	32.49	-85.21	-88.66	772.02	618.34	555.37	62.97	9.819	
8,800.00	8,770.54	8,773.28	8,768.96	30.75	32.62	-84.61	-88.98	771.85	599.53	536.26	63.27	9.475	
8,850.00	8,811.96	8,816.41	8,812.08	30.92	32.76	-85.41	-89.27	771.56	577.52	513.95	63.56	9.086	
8,900.00	8,850.90	8,856.64	8,852.31	31.09	32.88	-87.40	-89.49	771.13	552.63	488.79	63.84	8.656	
8,950.00	8,887.04	8,893.14	8,888.81	31.26	32.99	-90.45	-89.70	770.65	525.33	461.23	64.10	8.195	
9,000.00	8,920.13	8,926.41	8,922.07	31.44	33.10	-94.51	-89.96	770.21	496.14	431.78	64.36	7.709	
9,050.00	8,949.91	8,956.27	8,951.93	31.62	33.19	-95.50	-90.26	769.82	465.63	401.02	64.60	7.207	
9,100.00	8,976.15	8,982.50	8,978.15	31.82	33.27	-95.22	-90.57	769.47	434.49	369.64	64.85	6.700	
9,150.00	8,998.65	9,004.89	9,000.54	32.03	33.34	-91.30	-90.88	769.17	403.56	338.45	65.11	6.198	
9,200.00	9,017.24	9,023.27	9,018.91	32.27	33.40	-77.28	-91.16	768.93	373.84	308.45	65.39	5.717	
9,250.00	9,031.78	9,037.48	9,033.13	32.52	33.44	-82.62	-91.39	768.74	346.54	280.84	65.70	5.275	
9,300.00	9,042.16	9,047.43	9,043.08	32.79	33.47	-86.90	-91.56	768.61	323.05	257.01	66.04	4.892 Alert	
9,350.00	9,048.30	9,053.03	9,048.68	33.07	33.49	-89.81	-91.65	768.54	304.87	238.47	66.40	4.592 Alert	
9,400.00	9,050.16	9,054.25	9,049.90	33.37	33.49	-91.13	-91.68	768.52	293.38	226.65	66.73	4.397 Alert	
9,445.43	9,050.16	9,053.63	9,049.28	33.68	33.49	-91.01	-91.66	768.53	289.84	222.86	66.98	4.327 Alert, CC, ES	
9,450.00	9,050.16	9,053.57	9,049.21	33.71	33.49	-91.00	-91.66	768.53	289.87	222.87	67.00	4.326 Alert, SF	
9,500.00	9,050.16	9,052.89	9,048.53	34.04	33.49	-90.86	-91.65	768.54	294.93	227.78	67.15	4.392 Alert	
9,550.00	9,050.16	9,052.20	9,047.85	34.43	33.49	-90.73	-91.64	768.55	308.12	240.91	67.21	4.585 Alert	
9,600.00	9,050.16	9,051.52	9,047.16	34.82	33.49	-90.59	-91.63	768.56	328.47	261.33	67.15	4.892 Alert	
9,650.00	9,050.16	9,050.84	9,046.48	35.26	33.48	-90.46	-91.62	768.57	354.75	287.70	67.05	5.291	
9,700.00	9,050.16	9,050.15	9,045.80	35.70	33.48	-90.32	-91.60	768.57	385.75	318.84	66.90	5.766	
9,750.00	9,050.16	9,049.47	9,045.11	36.19	33.48	-90.19	-91.59	768.58	420.42	353.65	66.77	6.297	
9,800.00	9,050.16	9,048.79	9,044.43	36.68	33.48	-90.05	-91.58	768.59	457.93	391.31	66.63	6.873	
9,850.00	9,050.16	9,048.11	9,043.75	37.21	33.48	-89.92	-91.57	768.60	497.65	431.14	66.51	7.482	
9,900.00	9,050.16	9,047.42	9,043.07	37.74	33.47	-89.78	-91.56	768.61	539.07	472.68	66.40	8.119	
9,950.00	9,050.16	9,046.74	9,042.38	38.30	33.47	-89.65	-91.54	768.62	581.85	515.54	66.31	8.775	
10,000.00	9,050.16	9,046.06	9,041.70	38.87	33.47	-89.51	-91.53	768.63	625.70	559.47	66.22	9.448	
10,050.00	9,050.16	9,045.37	9,041.02	39.48	33.47	-89.38	-91.52	768.64	670.40	604.25	66.16	10.134	
10,100.00	9,050.16	9,044.69	9,040.34	40.09	33.47	-89.25	-91.51	768.65	715.81	649.72	66.10	10.830	
10,150.00	9,050.16	9,044.01	9,039.65	40.72	33.46	-89.11	-91.50	768.66	761.80	695.75	66.05	11.534	
10,200.00	9,050.16	9,043.33	9,038.97	41.36	33.46	-88.98	-91.49	768.67	808.25	742.26	66.00	12.246	

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

Anticollision Report

Company: WCDSC Permian NM
Project: Eddy County (NAD 83 NM Eastern)
Reference Site: Sec 27-T19S-R29E
Site Error: 5.00 ft
Reference Well: Turquoise PWU 27-61H
Well Error: 0.50 ft
Reference Wellbore: Wellbore #1
Reference Design: Permit Plan 3

Local Co-ordinate Reference: Well Turquoise PWU 27-61H
TVD Reference: RKB @ 3370.00ft
MD Reference: RKB @ 3370.00ft
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 27-T19S-R29E - Parkway West Unit SWD - Wellbore #1 - Wellbore #1													Offset Site Error:	5.00 ft
Survey Program: 200-MWD+IGRF													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		
10,250.00	9,050.16	9,042.64	9,038.29	42.03	33.46	-88.84	-91.47	768.67	855.11	789.15	65.96	12.964		
10,300.00	9,050.16	9,041.96	9,037.61	42.70	33.46	-88.71	-91.46	768.68	902.31	836.38	65.93	13.686		
10,350.00	9,050.16	9,041.28	9,036.92	43.39	33.45	-88.57	-91.45	768.69	949.79	883.89	65.90	14.413		
10,400.00	9,050.16	9,040.60	9,036.24	44.09	33.45	-88.44	-91.44	768.70	997.52	931.64	65.87	15.143		
10,450.00	9,050.16	9,039.92	9,035.56	44.81	33.45	-88.30	-91.43	768.71	1,045.46	979.60	65.85	15.875		
10,500.00	9,050.16	9,039.23	9,034.88	45.53	33.45	-88.17	-91.42	768.72	1,093.58	1,027.75	65.84	16.611		
10,550.00	9,050.16	9,038.55	9,034.20	46.27	33.45	-88.03	-91.40	768.73	1,141.88	1,076.04	65.82	17.348		
10,600.00	9,050.16	9,037.87	9,033.52	47.02	33.44	-87.90	-91.39	768.74	1,190.29	1,124.48	65.81	18.088		
10,650.00	9,050.16	9,037.19	9,032.83	47.78	33.44	-87.76	-91.38	768.75	1,238.84	1,173.05	65.80	18.829		
10,700.00	9,050.16	9,036.51	9,032.15	48.54	33.44	-87.63	-91.37	768.76	1,287.50	1,221.72	65.79	19.571		
10,750.00	9,050.16	9,035.82	9,031.47	49.33	33.44	-87.50	-91.36	768.76	1,336.26	1,270.48	65.78	20.314		
10,800.00	9,050.16	9,035.14	9,030.79	50.11	33.44	-87.36	-91.35	768.77	1,385.11	1,319.34	65.77	21.059		
10,850.00	9,050.16	9,034.46	9,030.11	50.91	33.43	-87.23	-91.34	768.78	1,434.04	1,368.27	65.77	21.804		
10,900.00	9,050.16	9,033.78	9,029.43	51.71	33.43	-87.09	-91.33	768.79	1,483.03	1,417.27	65.76	22.551		

Anticollision Report

Company: WCDSC Permian NM
Project: Eddy County (NAD 83 NM Eastern)
Reference Site: Sec 27-T19S-R29E
Site Error: 5.00 ft
Reference Well: Turquoise PWU 27-61H
Well Error: 0.50 ft
Reference Wellbore: Wellbore #1
Reference Design: Permit Plan 3

Local Co-ordinate Reference: Well Turquoise PWU 27-61H
TVD Reference: RKB @ 3370.00ft
MD Reference: RKB @ 3370.00ft
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 27-T19S-R29E - Turquoise PWU 27-10H - Wellbore #1 - Wellbore #1													Offset Site Error:	5.00 ft
Survey Program: 154-MWD+IGRF													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							
Measured Depth Depth (ft)	Vertical Depth (ft)	Measured Depth Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
0.00	0.00	0.00	0.00	0.50	0.50	-179.84	-1,389.97	-3.82	1,390.20					
50.00	50.00	24.05	24.05	0.50	0.50	-179.84	-1,389.98	-3.88	1,389.99	1,388.98	1.00	1,385.358		
100.00	100.00	72.14	72.14	0.52	0.51	-179.83	-1,390.05	-4.20	1,390.06	1,389.03	1.03	1,350.116		
150.00	150.00	120.22	120.22	0.59	0.53	-179.80	-1,390.18	-4.87	1,390.19	1,389.07	1.12	1,238.599		
200.00	200.00	169.78	169.78	0.70	0.58	-179.78	-1,390.37	-5.89	1,390.39	1,389.11	1.28	1,086.099		
250.00	250.00	221.04	221.01	0.84	0.69	-179.71	-1,390.52	-7.04	1,390.54	1,389.02	1.53	910.411		
300.00	300.00	295.05	295.00	0.99	0.89	-179.65	-1,389.99	-8.41	1,390.16	1,388.28	1.88	739.200		
350.00	350.00	333.14	333.09	1.15	1.01	-179.63	-1,389.60	-9.07	1,389.66	1,387.50	2.15	645.217		
383.95	383.95	359.01	358.95	1.28	1.09	-179.60	-1,389.52	-9.59	1,389.56	1,387.21	2.35	592.424		
400.00	400.00	372.00	371.94	1.31	1.13	-179.59	-1,389.54	-9.87	1,389.58	1,387.14	2.44	569.500		
450.00	450.00	418.73	418.66	1.48	1.28	-179.55	-1,389.71	-10.94	1,389.77	1,387.00	2.76	503.442		
500.00	500.00	466.94	466.85	1.65	1.45	-179.50	-1,389.98	-12.07	1,390.03	1,386.94	3.09	449.569		
550.00	550.00	521.93	521.83	1.82	1.63	-179.45	-1,390.17	-13.29	1,390.24	1,386.79	3.45	402.868		
600.00	600.00	573.15	573.04	1.99	1.81	-179.41	-1,390.22	-14.29	1,390.29	1,386.49	3.80	365.853		
650.00	650.00	619.09	618.97	2.16	1.97	-179.38	-1,390.34	-15.07	1,390.43	1,386.30	4.13	336.409		
700.00	700.00	667.71	667.59	2.34	2.14	-179.35	-1,390.60	-15.79	1,390.70	1,386.23	4.48	310.629		
750.00	750.00	720.13	720.00	2.51	2.32	-179.32	-1,390.82	-16.43	1,390.93	1,386.09	4.84	287.656		
800.00	800.00	772.76	772.63	2.69	2.51	-179.30	-1,390.96	-16.95	1,391.06	1,385.87	5.20	267.735		
850.00	850.00	825.51	825.38	2.87	2.69	-179.28	-1,390.99	-17.36	1,391.10	1,385.54	5.56	250.319		
862.63	862.63	838.84	838.70	2.91	2.74	-179.28	-1,390.98	-17.45	1,391.09	1,385.44	5.65	246.264		
900.00	900.00	874.05	873.92	3.04	2.86	-179.27	-1,391.00	-17.65	1,391.11	1,385.20	5.90	235.609		
950.00	950.00	922.76	922.63	3.22	3.03	-179.27	-1,391.06	-17.84	1,391.18	1,384.92	6.25	222.498		
1,000.00	1,000.00	975.30	975.17	3.40	3.22	-179.26	-1,391.10	-18.07	1,391.21	1,384.60	6.61	210.322		
1,043.07	1,043.07	1,020.56	1,020.42	3.55	3.38	-179.24	-1,391.05	-18.36	1,391.18	1,384.25	6.93	200.834		
1,050.00	1,050.00	1,024.88	1,024.74	3.58	3.39	-179.24	-1,391.06	-18.37	1,391.18	1,384.22	6.97	199.719		
1,100.00	1,100.00	1,069.16	1,069.03	3.75	3.54	-179.24	-1,391.16	-18.54	1,391.29	1,384.00	7.30	190.686		
1,150.00	1,150.00	1,116.45	1,116.32	3.93	3.71	-179.24	-1,391.44	-18.56	1,391.59	1,383.96	7.64	182.237		
1,200.00	1,200.00	1,169.36	1,169.22	4.11	3.89	-179.24	-1,391.72	-18.53	1,391.85	1,383.86	7.99	174.127		
1,250.00	1,250.00	1,221.63	1,221.49	4.29	4.07	-179.24	-1,391.89	-18.54	1,392.02	1,383.66	8.35	166.680		
1,300.00	1,300.00	1,273.54	1,273.40	4.46	4.25	-179.23	-1,391.98	-18.76	1,392.11	1,383.40	8.71	159.828		
1,350.00	1,350.00	1,323.67	1,323.53	4.64	4.42	-179.22	-1,392.03	-19.05	1,392.16	1,383.09	9.07	153.571		
1,400.00	1,400.00	1,373.40	1,373.26	4.82	4.60	-179.21	-1,392.08	-19.20	1,392.21	1,382.79	9.42	147.796		
1,450.00	1,450.00	1,424.43	1,424.28	5.00	4.78	-179.21	-1,392.13	-19.31	1,392.26	1,382.48	9.78	142.373		
1,500.00	1,500.00	1,475.55	1,475.41	5.18	4.96	-179.20	-1,392.13	-19.53	1,392.27	1,382.13	10.14	137.323		
1,505.29	1,505.29	1,480.96	1,480.82	5.20	4.98	-179.20	-1,392.13	-19.56	1,392.26	1,382.09	10.18	136.809		
1,550.00	1,550.00	1,519.58	1,519.43	5.36	5.12	-179.18	-1,392.21	-19.86	1,392.37	1,381.89	10.47	132.937		
1,600.00	1,600.00	1,564.07	1,563.92	5.53	5.28	-179.16	-1,392.47	-20.38	1,392.67	1,381.86	10.81	128.823		
1,650.00	1,650.00	1,614.23	1,614.08	5.71	5.46	-179.13	-1,392.86	-21.07	1,393.06	1,381.89	11.17	124.732		
1,700.00	1,700.00	1,664.72	1,664.56	5.89	5.64	-179.11	-1,393.24	-21.76	1,393.45	1,381.92	11.53	120.881		
1,750.00	1,750.00	1,719.63	1,719.47	6.07	5.83	-179.08	-1,393.55	-22.39	1,393.74	1,381.83	11.90	117.097		
1,800.00	1,800.00	1,772.69	1,772.52	6.25	6.02	-179.06	-1,393.67	-22.81	1,393.86	1,381.59	12.27	113.593		
1,850.00	1,850.00	1,822.09	1,821.92	6.43	6.20	-179.05	-1,393.76	-23.22	1,393.96	1,381.33	12.63	110.405		
1,900.00	1,900.00	1,869.57	1,869.40	6.61	6.37	-179.03	-1,393.88	-23.68	1,394.09	1,381.12	12.97	107.453		
1,950.00	1,950.00	1,914.56	1,914.39	6.78	6.53	-179.01	-1,394.14	-24.08	1,394.38	1,381.07	13.31	104.741		
2,000.00	2,000.00	1,961.69	1,961.51	6.96	6.70	-179.00	-1,394.56	-24.44	1,394.84	1,381.18	13.66	102.119		
2,050.00	2,050.00	2,012.85	2,012.67	7.14	6.88	-178.98	-1,395.03	-24.85	1,395.30	1,381.28	14.02	99.524		
2,100.00	2,100.00	2,065.38	2,065.18	7.32	7.07	-178.96	-1,395.45	-25.31	1,395.71	1,381.33	14.39	97.020		
2,150.00	2,150.00	2,119.19	2,119.00	7.50	7.26	-178.94	-1,395.75	-25.77	1,396.00	1,381.24	14.76	94.599		
2,200.00	2,200.00	2,169.51	2,169.32	7.68	7.44	-178.93	-1,395.94	-26.16	1,396.19	1,381.08	15.12	92.367		
2,250.00	2,250.00	2,218.85	2,218.65	7.86	7.62	-178.91	-1,396.14	-26.54	1,396.41	1,380.94	15.47	90.259		
2,300.00	2,300.00	2,269.69	2,269.50	8.04	7.80	-178.90	-1,396.35	-26.91	1,396.62	1,380.79	15.83	88.216		
2,350.00	2,350.00	2,320.67	2,320.48	8.22	7.98	-178.88	-1,396.53	-27.24	1,396.80	1,380.61	16.19	86.259		

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

Anticollision Report

Company: WCDSC Permian NM
Project: Eddy County (NAD 83 NM Eastern)
Reference Site: Sec 27-T19S-R29E
Site Error: 5.00 ft
Reference Well: Turquoise PWU 27-61H
Well Error: 0.50 ft
Reference Wellbore: Wellbore #1
Reference Design: Permit Plan 3

Local Co-ordinate Reference: Well Turquoise PWU 27-61H
TVD Reference: RKB @ 3370.00ft
MD Reference: RKB @ 3370.00ft
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 27-T19S-R29E - Turquoise PWU 27-10H - Wellbore #1 - Wellbore #1													Offset Site Error:	5.00 ft
Survey Program: 154-MWD+IGRF													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 Toelface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
2,400.00	2,400.00	2,367.73	2,367.53	8.39	8.15	-178.87	-1,396.73	-27.52	1,397.02	1,380.48	16.54	84.466		
2,450.00	2,450.00	2,414.91	2,414.72	8.57	8.32	-178.86	-1,397.02	-27.76	1,397.34	1,380.45	16.89	82.750		
2,500.00	2,500.00	2,466.53	2,466.33	8.75	8.50	-178.85	-1,397.37	-27.95	1,397.68	1,380.43	17.25	81.039		
2,550.00	2,550.00	2,518.39	2,518.19	8.93	8.68	-178.85	-1,397.66	-28.03	1,397.96	1,380.35	17.61	79.390		
2,600.00	2,600.00	2,571.79	2,571.59	9.11	8.87	-178.85	-1,397.85	-28.16	1,398.14	1,380.16	17.98	77.776		
2,650.00	2,650.00	2,622.40	2,622.20	9.29	9.05	-178.84	-1,397.93	-28.39	1,398.22	1,379.89	18.33	76.261		
2,700.00	2,700.00	2,669.90	2,669.70	9.47	9.22	-178.83	-1,398.07	-28.57	1,398.37	1,379.69	18.68	74.849		
2,750.00	2,750.00	2,720.47	2,720.27	9.65	9.40	-178.82	-1,398.28	-28.69	1,398.58	1,379.54	19.04	73.451		
2,800.00	2,800.00	2,774.79	2,774.59	9.83	9.59	-178.82	-1,398.37	-28.79	1,398.67	1,379.26	19.41	72.052		
2,825.67	2,825.67	2,802.68	2,802.48	9.92	9.69	-178.82	-1,398.36	-28.84	1,398.66	1,379.05	19.60	71.351		
2,850.00	2,850.00	2,824.08	2,823.87	10.01	9.77	-178.82	-1,398.37	-28.89	1,398.67	1,378.91	19.77	70.762		
2,900.00	2,900.00	2,871.57	2,871.37	10.18	9.93	-178.81	-1,398.45	-29.05	1,398.76	1,378.64	20.11	69.543		
2,950.00	2,950.00	2,923.24	2,923.04	10.36	10.12	-178.80	-1,398.57	-29.25	1,398.88	1,378.40	20.48	68.318		
3,000.00	3,000.00	2,976.40	2,976.19	10.54	10.31	-178.80	-1,398.58	-29.37	1,398.89	1,378.05	20.84	67.115		
3,012.61	3,012.61	2,989.80	2,989.60	10.59	10.35	-178.80	-1,398.57	-29.39	1,398.88	1,377.94	20.94	66.818		
3,050.00	3,050.00	3,023.50	3,023.30	10.72	10.47	-178.79	-1,398.59	-29.47	1,398.90	1,377.71	21.19	66.020		
3,100.00	3,100.00	3,070.54	3,070.34	10.90	10.64	-178.79	-1,398.69	-29.63	1,399.01	1,377.48	21.53	64.966		
3,150.00	3,150.00	3,120.62	3,120.41	11.08	10.82	-178.78	-1,398.85	-29.84	1,399.18	1,377.29	21.89	63.911		
3,200.00	3,200.00	3,171.09	3,170.89	11.26	11.00	-178.77	-1,399.01	-30.05	1,399.34	1,377.09	22.25	62.887		
3,250.00	3,250.00	3,224.42	3,224.21	11.44	11.19	-178.76	-1,399.10	-30.22	1,399.43	1,376.81	22.62	61.868		
3,300.00	3,300.00	3,275.96	3,275.76	11.62	11.37	-178.76	-1,399.08	-30.32	1,399.41	1,376.43	22.98	60.895		
3,329.64	3,329.64	3,304.85	3,304.64	11.72	11.47	-178.75	-1,399.07	-30.41	1,399.40	1,376.21	23.19	60.346		
3,350.00	3,350.00	3,324.83	3,324.62	11.80	11.54	-178.75	-1,399.07	-30.47	1,399.40	1,376.07	23.33	59.973		
3,400.00	3,400.00	3,373.89	3,373.69	11.97	11.72	-178.75	-1,399.10	-30.56	1,399.43	1,375.75	23.69	59.078		
3,450.00	3,450.00	3,423.45	3,423.25	12.15	11.89	28.11	-1,399.15	-30.62	1,399.25	1,375.21	24.03	58.220		
3,500.00	3,499.99	3,473.05	3,472.84	12.32	12.07	28.13	-1,399.22	-30.64	1,398.60	1,374.22	24.38	57.367		
3,550.00	3,549.97	3,523.07	3,522.86	12.48	12.25	28.16	-1,399.30	-30.66	1,397.47	1,372.75	24.72	56.535		
3,600.00	3,599.94	3,573.08	3,572.87	12.64	12.42	28.21	-1,399.37	-30.69	1,395.86	1,370.81	25.06	55.707		
3,650.00	3,649.88	3,623.10	3,622.89	12.80	12.60	28.28	-1,399.44	-30.88	1,393.77	1,368.37	25.40	54.878		
3,700.00	3,699.79	3,672.80	3,672.59	12.97	12.78	28.36	-1,399.50	-31.29	1,391.23	1,365.49	25.74	54.051		
3,750.00	3,749.69	3,722.27	3,722.06	13.13	12.95	28.44	-1,399.57	-31.83	1,388.60	1,362.52	26.08	53.243		
3,800.00	3,799.60	3,772.03	3,771.81	13.30	13.13	28.53	-1,399.65	-32.52	1,385.98	1,359.58	26.42	52.454		
3,850.00	3,849.50	3,822.14	3,821.92	13.46	13.31	28.64	-1,399.72	-33.48	1,383.36	1,356.59	26.77	51.682		
3,900.00	3,899.40	3,874.08	3,873.84	13.63	13.50	28.75	-1,399.76	-34.80	1,380.72	1,353.60	27.12	50.916		
3,950.00	3,949.31	3,927.39	3,927.12	13.79	13.69	28.89	-1,399.65	-36.54	1,377.96	1,350.49	27.47	50.155		
4,000.00	3,999.21	3,982.03	3,981.71	13.96	13.88	29.05	-1,399.38	-38.65	1,375.07	1,347.24	27.83	49.402		
4,050.00	4,049.12	4,036.96	4,036.60	14.12	14.08	29.21	-1,398.89	-40.86	1,372.01	1,343.81	28.20	48.659		
4,100.00	4,099.02	4,090.73	4,090.32	14.29	14.27	29.37	-1,398.24	-42.89	1,368.79	1,340.23	28.55	47.938		
4,150.00	4,148.93	4,143.34	4,142.91	14.46	14.46	29.51	-1,397.47	-44.62	1,365.43	1,336.53	28.91	47.237		
4,200.00	4,198.83	4,193.96	4,193.49	14.62	14.64	29.64	-1,396.68	-46.22	1,362.04	1,332.78	29.25	46.561		
4,250.00	4,248.73	4,245.27	4,244.77	14.79	14.82	29.78	-1,395.84	-47.83	1,358.61	1,329.01	29.60	45.896		
4,300.00	4,298.64	4,297.16	4,296.63	14.96	15.00	29.91	-1,394.92	-49.46	1,355.11	1,325.16	29.95	45.242		
4,350.00	4,348.54	4,348.08	4,347.51	15.13	15.18	30.05	-1,393.94	-51.03	1,351.56	1,321.28	30.30	44.606		
4,400.00	4,398.45	4,398.62	4,398.02	15.30	15.38	30.18	-1,392.95	-52.45	1,347.99	1,317.34	30.65	43.985		
4,450.00	4,448.35	4,449.41	4,448.79	15.47	15.54	30.31	-1,391.93	-53.78	1,344.39	1,313.39	30.99	43.375		
4,500.00	4,498.26	4,500.25	4,499.60	15.64	15.72	30.43	-1,390.87	-55.08	1,340.76	1,309.41	31.34	42.778		
4,550.00	4,548.16	4,554.12	4,553.44	15.80	15.91	30.57	-1,389.65	-56.41	1,337.04	1,305.34	31.70	42.180		
4,600.00	4,598.06	4,608.03	4,607.31	15.97	16.10	30.70	-1,388.26	-57.68	1,333.17	1,301.11	32.05	41.590		
4,650.00	4,647.97	4,654.41	4,653.67	16.14	16.26	30.81	-1,387.10	-58.67	1,329.32	1,296.94	32.39	41.043		
4,700.00	4,697.87	4,702.47	4,701.71	16.31	16.43	30.91	-1,385.96	-59.59	1,325.55	1,292.82	32.73	40.502		
4,750.00	4,747.78	4,751.05	4,750.27	16.49	16.60	31.02	-1,384.86	-60.42	1,321.84	1,288.77	33.07	39.973		
4,800.00	4,797.68	4,800.51	4,799.71	16.66	16.77	31.13	-1,383.80	-61.18	1,318.17	1,284.75	33.41	39.452		

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

Anticollision Report

Company: WCDSC Permian NM
Project: Eddy County (NAD 83 NM Eastern)
Reference Site: Sec 27-T19S-R29E
Site Error: 5.00 ft
Reference Well: Turquoise PWU 27-61H
Well Error: 0.50 ft
Reference Wellbore: Wellbore #1
Reference Design: Permit Plan 3

Local Co-ordinate Reference: Well Turquoise PWU 27-61H
TVD Reference: RKB @ 3370.00ft
MD Reference: RKB @ 3370.00ft
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 27-T19S-R29E - Turquoise PWU 27-10H - Wellbore #1 - Wellbore #1													Offset Site Error:
Survey Program: 154-MWD+IGRF													Offset Well Error:
Reference		Offset		Semi Major Axis		Highside Tooface (°)	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)			
4,850.00	4,847.59	4,851.79	4,850.97	16.83	16.95	31.23	-1,382.66	-81.87	1,314.47	1,280.71	33.76	38.935	
4,900.00	4,897.49	4,902.78	4,901.94	17.00	17.13	31.33	-1,381.49	-82.48	1,310.72	1,276.61	34.11	38.429	
4,950.00	4,947.39	4,953.44	4,952.58	17.17	17.30	31.43	-1,380.29	-83.02	1,306.94	1,272.49	34.45	37.933	
5,000.00	4,997.30	5,004.53	5,003.67	17.34	17.48	31.53	-1,379.05	-83.48	1,303.13	1,268.33	34.80	37.446	
5,050.00	5,047.20	5,055.94	5,055.05	17.51	17.66	31.62	-1,377.75	-83.75	1,299.26	1,264.11	35.15	36.966	
5,100.00	5,097.11	5,108.38	5,107.47	17.68	17.83	31.70	-1,376.37	-83.83	1,295.32	1,259.82	35.50	36.492	
5,150.00	5,147.01	5,161.24	5,160.31	17.86	18.01	31.78	-1,374.86	-83.75	1,291.27	1,255.42	35.85	36.023	
5,200.00	5,196.92	5,212.21	5,211.26	18.03	18.19	31.85	-1,373.34	-83.56	1,287.13	1,250.94	36.19	35.567	
5,250.00	5,246.82	5,263.36	5,262.39	18.20	18.36	31.92	-1,371.77	-83.32	1,282.96	1,246.43	36.53	35.117	
5,300.00	5,296.72	5,319.78	5,318.78	18.37	18.55	32.00	-1,369.85	-83.08	1,278.63	1,241.74	36.89	34.659	
5,350.00	5,346.63	5,375.05	5,374.01	18.55	18.74	32.09	-1,367.69	-82.94	1,274.05	1,236.80	37.25	34.206	
5,400.00	5,396.53	5,428.61	5,427.51	18.72	18.92	32.17	-1,365.41	-82.78	1,269.30	1,231.70	37.60	33.761	
5,450.00	5,446.44	5,477.33	5,476.19	18.89	19.09	32.25	-1,363.25	-82.64	1,264.47	1,226.53	37.94	33.330	
5,500.00	5,496.34	5,523.34	5,522.15	19.07	19.25	32.33	-1,361.32	-82.68	1,259.76	1,221.49	38.27	32.915	
5,550.00	5,546.25	5,571.78	5,570.55	19.24	19.42	32.42	-1,359.38	-82.91	1,255.18	1,216.57	38.61	32.505	
5,600.00	5,596.15	5,621.87	5,620.60	19.42	19.59	32.52	-1,357.35	-83.32	1,250.61	1,211.65	38.96	32.099	
5,650.00	5,646.05	5,673.86	5,672.54	19.59	19.77	32.65	-1,355.17	-84.08	1,245.99	1,206.67	39.31	31.693	
5,700.00	5,695.96	5,726.45	5,725.06	19.76	19.96	32.80	-1,352.80	-85.43	1,241.27	1,201.60	39.67	31.291	
5,750.00	5,745.86	5,789.58	5,788.07	19.94	20.18	33.01	-1,349.49	-87.43	1,236.23	1,196.18	40.05	30.871	
5,800.00	5,795.77	5,844.11	5,842.47	20.11	20.38	33.19	-1,346.13	-89.22	1,230.75	1,190.34	40.40	30.461	
5,850.00	5,845.67	5,891.23	5,889.47	20.29	20.54	33.36	-1,343.25	-90.79	1,225.31	1,184.56	40.75	30.070	
5,900.00	5,895.58	5,941.05	5,939.17	20.46	20.72	33.53	-1,340.27	-92.49	1,219.95	1,178.85	41.10	29.684	
5,950.00	5,945.48	5,993.14	5,991.13	20.64	20.91	33.72	-1,337.05	-94.35	1,214.52	1,173.08	41.45	29.299	
6,000.00	5,995.38	6,043.15	6,041.01	20.81	21.09	33.91	-1,333.89	-96.17	1,209.03	1,167.22	41.80	28.921	
6,050.00	6,045.29	6,092.43	6,090.16	20.99	21.26	34.08	-1,330.80	-97.82	1,203.56	1,161.40	42.15	28.552	
6,100.00	6,095.19	6,143.44	6,141.04	21.16	21.45	34.27	-1,327.59	-99.47	1,198.08	1,155.57	42.51	28.186	
6,150.00	6,145.10	6,194.83	6,192.29	21.34	21.63	34.46	-1,324.26	-101.26	1,192.54	1,149.68	42.86	27.824	
6,200.00	6,195.00	6,246.40	6,243.70	21.51	21.83	34.68	-1,320.55	-103.34	1,186.87	1,143.65	43.22	27.461	
6,250.00	6,244.91	6,303.95	6,301.06	21.69	22.02	34.91	-1,316.57	-105.62	1,181.00	1,137.43	43.58	27.101	
6,300.00	6,294.81	6,349.33	6,346.27	21.86	22.19	35.10	-1,313.27	-107.59	1,175.17	1,131.25	43.92	26.754	
6,350.00	6,344.71	6,396.80	6,393.58	22.04	22.36	35.31	-1,309.91	-109.72	1,169.45	1,125.18	44.27	26.414	
6,400.00	6,394.62	6,446.51	6,443.11	22.21	22.54	35.54	-1,306.41	-111.95	1,163.78	1,119.15	44.63	26.077	
6,450.00	6,444.52	6,494.61	6,491.04	22.39	22.72	35.75	-1,303.03	-114.10	1,158.13	1,113.15	44.98	25.748	
6,500.00	6,494.43	6,539.09	6,535.38	22.57	22.88	35.95	-1,300.05	-116.07	1,152.65	1,107.33	45.33	25.431	
6,550.00	6,544.33	6,583.30	6,579.47	22.74	23.04	36.15	-1,297.28	-118.01	1,147.41	1,101.74	45.67	25.124	
6,600.00	6,594.24	6,626.23	6,622.28	22.92	23.19	36.35	-1,294.82	-119.93	1,142.45	1,096.43	46.01	24.829	
6,650.00	6,644.14	6,669.53	6,665.47	23.09	23.35	36.55	-1,292.58	-121.95	1,137.79	1,091.43	46.36	24.545	
6,700.00	6,694.04	6,718.91	6,714.73	23.27	23.53	36.78	-1,290.15	-124.33	1,133.28	1,086.57	46.71	24.262	
6,750.00	6,743.95	6,768.27	6,763.98	23.45	23.71	37.02	-1,287.71	-126.82	1,128.80	1,081.74	47.07	23.983	
6,800.00	6,793.85	6,810.92	6,806.52	23.62	23.87	37.23	-1,285.73	-129.07	1,124.52	1,077.11	47.41	23.720	
6,850.00	6,843.76	6,854.02	6,849.51	23.80	24.03	37.45	-1,283.96	-131.46	1,120.53	1,072.78	47.75	23.467	
6,900.00	6,893.66	6,901.81	6,897.19	23.98	24.20	37.70	-1,282.17	-134.20	1,116.77	1,068.67	48.10	23.216	
6,950.00	6,943.57	6,950.20	6,945.47	24.15	24.38	37.95	-1,280.40	-137.05	1,113.08	1,064.62	48.46	22.970	
7,000.00	6,993.47	6,999.37	6,994.52	24.33	24.56	38.21	-1,278.64	-139.94	1,109.46	1,060.64	48.82	22.727	
7,050.00	7,043.37	7,048.59	7,043.64	24.51	24.74	38.47	-1,276.92	-142.74	1,105.87	1,056.70	49.17	22.489	
7,100.00	7,093.28	7,095.78	7,090.71	24.68	24.92	38.72	-1,275.32	-145.46	1,102.38	1,052.85	49.53	22.259	
7,150.00	7,143.18	7,143.45	7,138.27	24.86	25.09	38.98	-1,273.78	-148.36	1,099.01	1,049.13	49.88	22.033	
7,200.00	7,193.09	7,197.57	7,192.25	25.04	25.29	39.28	-1,271.94	-151.73	1,095.60	1,045.35	50.25	21.802	
7,250.00	7,242.99	7,248.29	7,242.84	25.21	25.48	39.57	-1,270.03	-154.89	1,092.04	1,041.42	50.61	21.575	
7,300.00	7,292.90	7,291.52	7,285.97	25.39	25.64	39.81	-1,268.57	-157.46	1,088.67	1,037.72	50.96	21.365	
7,350.00	7,342.80	7,334.82	7,329.19	25.57	25.80	40.04	-1,267.42	-159.87	1,085.62	1,034.33	51.30	21.163	
7,400.00	7,392.70	7,376.91	7,371.21	25.75	25.95	40.25	-1,266.60	-162.08	1,082.92	1,031.28	51.63	20.973	

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

Anticollision Report

Company: WCDSC Permian NM
Project: Eddy County (NAD 83 NM Eastern)
Reference Site: Sec 27-T19S-R29E
Site Error: 5.00 ft
Reference Well: Turquoise PWU 27-61H
Well Error: 0.50 ft
Reference Wellbore: Wellbore #1
Reference Design: Permit Plan 3

Local Co-ordinate Reference: Well Turquoise PWU 27-61H
TVD Reference: RKB @ 3370.00ft
MD Reference: RKB @ 3370.00ft
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 27-T19S-R29E - Turquoise PWU 27-10H - Wellbore #1 - Wellbore #1													Offset Site Error: 5.00 ft
Survey Program: 154-MWD+IGRF													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	
7,450.00	7,442.61	7,419.09	7,413.34	25.92	26.10	40.45	-1,266.12	-144.14	1,080.58	1,028.61	51.97	20.794	
7,500.00	7,492.51	7,467.18	7,461.38	26.10	26.28	40.67	-1,265.87	-146.33	1,078.50	1,026.18	52.32	20.614	
7,550.00	7,542.42	7,517.35	7,511.50	26.28	26.46	40.89	-1,265.63	-148.44	1,076.44	1,023.76	52.68	20.434	
7,600.00	7,592.32	7,563.35	7,557.47	26.46	26.63	41.09	-1,265.49	-150.33	1,074.45	1,021.43	53.02	20.264	
7,650.00	7,642.23	7,608.61	7,602.67	26.63	26.79	41.29	-1,265.51	-152.32	1,072.69	1,019.33	53.36	20.101	
7,700.00	7,692.13	7,655.46	7,649.48	26.81	26.96	41.50	-1,265.68	-154.51	1,071.13	1,017.42	53.71	19.942	
7,750.00	7,742.03	7,702.93	7,696.89	26.99	27.13	41.72	-1,265.95	-156.78	1,069.70	1,015.64	54.06	19.787	
7,800.00	7,791.94	7,749.21	7,743.12	27.17	27.30	41.93	-1,266.34	-158.97	1,068.42	1,014.01	54.40	19.639	
7,850.00	7,841.84	7,795.24	7,789.10	27.35	27.46	42.13	-1,266.94	-161.02	1,067.32	1,012.58	54.75	19.496	
7,900.00	7,891.75	7,837.27	7,831.08	27.52	27.61	42.31	-1,267.71	-162.79	1,066.48	1,011.42	55.07	19.367	
7,950.00	7,841.65	7,876.78	7,870.55	27.70	27.75	42.46	-1,268.83	-164.41	1,066.12	1,010.74	55.37	19.254	
7,962.07	7,953.70	7,886.33	7,880.08	27.74	27.78	42.50	-1,269.16	-164.79	1,066.10	1,010.68	55.45	19.228	
8,000.00	7,991.56	7,919.48	7,913.18	27.88	27.90	42.62	-1,270.48	-166.11	1,066.23	1,010.54	55.69	19.146	
8,050.00	8,041.46	7,972.51	7,966.13	28.06	28.08	42.80	-1,272.67	-167.83	1,066.39	1,010.33	56.06	19.023	
8,100.00	8,091.36	8,023.73	8,017.30	28.24	28.26	42.76	-1,274.79	-169.00	1,066.41	1,010.00	56.42	18.903	
8,150.00	8,141.23	8,073.13	8,066.84	28.41	28.43	42.34	-1,276.92	-169.86	1,066.09	1,009.32	56.76	18.781	
8,200.00	8,191.05	8,122.86	8,116.32	28.59	28.60	42.10	-1,279.15	-170.53	1,065.28	1,008.17	57.11	18.653	
8,250.00	8,240.81	8,172.89	8,166.30	28.77	28.77	41.97	-1,281.42	-171.05	1,063.98	1,006.52	57.46	18.517	
8,300.00	8,290.51	8,226.20	8,219.55	28.95	28.95	41.95	-1,283.80	-171.48	1,062.11	1,004.28	57.83	18.367	
8,350.00	8,340.12	8,321.51	8,314.77	29.13	29.26	42.11	-1,287.09	-170.27	1,059.31	1,000.96	58.35	18.156	
8,400.00	8,389.65	8,390.51	8,383.29	29.31	29.48	41.92	-1,288.66	-162.49	1,053.63	994.90	58.72	17.943	
8,450.00	8,439.09	8,447.53	8,439.39	29.50	29.64	41.61	-1,290.54	-152.50	1,047.10	988.04	59.06	17.729	
8,500.00	8,488.43	8,534.08	8,523.09	29.68	29.89	40.89	-1,293.20	-130.81	1,038.91	979.51	59.41	17.488	
8,550.00	8,537.64	8,613.52	8,597.79	29.86	30.11	45.83	-1,295.13	-103.92	1,028.93	969.22	59.71	17.231	
8,600.00	8,586.49	8,682.11	8,659.88	30.04	30.30	63.83	-1,296.49	-74.88	1,018.37	958.35	60.02	16.967	
8,650.00	8,634.56	8,740.55	8,710.51	30.23	30.47	74.60	-1,297.93	-45.75	1,008.41	948.06	60.35	16.710	
8,700.00	8,681.50	8,794.95	8,755.56	30.41	30.64	81.29	-1,299.76	-15.32	999.44	938.75	60.70	16.466	
8,750.00	8,726.94	8,846.81	8,796.54	30.58	30.83	85.70	-1,301.98	16.37	991.61	930.54	61.07	16.238	
8,800.00	8,770.54	8,890.61	8,829.73	30.75	31.00	88.84	-1,304.35	44.84	985.17	923.72	61.45	16.032	
8,850.00	8,811.96	8,962.04	8,881.18	30.92	31.32	90.88	-1,308.58	94.19	979.85	917.96	61.89	15.833	
8,900.00	8,850.90	9,050.63	8,938.04	31.09	31.81	92.07	-1,312.23	161.94	973.87	911.43	62.44	15.597	
8,950.00	8,887.04	9,118.70	8,975.84	31.26	32.28	93.05	-1,314.42	218.48	968.00	904.94	63.06	15.350	
9,000.00	8,920.13	9,196.54	9,012.52	31.44	32.94	93.55	-1,316.10	287.07	962.22	898.36	63.88	15.068	
9,050.00	8,949.91	9,278.59	9,043.64	31.62	33.74	93.81	-1,318.31	360.80	956.20	891.37	64.82	14.751	
9,100.00	8,976.15	9,330.92	9,060.95	31.82	34.38	94.25	-1,315.86	412.29	950.44	884.73	65.71	14.484	
9,150.00	8,998.65	9,375.72	9,072.39	32.03	34.95	94.61	-1,315.82	455.59	945.91	879.35	66.56	14.211	
9,200.00	9,017.24	9,421.62	9,081.78	32.27	35.58	94.79	-1,316.27	500.51	942.83	875.35	67.48	13.972	
9,250.00	9,031.78	9,491.19	9,092.73	32.52	36.62	94.72	-1,316.67	569.21	940.50	871.72	68.78	13.674	
9,300.00	9,042.16	9,575.94	9,099.29	32.79	38.01	94.51	-1,314.98	653.65	937.57	867.15	70.42	13.314	
9,350.00	9,048.30	9,631.50	9,100.21	33.07	38.98	94.52	-1,313.14	709.16	934.92	863.22	71.69	13.040	
9,400.00	9,050.16	9,684.29	9,100.32	33.37	39.95	94.62	-1,311.14	761.92	933.03	860.06	72.97	12.787	
9,450.00	9,050.16	9,729.78	9,100.24	33.71	40.83	94.62	-1,309.44	807.37	931.60	857.42	74.18	12.558	
9,500.00	9,050.16	9,772.66	9,100.85	34.04	41.68	94.67	-1,308.09	850.23	930.54	855.18	75.36	12.347	
9,550.00	9,050.16	9,823.57	9,102.28	34.43	42.72	94.76	-1,306.71	901.09	928.75	852.97	76.78	12.109	
9,600.00	9,050.16	9,881.71	9,103.70	34.82	43.94	94.85	-1,304.74	959.19	928.62	850.25	78.36	11.850	
9,650.00	9,050.16	9,924.51	9,104.60	35.26	44.88	94.91	-1,303.23	1,001.95	927.41	847.67	79.74	11.630	
9,700.00	9,050.16	9,965.46	9,105.48	35.70	45.79	94.97	-1,302.20	1,042.88	926.69	845.60	81.09	11.428	
9,750.00	9,050.16	10,009.12	9,106.43	36.19	46.78	95.03	-1,301.48	1,086.52	926.41	843.85	82.56	11.221	
9,777.80	9,050.16	10,034.41	9,106.98	36.46	47.36	95.07	-1,301.17	1,111.81	926.38	842.97	83.41	11.106 CC	
9,800.00	9,050.16	10,054.61	9,107.40	36.68	47.83	95.09	-1,300.87	1,132.00	926.40	842.31	84.09	11.017	
9,850.00	9,050.16	10,101.53	9,108.40	37.21	48.93	95.15	-1,300.66	1,178.91	926.61	840.90	85.71	10.811	
9,900.00	9,050.16	10,149.83	9,109.52	37.74	50.09	95.22	-1,300.43	1,227.20	926.93	839.55	87.38	10.608	

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

Anticollision Report

Company: WCDSC Permian NM
Project: Eddy County (NAD 83 NM Eastern)
Reference Site: Sec 27-T19S-R29E
Site Error: 5.00 ft
Reference Well: Turquoise PWU 27-61H
Well Error: 0.50 ft
Reference Wellbore: Wellbore #1
Reference Design: Permit Plan 3

Local Co-ordinate Reference: Well Turquoise PWU 27-61H
TVD Reference: RKB @ 3370.00ft
MD Reference: RKB @ 3370.00ft
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 27-T19S-R29E - Turquoise PWU 27-10H - Wellbore #1 - Wellbore #1													Offset Site Error: 5.00 ft
Survey Program: 154-MWD+IGRF													Offset Well Error: 0.50 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)					
9,950.00	9,050.16	10,195.88	9,110.68	38.30	51.21	95.29	-1,300.32	1,273.23	927.38	838.32	89.06	10.413	
10,000.00	9,050.16	10,240.00	9,111.73	38.87	52.30	95.35	-1,300.48	1,317.34	928.12	837.41	90.71	10.232	
10,050.00	9,050.16	10,282.60	9,112.70	39.48	53.36	95.41	-1,300.92	1,359.92	929.19	836.83	92.38	10.061	
10,100.00	9,050.16	10,322.51	9,113.74	40.09	54.37	95.46	-1,301.72	1,399.81	930.76	836.80	93.96	9.906	
10,150.00	9,050.16	10,363.00	9,114.98	40.72	55.39	95.53	-1,302.95	1,440.26	932.86	837.27	95.59	9.759	
10,200.00	9,050.16	10,399.48	9,116.22	41.36	56.34	95.60	-1,304.50	1,476.69	935.59	838.45	97.14	9.632	
10,250.00	9,050.16	10,436.47	9,117.57	42.03	57.30	95.66	-1,306.57	1,513.59	938.99	840.28	98.71	9.513	
10,300.00	9,050.16	10,479.85	9,119.20	42.70	58.43	95.74	-1,309.54	1,556.84	943.02	842.55	100.47	9.386	
10,350.00	9,050.16	10,533.37	9,120.74	43.39	59.84	95.81	-1,313.21	1,610.22	947.02	844.45	102.57	9.233	
10,400.00	9,050.16	10,587.39	9,121.70	44.09	61.28	95.84	-1,316.75	1,664.11	950.82	846.11	104.71	9.081	
10,450.00	9,050.16	10,641.72	9,122.28	44.81	62.74	95.85	-1,320.10	1,718.34	954.39	847.50	106.89	8.929	
10,500.00	9,050.16	10,698.96	9,122.53	45.53	64.29	95.85	-1,323.32	1,775.49	957.66	848.48	109.17	8.772	
10,550.00	9,050.16	10,757.62	9,122.55	46.27	65.89	95.83	-1,326.15	1,834.07	960.52	848.99	111.53	8.612	
10,600.00	9,050.16	10,819.57	9,122.90	47.02	67.59	95.83	-1,328.43	1,895.98	962.82	848.84	113.98	8.447	
10,650.00	9,050.16	10,877.88	9,123.61	47.78	69.21	95.88	-1,329.88	1,954.27	964.56	848.21	116.35	8.290	
10,700.00	9,050.16	10,934.40	9,124.12	48.54	70.78	95.88	-1,330.89	2,010.78	965.95	847.27	118.67	8.140	
10,750.00	9,050.16	10,996.20	9,124.02	49.33	72.52	95.87	-1,331.48	2,072.57	966.86	845.69	121.17	7.979	
10,800.00	9,050.16	11,054.81	9,122.92	50.11	74.17	95.80	-1,331.47	2,131.18	967.20	843.61	123.59	7.826	
10,850.00	9,050.16	11,109.52	9,121.27	50.91	75.72	95.70	-1,331.19	2,185.85	967.24	841.30	125.94	7.680	
10,900.00	9,050.16	11,162.50	9,119.45	51.71	77.22	95.60	-1,330.72	2,238.80	967.07	838.83	128.25	7.541	
10,950.00	9,050.16	11,214.84	9,118.23	52.52	78.71	95.52	-1,330.06	2,291.12	966.78	836.23	130.55	7.405	
11,000.00	9,050.16	11,266.75	9,117.41	53.33	80.20	95.48	-1,329.25	2,343.02	966.38	833.53	132.85	7.274	
11,050.00	9,050.16	11,319.22	9,116.63	54.16	81.71	95.43	-1,328.33	2,395.48	965.88	830.71	135.17	7.146	
11,100.00	9,050.16	11,383.17	9,114.86	54.99	83.55	95.34	-1,326.71	2,459.38	964.94	827.15	137.79	7.003	
11,150.00	9,050.16	11,440.98	9,112.18	55.83	85.22	95.19	-1,324.62	2,517.09	963.37	823.09	140.28	6.868	
11,200.00	9,050.16	11,493.84	9,109.99	56.67	86.74	95.06	-1,322.46	2,569.86	961.59	818.95	142.65	6.741	
11,250.00	9,050.16	11,541.38	9,108.44	57.52	88.12	94.98	-1,320.43	2,617.33	959.77	814.87	144.90	6.623	
11,300.00	9,050.16	11,587.20	9,107.50	58.38	89.46	94.93	-1,318.61	2,663.10	958.15	811.04	147.12	6.513	
11,350.00	9,050.16	11,624.48	9,107.20	59.24	90.54	94.92	-1,317.36	2,700.36	956.91	807.78	149.13	6.417	
11,399.21	9,050.16	11,657.55	9,107.46	60.09	91.51	94.94	-1,316.76	2,733.42	956.50	805.50	151.00	6.335	
11,400.00	9,050.16	11,658.08	9,107.47	60.10	91.53	94.94	-1,316.75	2,733.95	956.50	805.47	151.02	6.333	
11,450.00	9,050.16	11,694.00	9,108.35	60.97	92.58	94.99	-1,316.69	2,769.86	956.94	803.99	152.95	6.257	
11,500.00	9,050.16	11,737.51	9,110.10	61.85	93.86	95.09	-1,317.03	2,813.34	957.94	802.87	155.08	6.177	
11,550.00	9,050.16	11,784.20	9,112.68	62.73	95.24	95.24	-1,317.48	2,859.95	959.12	801.83	157.29	6.098	
11,600.00	9,050.16	11,830.49	9,115.73	63.61	96.61	95.41	-1,318.04	2,906.14	960.48	801.00	159.48	6.023	
11,650.00	9,050.16	11,876.72	9,118.91	64.50	97.97	95.60	-1,318.77	2,952.25	962.05	800.37	161.67	5.951	
11,700.00	9,050.16	11,937.22	9,123.18	65.39	99.76	95.84	-1,319.54	3,012.60	963.49	799.19	164.30	5.864	
11,750.00	9,050.16	11,998.28	9,127.41	66.29	101.58	96.09	-1,319.55	3,073.50	964.30	797.38	166.92	5.777	
11,800.00	9,050.16	12,056.40	9,131.07	67.19	103.30	96.30	-1,319.03	3,131.51	964.65	795.19	169.46	5.693	
11,850.00	9,050.16	12,103.17	9,133.80	68.09	104.69	96.47	-1,318.45	3,178.20	964.80	793.11	171.70	5.619	
11,900.00	9,050.16	12,146.12	9,136.38	68.99	105.97	96.62	-1,318.20	3,221.07	965.30	791.48	173.83	5.553	
11,950.00	9,050.16	12,193.15	9,139.23	69.91	107.38	96.78	-1,318.20	3,268.01	966.11	790.04	176.07	5.487	
12,000.00	9,050.16	12,243.43	9,141.91	70.82	108.88	96.94	-1,318.27	3,318.22	966.95	788.52	178.42	5.419	
12,050.00	9,050.16	12,291.95	9,144.16	71.73	110.33	97.06	-1,318.40	3,366.69	967.80	787.07	180.73	5.355	
12,100.00	9,050.16	12,339.67	9,146.23	72.65	111.76	97.18	-1,318.64	3,414.36	968.77	785.75	183.02	5.293	
12,150.00	9,050.16	12,387.18	9,148.22	73.57	113.19	97.29	-1,319.00	3,461.83	969.86	784.55	185.31	5.234	
12,200.00	9,050.16	12,434.59	9,150.22	74.50	114.62	97.40	-1,319.48	3,509.20	971.08	783.49	187.59	5.177	
12,250.00	9,050.16	12,484.10	9,152.27	75.42	116.11	97.51	-1,320.09	3,558.66	972.40	782.45	189.95	5.119	
12,300.00	9,050.16	12,534.46	9,154.10	76.35	117.62	97.61	-1,320.72	3,608.98	973.71	781.38	192.33	5.063	
12,350.00	9,050.16	12,589.38	9,155.81	77.28	119.28	97.70	-1,321.31	3,663.87	974.90	780.03	194.87	5.003	
12,400.00	9,050.16	12,645.12	9,157.27	78.22	120.96	97.78	-1,321.63	3,719.59	975.80	778.37	197.43	4.942 Alert	
12,450.00	9,050.16	12,699.80	9,158.45	79.15	122.62	97.85	-1,321.67	3,774.26	976.44	776.47	199.97	4.883 Alert	

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

Anticollision Report

Company: WCDSC Permian NM
Project: Eddy County (NAD 83 NM Eastern)
Reference Site: Sec 27-T19S-R29E
Site Error: 5.00 ft
Reference Well: Turquoise PWU 27-61H
Well Error: 0.50 ft
Reference Wellbore: Wellbore #1
Reference Design: Permit Plan 3

Local Co-ordinate Reference: Well Turquoise PWU 27-61H
TVD Reference: RKB @ 3370.00ft
MD Reference: RKB @ 3370.00ft
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 27-T19S-R29E - Turquoise PWU 27-10H - Wellbore #1 - Wellbore #1													Offset Site Error:	5.00 ft
Survey Program: 154-MWD+IGRF													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 Tooffset (ft)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Separation (ft)	Factor		
12,500.00	9,050.16	12,751.77	9,159.37	80.09	124.19	97.90	-1,321.52	3,826.22	976.86	774.43	202.43	4.826	Alert	
12,550.00	9,050.16	12,799.94	9,160.14	81.03	125.64	97.94	-1,321.43	3,874.38	977.32	772.53	204.79	4.772	Alert	
12,600.00	9,050.16	12,850.56	9,160.81	81.97	127.18	97.97	-1,321.42	3,925.00	977.85	770.61	207.23	4.719	Alert	
12,650.00	9,050.16	12,903.84	9,160.91	82.92	128.79	97.98	-1,321.34	3,978.28	978.24	768.47	209.76	4.684	Alert	
12,700.00	9,050.16	12,956.84	9,160.57	83.86	130.40	97.96	-1,321.16	4,031.27	978.47	766.17	212.30	4.609	Alert	
12,750.00	9,050.16	13,009.71	9,160.51	84.81	132.00	97.95	-1,320.78	4,084.14	978.55	763.72	214.82	4.555	Alert	
12,800.00	9,050.16	13,062.67	9,160.71	85.76	133.61	97.96	-1,320.20	4,137.10	978.48	761.14	217.34	4.502	Alert	
12,850.00	9,050.16	13,115.63	9,161.10	86.71	135.22	97.99	-1,319.44	4,190.05	978.26	758.41	219.86	4.450	Alert	
12,880.70	9,050.16	13,140.57	9,161.36	87.29	135.98	98.00	-1,319.13	4,215.00	978.20	757.00	221.20	4.422	Alert	
12,900.00	9,050.16	13,157.16	9,161.57	87.66	136.48	98.02	-1,318.98	4,231.58	978.23	756.16	222.07	4.405	Alert	
12,950.00	9,050.16	13,200.13	9,162.21	88.61	137.79	98.05	-1,318.77	4,274.54	978.55	754.24	224.30	4.363	Alert	
13,000.00	9,050.16	13,248.97	9,162.95	89.57	139.28	98.09	-1,318.76	4,323.38	979.08	752.38	226.70	4.319	Alert	
13,050.00	9,050.16	13,298.09	9,163.47	90.53	140.77	98.12	-1,318.82	4,372.50	979.66	750.54	229.12	4.278	Alert	
13,100.00	9,050.16	13,339.91	9,163.86	91.49	142.05	98.13	-1,319.07	4,414.31	980.47	749.15	231.32	4.239	Alert	
13,150.00	9,050.16	13,381.87	9,164.33	92.45	143.33	98.15	-1,319.66	4,456.27	981.70	748.18	233.52	4.204	Alert	
13,200.00	9,050.16	13,436.05	9,164.88	93.41	144.99	98.17	-1,320.61	4,510.43	983.09	746.98	236.11	4.164	Alert	
13,250.00	9,050.16	13,493.84	9,165.14	94.37	146.75	98.18	-1,321.24	4,568.02	984.11	745.29	238.82	4.121	Alert	
13,300.00	9,050.16	13,548.99	9,164.94	95.33	148.44	98.16	-1,321.56	4,623.36	984.81	743.35	241.46	4.079	Alert	
13,350.00	9,050.16	13,600.87	9,164.28	96.30	150.02	98.12	-1,321.67	4,675.25	985.27	741.26	244.01	4.038	Alert	
13,400.00	9,050.16	13,648.36	9,163.36	97.26	151.48	98.06	-1,321.87	4,722.73	985.79	739.35	246.44	4.000	Alert	
13,450.00	9,050.16	13,701.31	9,162.05	98.23	153.10	97.98	-1,322.20	4,775.66	986.38	737.33	249.05	3.961	Alert	
13,500.00	9,050.16	13,760.16	9,160.58	99.20	154.90	97.89	-1,322.14	4,834.49	986.60	734.77	251.83	3.918	Alert	
13,521.89	9,050.16	13,785.93	9,159.96	99.62	155.69	97.85	-1,321.94	4,880.25	986.55	733.51	253.04	3.899	Alert	
13,550.00	9,050.16	13,809.59	9,159.35	100.17	156.41	97.82	-1,321.84	4,883.90	986.57	732.24	254.33	3.879	Alert	
13,600.00	9,050.16	13,857.56	9,158.10	101.14	157.88	97.74	-1,321.65	4,931.86	986.65	729.85	256.80	3.842	Alert	
13,650.00	9,050.16	13,904.58	9,156.84	102.11	159.32	97.67	-1,321.58	4,978.86	986.85	727.60	259.24	3.807	Alert	
13,700.00	9,050.16	13,951.49	9,155.58	103.08	160.76	97.59	-1,321.67	5,025.75	987.20	725.52	261.68	3.773	Alert	
13,750.00	9,050.16	13,999.11	9,154.25	104.06	162.22	97.51	-1,321.89	5,073.35	987.70	723.56	264.15	3.739	Alert	
13,800.00	9,050.16	14,046.80	9,152.80	105.03	163.69	97.42	-1,322.25	5,121.02	988.32	721.70	266.61	3.707	Alert	
13,850.00	9,050.16	14,097.70	9,151.24	106.01	165.25	97.33	-1,322.68	5,171.89	988.98	719.79	269.19	3.674	Alert	
13,900.00	9,050.16	14,148.84	9,149.82	106.98	166.82	97.24	-1,323.01	5,223.02	989.58	717.81	271.77	3.641	Alert	
13,950.00	9,050.16	14,198.69	9,148.48	107.96	168.35	97.15	-1,323.31	5,272.84	990.16	715.86	274.30	3.610	Alert	
13,993.84	9,050.16	14,223.00	9,147.82	108.82	169.10	97.11	-1,323.46	5,297.15	990.86	714.99	275.87	3.592	Alert, ES, SF	

Anticollision Report

Company: WCDSC Permian NM
Project: Eddy County (NAD 83 NM Eastern)
Reference Site: Sec 27-T19S-R29E
Site Error: 5.00 ft
Reference Well: Turquoise PWU 27-61H
Well Error: 0.50 ft
Reference Wellbore: Wellbore #1
Reference Design: Permit Plan 3

Local Co-ordinate Reference: Well Turquoise PWU 27-61H
TVD Reference: RKB @ 3370.00ft
MD Reference: RKB @ 3370.00ft
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 27-T19S-R29E - Turquoise PWU 27-5H - Wellbore #1 - Wellbore #1												Offset Site Error:	5.00 ft
Survey Program: 100-NS-Gyro-DP, 6595-MWD+IGRF												Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Minimum Separation (ft)	Separation Factor	Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +W-S (ft)	+E-W (ft)					
5,950.00	5,945.48	11,814.00	7,066.47	20.64	155.11	-121.47	643.37	615.82	1,479.67	1,371.85	107.82	13.724	
6,000.00	5,995.38	11,814.00	7,066.47	20.81	155.11	-121.47	643.37	615.82	1,442.74	1,332.30	110.43	13.064	
6,050.00	6,045.29	11,814.00	7,066.47	20.99	155.11	-121.47	643.37	615.82	1,406.61	1,293.47	113.15	12.432	
6,100.00	6,095.19	11,814.00	7,066.47	21.16	155.11	-121.47	643.37	615.82	1,371.36	1,255.41	115.95	11.827	
6,150.00	6,145.10	11,814.00	7,066.47	21.34	155.11	-121.47	643.37	615.82	1,337.05	1,218.20	118.85	11.250	
6,200.00	6,195.00	11,814.00	7,066.47	21.51	155.11	-121.47	643.37	615.82	1,303.75	1,181.93	121.83	10.702	
6,250.00	6,244.91	11,814.00	7,066.47	21.69	155.11	-121.47	643.37	615.82	1,271.55	1,146.67	124.88	10.182	
6,300.00	6,294.81	11,814.00	7,066.47	21.86	155.11	-121.47	643.37	615.82	1,240.53	1,112.53	128.00	9.682	
6,350.00	6,344.71	11,814.00	7,066.47	22.04	155.11	-121.47	643.37	615.82	1,210.78	1,079.61	131.17	9.231	
6,400.00	6,394.62	11,814.00	7,066.47	22.21	155.11	-121.47	643.37	615.82	1,182.39	1,048.02	134.37	8.800	
6,450.00	6,444.52	11,814.00	7,066.47	22.39	155.11	-121.47	643.37	615.82	1,155.47	1,017.89	137.59	8.398	
6,500.00	6,494.43	11,814.00	7,066.47	22.57	155.11	-121.47	643.37	615.82	1,130.13	989.34	140.79	8.027	
6,550.00	6,544.33	11,814.00	7,066.47	22.74	155.11	-121.47	643.37	615.82	1,106.46	962.50	143.96	7.686	
6,600.00	6,594.24	11,814.00	7,066.47	22.92	155.11	-121.47	643.37	615.82	1,084.59	937.53	147.06	7.375	
6,650.00	6,644.14	11,814.00	7,066.47	23.09	155.11	-121.47	643.37	615.82	1,064.61	914.57	150.05	7.095	
6,700.00	6,694.04	11,814.00	7,066.47	23.27	155.11	-121.47	643.37	615.82	1,046.65	893.75	152.89	6.846	
6,750.00	6,743.95	11,814.00	7,066.47	23.45	155.11	-121.47	643.37	615.82	1,030.80	875.24	155.56	6.626	
6,800.00	6,793.85	11,814.00	7,066.47	23.62	155.11	-121.47	643.37	615.82	1,017.16	859.18	158.00	6.438	
6,850.00	6,843.76	11,814.00	7,066.47	23.80	155.11	-121.47	643.37	615.82	1,005.82	845.65	160.18	6.279	
6,900.00	6,893.66	11,814.00	7,066.47	23.98	155.11	-121.47	643.37	615.82	996.87	834.81	162.06	6.151	
6,950.00	6,943.57	11,814.00	7,066.47	24.15	155.11	-121.47	643.37	615.82	990.36	826.76	163.60	6.053	
7,000.00	6,993.47	11,814.00	7,066.47	24.33	155.11	-121.47	643.37	615.82	986.35	821.56	164.80	5.985	
7,050.00	7,043.37	11,814.00	7,066.47	24.51	155.11	-121.47	643.37	615.82	984.86	819.25	165.61	5.947	
7,054.30	7,047.67	11,814.00	7,066.47	24.52	155.11	-121.47	643.37	615.82	984.86	819.19	165.66	5.945 CC, ES	
7,100.00	7,093.28	11,814.00	7,066.47	24.68	155.11	-121.47	643.37	615.82	985.92	819.87	166.04	5.938 SF	
7,150.00	7,143.18	11,814.00	7,066.47	24.86	155.11	-121.47	643.37	615.82	989.49	823.40	166.09	5.958	
7,200.00	7,193.09	11,814.00	7,066.47	25.04	155.11	-121.47	643.37	615.82	995.57	829.81	165.76	6.006	
7,250.00	7,242.99	11,814.00	7,066.47	25.21	155.11	-121.47	643.37	615.82	1,004.11	839.04	165.07	6.083	
7,300.00	7,292.90	11,814.00	7,066.47	25.39	155.11	-121.47	643.37	615.82	1,015.04	851.00	164.04	6.188	
7,350.00	7,342.80	11,814.00	7,066.47	25.57	155.11	-121.47	643.37	615.82	1,028.29	865.58	162.71	6.320	
7,400.00	7,392.70	11,814.00	7,066.47	25.75	155.11	-121.47	643.37	615.82	1,043.77	882.66	161.11	6.479	
7,450.00	7,442.61	11,814.00	7,066.47	25.92	155.11	-121.47	643.37	615.82	1,061.38	902.10	159.27	6.664	
7,500.00	7,492.51	11,814.00	7,066.47	26.10	155.11	-121.47	643.37	615.82	1,081.01	923.77	157.24	6.875	
7,550.00	7,542.42	11,814.00	7,066.47	26.28	155.11	-121.47	643.37	615.82	1,102.57	947.52	155.04	7.111	
7,600.00	7,592.32	11,814.00	7,066.47	26.46	155.11	-121.47	643.37	615.82	1,125.93	973.21	152.73	7.372	
7,650.00	7,642.23	11,814.00	7,066.47	26.63	155.11	-121.47	643.37	615.82	1,151.00	1,000.68	150.31	7.657	
7,700.00	7,692.13	11,814.00	7,066.47	26.81	155.11	-121.47	643.37	615.82	1,177.65	1,029.81	147.84	7.966	
7,750.00	7,742.03	11,814.00	7,066.47	26.99	155.11	-121.47	643.37	615.82	1,205.79	1,060.46	145.33	8.297	
7,800.00	7,791.94	11,814.00	7,066.47	27.17	155.11	-121.47	643.37	615.82	1,235.32	1,092.50	142.81	8.650	
7,850.00	7,841.84	11,814.00	7,066.47	27.35	155.11	-121.47	643.37	615.82	1,266.13	1,125.83	140.30	9.024	
7,900.00	7,891.75	11,814.00	7,066.47	27.52	155.11	-121.47	643.37	615.82	1,298.13	1,160.32	137.81	9.420	
7,950.00	7,941.65	11,814.00	7,066.47	27.70	155.11	-121.47	643.37	615.82	1,331.25	1,195.89	135.36	9.835	
8,000.00	7,991.56	11,814.00	7,066.47	27.88	155.11	-121.47	643.37	615.82	1,365.39	1,232.43	132.96	10.269	
8,050.00	8,041.46	11,814.00	7,066.47	28.06	155.11	-121.47	643.37	615.82	1,400.48	1,269.87	130.61	10.723	
8,100.00	8,091.36	11,814.00	7,066.47	28.24	155.11	-121.49	643.37	615.82	1,436.47	1,308.14	128.33	11.194	
8,150.00	8,141.23	11,814.00	7,066.47	28.41	155.11	-121.38	643.37	615.82	1,473.45	1,347.31	126.15	11.681	

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

Anticollision Report

Company: WCDSC Permian NM
Project: Eddy County (NAD 83 NM Eastern)
Reference Site: Sec 27-T19S-R29E
Site Error: 5.00 ft
Reference Well: Turquoise PWU 27-61H
Well Error: 0.50 ft
Reference Wellbore: Wellbore #1
Reference Design: Permit Plan 3

Local Co-ordinate Reference: Well Turquoise PWU 27-61H
TVD Reference: RKB @ 3370.00ft
MD Reference: RKB @ 3370.00ft
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 27-T19S-R29E - Turquoise PWU 27-1H - Pilot Wellbore - Pilot Wellbore													Offset Site Error:	5.00 ft
Survey Program: 100-MWD+IGRF													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Minimum Separation (ft)	Separation Factor	Warning			
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N-S (ft)	+E-W (ft)				Between Centres (ft)	Between Ellipses (ft)	
0.00	0.00	0.00	0.00	0.50	0.50	81.78	87.54	605.86	612.18					
50.00	50.00	43.17	43.17	0.50	0.50	81.78	87.49	605.92	612.20	1.01		608.918		
100.00	100.00	91.87	91.87	0.52	0.52	81.80	87.31	606.11	612.37	1.03		592.868		
150.00	150.00	140.83	140.83	0.59	0.57	81.83	87.06	606.41	612.64	1.16		528.287		
200.00	200.00	190.13	190.13	0.70	0.68	81.85	86.86	606.77	612.97	1.38		444.105		
250.00	250.00	238.51	238.50	0.84	0.81	81.87	86.72	607.19	613.38	1.64		373.326		
300.00	300.00	286.65	286.64	0.99	0.95	81.89	86.63	607.76	613.95	1.93		317.485		
350.00	350.00	335.99	335.98	1.15	1.10	81.90	86.59	608.44	614.63	2.25		273.706		
400.00	400.00	385.79	385.78	1.31	1.26	81.91	86.60	609.14	615.33	2.57		239.408		
450.00	450.00	435.28	435.25	1.48	1.43	81.92	86.63	609.86	616.06	2.90		212.315		
500.00	500.00	484.63	484.60	1.65	1.59	81.92	86.64	610.64	616.83	3.24		190.503		
550.00	550.00	534.53	534.49	1.82	1.76	81.93	86.65	611.46	617.65	3.58		172.534		
600.00	600.00	584.68	584.64	1.99	1.94	81.94	86.73	612.26	618.45	3.93		157.549		
650.00	650.00	634.30	634.25	2.16	2.11	81.94	86.85	613.05	619.26	4.27		144.976		
700.00	700.00	683.68	683.62	2.34	2.28	81.94	86.92	613.89	620.11	4.62		134.274		
750.00	750.00	732.88	732.81	2.51	2.46	81.95	86.97	614.78	621.02	4.97		125.058		
800.00	800.00	781.99	781.91	2.69	2.63	81.95	87.04	615.74	621.99	5.31		117.044		
850.00	850.00	831.38	831.30	2.87	2.80	81.96	87.15	616.76	623.03	5.66		109.990		
900.00	900.00	880.94	880.84	3.04	2.98	81.96	87.26	617.83	624.11	6.02		103.743		
950.00	950.00	929.82	929.71	3.22	3.15	81.96	87.38	618.92	625.24	6.37		98.223		
1,000.00	1,000.00	978.27	978.15	3.40	3.32	81.96	87.56	620.12	626.48	6.71		93.310		
1,050.00	1,050.00	1,025.45	1,025.31	3.58	3.49	81.96	87.78	621.41	627.87	7.06		88.956		
1,100.00	1,100.00	1,071.59	1,071.42	3.75	3.66	81.96	87.97	622.95	629.56	7.40		85.088		
1,150.00	1,150.00	1,118.67	1,118.47	3.93	3.83	81.97	88.14	624.80	631.53	7.74		81.559		
1,200.00	1,200.00	1,167.32	1,167.07	4.11	4.00	81.98	88.30	626.86	633.64	8.09		78.287		
1,250.00	1,250.00	1,217.45	1,217.15	4.29	4.18	82.00	88.44	629.06	635.84	8.45		75.244		
1,300.00	1,300.00	1,270.68	1,270.34	4.46	4.38	82.00	88.66	631.21	637.86	8.82		72.328		
1,350.00	1,350.00	1,323.20	1,322.82	4.64	4.57	82.00	88.95	633.05	639.64	9.18		69.640		
1,400.00	1,400.00	1,374.84	1,374.44	4.82	4.75	82.00	89.22	634.71	641.27	9.55		67.165		
1,450.00	1,450.00	1,426.63	1,426.20	5.00	4.94	82.00	89.47	636.24	642.76	9.91		64.853		
1,500.00	1,500.00	1,478.55	1,478.11	5.18	5.13	81.99	89.72	637.62	644.11	10.27		62.687		
1,550.00	1,550.00	1,530.54	1,530.08	5.36	5.31	81.98	89.98	638.84	645.31	10.64		60.654		
1,600.00	1,600.00	1,582.58	1,582.11	5.53	5.50	81.97	90.25	639.89	646.34	11.00		58.741		
1,650.00	1,650.00	1,633.97	1,633.49	5.71	5.68	81.98	90.52	640.78	647.24	11.37		56.950		
1,700.00	1,700.00	1,685.02	1,684.53	5.89	5.86	81.95	90.78	641.58	648.05	11.73		55.267		
1,750.00	1,750.00	1,735.15	1,734.66	6.07	6.04	81.93	91.03	642.31	648.80	12.08		53.695		
1,800.00	1,800.00	1,784.91	1,784.41	6.25	6.22	81.92	91.27	643.05	649.57	12.44		52.220		
1,850.00	1,850.00	1,837.00	1,836.49	6.43	6.41	81.91	91.52	643.77	650.29	12.80		50.791		
1,900.00	1,900.00	1,890.11	1,889.60	6.61	6.60	81.90	91.74	644.27	650.79	13.17		49.410		
1,950.00	1,950.00	1,940.67	1,940.16	6.78	6.78	81.88	91.93	644.59	651.13	13.53		48.127		
2,000.00	2,000.00	1,990.65	1,990.14	6.96	6.95	81.87	92.17	644.89	651.46	13.89		46.917		
2,050.00	2,050.00	2,041.22	2,040.71	7.14	7.13	81.85	92.43	645.18	651.78	14.24		45.761		
2,100.00	2,100.00	2,091.93	2,091.42	7.32	7.31	81.83	92.66	645.42	652.04	14.60		44.656		
2,150.00	2,150.00	2,142.23	2,141.72	7.50	7.49	81.82	92.86	645.61	652.26	14.96		43.606		
2,200.00	2,200.00	2,192.45	2,191.94	7.68	7.67	81.80	93.05	645.80	652.47	15.31		42.604		
2,250.00	2,250.00	2,242.39	2,241.87	7.86	7.84	81.79	93.24	645.97	652.67	15.67		41.651		
2,300.00	2,300.00	2,292.27	2,291.76	8.04	8.02	81.77	93.47	646.14	652.87	16.02		40.741		
2,350.00	2,350.00	2,342.73	2,342.21	8.22	8.20	81.75	93.72	646.30	653.07	16.38		39.866		
2,400.00	2,400.00	2,393.29	2,392.77	8.39	8.37	81.73	93.94	646.43	653.22	16.74		39.026		
2,450.00	2,450.00	2,443.13	2,442.62	8.57	8.55	81.71	94.16	646.53	653.36	17.09		38.225		
2,500.00	2,500.00	2,492.87	2,492.35	8.75	8.72	81.69	94.40	646.65	653.51	17.45		37.458		
2,550.00	2,550.00	2,543.36	2,542.84	8.93	8.90	81.67	94.67	646.77	653.66	17.80		36.719		

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

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Turquoise PWU 27-61H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3370.00ft
Reference Site:	Sec 27-T19S-R29E	MD Reference:	RKB @ 3370.00ft
Site Error:	5.00 ft	North Reference:	Grid
Reference Well:	Turquoise PWU 27-61H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 3	Offset TVD Reference:	Offset Datum

Offset Design Sec 27-T19S-R29E - Turquoise PWU 27-1H - Pilot Wellbore - Pilot Wellbore													Offset Site Error:	5.00 ft
Survey Program: 100-MWD+IGRF													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance						Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
2,600.00	2,600.00	2,593.98	2,593.46	9.11	9.08	81.65	94.97	646.83	653.76	635.81	18.16	36.005		
2,650.00	2,650.00	2,644.59	2,644.07	9.29	9.25	81.62	95.29	646.84	653.82	635.31	18.51	35.319		
2,700.00	2,700.00	2,695.19	2,694.67	9.47	9.43	81.59	95.58	646.81	653.83	634.96	18.87	34.658		
2,750.00	2,750.00	2,746.01	2,745.49	9.65	9.60	81.57	95.85	646.72	653.79	634.57	19.22	34.021		
2,800.00	2,800.00	2,796.86	2,796.34	9.83	9.77	81.55	96.09	646.57	653.68	634.11	19.57	33.403		
2,850.00	2,850.00	2,847.89	2,847.36	10.01	9.94	81.52	96.33	646.35	653.50	633.58	19.92	32.807		
2,900.00	2,900.00	2,898.92	2,898.40	10.18	10.11	81.50	96.59	646.05	653.24	632.97	20.27	32.227		
2,950.00	2,950.00	2,948.95	2,948.43	10.36	10.28	81.47	96.85	645.71	652.94	632.32	20.62	31.670		
3,000.00	3,000.00	2,998.96	2,998.43	10.54	10.45	81.45	97.08	645.37	652.64	631.68	20.96	31.131		
3,050.00	3,050.00	3,049.67	3,049.14	10.72	10.62	81.42	97.27	645.00	652.31	631.00	21.31	30.607		
3,100.00	3,100.00	3,100.40	3,099.88	10.90	10.79	81.41	97.39	644.59	651.93	630.27	21.66	30.097		
3,150.00	3,150.00	3,151.71	3,151.17	11.08	10.96	81.39	97.48	644.10	651.47	629.46	22.01	29.597		
3,200.00	3,200.00	3,203.02	3,202.48	11.26	11.13	81.38	97.58	643.50	650.90	628.54	22.36	29.109		
3,250.00	3,250.00	3,252.25	3,251.71	11.44	11.29	81.37	97.63	642.91	650.33	627.62	22.70	28.643		
3,300.00	3,300.00	3,301.62	3,301.08	11.62	11.46	81.36	97.61	642.39	649.80	626.75	23.05	28.192		
3,350.00	3,350.00	3,351.62	3,351.07	11.80	11.62	81.36	97.54	641.89	649.29	625.89	23.40	27.752		
3,400.00	3,400.00	3,401.62	3,401.07	11.97	11.79	81.36	97.46	641.39	648.78	625.04	23.74	27.326		
3,450.00	3,450.00	3,451.61	3,451.06	12.15	11.96	-71.82	97.37	640.89	648.19	624.11	24.08	26.918		
3,500.00	3,499.99	3,501.60	3,501.04	12.32	12.13	-71.90	97.29	640.39	647.43	623.01	24.42	26.514		
3,550.00	3,549.97	3,551.42	3,550.86	12.48	12.29	-72.02	97.22	639.90	646.51	621.76	24.75	26.122		
3,600.00	3,599.94	3,601.23	3,600.67	12.64	12.46	-72.20	97.20	639.41	645.43	620.35	25.08	25.735		
3,650.00	3,649.88	3,651.46	3,650.89	12.80	12.63	-72.43	97.21	638.90	644.19	618.78	25.41	25.349		
3,700.00	3,699.79	3,701.65	3,701.09	12.97	12.80	-72.71	97.24	638.37	642.79	617.04	25.75	24.966		
3,750.00	3,749.69	3,750.71	3,750.14	13.13	12.97	-72.98	97.30	637.87	641.38	615.30	26.08	24.595		
3,800.00	3,799.60	3,799.79	3,799.22	13.30	13.14	-73.26	97.42	637.42	640.04	613.63	26.41	24.236		
3,850.00	3,849.50	3,849.84	3,849.27	13.46	13.31	-73.54	97.57	636.98	638.75	612.01	26.75	23.883		
3,900.00	3,899.40	3,899.89	3,899.32	13.63	13.48	-73.83	97.70	636.53	637.46	610.38	27.08	23.538		
3,950.00	3,949.31	3,949.90	3,949.32	13.79	13.65	-74.12	97.83	636.07	636.18	608.76	27.42	23.202		
4,000.00	3,999.21	3,999.91	3,999.33	13.96	13.82	-74.40	97.95	635.60	634.90	607.14	27.76	22.874		
4,050.00	4,049.12	4,049.48	4,048.90	14.12	13.99	-74.69	98.08	635.14	633.64	605.55	28.09	22.555		
4,100.00	4,099.02	4,099.05	4,098.47	14.29	14.16	-74.98	98.24	634.70	632.43	604.00	28.43	22.244		
4,150.00	4,148.93	4,148.89	4,148.31	14.46	14.34	-75.28	98.44	634.26	631.24	602.47	28.77	21.941		
4,200.00	4,198.83	4,198.73	4,198.14	14.62	14.51	-75.58	98.69	633.81	630.08	600.97	29.11	21.645		
4,250.00	4,248.73	4,248.30	4,245.70	14.79	14.67	-75.88	99.04	633.45	629.02	599.58	29.45	21.362		
4,300.00	4,298.64	4,293.78	4,293.19	14.96	14.84	-76.19	99.57	633.23	628.17	598.39	29.78	21.094		
4,350.00	4,348.54	4,341.26	4,340.66	15.13	15.01	-76.51	100.24	633.16	627.54	597.42	30.12	20.837		
4,400.00	4,398.45	4,398.72	4,398.11	15.30	15.18	-76.84	101.04	633.25	627.11	596.66	30.45	20.593		
4,450.00	4,448.35	4,437.52	4,436.90	15.47	15.35	-77.18	101.92	633.48	626.86	596.06	30.79	20.356		
4,500.00	4,498.26	4,486.74	4,486.12	15.64	15.52	-77.52	102.77	633.78	626.68	595.54	31.14	20.126		
4,550.00	4,548.16	4,536.80	4,536.17	15.80	15.70	-77.87	103.68	634.09	626.55	595.07	31.48	19.900		
4,600.00	4,598.06	4,587.11	4,586.46	15.97	15.88	-78.25	104.93	634.28	626.42	594.58	31.83	19.678		
4,650.00	4,647.97	4,637.07	4,636.40	16.14	16.06	-78.66	106.46	634.36	626.28	594.10	32.18	19.462		
4,700.00	4,697.87	4,686.90	4,686.19	16.31	16.23	-79.09	108.16	634.39	626.17	593.64	32.53	19.251		
4,750.00	4,747.78	4,736.41	4,735.67	16.49	16.41	-79.53	110.06	634.36	626.10	593.23	32.87	19.046		
4,774.27	4,772.00	4,760.38	4,759.62	16.57	16.49	-79.76	111.10	634.32	626.10	593.06	33.04	18.949		
4,800.00	4,797.68	4,785.76	4,784.97	16.66	16.58	-80.00	112.30	634.26	626.11	592.89	33.22	18.848		
4,850.00	4,847.59	4,835.94	4,835.09	16.83	16.76	-80.51	114.84	634.08	626.16	592.59	33.57	18.653		
4,900.00	4,897.49	4,886.47	4,885.55	17.00	16.94	-81.03	117.43	633.82	626.20	592.28	33.92	18.462		
4,950.00	4,947.39	4,937.73	4,936.74	17.17	17.12	-81.55	120.03	633.48	626.20	591.93	34.27	18.271		
5,000.00	4,997.30	4,989.28	4,988.23	17.34	17.30	-82.06	122.50	633.02	626.11	591.48	34.63	18.081		
5,050.00	5,047.20	5,039.88	5,038.78	17.51	17.48	-82.56	124.80	632.49	625.95	590.97	34.98	17.895		
5,100.00	5,097.11	5,090.23	5,089.08	17.68	17.66	-83.05	127.05	631.92	625.78	590.45	35.33	17.712		

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

Anticollision Report

Company: WCDSC Permian NM
 Project: Eddy County (NAD 83 NM Eastern)
 Reference Site: Sec 27-T19S-R29E
 Site Error: 5.00 ft
 Reference Well: Turquoise PWU 27-61H
 Well Error: 0.50 ft
 Reference Wellbore: Wellbore #1
 Reference Design: Permit Plan 3

Local Co-ordinate Reference: Well Turquoise PWU 27-61H
 TVD Reference: RKB @ 3370.00ft
 MD Reference: RKB @ 3370.00ft
 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 27-T19S-R29E - Turquoise PWU 27-1H - Pilot Wellbore - Pilot Wellbore													Offset Site Error: 5.00 ft
Survey Program: 100-MWD+IGRF													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	5,147.01	5,140.62	5,139.41	17.86	17.84	-83.55	129.27	631.31	625.60	589.92	35.68	17.533	
5,200.00	5,196.92	5,191.02	5,189.76	18.03	18.02	-84.04	131.45	630.65	625.42	589.39	36.03	17.356	
5,250.00	5,246.82	5,241.32	5,240.01	18.20	18.20	-84.52	133.49	629.98	625.23	588.84	36.39	17.183	
5,300.00	5,296.72	5,291.64	5,290.30	18.37	18.37	-84.97	135.27	629.38	625.04	588.30	36.74	17.014	
5,350.00	5,346.63	5,341.49	5,340.12	18.55	18.55	-85.41	136.91	628.79	624.85	587.76	37.09	16.848	
5,400.00	5,396.53	5,391.21	5,389.80	18.72	18.73	-85.87	138.69	628.16	624.70	587.27	37.44	16.686	
5,450.00	5,446.44	5,440.66	5,439.21	18.89	18.90	-86.33	140.56	627.49	624.61	586.82	37.79	16.530	
5,493.50	5,489.85	5,483.63	5,482.15	19.05	19.06	-86.73	142.20	626.93	624.58	586.49	38.09	16.397	
5,500.00	5,496.34	5,490.06	5,488.57	19.07	19.08	-86.79	142.44	626.84	624.59	586.45	38.14	16.377	
5,550.00	5,546.25	5,539.50	5,537.97	19.24	19.25	-87.25	144.36	626.21	624.63	586.14	38.49	16.230	
5,600.00	5,596.15	5,588.95	5,587.37	19.42	19.43	-87.72	146.35	625.58	624.73	585.90	38.84	16.086	
5,650.00	5,646.05	5,639.43	5,637.81	19.59	19.61	-88.21	148.45	624.88	624.87	585.68	39.19	15.944	
5,700.00	5,695.96	5,690.19	5,688.52	19.76	19.79	-88.71	150.66	624.05	624.98	585.43	39.55	15.804	
5,750.00	5,745.86	5,741.78	5,740.04	19.94	19.97	-89.23	152.95	623.05	625.02	585.12	39.91	15.663	
5,800.00	5,795.77	5,793.55	5,791.74	20.11	20.16	-89.76	155.22	621.87	624.95	584.88	40.26	15.521	
5,850.00	5,845.67	5,844.18	5,842.31	20.29	20.34	-90.28	157.43	620.58	624.80	584.18	40.62	15.382	
5,900.00	5,895.58	5,894.64	5,892.70	20.46	20.52	-90.81	159.65	619.22	624.64	583.66	40.97	15.245	
5,950.00	5,945.48	5,944.64	5,942.64	20.64	20.70	-91.33	161.89	617.79	624.48	583.15	41.33	15.111	
6,000.00	5,995.38	5,994.57	5,992.49	20.81	20.88	-91.87	164.22	616.29	624.36	582.67	41.68	14.979	
6,050.00	6,045.29	6,044.60	6,042.44	20.99	21.06	-92.41	166.61	614.72	624.26	582.23	42.03	14.851	
6,100.00	6,095.19	6,094.64	6,092.39	21.16	21.23	-92.96	169.05	613.10	624.19	581.80	42.39	14.725	
6,150.00	6,145.10	6,148.90	6,146.55	21.34	21.43	-93.57	171.67	611.11	624.00	581.24	42.76	14.594	
6,200.00	6,195.00	6,203.64	6,201.18	21.51	21.62	-94.19	174.18	608.68	623.46	580.34	43.12	14.458	
6,250.00	6,244.91	6,253.11	6,250.54	21.69	21.80	-94.76	176.39	606.29	622.80	579.32	43.48	14.325	
6,300.00	6,294.81	6,302.90	6,300.22	21.86	21.98	-95.33	178.61	603.88	622.18	578.35	43.83	14.195	
6,350.00	6,344.71	6,351.36	6,348.59	22.04	22.15	-95.88	180.70	601.62	621.67	577.49	44.18	14.071	
6,400.00	6,394.62	6,399.95	6,397.09	22.21	22.33	-96.41	182.65	599.56	621.30	576.77	44.53	13.952	
6,450.00	6,444.52	6,450.11	6,447.18	22.39	22.50	-96.93	184.47	597.57	621.01	576.13	44.89	13.835	
6,500.00	6,494.43	6,500.33	6,497.34	22.57	22.68	-97.43	186.06	595.69	620.73	575.49	45.24	13.720	
6,550.00	6,544.33	6,550.81	6,547.77	22.74	22.86	-97.92	187.43	593.90	620.45	574.85	45.60	13.607	
6,600.00	6,594.24	6,601.35	6,598.27	22.92	23.04	-98.38	188.54	592.20	620.14	574.19	45.95	13.496	
6,650.00	6,644.14	6,648.38	6,645.27	23.09	23.21	-98.78	189.42	590.83	619.95	573.66	46.30	13.391	
6,682.75	6,656.87	6,660.40	6,657.29	23.14	23.25	-98.88	189.64	590.53	619.95	573.56	46.39	13.365	
6,700.00	6,694.04	6,695.54	6,692.41	23.27	23.38	-99.17	190.24	589.75	620.01	573.37	46.64	13.293	
6,750.00	6,743.95	6,744.61	6,741.46	23.45	23.55	-99.55	191.01	588.86	620.25	573.25	46.99	13.199	
6,800.00	6,793.85	6,793.89	6,790.74	23.62	23.72	-99.92	191.70	588.07	620.55	573.21	47.34	13.107	
6,850.00	6,843.76	6,845.63	6,842.47	23.80	23.90	-100.29	192.19	587.38	620.84	573.14	47.70	13.016	
6,900.00	6,893.66	6,897.78	6,894.62	23.98	24.09	-100.61	192.19	586.82	620.98	572.92	48.06	12.922	
6,950.00	6,943.57	6,946.23	6,943.07	24.15	24.25	-100.88	191.92	586.45	621.09	572.69	48.40	12.833	
7,000.00	6,993.47	6,994.53	6,991.36	24.33	24.41	-101.14	191.62	586.27	621.34	572.60	48.74	12.748	
7,050.00	7,043.37	7,044.75	7,041.58	24.51	24.58	-101.40	191.30	586.17	621.67	572.58	49.09	12.665	
7,100.00	7,093.28	7,095.22	7,092.04	24.68	24.75	-101.67	190.97	586.02	621.97	572.53	49.43	12.582	
7,150.00	7,143.18	7,144.29	7,141.12	24.86	24.92	-101.92	190.58	585.95	622.28	572.51	49.78	12.502 ES	
7,200.00	7,193.09	7,193.25	7,190.07	25.04	25.08	-102.14	189.94	586.15	622.69	572.57	50.12	12.425	
7,250.00	7,242.99	7,241.36	7,238.18	25.21	25.25	-102.33	189.23	586.56	623.22	572.76	50.46	12.351	
7,300.00	7,292.90	7,289.34	7,286.15	25.39	25.41	-102.52	188.59	587.12	623.91	573.11	50.80	12.282	
7,350.00	7,342.80	7,344.38	7,341.16	25.57	25.60	-102.67	187.17	587.99	624.36	573.20	51.16	12.204	
7,400.00	7,392.70	7,394.13	7,390.88	25.75	25.76	-102.80	185.74	588.78	624.74	573.24	51.51	12.130	
7,450.00	7,442.61	7,443.87	7,440.60	25.92	25.93	-102.94	184.41	589.52	625.15	573.29	51.85	12.056	
7,500.00	7,492.51	7,493.60	7,490.31	26.10	26.10	-103.08	183.16	590.21	625.57	573.37	52.20	11.984	
7,550.00	7,542.42	7,543.33	7,540.02	26.28	26.27	-103.24	182.00	590.85	626.02	573.48	52.55	11.914	
7,600.00	7,592.32	7,593.05	7,589.73	26.46	26.44	-103.40	180.92	591.45	626.49	573.60	52.89	11.845	

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

Anticollision Report

Company: WCDSC Permian NM
Project: Eddy County (NAD 83 NM Eastern)
Reference Site: Sec 27-T19S-R29E
Site Error: 5.00 ft
Reference Well: Turquoise PWU 27-61H
Well Error: 0.50 ft
Reference Wellbore: Wellbore #1
Reference Design: Permit Plan 3

Local Co-ordinate Reference: Well Turquoise PWU 27-61H
TVD Reference: RKB @ 3370.00ft
MD Reference: RKB @ 3370.00ft
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 27-T19S-R29E - Turquoise PWU 27-1H - Pilot Wellbore - Pilot Wellbore												Offset Site Error:	5.00 ft
Survey Program: 100-MWD+IGRF												Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Minimum Separation (ft)	Separation Factor	Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N-S (ft)	+E-W (ft)					
7,650.00	7,642.23	7,642.77	7,639.43	26.63	26.61	-103.57	179.94	591.99	626.99	573.75	11.777		
7,700.00	7,692.13	7,692.47	7,689.13	26.81	26.78	-103.76	179.04	592.49	627.52	573.93	11.711		
7,750.00	7,742.03	7,742.17	7,738.81	26.99	26.95	-103.95	178.23	592.94	628.07	574.14	11.646		
7,800.00	7,791.94	7,791.86	7,788.49	27.17	27.12	-104.14	177.50	593.34	628.65	574.37	11.582		
7,850.00	7,841.84	7,841.53	7,838.17	27.35	27.28	-104.35	176.87	593.69	629.25	574.63	11.520		
7,900.00	7,891.75	7,891.20	7,887.83	27.52	27.45	-104.57	176.32	594.00	629.89	574.92	11.459		
7,950.00	7,941.65	7,940.86	7,937.49	27.70	27.62	-104.79	175.85	594.25	630.56	575.24	11.399		
8,000.00	7,991.56	7,990.51	7,987.14	27.88	27.79	-105.02	175.48	594.46	631.26	575.60	11.341		
8,050.00	8,041.46	8,040.15	8,036.77	28.06	27.96	-105.26	175.19	594.62	632.00	575.98	11.283		
8,100.00	8,091.36	8,089.77	8,086.40	28.24	28.13	-105.69	174.99	594.73	632.77	576.41	11.228		
8,150.00	8,141.23	8,139.36	8,135.98	28.41	28.30	-106.54	174.87	594.79	633.74	577.03	11.176		
8,200.00	8,191.05	8,188.88	8,185.50	28.59	28.47	-107.28	174.84	594.81	634.97	577.91	11.130		
8,250.00	8,240.81	8,238.32	8,234.94	28.77	28.63	-107.99	174.90	594.78	636.47	579.07	11.089 SF		
8,300.00	8,290.51	8,180.00	8,176.62	28.95	28.44	-107.58	174.84	594.81	647.34	590.58	11.406		
8,350.00	8,340.12	8,180.00	8,176.62	29.13	28.44	-107.59	174.84	594.81	659.44	603.16	11.718		
8,400.00	8,389.65	8,180.00	8,176.62	29.31	28.44	-107.51	174.84	594.81	675.24	619.62	12.142		
8,450.00	8,439.09	8,180.00	8,176.62	29.50	28.44	-107.34	174.84	594.81	694.48	639.67	12.672		
8,500.00	8,488.43	8,180.00	8,176.62	29.68	28.44	-107.09	174.84	594.81	716.88	662.98	13.301		
8,550.00	8,537.64	8,180.00	8,176.62	29.88	28.44	-100.70	174.84	594.81	742.07	689.14	14.019		
8,600.00	8,586.49	8,180.00	8,176.62	30.04	28.44	-80.88	174.84	594.81	767.76	715.84	14.789		
8,650.00	8,634.56	8,180.00	8,176.62	30.23	28.44	-68.47	174.84	594.81	792.90	742.05	15.593		
8,700.00	8,681.50	8,180.00	8,176.62	30.41	28.44	-60.26	174.84	594.81	817.38	767.61	16.425		
8,750.00	8,726.94	8,180.00	8,176.62	30.58	28.44	-54.43	174.84	594.81	841.06	792.38	17.279		
8,800.00	8,770.54	8,180.00	8,176.62	30.75	28.44	-50.05	174.84	594.81	863.84	816.24	18.149		
8,850.00	8,811.96	8,180.00	8,176.62	30.92	28.44	-46.62	174.84	594.81	885.62	839.07	19.026		
8,900.00	8,850.90	8,180.00	8,176.62	31.09	28.44	-43.85	174.84	594.81	906.31	860.77	19.897		
8,950.00	8,887.04	8,180.00	8,176.62	31.26	28.44	-41.58	174.84	594.81	925.85	881.23	20.752		
9,000.00	8,920.13	8,180.00	8,176.62	31.44	28.44	-39.69	174.84	594.81	944.14	900.38	21.574		
9,050.00	8,949.91	8,180.00	8,176.62	31.62	28.44	-38.11	174.84	594.81	961.13	918.12	22.346		
9,100.00	8,978.15	8,180.00	8,176.62	31.82	28.44	-36.78	174.84	594.81	976.76	934.39	23.051		
9,150.00	8,998.65	8,180.00	8,176.62	32.03	28.44	-35.68	174.84	594.81	990.98	949.12	23.671		
9,200.00	9,017.24	8,180.00	8,176.62	32.27	28.44	-34.76	174.84	594.81	1,003.74	962.25	24.189		
9,250.00	9,031.78	8,180.00	8,176.62	32.52	28.44	-34.02	174.84	594.81	1,015.00	973.73	24.590		
9,300.00	9,042.16	8,180.00	8,176.62	32.79	28.44	-33.44	174.84	594.81	1,024.73	983.52	24.863		
9,350.00	9,048.30	8,180.00	8,176.62	33.07	28.44	-33.01	174.84	594.81	1,032.90	991.59	25.004		
9,400.00	9,050.16	8,180.00	8,176.62	33.37	28.44	-32.73	174.84	594.81	1,039.48	997.93	25.012		
9,450.00	9,050.16	8,180.00	8,176.62	33.71	28.44	-32.73	174.84	594.81	1,046.72	1,004.77	24.953		
9,500.00	9,050.16	8,180.00	8,176.62	34.04	28.44	-32.73	174.84	594.81	1,056.27	1,013.85	24.903		
9,550.00	9,050.16	8,180.00	8,176.62	34.43	28.44	-32.73	174.84	594.81	1,068.08	1,025.10	24.850		
9,600.00	9,050.16	8,180.00	8,176.62	34.82	28.44	-32.73	174.84	594.81	1,082.07	1,038.47	24.820		
9,650.00	9,050.16	8,180.00	8,176.62	35.26	28.44	-32.73	174.84	594.81	1,098.17	1,053.89	24.801		
9,700.00	9,050.16	8,180.00	8,176.62	35.70	28.44	-32.73	174.84	594.81	1,116.27	1,071.28	24.815		
9,750.00	9,050.16	8,180.00	8,176.62	36.19	28.44	-32.73	174.84	594.81	1,136.29	1,090.56	24.852		
9,800.00	9,050.16	8,180.00	8,176.62	36.68	28.44	-32.73	174.84	594.81	1,158.12	1,111.66	24.928		
9,850.00	9,050.16	8,180.00	8,176.62	37.21	28.44	-32.73	174.84	594.81	1,181.66	1,134.45	25.032		
9,900.00	9,050.16	8,180.00	8,176.62	37.74	28.44	-32.73	174.84	594.81	1,206.82	1,158.88	25.177		
9,950.00	9,050.16	8,180.00	8,176.62	38.30	28.44	-32.73	174.84	594.81	1,233.49	1,184.84	25.352		
10,000.00	9,050.16	8,180.00	8,176.62	38.87	28.44	-32.73	174.84	594.81	1,261.58	1,212.24	25.567		
10,050.00	9,050.16	8,180.00	8,176.62	39.48	28.44	-32.73	174.84	594.81	1,291.00	1,240.98	25.811		
10,100.00	9,050.16	8,180.00	8,176.62	40.09	28.44	-32.73	174.84	594.81	1,321.65	1,270.99	26.090		
10,150.00	9,050.16	8,180.00	8,176.62	40.72	28.44	-32.73	174.84	594.81	1,353.46	1,302.18	26.397		
10,200.00	9,050.16	8,180.00	8,176.62	41.36	28.44	-32.73	174.84	594.81	1,386.34	1,334.48	26.736		

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

Anticollision Report

Company: WCDSC Permian NM
Project: Eddy County (NAD 83 NM Eastern)
Reference Site: Sec 27-T19S-R29E
Site Error: 5.00 ft
Reference Well: Turquoise PWU 27-61H
Well Error: 0.50 ft
Reference Wellbore: Wellbore #1
Reference Design: Permit Plan 3

Local Co-ordinate Reference: Well Turquoise PWU 27-61H
TVD Reference: RKB @ 3370.00ft
MD Reference: RKB @ 3370.00ft
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 27-T19S-R29E - Turquoise PWU 27-1H - Pilot Wellbore - Pilot Wellbore													Offset Site Error:	5.00 ft
Survey Program: 100-MWD+IGRF													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		
10,250.00	9,050.16	8,180.00	8,176.62	42.03	28.44	-32.73	174.84	594.81	1,420.22	1,367.81	52.41	27.098		
10,300.00	9,050.16	8,180.00	8,176.62	42.70	28.44	-32.73	174.84	594.81	1,455.03	1,402.10	52.93	27.489		
10,350.00	9,050.16	8,180.00	8,176.62	43.39	28.44	-32.73	174.84	594.81	1,490.70	1,437.28	53.43	27.902		

Anticollision Report

Company: WCDSC Permian NM
Project: Eddy County (NAD 83 NM Eastern)
Reference Site: Sec 27-T19S-R29E
Site Error: 5.00 ft
Reference Well: Turquoise PWU 27-61H
Well Error: 0.50 ft
Reference Wellbore: Wellbore #1
Reference Design: Permit Plan 3

Local Co-ordinate Reference: Well Turquoise PWU 27-61H
TVD Reference: RKB @ 3370.00ft
MD Reference: RKB @ 3370.00ft
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 27-T19S-R29E - Turquoise PWU 27-1H - Wellbore #1 - Wellbore #1													Offset Site Error:	5.00 ft
Survey Program: 100-NSG-GYC_Drop, 7392-MWD+IGRF													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Minimum Separation (ft)	Separation Factor	Warning			
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)				Between Centres (ft)	Between Ellipses (ft)	
0.00	0.00	0.00	0.00	0.50	0.50	81.78	87.54	605.86	612.18					
50.00	50.00	43.17	43.17	0.50	0.50	81.78	87.49	605.92	612.20	611.19	1.01	608.184		
100.00	100.00	91.67	91.67	0.52	0.52	81.80	87.31	606.11	612.37	611.33	1.04	599.825		
150.00	150.00	140.83	140.83	0.59	0.60	81.83	87.06	606.41	612.64	611.45	1.19	515.428		
200.00	200.00	190.13	190.13	0.70	0.73	81.85	86.86	606.77	612.97	611.53	1.43	427.320		
250.00	250.00	238.51	238.50	0.84	0.89	81.87	86.72	607.19	613.38	611.66	1.73	354.760		
300.00	300.00	286.65	286.64	0.99	1.06	81.89	86.63	607.76	613.95	611.90	2.05	299.236		
350.00	350.00	335.99	335.98	1.15	1.25	81.90	86.59	608.44	614.63	612.23	2.40	256.512		
400.00	400.00	385.79	385.78	1.31	1.44	81.91	86.60	609.14	615.33	612.58	2.75	223.488		
450.00	450.00	435.28	435.25	1.48	1.64	81.92	86.63	609.86	616.06	612.94	3.12	197.671		
500.00	500.00	484.63	484.60	1.65	1.84	81.92	86.64	610.64	616.83	613.35	3.48	177.031		
550.00	550.00	534.53	534.49	1.82	2.04	81.93	86.65	611.46	617.65	613.79	3.86	160.101		
600.00	600.00	584.68	584.64	1.99	2.24	81.94	86.73	612.26	618.45	614.21	4.24	146.031		
650.00	650.00	634.30	634.25	2.16	2.45	81.94	86.85	613.05	619.26	614.64	4.61	134.249		
700.00	700.00	683.68	683.62	2.34	2.65	81.94	86.92	613.89	620.11	615.12	4.98	124.239		
750.00	750.00	732.88	732.81	2.51	2.86	81.95	86.97	614.78	621.02	615.64	5.37	115.563		
800.00	800.00	781.99	781.91	2.69	3.07	81.95	87.04	615.74	621.99	616.23	5.76	108.007		
850.00	850.00	831.38	831.30	2.87	3.28	81.96	87.15	616.76	623.03	616.88	6.15	101.331		
900.00	900.00	880.94	880.84	3.04	3.50	81.96	87.26	617.83	624.11	617.57	6.54	95.413		
950.00	950.00	929.82	929.71	3.22	3.71	81.96	87.38	618.92	625.24	618.30	6.93	90.183		
1,000.00	1,000.00	978.27	978.15	3.40	3.93	81.96	87.56	620.12	626.48	619.16	7.32	85.533		
1,050.00	1,050.00	1,025.45	1,025.31	3.58	4.14	81.96	87.78	621.41	627.87	620.16	7.71	81.421		
1,100.00	1,100.00	1,071.59	1,071.42	3.75	4.34	81.96	87.97	622.95	629.56	621.46	8.09	77.775		
1,150.00	1,150.00	1,118.67	1,118.47	3.93	4.56	81.97	88.14	624.80	631.53	623.04	8.48	74.447		
1,200.00	1,200.00	1,167.32	1,167.07	4.11	4.77	81.98	88.30	626.86	633.64	624.76	8.88	71.360		
1,250.00	1,250.00	1,217.45	1,217.15	4.29	5.00	82.00	88.44	629.06	635.84	626.55	9.28	68.487		
1,300.00	1,300.00	1,270.68	1,270.34	4.46	5.24	82.00	88.66	631.21	637.86	628.15	9.70	65.728		
1,350.00	1,350.00	1,323.20	1,322.82	4.64	5.48	82.00	88.95	633.05	639.64	629.52	10.12	63.193		
1,400.00	1,400.00	1,374.84	1,374.44	4.82	5.72	82.00	89.22	634.71	641.27	630.73	10.54	60.865		
1,450.00	1,450.00	1,426.63	1,426.20	5.00	5.95	82.00	89.47	636.24	642.76	631.81	10.95	58.695		
1,500.00	1,500.00	1,478.55	1,478.11	5.18	6.19	81.99	89.72	637.82	644.11	632.74	11.37	56.668		
1,550.00	1,550.00	1,530.54	1,530.08	5.36	6.43	81.98	89.98	639.84	645.31	633.52	11.78	54.764		
1,600.00	1,600.00	1,582.58	1,582.11	5.53	6.67	81.97	90.25	639.89	646.34	634.14	12.20	52.978		
1,650.00	1,650.00	1,633.97	1,633.49	5.71	6.89	81.96	90.52	640.78	647.24	634.64	12.60	51.350		
1,700.00	1,700.00	1,685.02	1,684.53	5.89	7.11	81.95	90.78	641.58	648.05	635.05	13.00	49.842		
1,750.00	1,750.00	1,735.15	1,734.66	6.07	7.32	81.93	91.03	642.31	648.80	635.42	13.39	48.468		
1,800.00	1,800.00	1,784.91	1,784.41	6.25	7.52	81.92	91.27	643.05	649.57	635.81	13.76	47.191		
1,850.00	1,850.00	1,837.00	1,836.49	6.43	7.73	81.91	91.52	643.77	650.29	636.14	14.15	45.946		
1,900.00	1,900.00	1,890.11	1,889.60	6.61	7.94	81.90	91.74	644.27	650.79	636.24	14.55	44.740		
1,950.00	1,950.00	1,940.67	1,940.16	6.78	8.14	81.88	91.93	644.59	651.13	636.20	14.93	43.614		
2,000.00	2,000.00	1,990.65	1,990.14	6.96	8.35	81.87	92.17	644.89	651.46	636.15	15.31	42.550		
2,050.00	2,050.00	2,041.22	2,040.71	7.14	8.55	81.85	92.43	645.18	651.78	636.08	15.69	41.529		
2,100.00	2,100.00	2,091.93	2,091.42	7.32	8.76	81.83	92.66	645.42	652.04	635.96	16.08	40.552		
2,150.00	2,150.00	2,142.23	2,141.72	7.50	8.96	81.82	92.86	645.61	652.26	635.80	16.46	39.621		
2,200.00	2,200.00	2,192.45	2,191.94	7.68	9.17	81.80	93.05	645.80	652.47	635.62	16.85	38.732		
2,250.00	2,250.00	2,242.39	2,241.87	7.86	9.37	81.79	93.24	645.97	652.67	635.44	17.23	37.883		
2,300.00	2,300.00	2,292.27	2,291.76	8.04	9.57	81.77	93.47	646.14	652.87	635.26	17.61	37.072		
2,350.00	2,350.00	2,342.73	2,342.21	8.22	9.78	81.75	93.72	646.30	653.07	635.07	18.00	36.289		
2,400.00	2,400.00	2,393.29	2,392.77	8.39	9.99	81.73	93.94	646.43	653.22	634.84	18.38	35.536		
2,450.00	2,450.00	2,443.13	2,442.62	8.57	10.19	81.71	94.16	646.53	653.36	634.59	18.76	34.818		
2,500.00	2,500.00	2,492.87	2,492.35	8.75	10.40	81.69	94.40	646.65	653.51	634.36	19.15	34.130		
2,550.00	2,550.00	2,543.36	2,542.84	8.93	10.60	81.67	94.67	646.77	653.68	634.13	19.53	33.463		

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

Anticollision Report

Company: WCDSC Permian NM
 Project: Eddy County (NAD 83 NM Eastern)
 Reference Site: Sec 27-T19S-R29E
 Site Error: 5.00 ft
 Reference Well: Turquoise PWU 27-61H
 Well Error: 0.50 ft
 Reference Wellbore: Wellbore #1
 Reference Design: Permit Plan 3

Local Co-ordinate Reference: Well Turquoise PWU 27-61H
 TVD Reference: RKB @ 3370.00ft
 MD Reference: RKB @ 3370.00ft
 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 27-T19S-R29E - Turquoise PWU 27-1H - Wellbore #1 - Wellbore #1													Offset Site Error:	5.00 ft
Survey Program: 100-NSG-GYC_Drop, 7392-MWD+IGRF													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		
2,600.00	2,600.00	2,593.98	2,593.46	9.11	10.81	81.65	94.97	646.83	653.76	633.84	19.92	32.819		
2,650.00	2,650.00	2,644.59	2,644.07	9.29	11.02	81.62	95.29	646.84	653.82	633.51	20.31	32.196		
2,700.00	2,700.00	2,695.19	2,694.67	9.47	11.23	81.59	95.58	646.81	653.83	633.14	20.69	31.595		
2,750.00	2,750.00	2,746.01	2,745.49	9.65	11.44	81.57	95.85	646.72	653.79	632.70	21.08	31.012		
2,800.00	2,800.00	2,796.86	2,796.34	9.83	11.64	81.55	96.09	646.57	653.68	632.21	21.47	30.446		
2,850.00	2,850.00	2,847.89	2,847.36	10.01	11.85	81.52	96.33	646.35	653.50	631.64	21.86	29.896		
2,900.00	2,900.00	2,898.92	2,898.40	10.18	12.06	81.50	96.59	646.05	653.24	630.99	22.25	29.362		
2,950.00	2,950.00	2,948.95	2,948.43	10.36	12.27	81.47	96.85	645.71	652.94	630.31	22.63	28.849		
3,000.00	3,000.00	2,988.96	2,988.43	10.54	12.48	81.45	97.08	645.37	652.64	629.62	23.02	28.353		
3,050.00	3,050.00	3,049.67	3,049.14	10.72	12.69	81.42	97.27	645.00	652.31	628.90	23.41	27.869		
3,100.00	3,100.00	3,100.40	3,099.86	10.90	12.90	81.41	97.39	644.59	651.93	628.13	23.79	27.398		
3,150.00	3,150.00	3,151.71	3,151.17	11.08	13.11	81.39	97.48	644.10	651.47	627.28	24.18	26.937		
3,200.00	3,200.00	3,203.02	3,202.48	11.26	13.32	81.38	97.58	643.50	650.90	626.33	24.57	26.486		
3,250.00	3,250.00	3,252.25	3,251.71	11.44	13.52	81.37	97.63	642.91	650.33	625.37	24.96	26.057		
3,300.00	3,300.00	3,301.62	3,301.08	11.62	13.73	81.36	97.61	642.39	649.80	624.45	25.34	25.641		
3,350.00	3,350.00	3,351.62	3,351.07	11.80	13.93	81.36	97.54	641.89	649.29	623.56	25.73	25.237		
3,400.00	3,400.00	3,401.62	3,401.07	11.97	14.14	81.36	97.46	641.39	648.78	622.67	26.11	24.845		
3,450.00	3,450.00	3,451.61	3,451.06	12.15	14.35	-71.82	97.37	640.89	648.19	621.70	26.49	24.469		
3,500.00	3,499.99	3,501.60	3,501.04	12.32	14.56	-71.90	97.29	640.39	647.43	620.56	26.87	24.097		
3,550.00	3,549.97	3,551.42	3,550.86	12.48	14.76	-72.02	97.22	639.90	646.51	619.27	27.24	23.737		
3,600.00	3,599.94	3,601.23	3,600.67	12.64	14.97	-72.20	97.20	639.41	645.43	617.83	27.61	23.381		
3,650.00	3,649.88	3,651.46	3,650.89	12.80	15.18	-72.43	97.21	638.90	644.19	616.22	27.98	23.027		
3,700.00	3,699.79	3,701.65	3,701.09	12.97	15.38	-72.71	97.24	638.37	642.79	614.44	28.35	22.676		
3,750.00	3,749.69	3,750.71	3,750.14	13.13	15.59	-72.98	97.30	637.87	641.38	612.66	28.71	22.336		
3,800.00	3,799.60	3,799.79	3,799.22	13.30	15.79	-73.26	97.42	637.42	640.04	610.96	29.08	22.008		
3,850.00	3,849.50	3,849.84	3,849.27	13.46	16.00	-73.54	97.57	636.98	638.75	609.30	29.45	21.686		
3,900.00	3,899.40	3,899.89	3,899.32	13.63	16.21	-73.83	97.70	636.53	637.46	607.64	29.83	21.373		
3,950.00	3,949.31	3,949.90	3,949.32	13.79	16.41	-74.12	97.83	636.07	636.18	605.98	30.20	21.066		
4,000.00	3,999.21	3,999.91	3,999.33	13.96	16.62	-74.40	97.95	635.60	634.90	604.33	30.57	20.767		
4,050.00	4,049.12	4,049.48	4,048.90	14.12	16.83	-74.69	98.08	635.14	633.64	602.70	30.94	20.477		
4,100.00	4,099.02	4,099.05	4,098.47	14.29	17.03	-74.98	98.24	634.70	632.43	601.11	31.32	20.194		
4,150.00	4,148.93	4,148.89	4,148.31	14.46	17.24	-75.28	98.44	634.26	631.24	599.55	31.69	19.919		
4,200.00	4,198.83	4,198.73	4,198.14	14.62	17.45	-75.58	98.69	633.81	630.08	598.01	32.07	19.650		
4,250.00	4,248.73	4,246.30	4,245.70	14.79	17.65	-75.88	99.04	633.45	629.02	596.59	32.43	19.395		
4,300.00	4,298.64	4,293.78	4,293.19	14.96	17.84	-76.19	99.57	633.23	628.17	595.38	32.80	19.153		
4,350.00	4,348.54	4,341.26	4,340.66	15.13	18.04	-76.51	100.24	633.16	627.54	594.37	33.17	18.921		
4,400.00	4,398.45	4,388.72	4,388.11	15.30	18.24	-76.84	101.04	633.25	627.11	593.58	33.53	18.701		
4,450.00	4,448.35	4,437.52	4,436.90	15.47	18.45	-77.18	101.92	633.48	626.86	592.95	33.91	18.485		
4,500.00	4,498.26	4,486.74	4,486.12	15.64	18.66	-77.52	102.77	633.78	626.68	592.39	34.29	18.275		
4,550.00	4,548.16	4,536.80	4,536.17	15.80	18.88	-77.87	103.68	634.09	626.55	591.88	34.67	18.070		
4,600.00	4,598.06	4,587.11	4,586.46	15.97	19.09	-78.25	104.93	634.26	626.42	591.36	35.06	17.867		
4,650.00	4,647.97	4,637.07	4,636.40	16.14	19.30	-78.66	106.46	634.36	626.28	590.84	35.44	17.671		
4,700.00	4,697.87	4,686.90	4,686.19	16.31	19.52	-79.09	108.16	634.39	626.17	590.35	35.82	17.480		
4,750.00	4,747.78	4,736.41	4,735.67	16.49	19.73	-79.53	110.06	634.36	626.10	589.90	36.20	17.295		
4,774.27	4,772.00	4,760.38	4,759.62	16.57	19.83	-79.76	111.10	634.32	626.10	589.71	36.39	17.207		
4,800.00	4,767.68	4,765.76	4,764.97	16.66	19.94	-80.00	112.30	634.26	626.11	589.52	36.58	17.115		
4,850.00	4,847.59	4,835.95	4,835.10	16.83	20.15	-80.51	114.81	634.09	626.16	589.20	36.96	16.940		
4,900.00	4,897.49	4,886.51	4,885.59	17.00	20.36	-81.01	117.26	633.87	626.20	588.85	37.35	16.767		
4,950.00	4,947.39	4,937.08	4,936.11	17.17	20.58	-81.50	119.62	633.62	626.21	588.48	37.73	16.597		
5,000.00	4,997.30	4,987.68	4,986.66	17.34	20.79	-81.99	121.88	633.33	626.21	588.09	38.11	16.429		
5,050.00	5,047.20	5,038.29	5,037.22	17.51	21.01	-82.47	124.04	632.99	626.17	587.67	38.50	16.264		
5,100.00	5,097.11	5,088.91	5,087.80	17.68	21.23	-82.94	126.10	632.61	626.11	587.23	38.88	16.102		

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

Anticollision Report

Company: WCDSC Permian NM
 Project: Eddy County (NAD 83 NM Eastern)
 Reference Site: Sec 27-T19S-R29E
 Site Error: 5.00 ft
 Reference Well: Turquoise PWU 27-61H
 Well Error: 0.50 ft
 Reference Wellbore: Wellbore #1
 Reference Design: Permit Plan 3

Local Co-ordinate Reference: Well Turquoise PWU 27-61H
 TVD Reference: RKB @ 3370.00ft
 MD Reference: RKB @ 3370.00ft
 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

Sec 27-T19S-R29E - Turquoise PWU 27-1H - Wellbore #1 - Wellbore #1														Offset Site Error:	5.00 ft
Survey Program: 100-NSG-GYC_Drop, 7392-MWD+IGRF														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			
5,150.00	5,147.01	5,139.55	5,138.40	17.86	21.44	-83.41	128.07	632.19	626.02	586.75	39.27	15.941			
5,200.00	5,196.92	5,190.21	5,189.02	18.03	21.66	-83.87	129.94	631.73	625.90	586.24	39.66	15.783			
5,250.00	5,246.82	5,240.88	5,239.66	18.20	21.88	-84.32	131.71	631.23	625.74	585.70	40.04	15.627			
5,300.00	5,296.72	5,291.57	5,290.32	18.37	22.10	-84.77	133.38	630.68	625.55	585.12	40.43	15.473			
5,350.00	5,346.63	5,342.27	5,340.99	18.55	22.31	-85.21	134.96	630.10	625.32	584.50	40.82	15.320			
5,400.00	5,396.53	5,391.20	5,389.89	18.72	22.52	-85.66	136.80	629.46	625.18	583.99	41.19	15.176			
5,450.00	5,446.44	5,440.66	5,439.30	18.89	22.74	-86.12	138.66	628.80	625.07	583.50	41.58	15.035			
5,500.00	5,496.34	5,490.05	5,488.66	19.07	22.95	-86.58	140.55	628.15	625.03	583.07	41.96	14.897			
5,506.86	5,503.19	5,496.83	5,495.43	19.09	22.98	-86.65	140.81	628.07	625.03	583.02	42.01	14.878			
5,550.00	5,546.25	5,539.50	5,538.06	19.24	23.16	-87.05	142.47	627.52	625.05	582.71	42.34	14.763			
5,600.00	5,596.15	5,588.95	5,587.47	19.42	23.38	-87.52	144.46	626.88	625.14	582.42	42.72	14.633			
5,650.00	5,646.05	5,639.44	5,637.91	19.59	23.59	-88.00	146.56	626.19	625.26	582.15	43.11	14.504			
5,700.00	5,695.96	5,690.21	5,688.62	19.76	23.81	-88.51	148.77	625.38	625.35	581.85	43.50	14.377			
5,750.00	5,745.86	5,741.79	5,740.15	19.94	24.04	-89.03	151.06	624.36	625.37	581.48	43.89	14.249			
5,800.00	5,795.77	5,793.57	5,791.86	20.11	24.26	-89.55	153.33	623.18	625.27	581.00	44.28	14.121			
5,850.00	5,845.67	5,844.20	5,842.43	20.29	24.48	-90.07	155.54	621.89	625.10	580.44	44.66	13.995			
5,900.00	5,895.58	5,894.67	5,892.82	20.46	24.69	-90.60	157.76	620.52	624.92	579.87	45.05	13.872			
5,950.00	5,945.48	5,944.67	5,942.76	20.64	24.91	-91.12	160.00	619.09	624.74	579.31	45.43	13.750			
6,000.00	5,995.38	5,994.61	5,992.62	20.81	25.13	-91.66	162.33	617.60	624.60	578.78	45.82	13.632			
6,050.00	6,045.29	6,044.64	6,042.57	20.99	25.34	-92.20	164.72	616.03	624.48	578.28	46.20	13.516			
6,100.00	6,095.19	6,094.68	6,092.52	21.16	25.56	-92.75	167.16	614.40	624.39	577.80	46.59	13.402			
6,150.00	6,145.10	6,148.96	6,146.70	21.34	25.79	-93.36	169.78	612.42	624.17	577.19	46.99	13.284			
6,200.00	6,195.00	6,203.70	6,201.34	21.51	26.03	-93.98	172.29	609.98	623.61	576.23	47.38	13.161			
6,250.00	6,244.91	6,253.17	6,250.69	21.69	26.24	-94.55	174.50	607.60	622.93	575.16	47.77	13.041			
6,300.00	6,294.81	6,302.96	6,300.37	21.86	26.45	-95.12	176.72	605.18	622.29	574.14	48.15	12.924			
6,350.00	6,344.71	6,351.40	6,348.72	22.04	26.66	-95.67	178.81	602.93	621.76	573.23	48.53	12.812			
6,400.00	6,394.62	6,399.98	6,397.22	22.21	26.87	-96.20	180.75	600.86	621.37	572.46	48.91	12.705			
6,450.00	6,444.52	6,450.13	6,447.30	22.39	27.08	-96.72	182.58	598.88	621.06	571.76	49.29	12.599			
6,500.00	6,494.43	6,500.34	6,497.44	22.57	27.30	-97.22	184.17	597.00	620.76	571.08	49.68	12.496			
6,550.00	6,544.33	6,550.81	6,547.86	22.74	27.51	-97.70	185.53	595.20	620.45	570.39	50.06	12.394			
6,600.00	6,594.24	6,601.34	6,598.35	22.92	27.73	-98.16	186.84	593.51	620.13	569.68	50.45	12.293			
6,650.00	6,644.14	6,648.36	6,645.34	23.09	27.93	-98.57	187.53	592.14	619.92	569.10	50.82	12.198			
6,666.16	6,660.27	6,663.59	6,660.56	23.15	28.00	-98.70	187.80	591.76	619.91	568.97	50.94	12.169			
6,700.00	6,694.04	6,695.51	6,692.47	23.27	28.13	-98.95	188.34	591.06	619.96	568.77	51.20	12.110			
6,750.00	6,743.95	6,744.57	6,741.51	23.45	28.35	-99.34	189.11	590.17	620.18	568.61	51.58	12.025			
6,800.00	6,793.85	6,793.84	6,790.78	23.62	28.56	-99.71	189.81	589.38	620.47	568.51	51.96	11.942			
6,850.00	6,843.76	6,845.56	6,842.49	23.80	28.78	-100.07	190.30	588.69	620.75	568.40	52.35	11.858			
6,900.00	6,893.66	6,897.69	6,894.62	23.98	29.00	-100.40	190.29	588.13	620.87	568.13	52.74	11.771			
6,950.00	6,943.57	6,946.14	6,943.07	24.15	29.20	-100.67	190.03	587.76	620.97	567.84	53.13	11.689			
7,000.00	6,993.47	6,994.43	6,991.36	24.33	29.40	-100.93	189.73	587.58	621.21	567.70	53.51	11.610			
7,050.00	7,043.37	7,044.65	7,041.57	24.51	29.61	-101.19	189.41	587.48	621.53	567.63	53.89	11.533			
7,100.00	7,093.28	7,095.11	7,092.04	24.68	29.82	-101.46	189.08	587.33	621.82	567.53	54.28	11.455			
7,150.00	7,143.18	7,144.18	7,141.10	24.86	30.02	-101.71	188.67	587.26	622.12	567.46	54.67	11.381 ES			
7,200.00	7,193.09	7,193.12	7,190.04	25.04	30.22	-101.93	188.05	587.46	622.52	567.47	55.05	11.309			
7,250.00	7,242.99	7,241.24	7,238.14	25.21	30.42	-102.12	187.34	587.87	623.04	567.61	55.43	11.241			
7,300.00	7,292.90	7,289.21	7,286.11	25.39	30.61	-102.31	186.70	588.42	623.72	567.91	55.81	11.176			
7,350.00	7,342.80	7,328.85	7,325.73	25.57	30.71	-102.43	186.05	589.39	624.82	568.74	56.09	11.141			
7,400.00	7,392.70	7,366.06	7,362.85	25.75	30.79	-102.42	184.93	591.68	626.93	570.61	56.32	11.132			
7,450.00	7,442.61	7,400.11	7,396.71	25.92	30.84	-102.31	183.49	595.01	630.08	573.60	56.49	11.155			
7,500.00	7,492.51	7,428.20	7,424.53	26.10	30.84	-102.19	182.60	598.73	634.85	578.32	56.53	11.230			
7,550.00	7,542.42	7,455.00	7,450.98	26.28	30.84	-102.04	181.90	603.00	641.08	584.56	56.52	11.343			
7,600.00	7,592.32	7,486.00	7,481.36	26.46	30.85	-101.83	181.39	609.11	648.98	592.49	56.50	11.487			

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

Anticollision Report

Company: WCDSC Permian NM
Project: Eddy County (NAD 83 NM Eastern)
Reference Site: Sec 27-T19S-R29E
Site Error: 5.00 ft
Reference Well: Turquoise PWU 27-61H
Well Error: 0.50 ft
Reference Wellbore: Wellbore #1
Reference Design: Permit Plan 3

Local Co-ordinate Reference: Well Turquoise PWU 27-61H
TVD Reference: RKB @ 3370.00ft
MD Reference: RKB @ 3370.00ft
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 27-T19S-R29E - Turquoise PWU 27-1H - Wellbore #1 - Wellbore #1													Offset Site Error:
Survey Program: 100-NSG-GYC_Drop, 7392-MWD+IGRF													Offset Well Error:
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)			
7,650.00	7,642.23	7,504.22	7,499.05	26.63	30.85	-101.68	181.44	613.48	658.99	602.72	56.26	11.712	
7,700.00	7,692.13	7,525.01	7,519.03	26.81	30.85	-101.51	181.93	619.19	671.10	615.11	55.99	11.985	
7,750.00	7,742.03	7,549.00	7,541.83	26.99	30.86	-101.31	183.06	626.56	685.17	629.45	55.73	12.296	
7,800.00	7,791.94	7,567.80	7,559.46	27.17	30.86	-101.14	184.22	632.98	701.06	645.75	55.31	12.674	
7,850.00	7,841.84	7,589.84	7,579.81	27.35	30.87	-100.90	185.69	641.33	718.69	663.76	54.93	13.084	
7,900.00	7,891.75	7,612.00	7,599.92	27.52	30.88	-100.62	187.10	650.52	737.86	683.34	54.53	13.533	
7,950.00	7,941.65	7,642.00	7,626.62	27.70	30.90	-100.19	188.89	664.08	758.41	704.11	54.30	13.968	
8,000.00	7,991.56	7,662.11	7,644.19	27.88	30.91	-99.87	190.04	673.79	780.19	726.37	53.82	14.496	
8,050.00	8,041.46	7,685.14	7,663.98	28.06	30.93	-99.49	191.34	685.50	803.23	749.82	53.42	15.037	
8,100.00	8,091.36	7,705.00	7,680.74	28.24	30.95	-99.22	192.43	696.10	827.49	774.56	52.93	15.634	
8,150.00	8,141.23	7,732.58	7,703.59	28.41	30.98	-98.87	193.88	711.47	852.87	800.22	52.65	16.198	
8,200.00	8,191.05	7,755.15	7,721.95	28.59	31.01	-98.43	195.04	724.54	879.35	827.09	52.26	16.826	
8,250.00	8,240.81	7,770.00	7,733.84	28.77	31.03	-98.00	195.81	733.40	906.97	855.29	51.68	17.550	
8,300.00	8,290.51	7,801.00	7,758.05	28.95	31.09	-97.23	197.40	752.69	935.69	884.14	51.55	18.152	
8,350.00	8,340.12	7,810.91	7,765.58	29.13	31.11	-96.72	197.87	759.12	965.42	914.55	50.88	18.975	
8,400.00	8,389.65	7,833.00	7,781.93	29.31	31.16	-95.95	198.81	773.94	996.33	945.78	50.55	19.710	
8,450.00	8,439.09	7,833.00	7,781.93	29.50	31.16	-95.47	198.81	773.94	1,028.23	978.56	49.67	20.701	
8,500.00	8,488.43	7,852.81	7,798.00	29.68	31.21	-94.63	199.51	787.87	1,061.03	1,011.69	49.34	21.505	
8,550.00	8,537.64	7,864.00	7,803.65	29.86	31.24	-93.83	199.83	796.03	1,094.77	1,045.96	48.81	22.430	
8,600.00	8,586.49	7,877.02	7,812.30	30.04	31.28	-92.85	200.16	805.75	1,127.32	1,079.00	48.31	23.333	
8,650.00	8,634.56	7,896.00	7,824.39	30.23	31.35	-91.47	200.54	820.38	1,157.76	1,109.82	47.94	24.149	
8,700.00	8,681.50	7,904.89	7,829.87	30.41	31.38	-90.53	200.70	827.38	1,185.81	1,138.50	47.31	25.067	
8,750.00	8,728.94	7,927.00	7,843.15	30.58	31.47	-89.02	201.11	845.05	1,211.42	1,164.44	46.98	25.788	
8,800.00	8,770.54	7,940.70	7,851.14	30.75	31.53	-87.08	201.43	856.17	1,234.36	1,187.92	46.44	26.582	
8,850.00	8,811.96	7,959.00	7,861.56	30.92	31.62	-85.15	202.02	871.20	1,254.60	1,208.59	46.00	27.272	
8,900.00	8,850.90	7,977.05	7,871.54	31.09	31.72	-82.93	202.78	886.22	1,272.05	1,226.48	45.57	27.915	
8,950.00	8,887.04	7,990.00	7,878.52	31.26	31.79	-81.22	203.47	897.11	1,286.72	1,241.69	45.02	28.579	
9,000.00	8,920.13	8,007.34	7,887.48	31.44	31.89	-79.93	204.52	911.92	1,298.60	1,254.00	44.60	29.118	
9,050.00	8,949.91	8,021.00	7,894.17	31.62	31.97	-78.94	205.43	923.79	1,307.77	1,263.66	44.11	29.650	
9,100.00	8,976.15	8,021.00	7,894.17	31.82	31.97	-78.15	205.43	923.79	1,314.44	1,271.10	43.34	30.326	
9,150.00	8,998.65	8,021.00	7,894.17	32.03	31.97	-77.55	205.43	923.79	1,318.85	1,276.21	42.63	30.934	
9,200.00	9,017.24	8,079.66	7,920.25	32.27	32.47	-77.54	209.59	976.15	1,317.69	1,274.43	43.26	30.458	
9,250.00	9,031.78	8,099.20	7,928.06	32.52	32.63	-77.49	211.03	994.01	1,315.00	1,271.94	43.06	30.536	
9,300.00	9,042.16	8,118.66	7,935.40	32.79	32.80	-77.63	212.48	1,011.97	1,309.33	1,266.42	42.92	30.509	
9,350.00	9,048.30	8,170.00	7,952.60	33.07	33.23	-78.24	216.42	1,060.17	1,301.69	1,258.23	43.47	29.948	
9,400.00	9,050.16	8,170.00	7,952.60	33.37	33.23	-78.59	216.42	1,060.17	1,289.33	1,246.29	43.05	29.953	
9,450.00	9,050.16	8,177.31	7,954.80	33.71	33.31	-78.66	216.99	1,067.12	1,277.02	1,234.17	42.85	29.804	
9,500.00	9,050.16	8,202.00	7,961.85	34.04	33.58	-78.89	218.92	1,090.71	1,265.92	1,222.90	43.02	29.426	
9,550.00	9,050.16	8,228.95	7,968.97	34.43	33.89	-79.12	220.93	1,116.61	1,255.73	1,212.44	43.29	29.007	
9,600.00	9,050.16	8,256.44	7,975.69	34.82	34.23	-79.34	222.75	1,143.21	1,246.34	1,202.75	43.59	28.590	
9,650.00	9,050.16	8,282.67	7,981.45	35.26	34.58	-79.52	224.22	1,168.76	1,237.86	1,193.94	43.92	28.184	
9,700.00	9,050.16	8,296.00	7,984.11	35.70	34.75	-79.60	224.87	1,181.81	1,230.44	1,186.38	44.06	27.929	
9,750.00	9,050.16	8,328.02	7,989.67	36.19	35.22	-79.78	226.32	1,213.30	1,223.92	1,179.37	44.55	27.473	
9,800.00	9,050.16	8,359.00	7,993.88	36.68	35.66	-79.93	227.70	1,243.96	1,218.73	1,173.70	45.03	27.065	
9,850.00	9,050.16	8,372.70	7,995.39	37.21	35.88	-79.98	228.30	1,257.56	1,214.51	1,169.19	45.31	26.802	
9,900.00	9,050.16	8,391.00	7,997.09	37.74	36.16	-30.05	229.10	1,275.77	1,211.48	1,165.78	45.69	26.513	
9,950.00	9,050.16	8,430.26	7,999.89	38.30	36.82	-30.16	230.68	1,314.89	1,209.23	1,162.84	46.39	26.067	
10,000.00	9,050.16	8,462.32	8,001.47	38.87	37.36	-30.24	231.81	1,346.89	1,207.75	1,160.78	46.89	25.704	
10,050.00	9,050.16	8,498.12	8,002.55	39.48	37.98	-30.29	232.92	1,382.67	1,206.99	1,159.34	47.66	25.328	
10,100.00	9,050.16	8,542.80	8,003.81	40.09	38.80	-30.38	234.76	1,427.28	1,206.59	1,158.12	48.46	24.896	
10,150.00	9,050.16	8,588.11	8,005.25	40.72	39.65	-30.51	237.30	1,472.50	1,206.40	1,157.06	49.34	24.451	
10,200.00	9,050.16	8,636.44	8,006.84	41.36	40.61	-30.65	240.31	1,520.71	1,206.34	1,156.04	50.30	23.983	

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

Anticollision Report

Company: WCDSC Permian NM
Project: Eddy County (NAD 83 NM Eastern)
Reference Site: Sec 27-T19S-R29E
Site Error: 5.00 ft
Reference Well: Turquoise PWU 27-61H
Well Error: 0.50 ft
Reference Wellbore: Wellbore #1
Reference Design: Permit Plan 3

Local Co-ordinate Reference: Well Turquoise PWU 27-61H
TVD Reference: RKB @ 3370.00ft
MD Reference: RKB @ 3370.00ft
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 27-T19S-R29E - Turquoise PWU 27-1H - Wellbore #1 - Wellbore #1												Offset Site Error:	5.00 ft
Survey Program: 100-NSG-GYC_Drop, 7392-MWD+IGRF												Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Minimum Separation (ft)	Separation Factor	Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)					
10,215.98	9,050.16	8,651.88	8,007.35	41.58	40.92	-30.70	241.30	1,538.11	1,206.34	1,155.72	50.82	23.833	
10,250.00	9,050.16	8,686.17	8,008.48	42.03	41.61	-30.80	243.54	1,570.31	1,206.35	1,155.03	51.32	23.507	
10,300.00	9,050.16	8,740.87	8,010.39	42.70	42.77	-30.97	247.00	1,624.87	1,206.25	1,153.80	52.44	23.002	
10,350.00	9,050.16	8,788.17	8,012.12	43.39	43.79	-31.11	249.89	1,672.05	1,206.03	1,152.53	53.50	22.545	
10,358.88	9,050.16	8,796.08	8,012.39	43.53	43.96	-31.14	250.40	1,679.94	1,206.02	1,152.34	53.69	22.464	
10,400.00	9,050.16	8,828.18	8,013.39	44.09	44.68	-31.24	252.54	1,711.95	1,206.16	1,151.69	54.47	22.145	
10,450.00	9,050.16	8,867.99	8,014.42	44.81	45.56	-31.37	255.43	1,751.64	1,206.70	1,151.23	55.47	21.755	
10,500.00	9,050.16	8,906.64	8,015.14	45.53	46.46	-31.49	258.42	1,790.17	1,207.70	1,151.22	56.48	21.384	
10,550.00	9,050.16	8,945.27	8,015.54	46.27	47.35	-31.61	261.59	1,828.67	1,209.17	1,151.67	57.50	21.027	
10,600.00	9,050.16	8,988.23	8,015.74	47.02	48.36	-31.76	265.38	1,871.46	1,211.05	1,152.42	58.63	20.657	
10,650.00	9,050.16	9,033.00	8,016.03	47.78	49.43	-31.93	269.82	1,916.01	1,213.16	1,153.34	59.83	20.278	
10,700.00	9,050.16	9,082.61	8,016.47	48.54	50.63	-32.14	275.20	1,965.32	1,215.43	1,154.28	61.15	19.876	
10,750.00	9,050.16	9,135.50	8,017.12	49.33	51.93	-32.36	281.02	2,017.89	1,217.62	1,155.04	62.58	19.458	
10,800.00	9,050.16	9,183.96	8,017.80	50.11	53.14	-32.58	288.39	2,068.04	1,219.77	1,155.82	63.95	19.074	
10,850.00	9,050.16	9,231.31	8,018.40	50.91	54.33	-32.79	291.68	2,113.09	1,222.03	1,156.70	65.33	18.706	
10,900.00	9,050.16	9,273.74	8,018.87	51.71	55.41	-32.98	296.61	2,155.24	1,224.48	1,157.84	66.64	18.374	
10,950.00	9,050.16	9,314.99	8,019.27	52.52	56.47	-33.18	301.82	2,196.15	1,227.29	1,159.33	67.97	18.057	
11,000.00	9,050.16	9,366.45	8,019.77	53.33	57.80	-33.44	308.75	2,247.14	1,230.36	1,160.81	69.54	17.692	
11,050.00	9,050.16	9,426.78	8,020.77	54.16	59.37	-33.76	316.73	2,306.93	1,233.10	1,161.75	71.34	17.284	
11,100.00	9,050.16	9,470.32	8,021.62	54.99	60.52	-33.99	322.50	2,350.08	1,235.76	1,162.94	72.81	16.972	
11,150.00	9,050.16	9,513.17	8,022.33	55.83	61.65	-34.22	328.43	2,392.51	1,238.71	1,164.42	74.29	16.673	
11,200.00	9,050.16	9,589.87	8,023.89	56.67	63.70	-34.62	338.60	2,468.51	1,241.44	1,164.89	76.55	16.216	
11,250.00	9,050.16	9,671.18	8,026.61	57.52	65.91	-34.99	347.22	2,549.31	1,242.83	1,163.95	78.88	15.755	
11,300.00	9,050.16	9,734.28	8,029.11	58.38	67.64	-35.23	352.24	2,612.16	1,243.21	1,162.44	80.77	15.392	
11,350.00	9,050.16	9,780.48	8,030.99	59.24	68.92	-35.40	355.88	2,658.19	1,243.57	1,161.23	82.34	15.104	
11,400.00	9,050.16	9,830.16	8,032.98	60.10	70.30	-35.59	359.94	2,707.65	1,244.06	1,160.06	84.00	14.811	
11,450.00	9,050.16	9,884.24	8,034.86	60.97	71.81	-35.76	363.76	2,761.57	1,244.44	1,158.71	85.73	14.516	
11,500.00	9,050.16	9,934.71	8,036.39	61.85	73.22	-35.90	366.80	2,811.92	1,244.71	1,157.35	87.36	14.248	
11,550.00	9,050.16	9,983.52	8,037.90	62.73	74.60	-36.04	369.83	2,860.61	1,245.02	1,156.03	88.99	13.991	
11,600.00	9,050.16	10,036.25	8,039.63	63.61	76.10	-36.19	373.23	2,913.21	1,245.33	1,154.61	90.72	13.727	
11,650.00	9,050.16	10,090.17	8,041.69	64.50	77.63	-36.36	376.79	2,966.97	1,245.48	1,152.98	92.50	13.464	
11,700.00	9,050.16	10,140.39	8,043.75	65.39	79.06	-36.53	380.17	3,017.03	1,245.56	1,151.32	94.24	13.217	
11,750.00	9,050.16	10,190.61	8,045.85	66.29	80.50	-36.69	383.58	3,067.10	1,245.63	1,149.64	95.99	12.976	
11,800.00	9,050.16	10,232.22	8,047.43	67.19	81.69	-36.83	386.43	3,108.58	1,245.90	1,148.32	97.57	12.769	
11,850.00	9,050.16	10,274.71	8,048.75	68.09	82.91	-36.96	389.37	3,150.94	1,246.46	1,147.29	99.17	12.569	
11,900.00	9,050.16	10,313.67	8,049.72	68.99	84.04	-37.08	392.21	3,189.79	1,247.40	1,146.70	100.70	12.388	
11,950.00	9,050.16	10,352.20	8,050.49	69.91	85.15	-37.20	395.35	3,228.18	1,248.79	1,146.57	102.23	12.216	
12,000.00	9,050.16	10,395.02	8,051.14	70.82	86.39	-37.34	399.18	3,270.83	1,250.61	1,146.74	103.88	12.040	
12,050.00	9,050.16	10,443.49	8,051.85	71.73	87.79	-37.51	403.64	3,319.08	1,252.56	1,146.89	105.68	11.853	
12,100.00	9,050.16	10,490.51	8,052.55	72.65	89.16	-37.68	408.08	3,365.89	1,254.59	1,147.13	107.46	11.675	
12,150.00	9,050.16	10,535.91	8,053.24	73.57	90.48	-37.84	412.63	3,411.05	1,256.79	1,147.56	109.23	11.506	
12,200.00	9,050.16	10,580.44	8,053.95	74.50	91.77	-38.02	417.39	3,455.32	1,259.18	1,148.17	111.01	11.343	
12,250.00	9,050.16	10,623.70	8,054.65	75.42	93.03	-38.21	422.36	3,498.30	1,261.83	1,149.04	112.80	11.187	
12,300.00	9,050.16	10,670.42	8,055.40	76.35	94.39	-38.42	428.10	3,544.68	1,264.74	1,150.04	114.70	11.026	
12,350.00	9,050.16	10,730.80	8,056.46	77.28	96.15	-38.68	435.21	3,604.60	1,267.46	1,150.47	116.99	10.833	
12,400.00	9,050.16	10,785.52	8,057.47	78.22	97.76	-38.90	441.13	3,659.00	1,269.85	1,150.74	119.11	10.661	
12,450.00	9,050.16	10,837.20	8,058.32	79.15	99.28	-39.09	446.42	3,710.39	1,272.16	1,151.03	121.13	10.502	
12,500.00	9,050.16	10,892.01	8,059.09	80.09	100.89	-39.28	451.66	3,764.95	1,274.36	1,151.15	123.21	10.343	
12,550.00	9,050.16	10,949.74	8,059.80	81.03	102.60	-39.45	456.63	3,822.46	1,276.34	1,151.00	125.34	10.183	
12,600.00	9,050.16	11,023.19	8,060.80	81.97	104.78	-39.63	461.59	3,895.73	1,277.68	1,149.92	127.76	10.001	
12,650.00	9,050.16	11,079.17	8,061.67	82.92	106.44	-39.74	464.38	3,951.63	1,278.38	1,148.66	129.73	9.854	
12,700.00	9,050.16	11,131.45	8,062.39	83.86	108.00	-39.82	466.71	4,003.86	1,278.99	1,147.39	131.60	9.719	

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

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Turquoise PWU 27-61H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3370.00ft
Reference Site:	Sec 27-T19S-R29E	MD Reference:	RKB @ 3370.00ft
Site Error:	5.00 ft	North Reference:	Grid
Reference Well:	Turquoise PWU 27-61H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 3	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:		5.00 ft
Sec 27-T19S-R29E - Turquoise PWU 27-1H - Wellbore #1 - Wellbore #1													Offset Well Error:		0.50 ft
Survey Program: 100-NSG-GYC_Drop, 7392-MWD+IGRF															
Reference		Offset		Semi Major Axis			Distance								
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning		
12,750.00	9,050.16	11,178.76	8,062.96	84.81	109.41	-39.89	468.72	4,051.12	1,279.60	1,146.24	133.36	9.595			
12,800.00	9,050.16	11,226.11	8,063.41	85.76	110.83	-39.96	470.74	4,098.43	1,280.32	1,145.20	135.13	9.475			
12,850.00	9,050.16	11,271.17	8,063.85	86.71	112.18	-40.03	472.90	4,143.43	1,281.19	1,144.32	136.87	9.381			
12,900.00	9,050.16	11,316.24	8,064.44	87.66	113.53	-40.12	475.48	4,188.42	1,282.25	1,143.60	138.65	9.248			
12,950.00	9,050.16	11,359.66	8,065.03	88.61	114.83	-40.22	478.31	4,231.74	1,283.54	1,143.10	140.44	9.140			
13,000.00	9,050.16	11,402.90	8,065.54	89.57	116.12	-40.33	481.36	4,274.88	1,285.08	1,142.86	142.23	9.035			
13,050.00	9,050.16	11,450.68	8,066.07	90.53	117.55	-40.45	484.99	4,322.52	1,286.83	1,142.68	144.16	8.927			
13,100.00	9,050.16	11,500.20	8,066.80	91.49	119.04	-40.60	489.00	4,371.86	1,288.61	1,142.45	146.16	8.816			
13,150.00	9,050.16	11,552.80	8,067.79	92.45	120.61	-40.76	493.44	4,424.27	1,290.37	1,142.08	148.29	8.702			
13,200.00	9,050.16	11,606.07	8,068.97	93.41	122.21	-40.93	497.94	4,477.34	1,292.00	1,141.54	150.46	8.587			
13,250.00	9,050.16	11,658.01	8,070.30	94.37	123.77	-41.10	502.36	4,529.07	1,293.54	1,140.93	152.81	8.478			
13,300.00	9,050.16	11,711.21	8,071.85	95.33	125.37	-41.28	506.96	4,582.05	1,295.00	1,140.17	154.83	8.364			
13,350.00	9,050.16	11,768.50	8,073.94	96.30	127.09	-41.49	512.00	4,639.08	1,296.24	1,139.04	157.20	8.246			
13,400.00	9,050.16	11,815.55	8,075.96	97.26	128.51	-41.68	516.22	4,685.89	1,297.33	1,138.00	159.33	8.142			
13,450.00	9,050.16	11,854.98	8,077.34	98.23	129.69	-41.82	519.81	4,725.14	1,298.76	1,137.53	161.23	8.055			
13,500.00	9,050.16	11,895.37	8,078.36	99.20	130.91	-41.96	523.54	4,765.34	1,300.60	1,137.46	163.14	7.972			
13,550.00	9,050.16	11,939.79	8,079.22	100.17	132.25	-42.11	527.70	4,809.56	1,302.73	1,137.58	165.15	7.888			
13,600.00	9,050.16	11,984.52	8,079.89	101.14	133.59	-42.26	531.95	4,854.08	1,305.06	1,137.90	167.18	7.807			
13,650.00	9,050.16	12,035.11	8,080.71	102.11	135.12	-42.43	536.93	4,904.42	1,307.49	1,138.12	169.37	7.720			
13,700.00	9,050.16	12,087.55	8,081.87	103.08	136.70	-42.62	542.38	4,956.56	1,309.89	1,138.20	171.69	7.629			
13,750.00	9,050.16	12,149.13	8,084.00	104.06	138.55	-42.88	549.05	5,017.74	1,312.00	1,137.62	174.38	7.524			
13,800.00	9,050.16	12,205.51	8,088.79	105.03	140.25	-43.15	555.41	5,073.69	1,313.75	1,136.76	176.99	7.423			
13,850.00	9,050.16	12,258.94	8,090.05	106.01	141.86	-43.44	561.84	5,126.63	1,315.36	1,135.75	179.60	7.324			
13,900.00	9,050.16	12,308.99	8,093.46	106.98	143.36	-43.73	568.09	5,176.17	1,316.90	1,134.74	182.16	7.229			
13,950.00	9,050.16	12,345.00	8,095.92	107.96	144.44	-43.93	572.60	5,211.81	1,318.55	1,134.32	184.23	7.157			
13,993.84	9,050.16	12,345.00	8,095.92	108.82	144.44	-43.93	572.60	5,211.81	1,321.12	1,136.30	184.82	7.148 SF			

Anticollision Report

Company: WCDSC Permian NM
 Project: Eddy County (NAD 83 NM Eastern)
 Reference Site: Sec 27-T19S-R29E
 Site Error: 5.00 ft
 Reference Well: Turquoise PWU 27-61H
 Well Error: 0.50 ft
 Reference Wellbore: Wellbore #1
 Reference Design: Permit Plan 3

Local Co-ordinate Reference: Well Turquoise PWU 27-61H
 TVD Reference: RKB @ 3370.00ft
 MD Reference: RKB @ 3370.00ft
 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 27-T19S-R29E - Turquoise PWU 27-9H - Wellbore #1 - Permit Plan 3													Offset Site Error:	5.00 ft
Survey Program: 0-MWD+IFR1													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Minimum Separation (ft)	Separation Factor	Warning			
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)				Between Centres (ft)	Between Ellipses (ft)	
0.00	0.00	3.00	3.00	0.50	0.50	90.00	0.00	30.00	30.00					
50.00	50.00	53.00	53.00	0.50	0.50	90.00	0.00	30.00	30.00	28.99	1.01	29.802		
100.00	100.00	103.00	103.00	0.52	0.52	90.00	0.00	30.00	30.00	28.96	1.04	28.934		
150.00	150.00	153.00	153.00	0.59	0.59	90.00	0.00	30.00	30.00	28.82	1.18	25.356		
200.00	200.00	203.00	203.00	0.70	0.71	90.00	0.00	30.00	30.00	28.59	1.41	21.311		
250.00	250.00	253.00	253.00	0.84	0.84	90.00	0.00	30.00	30.00	28.32	1.68	17.863		
300.00	300.00	303.00	303.00	0.99	0.99	90.00	0.00	30.00	30.00	28.02	1.98	15.159		
350.00	350.00	353.00	353.00	1.15	1.15	90.00	0.00	30.00	30.00	27.70	2.30	13.069		
400.00	400.00	403.00	403.00	1.31	1.31	90.00	0.00	30.00	30.00	27.38	2.62	11.438		
450.00	450.00	453.00	453.00	1.48	1.48	90.00	0.00	30.00	30.00	27.04	2.96	10.144		
500.00	500.00	503.00	503.00	1.65	1.65	90.00	0.00	30.00	30.00	26.70	3.30	9.099		
550.00	550.00	553.00	553.00	1.82	1.82	90.00	0.00	30.00	30.00	26.36	3.64	8.241		
600.00	600.00	603.00	603.00	1.99	2.00	90.00	0.00	30.00	30.00	26.01	3.99	7.526		
650.00	650.00	653.00	653.00	2.16	2.17	90.00	0.00	30.00	30.00	25.67	4.33	6.922		
700.00	700.00	703.00	703.00	2.34	2.34	90.00	0.00	30.00	30.00	25.32	4.68	6.405		
750.00	750.00	753.00	753.00	2.51	2.52	90.00	0.00	30.00	30.00	24.97	5.03	5.959		
800.00	800.00	803.00	803.00	2.69	2.70	90.00	0.00	30.00	30.00	24.61	5.39	5.570		
850.00	850.00	853.00	853.00	2.87	2.87	90.00	0.00	30.00	30.00	24.26	5.74	5.228		
900.00	900.00	903.00	903.00	3.04	3.05	90.00	0.00	30.00	30.00	23.91	6.09	4.924 Alert		
950.00	950.00	953.00	953.00	3.22	3.23	90.00	0.00	30.00	30.00	23.55	6.45	4.654 Alert		
1,000.00	1,000.00	1,003.00	1,003.00	3.40	3.40	90.00	0.00	30.00	30.00	23.20	6.80	4.412 Alert		
1,050.00	1,050.00	1,053.00	1,053.00	3.58	3.58	90.00	0.00	30.00	30.00	22.85	7.16	4.193 Alert		
1,100.00	1,100.00	1,103.00	1,103.00	3.75	3.76	90.00	0.00	30.00	30.00	22.49	7.51	3.995 Alert		
1,150.00	1,150.00	1,153.00	1,153.00	3.93	3.94	90.00	0.00	30.00	30.00	22.13	7.87	3.814 Alert		
1,200.00	1,200.00	1,203.00	1,203.00	4.11	4.11	90.00	0.00	30.00	30.00	21.78	8.22	3.649 Alert		
1,250.00	1,250.00	1,253.00	1,253.00	4.29	4.29	90.00	0.00	30.00	30.00	21.42	8.58	3.498 Alert		
1,300.00	1,300.00	1,303.00	1,303.00	4.46	4.47	90.00	0.00	30.00	30.00	21.07	8.93	3.358 Alert		
1,350.00	1,350.00	1,353.00	1,353.00	4.64	4.65	90.00	0.00	30.00	30.00	20.71	9.29	3.229 Alert		
1,400.00	1,400.00	1,403.00	1,403.00	4.82	4.83	90.00	0.00	30.00	30.00	20.35	9.65	3.110 Alert		
1,450.00	1,450.00	1,453.00	1,453.00	5.00	5.00	90.00	0.00	30.00	30.00	20.00	10.00	2.999 Alert		
1,500.00	1,500.00	1,503.00	1,503.00	5.18	5.18	90.00	0.00	30.00	30.00	19.64	10.36	2.896 Alert		
1,550.00	1,550.00	1,553.00	1,553.00	5.36	5.36	90.00	0.00	30.00	30.00	19.28	10.72	2.799 Alert		
1,600.00	1,600.00	1,603.00	1,603.00	5.53	5.54	90.00	0.00	30.00	30.00	18.93	11.07	2.709 Alert		
1,650.00	1,650.00	1,653.00	1,653.00	5.71	5.72	90.00	0.00	30.00	30.00	18.57	11.43	2.625 Alert		
1,700.00	1,700.00	1,703.00	1,703.00	5.89	5.90	90.00	0.00	30.00	30.00	18.21	11.79	2.545 Alert		
1,750.00	1,750.00	1,753.00	1,753.00	6.07	6.07	90.00	0.00	30.00	30.00	17.86	12.14	2.470 Minor Risk		
1,800.00	1,800.00	1,803.00	1,803.00	6.25	6.25	90.00	0.00	30.00	30.00	17.50	12.50	2.400 Minor Risk		
1,850.00	1,850.00	1,853.00	1,853.00	6.43	6.43	90.00	0.00	30.00	30.00	17.14	12.86	2.333 Minor Risk		
1,900.00	1,900.00	1,903.00	1,903.00	6.61	6.61	90.00	0.00	30.00	30.00	16.78	13.22	2.270 Minor Risk		
1,950.00	1,950.00	1,953.00	1,953.00	6.78	6.79	90.00	0.00	30.00	30.00	16.43	13.57	2.210 Minor Risk		
2,000.00	2,000.00	2,003.00	2,003.00	6.96	6.97	90.00	0.00	30.00	30.00	16.07	13.93	2.153 Minor Risk		
2,050.00	2,050.00	2,053.00	2,053.00	7.14	7.15	90.00	0.00	30.00	30.00	15.71	14.29	2.099 Minor Risk		
2,100.00	2,100.00	2,103.00	2,103.00	7.32	7.33	90.00	0.00	30.00	30.00	15.35	14.65	2.048 Minor Risk		
2,150.00	2,150.00	2,153.00	2,153.00	7.50	7.50	90.00	0.00	30.00	30.00	15.00	15.00	1.999 Minor Risk		
2,200.00	2,200.00	2,203.00	2,203.00	7.68	7.68	90.00	0.00	30.00	30.00	14.64	15.36	1.953 Minor Risk		
2,250.00	2,250.00	2,253.00	2,253.00	7.86	7.86	90.00	0.00	30.00	30.00	14.28	15.72	1.908 Minor Risk		
2,300.00	2,300.00	2,303.00	2,303.00	8.04	8.04	90.00	0.00	30.00	30.00	13.92	16.08	1.866 Minor Risk		
2,350.00	2,350.00	2,353.00	2,353.00	8.22	8.22	90.00	0.00	30.00	30.00	13.56	16.44	1.825 Minor Risk		
2,400.00	2,400.00	2,403.00	2,403.00	8.39	8.40	90.00	0.00	30.00	30.00	13.21	16.79	1.786 Minor Risk		
2,450.00	2,450.00	2,453.00	2,453.00	8.57	8.58	90.00	0.00	30.00	30.00	12.85	17.15	1.749 Minor Risk		
2,500.00	2,500.00	2,503.00	2,503.00	8.75	8.76	90.00	0.00	30.00	30.00	12.49	17.51	1.713 Minor Risk		
2,550.00	2,550.00	2,553.00	2,553.00	8.93	8.94	90.00	0.00	30.00	30.00	12.13	17.87	1.679 Minor Risk		

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

Anticollision Report

Company: WCDSC Permian NM
Project: Eddy County (NAD 83 NM Eastern)
Reference Site: Sec 27-T19S-R29E
Site Error: 5.00 ft
Reference Well: Turquoise PWU 27-61H
Well Error: 0.50 ft
Reference Wellbore: Wellbore #1
Reference Design: Permit Plan 3

Local Co-ordinate Reference: Well Turquoise PWU 27-61H
TVD Reference: RKB @ 3370.00ft
MD Reference: RKB @ 3370.00ft
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 27-T19S-R29E - Turquoise PWU 27-9H - Wellbore #1 - Permit Plan 3													Offset Site Error:	5.00 ft
Survey Program: 0-MWD+IFR1													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Minimum Separation (ft)	Separation Factor	Warning			
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)						
2,600.00	2,600.00	2,603.00	2,603.00	9.11	9.11	90.00	0.00	30.00	30.00	11.78	18.22	1.646	Minor Risk	
2,650.00	2,650.00	2,653.00	2,653.00	9.29	9.29	90.00	0.00	30.00	30.00	11.42	18.58	1.614	Minor Risk	
2,700.00	2,700.00	2,703.00	2,703.00	9.47	9.47	90.00	0.00	30.00	30.00	11.06	18.94	1.584	Minor Risk	
2,703.98	2,703.98	2,706.98	2,706.98	9.48	9.49	90.00	0.00	30.00	30.00	11.03	18.97	1.582	Minor Risk, CC	
2,750.00	2,750.00	2,752.97	2,752.97	9.65	9.65	89.95	0.03	30.01	30.01	10.71	19.30	1.555	Minor Risk	
2,800.00	2,800.00	2,802.88	2,802.87	9.83	9.83	89.28	0.38	30.14	30.14	10.48	19.66	1.533	Minor Risk	
2,850.00	2,850.00	2,852.77	2,852.76	10.01	10.01	87.86	1.14	30.41	30.44	10.42	20.01	1.521	Minor Risk, ES	
2,900.00	2,900.00	2,902.65	2,902.63	10.18	10.19	85.73	2.30	30.84	30.93	10.56	20.37	1.518	Minor Risk, SF	
2,950.00	2,950.00	2,952.51	2,952.45	10.36	10.38	82.96	3.88	31.41	31.66	10.93	20.72	1.528	Minor Risk	
3,000.00	3,000.00	3,002.33	3,002.23	10.54	10.54	79.67	5.86	32.13	32.67	11.59	21.08	1.550	Minor Risk	
3,050.00	3,050.00	3,052.11	3,051.95	10.72	10.72	75.97	8.24	33.00	34.03	12.60	21.43	1.588	Minor Risk	
3,100.00	3,100.00	3,101.84	3,101.59	10.90	10.90	72.03	11.03	34.02	35.79	14.01	21.78	1.643	Minor Risk	
3,150.00	3,150.00	3,151.52	3,151.15	11.08	11.07	67.99	14.22	35.18	37.99	15.86	22.13	1.717	Minor Risk	
3,200.00	3,200.00	3,201.13	3,200.62	11.26	11.25	63.98	17.81	36.48	40.67	18.19	22.47	1.809	Minor Risk	
3,250.00	3,250.00	3,250.77	3,250.07	11.44	11.43	60.13	21.78	37.93	43.83	21.01	22.82	1.921	Minor Risk	
3,300.00	3,300.00	3,300.58	3,299.69	11.62	11.61	56.73	25.86	39.41	47.25	24.08	23.17	2.039	Minor Risk	
3,350.00	3,350.00	3,350.39	3,349.32	11.80	11.78	53.79	29.94	40.90	50.82	27.29	23.53	2.160	Minor Risk	
3,400.00	3,400.00	3,400.20	3,398.94	11.97	11.96	51.25	34.02	42.38	54.50	30.62	23.88	2.282	Minor Risk	
3,450.00	3,450.00	3,449.99	3,448.54	12.15	12.14	-104.34	38.10	43.87	58.34	34.11	24.22	2.408	Minor Risk	
3,500.00	3,499.99	3,500.26	3,498.10	12.32	12.32	-106.94	42.17	45.35	62.43	37.86	24.57	2.541	Alert	
3,550.00	3,549.97	3,549.45	3,547.62	12.48	12.49	-109.65	46.24	46.83	66.82	41.91	24.91	2.683	Alert	
3,600.00	3,599.94	3,599.11	3,597.09	12.64	12.67	-112.41	50.31	48.31	71.55	46.30	25.24	2.834	Alert	
3,650.00	3,649.88	3,648.72	3,646.51	12.80	12.85	-115.19	54.37	49.79	76.66	51.08	25.58	2.997	Alert	
3,700.00	3,699.79	3,701.74	3,695.86	12.97	13.04	-117.94	58.43	51.27	82.18	56.24	25.93	3.169	Alert	
3,750.00	3,749.69	3,747.79	3,745.21	13.13	13.20	-120.45	62.49	52.74	87.92	61.66	26.26	3.348	Alert	
3,800.00	3,799.60	3,802.68	3,794.55	13.30	13.40	-122.65	66.54	54.22	93.82	67.19	26.62	3.524	Alert	
3,850.00	3,849.50	3,846.85	3,843.89	13.46	13.56	-124.59	70.60	55.70	99.83	72.89	26.94	3.705	Alert	
3,900.00	3,899.40	3,903.62	3,893.23	13.63	13.78	-126.31	74.65	57.17	105.94	78.63	27.31	3.879	Alert	
3,950.00	3,949.31	3,945.91	3,942.57	13.79	13.91	-127.84	78.71	58.65	112.14	84.51	27.63	4.059	Alert	
4,000.00	3,999.21	4,004.56	3,991.91	13.96	14.12	-129.20	82.77	60.13	118.41	90.41	28.00	4.228	Alert	
4,050.00	4,049.12	4,044.97	4,041.26	14.12	14.27	-130.44	86.82	61.60	124.74	96.43	28.31	4.406	Alert	
4,100.00	4,099.02	4,094.50	4,090.60	14.29	14.44	-131.55	90.88	63.08	131.12	102.46	28.66	4.575	Alert	
4,150.00	4,148.93	4,144.03	4,139.94	14.46	14.62	-132.56	94.94	64.55	137.54	108.54	29.00	4.742	Alert	
4,200.00	4,198.83	4,206.44	4,189.28	14.62	14.85	-133.47	98.99	66.03	144.01	114.61	29.39	4.899	Alert	
4,250.00	4,248.73	4,243.09	4,238.62	14.79	14.98	-134.31	103.05	67.51	150.50	120.81	29.69	5.069		
4,300.00	4,298.64	4,292.62	4,287.96	14.96	15.16	-135.08	107.11	68.98	157.03	126.99	30.04	5.228		
4,350.00	4,348.54	4,342.15	4,337.30	15.13	15.33	-135.79	111.16	70.46	163.58	133.19	30.38	5.384		
4,400.00	4,398.45	4,408.32	4,386.65	15.30	15.57	-136.45	115.22	71.94	170.15	139.36	30.79	5.526		
4,450.00	4,448.35	4,441.21	4,435.99	15.47	15.69	-137.05	119.28	73.41	176.74	145.67	31.08	5.688		
4,500.00	4,498.26	4,509.26	4,485.33	15.64	15.93	-137.61	123.33	74.89	183.36	151.87	31.49	5.823		
4,550.00	4,548.16	4,540.27	4,534.67	15.80	16.05	-138.14	127.39	76.37	189.98	158.21	31.77	5.980		
4,600.00	4,598.06	4,589.80	4,584.01	15.97	16.22	-138.62	131.45	77.84	196.63	164.51	32.12	6.122		
4,650.00	4,647.97	4,639.33	4,633.35	16.14	16.40	-139.08	135.50	79.32	203.28	170.82	32.46	6.262		
4,700.00	4,697.87	4,688.86	4,682.70	16.31	16.58	-139.51	139.56	80.80	209.95	177.14	32.81	6.399		
4,750.00	4,747.78	4,738.39	4,732.04	16.49	16.76	-139.91	143.62	82.27	216.63	183.47	33.16	6.533		
4,800.00	4,797.68	4,787.92	4,781.38	16.66	16.94	-140.28	147.67	83.75	223.31	189.81	33.51	6.665		
4,850.00	4,847.59	4,837.45	4,830.72	16.83	17.12	-140.64	151.73	85.22	230.01	196.15	33.86	6.794		
4,900.00	4,897.49	4,886.98	4,880.06	17.00	17.29	-140.97	155.78	86.70	236.71	202.51	34.20	6.921		
4,950.00	4,947.39	4,936.51	4,929.40	17.17	17.47	-141.29	159.84	88.18	243.43	208.87	34.55	7.045		
5,000.00	4,997.30	4,986.04	4,978.74	17.34	17.65	-141.59	163.90	89.65	250.15	215.24	34.90	7.167		
5,050.00	5,047.20	5,035.57	5,028.09	17.51	17.83	-141.87	167.95	91.13	256.87	221.62	35.25	7.287		
5,100.00	5,097.11	5,085.10	5,077.43	17.68	18.01	-142.14	172.01	92.61	263.60	228.00	35.60	7.404		

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

Anticollision Report

Company: WCDSC Permian NM
Project: Eddy County (NAD 83 NM Eastern)
Reference Site: Sec 27-T19S-R29E
Site Error: 5.00 ft
Reference Well: Turquoise PWU 27-61H
Well Error: 0.50 ft
Reference Wellbore: Wellbore #1
Reference Design: Permit Plan 3

Local Co-ordinate Reference: Well Turquoise PWU 27-61H
TVD Reference: RKB @ 3370.00ft
MD Reference: RKB @ 3370.00ft
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 27-T19S-R29E - Turquoise PWU 27-9H - Wellbore #1 - Permit Plan 3													Offset Site Error:	5.00 ft
Survey Program: O-MWD+IFR1													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis		Highside Toolface	Distance		Minimum Separation	Separation Factor	Warning			
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)				Between Centres (ft)	Between Ellipses (ft)	
5,150.00	5,147.01	5,134.63	5,126.77	17.86	18.19	-142.40	178.07	94.08	270.34	234.39		35.95	7.520	
5,200.00	5,196.92	5,184.16	5,176.11	18.03	18.36	-142.64	180.12	95.56	277.08	240.78		36.30	7.633	
5,250.00	5,246.82	5,233.69	5,225.45	18.20	18.54	-142.87	184.18	97.04	283.83	247.18		36.65	7.744	
5,300.00	5,296.72	5,283.22	5,274.79	18.37	18.72	-143.09	188.24	98.51	290.58	253.58		37.00	7.853	
5,350.00	5,346.63	5,332.75	5,324.14	18.55	18.90	-143.30	192.29	99.99	297.33	259.98		37.35	7.960	
5,400.00	5,396.53	5,382.28	5,373.48	18.72	19.08	-143.50	196.35	101.47	304.09	266.39		37.70	8.066	
5,450.00	5,446.44	5,431.81	5,422.82	18.89	19.26	-143.70	200.41	102.94	310.85	272.80		38.05	8.169	
5,500.00	5,496.34	5,481.34	5,472.16	19.07	19.44	-143.88	204.46	104.42	317.62	279.21		38.40	8.271	
5,550.00	5,546.25	5,530.87	5,521.50	19.24	19.61	-144.06	208.52	105.89	324.39	285.63		38.75	8.370	
5,600.00	5,596.15	5,580.40	5,570.84	19.42	19.79	-144.23	212.58	107.37	331.16	292.05		39.11	8.468	
5,650.00	5,646.05	5,629.93	5,620.19	19.59	19.97	-144.39	216.63	108.85	337.93	298.47		39.46	8.564	
5,700.00	5,695.96	5,679.46	5,669.53	19.76	20.15	-144.55	220.69	110.32	344.71	304.90		39.81	8.659	
5,750.00	5,745.86	5,728.99	5,718.87	19.94	20.33	-144.70	224.74	111.80	351.49	311.33		40.16	8.752	
5,800.00	5,795.77	5,778.52	5,768.21	20.11	20.51	-144.84	228.80	113.28	358.27	317.76		40.51	8.843	
5,850.00	5,845.67	5,828.05	5,817.55	20.28	20.69	-144.98	232.86	114.75	365.05	324.19		40.86	8.933	
5,900.00	5,895.58	5,877.58	5,866.89	20.46	20.87	-145.11	236.91	116.23	371.84	330.62		41.22	9.022	
5,950.00	5,945.48	5,927.11	5,916.23	20.64	21.04	-145.24	240.97	117.71	378.63	337.06		41.57	9.108	
6,000.00	5,995.38	5,976.64	5,965.58	20.81	21.22	-145.37	245.03	119.18	385.42	343.49		41.92	9.194	
6,050.00	6,045.29	6,026.17	6,014.92	20.99	21.40	-145.49	249.08	120.66	392.21	349.93		42.27	9.278	
6,100.00	6,095.19	6,075.70	6,064.26	21.16	21.58	-145.61	253.14	122.14	399.00	356.37		42.63	9.360	
6,150.00	6,145.10	6,125.23	6,113.60	21.34	21.76	-145.72	257.20	123.61	405.79	362.81		42.98	9.442	
6,200.00	6,195.00	6,174.76	6,162.94	21.51	21.94	-145.83	261.25	125.09	412.59	369.26		43.33	9.521	
6,250.00	6,244.91	6,224.29	6,212.28	21.69	22.12	-145.93	265.31	126.56	419.39	375.70		43.69	9.600	
6,300.00	6,294.81	6,273.82	6,261.63	21.86	22.30	-146.03	269.37	128.04	426.19	382.15		44.04	9.678	
6,350.00	6,344.71	6,323.35	6,310.97	22.04	22.48	-146.13	273.42	129.52	432.99	388.59		44.39	9.754	
6,400.00	6,394.62	6,372.88	6,360.31	22.21	22.66	-146.23	277.48	130.99	439.79	395.04		44.75	9.829	
6,450.00	6,444.52	6,422.41	6,409.65	22.39	22.83	-146.32	281.54	132.47	446.59	401.49		45.10	9.902	
6,500.00	6,494.43	6,471.94	6,458.99	22.57	23.01	-146.41	285.59	133.95	453.39	407.94		45.45	9.975	
6,550.00	6,544.33	6,521.47	6,508.33	22.74	23.19	-146.50	289.65	135.42	460.20	414.39		45.81	10.047	
6,600.00	6,594.24	6,571.00	6,557.67	22.92	23.37	-146.58	293.71	136.90	467.00	420.84		46.16	10.117	
6,650.00	6,644.14	6,620.53	6,607.02	23.09	23.55	-146.67	297.76	138.38	473.81	427.30		46.51	10.186	
6,700.00	6,694.04	6,670.06	6,656.36	23.27	23.73	-146.75	301.82	139.85	480.62	433.75		46.87	10.255	
6,750.00	6,743.95	6,719.59	6,705.70	23.45	23.91	-146.82	305.87	141.33	487.42	440.20		47.22	10.322	
6,800.00	6,793.85	6,769.12	6,755.04	23.62	24.09	-146.90	309.93	142.81	494.23	446.66		47.58	10.388	
6,850.00	6,843.76	6,818.65	6,804.38	23.80	24.27	-146.97	313.99	144.28	501.04	453.11		47.93	10.454	
6,900.00	6,893.66	6,868.18	6,853.72	23.98	24.45	-147.05	318.04	145.76	507.85	459.57		48.28	10.518	
6,950.00	6,943.57	6,917.71	6,903.07	24.15	24.63	-147.11	322.10	147.24	514.67	466.03		48.64	10.581	
7,000.00	6,993.47	6,967.24	6,952.41	24.33	24.80	-147.18	326.16	148.71	521.48	472.48		48.99	10.644	
7,050.00	7,043.37	7,016.77	7,001.75	24.51	24.98	-147.25	330.21	150.19	528.29	478.94		49.35	10.705	
7,100.00	7,093.28	7,066.30	7,051.09	24.68	25.16	-147.31	334.27	151.66	535.10	485.40		49.70	10.766	
7,150.00	7,143.18	7,115.83	7,100.43	24.86	25.34	-147.38	338.33	153.14	541.92	491.86		50.06	10.826	
7,200.00	7,193.09	7,165.36	7,149.77	25.04	25.52	-147.44	342.38	154.62	548.73	498.32		50.41	10.885	
7,250.00	7,242.99	7,214.89	7,199.11	25.21	25.70	-147.50	346.44	156.09	555.55	504.78		50.77	10.943	
7,300.00	7,292.90	7,264.42	7,248.46	25.39	25.88	-147.56	350.50	157.57	562.37	511.24		51.12	11.001	
7,350.00	7,342.80	7,313.95	7,297.80	25.57	26.06	-147.61	354.55	159.05	569.18	517.71		51.48	11.057	
7,400.00	7,392.70	7,363.48	7,347.14	25.75	26.24	-147.67	358.61	160.52	576.00	524.17		51.83	11.113	
7,450.00	7,442.61	7,413.01	7,396.48	25.92	26.42	-147.72	362.67	162.00	582.82	530.63		52.19	11.168	
7,500.00	7,492.51	7,462.54	7,445.82	26.10	26.60	-147.78	366.72	163.48	589.63	537.09		52.54	11.222	
7,550.00	7,542.42	7,512.07	7,495.16	26.28	26.78	-147.83	370.78	164.95	596.45	543.56		52.90	11.276	
7,600.00	7,592.32	7,561.60	7,544.51	26.46	26.96	-147.88	374.84	166.43	603.27	550.02		53.25	11.328	
7,650.00	7,642.23	7,611.13	7,593.85	26.63	27.14	-147.93	378.89	167.91	610.09	556.48		53.61	11.381	
7,700.00	7,692.13	7,660.66	7,643.19	26.81	27.31	-147.98	382.95	169.38	616.91	562.95		53.96	11.432	

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

Anticollision Report

Company: WCDSC Permian NM
 Project: Eddy County (NAD 83 NM Eastern)
 Reference Site: Sec 27-T19S-R29E
 Site Error: 5.00 ft
 Reference Well: Turquoise PWU 27-61H
 Well Error: 0.50 ft
 Reference Wellbore: Wellbore #1
 Reference Design: Permit Plan 3

Local Co-ordinate Reference: Well Turquoise PWU 27-61H
 TVD Reference: RKB @ 3370.00ft
 MD Reference: RKB @ 3370.00ft
 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 27-T19S-R29E - Turquoise PWU 27-9H - Wellbore #1 - Permit Plan 3														Offset Site Error:	5.00 ft
Survey Program: 0-MWD+IFR1														Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance								Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor			
7,750.00	7,742.03	7,710.19	7,692.53	26.99	27.49	-148.02	387.00	170.86	623.73	569.41	54.32	11.483			
7,800.00	7,791.94	7,759.72	7,741.87	27.17	27.67	-148.07	391.06	172.33	630.55	575.88	54.68	11.533			
7,850.00	7,841.84	7,809.25	7,791.21	27.35	27.85	-148.12	395.12	173.81	637.37	582.34	55.03	11.582			
7,900.00	7,891.75	7,858.78	7,840.55	27.52	28.03	-148.16	399.17	175.29	644.20	588.81	55.39	11.631			
7,950.00	7,941.65	7,908.31	7,889.90	27.70	28.21	-148.20	403.23	176.76	651.02	595.28	55.74	11.679			
8,000.00	7,991.56	7,957.84	7,939.24	27.88	28.39	-148.25	407.29	178.24	657.84	601.74	56.10	11.727			
8,050.00	8,041.46	8,007.37	7,988.58	28.06	28.57	-148.29	411.34	179.72	664.66	608.21	56.45	11.773			
8,100.00	8,091.36	8,056.90	8,037.92	28.24	28.75	-148.50	415.40	181.19	671.50	614.69	56.81	11.820			
8,150.00	8,141.23	8,106.37	8,087.20	28.41	28.93	-149.07	419.45	182.67	678.76	621.59	57.17	11.873			
8,200.00	8,191.05	8,160.09	8,140.72	28.59	29.12	-149.52	423.77	184.24	686.51	628.96	57.56	11.927			
8,250.00	8,240.81	8,219.88	8,200.35	28.77	29.34	-149.92	427.86	185.73	694.22	636.23	57.99	11.972			
8,300.00	8,290.51	8,279.81	8,260.19	28.95	29.55	-150.30	431.08	186.90	701.77	643.35	58.41	12.014			
8,350.00	8,340.12	8,339.88	8,320.20	29.13	29.77	-150.68	433.43	187.75	709.14	650.32	58.82	12.055			
8,400.00	8,389.65	8,400.06	8,380.36	29.31	29.99	-151.07	434.88	188.28	716.35	657.13	59.23	12.095			
8,450.00	8,439.09	8,460.34	8,440.64	29.50	30.20	-151.49	435.45	188.49	723.40	663.79	59.62	12.134			
8,500.00	8,488.43	8,487.60	8,467.89	29.68	30.30	-151.70	435.76	188.60	731.27	671.39	59.88	12.212			
8,550.00	8,537.64	8,500.00	8,480.28	29.86	30.34	-145.82	436.28	188.79	741.63	681.63	60.00	12.360			
8,600.00	8,586.49	8,530.95	8,511.12	30.04	30.45	-126.94	438.67	189.66	753.40	693.20	60.20	12.514			
8,650.00	8,634.58	8,550.00	8,530.02	30.23	30.52	-115.22	440.91	190.48	768.65	706.40	60.26	12.723			
8,700.00	8,681.50	8,572.00	8,551.73	30.41	30.60	-107.60	444.24	191.69	781.15	720.85	60.31	12.953			
8,750.00	8,726.94	8,600.00	8,579.14	30.58	30.71	-102.40	449.61	193.64	796.95	736.54	60.42	13.191			
8,800.00	8,770.54	8,600.00	8,579.14	30.75	30.71	-97.63	449.61	193.64	813.80	753.71	60.09	13.543			
8,850.00	8,811.96	8,627.43	8,605.69	30.92	30.81	-94.55	456.08	196.00	831.52	771.33	60.19	13.814			
8,900.00	8,850.90	8,650.00	8,627.27	31.09	30.89	-91.86	462.29	198.26	850.41	790.17	60.24	14.117			
8,950.00	8,887.04	8,659.41	8,636.18	31.26	30.93	-88.95	465.12	199.29	870.10	810.03	60.08	14.483			
9,000.00	8,920.13	8,685.80	8,660.97	31.44	31.02	-87.07	473.53	202.62	890.59	830.32	60.27	14.776			
9,050.00	8,949.91	8,733.92	8,705.68	31.62	31.20	-86.43	488.82	211.69	910.85	849.95	60.91	14.955			
9,100.00	8,976.15	8,787.37	8,754.28	31.82	31.39	-86.19	505.46	226.37	930.50	868.88	61.62	15.100			
9,150.00	8,998.65	8,847.90	8,807.48	32.03	31.61	-86.35	523.68	248.69	949.31	886.89	62.41	15.210			
9,200.00	9,017.24	8,917.88	8,865.80	32.27	31.86	-86.94	543.67	281.71	966.96	903.70	63.26	15.287			
9,250.00	9,031.78	9,000.49	8,929.12	32.52	32.16	-88.00	565.39	329.99	983.02	918.90	64.12	15.331			
9,300.00	9,042.16	9,099.59	8,995.44	32.79	32.53	-89.49	588.17	399.84	996.89	931.92	64.98	15.343			
9,350.00	9,048.30	9,218.94	9,058.74	33.07	33.02	-91.27	608.96	498.39	1,007.71	941.89	65.83	15.309			
9,400.00	9,050.16	9,359.80	9,106.71	33.37	33.69	-93.04	628.58	629.40	1,014.42	947.68	66.74	15.199			
9,450.00	9,050.16	9,450.00	9,122.54	33.71	34.18	-93.92	632.17	756.63	1,016.13	948.62	67.51	15.051			
9,500.00	9,050.16	9,555.94	9,123.06	34.04	34.83	-93.95	632.46	824.11	1,015.82	947.34	68.49	14.833			
9,550.00	9,050.16	9,605.93	9,123.06	34.43	35.16	-93.95	632.54	874.11	1,015.45	946.25	69.20	14.673			
9,600.00	9,050.16	9,655.93	9,123.06	34.82	35.53	-93.95	632.62	924.11	1,015.08	945.11	69.97	14.508			
9,650.00	9,050.16	9,705.93	9,123.06	35.26	35.91	-93.95	632.69	974.11	1,014.71	943.92	70.79	14.335			
9,700.00	9,050.16	9,755.93	9,123.06	35.70	36.34	-93.95	632.77	1,024.10	1,014.34	942.69	71.65	14.157			
9,750.00	9,050.16	9,805.93	9,123.06	36.19	36.76	-93.95	632.85	1,074.10	1,013.97	941.40	72.57	13.973			
9,800.00	9,050.16	9,855.93	9,123.06	36.68	37.23	-93.95	632.93	1,124.10	1,013.60	940.07	73.52	13.786			
9,850.00	9,050.16	9,905.93	9,123.06	37.21	37.71	-93.96	633.01	1,174.10	1,013.23	938.70	74.53	13.595			
9,900.00	9,050.16	9,955.92	9,123.06	37.74	38.22	-93.96	633.09	1,224.10	1,012.85	937.28	75.57	13.403			
9,950.00	9,050.16	10,005.92	9,123.06	38.30	38.74	-93.96	633.17	1,274.10	1,012.48	935.83	76.66	13.208			
10,000.00	9,050.16	10,055.92	9,123.06	38.87	39.29	-93.96	633.25	1,324.10	1,012.11	934.34	77.78	13.013			
10,050.00	9,050.16	10,105.92	9,123.06	39.48	39.84	-93.96	633.32	1,374.09	1,011.74	932.80	78.94	12.817			
10,100.00	9,050.16	10,155.92	9,123.06	40.09	40.43	-93.96	633.40	1,424.09	1,011.37	931.24	80.13	12.621			
10,150.00	9,050.16	10,205.92	9,123.06	40.72	41.02	-93.96	633.48	1,474.09	1,011.00	929.64	81.36	12.426			
10,200.00	9,050.16	10,255.92	9,123.06	41.36	41.64	-93.97	633.56	1,524.09	1,010.63	928.01	82.62	12.232			
10,250.00	9,050.16	10,305.91	9,123.06	42.03	42.27	-93.97	633.64	1,574.09	1,010.26	926.35	83.91	12.039			
10,300.00	9,050.16	10,355.91	9,123.06	42.70	42.92	-93.97	633.72	1,624.09	1,009.89	924.65	85.23	11.849			

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

Anticollision Report

Company: WCDSC Permian NM
Project: Eddy County (NAD 83 NM Eastern)
Reference Site: Sec 27-T19S-R29E
Site Error: 5.00 ft
Reference Well: Turquoise PWU 27-61H
Well Error: 0.50 ft
Reference Wellbore: Wellbore #1
Reference Design: Permit Plan 3

Local Co-ordinate Reference: Well Turquoise PWU 27-61H
TVD Reference: RKB @ 3370.00ft
MD Reference: RKB @ 3370.00ft
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 27-T19S-R29E - Turquoise PWU 27-9H - Wellbore #1 - Permit Plan 3													Offset Site Error:	5.00 ft
Survey Program: 0-MWD+IFR1													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Minimum Separation (ft)	Separation Factor	Warning			
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)				Between Centres (ft)	Between Ellipses (ft)	
10,350.00	9,050.16	10,405.91	9,123.06	43.39	43.58	-93.97	633.80	1,674.09	1,009.52	922.93	86.58	11.660		
10,400.00	9,050.16	10,455.91	9,123.06	44.09	44.26	-93.97	633.88	1,724.08	1,009.15	921.19	87.96	11.473		
10,450.00	9,050.16	10,505.91	9,123.06	44.81	44.94	-93.97	633.95	1,774.08	1,008.78	919.42	89.36	11.289		
10,500.00	9,050.16	10,555.91	9,123.06	45.53	45.64	-93.98	634.03	1,824.08	1,008.40	917.62	90.78	11.108		
10,550.00	9,050.16	10,605.91	9,123.06	46.27	46.35	-93.98	634.11	1,874.08	1,008.03	915.80	92.23	10.929		
10,600.00	9,050.16	10,655.90	9,123.06	47.02	47.08	-93.98	634.19	1,924.08	1,007.66	913.96	93.70	10.754		
10,650.00	9,050.16	10,705.90	9,123.06	47.78	47.81	-93.98	634.27	1,974.08	1,007.29	912.10	95.20	10.581		
10,700.00	9,050.16	10,755.90	9,123.06	48.54	48.56	-93.98	634.35	2,024.08	1,006.92	910.22	96.71	10.412		
10,750.00	9,050.16	10,805.90	9,123.06	49.33	49.31	-93.98	634.43	2,074.07	1,006.55	908.31	98.24	10.246		
10,800.00	9,050.16	10,855.90	9,123.06	50.11	50.08	-93.98	634.50	2,124.07	1,006.18	906.39	99.79	10.083		
10,850.00	9,050.16	10,905.90	9,123.06	50.91	50.85	-93.99	634.58	2,174.07	1,005.81	904.46	101.35	9.924		
10,900.00	9,050.16	10,955.90	9,123.06	51.71	51.63	-93.99	634.66	2,224.07	1,005.44	902.50	102.94	9.768		
10,950.00	9,050.16	11,005.90	9,123.06	52.52	52.42	-93.99	634.74	2,274.07	1,005.07	900.53	104.54	9.615		
11,000.00	9,050.16	11,055.89	9,123.06	53.33	53.22	-93.99	634.82	2,324.07	1,004.70	898.55	106.15	9.465		
11,050.00	9,050.16	11,105.89	9,123.06	54.16	54.02	-93.99	634.90	2,374.07	1,004.33	896.55	107.78	9.318		
11,100.00	9,050.16	11,155.89	9,123.06	54.99	54.84	-93.99	634.98	2,424.06	1,003.96	894.53	109.42	9.175		
11,150.00	9,050.16	11,205.89	9,123.06	55.83	55.66	-93.99	635.06	2,474.06	1,003.58	892.51	111.08	9.035		
11,200.00	9,050.16	11,255.89	9,123.06	56.67	56.49	-94.00	635.13	2,524.06	1,003.21	890.47	112.75	8.898		
11,250.00	9,050.16	11,305.89	9,123.06	57.52	57.32	-94.00	635.21	2,574.06	1,002.84	888.42	114.43	8.764		
11,300.00	9,050.16	11,355.89	9,123.06	58.38	58.16	-94.00	635.29	2,624.06	1,002.47	886.35	116.12	8.633		
11,350.00	9,050.16	11,405.88	9,123.06	59.24	59.00	-94.00	635.37	2,674.06	1,002.10	884.28	117.82	8.505		
11,400.00	9,050.16	11,455.88	9,123.06	60.10	59.86	-94.00	635.45	2,724.06	1,001.73	882.19	119.54	8.380		
11,450.00	9,050.16	11,505.88	9,123.06	60.97	60.71	-94.00	635.53	2,774.05	1,001.36	880.10	121.26	8.258		
11,500.00	9,050.16	11,555.88	9,123.06	61.85	61.57	-94.00	635.61	2,824.05	1,000.99	877.99	122.99	8.138		
11,550.00	9,050.16	11,605.88	9,123.06	62.73	62.44	-94.01	635.69	2,874.05	1,000.62	875.88	124.74	8.022		
11,600.00	9,050.16	11,655.88	9,123.06	63.61	63.31	-94.01	635.76	2,924.05	1,000.25	873.76	126.49	7.908		
11,650.00	9,050.16	11,705.88	9,123.06	64.50	64.18	-94.01	635.84	2,974.05	999.88	871.63	128.25	7.796		
11,700.00	9,050.16	11,755.87	9,123.06	65.39	65.07	-94.01	635.92	3,024.05	999.51	869.49	130.02	7.687		
11,750.00	9,050.16	11,805.87	9,123.06	66.29	65.95	-94.01	636.00	3,074.05	999.14	867.34	131.80	7.581		
11,800.00	9,050.16	11,855.87	9,123.06	67.19	66.84	-94.01	636.08	3,124.04	998.76	865.18	133.58	7.477		
11,850.00	9,050.16	11,905.87	9,123.06	68.09	67.73	-94.02	636.16	3,174.04	998.39	863.02	135.37	7.375		
11,900.00	9,050.16	11,955.87	9,123.06	68.99	68.62	-94.02	636.24	3,224.04	998.02	860.85	137.17	7.276		
11,950.00	9,050.16	12,005.87	9,123.06	69.91	69.52	-94.02	636.32	3,274.04	997.65	858.68	138.98	7.179		
12,000.00	9,050.16	12,055.87	9,123.06	70.82	70.43	-94.02	636.39	3,324.04	997.28	856.49	140.79	7.084		
12,050.00	9,050.16	12,105.86	9,123.06	71.73	71.33	-94.02	636.47	3,374.04	996.91	854.31	142.61	6.991		
12,100.00	9,050.16	12,155.86	9,123.06	72.65	72.24	-94.02	636.55	3,424.04	996.54	852.11	144.43	6.900		
12,150.00	9,050.16	12,205.86	9,123.06	73.57	73.15	-94.02	636.63	3,474.03	996.17	849.91	146.26	6.811		
12,200.00	9,050.16	12,255.86	9,123.06	74.50	74.07	-94.03	636.71	3,524.03	995.80	847.70	148.09	6.724		
12,250.00	9,050.16	12,305.86	9,123.06	75.42	74.98	-94.03	636.79	3,574.03	995.43	845.49	149.93	6.639		
12,300.00	9,050.16	12,355.86	9,123.06	76.35	75.90	-94.03	636.87	3,624.03	995.06	843.28	151.78	6.556		
12,350.00	9,050.16	12,405.86	9,123.06	77.28	76.83	-94.03	636.95	3,674.03	994.69	841.06	153.63	6.475		
12,400.00	9,050.16	12,455.86	9,123.06	78.22	77.75	-94.03	637.02	3,724.03	994.32	838.83	155.49	6.395		
12,450.00	9,050.16	12,505.85	9,123.06	79.15	78.68	-94.03	637.10	3,774.03	993.94	836.60	157.35	6.317		
12,500.00	9,050.16	12,555.85	9,123.06	80.09	79.61	-94.03	637.18	3,824.02	993.57	834.36	159.21	6.241		
12,550.00	9,050.16	12,605.85	9,123.06	81.03	80.54	-94.04	637.26	3,874.02	993.20	832.12	161.08	6.166		
12,600.00	9,050.16	12,655.85	9,123.06	81.97	81.48	-94.04	637.34	3,924.02	992.83	829.88	162.95	6.093		
12,650.00	9,050.16	12,705.85	9,123.06	82.92	82.41	-94.04	637.42	3,974.02	992.46	827.63	164.83	6.021		
12,700.00	9,050.16	12,755.85	9,123.06	83.86	83.35	-94.04	637.50	4,024.02	992.09	825.38	166.71	5.951		
12,750.00	9,050.16	12,805.85	9,123.06	84.81	84.29	-94.04	637.58	4,074.02	991.72	823.13	168.59	5.882		
12,800.00	9,050.16	12,855.84	9,123.06	85.76	85.24	-94.04	637.65	4,124.02	991.35	820.87	170.48	5.815		
12,850.00	9,050.16	12,905.84	9,123.06	86.71	86.18	-94.05	637.73	4,174.01	990.98	818.60	172.37	5.749		
12,900.00	9,050.16	12,955.84	9,123.06	87.66	87.13	-94.05	637.81	4,224.01	990.61	816.34	174.27	5.684		

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

Anticollision Report

Company: WCDSC Permian NM
Project: Eddy County (NAD 83 NM Eastern)
Reference Site: Sec 27-T19S-R29E
Site Error: 5.00 ft
Reference Well: Turquoise PWU 27-61H
Well Error: 0.50 ft
Reference Wellbore: Wellbore #1
Reference Design: Permit Plan 3

Local Co-ordinate Reference: Well Turquoise PWU 27-61H
TVD Reference: RKB @ 3370.00ft
MD Reference: RKB @ 3370.00ft
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 27-T19S-R29E - Turquoise PWU 27-9H - Wellbore #1 - Permit Plan 3													Offset Site Error:	5.00 ft
Survey Program: O-MWD+IFR1													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
12,950.00	9,050.16	13,005.84	9,123.06	88.61	88.07	-94.05	637.89	4,274.01	990.24	814.07	176.17	5.621		
13,000.00	9,050.16	13,055.84	9,123.06	89.57	89.02	-94.05	637.97	4,324.01	989.87	811.80	178.07	5.559		
13,050.00	9,050.16	13,105.84	9,123.06	90.53	89.98	-94.05	638.05	4,374.01	989.50	809.52	179.97	5.498		
13,100.00	9,050.16	13,155.84	9,123.06	91.49	90.93	-94.05	638.13	4,424.01	989.12	807.24	181.88	5.438		
13,150.00	9,050.16	13,205.83	9,123.06	92.45	91.88	-94.05	638.21	4,474.01	988.75	804.96	183.79	5.380		
13,200.00	9,050.16	13,255.83	9,123.06	93.41	92.84	-94.06	638.28	4,524.00	988.38	802.68	185.70	5.322		
13,250.00	9,050.16	13,305.83	9,123.06	94.37	93.80	-94.06	638.36	4,574.00	988.01	800.39	187.62	5.266		
13,300.00	9,050.16	13,355.83	9,123.06	95.33	94.76	-94.06	638.44	4,624.00	987.64	798.10	189.54	5.211		
13,350.00	9,050.16	13,405.83	9,123.06	96.30	95.72	-94.06	638.52	4,674.00	987.27	795.81	191.46	5.157		
13,400.00	9,050.16	13,455.83	9,123.06	97.26	96.68	-94.06	638.60	4,724.00	986.90	793.52	193.38	5.103		
13,450.00	9,050.16	13,505.83	9,123.06	98.23	97.64	-94.06	638.68	4,774.00	986.53	791.22	195.31	5.051		
13,500.00	9,050.16	13,555.82	9,123.06	99.20	98.60	-94.06	638.76	4,823.99	986.16	788.92	197.23	5.000 Alert		
13,550.00	9,050.16	13,605.82	9,123.06	100.17	99.57	-94.07	638.84	4,873.99	985.79	786.62	199.17	4.950 Alert		
13,600.00	9,050.16	13,655.82	9,123.06	101.14	100.53	-94.07	638.91	4,923.99	985.42	784.32	201.10	4.900 Alert		
13,650.00	9,050.16	13,705.82	9,123.06	102.11	101.50	-94.07	638.99	4,973.99	985.05	782.01	203.03	4.852 Alert		
13,700.00	9,050.16	13,755.82	9,123.06	103.08	102.47	-94.07	639.07	5,023.99	984.68	779.71	204.97	4.804 Alert		
13,750.00	9,050.16	13,805.82	9,123.06	104.06	103.44	-94.07	639.15	5,073.99	984.30	777.40	206.91	4.757 Alert		
13,800.00	9,050.16	13,855.82	9,123.06	105.03	104.41	-94.07	639.23	5,123.99	983.93	775.09	208.85	4.711 Alert		
13,850.00	9,050.16	13,905.82	9,123.06	106.01	105.38	-94.08	639.31	5,173.98	983.56	772.77	210.79	4.666 Alert		
13,900.00	9,050.16	13,955.81	9,123.06	106.98	106.35	-94.08	639.39	5,223.98	983.19	770.46	212.74	4.622 Alert		
13,950.00	9,050.16	14,005.81	9,123.06	107.96	107.33	-94.08	639.47	5,273.98	982.82	768.14	214.68	4.578 Alert		
13,993.84	9,050.16	14,049.65	9,123.06	108.82	108.18	-94.08	639.53	5,317.82	982.50	766.11	216.39	4.540 Alert		

Anticollision Report

Company: WCDSC Permian NM
 Project: Eddy County (NAD 83 NM Eastern)
 Reference Site: Sec 27-T19S-R29E
 Site Error: 5.00 ft
 Reference Well: Turquoise PWU 27-61H
 Well Error: 0.50 ft
 Reference Wellbore: Wellbore #1
 Reference Design: Permit Plan 3

Local Co-ordinate Reference: Well Turquoise PWU 27-61H
 TVD Reference: RKB @ 3370.00ft
 MD Reference: RKB @ 3370.00ft
 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-T19S-R29E - Coral PWU 28-4H - Wellbore #1 - Wellbore #1													Offset Site Error: 5.00 ft
Survey Program: 200-NSG-GYC_Drop, 7387-MWD+IGRF													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
6,700.00	6,894.04	11,501.45	7,949.30	23.80	79.02	124.44	-148.16	-605.40	1,472.16	1,410.83	61.33	24.003	
6,750.00	6,743.95	11,497.61	7,949.36	23.97	78.95	124.14	-152.01	-605.42	1,429.07	1,366.61	62.46	22.880	
6,800.00	6,793.85	11,493.73	7,949.43	24.15	78.88	123.84	-155.89	-605.43	1,386.44	1,322.78	63.66	21.780	
6,850.00	6,843.76	11,489.81	7,949.51	24.32	78.81	123.54	-159.80	-605.44	1,344.30	1,279.37	64.93	20.704	
6,900.00	6,893.66	11,485.86	7,949.58	24.49	78.74	123.23	-163.76	-605.45	1,302.71	1,236.43	66.28	19.655	
6,950.00	6,943.57	11,481.87	7,949.66	24.66	78.67	122.92	-167.75	-605.45	1,261.71	1,194.00	67.71	18.634	
7,000.00	6,993.47	11,477.98	7,949.73	24.84	78.60	122.62	-171.63	-605.45	1,221.38	1,152.15	69.23	17.642	
7,050.00	7,043.37	11,474.14	7,949.80	25.01	78.53	122.32	-175.47	-605.45	1,181.77	1,110.93	70.85	16.681	
7,100.00	7,093.28	11,470.29	7,949.88	25.18	78.46	122.03	-179.32	-605.45	1,142.97	1,070.41	72.56	15.753	
7,150.00	7,143.18	11,466.44	7,949.95	25.36	78.40	121.73	-183.17	-605.45	1,105.05	1,030.69	74.36	14.861	
7,200.00	7,193.09	11,462.60	7,950.03	25.53	78.33	121.43	-187.01	-605.45	1,068.12	991.85	76.26	14.005	
7,250.00	7,242.99	11,458.75	7,950.10	25.71	78.26	121.13	-190.88	-605.44	1,032.27	954.00	78.26	13.190	
7,300.00	7,292.90	11,454.90	7,950.17	25.88	78.19	120.83	-194.71	-605.44	997.62	917.27	80.35	12.415	
7,350.00	7,342.80	11,451.05	7,950.25	26.05	78.12	120.53	-198.56	-605.44	964.31	881.78	82.53	11.684	
7,400.00	7,392.70	11,447.20	7,950.32	26.23	78.06	120.23	-202.40	-605.43	932.48	847.70	84.78	10.999	
7,450.00	7,442.61	11,443.35	7,950.39	26.40	77.99	119.93	-206.25	-605.42	902.28	815.19	87.08	10.361	
7,500.00	7,492.51	11,439.50	7,950.47	26.58	77.92	119.63	-210.10	-605.42	873.88	784.45	89.42	9.772	
7,550.00	7,542.42	11,435.65	7,950.54	26.75	77.85	119.33	-213.95	-605.41	847.46	755.70	91.77	9.235	
7,600.00	7,592.32	11,431.80	7,950.62	26.93	77.78	119.02	-217.81	-605.40	823.22	729.14	94.08	8.750	
7,650.00	7,642.23	11,427.95	7,950.69	27.10	77.72	118.72	-221.66	-605.39	801.36	705.04	96.32	8.320	
7,700.00	7,692.13	11,424.09	7,950.76	27.27	77.65	118.42	-225.51	-605.38	782.06	683.63	98.43	7.945	
7,750.00	7,742.03	11,420.24	7,950.84	27.45	77.58	118.12	-229.36	-605.37	765.53	665.16	100.37	7.627	
7,800.00	7,791.94	11,416.39	7,950.91	27.62	77.51	117.82	-233.21	-605.36	751.95	649.88	102.06	7.368	
7,850.00	7,841.84	11,412.53	7,950.99	27.80	77.44	117.52	-237.07	-605.35	741.47	638.01	103.47	7.168	
7,900.00	7,891.75	11,408.68	7,951.06	27.97	77.38	117.21	-240.92	-605.34	734.24	629.71	104.54	7.024	
7,950.00	7,941.65	11,404.82	7,951.13	28.15	77.31	116.91	-244.78	-605.33	730.35	625.13	105.23	6.941	
7,982.30	7,973.89	11,402.33	7,951.18	28.26	77.26	116.72	-247.27	-605.32	729.64	624.18	105.46	6.918 CC, ES	
8,000.00	7,991.56	11,400.97	7,951.21	28.32	77.24	116.61	-248.63	-605.31	729.86	624.34	105.52	6.917 SF	
8,050.00	8,041.46	11,397.11	7,951.28	28.50	77.17	116.31	-252.49	-605.30	732.76	627.35	105.41	6.951	
8,100.00	8,091.36	11,393.23	7,951.36	28.68	77.10	115.80	-256.36	-605.28	739.03	634.12	104.91	7.044	
8,150.00	8,141.23	11,388.91	7,951.44	28.85	77.03	114.76	-260.69	-605.27	748.75	644.70	104.04	7.197	
8,200.00	8,191.05	11,384.06	7,951.53	29.03	76.94	113.78	-265.53	-605.24	761.83	658.98	102.85	7.407	
8,250.00	8,240.81	11,378.78	7,951.63	29.20	76.85	112.82	-270.81	-605.22	778.11	676.72	101.39	7.674	
8,300.00	8,290.51	11,372.95	7,951.74	29.38	76.75	111.84	-276.64	-605.20	797.37	697.65	99.72	7.996	
8,350.00	8,340.12	11,366.57	7,951.86	29.56	76.63	110.80	-283.02	-605.17	819.38	721.49	97.90	8.370	
8,400.00	8,389.65	11,359.65	7,951.98	29.74	76.51	109.71	-289.94	-605.14	843.91	747.94	95.97	8.793	
8,450.00	8,439.09	11,352.20	7,952.11	29.92	76.38	108.54	-297.39	-605.11	870.74	776.74	94.00	9.263	
8,500.00	8,488.43	11,344.21	7,952.24	30.10	76.24	107.31	-305.38	-605.07	899.63	807.62	92.01	9.777	
8,550.00	8,537.64	11,335.72	7,952.38	30.28	76.09	111.71	-313.66	-605.03	930.47	840.42	90.05	10.332	
8,600.00	8,586.49	11,327.19	7,952.51	30.46	75.94	128.26	-322.39	-605.00	965.10	878.85	88.25	10.936	
8,650.00	8,634.56	11,318.87	7,952.64	30.64	75.79	137.12	-330.71	-604.96	1,003.76	917.08	86.68	11.580	
8,700.00	8,681.50	11,310.81	7,952.76	30.81	75.65	141.29	-338.77	-604.92	1,045.74	960.37	85.37	12.249	
8,750.00	8,726.94	11,303.07	7,952.86	30.99	75.52	142.20	-346.51	-604.89	1,090.36	1,006.03	84.33	12.930	
8,800.00	8,770.54	11,296.00	7,952.96	31.16	75.39	140.02	-353.59	-604.88	1,137.00	1,053.46	83.54	13.610	
8,850.00	8,811.96	11,288.50	7,953.06	31.32	75.26	133.24	-361.08	-604.83	1,185.09	1,102.10	82.99	14.280	
8,900.00	8,850.90	11,281.42	7,953.17	31.49	75.14	117.75	-368.16	-604.81	1,234.12	1,151.46	82.66	14.930	
8,950.00	8,887.04	11,274.85	7,953.28	31.66	75.02	86.20	-374.73	-604.80	1,283.64	1,201.10	82.54	15.552	
9,000.00	8,920.13	11,268.87	7,953.39	31.83	74.92	49.20	-380.71	-604.80	1,333.25	1,250.65	82.60	16.141	
9,050.00	8,949.91	11,263.56	7,953.50	32.01	74.82	27.63	-388.02	-604.81	1,382.59	1,299.77	82.83	16.693	
9,100.00	8,976.15	11,258.97	7,953.59	32.21	74.74	16.91	-390.60	-604.82	1,431.34	1,348.14	83.20	17.204	
9,150.00	8,998.65	11,255.17	7,953.68	32.42	74.68	10.98	-394.41	-604.83	1,479.21	1,395.51	83.70	17.673	

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

Anticollision Report

Company: WCDSC Permian NM
Project: Eddy County (NAD 83 NM Eastern)
Reference Site: Sec 27-T19S-R29E
Site Error: 5.00 ft
Reference Well: Turquoise PWU 27-61H
Well Error: 0.50 ft
Reference Wellbore: Wellbore #1
Reference Design: Permit Plan 3

Local Co-ordinate Reference: Well Turquoise PWU 27-61H
TVD Reference: RKB @ 3370.00ft
MD Reference: RKB @ 3370.00ft
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-T19S-R29E - Parkway West Unit 15 (Active) - Wellbore #1 - Wellbore #1													Offset Site Error:	5.00 ft
Survey Program: 10-INC-ONLY													Offset Well Error:	10.00 ft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0.00	0.00	0.00	0.00	5.02	11.18	-131.65	-349.78	-393.28	526.71					
50.00	50.00	30.00	30.00	5.03	11.18	-131.65	-349.78	-393.28	526.33	510.12	16.21	32.470		
100.00	100.00	80.00	80.00	5.03	11.23	-131.65	-349.78	-393.28	526.33	510.07	16.26	32.377		
150.00	150.00	130.00	130.00	5.03	11.32	-131.65	-349.78	-393.28	526.33	509.97	16.36	32.174		
200.00	200.00	180.00	180.00	5.05	11.47	-131.65	-349.78	-393.28	526.33	509.81	16.52	31.868		
250.00	250.00	230.00	230.00	5.07	11.66	-131.65	-349.78	-393.28	526.33	509.60	16.73	31.469		
300.00	300.00	280.00	280.00	5.10	11.89	-131.65	-349.78	-393.28	526.33	509.34	16.99	30.987		
350.00	350.00	330.00	330.00	5.13	12.16	-131.65	-349.78	-393.28	526.33	509.03	17.29	30.435		
400.00	400.00	380.00	380.00	5.17	12.48	-131.65	-349.78	-393.28	526.33	508.68	17.65	29.826		
450.00	450.00	430.00	430.00	5.21	12.83	-131.65	-349.78	-393.28	526.33	508.28	18.04	29.173		
500.00	500.00	480.00	480.00	5.26	13.21	-131.65	-349.78	-393.28	526.33	507.85	18.48	28.488		
550.00	550.00	530.00	530.00	5.32	13.63	-131.65	-349.78	-393.28	526.33	507.38	18.95	27.781		
600.00	600.00	580.00	580.00	5.38	14.07	-131.65	-349.78	-393.28	526.33	506.88	19.45	27.063		
650.00	650.00	630.00	630.00	5.45	14.53	-131.65	-349.78	-393.28	526.33	506.34	19.98	26.341		
700.00	700.00	680.00	680.00	5.52	15.02	-131.65	-349.78	-393.28	526.33	505.78	20.54	25.621		
750.00	750.00	730.00	730.00	5.60	15.53	-131.65	-349.78	-393.28	526.33	505.20	21.13	24.910		
800.00	800.00	780.00	780.00	5.68	16.06	-131.65	-349.78	-393.28	526.33	504.59	21.74	24.211		
850.00	850.00	830.00	830.00	5.76	16.61	-131.65	-349.78	-393.28	526.33	503.95	22.37	23.527		
900.00	900.00	880.00	880.00	5.85	17.17	-131.65	-349.78	-393.28	526.33	503.30	23.02	22.862		
950.00	950.00	930.00	930.00	5.95	17.74	-131.65	-349.78	-393.28	526.33	502.63	23.69	22.217		
1,000.00	1,000.00	980.00	980.00	6.05	18.33	-131.65	-349.78	-393.28	526.33	501.95	24.38	21.592		
1,050.00	1,050.00	1,030.00	1,030.00	6.15	18.93	-131.65	-349.78	-393.28	526.33	501.25	25.08	20.989		
1,100.00	1,100.00	1,080.00	1,080.00	6.25	19.54	-131.65	-349.78	-393.28	526.33	500.53	25.79	20.408		
1,150.00	1,150.00	1,130.00	1,130.00	6.36	20.16	-131.65	-349.78	-393.28	526.33	499.81	26.52	19.848		
1,200.00	1,200.00	1,180.00	1,180.00	6.47	20.78	-131.65	-349.78	-393.28	526.33	499.07	27.26	19.310		
1,250.00	1,250.00	1,230.00	1,230.00	6.59	21.42	-131.65	-349.78	-393.28	526.33	498.32	28.01	18.794		
1,300.00	1,300.00	1,280.00	1,280.00	6.70	22.06	-131.65	-349.78	-393.28	526.33	497.56	28.76	18.298		
1,350.00	1,350.00	1,330.00	1,330.00	6.82	22.71	-131.65	-349.78	-393.28	526.33	496.79	29.53	17.821		
1,400.00	1,400.00	1,380.00	1,380.00	6.95	23.37	-131.65	-349.78	-393.28	526.33	496.01	30.31	17.364		
1,450.00	1,450.00	1,430.00	1,430.00	7.07	24.03	-131.65	-349.78	-393.28	526.33	495.23	31.10	16.926		
1,500.00	1,500.00	1,480.00	1,480.00	7.20	24.69	-131.65	-349.78	-393.28	526.33	494.44	31.89	16.505		
1,550.00	1,550.00	1,530.00	1,530.00	7.33	25.36	-131.65	-349.78	-393.28	526.33	493.64	32.69	16.102		
1,600.00	1,600.00	1,580.00	1,580.00	7.46	26.03	-131.65	-349.78	-393.28	526.33	492.83	33.49	15.714		
1,650.00	1,650.00	1,630.00	1,630.00	7.59	26.71	-131.65	-349.78	-393.28	526.33	492.02	34.30	15.343		
1,700.00	1,700.00	1,680.00	1,680.00	7.73	27.39	-131.65	-349.78	-393.28	526.33	491.20	35.12	14.986		
1,750.00	1,750.00	1,730.00	1,730.00	7.86	28.08	-131.65	-349.78	-393.28	526.33	490.38	35.94	14.643		
1,800.00	1,800.00	1,780.00	1,780.00	8.00	28.77	-131.65	-349.78	-393.28	526.33	489.55	36.77	14.314		
1,850.00	1,850.00	1,830.00	1,830.00	8.14	29.46	-131.65	-349.78	-393.28	526.33	488.72	37.60	13.997		
1,900.00	1,900.00	1,880.00	1,880.00	8.28	30.15	-131.65	-349.78	-393.28	526.33	487.89	38.44	13.693		
1,950.00	1,950.00	1,930.00	1,930.00	8.43	30.85	-131.65	-349.78	-393.28	526.33	487.05	39.28	13.400		
2,000.00	2,000.00	1,980.00	1,980.00	8.57	31.55	-131.65	-349.78	-393.28	526.33	486.20	40.12	13.118		
2,050.00	2,050.00	2,030.00	2,030.00	8.72	32.25	-131.65	-349.78	-393.28	526.33	485.36	40.97	12.847		
2,100.00	2,100.00	2,080.00	2,080.00	8.87	32.95	-131.65	-349.78	-393.28	526.33	484.51	41.82	12.586		
2,150.00	2,150.00	2,130.00	2,130.00	9.01	33.66	-131.65	-349.78	-393.28	526.33	483.65	42.67	12.334		
2,200.00	2,200.00	2,180.00	2,180.00	9.16	34.37	-131.65	-349.78	-393.28	526.33	482.80	43.53	12.091		
2,250.00	2,250.00	2,230.00	2,230.00	9.31	35.08	-131.65	-349.78	-393.28	526.33	481.94	44.39	11.857		
2,300.00	2,300.00	2,280.00	2,280.00	9.46	35.79	-131.65	-349.78	-393.28	526.33	481.07	45.25	11.631		
2,350.00	2,350.00	2,330.00	2,330.00	9.62	36.50	-131.65	-349.78	-393.28	526.33	480.21	46.12	11.413		
2,400.00	2,400.00	2,380.00	2,380.00	9.77	37.21	-131.65	-349.78	-393.28	526.33	479.34	46.98	11.203		
2,450.00	2,450.00	2,430.00	2,430.00	9.92	37.93	-131.65	-349.78	-393.28	526.33	478.47	47.85	10.999		
2,500.00	2,500.00	2,480.00	2,480.00	10.08	38.64	-131.65	-349.78	-393.28	526.33	477.60	48.72	10.803		
2,550.00	2,550.00	2,530.00	2,530.00	10.24	39.36	-131.65	-349.78	-393.28	526.33	476.73	49.60	10.612		

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

Anticollision Report

Company: WCDSC Permian NM
 Project: Eddy County (NAD 83 NM Eastern)
 Reference Site: Sec 27-T19S-R29E
 Site Error: 5.00 ft
 Reference Well: Turquoise PWU 27-61H
 Well Error: 0.50 ft
 Reference Wellbore: Wellbore #1
 Reference Design: Permit Plan 3

Local Co-ordinate Reference: Well Turquoise PWU 27-61H
 TVD Reference: RKB @ 3370.00ft
 MD Reference: RKB @ 3370.00ft
 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-T19S-R29E - Parkway West Unit 15 (Active) - Wellbore #1 - Wellbore #1													Offset Site Error: 5.00 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	
2,600.00	2,600.00	2,580.00	2,580.00	10.39	40.08	-131.65	-349.78	-393.28	526.33	475.85	50.47	10.428	
2,650.00	2,650.00	2,630.00	2,630.00	10.55	40.80	-131.65	-349.78	-393.28	526.33	474.98	51.35	10.250	
2,700.00	2,700.00	2,680.00	2,680.00	10.71	41.52	-131.65	-349.78	-393.28	526.33	474.10	52.23	10.078	
2,750.00	2,750.00	2,730.00	2,730.00	10.87	42.24	-131.65	-349.78	-393.28	526.33	473.22	53.11	9.911	
2,800.00	2,800.00	2,780.00	2,780.00	11.03	42.96	-131.65	-349.78	-393.28	526.33	472.34	53.99	9.749	
2,850.00	2,850.00	2,830.00	2,830.00	11.18	43.69	-131.65	-349.78	-393.28	526.33	471.45	54.87	9.582	
2,900.00	2,900.00	2,880.00	2,880.00	11.35	44.41	-131.65	-349.78	-393.28	526.33	470.57	55.76	9.440	
2,950.00	2,950.00	2,930.00	2,930.00	11.51	45.14	-131.65	-349.78	-393.28	526.33	469.68	56.64	9.292	
3,000.00	3,000.00	2,980.00	2,980.00	11.67	45.86	-131.65	-349.78	-393.28	526.33	468.80	57.53	9.149	
3,050.00	3,050.00	3,030.00	3,030.00	11.83	46.59	-131.65	-349.78	-393.28	526.33	467.91	58.42	9.010	
3,100.00	3,100.00	3,080.00	3,080.00	11.99	47.32	-131.65	-349.78	-393.28	526.33	467.02	59.31	8.875	
3,150.00	3,150.00	3,130.00	3,130.00	12.16	48.04	-131.65	-349.78	-393.28	526.33	466.13	60.20	8.743	
3,200.00	3,200.00	3,180.00	3,180.00	12.32	48.77	-131.65	-349.78	-393.28	526.33	465.24	61.09	8.616	
3,250.00	3,250.00	3,230.00	3,230.00	12.48	49.50	-131.65	-349.78	-393.28	526.33	464.34	61.98	8.491	
3,300.00	3,300.00	3,280.00	3,280.00	12.65	50.23	-131.65	-349.78	-393.28	526.33	463.45	62.88	8.371	
3,350.00	3,350.00	3,330.00	3,330.00	12.81	50.96	-131.65	-349.78	-393.28	526.33	462.55	63.77	8.253	
3,400.00	3,400.00	3,380.00	3,380.00	12.98	51.69	-131.65	-349.78	-393.28	526.33	461.66	64.67	8.139	
3,450.00	3,450.00	3,430.00	3,430.00	13.13	52.42	75.23	-349.78	-393.28	526.26	460.70	65.56	8.028	
3,500.00	3,499.99	3,479.99	3,479.99	13.29	53.16	75.32	-349.78	-393.28	526.05	459.60	66.45	7.917	
3,550.00	3,549.97	3,529.97	3,529.97	13.44	53.89	75.47	-349.78	-393.28	525.70	458.38	67.33	7.808	
3,600.00	3,599.94	3,579.94	3,579.94	13.59	54.62	75.67	-349.78	-393.28	525.23	457.02	68.21	7.700	
3,650.00	3,649.88	3,629.88	3,629.88	13.75	55.35	75.94	-349.78	-393.28	524.63	455.53	69.10	7.593	
3,700.00	3,699.79	3,679.79	3,679.79	13.90	56.08	76.26	-349.78	-393.28	523.91	453.93	69.98	7.487	
3,750.00	3,749.69	3,729.69	3,729.69	14.05	56.82	76.59	-349.78	-393.28	523.18	452.32	70.87	7.383	
3,800.00	3,799.60	3,779.60	3,779.60	14.20	57.55	76.92	-349.78	-393.28	522.47	450.72	71.75	7.282	
3,850.00	3,849.50	3,829.50	3,829.50	14.36	58.28	77.25	-349.78	-393.28	521.78	449.14	72.64	7.183	
3,900.00	3,899.40	3,879.40	3,879.40	14.51	59.02	77.58	-349.78	-393.28	521.11	447.58	73.53	7.087	
3,950.00	3,949.31	3,929.31	3,929.31	14.67	59.75	77.91	-349.78	-393.28	520.45	446.03	74.42	6.994	
4,000.00	3,999.21	3,979.21	3,979.21	14.83	60.48	78.24	-349.78	-393.28	519.81	444.50	75.31	6.902	
4,050.00	4,049.12	4,029.12	4,029.12	14.98	61.22	78.58	-349.78	-393.28	519.19	442.99	76.20	6.814	
4,100.00	4,099.02	4,079.02	4,079.02	15.14	61.95	78.91	-349.78	-393.28	518.58	441.49	77.09	6.727	
4,150.00	4,148.93	4,128.93	4,128.93	15.30	62.69	79.25	-349.78	-393.28	517.99	440.01	77.98	6.642	
4,200.00	4,198.83	4,178.83	4,178.83	15.46	63.43	79.58	-349.78	-393.28	517.42	438.55	78.88	6.560	
4,250.00	4,248.73	4,228.73	4,228.73	15.61	64.16	79.92	-349.78	-393.28	516.87	437.10	79.77	6.479	
4,300.00	4,298.64	4,278.64	4,278.64	15.77	64.90	80.25	-349.78	-393.28	516.34	435.67	80.67	6.401	
4,350.00	4,348.54	4,328.54	4,328.54	15.93	65.63	80.59	-349.78	-393.28	515.82	434.26	81.56	6.324	
4,400.00	4,398.45	4,378.45	4,378.45	16.09	66.37	80.93	-349.78	-393.28	515.33	432.87	82.46	6.249	
4,450.00	4,448.35	4,428.35	4,428.35	16.25	67.11	81.27	-349.78	-393.28	514.85	431.49	83.36	6.176	
4,500.00	4,498.26	4,478.26	4,478.26	16.42	67.84	81.61	-349.78	-393.28	514.39	430.13	84.26	6.105	
4,550.00	4,548.16	4,528.16	4,528.16	16.58	68.58	81.95	-349.78	-393.28	513.94	428.79	85.15	6.035	
4,600.00	4,598.06	4,578.06	4,578.06	16.74	69.32	82.29	-349.78	-393.28	513.52	427.47	86.05	5.967	
4,650.00	4,647.97	4,627.97	4,627.97	16.90	70.06	82.63	-349.78	-393.28	513.11	426.16	86.95	5.901	
4,700.00	4,697.87	4,677.87	4,677.87	17.06	70.79	82.98	-349.78	-393.28	512.72	424.87	87.85	5.836	
4,750.00	4,747.78	4,727.78	4,727.78	17.23	71.53	83.32	-349.78	-393.28	512.35	423.60	88.76	5.773	
4,800.00	4,797.68	4,777.68	4,777.68	17.39	72.27	83.66	-349.78	-393.28	512.00	422.35	89.66	5.711	
4,850.00	4,847.59	4,827.59	4,827.59	17.55	73.01	84.00	-349.78	-393.28	511.67	421.11	90.56	5.650	
4,900.00	4,897.49	4,877.49	4,877.49	17.72	73.75	84.35	-349.78	-393.28	511.36	419.89	91.46	5.591	
4,950.00	4,847.39	4,927.39	4,927.39	17.88	74.49	84.69	-349.78	-393.28	511.06	418.69	92.37	5.533	
5,000.00	4,897.30	4,977.30	4,977.30	18.05	75.23	85.04	-349.78	-393.28	510.78	417.51	93.27	5.476	
5,050.00	5,047.20	5,027.20	5,027.20	18.21	75.96	85.38	-349.78	-393.28	510.52	416.35	94.17	5.421	
5,100.00	5,097.11	5,077.11	5,077.11	18.38	76.70	85.73	-349.78	-393.28	510.28	415.21	95.08	5.367	
5,150.00	5,147.01	5,127.01	5,127.01	18.54	77.44	86.07	-349.78	-393.28	510.06	414.08	95.98	5.314	

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

Anticollision Report

Company: WCDSC Permian NM
Project: Eddy County (NAD 83 NM Eastern)
Reference Site: Sec 27-T19S-R29E
Site Error: 5.00 ft
Reference Well: Turquoise PWU 27-61H
Well Error: 0.50 ft
Reference Wellbore: Wellbore #1
Reference Design: Permit Plan 3

Local Co-ordinate Reference: Well Turquoise PWU 27-61H
TVD Reference: RKB @ 3370.00ft
MD Reference: RKB @ 3370.00ft
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-T19S-R29E - Parkway West Unit 15 (Active) - Wellbore #1 - Wellbore #1		Offset Site Error: 5.00 ft	
Survey Program: 10-INC-ONLY													Offset Well Error: 10.00 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	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning			
5,200.00	5,196.92	5,176.92	5,176.92	18.71	78.18	86.42	-349.78	-393.28	509.86	412.97	96.89	5.262				
5,250.00	5,246.82	5,226.82	5,226.82	18.88	78.92	86.77	-349.78	-393.28	509.68	411.88	97.80	5.212				
5,300.00	5,296.72	5,276.72	5,276.72	19.04	79.66	87.11	-349.78	-393.28	509.51	410.81	98.70	5.162				
5,350.00	5,346.63	5,326.63	5,326.63	19.21	80.40	87.46	-349.78	-393.28	509.36	409.75	99.61	5.114				
5,400.00	5,396.53	5,376.53	5,376.53	19.38	81.14	87.81	-349.78	-393.28	509.24	408.72	100.52	5.066				
5,450.00	5,446.44	5,426.44	5,426.44	19.54	81.88	88.15	-349.78	-393.28	509.13	407.70	101.42	5.020				
5,500.00	5,496.34	5,476.34	5,476.34	19.71	82.62	88.50	-349.78	-393.28	509.04	406.70	102.33	4.974	Alert			
5,550.00	5,546.25	5,526.25	5,526.25	19.88	83.36	88.85	-349.78	-393.28	508.96	405.72	103.24	4.930	Alert			
5,600.00	5,596.15	5,576.15	5,576.15	20.05	84.10	89.20	-349.78	-393.28	508.91	404.76	104.15	4.886	Alert			
5,650.00	5,646.05	5,626.05	5,626.05	20.22	84.85	89.54	-349.78	-393.28	508.88	403.82	105.06	4.844	Alert			
5,700.00	5,695.96	5,675.96	5,675.96	20.39	85.59	89.89	-349.78	-393.28	508.86	402.89	105.97	4.802	Alert			
5,715.68	5,711.61	5,691.61	5,691.61	20.44	85.82	90.00	-349.78	-393.28	508.86	402.61	106.25	4.789	Alert, CC			
5,750.00	5,745.86	5,725.86	5,725.86	20.55	86.33	90.24	-349.78	-393.28	508.87	401.99	106.88	4.761	Alert			
5,800.00	5,795.77	5,775.77	5,775.77	20.72	87.07	90.59	-349.78	-393.28	508.89	401.10	107.78	4.721	Alert			
5,850.00	5,845.67	5,825.67	5,825.67	20.89	87.81	90.93	-349.78	-393.28	508.93	400.23	108.70	4.682	Alert			
5,900.00	5,895.58	5,875.58	5,875.58	21.06	88.55	91.28	-349.78	-393.28	508.99	399.38	109.61	4.644	Alert			
5,950.00	5,945.48	5,925.48	5,925.48	21.23	89.29	91.63	-349.78	-393.28	509.07	398.55	110.52	4.606	Alert			
6,000.00	5,995.38	5,975.38	5,975.38	21.40	90.03	91.98	-349.78	-393.28	509.16	397.73	111.43	4.569	Alert			
6,050.00	6,045.29	6,025.29	6,025.29	21.57	90.78	92.32	-349.78	-393.28	509.28	396.94	112.34	4.533	Alert			
6,100.00	6,095.19	6,075.19	6,075.19	21.74	91.52	92.67	-349.78	-393.28	509.42	396.16	113.26	4.498	Alert			
6,150.00	6,145.10	6,125.10	6,125.10	21.91	92.26	93.02	-349.78	-393.28	509.57	395.40	114.17	4.463	Alert			
6,200.00	6,195.00	6,175.00	6,175.00	22.08	93.00	93.36	-349.78	-393.28	509.74	394.66	115.08	4.429	Alert			
6,250.00	6,244.91	6,224.91	6,224.91	22.26	93.74	93.71	-349.78	-393.28	509.93	393.94	115.99	4.396	Alert			
6,300.00	6,294.81	6,274.81	6,274.81	22.43	94.48	94.05	-349.78	-393.28	510.14	393.24	116.91	4.364	Alert			
6,350.00	6,344.71	6,324.71	6,324.71	22.60	95.23	94.40	-349.78	-393.28	510.37	392.55	117.82	4.332	Alert			
6,400.00	6,394.62	6,374.62	6,374.62	22.77	95.97	94.75	-349.78	-393.28	510.62	391.89	118.73	4.301	Alert			
6,450.00	6,444.52	6,424.52	6,424.52	22.94	96.71	95.09	-349.78	-393.28	510.88	391.24	119.65	4.270	Alert			
6,500.00	6,494.43	6,474.43	6,474.43	23.11	97.45	95.44	-349.78	-393.28	511.17	390.61	120.56	4.240	Alert			
6,550.00	6,544.33	6,524.33	6,524.33	23.28	98.20	95.78	-349.78	-393.28	511.47	390.00	121.48	4.210	Alert			
6,600.00	6,594.24	6,574.24	6,574.24	23.46	98.94	96.12	-349.78	-393.28	511.79	389.40	122.39	4.182	Alert			
6,650.00	6,644.14	6,624.14	6,624.14	23.63	99.68	96.47	-349.78	-393.28	512.13	388.83	123.30	4.153	Alert			
6,700.00	6,694.04	6,674.04	6,674.04	23.80	100.42	96.81	-349.78	-393.28	512.49	388.27	124.22	4.126	Alert			
6,750.00	6,743.95	6,723.95	6,723.95	23.97	101.17	97.15	-349.78	-393.28	512.87	387.73	125.13	4.099	Alert			
6,800.00	6,793.85	6,773.85	6,773.85	24.15	101.91	97.49	-349.78	-393.28	513.26	387.21	126.05	4.072	Alert			
6,850.00	6,843.76	6,823.76	6,823.76	24.32	102.65	97.84	-349.78	-393.28	513.67	386.71	126.97	4.046	Alert			
6,900.00	6,893.66	6,873.66	6,873.66	24.49	103.40	98.18	-349.78	-393.28	514.11	386.23	127.88	4.020	Alert			
6,950.00	6,943.57	6,923.57	6,923.57	24.66	104.14	98.52	-349.78	-393.28	514.56	385.76	128.80	3.995	Alert			
7,000.00	6,993.47	6,973.47	6,973.47	24.84	104.88	98.86	-349.78	-393.28	515.02	385.31	129.71	3.970	Alert			
7,050.00	7,043.37	7,023.37	7,023.37	25.01	105.62	99.19	-349.78	-393.28	515.51	384.88	130.63	3.946	Alert			
7,100.00	7,093.28	7,073.28	7,073.28	25.18	106.37	99.53	-349.78	-393.28	516.01	384.47	131.55	3.923	Alert			
7,150.00	7,143.18	7,123.18	7,123.18	25.36	107.11	99.87	-349.78	-393.28	516.54	384.07	132.46	3.899	Alert			
7,200.00	7,193.09	7,173.09	7,173.09	25.53	107.85	100.21	-349.78	-393.28	517.08	383.70	133.38	3.877	Alert			
7,250.00	7,242.99	7,222.99	7,222.99	25.71	108.60	100.54	-349.78	-393.28	517.63	383.34	134.30	3.854	Alert			
7,300.00	7,292.90	7,272.90	7,272.90	25.88	109.34	100.88	-349.78	-393.28	518.21	383.00	135.21	3.833	Alert			
7,350.00	7,342.80	7,322.80	7,322.80	26.05	110.08	101.21	-349.78	-393.28	518.80	382.67	136.13	3.811	Alert			
7,400.00	7,392.70	7,372.70	7,372.70	26.23	110.83	101.55	-349.78	-393.28	519.42	382.37	137.05	3.790	Alert			
7,450.00	7,442.61	7,422.61	7,422.61	26.40	111.57	101.88	-349.78	-393.28	520.04	382.08	137.97	3.769	Alert			
7,500.00	7,492.51	7,472.51	7,472.51	26.58	112.32	102.21	-349.78	-393.28	520.69	381.81	138.88	3.749	Alert			
7,550.00	7,542.42	7,522.42	7,522.42	26.75	113.06	102.55	-349.78	-393.28	521.36	381.55	139.80	3.729	Alert			
7,600.00	7,592.32	7,572.32	7,572.32	26.93	113.80	102.88	-349.78	-393.28	522.04	381.32	140.72	3.710	Alert			
7,650.00	7,642.23	7,622.23	7,622.23	27.10	114.55	103.21	-349.78	-393.28	522.74	381.10	141.64	3.691	Alert			
7,700.00	7,692.13	7,672.13	7,672.13	27.27	115.29	103.54	-349.78	-393.28	523.45	380.90	142.56	3.672	Alert			

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

Anticollision Report

Company: WCDSC Permian NM
Project: Eddy County (NAD 83 NM Eastern)
Reference Site: Sec 27-T19S-R29E
Site Error: 5.00 ft
Reference Well: Turquoise PWU 27-61H
Well Error: 0.50 ft
Reference Wellbore: Wellbore #1
Reference Design: Permit Plan 3

Local Co-ordinate Reference: Well Turquoise PWU 27-61H
TVD Reference: RKB @ 3370.00ft
MD Reference: RKB @ 3370.00ft
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-T19S-R29E - Parkway West Unit 15 (Active) - Wellbore #1 - Wellbore #1													Offset Site Error:	5.00 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		
7,750.00	7,742.03	7,722.03	7,722.03	27.45	116.03	103.86	-349.78	-393.28	524.19	380.71	143.47	3.654	Alert	
7,800.00	7,791.94	7,771.94	7,771.94	27.62	116.78	104.19	-349.78	-393.28	524.94	380.54	144.39	3.635	Alert	
7,850.00	7,841.84	7,821.84	7,821.84	27.80	117.52	104.52	-349.78	-393.28	525.71	380.39	145.31	3.618	Alert	
7,900.00	7,891.75	7,871.75	7,871.75	27.97	118.27	104.84	-349.78	-393.28	526.49	380.26	146.23	3.600	Alert	
7,950.00	7,941.65	7,921.65	7,921.65	28.15	119.01	105.17	-349.78	-393.28	527.29	380.14	147.15	3.583	Alert	
8,000.00	7,991.56	7,971.56	7,971.56	28.32	119.75	105.49	-349.78	-393.28	528.11	380.04	148.07	3.567	Alert	
8,050.00	8,041.46	8,021.46	8,021.46	28.50	120.50	105.81	-349.78	-393.28	528.95	379.96	148.99	3.550	Alert	
8,100.00	8,091.36	8,071.36	8,071.36	28.68	121.24	105.95	-349.78	-393.28	529.80	379.90	149.91	3.534	Alert, ES	
8,150.00	8,141.23	8,121.23	8,121.23	28.85	121.99	105.74	-349.78	-393.28	530.78	379.96	150.83	3.519	Alert	
8,200.00	8,191.05	8,171.05	8,171.05	29.03	122.73	105.76	-349.78	-393.28	531.93	380.19	151.74	3.505	Alert	
8,250.00	8,240.81	8,220.81	8,220.81	29.20	123.47	105.94	-349.78	-393.28	533.27	380.61	152.66	3.493	Alert	
8,300.00	8,290.51	8,270.51	8,270.51	29.38	124.21	106.24	-349.78	-393.28	534.61	381.23	153.58	3.482	Alert	
8,350.00	8,340.12	8,320.12	8,320.12	29.56	124.95	106.66	-349.78	-393.28	536.58	382.08	154.50	3.473	Alert	
8,400.00	8,389.65	8,369.65	8,369.65	29.74	125.69	107.17	-349.78	-393.28	538.58	383.17	155.41	3.465	Alert	
8,450.00	8,439.09	8,419.09	8,419.09	29.92	126.43	107.76	-349.78	-393.28	540.85	384.52	156.33	3.460	Alert	
8,500.00	8,488.43	8,468.43	8,468.43	30.10	127.16	108.42	-349.78	-393.28	543.40	386.16	157.24	3.456	Alert	
8,550.00	8,537.64	8,517.64	8,517.64	30.28	127.90	114.86	-349.78	-393.28	546.38	388.23	158.16	3.455	Alert, SF	
8,600.00	8,586.49	8,566.49	8,566.49	30.46	128.63	133.64	-349.78	-393.28	552.62	393.55	159.06	3.474	Alert	
8,650.00	8,634.56	8,614.56	8,614.56	30.64	129.34	145.11	-349.78	-393.28	563.28	403.32	159.96	3.521	Alert	
8,700.00	8,681.50	8,661.50	8,661.50	30.81	130.05	152.49	-349.78	-393.28	578.27	417.44	160.83	3.596	Alert	
8,750.00	8,726.94	8,706.94	8,706.94	30.99	130.72	157.60	-349.78	-393.28	597.48	435.81	161.67	3.696	Alert	
8,800.00	8,770.54	8,750.54	8,750.54	31.16	131.37	161.36	-349.78	-393.28	620.73	458.26	162.48	3.820	Alert	
8,850.00	8,811.96	8,791.96	8,791.96	31.32	131.99	164.26	-349.78	-393.28	647.84	484.60	163.24	3.969	Alert	
8,900.00	8,850.90	8,830.90	8,830.90	31.49	132.57	166.61	-349.78	-393.28	678.56	514.61	163.95	4.139	Alert	
8,950.00	8,887.04	8,867.04	8,867.04	31.66	133.11	168.57	-349.78	-393.28	712.66	548.04	164.61	4.329	Alert	
9,000.00	8,920.13	8,900.13	8,900.13	31.83	133.61	170.27	-349.78	-393.28	749.84	584.62	165.21	4.539	Alert	
9,050.00	8,949.91	8,929.91	8,929.91	32.01	134.05	171.82	-349.78	-393.28	789.81	624.06	165.75	4.765	Alert	
9,100.00	8,976.15	8,956.15	8,956.15	32.21	134.44	173.32	-349.78	-393.28	832.25	666.04	166.22	5.007		
9,150.00	8,998.65	8,978.65	8,978.65	32.42	134.78	174.90	-349.78	-393.28	876.84	710.22	166.61	5.263		
9,200.00	9,017.24	8,997.24	8,997.24	32.65	135.06	176.78	-349.78	-393.28	923.22	756.28	166.94	5.530		
9,250.00	9,031.78	9,011.78	9,011.78	32.90	135.27	179.42	-349.78	-393.28	971.04	803.85	167.19	5.808		
9,300.00	9,042.16	9,022.16	9,022.16	33.16	135.43	-175.78	-349.78	-393.28	1,019.93	852.56	167.37	6.094		
9,350.00	9,048.30	9,028.30	9,028.30	33.45	135.52	-162.11	-349.78	-393.28	1,069.53	902.05	167.48	6.386		
9,400.00	9,050.16	9,030.16	9,030.16	33.74	135.55	-90.00	-349.78	-393.28	1,119.45	951.94	167.51	6.683		
9,450.00	9,050.16	9,030.16	9,030.16	34.07	135.55	-90.00	-349.78	-393.28	1,169.42	1,001.90	167.51	6.981		
9,500.00	9,050.16	9,030.16	9,030.16	34.41	135.55	-90.00	-349.78	-393.28	1,219.39	1,051.87	167.52	7.279		
9,550.00	9,050.16	9,030.16	9,030.16	34.79	135.55	-90.00	-349.78	-393.28	1,269.36	1,101.84	167.52	7.577		
9,600.00	9,050.16	9,030.16	9,030.16	35.18	135.55	-90.00	-349.78	-393.28	1,319.33	1,151.80	167.53	7.875		
9,650.00	9,050.16	9,030.16	9,030.16	35.61	135.55	-90.00	-349.78	-393.28	1,369.31	1,201.77	167.53	8.173		
9,700.00	9,050.16	9,030.16	9,030.16	36.05	135.55	-90.00	-349.78	-393.28	1,419.28	1,251.75	167.54	8.471		
9,750.00	9,050.16	9,030.16	9,030.16	36.53	135.55	-90.00	-349.78	-393.28	1,469.26	1,301.72	167.54	8.769		

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

Anticollision Report

Company: WCDSC Permian NM
Project: Eddy County (NAD 83 NM Eastern)
Reference Site: Sec 27-T19S-R29E
Site Error: 5.00 ft
Reference Well: Turquoise PWU 27-61H
Well Error: 0.50 ft
Reference Wellbore: Wellbore #1
Reference Design: Permit Plan 3

Local Co-ordinate Reference: Well Turquoise PWU 27-61H
TVD Reference: RKB @ 3370.00ft
MD Reference: RKB @ 3370.00ft
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-T19S-R29E - Turquoise PWU 27 10H - Original Hole - Actuals													Offset Site Error:	5.00 ft
Survey Program: 154-MWD+IGRF													Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0.00	0.00	0.00	0.00	5.02	5.00	-179.84	-1,390.01	-3.79	1,390.24					
50.00	50.00	24.05	24.05	5.03	5.00	-179.84	-1,390.02	-3.83	1,390.02	1,380.00	10.03	138.652		
100.00	100.00	72.14	72.14	5.03	5.00	-179.83	-1,390.08	-4.16	1,390.09	1,380.06	10.03	138.622		
150.00	150.00	120.22	120.21	5.03	5.00	-179.80	-1,390.21	-4.83	1,390.23	1,380.19	10.04	138.497		
200.00	200.00	169.77	169.76	5.05	5.01	-179.76	-1,390.41	-5.85	1,390.43	1,380.37	10.06	138.249		
250.00	250.00	221.03	221.00	5.07	5.02	-179.71	-1,390.56	-7.01	1,390.58	1,380.49	10.09	137.788		
300.00	300.00	285.05	295.00	5.10	5.05	-179.65	-1,390.03	-8.38	1,390.20	1,380.05	10.15	136.965		
350.00	350.00	333.14	333.09	5.13	5.08	-179.63	-1,389.64	-9.03	1,389.69	1,379.49	10.21	136.171		
383.93	383.93	359.00	358.93	5.16	5.09	-179.61	-1,389.56	-9.56	1,389.59	1,379.35	10.25	135.594		
400.00	400.00	372.00	371.94	5.17	5.10	-179.59	-1,389.58	-9.84	1,389.62	1,379.35	10.27	135.303		
450.00	450.00	418.73	418.65	5.21	5.14	-179.55	-1,389.74	-10.91	1,389.80	1,379.45	10.35	134.263		
500.00	500.00	466.94	466.85	5.26	5.18	-179.50	-1,390.00	-12.04	1,390.07	1,379.63	10.44	133.090		
550.00	550.00	521.93	521.82	5.32	5.24	-179.45	-1,390.21	-13.25	1,390.28	1,379.72	10.56	131.701		
600.00	600.00	573.15	573.03	5.38	5.29	-179.41	-1,390.25	-14.25	1,390.33	1,379.65	10.68	130.236		
650.00	650.00	619.09	618.97	5.45	5.35	-179.38	-1,390.38	-15.04	1,390.47	1,379.67	10.80	128.764		
700.00	700.00	667.71	667.58	5.52	5.41	-179.35	-1,390.63	-15.75	1,390.74	1,379.81	10.93	127.185		
750.00	750.00	720.12	719.99	5.60	5.49	-179.32	-1,390.86	-16.39	1,390.97	1,379.88	11.09	125.467		
800.00	800.00	772.76	772.63	5.68	5.57	-179.30	-1,390.99	-16.91	1,391.10	1,379.85	11.25	123.675		
850.00	850.00	825.51	825.38	5.76	5.66	-179.29	-1,391.03	-17.33	1,391.13	1,379.72	11.42	121.822		
862.63	862.63	838.84	838.71	5.79	5.68	-179.28	-1,391.02	-17.42	1,391.13	1,379.66	11.46	121.346		
900.00	900.00	874.05	873.91	5.85	5.74	-179.27	-1,391.03	-17.62	1,391.15	1,379.55	11.59	120.006		
950.00	950.00	922.76	922.63	5.95	5.83	-179.27	-1,391.10	-17.81	1,391.21	1,379.44	11.77	118.165		
1,000.00	1,000.00	975.30	975.17	6.05	5.92	-179.26	-1,391.14	-18.03	1,391.25	1,379.28	11.97	116.232		
1,043.06	1,043.06	1,020.55	1,020.41	6.13	6.01	-179.25	-1,391.09	-18.32	1,391.21	1,379.07	12.14	114.552		
1,050.00	1,050.00	1,024.88	1,024.74	6.15	6.02	-179.24	-1,391.10	-18.34	1,391.22	1,379.05	12.17	114.343		
1,100.00	1,100.00	1,069.16	1,069.03	6.25	6.11	-179.24	-1,391.20	-18.51	1,391.33	1,378.97	12.36	112.572		
1,150.00	1,150.00	1,116.45	1,116.32	6.36	6.20	-179.24	-1,391.48	-18.52	1,391.63	1,379.07	12.56	110.771		
1,200.00	1,200.00	1,169.36	1,169.22	6.47	6.31	-179.24	-1,391.76	-18.50	1,391.89	1,379.11	12.78	108.882		
1,250.00	1,250.00	1,221.63	1,221.49	6.59	6.43	-179.24	-1,391.93	-18.51	1,392.05	1,379.04	13.01	106.996		
1,300.00	1,300.00	1,273.54	1,273.40	6.70	6.54	-179.23	-1,392.02	-18.72	1,392.14	1,378.90	13.24	105.120		
1,350.00	1,350.00	1,323.67	1,323.53	6.82	6.66	-179.22	-1,392.06	-19.02	1,392.19	1,378.71	13.48	103.282		
1,400.00	1,400.00	1,373.40	1,373.26	6.95	6.78	-179.21	-1,392.12	-19.16	1,392.25	1,378.53	13.72	101.472		
1,450.00	1,450.00	1,424.43	1,424.28	7.07	6.90	-179.21	-1,392.16	-19.27	1,392.30	1,378.33	13.97	99.667		
1,500.00	1,500.00	1,475.55	1,475.41	7.20	7.03	-179.20	-1,392.17	-19.49	1,392.30	1,378.08	14.22	97.887		
1,505.28	1,505.28	1,480.95	1,480.81	7.21	7.04	-179.20	-1,392.16	-19.52	1,392.30	1,378.05	14.25	97.701		
1,550.00	1,550.00	1,519.58	1,519.43	7.33	7.14	-179.18	-1,392.25	-19.83	1,392.40	1,377.94	14.46	96.264		
1,600.00	1,600.00	1,564.06	1,563.91	7.46	7.25	-179.16	-1,392.51	-20.34	1,392.70	1,377.99	14.71	94.676		
1,650.00	1,650.00	1,614.23	1,614.07	7.59	7.38	-179.13	-1,392.90	-21.03	1,393.10	1,378.12	14.97	93.028		
1,700.00	1,700.00	1,664.71	1,664.55	7.73	7.52	-179.11	-1,393.28	-21.72	1,393.49	1,378.24	15.24	91.409		
1,750.00	1,750.00	1,719.63	1,719.46	7.86	7.67	-179.08	-1,393.58	-22.36	1,393.77	1,378.24	15.53	89.747		
1,800.00	1,800.00	1,772.69	1,772.52	8.00	7.81	-179.06	-1,393.71	-22.77	1,393.90	1,378.08	15.81	88.143		
1,850.00	1,850.00	1,822.08	1,821.92	8.14	7.95	-179.05	-1,393.80	-23.18	1,394.00	1,377.90	16.09	86.631		
1,900.00	1,900.00	1,869.57	1,869.40	8.28	8.08	-179.03	-1,393.92	-23.65	1,394.13	1,377.77	16.37	85.186		
1,950.00	1,950.00	1,914.56	1,914.39	8.43	8.21	-179.01	-1,394.18	-24.05	1,394.42	1,377.79	16.64	83.822		
2,000.00	2,000.00	1,961.69	1,961.51	8.57	8.34	-179.00	-1,394.60	-24.41	1,394.88	1,377.97	16.91	82.470		
2,050.00	2,050.00	2,012.85	2,012.67	8.72	8.49	-178.98	-1,395.07	-24.82	1,395.34	1,378.14	17.21	81.094		
2,100.00	2,100.00	2,065.36	2,065.18	8.87	8.64	-178.96	-1,395.49	-25.28	1,395.75	1,378.25	17.51	79.730		
2,150.00	2,150.00	2,119.19	2,119.00	9.01	8.80	-178.94	-1,395.79	-25.73	1,396.04	1,378.22	17.81	78.375		
2,200.00	2,200.00	2,169.51	2,169.32	9.16	8.95	-178.93	-1,395.97	-26.13	1,396.23	1,378.12	18.11	77.094		
2,250.00	2,250.00	2,218.84	2,218.65	9.31	9.10	-178.91	-1,396.18	-26.51	1,396.45	1,378.04	18.41	75.860		
2,300.00	2,300.00	2,269.69	2,269.49	9.46	9.25	-178.90	-1,396.39	-26.87	1,396.66	1,377.95	18.71	74.638		
2,350.00	2,350.00	2,320.67	2,320.48	9.62	9.41	-178.88	-1,396.57	-27.21	1,396.84	1,377.82	19.02	73.444		

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

Anticollision Report

Company: WCDSC Permian NM
Project: Eddy County (NAD 83 NM Eastern)
Reference Site: Sec 27-T19S-R29E
Site Error: 5.00 ft
Reference Well: Turquoise PWU 27-61H
Well Error: 0.50 ft
Reference Wellbore: Wellbore #1
Reference Design: Permit Plan 3

Local Co-ordinate Reference: Well Turquoise PWU 27-61H
TVD Reference: RKB @ 3370.00ft
MD Reference: RKB @ 3370.00ft
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-T19S-R29E - Turquoise PWU 27 10H - Original Hole - Actuals		Offset Site Error: 5.00 ft	
Survey Program: 154-MWD+IGRF													Offset Well Error: 0.00 ft			
Reference		Offset		Semi Major Axis			Distance						Warning			
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor				
2,400.00	2,400.00	2,367.73	2,367.53	9.77	9.55	-178.87	-1,396.77	-27.49	1,397.06	1,377.74	19.31	72.331				
2,450.00	2,450.00	2,414.91	2,414.72	9.92	9.69	-178.86	-1,397.08	-27.73	1,397.37	1,377.76	19.61	71.249				
2,500.00	2,500.00	2,466.53	2,466.33	10.08	9.85	-178.86	-1,397.41	-27.92	1,397.71	1,377.79	19.92	70.152				
2,550.00	2,550.00	2,518.39	2,518.19	10.24	10.01	-178.85	-1,397.70	-28.00	1,397.99	1,377.76	20.24	69.078				
2,600.00	2,600.00	2,571.79	2,571.59	10.39	10.17	-178.85	-1,397.89	-28.12	1,398.18	1,377.82	20.56	68.009				
2,650.00	2,650.00	2,622.40	2,622.20	10.55	10.33	-178.84	-1,397.97	-28.36	1,398.26	1,377.39	20.87	66.990				
2,700.00	2,700.00	2,669.90	2,669.70	10.71	10.48	-178.83	-1,398.11	-28.53	1,398.41	1,377.23	21.18	66.028				
2,750.00	2,750.00	2,720.47	2,720.27	10.87	10.63	-178.83	-1,398.31	-28.66	1,398.62	1,377.12	21.50	65.065				
2,800.00	2,800.00	2,774.79	2,774.59	11.03	10.80	-178.82	-1,398.41	-28.76	1,398.71	1,376.88	21.82	64.087				
2,825.66	2,825.66	2,802.67	2,802.47	11.11	10.89	-178.82	-1,398.40	-28.81	1,398.70	1,376.70	21.99	63.593				
2,850.00	2,850.00	2,824.08	2,823.87	11.18	10.96	-178.82	-1,398.41	-28.86	1,398.71	1,376.57	22.14	63.175				
2,900.00	2,900.00	2,871.57	2,871.37	11.35	11.11	-178.81	-1,398.49	-29.02	1,398.80	1,376.35	22.45	62.303				
2,950.00	2,950.00	2,923.24	2,923.04	11.51	11.27	-178.80	-1,398.61	-29.21	1,398.92	1,376.14	22.78	61.419				
3,000.00	3,000.00	2,976.40	2,976.19	11.67	11.44	-178.80	-1,398.62	-29.34	1,398.93	1,375.82	23.11	60.541				
3,012.60	3,012.60	2,989.79	2,989.59	11.71	11.49	-178.80	-1,398.61	-29.35	1,398.92	1,375.72	23.19	60.322				
3,050.00	3,050.00	3,023.50	3,023.30	11.83	11.59	-178.79	-1,398.63	-29.44	1,398.94	1,375.52	23.42	59.734				
3,100.00	3,100.00	3,070.54	3,070.34	11.99	11.75	-178.79	-1,398.73	-29.60	1,399.05	1,375.32	23.73	58.950				
3,150.00	3,150.00	3,120.62	3,120.41	12.16	11.91	-178.78	-1,398.89	-29.80	1,399.22	1,375.16	24.06	58.160				
3,200.00	3,200.00	3,171.09	3,170.89	12.32	12.07	-178.77	-1,399.05	-30.01	1,399.38	1,374.99	24.39	57.386				
3,250.00	3,250.00	3,224.42	3,224.21	12.48	12.24	-178.76	-1,399.14	-30.19	1,399.47	1,374.74	24.72	56.609				
3,300.00	3,300.00	3,275.96	3,275.76	12.65	12.41	-178.76	-1,399.12	-30.29	1,399.45	1,374.39	25.05	55.861				
3,329.61	3,329.61	3,304.82	3,304.61	12.74	12.50	-178.76	-1,399.11	-30.38	1,399.44	1,374.20	25.24	55.437				
3,350.00	3,350.00	3,324.83	3,324.62	12.81	12.57	-178.75	-1,399.11	-30.44	1,399.44	1,374.07	25.38	55.147				
3,400.00	3,400.00	3,373.89	3,373.69	12.98	12.73	-178.75	-1,399.14	-30.53	1,399.47	1,373.77	25.70	54.449				
3,450.00	3,450.00	3,423.45	3,423.25	13.13	12.89	28.11	-1,399.19	-30.58	1,399.29	1,373.26	26.02	53.774				
3,500.00	3,499.99	3,473.05	3,472.84	13.29	13.05	28.13	-1,399.26	-30.61	1,398.64	1,372.29	26.34	53.096				
3,550.00	3,549.97	3,523.07	3,522.86	13.44	13.22	28.16	-1,399.34	-30.63	1,397.51	1,370.85	26.66	52.429				
3,600.00	3,599.94	3,573.08	3,572.87	13.59	13.38	28.21	-1,399.41	-30.66	1,395.90	1,368.93	26.97	51.758				
3,650.00	3,649.88	3,623.09	3,622.89	13.75	13.55	28.28	-1,399.48	-30.85	1,393.81	1,366.53	27.29	51.080				
3,700.00	3,699.79	3,672.80	3,672.59	13.90	13.71	28.36	-1,399.54	-31.25	1,391.27	1,363.67	27.60	50.400				
3,750.00	3,749.69	3,722.27	3,722.05	14.05	13.88	28.44	-1,399.61	-31.80	1,388.64	1,360.71	27.92	49.731				
3,800.00	3,799.60	3,772.02	3,771.81	14.20	14.04	28.53	-1,399.69	-32.49	1,388.02	1,357.77	28.24	49.075				
3,850.00	3,849.50	3,822.14	3,821.91	14.36	14.21	28.63	-1,399.76	-33.45	1,383.40	1,354.83	28.57	48.430				
3,900.00	3,899.40	3,874.08	3,873.83	14.51	14.39	28.75	-1,399.80	-34.76	1,380.75	1,351.86	28.89	47.787				
3,950.00	3,949.31	3,927.39	3,927.12	14.67	14.57	28.89	-1,399.89	-36.51	1,378.00	1,348.77	29.23	47.145				
4,000.00	3,999.21	3,982.02	3,981.71	14.83	14.75	29.05	-1,399.42	-38.61	1,375.11	1,345.55	29.57	46.507				
4,050.00	4,049.12	4,036.96	4,036.80	14.98	14.93	29.21	-1,398.93	-40.82	1,372.05	1,342.14	29.91	45.875				
4,100.00	4,099.02	4,090.72	4,090.32	15.14	15.11	29.36	-1,398.29	-42.86	1,368.83	1,338.58	30.25	45.258				
4,150.00	4,148.93	4,143.34	4,142.90	15.30	15.29	29.50	-1,397.52	-44.59	1,365.47	1,334.90	30.58	44.655				
4,200.00	4,198.83	4,193.95	4,193.48	15.46	15.46	29.64	-1,396.73	-46.19	1,362.08	1,331.17	30.91	44.071				
4,250.00	4,248.73	4,245.26	4,244.76	15.61	15.63	29.77	-1,395.88	-47.80	1,358.65	1,327.41	31.24	43.495				
4,300.00	4,298.64	4,297.15	4,296.62	15.77	15.81	29.91	-1,394.96	-49.43	1,355.15	1,323.59	31.57	42.927				
4,350.00	4,348.54	4,348.07	4,347.51	15.93	15.98	30.05	-1,393.99	-50.99	1,351.60	1,319.70	31.90	42.371				
4,400.00	4,398.45	4,398.62	4,398.02	16.09	16.15	30.18	-1,393.00	-52.42	1,348.03	1,315.80	32.23	41.827				
4,450.00	4,448.35	4,449.41	4,448.78	16.25	16.32	30.30	-1,391.98	-53.75	1,344.43	1,311.87	32.56	41.292				
4,500.00	4,498.26	4,500.24	4,499.59	16.42	16.49	30.43	-1,390.92	-55.05	1,340.80	1,307.91	32.89	40.766				
4,550.00	4,548.16	4,554.12	4,553.44	16.58	16.67	30.56	-1,389.70	-56.38	1,337.08	1,303.85	33.23	40.237				
4,600.00	4,598.06	4,608.02	4,607.31	16.74	16.85	30.69	-1,388.31	-57.64	1,333.21	1,299.64	33.57	39.714				
4,650.00	4,647.97	4,654.41	4,653.67	16.90	17.00	30.80	-1,387.14	-58.64	1,329.37	1,295.48	33.89	39.227				
4,700.00	4,697.87	4,702.47	4,701.71	17.06	17.17	30.91	-1,386.00	-59.56	1,325.59	1,291.38	34.21	38.745				
4,750.00	4,747.78	4,751.05	4,750.27	17.23	17.33	31.02	-1,384.91	-60.39	1,321.88	1,287.34	34.54	38.271				
4,800.00	4,797.68	4,800.51	4,799.71	17.39	17.49	31.12	-1,383.84	-61.14	1,318.21	1,283.34	34.87	37.805				

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

Anticollision Report

Company: WCDSC Permian NM
Project: Eddy County (NAD 83 NM Eastern)
Reference Site: Sec 27-T19S-R29E
Site Error: 5.00 ft
Reference Well: Turquoise PWU 27-61H
Well Error: 0.50 ft
Reference Wellbore: Wellbore #1
Reference Design: Permit Plan 3

Local Co-ordinate Reference: Well Turquoise PWU 27-61H
TVD Reference: RKB @ 3370.00ft
MD Reference: RKB @ 3370.00ft
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-T19S-R29E - Turquoise PWU 27 10H - Original Hole - Actuals													Offset Site Error:	5.00 ft
Survey Program: 154-MWD+IGRF													Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Minimum Separation (ft)	Separation Factor	Warning			
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)				Between Centres (ft)	Between Ellipses (ft)	
4,850.00	4,847.59	4,851.79	4,850.97	17.55	17.66	31.23	-1,382.71	-61.84	1,314.51	1,279.31	35.20	37.342		
4,900.00	4,897.49	4,902.78	4,901.94	17.72	17.83	31.33	-1,381.53	-62.45	1,310.76	1,275.23	35.54	36.888		
4,950.00	4,947.39	4,953.43	4,952.58	17.88	18.00	31.43	-1,380.33	-62.99	1,306.98	1,271.12	35.87	36.439		
5,000.00	4,997.30	5,004.53	5,003.67	18.05	18.17	31.53	-1,379.09	-63.45	1,303.17	1,266.97	36.20	35.998		
5,050.00	5,047.20	5,055.94	5,055.05	18.21	18.34	31.62	-1,377.80	-63.72	1,299.30	1,262.77	36.53	35.564		
5,100.00	5,097.11	5,108.38	5,107.48	18.38	18.52	31.70	-1,376.41	-63.80	1,295.36	1,258.49	36.87	35.133		
5,150.00	5,147.01	5,161.24	5,160.31	18.54	18.69	31.78	-1,374.91	-63.72	1,291.31	1,254.10	37.21	34.707		
5,200.00	5,196.92	5,212.21	5,211.26	18.71	18.86	31.85	-1,373.38	-63.53	1,287.17	1,249.84	37.54	34.290		
5,250.00	5,246.82	5,263.36	5,262.39	18.88	19.02	31.92	-1,371.81	-63.28	1,283.00	1,245.13	37.87	33.879		
5,300.00	5,296.72	5,319.78	5,318.78	19.04	19.21	32.00	-1,369.89	-63.05	1,278.67	1,240.45	38.21	33.468		
5,350.00	5,346.63	5,375.06	5,374.01	19.21	19.39	32.09	-1,367.73	-62.91	1,274.09	1,235.53	38.56	33.045		
5,400.00	5,396.53	5,428.61	5,427.51	19.38	19.57	32.17	-1,365.46	-62.75	1,269.34	1,230.45	38.89	32.635		
5,450.00	5,446.44	5,477.34	5,476.19	19.54	19.73	32.24	-1,363.30	-62.61	1,264.51	1,225.28	39.22	32.238		
5,500.00	5,496.34	5,523.34	5,522.15	19.71	19.88	32.32	-1,361.36	-62.65	1,259.81	1,220.28	39.55	31.854		
5,550.00	5,546.25	5,571.78	5,570.55	19.88	20.04	32.42	-1,359.42	-62.88	1,255.23	1,215.35	39.88	31.475		
5,600.00	5,596.15	5,621.86	5,620.60	20.05	20.21	32.52	-1,357.40	-63.30	1,250.65	1,210.43	40.22	31.099		
5,650.00	5,646.05	5,673.86	5,672.54	20.22	20.39	32.64	-1,355.22	-64.05	1,246.03	1,205.47	40.56	30.723		
5,700.00	5,695.96	5,726.45	5,725.06	20.39	20.57	32.80	-1,352.85	-65.40	1,241.31	1,200.41	40.90	30.349		
5,750.00	5,745.86	5,789.58	5,788.07	20.55	20.79	33.01	-1,349.53	-67.40	1,238.27	1,195.01	41.27	29.959		
5,800.00	5,795.77	5,844.11	5,842.46	20.72	20.97	33.19	-1,346.18	-69.19	1,230.79	1,189.18	41.61	29.577		
5,850.00	5,845.67	5,891.22	5,889.47	20.89	21.14	33.36	-1,343.29	-70.77	1,225.35	1,183.40	41.95	29.211		
5,900.00	5,895.58	5,941.04	5,939.17	21.06	21.31	33.53	-1,340.31	-72.46	1,219.99	1,177.70	42.29	28.850		
5,950.00	5,945.48	5,983.14	5,981.13	21.23	21.49	33.72	-1,337.10	-74.32	1,214.56	1,171.93	42.63	28.489		
6,000.00	5,995.38	6,043.14	6,041.00	21.40	21.66	33.91	-1,333.94	-76.14	1,209.07	1,166.10	42.97	28.135		
6,050.00	6,045.29	6,092.42	6,090.16	21.57	21.84	34.08	-1,330.85	-77.79	1,203.60	1,160.29	43.31	27.788		
6,100.00	6,095.19	6,143.43	6,141.04	21.74	22.01	34.27	-1,327.64	-79.44	1,198.12	1,154.47	43.66	27.444		
6,150.00	6,145.10	6,194.82	6,192.29	21.91	22.19	34.46	-1,324.31	-81.24	1,192.58	1,148.58	44.00	27.103		
6,200.00	6,195.00	6,249.39	6,246.69	22.08	22.39	34.68	-1,320.60	-83.32	1,186.92	1,142.56	44.35	26.762		
6,250.00	6,244.91	6,303.94	6,301.05	22.26	22.58	34.91	-1,316.62	-85.59	1,181.05	1,136.35	44.70	26.422		
6,300.00	6,294.81	6,349.32	6,346.27	22.43	22.74	35.10	-1,313.32	-87.57	1,175.22	1,130.18	45.04	26.094		
6,350.00	6,344.71	6,396.80	6,393.57	22.60	22.91	35.31	-1,309.96	-89.70	1,169.50	1,124.12	45.38	25.771		
6,400.00	6,394.62	6,446.50	6,443.11	22.77	23.08	35.54	-1,306.46	-91.93	1,163.83	1,118.10	45.72	25.453		
6,450.00	6,444.52	6,494.60	6,491.04	22.94	23.25	35.75	-1,303.08	-94.08	1,158.17	1,112.10	46.07	25.141		
6,500.00	6,494.43	6,539.08	6,535.38	23.11	23.41	35.95	-1,300.10	-96.05	1,152.70	1,106.29	46.41	24.839		
6,550.00	6,544.33	6,583.30	6,579.48	23.28	23.57	36.15	-1,297.33	-97.99	1,147.45	1,100.71	46.74	24.548		
6,600.00	6,594.24	6,626.22	6,622.27	23.46	23.72	36.34	-1,294.87	-99.91	1,142.49	1,095.41	47.08	24.268		
6,650.00	6,644.14	6,669.52	6,665.46	23.63	23.88	36.54	-1,292.63	-101.93	1,137.83	1,090.42	47.41	23.998		
6,700.00	6,694.04	6,718.90	6,714.73	23.80	24.05	36.78	-1,290.20	-104.31	1,133.33	1,085.57	47.76	23.729		
6,750.00	6,743.95	6,768.27	6,763.97	23.97	24.23	37.02	-1,287.76	-106.80	1,128.85	1,080.74	48.11	23.464		
6,800.00	6,793.85	6,810.91	6,806.51	24.15	24.38	37.23	-1,285.78	-109.06	1,124.56	1,076.12	48.44	23.213		
6,850.00	6,843.76	6,854.01	6,849.51	24.32	24.54	37.45	-1,284.01	-111.44	1,120.58	1,071.80	48.78	22.972		
6,900.00	6,893.66	6,901.80	6,897.18	24.49	24.71	37.69	-1,282.23	-114.18	1,116.82	1,067.69	49.13	22.734		
6,950.00	6,943.57	6,950.20	6,945.48	24.66	24.88	37.95	-1,280.46	-117.03	1,113.13	1,063.66	49.47	22.500		
7,000.00	6,993.47	6,999.36	6,994.52	24.84	25.06	38.21	-1,278.70	-119.92	1,109.51	1,059.88	49.82	22.269		
7,050.00	7,043.37	7,048.59	7,043.63	25.01	25.24	38.47	-1,276.97	-122.72	1,105.92	1,055.75	50.17	22.042		
7,100.00	7,093.28	7,095.77	7,090.70	25.18	25.41	38.72	-1,275.38	-125.45	1,102.43	1,051.91	50.52	21.822		
7,150.00	7,143.18	7,143.44	7,138.26	25.36	25.58	38.98	-1,273.84	-128.35	1,099.06	1,048.19	50.87	21.607		
7,200.00	7,193.09	7,197.56	7,192.24	25.53	25.77	39.28	-1,271.99	-131.72	1,095.65	1,044.42	51.23	21.386		
7,250.00	7,242.99	7,248.28	7,242.84	25.71	25.96	39.57	-1,270.08	-134.87	1,092.09	1,040.50	51.59	21.170		
7,300.00	7,292.90	7,291.51	7,285.96	25.88	26.11	39.81	-1,268.63	-137.44	1,088.73	1,036.80	51.92	20.968		
7,350.00	7,342.80	7,334.81	7,329.18	26.05	26.27	40.04	-1,267.47	-139.86	1,085.68	1,033.42	52.26	20.775		
7,400.00	7,392.70	7,376.90	7,371.20	26.23	26.42	40.25	-1,266.66	-142.06	1,082.97	1,030.38	52.59	20.594		

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

Anticollision Report

Company: WCDSC Permian NM
 Project: Eddy County (NAD 83 NM Eastern)
 Reference Site: Sec 27-T19S-R29E
 Site Error: 5.00 ft
 Reference Well: Turquoise PWU 27-61H
 Well Error: 0.50 ft
 Reference Wellbore: Wellbore #1
 Reference Design: Permit Plan 3

Local Co-ordinate Reference: Well Turquoise PWU 27-61H
 TVD Reference: RKB @ 3370.00ft
 MD Reference: RKB @ 3370.00ft
 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-T19S-R29E - Turquoise PWU 27 10H - Original Hole - Actuals													Offset Site Error: 5.00 ft
Survey Program: 154-MWD+IGRF													Offset Well Error: 0.00 ft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
7,450.00	7,442.61	7,419.08	7,413.33	26.40	26.57	40.45	-1,266.18	-144.13	1,080.63	1,027.71	52.91	20.422	
7,500.00	7,492.51	7,467.18	7,461.37	26.58	26.74	40.67	-1,265.92	-146.32	1,078.55	1,025.29	53.26	20.250	
7,550.00	7,542.42	7,517.34	7,511.50	26.75	26.92	40.89	-1,265.69	-148.43	1,076.49	1,022.87	53.61	20.078	
7,600.00	7,592.32	7,563.35	7,557.48	26.93	27.09	41.09	-1,265.55	-150.31	1,074.50	1,020.55	53.95	19.918	
7,650.00	7,642.23	7,608.60	7,602.67	27.10	27.25	41.29	-1,265.57	-152.31	1,072.74	1,018.46	54.29	19.760	
7,700.00	7,692.13	7,655.45	7,649.47	27.27	27.41	41.50	-1,265.74	-154.50	1,071.18	1,016.55	54.63	19.608	
7,750.00	7,742.03	7,702.92	7,696.88	27.45	27.58	41.72	-1,266.01	-156.76	1,069.75	1,014.78	54.97	19.460	
7,800.00	7,791.94	7,749.20	7,743.11	27.62	27.75	41.93	-1,266.40	-158.96	1,068.47	1,013.16	55.31	19.318	
7,850.00	7,841.84	7,795.24	7,789.10	27.80	27.91	42.13	-1,267.00	-161.00	1,067.38	1,011.73	55.65	19.182	
7,900.00	7,891.75	7,837.26	7,831.08	27.97	28.06	42.30	-1,267.77	-162.77	1,066.54	1,010.58	55.96	19.059	
7,950.00	7,941.65	7,876.78	7,870.54	28.15	28.19	42.46	-1,268.89	-164.39	1,066.17	1,009.91	56.26	18.950	
7,962.07	7,953.69	7,886.32	7,880.07	28.19	28.23	42.50	-1,269.22	-164.78	1,066.15	1,009.82	56.33	18.928	
8,000.00	7,991.56	7,919.48	7,913.18	28.32	28.34	42.62	-1,270.54	-166.09	1,066.28	1,009.71	56.57	18.848	
8,050.00	8,041.46	7,972.50	7,966.13	28.50	28.52	42.80	-1,272.73	-167.81	1,066.44	1,009.50	56.94	18.731	
8,100.00	8,091.36	8,023.73	8,017.30	28.68	28.69	42.76	-1,274.86	-168.98	1,066.47	1,009.18	57.29	18.616	
8,150.00	8,141.23	8,073.12	8,066.64	28.85	28.86	42.34	-1,276.98	-169.85	1,066.14	1,008.51	57.63	18.500	
8,200.00	8,191.05	8,122.85	8,116.32	29.03	29.03	42.09	-1,279.21	-170.51	1,065.34	1,007.36	57.97	18.376	
8,250.00	8,240.81	8,172.89	8,166.30	29.20	29.19	41.97	-1,281.49	-171.03	1,064.03	1,005.72	58.32	18.246	
8,300.00	8,290.51	8,226.20	8,219.55	29.38	29.37	41.95	-1,283.86	-171.47	1,062.16	1,003.49	58.68	18.102	
8,350.00	8,340.12	8,321.55	8,314.82	29.56	29.68	42.11	-1,287.16	-170.25	1,059.36	1,000.17	59.19	17.897	
8,400.00	8,389.65	8,380.53	8,383.31	29.74	29.89	41.92	-1,288.72	-162.46	1,053.68	994.12	59.56	17.690	
8,450.00	8,439.09	8,447.57	8,439.43	29.92	30.06	41.61	-1,290.60	-152.47	1,047.15	987.25	59.89	17.483	
8,500.00	8,488.43	8,534.13	8,523.14	30.10	30.30	40.89	-1,293.25	-130.78	1,038.96	978.73	60.24	17.248	
8,550.00	8,537.64	8,613.62	8,597.88	30.28	30.52	45.83	-1,295.19	-103.86	1,028.97	968.44	60.54	16.998	
8,600.00	8,586.49	8,682.19	8,659.96	30.46	30.70	63.82	-1,296.54	-74.82	1,018.41	957.58	60.83	16.741	
8,650.00	8,634.56	8,740.62	8,710.57	30.64	30.87	74.59	-1,297.97	-45.69	1,008.44	947.29	61.16	16.489	
8,700.00	8,681.50	8,795.03	8,755.63	30.81	31.04	81.29	-1,299.80	-15.25	999.48	937.97	61.50	16.251	
8,750.00	8,726.94	8,846.90	8,796.61	30.99	31.22	85.70	-1,302.01	16.44	991.64	929.77	61.87	16.029	
8,800.00	8,770.54	8,890.68	8,829.79	31.16	31.39	88.83	-1,304.38	44.81	985.19	922.94	62.25	15.827	
8,850.00	8,811.96	8,962.25	8,881.33	31.32	31.71	90.85	-1,308.81	94.36	979.87	917.19	62.68	15.634	
8,900.00	8,850.90	9,050.76	8,938.12	31.49	32.19	92.07	-1,312.25	162.07	973.88	910.66	63.21	15.406	
8,950.00	8,887.04	9,118.85	8,975.92	31.68	32.65	93.05	-1,314.42	218.83	968.00	904.18	63.83	15.166	
9,000.00	8,920.13	9,196.72	9,012.60	31.83	33.30	93.55	-1,316.09	287.26	962.21	897.60	64.61	14.893	
9,050.00	8,949.91	9,276.78	9,043.71	32.01	34.09	93.81	-1,318.29	361.00	956.18	890.82	65.56	14.585	
9,100.00	8,978.15	9,331.03	9,080.98	32.21	34.71	94.25	-1,315.83	412.41	950.41	883.98	66.43	14.306	
9,150.00	8,998.65	9,375.83	9,072.42	32.42	35.27	94.61	-1,315.79	455.72	945.88	878.60	67.27	14.060	
9,200.00	9,017.24	9,421.77	9,081.81	32.65	35.90	94.79	-1,316.23	500.69	942.78	874.61	68.18	13.829	
9,250.00	9,031.78	9,491.38	9,092.76	32.90	36.82	94.72	-1,318.62	569.42	940.45	870.99	69.46	13.540	
9,300.00	9,042.16	9,576.09	9,099.29	33.16	38.28	94.51	-1,314.91	653.82	937.50	866.43	71.07	13.191	
9,350.00	9,048.30	9,631.64	9,100.21	33.45	39.24	94.52	-1,313.07	709.32	934.84	862.52	72.33	12.925	
9,400.00	9,050.16	9,684.41	9,100.32	33.74	40.20	94.62	-1,311.06	762.06	932.95	859.37	73.58	12.680	
9,450.00	9,050.16	9,729.88	9,100.24	34.07	41.06	94.63	-1,309.35	807.49	931.52	856.74	74.78	12.457	
9,500.00	9,050.16	9,772.76	9,100.86	34.41	41.89	94.67	-1,307.99	850.35	930.45	854.51	75.94	12.252	
9,550.00	9,050.16	9,823.70	9,102.28	34.79	42.92	94.76	-1,306.60	901.25	929.65	852.31	77.34	12.020	
9,600.00	9,050.16	9,881.85	9,103.70	35.18	44.13	94.85	-1,304.62	959.35	928.51	849.61	78.90	11.768	
9,650.00	9,050.16	9,924.61	9,104.60	35.61	45.05	94.92	-1,303.11	1,002.07	927.30	847.03	80.26	11.553	
9,700.00	9,050.16	9,965.56	9,105.48	36.05	45.94	94.97	-1,302.07	1,043.00	926.57	844.98	81.59	11.356	
9,750.00	9,050.16	10,009.23	9,106.44	36.53	46.92	95.03	-1,301.35	1,086.65	926.28	843.24	83.05	11.154	
9,779.23	9,050.16	10,035.82	9,107.01	36.81	47.53	95.07	-1,301.02	1,113.24	926.24	842.31	83.93	11.036 CC	
9,800.00	9,050.16	10,054.72	9,107.41	37.01	47.96	95.09	-1,300.83	1,132.13	926.26	841.70	84.56	10.954	
9,850.00	9,050.16	10,101.65	9,108.40	37.54	49.05	95.16	-1,300.51	1,179.04	926.47	840.30	86.16	10.752	
9,900.00	9,050.16	10,149.95	9,109.53	38.07	50.19	95.22	-1,300.28	1,227.33	926.78	838.96	87.82	10.554	

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

Anticollision Report

Company: WCDSC Permian NM
Project: Eddy County (NAD 83 NM Eastern)
Reference Site: Sec 27-T19S-R29E
Site Error: 5.00 ft
Reference Well: Turquoise PWU 27-61H
Well Error: 0.50 ft
Reference Wellbore: Wellbore #1
Reference Design: Permit Plan 3

Local Co-ordinate Reference: Well Turquoise PWU 27-61H
TVD Reference: RKB @ 3370.00ft
MD Reference: RKB @ 3370.00ft
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-T19S-R29E - Turquoise PWU 27 10H - Original Hole - Actuals													Offset Site Error:
Survey Program: 154-MWD+IGRF													Offset Well Error:
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
9,950.00	9,050.16	10,195.98	9,110.68	38.63	51.30	95.29	-1,300.16	1,273.35	927.22	837.74	89.48	10.363	
10,000.00	9,050.16	10,240.11	9,111.74	39.19	52.38	95.35	-1,300.32	1,317.47	927.95	838.85	91.10	10.186	
10,050.00	9,050.16	10,282.69	9,112.70	39.79	53.42	95.41	-1,300.75	1,360.04	929.02	836.28	92.74	10.017	
10,100.00	9,050.16	10,322.61	9,113.74	40.40	54.43	95.47	-1,301.54	1,399.84	930.58	836.26	94.32	9.866	
10,150.00	9,050.16	10,363.00	9,114.98	41.03	55.44	95.53	-1,302.77	1,440.28	932.68	836.74	95.94	9.721	
10,200.00	9,050.16	10,399.58	9,116.23	41.66	56.38	95.60	-1,304.32	1,478.81	935.40	837.92	97.47	9.596	
10,250.00	9,050.16	10,436.57	9,117.58	42.33	57.32	95.67	-1,306.38	1,513.71	938.80	839.77	99.03	9.480	
10,300.00	9,050.16	10,479.99	9,119.21	42.99	58.45	95.74	-1,309.35	1,557.01	942.82	842.04	100.78	9.355	
10,350.00	9,050.16	10,533.52	9,120.74	43.68	59.84	95.81	-1,313.01	1,610.39	946.81	843.95	102.86	9.205	
10,400.00	9,050.16	10,587.54	9,121.71	44.37	61.27	95.85	-1,316.54	1,664.28	950.60	845.63	104.88	9.055	
10,450.00	9,050.16	10,641.87	9,122.28	45.09	62.71	95.86	-1,319.88	1,718.51	954.16	847.02	107.14	8.906	
10,500.00	9,050.16	10,699.12	9,122.53	45.81	64.25	95.85	-1,323.09	1,775.66	957.42	848.02	109.41	8.751	
10,550.00	9,050.16	10,757.78	9,122.55	46.54	65.84	95.83	-1,325.92	1,834.28	960.27	848.53	111.74	8.594	
10,600.00	9,050.16	10,819.73	9,122.90	47.28	67.53	95.83	-1,328.18	1,896.16	962.56	848.39	114.18	8.430	
10,650.00	9,050.16	10,878.02	9,123.61	48.04	69.13	95.86	-1,329.62	1,954.44	964.30	847.77	116.53	8.275	
10,700.00	9,050.16	10,934.54	9,124.13	48.80	70.69	95.88	-1,330.62	2,010.94	965.68	848.84	118.83	8.126	
10,750.00	9,050.16	10,996.35	9,124.02	49.58	72.41	95.87	-1,331.20	2,072.74	966.58	845.27	121.31	7.968	
10,800.00	9,050.16	11,054.95	9,122.92	50.36	74.05	95.80	-1,331.18	2,131.33	966.91	843.19	123.72	7.815	
10,850.00	9,050.16	11,109.65	9,121.27	51.15	75.58	95.70	-1,330.89	2,186.01	966.95	840.90	126.05	7.671	
10,900.00	9,050.16	11,162.62	9,119.44	51.95	77.08	95.60	-1,330.41	2,238.95	966.77	838.43	128.34	7.533	
10,950.00	9,050.16	11,214.96	9,118.23	52.76	78.55	95.53	-1,329.74	2,291.27	966.47	835.84	130.63	7.399	
11,000.00	9,050.16	11,266.88	9,117.41	53.57	80.03	95.48	-1,328.93	2,343.17	966.06	833.15	132.91	7.268	
11,050.00	9,050.16	11,319.37	9,116.62	54.39	81.52	95.44	-1,327.99	2,395.65	965.55	830.33	135.22	7.141	
11,100.00	9,050.16	11,383.32	9,114.85	55.22	83.35	95.34	-1,326.37	2,459.55	964.60	826.78	137.82	6.999	
11,150.00	9,050.16	11,441.10	9,112.18	56.05	85.01	95.19	-1,324.27	2,517.23	963.02	822.73	140.29	6.864	
11,200.00	9,050.16	11,493.95	9,109.98	56.89	86.52	95.07	-1,322.10	2,570.00	961.24	818.59	142.64	6.739	
11,250.00	9,050.16	11,541.48	9,108.44	57.74	87.89	94.98	-1,320.06	2,617.46	959.41	814.52	144.89	6.622	
11,300.00	9,050.16	11,587.29	9,107.50	58.59	89.21	94.93	-1,318.24	2,663.22	957.79	810.70	147.09	6.512	
11,350.00	9,050.16	11,624.55	9,107.20	59.45	90.30	94.92	-1,316.98	2,700.45	956.54	807.44	149.09	6.416	
11,399.53	9,050.16	11,657.85	9,107.48	60.30	91.26	94.94	-1,316.37	2,733.74	956.12	805.16	150.96	6.334	
11,400.00	9,050.16	11,658.16	9,107.47	60.31	91.27	94.94	-1,316.37	2,734.06	956.12	805.14	150.98	6.333	
11,450.00	9,050.16	11,694.00	9,108.35	61.18	92.31	94.99	-1,316.30	2,789.89	956.56	803.67	152.89	6.257	
11,500.00	9,050.16	11,737.63	9,110.10	62.05	93.59	95.09	-1,316.63	2,813.48	957.55	802.54	155.01	6.178	
11,550.00	9,050.16	11,784.32	9,112.69	62.93	94.96	95.24	-1,317.08	2,860.09	958.72	801.51	157.21	6.099	
11,600.00	9,050.16	11,830.61	9,115.74	63.81	96.32	95.42	-1,317.63	2,906.28	960.08	800.69	159.39	6.024	
11,650.00	9,050.16	11,876.84	9,118.92	64.69	97.67	95.60	-1,318.35	2,952.39	961.63	800.06	161.57	5.952	
11,700.00	9,050.16	11,937.38	9,123.19	65.58	99.45	95.84	-1,319.11	3,012.78	963.07	798.89	164.18	5.866	
11,750.00	9,050.16	11,998.41	9,127.42	66.48	101.25	96.09	-1,319.11	3,073.67	963.87	797.08	166.79	5.779	
11,800.00	9,050.16	12,056.53	9,131.08	67.37	102.97	96.31	-1,318.59	3,131.67	964.21	794.90	169.31	5.695	
11,850.00	9,050.16	12,103.27	9,133.80	68.27	104.35	96.47	-1,318.00	3,178.32	964.36	792.82	171.54	5.622	
11,900.00	9,050.16	12,148.22	9,136.39	69.18	105.62	96.62	-1,317.74	3,221.20	964.85	791.19	173.66	5.556	
11,950.00	9,050.16	12,193.28	9,139.24	70.08	107.02	96.79	-1,317.74	3,268.16	965.65	789.76	175.89	5.490	
12,000.00	9,050.16	12,243.56	9,141.92	70.99	108.51	96.94	-1,317.80	3,318.37	966.48	788.25	178.23	5.423	
12,050.00	9,050.16	12,292.07	9,144.16	71.91	109.95	97.07	-1,317.92	3,366.83	967.33	786.80	180.53	5.358	
12,100.00	9,050.16	12,339.79	9,146.24	72.82	111.38	97.18	-1,318.15	3,414.50	968.29	785.48	182.80	5.297	
12,150.00	9,050.16	12,387.30	9,148.22	73.74	112.79	97.30	-1,318.51	3,461.97	969.37	784.29	185.08	5.238	
12,200.00	9,050.16	12,434.72	9,150.23	74.66	114.21	97.41	-1,318.99	3,509.34	970.59	783.23	187.35	5.181	
12,250.00	9,050.16	12,484.23	9,152.27	75.59	115.69	97.52	-1,319.58	3,558.82	971.90	782.20	189.70	5.123	
12,300.00	9,050.16	12,534.59	9,154.10	76.51	117.20	97.62	-1,320.21	3,609.14	973.20	781.13	192.07	5.067	
12,350.00	9,050.16	12,589.52	9,155.82	77.44	118.85	97.71	-1,320.79	3,664.03	974.38	779.78	194.60	5.007	
12,400.00	9,050.16	12,645.26	9,157.27	78.38	120.52	97.79	-1,321.09	3,719.76	975.27	778.12	197.15	4.947 Alert	
12,450.00	9,050.16	12,699.94	9,158.45	79.31	122.16	97.85	-1,321.14	3,774.42	975.90	776.23	199.67	4.887 Alert	

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

Anticollision Report

Company: WCDSC Permian NM
Project: Eddy County (NAD 83 NM Eastern)
Reference Site: Sec 27-T19S-R29E
Site Error: 5.00 ft
Reference Well: Turquoise PWU 27-61H
Well Error: 0.50 ft
Reference Wellbore: Wellbore #1
Reference Design: Permit Plan 3

Local Co-ordinate Reference: Well Turquoise PWU 27-61H
TVD Reference: RKB @ 3370.00ft
MD Reference: RKB @ 3370.00ft
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-T19S-R29E - Turquoise PWU 27 10H - Original Hole - Actuals													Offset Site Error:	5.00 ft
Survey Program: 154-MWD+IGRF													Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
12,500.00	9,050.16	12,751.89	9,159.37	80.24	123.72	97.90	-1,320.98	3,826.36	978.32	774.19	202.13	4.830	Alert	
12,550.00	9,050.16	12,800.06	9,160.14	81.18	125.17	97.94	-1,320.88	3,874.52	976.77	772.30	204.48	4.777	Alert	
12,600.00	9,050.16	12,850.69	9,160.81	82.12	126.69	97.98	-1,320.85	3,925.15	977.29	770.39	206.90	4.723	Alert	
12,650.00	9,050.16	12,903.97	9,160.91	83.07	128.30	97.98	-1,320.77	3,978.43	977.67	768.25	209.42	4.668	Alert	
12,700.00	9,050.16	12,956.96	9,160.57	84.01	129.90	97.96	-1,320.58	4,031.42	977.89	765.95	211.95	4.614	Alert	
12,750.00	9,050.16	13,009.83	9,160.51	84.96	131.49	97.96	-1,320.19	4,084.29	977.97	763.51	214.46	4.560	Alert	
12,800.00	9,050.16	13,062.79	9,160.72	85.90	133.09	97.97	-1,319.61	4,137.24	977.89	760.92	216.97	4.507	Alert	
12,850.00	9,050.16	13,115.75	9,161.10	86.85	134.69	97.99	-1,318.83	4,190.20	977.67	758.19	219.47	4.455	Alert	
12,881.82	9,050.16	13,141.47	9,161.37	87.45	135.46	98.01	-1,318.51	4,215.91	977.60	756.75	220.85	4.427	Alert	
12,900.00	9,050.16	13,157.26	9,161.57	87.80	135.94	98.02	-1,318.37	4,231.71	977.62	755.95	221.67	4.410	Alert	
12,950.00	9,050.16	13,200.23	9,162.21	88.76	137.24	98.06	-1,318.16	4,274.67	977.94	754.04	223.90	4.368	Alert	
13,000.00	9,050.16	13,249.10	9,162.95	89.71	138.72	98.10	-1,318.13	4,323.53	978.46	752.17	226.29	4.324	Alert	
13,050.00	9,050.16	13,298.22	9,163.47	90.67	140.21	98.12	-1,318.18	4,372.64	979.04	750.33	228.70	4.281	Alert	
13,100.00	9,050.16	13,340.02	9,163.86	91.62	141.48	98.14	-1,318.44	4,414.45	979.84	748.95	230.89	4.244	Alert	
13,150.00	9,050.16	13,381.99	9,164.33	92.58	142.75	98.16	-1,319.02	4,456.41	981.06	747.99	233.08	4.209	Alert	
13,200.00	9,050.16	13,436.20	9,164.88	93.54	144.40	98.18	-1,319.96	4,510.61	982.44	746.78	235.66	4.169	Alert	
13,250.00	9,050.16	13,493.79	9,165.14	94.50	146.15	98.18	-1,320.59	4,568.20	983.46	745.10	238.36	4.126	Alert	
13,300.00	9,050.16	13,549.13	9,164.93	95.46	147.83	98.17	-1,320.89	4,623.53	984.15	743.16	240.99	4.084	Alert	
13,350.00	9,050.16	13,600.99	9,164.28	96.43	149.41	98.12	-1,320.99	4,675.39	984.60	741.07	243.53	4.043	Alert	
13,400.00	9,050.16	13,648.48	9,163.36	97.39	150.85	98.07	-1,321.19	4,722.87	985.12	739.17	245.95	4.005	Alert	
13,450.00	9,050.16	13,701.46	9,162.05	98.36	152.46	97.98	-1,321.51	4,775.83	985.69	737.15	248.55	3.966	Alert	
13,500.00	9,050.16	13,760.31	9,160.58	99.33	154.25	97.90	-1,321.43	4,834.66	985.90	734.59	251.31	3.923	Alert	
13,523.09	9,050.16	13,787.48	9,159.92	99.77	155.08	97.86	-1,321.22	4,861.83	985.85	733.26	252.58	3.903	Alert	
13,550.00	9,050.16	13,809.71	9,159.35	100.29	155.76	97.82	-1,321.13	4,884.04	985.87	732.06	253.81	3.884	Alert	
13,600.00	9,050.16	13,857.68	9,158.10	101.26	157.22	97.75	-1,320.93	4,932.00	985.94	729.67	256.26	3.847	Alert	
13,650.00	9,050.16	13,904.69	9,156.83	102.23	158.65	97.67	-1,320.86	4,979.00	986.13	727.43	258.70	3.812	Alert	
13,700.00	9,050.16	13,951.61	9,155.57	103.20	160.08	97.60	-1,320.94	5,025.89	986.48	725.35	261.13	3.778	Alert	
13,750.00	9,050.16	13,999.23	9,154.24	104.18	161.54	97.52	-1,321.16	5,073.50	986.97	723.39	263.58	3.744	Alert	
13,800.00	9,050.16	14,046.92	9,152.80	105.15	162.99	97.43	-1,321.50	5,121.17	987.58	721.54	266.04	3.712	Alert	
13,850.00	9,050.16	14,097.83	9,151.24	106.13	164.55	97.33	-1,321.91	5,172.05	988.23	719.62	268.61	3.679	Alert	
13,900.00	9,050.16	14,148.98	9,149.81	107.10	166.11	97.24	-1,322.25	5,223.17	988.82	717.65	271.17	3.646	Alert	
13,950.00	9,050.16	14,198.82	9,148.47	108.08	167.63	97.16	-1,322.55	5,272.99	989.40	715.70	273.70	3.615	Alert	
13,993.84	9,050.16	14,223.00	9,147.82	108.93	168.37	97.12	-1,322.69	5,297.17	990.10	714.84	275.26	3.597	Alert, ES, SF	

Anticollision Report

Company: WCDSC Permian NM
Project: Eddy County (NAD 83 NM Eastern)
Reference Site: Sec 27-T19S-R29E
Site Error: 5.00 ft
Reference Well: Turquoise PWU 27-61H
Well Error: 0.50 ft
Reference Wellbore: Wellbore #1
Reference Design: Permit Plan 3

Local Co-ordinate Reference: Well Turquoise PWU 27-61H
TVD Reference: RKB @ 3370.00ft
MD Reference: RKB @ 3370.00R
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-T19S-R29E - Turquoise PWU 27 10H - Original Hole - P3v1													Offset Site Error:	5.00 ft
Survey Program: 154-MWD+IGRF, 8178-													Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis		Highside Tooface (")	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	5.02	5.00	-179.84	-1,390.01	-3.79	1,390.24					
50.00	50.00	24.05	24.05	5.03	5.00	-179.84	-1,390.02	-3.83	1,390.02	1,380.00	10.03	138.652		
100.00	100.00	72.14	72.14	5.03	5.00	-179.83	-1,390.08	-4.16	1,390.09	1,380.06	10.03	138.622		
150.00	150.00	120.22	120.21	5.03	5.00	-179.80	-1,390.21	-4.83	1,390.23	1,380.19	10.04	138.497		
200.00	200.00	169.77	169.76	5.05	5.01	-179.76	-1,390.41	-5.85	1,390.43	1,380.37	10.06	138.249		
250.00	250.00	221.03	221.00	5.07	5.02	-179.71	-1,390.56	-7.01	1,390.58	1,380.49	10.09	137.788		
300.00	300.00	295.05	295.00	5.10	5.05	-179.65	-1,390.03	-8.38	1,390.20	1,380.05	10.15	136.958		
350.00	350.00	333.14	333.09	5.13	5.08	-179.63	-1,389.64	-9.03	1,389.69	1,379.49	10.21	136.169		
383.93	383.93	359.00	358.93	5.16	5.09	-179.61	-1,389.56	-9.56	1,389.59	1,379.35	10.25	135.594		
400.00	400.00	372.00	371.94	5.17	5.10	-179.59	-1,389.58	-9.84	1,389.62	1,379.35	10.27	135.303		
450.00	450.00	418.73	418.65	5.21	5.14	-179.55	-1,389.74	-10.91	1,389.80	1,379.45	10.35	134.263		
500.00	500.00	466.94	466.85	5.26	5.18	-179.50	-1,390.00	-12.04	1,390.07	1,379.63	10.44	133.090		
550.00	550.00	521.93	521.82	5.32	5.24	-179.45	-1,390.21	-13.25	1,390.28	1,379.72	10.56	131.701		
600.00	600.00	573.15	573.03	5.38	5.29	-179.41	-1,390.25	-14.25	1,390.33	1,379.65	10.68	130.236		
650.00	650.00	619.09	618.97	5.45	5.35	-179.38	-1,390.38	-15.04	1,390.47	1,379.67	10.80	128.764		
700.00	700.00	667.71	667.58	5.52	5.41	-179.35	-1,390.63	-15.75	1,390.74	1,379.81	10.93	127.185		
750.00	750.00	720.12	719.99	5.60	5.49	-179.32	-1,390.86	-16.39	1,390.97	1,379.88	11.09	125.467		
800.00	800.00	772.76	772.63	5.68	5.57	-179.30	-1,390.99	-16.91	1,391.10	1,379.85	11.25	123.675		
850.00	850.00	825.51	825.38	5.76	5.66	-179.29	-1,391.03	-17.33	1,391.13	1,379.72	11.42	121.822		
862.63	862.63	838.84	838.71	5.79	5.68	-179.28	-1,391.02	-17.42	1,391.13	1,379.66	11.46	121.345		
900.00	900.00	874.05	873.91	5.85	5.74	-179.27	-1,391.03	-17.62	1,391.15	1,379.55	11.59	120.006		
950.00	950.00	922.76	922.63	5.95	5.83	-179.27	-1,391.10	-17.81	1,391.21	1,379.44	11.77	118.165		
1,000.00	1,000.00	975.30	975.17	6.05	5.92	-179.26	-1,391.14	-18.03	1,391.25	1,379.28	11.97	116.232		
1,043.06	1,043.06	1,020.55	1,020.41	6.13	6.01	-179.25	-1,391.09	-18.32	1,391.21	1,379.07	12.14	114.551		
1,050.00	1,050.00	1,024.88	1,024.74	6.15	6.02	-179.24	-1,391.10	-18.34	1,391.22	1,379.05	12.17	114.342		
1,100.00	1,100.00	1,069.16	1,069.03	6.25	6.11	-179.24	-1,391.20	-18.51	1,391.33	1,378.97	12.36	112.572		
1,150.00	1,150.00	1,116.45	1,116.32	6.36	6.20	-179.24	-1,391.48	-18.52	1,391.63	1,379.07	12.56	110.771		
1,200.00	1,200.00	1,169.36	1,169.22	6.47	6.31	-179.24	-1,391.76	-18.50	1,391.89	1,379.11	12.78	108.882		
1,250.00	1,250.00	1,221.63	1,221.49	6.59	6.43	-179.24	-1,391.93	-18.51	1,392.05	1,379.04	13.01	106.996		
1,300.00	1,300.00	1,273.54	1,273.40	6.70	6.54	-179.23	-1,392.02	-18.72	1,392.14	1,378.90	13.24	105.120		
1,350.00	1,350.00	1,323.67	1,323.53	6.82	6.66	-179.22	-1,392.06	-19.02	1,392.19	1,378.71	13.48	103.282		
1,400.00	1,400.00	1,373.40	1,373.26	6.95	6.78	-179.21	-1,392.12	-19.16	1,392.25	1,378.53	13.72	101.472		
1,450.00	1,450.00	1,424.43	1,424.28	7.07	6.90	-179.21	-1,392.16	-19.27	1,392.30	1,378.33	13.97	99.667		
1,500.00	1,500.00	1,475.55	1,475.41	7.20	7.03	-179.20	-1,392.17	-19.49	1,392.30	1,378.08	14.22	97.887		
1,505.28	1,505.28	1,480.95	1,480.81	7.21	7.04	-179.20	-1,392.16	-19.52	1,392.30	1,378.05	14.25	97.701		
1,550.00	1,550.00	1,519.58	1,519.43	7.33	7.14	-179.18	-1,392.25	-19.83	1,392.40	1,377.94	14.46	96.264		
1,600.00	1,600.00	1,564.06	1,563.91	7.46	7.25	-179.16	-1,392.51	-20.34	1,392.70	1,377.99	14.71	94.676		
1,650.00	1,650.00	1,614.23	1,614.07	7.59	7.38	-179.13	-1,392.90	-21.03	1,393.10	1,378.12	14.97	93.028		
1,700.00	1,700.00	1,664.71	1,664.55	7.73	7.52	-179.11	-1,393.28	-21.72	1,393.49	1,378.24	15.24	91.409		
1,750.00	1,750.00	1,719.63	1,719.46	7.86	7.67	-179.08	-1,393.58	-22.36	1,393.77	1,378.24	15.53	89.747		
1,800.00	1,800.00	1,772.69	1,772.52	8.00	7.81	-179.06	-1,393.71	-22.77	1,393.90	1,378.08	15.81	88.143		
1,850.00	1,850.00	1,822.08	1,821.82	8.14	7.95	-179.05	-1,393.80	-23.18	1,394.00	1,377.90	16.09	86.631		
1,900.00	1,900.00	1,869.57	1,869.40	8.28	8.08	-179.03	-1,393.92	-23.65	1,394.13	1,377.77	16.37	85.186		
1,950.00	1,950.00	1,914.56	1,914.39	8.43	8.21	-179.01	-1,394.18	-24.05	1,394.42	1,377.79	16.64	83.822		
2,000.00	2,000.00	1,961.69	1,961.51	8.57	8.34	-179.00	-1,394.60	-24.41	1,394.88	1,377.97	16.91	82.470		
2,050.00	2,050.00	2,012.85	2,012.67	8.72	8.49	-178.98	-1,395.07	-24.82	1,395.34	1,378.14	17.21	81.094		
2,100.00	2,100.00	2,065.36	2,065.18	8.87	8.64	-178.96	-1,395.49	-25.28	1,395.75	1,378.25	17.51	79.730		
2,150.00	2,150.00	2,119.19	2,119.00	9.01	8.80	-178.94	-1,395.79	-25.73	1,396.04	1,378.22	17.81	78.375		
2,200.00	2,200.00	2,169.51	2,169.32	9.16	8.95	-178.93	-1,395.97	-26.13	1,396.23	1,378.12	18.11	77.094		
2,250.00	2,250.00	2,218.84	2,218.65	9.31	9.10	-178.91	-1,396.18	-26.51	1,396.45	1,378.04	18.41	75.860		
2,300.00	2,300.00	2,269.69	2,269.49	9.46	9.25	-178.90	-1,396.39	-26.87	1,396.66	1,377.95	18.71	74.638		
2,350.00	2,350.00	2,320.67	2,320.48	9.62	9.41	-178.88	-1,396.57	-27.21	1,396.84	1,377.82	19.02	73.444		

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

Anticollision Report

Company: WCDSC Permian NM
Project: Eddy County (NAD 83 NM Eastern)
Reference Site: Sec 27-T19S-R29E
Site Error: 5.00 ft
Reference Well: Turquoise PWU 27-61H
Well Error: 0.50 ft
Reference Wellbore: Wellbore #1
Reference Design: Permit Plan 3

Local Co-ordinate Reference: Well Turquoise PWU 27-61H
TVD Reference: RKB @ 3370.00ft
MD Reference: RKB @ 3370.00ft
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-T19S-R29E - Turquoise PWU 27 10H - Original Hole - P3v1													Offset Site Error: 5.00 ft
Survey Program: 154-MWD+IGRF, 8178-													Offset Well Error: 0.00 ft
Reference		Offset		Semi Major Axis		Highside Tooface (°)	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)			
2,400.00	2,400.00	2,367.73	2,367.53	9.77	9.55	-178.87	-1,396.77	-27.49	1,397.06	1,377.74	19.31	72.331	
2,450.00	2,450.00	2,414.91	2,414.72	9.92	9.69	-178.86	-1,397.06	-27.73	1,397.37	1,377.76	19.61	71.249	
2,500.00	2,500.00	2,466.53	2,466.33	10.08	9.85	-178.86	-1,397.41	-27.92	1,397.71	1,377.79	19.92	70.152	
2,550.00	2,550.00	2,518.39	2,518.19	10.24	10.01	-178.85	-1,397.70	-28.00	1,397.99	1,377.76	20.24	69.078	
2,600.00	2,600.00	2,571.79	2,571.59	10.39	10.17	-178.85	-1,397.89	-28.12	1,398.18	1,377.62	20.56	68.009	
2,650.00	2,650.00	2,622.40	2,622.20	10.55	10.33	-178.84	-1,397.97	-28.36	1,398.26	1,377.39	20.87	66.990	
2,700.00	2,700.00	2,669.90	2,669.70	10.71	10.48	-178.83	-1,398.11	-28.53	1,398.41	1,377.23	21.18	66.028	
2,750.00	2,750.00	2,720.47	2,720.27	10.87	10.63	-178.83	-1,398.31	-28.66	1,398.62	1,377.12	21.50	65.065	
2,800.00	2,800.00	2,774.79	2,774.59	11.03	10.80	-178.82	-1,398.41	-28.76	1,398.71	1,376.88	21.82	64.087	
2,825.66	2,825.66	2,802.67	2,802.47	11.11	10.89	-178.82	-1,398.40	-28.81	1,398.70	1,376.70	21.99	63.593	
2,850.00	2,850.00	2,824.08	2,823.87	11.18	10.96	-178.82	-1,398.41	-28.86	1,398.71	1,376.57	22.14	63.175	
2,900.00	2,900.00	2,871.57	2,871.37	11.35	11.11	-178.81	-1,398.49	-29.02	1,398.80	1,376.35	22.45	62.303	
2,950.00	2,950.00	2,923.24	2,923.04	11.51	11.27	-178.80	-1,398.61	-29.21	1,398.92	1,376.14	22.78	61.419	
3,000.00	3,000.00	2,976.40	2,976.19	11.67	11.44	-178.80	-1,398.62	-29.34	1,398.93	1,375.82	23.11	60.541	
3,012.60	3,012.60	2,989.79	2,989.59	11.71	11.49	-178.80	-1,398.61	-29.35	1,398.92	1,375.73	23.19	60.322	
3,050.00	3,050.00	3,023.50	3,023.30	11.83	11.59	-178.79	-1,398.63	-29.44	1,398.94	1,375.52	23.42	59.734	
3,100.00	3,100.00	3,070.54	3,070.34	11.99	11.75	-178.79	-1,398.73	-29.60	1,399.05	1,375.32	23.73	58.950	
3,150.00	3,150.00	3,120.62	3,120.41	12.16	11.91	-178.78	-1,398.89	-29.80	1,399.22	1,375.16	24.06	58.160	
3,200.00	3,200.00	3,171.09	3,170.89	12.32	12.07	-178.77	-1,399.05	-30.01	1,399.38	1,374.99	24.39	57.386	
3,250.00	3,250.00	3,224.42	3,224.21	12.48	12.24	-178.76	-1,399.14	-30.19	1,399.47	1,374.74	24.72	56.609	
3,300.00	3,300.00	3,275.96	3,275.76	12.65	12.41	-178.76	-1,399.12	-30.29	1,399.45	1,374.39	25.05	55.861	
3,329.61	3,329.61	3,304.82	3,304.61	12.74	12.50	-178.76	-1,399.11	-30.38	1,399.44	1,374.20	25.24	55.437	
3,350.00	3,350.00	3,324.83	3,324.62	12.81	12.57	-178.75	-1,399.11	-30.44	1,399.44	1,374.07	25.38	55.147	
3,400.00	3,400.00	3,373.89	3,373.69	12.98	12.73	-178.75	-1,399.14	-30.53	1,399.47	1,373.77	25.70	54.449	
3,450.00	3,450.00	3,423.45	3,423.25	13.13	12.89	28.11	-1,399.19	-30.58	1,399.29	1,373.26	26.02	53.774	
3,500.00	3,499.99	3,473.05	3,472.84	13.29	13.05	28.13	-1,399.26	-30.61	1,398.64	1,372.29	26.34	53.096	
3,550.00	3,549.97	3,523.07	3,522.86	13.44	13.22	28.16	-1,399.34	-30.63	1,397.51	1,370.85	26.66	52.429	
3,600.00	3,599.94	3,573.08	3,572.87	13.59	13.38	28.21	-1,399.41	-30.66	1,395.90	1,368.93	26.97	51.758	
3,650.00	3,649.88	3,623.09	3,622.89	13.75	13.55	28.28	-1,399.48	-30.85	1,393.81	1,366.53	27.29	51.080	
3,700.00	3,699.79	3,672.80	3,672.59	13.90	13.71	28.36	-1,399.54	-31.25	1,391.27	1,363.67	27.60	50.400	
3,750.00	3,749.69	3,722.27	3,722.05	14.05	13.88	28.44	-1,399.61	-31.80	1,388.64	1,360.71	27.92	49.731	
3,800.00	3,799.60	3,772.02	3,771.81	14.20	14.04	28.53	-1,399.69	-32.49	1,386.02	1,357.77	28.24	49.075	
3,850.00	3,849.50	3,822.14	3,821.91	14.36	14.21	28.63	-1,399.76	-33.45	1,383.40	1,354.83	28.57	48.430	
3,900.00	3,899.40	3,874.08	3,873.83	14.51	14.39	28.75	-1,399.80	-34.76	1,380.75	1,351.86	28.89	47.787	
3,950.00	3,949.31	3,927.39	3,927.12	14.67	14.57	28.89	-1,399.89	-36.51	1,378.00	1,348.77	29.23	47.145	
4,000.00	3,999.21	3,982.02	3,981.71	14.83	14.75	29.05	-1,399.42	-38.61	1,375.11	1,345.55	29.57	46.507	
4,050.00	4,049.12	4,036.96	4,036.60	14.98	14.93	29.21	-1,398.93	-40.82	1,372.05	1,342.14	29.91	45.875	
4,100.00	4,099.02	4,090.72	4,090.32	15.14	15.11	29.36	-1,398.29	-42.86	1,368.83	1,338.58	30.24	45.258	
4,150.00	4,148.93	4,143.34	4,142.90	15.30	15.29	29.50	-1,397.52	-44.59	1,365.47	1,334.90	30.58	44.655	
4,200.00	4,198.83	4,193.95	4,193.48	15.46	15.46	29.64	-1,396.73	-46.19	1,362.08	1,331.17	30.91	44.072	
4,250.00	4,248.73	4,245.26	4,244.76	15.61	15.63	29.77	-1,395.88	-47.80	1,358.65	1,327.41	31.24	43.496	
4,300.00	4,298.64	4,297.15	4,296.62	15.77	15.81	29.91	-1,394.96	-49.43	1,355.15	1,323.59	31.57	42.927	
4,350.00	4,348.54	4,348.07	4,347.51	15.93	15.98	30.05	-1,393.99	-50.99	1,351.60	1,319.70	31.90	42.371	
4,400.00	4,398.45	4,398.62	4,398.02	16.09	16.15	30.18	-1,393.00	-52.42	1,348.03	1,315.80	32.23	41.827	
4,450.00	4,448.35	4,449.41	4,448.78	16.25	16.32	30.30	-1,391.98	-53.75	1,344.43	1,311.87	32.56	41.292	
4,500.00	4,498.26	4,500.24	4,499.59	16.42	16.49	30.43	-1,390.92	-55.05	1,340.80	1,307.91	32.89	40.766	
4,550.00	4,548.16	4,554.12	4,553.44	16.58	16.67	30.56	-1,389.70	-56.38	1,337.08	1,303.85	33.23	40.238	
4,600.00	4,598.06	4,608.02	4,607.31	16.74	16.85	30.69	-1,388.31	-57.64	1,333.21	1,299.64	33.57	39.715	
4,650.00	4,647.97	4,654.41	4,653.67	16.90	17.00	30.80	-1,387.14	-58.64	1,329.37	1,295.48	33.89	39.227	
4,700.00	4,697.87	4,702.47	4,701.71	17.06	17.17	30.91	-1,386.00	-59.56	1,325.59	1,291.38	34.21	38.745	
4,750.00	4,747.78	4,751.05	4,750.27	17.23	17.33	31.02	-1,384.91	-60.39	1,321.88	1,287.34	34.54	38.272	
4,800.00	4,797.68	4,800.51	4,799.71	17.39	17.49	31.12	-1,383.84	-61.14	1,318.21	1,283.34	34.87	37.806	

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

Anticollision Report

Company: WCDSC Permian NM
 Project: Eddy County (NAD 83 NM Eastern)
 Reference Site: Sec 27-T19S-R29E
 Site Error: 5.00 ft
 Reference Well: Turquoise PWU 27-61H
 Well Error: 0.50 ft
 Reference Wellbore: Wellbore #1
 Reference Design: Permit Plan 3

Local Co-ordinate Reference: Well Turquoise PWU 27-61H
 TVD Reference: RKB @ 3370.00ft
 MD Reference: RKB @ 3370.00ft
 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											Offset Site Error: 5.00 ft		
Survey Program: 154-MWD+IGRF, 817B-											Offset Well Error: 0.00 ft		
Reference		Offset		Semi Major Axis			Distance				Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)		Minimum Separation (ft)	Separation Factor
4,850.00	4,847.59	4,851.79	4,850.97	17.55	17.66	31.23	-1,382.71	-61.84	1,314.51	1,279.31	35.20	37.342	
4,900.00	4,897.49	4,902.78	4,901.94	17.72	17.83	31.33	-1,381.53	-62.45	1,310.76	1,275.23	35.53	36.887	
4,950.00	4,947.39	4,953.43	4,952.58	17.88	18.00	31.43	-1,380.33	-62.99	1,306.98	1,271.12	35.87	36.440	
5,000.00	4,997.30	5,004.53	5,003.67	18.05	18.17	31.53	-1,379.09	-63.45	1,303.17	1,266.97	36.20	35.999	
5,050.00	5,047.20	5,055.94	5,055.05	18.21	18.34	31.62	-1,377.80	-63.72	1,299.30	1,262.77	36.53	35.564	
5,100.00	5,097.11	5,108.38	5,107.48	18.38	18.52	31.70	-1,376.41	-63.80	1,295.36	1,258.49	36.87	35.134	
5,150.00	5,147.01	5,161.24	5,160.31	18.54	18.69	31.78	-1,374.91	-63.72	1,291.31	1,254.10	37.21	34.708	
5,200.00	5,196.92	5,212.21	5,211.26	18.71	18.86	31.85	-1,373.38	-63.53	1,287.17	1,249.64	37.54	34.291	
5,250.00	5,246.82	5,263.38	5,262.39	18.88	19.02	31.92	-1,371.81	-63.28	1,283.00	1,245.13	37.87	33.880	
5,300.00	5,296.72	5,319.78	5,318.78	19.04	19.21	32.00	-1,369.89	-63.05	1,278.67	1,240.46	38.21	33.462	
5,350.00	5,346.63	5,375.06	5,374.01	19.21	19.39	32.09	-1,367.73	-62.91	1,274.09	1,235.53	38.55	33.046	
5,400.00	5,396.53	5,428.61	5,427.51	19.38	19.57	32.17	-1,365.48	-62.75	1,269.34	1,230.45	38.89	32.637	
5,450.00	5,446.44	5,477.34	5,476.19	19.54	19.73	32.24	-1,363.30	-62.61	1,264.51	1,225.29	39.22	32.239	
5,500.00	5,496.34	5,523.34	5,522.15	19.71	19.88	32.32	-1,361.36	-62.65	1,259.81	1,220.26	39.55	31.855	
5,550.00	5,546.25	5,571.78	5,570.55	19.88	20.04	32.42	-1,359.42	-62.88	1,255.23	1,215.35	39.88	31.476	
5,600.00	5,596.15	5,621.88	5,620.60	20.05	20.21	32.52	-1,357.40	-63.30	1,250.65	1,210.43	40.21	31.100	
5,650.00	5,646.05	5,673.88	5,672.54	20.22	20.39	32.64	-1,355.22	-64.05	1,246.03	1,205.47	40.56	30.724	
5,700.00	5,695.96	5,726.45	5,725.06	20.39	20.57	32.80	-1,352.85	-65.40	1,241.31	1,200.41	40.90	30.351	
5,750.00	5,745.86	5,789.58	5,788.07	20.55	20.79	33.01	-1,349.53	-67.40	1,236.27	1,195.01	41.26	29.962	
5,800.00	5,795.77	5,844.11	5,842.46	20.72	20.97	33.19	-1,346.18	-69.19	1,230.79	1,189.18	41.61	29.580	
5,850.00	5,845.67	5,891.22	5,889.47	20.89	21.14	33.36	-1,343.29	-70.77	1,225.35	1,183.41	41.94	29.214	
5,900.00	5,895.58	5,941.04	5,939.17	21.06	21.31	33.53	-1,340.31	-72.46	1,219.99	1,177.71	42.28	28.852	
5,950.00	5,945.48	5,993.14	5,991.13	21.23	21.49	33.72	-1,337.10	-74.32	1,214.56	1,171.93	42.63	28.492	
6,000.00	5,995.38	6,043.14	6,041.00	21.40	21.66	33.91	-1,333.94	-76.14	1,209.07	1,166.10	42.97	28.138	
6,050.00	6,045.29	6,092.42	6,090.16	21.57	21.84	34.08	-1,330.85	-77.79	1,203.60	1,160.29	43.31	27.790	
6,100.00	6,095.19	6,143.43	6,141.04	21.74	22.01	34.27	-1,327.64	-79.44	1,198.12	1,154.47	43.65	27.446	
6,150.00	6,145.10	6,194.82	6,192.29	21.91	22.19	34.46	-1,324.31	-81.24	1,192.58	1,148.59	44.00	27.106	
6,200.00	6,195.00	6,249.39	6,246.69	22.08	22.39	34.68	-1,320.60	-83.32	1,188.92	1,142.57	44.35	26.765	
6,250.00	6,244.91	6,303.94	6,301.05	22.26	22.58	34.91	-1,316.62	-85.59	1,181.05	1,136.35	44.69	26.425	
6,300.00	6,294.81	6,349.32	6,346.27	22.43	22.74	35.10	-1,313.32	-87.57	1,175.22	1,130.18	45.03	26.096	
6,350.00	6,344.71	6,396.80	6,393.57	22.60	22.91	35.31	-1,309.96	-89.70	1,169.50	1,124.12	45.38	25.774	
6,400.00	6,394.62	6,446.50	6,443.11	22.77	23.08	35.54	-1,306.48	-91.93	1,163.83	1,118.11	45.72	25.455	
6,450.00	6,444.52	6,494.60	6,491.04	22.94	23.25	35.75	-1,303.08	-94.08	1,158.17	1,112.11	46.06	25.143	
6,500.00	6,494.43	6,539.08	6,535.38	23.11	23.41	35.95	-1,300.10	-96.05	1,152.70	1,106.29	46.40	24.841	
6,550.00	6,544.33	6,583.30	6,579.46	23.28	23.57	36.15	-1,297.33	-97.99	1,147.45	1,100.71	46.74	24.549	
6,600.00	6,594.24	6,626.22	6,622.27	23.46	23.72	36.34	-1,294.87	-99.91	1,142.49	1,095.41	47.08	24.268	
6,650.00	6,644.14	6,669.52	6,665.46	23.63	23.88	36.54	-1,292.63	-101.93	1,137.83	1,090.42	47.41	23.988	
6,700.00	6,694.04	6,718.90	6,714.73	23.80	24.05	36.78	-1,290.20	-104.31	1,133.33	1,085.57	47.76	23.729	
6,750.00	6,743.95	6,768.27	6,763.97	23.97	24.23	37.02	-1,287.76	-106.80	1,128.85	1,080.74	48.11	23.485	
6,800.00	6,793.85	6,810.91	6,806.51	24.15	24.38	37.23	-1,285.78	-109.06	1,124.56	1,076.12	48.44	23.214	
6,850.00	6,843.76	6,854.01	6,849.51	24.32	24.54	37.45	-1,284.01	-111.44	1,120.58	1,071.80	48.78	22.973	
6,900.00	6,893.66	6,901.80	6,897.18	24.49	24.71	37.69	-1,282.23	-114.18	1,116.82	1,067.69	49.13	22.734	
6,950.00	6,943.57	6,950.20	6,945.46	24.66	24.88	37.95	-1,280.46	-117.03	1,113.13	1,063.66	49.47	22.500	
7,000.00	6,993.47	6,999.36	6,994.52	24.84	25.06	38.21	-1,278.70	-119.92	1,109.51	1,059.68	49.82	22.269	
7,050.00	7,043.37	7,048.59	7,043.63	25.01	25.24	38.47	-1,276.97	-122.72	1,105.92	1,055.75	50.17	22.042	
7,100.00	7,093.28	7,095.77	7,090.70	25.18	25.41	38.72	-1,275.38	-125.45	1,102.43	1,051.91	50.52	21.822	
7,150.00	7,143.18	7,143.44	7,138.26	25.36	25.58	38.98	-1,273.84	-128.35	1,099.06	1,048.19	50.87	21.607	
7,200.00	7,193.09	7,197.56	7,192.24	25.53	25.77	39.28	-1,271.99	-131.72	1,095.65	1,044.42	51.23	21.386	
7,250.00	7,242.99	7,248.28	7,242.84	25.71	25.96	39.57	-1,270.08	-134.87	1,092.09	1,040.50	51.59	21.170	
7,300.00	7,292.90	7,291.51	7,285.96	25.88	26.11	39.81	-1,268.63	-137.44	1,088.73	1,036.80	51.92	20.968	
7,350.00	7,342.80	7,334.81	7,329.18	26.05	26.27	40.04	-1,267.47	-139.86	1,085.68	1,033.42	52.26	20.775	
7,400.00	7,392.70	7,376.90	7,371.20	26.23	26.42	40.25	-1,266.66	-142.06	1,082.97	1,030.38	52.59	20.594	

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

Anticollision Report

Company: WCDSC Permian NM
Project: Eddy County (NAD 83 NM Eastern)
Reference Site: Sec 27-T19S-R29E
Site Error: 5.00 ft
Reference Well: Turquoise PWU 27-61H
Well Error: 0.50 ft
Reference Wellbore: Wellbore #1
Reference Design: Permit Plan 3

Local Co-ordinate Reference: Well Turquoise PWU 27-61H
TVD Reference: RKB @ 3370.00ft
MD Reference: RKB @ 3370.00ft
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-T19S-R29E - Turquoise PWU 27 10H - Original Hole - P3v1													Offset Site Error: 5.00 ft
Survey Program: 154-MWD+IGRF, 8178-													Offset Well Error: 0.00 ft
Reference		Offset		Semi Major Axis		Highside		Distance		Minimum		Separation Factor	Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Tooface (ft)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Separation (ft)		
7,450.00	7,442.61	7,419.08	7,413.33	26.40	26.57	40.45	-1,266.18	-144.13	1,080.63	1,027.71	52.91	20.422	
7,500.00	7,492.51	7,467.18	7,461.37	26.58	26.74	40.67	-1,265.82	-146.32	1,078.55	1,025.29	53.26	20.251	
7,550.00	7,542.42	7,517.34	7,511.50	26.75	26.92	40.89	-1,265.69	-148.43	1,076.49	1,022.87	53.61	20.079	
7,600.00	7,592.32	7,567.35	7,561.46	26.93	27.09	41.09	-1,265.55	-150.31	1,074.50	1,020.55	53.95	19.916	
7,650.00	7,642.23	7,608.60	7,602.67	27.10	27.25	41.29	-1,265.57	-152.31	1,072.74	1,018.46	54.29	19.761	
7,700.00	7,692.13	7,655.45	7,649.47	27.27	27.41	41.50	-1,265.74	-154.50	1,071.18	1,016.56	54.63	19.609	
7,750.00	7,742.03	7,702.92	7,696.88	27.45	27.58	41.72	-1,266.01	-156.76	1,069.75	1,014.78	54.97	19.461	
7,800.00	7,791.94	7,749.20	7,743.11	27.62	27.75	41.93	-1,266.40	-158.96	1,068.47	1,013.16	55.31	19.319	
7,850.00	7,841.84	7,795.24	7,789.10	27.80	27.91	42.13	-1,267.00	-161.00	1,067.38	1,011.74	55.64	19.183	
7,900.00	7,891.75	7,837.26	7,831.08	27.97	28.06	42.30	-1,267.77	-162.77	1,066.54	1,010.58	55.96	19.060	
7,950.00	7,941.65	7,876.78	7,870.54	28.15	28.19	42.46	-1,268.89	-164.39	1,066.17	1,009.91	56.25	18.953	
7,962.07	7,953.69	7,886.32	7,880.07	28.19	28.23	42.50	-1,269.22	-164.78	1,066.15	1,009.83	56.33	18.928	
8,000.00	7,991.56	7,919.48	7,913.18	28.32	28.34	42.62	-1,270.54	-166.09	1,066.28	1,009.71	56.56	18.851	
8,050.00	8,041.46	7,972.50	7,966.13	28.50	28.52	42.80	-1,272.73	-167.81	1,066.44	1,009.51	56.93	18.733	
8,100.00	8,091.36	8,023.73	8,017.30	28.68	28.69	42.76	-1,274.86	-168.88	1,066.47	1,009.19	57.28	18.618	
8,150.00	8,141.23	8,073.12	8,066.64	28.85	28.86	42.34	-1,276.98	-169.85	1,066.14	1,008.52	57.62	18.502	
8,200.00	8,191.05	8,122.85	8,116.32	29.03	29.03	42.09	-1,279.21	-170.51	1,065.34	1,007.37	57.97	18.379	
8,250.00	8,240.81	8,172.89	8,166.30	29.20	29.19	41.97	-1,281.49	-171.03	1,064.03	1,005.72	58.31	18.248	
8,300.00	8,290.51	8,222.75	8,216.10	29.38	29.36	41.94	-1,283.77	-171.47	1,062.24	1,003.58	58.65	18.110	
8,350.00	8,340.12	8,272.55	8,265.84	29.56	29.53	41.98	-1,286.06	-171.91	1,059.95	1,000.95	59.00	17.966	
8,400.00	8,389.65	8,346.21	8,339.40	29.74	29.76	42.10	-1,289.38	-170.57	1,056.80	997.36	59.45	17.777	
8,450.00	8,439.09	8,431.39	8,423.93	29.92	30.02	41.93	-1,292.96	-160.96	1,051.58	991.70	59.88	17.582	
8,500.00	8,488.43	8,514.74	8,505.24	30.10	30.26	41.39	-1,296.14	-143.11	1,044.23	983.99	60.24	17.335	
8,550.00	8,537.64	8,594.83	8,581.29	30.28	30.48	46.43	-1,298.88	-118.25	1,034.95	974.40	60.55	17.092	
8,600.00	8,586.49	8,672.17	8,652.10	30.46	30.69	64.33	-1,301.19	-87.30	1,025.10	964.27	60.84	16.850	
8,650.00	8,634.56	8,747.35	8,717.84	30.64	30.90	74.93	-1,303.10	-50.94	1,015.31	954.19	61.12	16.611	
8,700.00	8,681.50	8,820.53	8,778.38	30.81	31.13	81.44	-1,304.65	-9.91	1,005.66	944.23	61.43	16.372	
8,750.00	8,726.94	8,891.85	8,833.64	30.99	31.39	85.68	-1,305.83	35.13	996.23	934.46	61.77	16.128	
8,800.00	8,770.54	8,961.45	8,893.60	31.16	31.69	88.59	-1,306.66	83.56	987.09	924.92	62.17	15.877	
8,850.00	8,811.96	9,029.49	8,928.30	31.32	32.04	90.64	-1,307.17	134.83	978.32	915.68	62.84	15.618	
8,900.00	8,850.90	9,096.09	8,967.78	31.49	32.45	92.13	-1,307.38	188.44	969.97	906.78	63.20	15.349	
8,950.00	8,887.04	9,161.39	9,002.15	31.66	32.94	93.22	-1,307.29	243.94	962.10	898.25	63.85	15.069	
9,000.00	8,920.13	9,225.49	9,031.48	31.83	33.50	94.01	-1,306.93	300.92	954.75	890.15	64.60	14.780	
9,050.00	8,949.91	9,288.51	9,055.90	32.01	34.13	94.56	-1,306.31	359.00	947.97	882.52	65.45	14.485	
9,100.00	8,976.15	9,344.26	9,073.53	32.21	34.77	95.00	-1,305.69	411.87	941.91	875.57	66.34	14.199	
9,150.00	8,998.65	9,398.27	9,086.66	32.42	35.45	95.26	-1,305.31	464.24	936.86	869.56	67.30	13.921	
9,200.00	9,017.24	9,451.61	9,095.72	32.65	36.18	95.34	-1,305.14	516.79	932.83	864.50	68.33	13.653	
9,250.00	9,031.78	9,504.32	9,100.81	32.90	36.96	95.27	-1,305.17	569.25	929.83	860.42	69.41	13.396	
9,300.00	9,042.16	9,555.55	9,102.25	33.16	37.78	95.07	-1,305.39	620.45	927.89	857.35	70.55	13.153	
9,350.00	9,048.30	9,605.23	9,102.84	33.45	38.60	94.91	-1,305.64	670.12	927.08	855.40	71.68	12.933	
9,362.52	9,049.17	9,617.73	9,102.99	33.52	38.82	94.89	-1,305.71	682.62	927.05	855.07	71.99	12.878 CC	
9,400.00	9,050.16	9,655.19	9,103.43	33.74	39.49	94.84	-1,305.90	720.08	927.37	854.49	72.88	12.725	
9,450.00	9,050.16	9,705.18	9,104.03	34.07	40.39	94.88	-1,306.15	770.07	928.12	854.02	74.10	12.525	
9,500.00	9,050.16	9,755.18	9,104.62	34.41	41.35	94.91	-1,306.40	820.06	928.87	853.48	75.39	12.320	
9,550.00	9,050.16	9,805.17	9,105.21	34.79	42.33	94.94	-1,306.66	870.05	929.63	852.88	76.75	12.113	
9,600.00	9,050.16	9,855.16	9,105.81	35.18	43.37	94.97	-1,306.91	920.03	930.38	852.22	78.16	11.904	
9,650.00	9,050.16	9,905.15	9,106.40	35.61	44.41	95.01	-1,307.17	970.02	931.13	851.50	79.63	11.693	
9,700.00	9,050.16	9,955.14	9,106.99	36.05	45.50	95.04	-1,307.42	1,020.01	931.89	850.74	81.15	11.483	
9,750.00	9,050.16	10,005.13	9,107.59	36.53	46.59	95.07	-1,307.67	1,070.00	932.64	849.92	82.72	11.275	
9,800.00	9,050.16	10,055.12	9,108.18	37.01	47.74	95.10	-1,307.93	1,119.98	933.39	849.05	84.34	11.067	
9,850.00	9,050.16	10,105.12	9,108.77	37.54	48.89	95.14	-1,308.18	1,169.97	934.15	848.14	86.01	10.861	
9,900.00	9,050.16	10,155.11	9,109.37	38.07	50.08	95.17	-1,308.44	1,219.96	934.90	847.20	87.71	10.659	

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

Anticollision Report

Company: WCDSC Permian NM
Project: Eddy County (NAD 83 NM Eastern)
Reference Site: Sec 27-T19S-R29E
Site Error: 5.00 ft
Reference Well: Turquoise PWU 27-61H
Well Error: 0.50 ft
Reference Wellbore: Wellbore #1
Reference Design: Permit Plan 3

Local Co-ordinate Reference: Well Turquoise PWU 27-61H
TVD Reference: RKB @ 3370.00ft
MD Reference: RKB @ 3370.00ft
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-T19S-R29E - Turquoise PWU 27 10H - Original Hole - P3v1													Offset Site Error:
Survey Program: 154-MWD+IGRF, 8178-													Offset Well Error:
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
9,950.00	9,050.16	10,205.10	9,109.98	38.63	51.27	95.20	-1,308.69	1,269.94	935.66	846.20	89.46	10.459	
10,000.00	9,050.16	10,255.09	9,110.55	39.19	52.50	95.23	-1,308.95	1,319.93	936.42	845.18	91.24	10.264	
10,050.00	9,050.16	10,305.08	9,111.15	39.79	53.73	95.27	-1,309.20	1,369.92	937.17	844.12	93.05	10.071	
10,100.00	9,050.16	10,355.07	9,111.74	40.40	54.99	95.30	-1,309.45	1,419.91	937.93	843.02	94.90	9.883	
10,150.00	9,050.16	10,405.07	9,112.33	41.03	56.25	95.33	-1,309.71	1,469.89	938.68	841.89	96.79	9.698	
10,200.00	9,050.16	10,455.06	9,112.93	41.66	57.54	95.36	-1,309.96	1,519.88	939.44	840.74	98.70	9.518	
10,250.00	9,050.16	10,505.05	9,113.52	42.33	58.83	95.39	-1,310.22	1,569.87	940.20	839.56	100.64	9.342	
10,300.00	9,050.16	10,555.04	9,114.11	42.99	60.14	95.43	-1,310.47	1,619.86	940.96	838.35	102.61	9.171	
10,350.00	9,050.16	10,605.03	9,114.71	43.68	61.46	95.46	-1,310.72	1,669.84	941.71	837.11	104.60	9.003	
10,400.00	9,050.16	10,655.02	9,115.30	44.37	62.79	95.49	-1,310.98	1,719.83	942.47	835.86	106.61	8.840	
10,450.00	9,050.16	10,705.01	9,115.89	45.09	64.13	95.52	-1,311.23	1,769.82	943.23	834.58	108.65	8.681	
10,500.00	9,050.16	10,755.01	9,116.49	45.81	65.48	95.55	-1,311.49	1,819.81	943.99	833.28	110.71	8.527	
10,550.00	9,050.16	10,805.00	9,117.08	46.54	66.84	95.58	-1,311.74	1,869.79	944.75	831.96	112.79	8.378	
10,600.00	9,050.16	10,854.99	9,117.67	47.28	68.21	95.62	-1,311.99	1,919.78	945.51	830.62	114.89	8.230	
10,650.00	9,050.16	10,904.98	9,118.27	48.04	69.58	95.65	-1,312.25	1,969.77	946.27	829.26	117.00	8.087	
10,700.00	9,050.16	10,954.97	9,118.86	48.80	70.97	95.68	-1,312.50	2,019.75	947.03	827.89	119.14	7.949	
10,750.00	9,050.16	11,004.96	9,119.45	49.58	72.36	95.71	-1,312.76	2,069.74	947.79	826.50	121.29	7.814	
10,800.00	9,050.16	11,054.95	9,120.05	50.36	73.76	95.74	-1,313.01	2,119.73	948.55	825.10	123.45	7.684	
10,850.00	9,050.16	11,104.95	9,120.64	51.15	75.16	95.77	-1,313.27	2,169.72	949.31	823.68	125.63	7.556	
10,900.00	9,050.16	11,154.94	9,121.23	51.95	76.57	95.80	-1,313.52	2,219.70	950.07	822.25	127.82	7.433	
10,950.00	9,050.16	11,204.93	9,121.83	52.76	77.99	95.84	-1,313.77	2,269.69	950.83	820.80	130.03	7.312	
11,000.00	9,050.16	11,254.92	9,122.42	53.57	79.41	95.87	-1,314.03	2,319.68	951.59	819.34	132.24	7.196	
11,050.00	9,050.16	11,304.91	9,123.01	54.39	80.83	95.90	-1,314.28	2,369.67	952.35	817.87	134.48	7.082	
11,100.00	9,050.16	11,354.90	9,123.61	55.22	82.27	95.93	-1,314.54	2,419.65	953.11	816.40	136.72	6.971	
11,150.00	9,050.16	11,404.90	9,124.20	56.05	83.70	95.96	-1,314.79	2,469.64	953.88	814.91	138.97	6.864	
11,200.00	9,050.16	11,454.89	9,124.79	56.89	85.14	95.99	-1,315.04	2,519.63	954.64	813.41	141.23	6.759	
11,250.00	9,050.16	11,504.88	9,125.39	57.74	86.58	96.02	-1,315.30	2,569.62	955.40	811.90	143.50	6.658	
11,300.00	9,050.16	11,554.87	9,125.98	58.59	88.03	96.05	-1,315.55	2,619.60	956.16	810.38	145.78	6.559	
11,350.00	9,050.16	11,604.86	9,126.57	59.45	89.48	96.08	-1,315.81	2,669.59	956.93	808.85	148.07	6.463	
11,400.00	9,050.16	11,654.85	9,127.17	60.31	90.94	96.12	-1,316.06	2,719.58	957.69	807.32	150.37	6.369	
11,450.00	9,050.16	11,704.84	9,127.76	61.18	92.39	96.15	-1,316.31	2,769.56	958.45	805.78	152.68	6.278	
11,500.00	9,050.16	11,754.84	9,128.35	62.05	93.86	96.18	-1,316.57	2,819.55	959.22	804.23	154.99	6.189	
11,550.00	9,050.16	11,804.83	9,128.95	62.93	95.32	96.21	-1,316.82	2,869.54	959.98	802.67	157.31	6.102	
11,600.00	9,050.16	11,854.82	9,129.54	63.81	96.79	96.24	-1,317.08	2,919.53	960.75	801.11	159.64	6.018	
11,650.00	9,050.16	11,904.81	9,130.13	64.69	98.26	96.27	-1,317.33	2,969.51	961.51	799.54	161.98	5.938	
11,700.00	9,050.16	11,954.80	9,130.73	65.58	99.73	96.30	-1,317.59	3,019.50	962.28	797.96	164.32	5.858	
11,750.00	9,050.16	12,004.79	9,131.32	66.48	101.21	96.33	-1,317.84	3,069.49	963.04	796.38	166.67	5.778	
11,800.00	9,050.16	12,054.79	9,131.91	67.37	102.69	96.36	-1,318.09	3,119.48	963.81	794.79	169.02	5.702	
11,850.00	9,050.16	12,104.78	9,132.51	68.27	104.17	96.39	-1,318.35	3,169.46	964.58	793.20	171.38	5.628	
11,900.00	9,050.16	12,154.77	9,133.10	69.18	105.65	96.42	-1,318.60	3,219.45	965.34	791.60	173.74	5.556	
11,950.00	9,050.16	12,204.76	9,133.69	70.08	107.13	96.45	-1,318.86	3,269.44	966.11	790.00	176.11	5.486	
12,000.00	9,050.16	12,254.75	9,134.29	70.99	108.62	96.48	-1,319.11	3,319.43	966.88	788.39	178.48	5.417	
12,050.00	9,050.16	12,304.74	9,134.88	71.91	110.11	96.51	-1,319.36	3,369.41	967.64	786.78	180.86	5.350	
12,100.00	9,050.16	12,356.52	9,135.76	72.82	111.65	96.56	-1,319.52	3,421.18	968.34	785.05	183.29	5.283	
12,150.00	9,050.16	12,406.51	9,136.69	73.74	113.14	96.61	-1,319.64	3,471.16	969.01	783.34	185.67	5.219	
12,200.00	9,050.16	12,456.50	9,137.61	74.66	114.64	96.66	-1,319.77	3,521.14	969.69	781.63	188.06	5.156	
12,250.00	9,050.16	12,506.48	9,138.54	75.59	116.13	96.71	-1,319.89	3,571.12	970.37	779.92	190.45	5.095	
12,300.00	9,050.16	12,556.47	9,139.46	76.51	117.63	96.76	-1,320.01	3,621.10	971.05	778.21	192.84	5.036	
12,350.00	9,050.16	12,606.46	9,140.39	77.44	119.13	96.81	-1,320.14	3,671.08	971.73	776.49	195.23	4.977 Alert	
12,400.00	9,050.16	12,656.45	9,141.31	78.38	120.63	96.86	-1,320.26	3,721.06	972.41	774.78	197.63	4.920 Alert	
12,450.00	9,050.16	12,706.44	9,142.24	79.31	122.13	96.91	-1,320.38	3,771.04	973.09	773.05	200.03	4.865 Alert	
12,500.00	9,050.16	12,756.42	9,143.16	80.24	123.64	96.96	-1,320.51	3,821.02	973.77	771.33	202.43	4.810 Alert	

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

Anticollision Report

Company: WCDSC Permian NM
Project: Eddy County (NAD 83 NM Eastern)
Reference Site: Sec 27-T19S-R29E
Site Error: 5.00 ft
Reference Well: Turquoise PWU 27-61H
Well Error: 0.50 ft
Reference Wellbore: Wellbore #1
Reference Design: Permit Plan 3

Local Co-ordinate Reference: Well Turquoise PWU 27-61H
TVD Reference: RKB @ 3370.00ft
MD Reference: RKB @ 3370.00ft
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-T19S-R29E - Turquoise PWU 27 10H - Original Hole - P3v1														Offset Site Error:	5.00 ft
Survey Program: 154-MWD+IGRF, 8178-														Offset Well Error:	0.00 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		
12,550.00	9,050.16	12,806.41	9,144.08	81.18	125.14	97.01	-1,320.63	3,871.00	974.45	769.61	204.84	4.757	Alert		
12,600.00	9,050.16	12,856.40	9,145.01	82.12	126.65	97.06	-1,320.75	3,920.98	975.13	767.88	207.25	4.705	Alert		
12,650.00	9,050.16	12,906.39	9,145.93	83.07	128.15	97.11	-1,320.88	3,970.96	975.81	766.15	209.66	4.654	Alert		
12,700.00	9,050.16	12,956.38	9,146.86	84.01	129.66	97.16	-1,321.00	4,020.94	976.50	764.42	212.08	4.604	Alert		
12,750.00	9,050.16	13,006.37	9,147.78	84.96	131.17	97.21	-1,321.12	4,070.92	977.18	762.69	214.50	4.556	Alert		
12,800.00	9,050.16	13,056.35	9,148.71	85.90	132.68	97.26	-1,321.25	4,120.89	977.87	760.96	216.91	4.508	Alert		
12,850.00	9,050.16	13,106.34	9,149.63	86.85	134.19	97.31	-1,321.37	4,170.87	978.56	759.22	219.34	4.461	Alert		
12,900.00	9,050.16	13,156.33	9,150.56	87.80	135.71	97.36	-1,321.49	4,220.85	979.24	757.48	221.76	4.416	Alert		
12,950.00	9,050.16	13,206.32	9,151.48	88.76	137.22	97.41	-1,321.62	4,270.83	979.93	755.75	224.19	4.371	Alert		
13,000.00	9,050.16	13,256.31	9,152.41	89.71	138.74	97.46	-1,321.74	4,320.81	980.62	754.01	226.61	4.327	Alert		
13,050.00	9,050.16	13,306.29	9,153.33	90.67	140.25	97.51	-1,321.86	4,370.79	981.31	752.27	229.04	4.284	Alert		
13,100.00	9,050.16	13,356.28	9,154.26	91.62	141.77	97.56	-1,321.99	4,420.77	982.00	750.53	231.47	4.242	Alert		
13,150.00	9,050.16	13,406.27	9,155.18	92.58	143.28	97.60	-1,322.11	4,470.75	982.69	748.78	233.91	4.201	Alert		
13,200.00	9,050.16	13,456.26	9,156.11	93.54	144.80	97.65	-1,322.23	4,520.73	983.38	747.04	236.34	4.161	Alert		
13,250.00	9,050.16	13,506.25	9,157.03	94.50	146.32	97.70	-1,322.36	4,570.71	984.07	745.30	238.78	4.121	Alert		
13,300.00	9,050.16	13,556.24	9,157.96	95.46	147.84	97.75	-1,322.48	4,620.69	984.77	743.55	241.21	4.083	Alert		
13,350.00	9,050.16	13,606.22	9,158.88	96.43	149.36	97.80	-1,322.60	4,670.67	985.46	741.81	243.65	4.045	Alert		
13,400.00	9,050.16	13,656.21	9,159.81	97.39	150.88	97.85	-1,322.73	4,720.65	986.15	740.06	246.09	4.007	Alert		
13,450.00	9,050.16	13,706.20	9,160.73	98.36	152.41	97.90	-1,322.85	4,770.63	986.85	738.32	248.53	3.971	Alert		
13,500.00	9,050.16	13,756.19	9,161.65	99.33	153.93	97.95	-1,322.97	4,820.61	987.54	736.57	250.98	3.935	Alert		
13,550.00	9,050.16	13,806.18	9,162.58	100.29	155.45	97.99	-1,323.10	4,870.59	988.24	734.82	253.42	3.900	Alert		
13,600.00	9,050.16	13,856.16	9,163.50	101.26	156.98	98.04	-1,323.22	4,920.57	988.94	733.07	255.86	3.865	Alert		
13,650.00	9,050.16	13,906.15	9,164.43	102.23	158.50	98.09	-1,323.34	4,970.55	989.64	731.33	258.31	3.831	Alert		
13,700.00	9,050.16	13,956.14	9,165.35	103.20	160.03	98.14	-1,323.47	5,020.52	990.33	729.58	260.76	3.798	Alert		
13,750.00	9,050.16	14,006.13	9,166.28	104.18	161.55	98.19	-1,323.59	5,070.50	991.03	727.83	263.20	3.765	Alert		
13,800.00	9,050.16	14,056.12	9,167.20	105.15	163.08	98.24	-1,323.71	5,120.48	991.73	726.08	265.65	3.733	Alert		
13,850.00	9,050.16	14,106.11	9,168.13	106.13	164.61	98.28	-1,323.83	5,170.46	992.43	724.33	268.10	3.702	Alert		
13,900.00	9,050.16	14,156.09	9,169.05	107.10	166.14	98.33	-1,323.96	5,220.44	993.14	722.58	270.55	3.671	Alert		
13,950.00	9,050.16	14,206.08	9,169.98	108.08	167.66	98.38	-1,324.08	5,270.42	993.84	720.84	273.00	3.640	Alert, ES, SF		
13,993.84	9,050.16	14,198.12	9,169.83	108.93	167.42	98.37	-1,324.06	5,262.46	995.80	722.55	273.25	3.644	Alert		

Anticollision Report

Company: WCDSC Permian NM
Project: Eddy County (NAD 83 NM Eastern)
Reference Site: Sec 27-T19S-R29E
Site Error: 5.00 ft
Reference Well: Turquoise PWU 27-61H
Well Error: 0.50 ft
Reference Wellbore: Wellbore #1
Reference Design: Permit Plan 3

Local Co-ordinate Reference: Well Turquoise PWU 27-61H
TVD Reference: RKB @ 3370.00ft
MD Reference: RKB @ 3370.00ft
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-T19S-R29E - Turquoise PWU 27 10H - Original Hole - Plan 1														Offset Site Error:	5.00 ft
Survey Program: 0-MWD(OWSG)														Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis		Highside Tooface (°)	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	5.02	5.00	-179.84	-1,390.01	-3.79	1,390.24						
50.00	50.00	25.00	25.00	5.03	5.00	-179.84	-1,390.01	-3.79	1,390.01	1,379.99	10.03	138.651			
100.00	100.00	75.00	75.00	5.03	5.00	-179.84	-1,390.01	-3.79	1,390.01	1,379.99	10.03	138.617			
150.00	150.00	125.00	125.00	5.03	5.01	-179.84	-1,390.01	-3.79	1,390.01	1,379.97	10.04	138.451			
200.00	200.00	175.00	175.00	5.05	5.02	-179.84	-1,390.01	-3.79	1,390.01	1,379.95	10.07	138.099			
250.00	250.00	225.00	225.00	5.07	5.03	-179.84	-1,390.01	-3.79	1,390.01	1,379.91	10.10	137.577			
300.00	300.00	275.00	275.00	5.10	5.06	-179.84	-1,390.01	-3.79	1,390.01	1,379.86	10.15	136.890			
350.00	350.00	325.00	325.00	5.13	5.09	-179.84	-1,390.01	-3.79	1,390.01	1,379.80	10.22	136.044			
400.00	400.00	375.00	375.00	5.17	5.12	-179.84	-1,390.01	-3.79	1,390.01	1,379.72	10.29	135.051			
450.00	450.00	425.00	425.00	5.21	5.17	-179.84	-1,390.01	-3.79	1,390.01	1,379.63	10.38	133.919			
500.00	500.00	475.00	475.00	5.26	5.21	-179.84	-1,390.01	-3.79	1,390.01	1,379.54	10.48	132.659			
550.00	550.00	525.00	525.00	5.32	5.27	-179.84	-1,390.01	-3.79	1,390.01	1,379.43	10.59	131.283			
600.00	600.00	575.00	575.00	5.38	5.33	-179.84	-1,390.01	-3.79	1,390.01	1,379.31	10.71	129.804			
650.00	650.00	625.00	625.00	5.45	5.39	-179.84	-1,390.01	-3.79	1,390.01	1,379.17	10.84	128.233			
700.00	700.00	675.00	675.00	5.52	5.46	-179.84	-1,390.01	-3.79	1,390.01	1,379.03	10.98	126.582			
750.00	750.00	725.00	725.00	5.60	5.54	-179.84	-1,390.01	-3.79	1,390.01	1,378.88	11.13	124.864			
800.00	800.00	775.00	775.00	5.68	5.61	-179.84	-1,390.01	-3.79	1,390.01	1,378.72	11.29	123.090			
850.00	850.00	825.00	825.00	5.76	5.70	-179.84	-1,390.01	-3.79	1,390.01	1,378.55	11.46	121.271			
900.00	900.00	875.00	875.00	5.85	5.79	-179.84	-1,390.01	-3.79	1,390.01	1,378.37	11.64	119.417			
950.00	950.00	925.00	925.00	5.95	5.88	-179.84	-1,390.01	-3.79	1,390.01	1,378.19	11.83	117.537			
1,000.00	1,000.00	975.00	975.00	6.05	5.97	-179.84	-1,390.01	-3.79	1,390.01	1,377.99	12.02	115.640			
1,050.00	1,050.00	1,025.00	1,025.00	6.15	6.07	-179.84	-1,390.01	-3.79	1,390.01	1,377.79	12.22	113.734			
1,100.00	1,100.00	1,075.00	1,075.00	6.25	6.18	-179.84	-1,390.01	-3.79	1,390.01	1,377.58	12.43	111.826			
1,150.00	1,150.00	1,125.00	1,125.00	6.36	6.29	-179.84	-1,390.01	-3.79	1,390.01	1,377.37	12.65	109.923			
1,200.00	1,200.00	1,175.00	1,175.00	6.47	6.40	-179.84	-1,390.01	-3.79	1,390.01	1,377.15	12.87	108.029			
1,250.00	1,250.00	1,225.00	1,225.00	6.59	6.51	-179.84	-1,390.01	-3.79	1,390.01	1,376.92	13.09	106.151			
1,300.00	1,300.00	1,275.00	1,275.00	6.70	6.63	-179.84	-1,390.01	-3.79	1,390.01	1,376.69	13.33	104.292			
1,350.00	1,350.00	1,325.00	1,325.00	6.82	6.74	-179.84	-1,390.01	-3.79	1,390.01	1,376.45	13.57	102.456			
1,400.00	1,400.00	1,375.00	1,375.00	6.95	6.87	-179.84	-1,390.01	-3.79	1,390.01	1,376.20	13.81	100.645			
1,450.00	1,450.00	1,425.00	1,425.00	7.07	6.99	-179.84	-1,390.01	-3.79	1,390.01	1,375.95	14.06	98.863			
1,500.00	1,500.00	1,475.00	1,475.00	7.20	7.12	-179.84	-1,390.01	-3.79	1,390.01	1,375.70	14.31	97.111			
1,550.00	1,550.00	1,525.00	1,525.00	7.33	7.24	-179.84	-1,390.01	-3.79	1,390.01	1,375.44	14.57	95.391			
1,600.00	1,600.00	1,575.00	1,575.00	7.46	7.38	-179.84	-1,390.01	-3.79	1,390.01	1,375.18	14.83	93.705			
1,650.00	1,650.00	1,625.00	1,625.00	7.59	7.51	-179.84	-1,390.01	-3.79	1,390.01	1,374.91	15.10	92.054			
1,700.00	1,700.00	1,675.00	1,675.00	7.73	7.64	-179.84	-1,390.01	-3.79	1,390.01	1,374.64	15.37	90.437			
1,750.00	1,750.00	1,725.00	1,725.00	7.86	7.78	-179.84	-1,390.01	-3.79	1,390.01	1,374.37	15.64	88.856			
1,800.00	1,800.00	1,775.00	1,775.00	8.00	7.92	-179.84	-1,390.01	-3.79	1,390.01	1,374.09	15.92	87.311			
1,850.00	1,850.00	1,825.00	1,825.00	8.14	8.06	-179.84	-1,390.01	-3.79	1,390.01	1,373.81	16.20	85.802			
1,900.00	1,900.00	1,875.00	1,875.00	8.28	8.20	-179.84	-1,390.01	-3.79	1,390.01	1,373.53	16.48	84.328			
1,950.00	1,950.00	1,925.00	1,925.00	8.43	8.34	-179.84	-1,390.01	-3.79	1,390.01	1,373.24	16.77	82.890			
2,000.00	2,000.00	1,975.00	1,975.00	8.57	8.49	-179.84	-1,390.01	-3.79	1,390.01	1,372.96	17.06	81.487			
2,050.00	2,050.00	2,025.00	2,025.00	8.72	8.63	-179.84	-1,390.01	-3.79	1,390.01	1,372.66	17.35	80.119			
2,100.00	2,100.00	2,075.00	2,075.00	8.87	8.78	-179.84	-1,390.01	-3.79	1,390.01	1,372.37	17.64	78.785			
2,150.00	2,150.00	2,125.00	2,125.00	9.01	8.93	-179.84	-1,390.01	-3.79	1,390.01	1,372.07	17.94	77.484			
2,200.00	2,200.00	2,175.00	2,175.00	9.16	9.07	-179.84	-1,390.01	-3.79	1,390.01	1,371.78	18.24	76.217			
2,250.00	2,250.00	2,225.00	2,225.00	9.31	9.22	-179.84	-1,390.01	-3.79	1,390.01	1,371.48	18.54	74.981			
2,300.00	2,300.00	2,275.00	2,275.00	9.46	9.38	-179.84	-1,390.01	-3.79	1,390.01	1,371.17	18.84	73.777			
2,350.00	2,350.00	2,325.00	2,325.00	9.62	9.53	-179.84	-1,390.01	-3.79	1,390.01	1,370.87	19.15	72.604			
2,400.00	2,400.00	2,375.00	2,375.00	9.77	9.68	-179.84	-1,390.01	-3.79	1,390.01	1,370.56	19.45	71.461			
2,450.00	2,450.00	2,425.00	2,425.00	9.92	9.83	-179.84	-1,390.01	-3.79	1,390.01	1,370.25	19.76	70.347			
2,500.00	2,500.00	2,475.00	2,475.00	10.08	9.99	-179.84	-1,390.01	-3.79	1,390.01	1,369.94	20.07	69.261			
2,550.00	2,550.00	2,525.00	2,525.00	10.24	10.15	-179.84	-1,390.01	-3.79	1,390.01	1,369.63	20.38	68.203			

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

Anticollision Report

Company: WCDSC Permian NM
Project: Eddy County (NAD 83 NM Eastern)
Reference Site: Sec 27-T19S-R29E
Site Error: 5.00 ft
Reference Well: Turquoise PWU 27-61H
Well Error: 0.50 ft
Reference Wellbore: Wellbore #1
Reference Design: Permit Plan 3

Local Co-ordinate Reference: Well Turquoise PWU 27-61H
TVD Reference: RKB @ 3370.00ft
MD Reference: RKB @ 3370.00ft
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-T19S-R29E - Turquoise PWU 27 10H - Original Hole - Plan 1													Offset Site Error:	5.00 ft
Survey Program: 0-MWD(OWSG)													Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)						
2,600.00	2,600.00	2,575.00	2,575.00	10.39	10.30	-179.84	-1,390.01	-3.79	1,390.01	1,369.32	20.69	67.172		
2,650.00	2,650.00	2,625.00	2,625.00	10.55	10.46	-179.84	-1,390.01	-3.79	1,390.01	1,369.01	21.01	66.167		
2,700.00	2,700.00	2,675.00	2,675.00	10.71	10.62	-179.84	-1,390.01	-3.79	1,390.01	1,368.69	21.32	65.187		
2,750.00	2,750.00	2,725.00	2,725.00	10.87	10.77	-179.84	-1,390.01	-3.79	1,390.01	1,368.37	21.64	64.232		
2,800.00	2,800.00	2,775.00	2,775.00	11.03	10.93	-179.84	-1,390.01	-3.79	1,390.01	1,368.05	21.96	63.301		
2,850.00	2,850.00	2,825.00	2,825.00	11.18	11.09	-179.84	-1,390.01	-3.79	1,390.01	1,367.74	22.28	62.393		
2,900.00	2,900.00	2,875.00	2,875.00	11.35	11.25	-179.84	-1,390.01	-3.79	1,390.01	1,367.41	22.60	61.508		
2,950.00	2,950.00	2,925.00	2,925.00	11.51	11.41	-179.84	-1,390.01	-3.79	1,390.01	1,367.09	22.92	60.644		
3,000.00	3,000.00	2,975.00	2,975.00	11.67	11.58	-179.84	-1,390.01	-3.79	1,390.01	1,366.77	23.24	59.802		
3,050.00	3,050.00	3,025.00	3,025.00	11.83	11.74	-179.84	-1,390.01	-3.79	1,390.01	1,366.45	23.57	58.980		
3,100.00	3,100.00	3,075.00	3,075.00	11.99	11.90	-179.84	-1,390.01	-3.79	1,390.01	1,366.12	23.89	58.178		
3,150.00	3,150.00	3,125.00	3,125.00	12.16	12.06	-179.84	-1,390.01	-3.79	1,390.01	1,365.80	24.22	57.395		
3,200.00	3,200.00	3,175.00	3,175.00	12.32	12.23	-179.84	-1,390.01	-3.79	1,390.01	1,365.47	24.55	56.631		
3,250.00	3,250.00	3,225.00	3,225.00	12.48	12.39	-179.84	-1,390.01	-3.79	1,390.01	1,365.14	24.87	55.885		
3,300.00	3,300.00	3,275.00	3,275.00	12.65	12.55	-179.84	-1,390.01	-3.79	1,390.01	1,364.81	25.20	55.156		
3,350.00	3,350.00	3,325.00	3,325.00	12.81	12.72	-179.84	-1,390.01	-3.79	1,390.01	1,364.48	25.53	54.445		
3,400.00	3,400.00	3,375.00	3,375.00	12.98	12.88	-179.84	-1,390.01	-3.79	1,390.01	1,364.15	25.86	53.750		
3,450.00	3,450.00	3,425.00	3,425.00	13.13	13.05	27.01	-1,390.01	-3.79	1,389.77	1,363.59	26.18	53.078		
3,500.00	3,499.99	3,474.99	3,474.99	13.29	13.22	27.03	-1,390.01	-3.79	1,389.04	1,362.53	26.51	52.403		
3,550.00	3,549.97	3,524.97	3,524.97	13.44	13.38	27.06	-1,390.01	-3.79	1,387.83	1,361.00	26.82	51.739		
3,600.00	3,599.94	3,574.94	3,574.94	13.59	13.55	27.11	-1,390.01	-3.79	1,386.13	1,358.99	27.14	51.071		
3,650.00	3,649.88	3,624.88	3,624.88	13.75	13.71	27.17	-1,390.01	-3.79	1,383.94	1,356.48	27.46	50.399		
3,700.00	3,699.79	3,674.79	3,674.79	13.90	13.88	27.23	-1,390.01	-3.79	1,381.30	1,353.52	27.78	49.725		
3,750.00	3,749.69	3,724.69	3,724.69	14.05	14.05	27.29	-1,390.01	-3.79	1,378.55	1,350.45	28.10	49.060		
3,800.00	3,799.60	3,774.60	3,774.60	14.20	14.22	27.35	-1,390.01	-3.79	1,375.80	1,347.38	28.42	48.410		
3,850.00	3,849.50	3,824.50	3,824.50	14.36	14.38	27.41	-1,390.01	-3.79	1,373.06	1,344.31	28.74	47.772		
3,900.00	3,899.40	3,874.40	3,874.40	14.51	14.55	27.47	-1,390.01	-3.79	1,370.31	1,341.25	29.06	47.147		
3,950.00	3,949.31	3,924.31	3,924.31	14.67	14.72	27.53	-1,390.01	-3.79	1,367.57	1,338.18	29.39	46.534		
4,000.00	3,999.21	3,974.21	3,974.21	14.83	14.89	27.59	-1,390.01	-3.79	1,364.82	1,335.11	29.71	45.934		
4,050.00	4,049.12	4,024.12	4,024.12	14.98	15.06	27.65	-1,390.01	-3.79	1,362.08	1,332.04	30.04	45.346		
4,100.00	4,099.02	4,074.02	4,074.02	15.14	15.22	27.71	-1,390.01	-3.79	1,359.34	1,328.98	30.36	44.769		
4,150.00	4,148.93	4,123.93	4,123.93	15.30	15.39	27.77	-1,390.01	-3.79	1,356.60	1,325.91	30.69	44.203		
4,200.00	4,198.83	4,173.83	4,173.83	15.46	15.56	27.83	-1,390.01	-3.79	1,353.87	1,322.85	31.02	43.648		
4,250.00	4,248.73	4,223.73	4,223.73	15.61	15.73	27.89	-1,390.01	-3.79	1,351.13	1,319.79	31.35	43.104		
4,300.00	4,298.64	4,273.64	4,273.64	15.77	15.90	27.95	-1,390.01	-3.79	1,348.40	1,316.72	31.67	42.570		
4,350.00	4,348.54	4,323.54	4,323.54	15.93	16.07	28.02	-1,390.01	-3.79	1,345.67	1,313.66	32.00	42.047		
4,400.00	4,398.45	4,373.45	4,373.45	16.09	16.24	28.08	-1,390.01	-3.79	1,342.94	1,310.60	32.33	41.533		
4,450.00	4,448.35	4,423.35	4,423.35	16.25	16.41	28.14	-1,390.01	-3.79	1,340.21	1,307.54	32.66	41.029		
4,500.00	4,498.26	4,473.26	4,473.26	16.42	16.58	28.20	-1,390.01	-3.79	1,337.48	1,304.48	33.00	40.534		
4,550.00	4,548.16	4,523.16	4,523.16	16.58	16.75	28.27	-1,390.01	-3.79	1,334.75	1,301.43	33.33	40.049		
4,600.00	4,598.06	4,573.06	4,573.06	16.74	16.92	28.33	-1,390.01	-3.79	1,332.03	1,298.37	33.66	39.573		
4,650.00	4,647.97	4,622.97	4,622.97	16.90	17.10	28.39	-1,390.01	-3.79	1,329.31	1,295.31	33.99	39.105		
4,700.00	4,697.87	4,672.87	4,672.87	17.06	17.27	28.46	-1,390.01	-3.79	1,326.59	1,292.26	34.33	38.646		
4,750.00	4,747.78	4,722.78	4,722.78	17.23	17.44	28.52	-1,390.01	-3.79	1,323.87	1,289.21	34.66	38.195		
4,800.00	4,797.68	4,772.68	4,772.68	17.39	17.61	28.58	-1,390.01	-3.79	1,321.15	1,286.15	35.00	37.752		
4,850.00	4,847.59	4,822.59	4,822.59	17.55	17.78	28.65	-1,390.01	-3.79	1,318.43	1,283.10	35.33	37.317		
4,900.00	4,897.49	4,872.49	4,872.49	17.72	17.95	28.71	-1,390.01	-3.79	1,315.72	1,280.05	35.67	36.890		
4,950.00	4,947.39	4,922.39	4,922.39	17.88	18.12	28.78	-1,390.01	-3.79	1,313.01	1,277.00	36.00	36.470		
5,000.00	4,997.30	4,972.30	4,972.30	18.05	18.30	28.84	-1,390.01	-3.79	1,310.30	1,273.96	36.34	36.058		
5,050.00	5,047.20	5,022.20	5,022.20	18.21	18.47	28.91	-1,390.01	-3.79	1,307.59	1,270.91	36.68	35.653		
5,100.00	5,097.11	5,072.11	5,072.11	18.38	18.64	28.97	-1,390.01	-3.79	1,304.88	1,267.87	37.01	35.255		
5,150.00	5,147.01	5,122.01	5,122.01	18.54	18.81	29.04	-1,390.01	-3.79	1,302.17	1,264.82	37.35	34.864		

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

Anticollision Report

Company: WCDSC Permian NM
Project: Eddy County (NAD 83 NM Eastern)
Reference Site: Sec 27-T19S-R29E
Site Error: 5.00 ft
Reference Well: Turquoise PWU 27-61H
Well Error: 0.50 ft
Reference Wellbore: Wellbore #1
Reference Design: Permit Plan 3

Local Co-ordinate Reference: Well Turquoise PWU 27-61H
TVD Reference: RKB @ 3370.00ft
MD Reference: RKB @ 3370.00ft
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-T19S-R29E - Turquoise PWU 27 10H - Original Hole - Plan 1													Offset Site Error:	5.00 ft
Survey Program: O-MWD(OWSG)													Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Minimum Separation (ft)	Separation Factor	Warning			
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)						
5,200.00	5,196.92	5,171.92	5,171.92	18.71	18.99	29.11	-1,390.01	-3.79	1,299.47	1,261.78	37.69	34.479		
5,250.00	5,246.82	5,221.82	5,221.82	18.88	19.16	29.17	-1,390.01	-3.79	1,296.77	1,258.74	38.03	34.101		
5,300.00	5,296.72	5,271.72	5,271.72	19.04	19.33	29.24	-1,390.01	-3.79	1,294.07	1,255.70	38.37	33.730		
5,350.00	5,346.63	5,321.63	5,321.63	19.21	19.50	29.31	-1,390.01	-3.79	1,291.37	1,252.68	38.71	33.364		
5,400.00	5,396.53	5,371.53	5,371.53	19.38	19.68	29.37	-1,390.01	-3.79	1,288.67	1,249.63	39.04	33.005		
5,450.00	5,446.44	5,421.44	5,421.44	19.54	19.85	29.44	-1,390.01	-3.79	1,285.97	1,246.59	39.38	32.652		
5,500.00	5,496.34	5,471.34	5,471.34	19.71	20.02	29.51	-1,390.01	-3.79	1,283.28	1,243.58	39.72	32.304		
5,550.00	5,546.25	5,521.25	5,521.25	19.88	20.20	29.58	-1,390.01	-3.79	1,280.59	1,240.52	40.07	31.962		
5,600.00	5,596.15	5,571.15	5,571.15	20.05	20.37	29.64	-1,390.01	-3.79	1,277.90	1,237.49	40.41	31.626		
5,650.00	5,646.05	5,621.05	5,621.05	20.22	20.54	29.71	-1,390.01	-3.79	1,275.21	1,234.46	40.75	31.295		
5,700.00	5,695.96	5,670.96	5,670.96	20.39	20.72	29.78	-1,390.01	-3.79	1,272.52	1,231.44	41.09	30.970		
5,750.00	5,745.88	5,720.88	5,720.88	20.55	20.89	29.85	-1,390.01	-3.79	1,269.84	1,228.41	41.43	30.649		
5,800.00	5,795.77	5,770.77	5,770.77	20.72	21.06	29.92	-1,390.01	-3.79	1,267.16	1,225.38	41.77	30.334		
5,850.00	5,845.67	5,820.67	5,820.67	20.89	21.24	29.99	-1,390.01	-3.79	1,264.48	1,222.36	42.12	30.024		
5,900.00	5,895.58	5,870.58	5,870.58	21.06	21.41	30.06	-1,390.01	-3.79	1,261.80	1,219.34	42.46	29.718		
5,950.00	5,945.48	5,920.48	5,920.48	21.23	21.59	30.13	-1,390.01	-3.79	1,259.12	1,216.32	42.80	29.417		
6,000.00	5,995.38	5,970.38	5,970.38	21.40	21.76	30.20	-1,390.01	-3.79	1,256.45	1,213.30	43.15	29.121		
6,050.00	6,045.29	6,020.29	6,020.29	21.57	21.93	30.27	-1,390.01	-3.79	1,253.77	1,210.28	43.49	28.830		
6,100.00	6,095.19	6,070.19	6,070.19	21.74	22.11	30.34	-1,390.01	-3.79	1,251.10	1,207.27	43.83	28.543		
6,150.00	6,145.10	6,120.10	6,120.10	21.91	22.28	30.42	-1,390.01	-3.79	1,248.43	1,204.26	44.18	28.260		
6,200.00	6,195.00	6,170.00	6,170.00	22.08	22.46	30.49	-1,390.01	-3.79	1,245.77	1,201.24	44.52	27.982		
6,250.00	6,244.91	6,219.91	6,219.91	22.26	22.63	30.56	-1,390.01	-3.79	1,243.10	1,198.23	44.87	27.707		
6,300.00	6,294.81	6,269.81	6,269.81	22.43	22.81	30.63	-1,390.01	-3.79	1,240.44	1,195.23	45.21	27.437		
6,350.00	6,344.71	6,319.71	6,319.71	22.60	22.98	30.71	-1,390.01	-3.79	1,237.78	1,192.22	45.56	27.171		
6,400.00	6,394.62	6,369.62	6,369.62	22.77	23.16	30.78	-1,390.01	-3.79	1,235.12	1,189.22	45.90	26.908		
6,450.00	6,444.52	6,419.52	6,419.52	22.94	23.33	30.85	-1,390.01	-3.79	1,232.46	1,186.21	46.25	26.650		
6,500.00	6,494.43	6,469.43	6,469.43	23.11	23.50	30.93	-1,390.01	-3.79	1,229.80	1,183.21	46.59	26.395		
6,550.00	6,544.33	6,519.33	6,519.33	23.28	23.68	31.00	-1,390.01	-3.79	1,227.15	1,180.21	46.94	26.144		
6,600.00	6,594.24	6,569.24	6,569.24	23.46	23.85	31.08	-1,390.01	-3.79	1,224.50	1,177.22	47.28	25.897		
6,650.00	6,644.14	6,619.14	6,619.14	23.63	24.03	31.15	-1,390.01	-3.79	1,221.85	1,174.22	47.63	25.653		
6,700.00	6,694.04	6,669.04	6,669.04	23.80	24.20	31.23	-1,390.01	-3.79	1,219.20	1,171.23	47.98	25.412		
6,750.00	6,743.95	6,718.95	6,718.95	23.97	24.38	31.30	-1,390.01	-3.79	1,216.56	1,168.24	48.32	25.175		
6,800.00	6,793.85	6,768.85	6,768.85	24.15	24.55	31.38	-1,390.01	-3.79	1,213.92	1,165.25	48.67	24.942		
6,850.00	6,843.76	6,818.76	6,818.76	24.32	24.73	31.45	-1,390.01	-3.79	1,211.28	1,162.26	49.02	24.711		
6,900.00	6,893.66	6,868.66	6,868.66	24.49	24.91	31.53	-1,390.01	-3.79	1,208.64	1,159.27	49.36	24.484		
6,950.00	6,943.57	6,918.57	6,918.57	24.66	25.08	31.61	-1,390.01	-3.79	1,206.00	1,156.29	49.71	24.260		
7,000.00	6,993.47	6,968.47	6,968.47	24.84	25.26	31.68	-1,390.01	-3.79	1,203.37	1,153.31	50.06	24.039		
7,050.00	7,043.37	7,018.37	7,018.37	25.01	25.43	31.76	-1,390.01	-3.79	1,200.73	1,150.33	50.41	23.820		
7,100.00	7,093.28	7,068.28	7,068.28	25.18	25.61	31.84	-1,390.01	-3.79	1,198.10	1,147.35	50.76	23.605		
7,150.00	7,143.18	7,118.18	7,118.18	25.36	25.78	31.92	-1,390.01	-3.79	1,195.48	1,144.37	51.10	23.393		
7,200.00	7,193.09	7,168.09	7,168.09	25.53	25.96	31.99	-1,390.01	-3.79	1,192.85	1,141.40	51.45	23.184		
7,250.00	7,242.99	7,217.99	7,217.99	25.71	26.13	32.07	-1,390.01	-3.79	1,190.23	1,138.43	51.80	22.977		
7,300.00	7,292.90	7,267.90	7,267.90	25.88	26.31	32.15	-1,390.01	-3.79	1,187.61	1,135.46	52.15	22.773		
7,350.00	7,342.80	7,317.80	7,317.80	26.05	26.48	32.23	-1,390.01	-3.79	1,184.99	1,132.49	52.50	22.572		
7,400.00	7,392.70	7,367.70	7,367.70	26.23	26.66	32.31	-1,390.01	-3.79	1,182.37	1,129.53	52.85	22.374		
7,450.00	7,442.61	7,417.61	7,417.61	26.40	26.84	32.39	-1,390.01	-3.79	1,179.76	1,126.56	53.20	22.178		
7,500.00	7,492.51	7,467.51	7,467.51	26.58	27.01	32.47	-1,390.01	-3.79	1,177.15	1,123.60	53.55	21.984		
7,550.00	7,542.42	7,517.42	7,517.42	26.75	27.19	32.55	-1,390.01	-3.79	1,174.54	1,120.64	53.89	21.793		
7,600.00	7,592.32	7,567.32	7,567.32	26.93	27.36	32.64	-1,390.01	-3.79	1,171.93	1,117.69	54.24	21.605		
7,650.00	7,642.23	7,617.23	7,617.23	27.10	27.54	32.72	-1,390.01	-3.79	1,169.33	1,114.73	54.59	21.419		
7,700.00	7,692.13	7,667.13	7,667.13	27.27	27.72	32.80	-1,390.01	-3.79	1,166.72	1,111.78	54.94	21.235		
7,750.00	7,742.03	7,717.03	7,717.03	27.45	27.89	32.88	-1,390.01	-3.79	1,164.13	1,108.83	55.29	21.054		

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

Anticollision Report

Company: WCDSC Permian NM
Project: Eddy County (NAD 83 NM Eastern)
Reference Site: Sec 27-T19S-R29E
Site Error: 5.00 ft
Reference Well: Turquoise PWU 27-61H
Well Error: 0.50 ft
Reference Wellbore: Wellbore #1
Reference Design: Permit Plan 3

Local Co-ordinate Reference: Well Turquoise PWU 27-61H
TVD Reference: RKB @ 3370.00ft
MD Reference: RKB @ 3370.00ft
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-T19S-R29E - Turquoise PWU 27 10H - Original Hole - Plan 1													Offset Site Error:	5.00 ft
Survey Program: 0-MWD(OWSG)													Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Minimum Separation (ft)	Separation Factor	Warning			
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)				Between Centres (ft)	Between Ellipses (ft)	
7,800.00	7,791.94	7,766.94	7,766.94	27.62	28.07	32.96	-1,390.01	-3.79	1,161.53	1,105.88	55.64	20.875		
7,850.00	7,841.84	7,816.84	7,816.84	27.80	28.24	33.05	-1,390.01	-3.79	1,158.93	1,102.94	55.99	20.698		
7,900.00	7,891.75	7,866.75	7,866.75	27.97	28.42	33.13	-1,390.01	-3.79	1,156.34	1,100.00	56.34	20.523		
7,950.00	7,941.65	7,916.65	7,916.65	28.15	28.60	33.21	-1,390.01	-3.79	1,153.75	1,097.06	56.69	20.351		
8,000.00	7,991.56	7,966.56	7,966.56	28.32	28.77	33.30	-1,390.01	-3.79	1,151.16	1,094.12	57.04	20.180		
8,050.00	8,041.46	8,016.46	8,016.46	28.50	28.95	33.38	-1,390.01	-3.79	1,148.58	1,091.18	57.39	20.012		
8,100.00	8,091.36	8,066.36	8,066.36	28.68	29.12	33.30	-1,390.01	-3.79	1,145.98	1,088.23	57.75	19.845		
8,150.00	8,141.23	8,116.23	8,116.23	28.85	29.30	32.85	-1,390.01	-3.79	1,142.97	1,084.88	58.10	19.674		
8,200.00	8,191.05	8,166.05	8,166.05	29.03	29.48	32.58	-1,390.01	-3.79	1,139.41	1,080.96	58.45	19.495		
8,250.00	8,240.81	8,215.81	8,215.81	29.20	29.65	32.44	-1,390.01	-3.79	1,135.29	1,076.49	58.80	19.308		
8,300.00	8,290.51	8,265.51	8,265.51	29.38	29.83	32.39	-1,390.01	-3.79	1,130.61	1,071.45	59.15	19.114		
8,350.00	8,340.12	8,315.12	8,315.12	29.56	30.00	32.41	-1,390.01	-3.79	1,125.37	1,065.87	59.50	18.913		
8,400.00	8,389.65	8,364.65	8,364.65	29.74	30.18	32.49	-1,390.01	-3.79	1,119.59	1,059.74	59.85	18.706		
8,450.00	8,439.09	8,414.09	8,414.09	29.92	30.35	32.61	-1,390.01	-3.79	1,113.27	1,053.06	60.20	18.492		
8,500.00	8,488.43	8,463.43	8,463.43	30.10	30.53	32.79	-1,390.01	-3.79	1,106.40	1,045.85	60.55	18.271		
8,550.00	8,537.64	8,512.64	8,512.64	30.28	30.70	32.87	-1,390.01	-3.79	1,099.04	1,038.13	60.91	18.045		
8,600.00	8,586.49	8,561.49	8,561.49	30.46	30.88	32.95	-1,384.73	16.10	1,090.02	1,028.73	61.29	17.784		
8,650.00	8,634.56	8,609.56	8,609.56	30.64	31.06	33.03	-1,365.64	88.06	1,075.67	1,014.59	61.68	17.511		
8,700.00	8,681.50	8,656.50	8,656.50	30.81	31.24	33.11	-1,340.39	183.23	1,057.10	996.23	62.07	17.366		
8,750.00	8,726.94	8,701.94	8,701.94	30.99	31.42	33.19	-1,317.74	268.61	1,035.86	976.69	62.46	17.507		
8,800.00	8,770.54	8,745.54	8,745.54	31.16	31.60	33.27	-1,309.65	300.82	1,014.61	952.76	62.85	16.403		
8,850.00	8,811.96	8,786.96	8,786.96	31.32	31.78	33.35	-1,303.67	328.31	994.90	932.33	63.24	15.898		
8,900.00	8,850.90	8,825.90	8,825.90	31.49	31.94	33.43	-1,298.28	356.81	976.86	913.57	63.63	15.434		
8,950.00	8,887.04	8,862.04	8,862.04	31.66	32.10	33.51	-1,293.52	386.22	960.61	896.61	64.00	15.010		
9,000.00	8,920.13	8,895.13	8,895.13	31.83	32.26	33.59	-1,289.43	416.50	946.23	881.52	64.37	14.623		
9,050.00	8,949.91	8,924.91	8,924.91	32.01	32.42	33.67	-1,286.04	447.47	933.82	868.42	64.74	14.277		
9,100.00	8,976.15	8,951.15	8,951.15	32.21	32.60	33.75	-1,283.12	482.47	923.47	857.33	65.11	13.963		
9,150.00	8,998.65	8,973.65	8,973.65	32.42	32.80	33.83	-1,281.45	511.00	915.19	848.37	65.48	13.697		
9,200.00	9,017.24	8,992.24	8,992.24	32.65	33.03	33.91	-1,280.28	543.28	909.06	841.54	65.85	13.463		
9,250.00	9,031.78	9,006.78	9,006.78	32.90	33.26	34.00	-1,279.88	575.70	905.08	836.85	66.22	13.264		
9,300.00	9,042.16	9,017.16	9,017.16	33.16	33.50	34.09	-1,280.05	621.57	902.97	833.84	66.59	13.062		
9,350.00	9,048.30	9,023.30	9,023.30	33.45	33.77	34.18	-1,280.25	671.24	902.07	831.95	66.96	12.865		
9,365.96	9,049.37	9,024.37	9,024.37	33.54	33.86	34.27	-1,280.32	687.17	902.02	831.58	67.33	12.805 CC		
9,400.00	9,050.16	9,025.16	9,025.16	33.74	34.06	34.36	-1,280.45	721.20	902.29	831.18	67.70	12.688		
9,450.00	9,050.16	9,025.16	9,025.16	34.07	34.31	34.45	-1,280.66	771.19	902.99	830.79	68.07	12.507		
9,500.00	9,050.16	9,025.16	9,025.16	34.41	34.65	34.54	-1,280.86	821.18	903.69	830.38	68.44	12.328		
9,550.00	9,050.16	9,025.16	9,025.16	34.79	34.99	34.63	-1,281.06	871.17	904.39	829.86	68.81	12.136		
9,600.00	9,050.16	9,025.16	9,025.16	35.18	35.38	34.72	-1,281.26	921.16	905.09	829.33	69.18	11.947		
9,650.00	9,050.16	9,025.16	9,025.16	35.61	35.81	34.81	-1,281.46	971.15	905.79	828.69	69.55	11.749		
9,700.00	9,050.16	9,025.16	9,025.16	36.05	36.25	34.90	-1,281.66	1,021.14	906.49	828.04	69.92	11.555		
9,750.00	9,050.16	9,025.16	9,025.16	36.53	36.73	34.99	-1,281.87	1,071.13	907.19	827.29	70.29	11.355		
9,800.00	9,050.16	9,025.16	9,025.16	37.01	37.21	35.08	-1,282.07	1,121.12	907.89	826.54	70.66	11.160		
9,850.00	9,050.16	9,025.16	9,025.16	37.54	37.74	35.17	-1,282.27	1,171.11	908.59	825.70	71.03	10.961		
9,900.00	9,050.16	9,025.16	9,025.16	38.07	38.27	35.26	-1,282.47	1,221.10	909.29	824.84	71.40	10.768		
9,950.00	9,050.16	9,025.16	9,025.16	38.63	38.83	35.35	-1,282.67	1,271.09	909.99	823.92	71.77	10.573		
10,000.00	9,050.16	9,025.16	9,025.16	39.19	39.39	35.44	-1,282.87	1,321.08	910.69	822.98	72.14	10.383		
10,050.00	9,050.16	9,025.16	9,025.16	39.79	39.99	35.53	-1,283.08	1,371.07	911.39	821.98	72.51	10.193		
10,100.00	9,050.16	9,025.16	9,025.16	40.40	40.60	35.62	-1,283.28	1,421.05	912.09	820.97	72.88	10.009		
10,150.00	9,050.16	9,025.16	9,025.16	41.03	41.23	35.71	-1,283.48	1,471.04	912.80	819.90	73.25	9.826		
10,200.00	9,050.16	9,025.16	9,025.16	41.66	41.86	35.80	-1,283.68	1,521.03	913.50	818.82	73.62	9.649		
10,250.00	9,050.16	9,025.16	9,025.16	42.33	42.53	35.89	-1,283.88	1,571.02	914.20	817.69	73.99	9.473		
10,300.00	9,050.16	9,025.16	9,025.16	42.99	43.19	35.98	-1,284.09	1,621.01	914.90	816.56	74.36	9.303		

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

Anticollision Report

Company: WCDSC Permian NM
Project: Eddy County (NAD 83 NM Eastern)
Reference Site: Sec 27-T19S-R29E
Site Error: 5.00 ft
Reference Well: Turquoise PWU 27-61H
Well Error: 0.50 ft
Reference Wellbore: Wellbore #1
Reference Design: Permit Plan 3

Local Co-ordinate Reference: Well Turquoise PWU 27-61H
TVD Reference: RKB @ 3370.00ft
MD Reference: RKB @ 3370.00ft
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													Offset Site Error:		5.00 ft
Survey Program: 0-MWD(OWSG)													Offset Well Error:		0.00 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		
10,350.00	9,050.16	10,539.19	9,116.85	43.68	57.18	95.75	-1,284.29	1,671.00	915.61	815.37	100.23	9.135			
10,400.00	9,050.16	10,589.18	9,117.39	44.37	58.40	95.78	-1,284.49	1,720.99	916.31	814.18	102.13	8.972			
10,450.00	9,050.16	10,639.17	9,117.93	45.09	59.63	95.81	-1,284.69	1,770.98	917.01	812.95	104.06	8.812			
10,500.00	9,050.16	10,689.17	9,118.47	45.81	60.87	95.84	-1,284.89	1,820.97	917.72	811.71	106.01	8.657			
10,550.00	9,050.16	10,739.16	9,119.02	46.54	62.12	95.87	-1,285.09	1,870.96	918.42	810.44	107.99	8.505			
10,600.00	9,050.16	10,789.15	9,119.56	47.28	63.38	95.90	-1,285.30	1,920.95	919.12	809.16	109.97	8.358			
10,650.00	9,050.16	10,839.14	9,120.10	48.04	64.65	95.93	-1,285.50	1,970.94	919.83	807.84	111.99	8.214			
10,700.00	9,050.16	10,889.14	9,120.64	48.80	65.93	95.95	-1,285.70	2,020.93	920.53	806.52	114.01	8.074			
10,750.00	9,050.16	10,939.13	9,121.18	49.58	67.22	95.98	-1,285.90	2,070.92	921.24	805.17	116.06	7.937			
10,800.00	9,050.16	10,989.12	9,121.72	50.36	68.51	96.01	-1,286.10	2,120.91	921.94	803.82	118.12	7.805			
10,850.00	9,050.16	11,039.12	9,122.26	51.15	69.82	96.04	-1,286.31	2,170.90	922.65	802.44	120.21	7.675			
10,900.00	9,050.16	11,089.11	9,122.80	51.95	71.13	96.07	-1,286.51	2,220.89	923.36	801.06	122.30	7.550			
10,950.00	9,050.16	11,139.10	9,123.34	52.76	72.45	96.10	-1,286.71	2,270.88	924.06	799.65	124.41	7.428			
11,000.00	9,050.16	11,189.09	9,123.88	53.57	73.77	96.13	-1,286.91	2,320.87	924.77	798.24	126.53	7.309			
11,050.00	9,050.16	11,239.09	9,124.43	54.39	75.10	96.16	-1,287.11	2,370.86	925.47	796.81	128.66	7.193			
11,100.00	9,050.16	11,289.08	9,124.97	55.22	76.43	96.19	-1,287.31	2,420.84	926.18	795.37	130.81	7.081			
11,150.00	9,050.16	11,339.07	9,125.51	56.05	77.77	96.22	-1,287.52	2,470.83	926.89	793.92	132.97	6.971			
11,200.00	9,050.16	11,389.07	9,126.05	56.89	79.12	96.24	-1,287.72	2,520.82	927.59	792.46	135.13	6.864			
11,250.00	9,050.16	11,439.06	9,126.59	57.74	80.47	96.27	-1,287.92	2,570.81	928.30	790.99	137.32	6.760			
11,300.00	9,050.16	11,489.05	9,127.13	58.59	81.82	96.30	-1,288.12	2,620.80	929.01	789.51	139.50	6.659			
11,350.00	9,050.16	11,539.04	9,127.67	59.45	83.18	96.33	-1,288.32	2,670.79	929.72	788.01	141.70	6.561			
11,400.00	9,050.16	11,589.04	9,128.21	60.31	84.54	96.36	-1,288.52	2,720.78	930.43	786.52	143.91	6.465			
11,450.00	9,050.16	11,639.03	9,128.75	61.18	85.91	96.39	-1,288.73	2,770.77	931.13	785.01	146.13	6.372			
11,500.00	9,050.16	11,689.02	9,129.29	62.05	87.28	96.42	-1,288.93	2,820.76	931.84	783.49	148.35	6.281			
11,550.00	9,050.16	11,739.02	9,129.84	62.93	88.66	96.45	-1,289.13	2,870.75	932.55	781.97	150.58	6.193			
11,600.00	9,050.16	11,789.01	9,130.38	63.81	90.04	96.47	-1,289.33	2,920.74	933.26	780.44	152.82	6.107			
11,650.00	9,050.16	11,839.00	9,130.92	64.69	91.42	96.50	-1,289.53	2,970.73	933.97	778.90	155.07	6.023			
11,700.00	9,050.16	11,888.99	9,131.46	65.58	92.80	96.53	-1,289.74	3,020.72	934.68	777.36	157.32	5.941			
11,750.00	9,050.16	11,938.99	9,132.00	66.48	94.19	96.56	-1,289.94	3,070.71	935.39	775.80	159.58	5.861			
11,800.00	9,050.16	11,988.98	9,132.54	67.37	95.58	96.59	-1,290.14	3,120.70	936.10	774.25	161.85	5.784			
11,850.00	9,050.16	12,038.97	9,133.08	68.27	96.97	96.62	-1,290.34	3,170.69	936.81	772.68	164.12	5.708			
11,900.00	9,050.16	12,088.96	9,133.62	69.18	98.37	96.64	-1,290.54	3,220.68	937.52	771.12	166.40	5.634			
11,950.00	9,050.16	12,138.96	9,134.16	70.08	99.77	96.67	-1,290.74	3,270.67	938.23	769.54	168.69	5.562			
12,000.00	9,050.16	12,188.95	9,134.70	70.99	101.17	96.70	-1,290.95	3,320.66	938.94	767.97	170.97	5.492			
12,050.00	9,050.16	12,238.94	9,135.24	71.91	102.57	96.73	-1,291.15	3,370.64	939.65	766.38	173.27	5.423			
12,100.00	9,050.16	12,288.93	9,135.78	72.82	103.95	96.78	-1,291.35	3,419.78	940.40	764.87	175.53	5.357			
12,150.00	9,050.16	12,338.97	9,137.06	73.74	105.36	96.83	-1,291.55	3,469.76	941.16	763.33	177.83	5.292			
12,200.00	9,050.16	12,388.06	9,137.99	74.66	106.77	96.88	-1,291.75	3,519.73	941.92	761.79	180.13	5.229			
12,250.00	9,050.16	12,438.05	9,138.91	75.59	108.18	96.93	-1,291.95	3,569.71	942.68	760.25	182.43	5.167			
12,300.00	9,050.16	12,488.03	9,139.84	76.51	109.59	96.98	-1,292.15	3,619.69	943.44	758.70	184.74	5.107			
12,350.00	9,050.16	12,538.02	9,140.76	77.44	111.01	97.03	-1,292.36	3,669.67	944.20	757.15	187.05	5.048			
12,400.00	9,050.16	12,588.01	9,141.69	78.38	112.43	97.08	-1,292.56	3,719.65	944.96	755.60	189.36	4.990 Alert			
12,450.00	9,050.16	12,638.00	9,142.61	79.31	113.85	97.14	-1,292.76	3,769.63	945.72	754.04	191.68	4.934 Alert			
12,500.00	9,050.16	12,687.98	9,143.54	80.24	115.27	97.19	-1,292.96	3,819.60	946.48	752.48	194.00	4.879 Alert			
12,550.00	9,050.16	12,737.97	9,144.46	81.18	116.69	97.24	-1,293.16	3,869.58	947.25	750.92	196.33	4.825 Alert			
12,600.00	9,050.16	12,787.96	9,145.39	82.12	118.11	97.29	-1,293.36	3,919.56	948.01	749.36	198.65	4.772 Alert			
12,650.00	9,050.16	12,837.94	9,146.31	83.07	119.54	97.34	-1,293.57	3,969.54	948.78	747.79	200.99	4.721 Alert			
12,700.00	9,050.16	12,887.93	9,147.23	84.01	120.96	97.39	-1,293.77	4,019.52	949.54	746.22	203.32	4.670 Alert			
12,750.00	9,050.16	12,937.92	9,148.16	84.96	122.39	97.44	-1,293.97	4,069.49	950.31	744.65	205.65	4.621 Alert			
12,800.00	9,050.16	12,987.91	9,149.08	85.90	123.82	97.49	-1,294.17	4,119.47	951.07	743.08	207.99	4.573 Alert			
12,850.00	9,050.16	13,037.89	9,150.01	86.85	125.25	97.54	-1,294.37	4,169.45	951.84	741.51	210.33	4.525 Alert			
12,900.00	9,050.16	13,087.88	9,150.93	87.80	126.68	97.59	-1,294.57	4,219.43	952.61	739.94	212.67	4.479 Alert			

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

Anticollision Report

Company: WCDSC Permian NM
Project: Eddy County (NAD 83 NM Eastern)
Reference Site: Sec 27-T19S-R29E
Site Error: 5.00 ft
Reference Well: Turquoise PWU 27-61H
Well Error: 0.50 ft
Reference Wellbore: Wellbore #1
Reference Design: Permit Plan 3

Local Co-ordinate Reference: Well Turquoise PWU 27-61H
TVD Reference: RKB @ 3370.00ft
MD Reference: RKB @ 3370.00ft
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-T19S-R29E - Turquoise PWU 27 10H - Original Hole - Plan 1													Offset Site Error:	5.00 ft
Survey Program: 0-MWD(OWSG)													Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Minimum Separation (ft)	Separation Factor	Warning			
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)						
12,950.00	9,050.16	13,137.87	9,151.86	88.76	128.11	97.64	-1,294.78	4,269.41	953.38	738.36	215.02	4.434	Alert	
13,000.00	9,050.16	13,187.85	9,152.78	89.71	129.54	97.69	-1,294.98	4,319.39	954.15	736.79	217.36	4.390	Alert	
13,050.00	9,050.16	13,237.84	9,153.71	90.67	130.98	97.74	-1,295.18	4,369.36	954.92	735.21	219.71	4.346	Alert	
13,100.00	9,050.16	13,287.83	9,154.63	91.62	132.41	97.79	-1,295.38	4,419.34	955.69	733.63	222.06	4.304	Alert	
13,150.00	9,050.16	13,337.82	9,155.56	92.58	133.85	97.84	-1,295.58	4,469.32	956.46	732.05	224.41	4.262	Alert	
13,200.00	9,050.16	13,387.80	9,156.48	93.54	135.29	97.89	-1,295.78	4,519.30	957.23	730.47	226.77	4.221	Alert	
13,250.00	9,050.16	13,437.79	9,157.41	94.50	136.73	97.94	-1,295.99	4,569.28	958.01	728.89	229.12	4.181	Alert	
13,300.00	9,050.16	13,487.78	9,158.33	95.46	138.17	97.99	-1,296.19	4,619.26	958.78	727.30	231.48	4.142	Alert	
13,350.00	9,050.16	13,537.76	9,159.26	96.43	139.61	98.03	-1,296.39	4,669.23	959.56	725.72	233.84	4.104	Alert	
13,400.00	9,050.16	13,587.75	9,160.18	97.39	141.05	98.08	-1,296.59	4,719.21	960.33	724.14	236.20	4.066	Alert	
13,450.00	9,050.16	13,637.74	9,161.11	98.36	142.49	98.13	-1,296.79	4,769.19	961.11	722.55	238.56	4.029	Alert	
13,500.00	9,050.16	13,687.73	9,162.03	99.33	143.93	98.18	-1,297.00	4,819.17	961.89	720.97	240.92	3.993	Alert	
13,550.00	9,050.16	13,737.71	9,162.96	100.29	145.38	98.23	-1,297.20	4,869.15	962.66	719.38	243.28	3.957	Alert	
13,600.00	9,050.16	13,787.70	9,163.88	101.26	146.82	98.28	-1,297.40	4,919.12	963.44	717.79	245.65	3.922	Alert	
13,650.00	9,050.16	13,837.69	9,164.80	102.23	148.27	98.33	-1,297.60	4,969.10	964.22	716.21	248.01	3.888	Alert	
13,700.00	9,050.16	13,887.68	9,165.73	103.20	149.71	98.38	-1,297.80	5,019.08	965.00	714.62	250.38	3.854	Alert	
13,750.00	9,050.16	13,937.66	9,166.65	104.18	151.16	98.43	-1,298.00	5,069.06	965.78	713.03	252.75	3.821	Alert	
13,800.00	9,050.16	13,987.65	9,167.58	105.15	152.61	98.47	-1,298.21	5,119.04	966.56	711.44	255.12	3.789	Alert	
13,850.00	9,050.16	14,037.64	9,168.50	106.13	154.06	98.52	-1,298.41	5,169.02	967.34	709.85	257.49	3.757	Alert	
13,900.00	9,050.16	14,087.62	9,169.43	107.10	155.50	98.57	-1,298.61	5,218.99	968.13	708.27	259.86	3.726	Alert	
13,950.00	9,050.16	14,131.09	9,170.23	108.08	156.77	98.61	-1,298.78	5,262.45	968.93	706.91	262.03	3.698	Alert, ES, SF	
13,993.84	9,050.16	14,131.09	9,170.23	108.93	156.77	98.61	-1,298.78	5,262.45	970.90	708.46	262.44	3.700	Alert	

Anticollision Report

Company: WCDSC Permian NM
Project: Eddy County (NAD 83 NM Eastern)
Reference Site: Sec 27-T19S-R29E
Site Error: 5.00 ft
Reference Well: Turquoise PWU 27-61H
Well Error: 0.50 ft
Reference Wellbore: Wellbore #1
Reference Design: Permit Plan 3

Local Co-ordinate Reference: Well Turquoise PWU 27-61H
TVD Reference: RKB @ 3370.00ft
MD Reference: RKB @ 3370.00ft
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-T19S-R29E - Turquoise PWU 27 10H - Original Hole - PTL													Offset Site Error: 5.00 ft
Survey Program: 154-MWD+IGRF, 8755-													Offset Well Error: 0.00 ft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
0.00	0.00	0.00	0.00	5.02	5.00	-179.84	-1,390.01	-3.79	1,390.24				
50.00	50.00	24.05	24.05	5.03	5.00	-179.84	-1,390.02	-3.83	1,390.02	1,380.00	10.03	138.652	
100.00	100.00	72.14	72.14	5.03	5.00	-179.83	-1,390.08	-4.16	1,390.09	1,380.06	10.03	138.622	
150.00	150.00	120.22	120.21	5.03	5.00	-179.80	-1,390.21	-4.83	1,390.23	1,380.19	10.04	138.497	
200.00	200.00	169.77	169.76	5.05	5.01	-179.76	-1,390.41	-5.85	1,390.43	1,380.37	10.06	138.249	
250.00	250.00	221.03	221.00	5.07	5.02	-179.71	-1,390.56	-7.01	1,390.58	1,380.49	10.09	137.788	
300.00	300.00	295.05	295.00	5.10	5.05	-179.65	-1,390.03	-8.38	1,390.20	1,380.05	10.15	136.958	
350.00	350.00	333.14	333.09	5.13	5.08	-179.63	-1,389.64	-9.03	1,389.69	1,379.49	10.21	136.169	
383.93	383.93	359.00	358.93	5.16	5.09	-179.61	-1,389.56	-9.56	1,389.59	1,379.35	10.25	135.594	
400.00	400.00	372.00	371.94	5.17	5.10	-179.59	-1,389.58	-9.84	1,389.62	1,379.35	10.27	135.303	
450.00	450.00	418.73	418.65	5.21	5.14	-179.55	-1,389.74	-10.91	1,389.80	1,379.45	10.35	134.263	
500.00	500.00	466.94	466.85	5.26	5.18	-179.50	-1,390.00	-12.04	1,390.07	1,379.63	10.44	133.090	
550.00	550.00	521.93	521.82	5.32	5.24	-179.45	-1,390.21	-13.25	1,390.28	1,379.72	10.56	131.701	
600.00	600.00	573.15	573.03	5.38	5.29	-179.41	-1,390.25	-14.25	1,390.33	1,379.65	10.68	130.238	
650.00	650.00	619.09	618.97	5.45	5.35	-179.38	-1,390.38	-15.04	1,390.47	1,379.67	10.80	128.764	
700.00	700.00	667.71	667.58	5.52	5.41	-179.35	-1,390.63	-15.75	1,390.74	1,379.81	10.93	127.185	
750.00	750.00	720.12	719.99	5.60	5.49	-179.32	-1,390.86	-16.39	1,390.97	1,379.88	11.09	125.467	
800.00	800.00	772.76	772.63	5.68	5.57	-179.30	-1,390.99	-16.91	1,391.10	1,379.85	11.25	123.675	
850.00	850.00	825.51	825.38	5.76	5.66	-179.29	-1,391.03	-17.33	1,391.13	1,379.72	11.42	121.822	
862.63	862.63	838.84	838.71	5.79	5.68	-179.28	-1,391.02	-17.42	1,391.13	1,379.66	11.46	121.345	
900.00	900.00	874.05	873.91	5.85	5.74	-179.27	-1,391.03	-17.62	1,391.15	1,379.55	11.59	120.006	
950.00	950.00	922.76	922.63	5.95	5.83	-179.27	-1,391.10	-17.81	1,391.21	1,379.44	11.77	118.165	
1,000.00	1,000.00	975.30	975.17	6.05	5.92	-179.26	-1,391.14	-18.03	1,391.25	1,379.28	11.97	116.232	
1,043.06	1,043.06	1,020.55	1,020.41	6.13	6.01	-179.25	-1,391.09	-18.32	1,391.21	1,379.07	12.14	114.551	
1,050.00	1,050.00	1,024.88	1,024.74	6.15	6.02	-179.24	-1,391.10	-18.34	1,391.22	1,379.05	12.17	114.342	
1,100.00	1,100.00	1,069.16	1,069.03	6.25	6.11	-179.24	-1,391.20	-18.51	1,391.33	1,378.97	12.36	112.572	
1,150.00	1,150.00	1,116.45	1,116.32	6.36	6.20	-179.24	-1,391.48	-18.52	1,391.63	1,379.07	12.56	110.771	
1,200.00	1,200.00	1,169.36	1,169.22	6.47	6.31	-179.24	-1,391.76	-18.50	1,391.89	1,379.11	12.78	108.882	
1,250.00	1,250.00	1,221.63	1,221.49	6.59	6.43	-179.24	-1,391.93	-18.51	1,392.05	1,379.04	13.01	106.996	
1,300.00	1,300.00	1,273.54	1,273.40	6.70	6.54	-179.23	-1,392.02	-18.72	1,392.14	1,378.90	13.24	105.120	
1,350.00	1,350.00	1,323.67	1,323.53	6.82	6.66	-179.22	-1,392.06	-19.02	1,392.19	1,378.71	13.48	103.282	
1,400.00	1,400.00	1,373.40	1,373.26	6.95	6.78	-179.21	-1,392.12	-19.16	1,392.25	1,378.53	13.72	101.472	
1,450.00	1,450.00	1,424.43	1,424.28	7.07	6.90	-179.21	-1,392.16	-19.27	1,392.30	1,378.33	13.97	99.667	
1,500.00	1,500.00	1,475.55	1,475.41	7.20	7.03	-179.20	-1,392.17	-19.49	1,392.30	1,378.08	14.22	97.887	
1,505.28	1,505.28	1,480.95	1,480.81	7.21	7.04	-179.20	-1,392.16	-19.52	1,392.30	1,378.05	14.25	97.701	
1,550.00	1,550.00	1,519.58	1,519.43	7.33	7.14	-179.18	-1,392.25	-19.83	1,392.40	1,377.94	14.46	96.264	
1,600.00	1,600.00	1,564.06	1,563.91	7.46	7.25	-179.16	-1,392.51	-20.34	1,392.70	1,377.99	14.71	94.676	
1,650.00	1,650.00	1,614.23	1,614.07	7.59	7.38	-179.13	-1,392.80	-21.03	1,393.10	1,378.12	14.97	93.028	
1,700.00	1,700.00	1,664.71	1,664.55	7.73	7.52	-179.11	-1,393.28	-21.72	1,393.49	1,378.24	15.24	91.409	
1,750.00	1,750.00	1,719.63	1,719.46	7.86	7.67	-179.08	-1,393.58	-22.36	1,393.77	1,378.24	15.53	89.747	
1,800.00	1,800.00	1,772.69	1,772.52	8.00	7.81	-179.06	-1,393.71	-22.77	1,393.90	1,378.08	15.81	88.143	
1,850.00	1,850.00	1,822.08	1,821.92	8.14	7.95	-179.05	-1,393.80	-23.18	1,394.00	1,377.90	16.09	86.631	
1,900.00	1,900.00	1,869.57	1,869.40	8.28	8.08	-179.03	-1,393.92	-23.65	1,394.13	1,377.77	16.37	85.186	
1,950.00	1,950.00	1,914.56	1,914.39	8.43	8.21	-179.01	-1,394.18	-24.05	1,394.42	1,377.79	16.64	83.822	
2,000.00	2,000.00	1,961.69	1,961.51	8.57	8.34	-179.00	-1,394.60	-24.41	1,394.88	1,377.97	16.91	82.470	
2,050.00	2,050.00	2,012.85	2,012.67	8.72	8.49	-178.98	-1,395.07	-24.82	1,395.34	1,378.14	17.21	81.094	
2,100.00	2,100.00	2,065.36	2,065.18	8.87	8.64	-178.96	-1,395.49	-25.28	1,395.75	1,378.25	17.51	79.730	
2,150.00	2,150.00	2,119.19	2,119.00	9.01	8.80	-178.94	-1,395.79	-25.73	1,396.04	1,378.22	17.81	78.375	
2,200.00	2,200.00	2,169.51	2,169.32	9.16	8.95	-178.93	-1,395.97	-26.13	1,396.23	1,378.12	18.11	77.094	
2,250.00	2,250.00	2,218.84	2,218.65	9.31	9.10	-178.91	-1,396.18	-26.51	1,396.45	1,378.04	18.41	75.860	
2,300.00	2,300.00	2,269.69	2,269.49	9.46	9.25	-178.90	-1,396.39	-26.87	1,396.66	1,377.95	18.71	74.638	
2,350.00	2,350.00	2,320.67	2,320.48	9.62	9.41	-178.88	-1,396.57	-27.21	1,396.84	1,377.82	19.02	73.444	

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

Anticollision Report

Company: WCDSC Permian NM
Project: Eddy County (NAD 83 NM Eastern)
Reference Site: Sec 27-T19S-R29E
Site Error: 5.00 ft
Reference Well: Turquoise PWU 27-61H
Well Error: 0.50 ft
Reference Wellbore: Wellbore #1
Reference Design: Permit Plan 3

Local Co-ordinate Reference: Well Turquoise PWU 27-61H
TVD Reference: RKB @ 3370.00ft
MD Reference: RKB @ 3370.00ft
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													Offset Site Error:	5.00 ft
Sec 28-T19S-R29E - Turquoise PWU 27 10H - Original Hole - PTL													Offset Well Error:	0.00 ft
Survey Program: 154-MWD+IGRF, B755-														
Reference		Offset		Semi Major Axis			Distance							Warning
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		
2,400.00	2,400.00	2,387.73	2,387.53	9.77	9.55	-178.87	-1,396.77	-27.49	1,397.08	1,377.74	19.31	72.331		
2,450.00	2,450.00	2,414.91	2,414.72	9.82	9.69	-178.86	-1,397.06	-27.73	1,397.37	1,377.76	19.61	71.249		
2,500.00	2,500.00	2,466.53	2,466.33	10.08	9.85	-178.86	-1,397.41	-27.92	1,397.71	1,377.79	19.92	70.152		
2,550.00	2,550.00	2,518.39	2,518.19	10.24	10.01	-178.85	-1,397.70	-28.00	1,397.99	1,377.76	20.24	69.078		
2,600.00	2,600.00	2,571.79	2,571.59	10.39	10.17	-178.85	-1,397.89	-28.12	1,398.18	1,377.62	20.56	68.009		
2,650.00	2,650.00	2,622.40	2,622.20	10.55	10.33	-178.84	-1,397.97	-28.36	1,398.26	1,377.39	20.87	66.990		
2,700.00	2,700.00	2,669.90	2,669.70	10.71	10.48	-178.83	-1,398.11	-28.53	1,398.41	1,377.23	21.18	66.028		
2,750.00	2,750.00	2,720.47	2,720.27	10.87	10.63	-178.83	-1,398.31	-28.68	1,398.62	1,377.12	21.50	65.065		
2,800.00	2,800.00	2,774.79	2,774.59	11.03	10.80	-178.82	-1,398.41	-28.76	1,398.71	1,376.88	21.82	64.087		
2,825.66	2,825.66	2,802.67	2,802.47	11.11	10.89	-178.82	-1,398.40	-28.81	1,398.70	1,376.70	21.99	63.593		
2,850.00	2,850.00	2,824.08	2,823.87	11.18	10.96	-178.82	-1,398.41	-28.86	1,398.71	1,376.57	22.14	63.175		
2,900.00	2,900.00	2,871.57	2,871.37	11.35	11.11	-178.81	-1,398.49	-29.02	1,398.80	1,376.35	22.45	62.303		
2,950.00	2,950.00	2,923.24	2,923.04	11.51	11.27	-178.80	-1,398.61	-29.21	1,398.92	1,376.14	22.78	61.419		
3,000.00	3,000.00	2,976.40	2,976.19	11.67	11.44	-178.80	-1,398.62	-29.34	1,398.93	1,375.82	23.11	60.541		
3,012.60	3,012.60	2,989.79	2,989.59	11.71	11.49	-178.80	-1,398.61	-29.35	1,398.92	1,375.73	23.19	60.322		
3,050.00	3,050.00	3,023.50	3,023.30	11.83	11.59	-178.79	-1,398.63	-29.44	1,398.94	1,375.52	23.42	59.734		
3,100.00	3,100.00	3,070.54	3,070.34	11.99	11.75	-178.79	-1,398.73	-29.60	1,399.05	1,375.32	23.73	58.950		
3,150.00	3,150.00	3,120.62	3,120.41	12.16	11.91	-178.78	-1,398.89	-29.80	1,399.22	1,375.16	24.06	58.160		
3,200.00	3,200.00	3,171.09	3,170.89	12.32	12.07	-178.77	-1,399.05	-30.01	1,399.38	1,374.99	24.39	57.386		
3,250.00	3,250.00	3,224.42	3,224.21	12.48	12.24	-178.76	-1,399.14	-30.19	1,399.47	1,374.74	24.72	56.609		
3,300.00	3,300.00	3,275.96	3,275.76	12.65	12.41	-178.76	-1,399.12	-30.29	1,399.45	1,374.39	25.05	55.861		
3,329.81	3,329.81	3,304.82	3,304.61	12.74	12.50	-178.76	-1,399.11	-30.38	1,399.44	1,374.20	25.24	55.437		
3,350.00	3,350.00	3,324.83	3,324.62	12.81	12.57	-178.75	-1,399.11	-30.44	1,399.44	1,374.07	25.38	55.147		
3,400.00	3,400.00	3,373.89	3,373.69	12.98	12.73	-178.75	-1,399.14	-30.53	1,399.47	1,373.77	25.70	54.449		
3,450.00	3,450.00	3,423.45	3,423.25	13.13	12.89	-178.75	-1,399.19	-30.58	1,399.29	1,373.26	26.02	53.774		
3,500.00	3,499.99	3,473.05	3,472.84	13.29	13.05	-178.75	-1,399.26	-30.61	1,398.64	1,372.29	26.34	53.096		
3,550.00	3,549.97	3,523.07	3,522.86	13.44	13.22	-178.75	-1,399.34	-30.63	1,397.51	1,370.85	26.66	52.429		
3,600.00	3,599.94	3,573.08	3,572.87	13.59	13.38	-178.75	-1,399.41	-30.66	1,395.90	1,368.93	26.97	51.758		
3,650.00	3,649.88	3,623.09	3,622.89	13.75	13.55	-178.75	-1,399.48	-30.85	1,393.81	1,366.53	27.29	51.080		
3,700.00	3,699.79	3,672.80	3,672.59	13.90	13.71	-178.75	-1,399.54	-31.25	1,391.27	1,363.67	27.60	50.400		
3,750.00	3,749.69	3,722.27	3,722.05	14.05	13.88	-178.75	-1,399.61	-31.80	1,388.64	1,360.71	27.92	49.731		
3,800.00	3,799.60	3,772.02	3,771.81	14.20	14.04	-178.75	-1,399.69	-32.49	1,388.02	1,357.77	28.24	49.075		
3,850.00	3,849.50	3,822.14	3,821.91	14.38	14.21	-178.75	-1,399.76	-33.45	1,383.40	1,354.83	28.57	48.430		
3,900.00	3,899.40	3,874.08	3,873.83	14.51	14.39	-178.75	-1,399.80	-34.76	1,380.75	1,351.86	28.89	47.787		
3,950.00	3,949.31	3,927.39	3,927.12	14.67	14.57	-178.75	-1,399.69	-36.51	1,378.00	1,348.77	29.23	47.145		
4,000.00	3,999.21	3,982.02	3,981.71	14.83	14.75	-178.75	-1,399.42	-38.61	1,375.11	1,345.55	29.57	46.507		
4,050.00	4,049.12	4,036.96	4,036.60	14.98	14.93	-178.75	-1,398.93	-40.82	1,372.05	1,342.14	29.91	45.875		
4,100.00	4,099.02	4,090.72	4,090.32	15.14	15.11	-178.75	-1,398.29	-42.86	1,368.83	1,338.58	30.24	45.258		
4,150.00	4,148.93	4,143.34	4,142.90	15.30	15.29	-178.75	-1,397.52	-44.59	1,365.47	1,334.90	30.58	44.655		
4,200.00	4,198.83	4,193.95	4,193.48	15.46	15.46	-178.75	-1,396.73	-46.19	1,362.08	1,331.17	30.91	44.072		
4,250.00	4,248.73	4,245.26	4,244.76	15.61	15.63	-178.75	-1,395.88	-47.80	1,358.65	1,327.41	31.24	43.496		
4,300.00	4,298.64	4,297.15	4,296.62	15.77	15.81	-178.75	-1,394.96	-49.43	1,355.15	1,323.59	31.57	42.927		
4,350.00	4,348.54	4,348.07	4,347.51	15.93	15.98	-178.75	-1,393.99	-50.99	1,351.60	1,319.70	31.90	42.371		
4,400.00	4,398.45	4,398.62	4,398.02	16.09	16.15	-178.75	-1,393.00	-52.42	1,348.03	1,315.80	32.23	41.827		
4,450.00	4,448.35	4,449.41	4,448.78	16.25	16.32	-178.75	-1,391.98	-53.75	1,344.43	1,311.87	32.56	41.292		
4,500.00	4,498.26	4,500.24	4,499.59	16.42	16.49	-178.75	-1,390.92	-55.05	1,340.80	1,307.91	32.89	40.766		
4,550.00	4,548.16	4,554.12	4,553.44	16.58	16.67	-178.75	-1,389.70	-56.38	1,337.08	1,303.85	33.23	40.238		
4,600.00	4,598.06	4,608.02	4,607.31	16.74	16.85	-178.75	-1,388.31	-57.64	1,333.21	1,299.84	33.57	39.715		
4,650.00	4,647.97	4,654.41	4,653.67	16.90	17.00	-178.75	-1,387.14	-58.64	1,329.37	1,295.48	33.89	39.227		
4,700.00	4,697.87	4,702.47	4,701.71	17.06	17.17	-178.75	-1,386.00	-59.56	1,325.59	1,291.38	34.21	38.745		
4,750.00	4,747.78	4,751.05	4,750.27	17.23	17.33	-178.75	-1,384.91	-60.39	1,321.88	1,287.34	34.54	38.272		
4,800.00	4,797.68	4,800.51	4,799.71	17.39	17.49	-178.75	-1,383.84	-61.14	1,318.21	1,283.34	34.87	37.806		

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

Anticollision Report

Company: WCDSC Permian NM
Project: Eddy County (NAD 83 NM Eastern)
Reference Site: Sec 27-T19S-R29E
Site Error: 5.00 ft
Reference Well: Turquoise PWU 27-61H
Well Error: 0.50 ft
Reference Wellbore: Wellbore #1
Reference Design: Permit Plan 3

Local Co-ordinate Reference: Well Turquoise PWU 27-61H
TVD Reference: RKB @ 3370.00ft
MD Reference: RKB @ 3370.00ft
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-T19S-R29E - Turquoise PWU 27 10H - Original Hole - PTL													Offset Site Error:	5.00 ft
Survey Program: 154-MWD+IGRF, 8755-													Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Minimum Separation (ft)	Separation Factor	Warning			
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)				Between Centres (ft)	Between Ellipses (ft)	
4,850.00	4,847.59	4,851.79	4,850.97	17.55	17.66	31.23	-1,382.71	-61.84	1,314.51	1,279.31	35.20	37.342		
4,900.00	4,897.49	4,902.78	4,901.94	17.72	17.83	31.33	-1,381.53	-62.45	1,310.76	1,275.23	35.53	36.887		
4,950.00	4,947.39	4,953.43	4,952.58	17.88	18.00	31.43	-1,380.33	-62.99	1,306.98	1,271.12	35.87	36.440		
5,000.00	4,997.30	5,004.53	5,003.67	18.05	18.17	31.53	-1,379.09	-63.45	1,303.17	1,266.97	36.20	35.999		
5,050.00	5,047.20	5,055.94	5,055.05	18.21	18.34	31.62	-1,377.80	-63.72	1,299.30	1,262.77	36.53	35.564		
5,100.00	5,097.11	5,108.38	5,107.48	18.38	18.52	31.70	-1,376.41	-63.80	1,295.36	1,258.49	36.87	35.134		
5,150.00	5,147.01	5,161.24	5,160.31	18.54	18.69	31.78	-1,374.91	-63.72	1,291.31	1,254.10	37.21	34.708		
5,200.00	5,196.92	5,212.21	5,211.26	18.71	18.86	31.85	-1,373.38	-63.53	1,287.17	1,249.64	37.54	34.291		
5,250.00	5,246.82	5,263.36	5,262.39	18.88	19.02	31.92	-1,371.81	-63.28	1,283.00	1,245.13	37.87	33.880		
5,300.00	5,296.72	5,319.78	5,318.78	19.04	19.21	32.00	-1,369.89	-63.05	1,278.67	1,240.46	38.21	33.462		
5,350.00	5,346.63	5,375.06	5,374.01	19.21	19.39	32.09	-1,367.73	-62.91	1,274.09	1,235.53	38.55	33.046		
5,400.00	5,396.53	5,428.61	5,427.51	19.38	19.57	32.17	-1,365.46	-62.75	1,269.34	1,230.45	38.89	32.637		
5,450.00	5,446.44	5,477.34	5,476.19	19.54	19.73	32.24	-1,363.30	-62.61	1,264.51	1,225.29	39.22	32.239		
5,500.00	5,496.34	5,523.34	5,522.15	19.71	19.88	32.32	-1,361.36	-62.65	1,259.81	1,220.26	39.55	31.855		
5,550.00	5,546.25	5,571.78	5,570.55	19.88	20.04	32.42	-1,359.42	-62.88	1,255.23	1,215.35	39.88	31.476		
5,600.00	5,596.15	5,621.86	5,620.60	20.05	20.21	32.52	-1,357.40	-63.30	1,250.65	1,210.43	40.21	31.100		
5,650.00	5,646.05	5,673.88	5,672.54	20.22	20.39	32.64	-1,355.22	-64.05	1,246.03	1,205.47	40.56	30.724		
5,700.00	5,695.96	5,726.45	5,725.06	20.39	20.57	32.80	-1,352.85	-65.40	1,241.31	1,200.41	40.90	30.351		
5,750.00	5,745.86	5,789.58	5,788.07	20.55	20.79	33.01	-1,349.53	-67.40	1,236.27	1,195.01	41.26	29.962		
5,800.00	5,795.77	5,844.11	5,842.46	20.72	20.97	33.19	-1,346.18	-69.19	1,230.79	1,189.18	41.61	29.580		
5,850.00	5,845.67	5,891.22	5,889.47	20.89	21.14	33.36	-1,343.29	-70.77	1,225.35	1,183.41	41.94	29.214		
5,900.00	5,895.58	5,941.04	5,939.17	21.06	21.31	33.53	-1,340.31	-72.46	1,219.99	1,177.71	42.28	28.852		
5,950.00	5,945.48	5,993.14	5,991.13	21.23	21.49	33.72	-1,337.10	-74.32	1,214.56	1,171.93	42.63	28.492		
6,000.00	5,995.38	6,043.14	6,041.00	21.40	21.66	33.91	-1,333.94	-76.14	1,209.07	1,166.10	42.97	28.138		
6,050.00	6,045.29	6,092.42	6,090.16	21.57	21.84	34.08	-1,330.85	-77.79	1,203.60	1,160.29	43.31	27.790		
6,100.00	6,095.19	6,143.43	6,141.04	21.74	22.01	34.27	-1,327.64	-79.44	1,198.12	1,154.47	43.65	27.448		
6,150.00	6,145.10	6,194.82	6,192.29	21.91	22.19	34.46	-1,324.31	-81.24	1,192.58	1,148.59	44.00	27.106		
6,200.00	6,195.00	6,249.39	6,246.69	22.08	22.39	34.68	-1,320.60	-83.32	1,186.92	1,142.57	44.35	26.765		
6,250.00	6,244.91	6,303.94	6,301.05	22.26	22.58	34.91	-1,316.62	-85.59	1,181.05	1,136.35	44.69	26.425		
6,300.00	6,294.81	6,349.32	6,346.27	22.43	22.74	35.10	-1,313.32	-87.57	1,175.22	1,130.18	45.03	26.096		
6,350.00	6,344.71	6,396.80	6,393.57	22.60	22.91	35.31	-1,309.96	-89.70	1,169.50	1,124.12	45.38	25.774		
6,400.00	6,394.62	6,446.50	6,443.11	22.77	23.08	35.54	-1,306.46	-91.83	1,163.83	1,118.11	45.72	25.455		
6,450.00	6,444.52	6,494.60	6,491.04	22.94	23.25	35.75	-1,303.08	-94.08	1,158.17	1,112.11	46.06	25.143		
6,500.00	6,494.43	6,539.08	6,535.38	23.11	23.41	35.95	-1,300.10	-96.05	1,152.70	1,106.29	46.40	24.841		
6,550.00	6,544.33	6,583.30	6,579.46	23.28	23.57	36.15	-1,297.33	-97.99	1,147.45	1,100.71	46.74	24.549		
6,600.00	6,594.24	6,626.22	6,622.27	23.46	23.72	36.34	-1,294.87	-99.91	1,142.49	1,095.41	47.08	24.268		
6,650.00	6,644.14	6,669.52	6,665.46	23.63	23.88	36.54	-1,292.63	-101.93	1,137.83	1,090.42	47.41	23.998		
6,700.00	6,694.04	6,718.90	6,714.73	23.80	24.05	36.78	-1,290.20	-104.31	1,133.33	1,085.57	47.76	23.729		
6,750.00	6,743.95	6,768.27	6,763.97	23.97	24.23	37.02	-1,287.76	-106.80	1,128.85	1,080.74	48.11	23.465		
6,800.00	6,793.85	6,810.91	6,806.51	24.15	24.38	37.23	-1,285.78	-109.06	1,124.56	1,076.12	48.44	23.214		
6,850.00	6,843.76	6,854.01	6,849.51	24.32	24.54	37.45	-1,284.01	-111.44	1,120.58	1,071.80	48.78	22.973		
6,900.00	6,893.66	6,901.80	6,897.18	24.49	24.71	37.69	-1,282.23	-114.18	1,116.82	1,067.69	49.13	22.734		
6,950.00	6,943.57	6,950.20	6,945.46	24.66	24.88	37.95	-1,280.46	-117.03	1,113.13	1,063.66	49.47	22.500		
7,000.00	6,993.47	6,999.36	6,994.52	24.84	25.06	38.21	-1,278.70	-119.92	1,109.51	1,059.68	49.82	22.269		
7,050.00	7,043.37	7,048.59	7,043.63	25.01	25.24	38.47	-1,276.97	-122.72	1,105.92	1,055.75	50.17	22.042		
7,100.00	7,093.28	7,095.77	7,090.70	25.18	25.41	38.72	-1,275.38	-125.45	1,102.43	1,051.91	50.52	21.822		
7,150.00	7,143.18	7,143.44	7,138.26	25.36	25.58	38.98	-1,273.84	-128.35	1,099.06	1,048.19	50.87	21.607		
7,200.00	7,193.09	7,197.56	7,192.24	25.53	25.77	39.28	-1,271.99	-131.72	1,095.65	1,044.42	51.23	21.386		
7,250.00	7,242.99	7,248.28	7,242.84	25.71	25.96	39.57	-1,270.08	-134.87	1,092.09	1,040.50	51.59	21.170		
7,300.00	7,292.90	7,291.51	7,285.96	25.88	26.11	39.81	-1,268.63	-137.44	1,088.73	1,036.80	51.92	20.968		
7,350.00	7,342.80	7,334.81	7,329.18	26.05	26.27	40.04	-1,267.47	-139.86	1,085.68	1,033.42	52.26	20.775		
7,400.00	7,392.70	7,376.90	7,371.20	26.23	26.42	40.25	-1,266.66	-142.06	1,082.97	1,030.38	52.59	20.594		

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

Anticollision Report

Company: WCDSC Permian NM
Project: Eddy County (NAD 83 NM Eastern)
Reference Site: Sec 27-T19S-R29E
Site Error: 5.00 ft
Reference Well: Turquoise PWU 27-61H
Well Error: 0.50 ft
Reference Wellbore: Wellbore #1
Reference Design: Permit Plan 3

Local Co-ordinate Reference: Well Turquoise PWU 27-61H
TVD Reference: RKB @ 3370.00ft
MD Reference: RKB @ 3370.00ft
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-T19S-R29E - Turquoise PWU 27 10H - Original Hole - PTL													Offset Site Error:	5.00 ft
Survey Program: 154-MWD+IGRF, 8755-													Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Minimum Separation (ft)	Separation Factor	Warning			
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)				Between Centres (ft)	Between Ellipses (ft)	
7,450.00	7,442.61	7,419.08	7,413.33	26.40	26.57	40.45	-1,266.18	-144.13	1,080.63	1,027.71		52.91	20.422	
7,500.00	7,492.51	7,467.18	7,461.37	26.58	26.74	40.67	-1,265.92	-146.32	1,078.55	1,025.29		53.26	20.251	
7,550.00	7,542.42	7,517.34	7,511.50	26.75	26.92	40.89	-1,265.69	-148.43	1,076.49	1,022.87		53.61	20.079	
7,600.00	7,592.32	7,563.35	7,557.46	26.93	27.09	41.09	-1,265.55	-150.31	1,074.50	1,020.55		53.95	19.916	
7,650.00	7,642.23	7,608.60	7,602.67	27.10	27.25	41.29	-1,265.57	-152.31	1,072.74	1,018.46		54.29	19.761	
7,700.00	7,692.13	7,655.45	7,649.47	27.27	27.41	41.50	-1,265.74	-154.50	1,071.18	1,016.56		54.63	19.609	
7,750.00	7,742.03	7,702.92	7,696.88	27.45	27.58	41.72	-1,266.01	-156.76	1,069.75	1,014.78		54.97	19.461	
7,800.00	7,791.94	7,749.20	7,743.11	27.62	27.75	41.93	-1,266.40	-158.96	1,068.47	1,013.16		55.31	19.319	
7,850.00	7,841.84	7,795.24	7,789.10	27.80	27.91	42.13	-1,267.00	-161.00	1,067.38	1,011.74		55.64	19.183	
7,900.00	7,891.75	7,837.26	7,831.08	27.97	28.06	42.30	-1,267.77	-162.77	1,066.54	1,010.58		55.96	19.060	
7,950.00	7,941.65	7,876.78	7,870.54	28.15	28.19	42.46	-1,268.89	-164.39	1,066.17	1,009.91		56.25	18.953	
7,962.07	7,953.69	7,886.32	7,880.07	28.19	28.23	42.50	-1,269.22	-164.78	1,066.15	1,009.83		56.33	18.928	
8,000.00	7,991.56	7,919.48	7,913.18	28.32	28.34	42.62	-1,270.54	-166.09	1,066.28	1,009.71		56.56	18.851	
8,050.00	8,041.46	7,972.50	7,966.13	28.50	28.52	42.80	-1,272.73	-167.81	1,066.44	1,009.51		56.93	18.733	
8,100.00	8,091.36	8,023.73	8,017.30	28.68	28.69	42.76	-1,274.86	-168.98	1,066.47	1,009.19		57.28	18.618	
8,150.00	8,141.23	8,073.12	8,066.64	28.85	28.86	42.34	-1,276.98	-169.85	1,066.14	1,008.52		57.62	18.502	
8,200.00	8,191.05	8,122.85	8,116.32	29.03	29.03	42.09	-1,279.21	-170.51	1,065.34	1,007.37		57.97	18.379	
8,250.00	8,240.81	8,172.89	8,166.30	29.20	29.19	41.97	-1,281.49	-171.03	1,064.03	1,005.72		58.31	18.248	
8,300.00	8,290.51	8,226.20	8,219.55	29.38	29.37	41.95	-1,283.86	-171.47	1,062.16	1,003.49		58.67	18.104	
8,350.00	8,340.12	8,321.55	8,314.82	29.56	29.68	42.11	-1,287.16	-170.25	1,059.36	1,000.17		59.19	17.897	
8,400.00	8,389.65	8,390.53	8,383.31	29.74	29.89	41.92	-1,288.72	-162.46	1,053.68	994.12		59.56	17.691	
8,450.00	8,439.09	8,447.57	8,439.43	29.92	30.06	41.61	-1,290.60	-152.47	1,047.15	987.25		59.89	17.483	
8,500.00	8,488.43	8,534.13	8,523.14	30.10	30.30	40.89	-1,293.25	-130.78	1,038.96	978.73		60.23	17.250	
8,550.00	8,537.64	8,613.62	8,597.88	30.28	30.52	45.83	-1,295.19	-103.86	1,028.97	968.45		60.52	17.002	
8,600.00	8,586.49	8,682.19	8,659.96	30.46	30.70	63.82	-1,296.54	-74.82	1,018.41	957.60		60.81	16.747	
8,650.00	8,634.56	8,740.62	8,710.57	30.64	30.87	74.59	-1,297.87	-45.69	1,008.44	947.31		61.13	16.495	
8,700.00	8,681.50	8,802.04	8,761.47	30.81	31.07	81.21	-1,299.84	-11.39	999.35	937.88		61.47	16.258	
8,750.00	8,726.94	8,867.67	8,813.40	30.99	31.30	85.53	-1,301.72	28.68	990.85	929.03		61.82	16.027	
8,800.00	8,770.54	8,933.57	8,862.14	31.16	31.58	88.48	-1,303.51	72.98	982.83	920.61		62.22	15.797	
8,850.00	8,811.96	8,998.32	8,906.34	31.32	31.89	90.57	-1,305.16	120.23	975.32	912.65		62.66	15.564	
8,900.00	8,850.90	9,062.00	8,945.98	31.49	32.26	92.09	-1,306.68	170.02	968.36	905.17		63.19	15.326	
8,950.00	8,887.04	9,124.71	8,981.06	31.66	32.69	93.19	-1,308.06	221.96	962.00	898.22		63.78	15.082	
9,000.00	8,920.13	9,186.53	9,011.60	31.83	33.19	93.99	-1,309.30	275.69	956.27	891.80		64.47	14.833	
9,050.00	8,949.91	9,247.55	9,037.61	32.01	33.76	94.55	-1,310.41	330.87	951.20	885.96		65.24	14.580	
9,100.00	8,976.15	9,307.85	9,059.14	32.21	34.41	94.92	-1,311.37	387.16	946.81	880.69		66.11	14.321	
9,150.00	8,998.65	9,367.48	9,076.24	32.42	35.13	95.12	-1,312.19	444.26	943.11	876.03		67.08	14.060	
9,200.00	9,017.24	9,426.51	9,088.97	32.65	35.92	95.20	-1,312.87	501.89	940.11	871.98		68.13	13.799	
9,250.00	9,031.78	9,485.01	9,097.39	32.90	36.77	95.16	-1,313.42	559.76	937.83	868.57		69.26	13.540	
9,300.00	9,042.16	9,543.02	9,101.58	33.16	37.68	95.01	-1,313.83	617.62	936.26	865.79		70.47	13.287	
9,330.08	9,046.36	9,562.71	9,102.05	33.33	38.00	94.98	-1,313.93	637.30	935.75	864.77		70.98	13.183 CC, ES	
9,350.00	9,048.30	9,562.71	9,102.05	33.45	38.00	94.98	-1,313.93	637.30	936.05	864.94		71.11	13.163	
9,400.00	9,050.16	9,562.71	9,102.05	33.74	38.00	94.72	-1,313.93	637.30	939.42	868.01		71.40	13.157 SF	
9,450.00	9,050.16	9,562.71	9,102.05	34.07	38.00	94.72	-1,313.93	637.30	945.88	874.20		71.68	13.196	
9,500.00	9,050.16	9,562.71	9,102.05	34.41	38.00	94.72	-1,313.93	637.30	954.91	883.01		71.91	13.279	
9,550.00	9,050.16	9,562.71	9,102.05	34.79	38.00	94.72	-1,313.93	637.30	966.46	894.31		72.15	13.396	
9,600.00	9,050.16	9,562.71	9,102.05	35.18	38.00	94.72	-1,313.93	637.30	980.42	908.09		72.33	13.554	
9,650.00	9,050.16	9,562.71	9,102.05	35.61	38.00	94.72	-1,313.93	637.30	996.70	924.18		72.52	13.744	
9,700.00	9,050.16	9,562.71	9,102.05	36.05	38.00	94.72	-1,313.93	637.30	1,015.18	942.52		72.66	13.972	
9,750.00	9,050.16	9,562.71	9,102.05	36.53	38.00	94.72	-1,313.93	637.30	1,035.74	962.95		72.79	14.229	
9,800.00	9,050.16	9,562.71	9,102.05	37.01	38.00	94.72	-1,313.93	637.30	1,058.27	985.39		72.88	14.521	
9,850.00	9,050.16	9,562.71	9,102.05	37.54	38.00	94.72	-1,313.93	637.30	1,082.65	1,009.68		72.97	14.838	
9,900.00	9,050.16	9,562.71	9,102.05	38.07	38.00	94.72	-1,313.93	637.30	1,108.74	1,035.73		73.02	15.185	

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

Anticollision Report

Company: WCDSC Permian NM
Project: Eddy County (NAD 83 NM Eastern)
Reference Site: Sec 27-T19S-R29E
Site Error: 5.00 ft
Reference Well: Turquoise PWU 27-61H
Well Error: 0.50 ft
Reference Wellbore: Wellbore #1
Reference Design: Permit Plan 3

Local Co-ordinate Reference: Well Turquoise PWU 27-61H
TVD Reference: RKB @ 3370.00ft
MD Reference: RKB @ 3370.00ft
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-T19S-R29E - Turquoise PWU 27 10H - Original Hole - PTL													Offset Site Error:	5.00 ft
Survey Program: 154-MWD+IGRF, 8755-													Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
9,950.00	9,050.16	9,562.71	9,102.05	38.63	38.00	94.72	-1,313.93	637.30	1,136.44	1,063.38	73.06	15.555		
10,000.00	9,050.16	9,562.71	9,102.05	39.19	38.00	94.72	-1,313.93	637.30	1,165.62	1,092.54	73.08	15.951		
10,050.00	9,050.16	9,562.71	9,102.05	39.79	38.00	94.72	-1,313.93	637.30	1,196.18	1,123.09	73.09	16.366		
10,100.00	9,050.16	9,562.71	9,102.05	40.40	38.00	94.72	-1,313.93	637.30	1,228.02	1,154.94	73.08	16.803		
10,150.00	9,050.16	9,562.71	9,102.05	41.03	38.00	94.72	-1,313.93	637.30	1,261.03	1,187.96	73.07	17.257		
10,200.00	9,050.16	9,562.71	9,102.05	41.66	38.00	94.72	-1,313.93	637.30	1,295.14	1,222.09	73.05	17.730		
10,250.00	9,050.16	9,562.71	9,102.05	42.33	38.00	94.72	-1,313.93	637.30	1,330.25	1,257.23	73.02	18.217		
10,300.00	9,050.16	9,562.71	9,102.05	42.99	38.00	94.72	-1,313.93	637.30	1,366.29	1,293.30	72.99	18.720		
10,350.00	9,050.16	9,562.71	9,102.05	43.68	38.00	94.72	-1,313.93	637.30	1,403.19	1,330.23	72.95	19.234		
10,400.00	9,050.16	9,562.71	9,102.05	44.37	38.00	94.72	-1,313.93	637.30	1,440.87	1,367.96	72.91	19.763		
10,450.00	9,050.16	9,562.71	9,102.05	45.09	38.00	94.72	-1,313.93	637.30	1,479.29	1,406.42	72.87	20.301		

Anticollision Report

Company: WCDSC Permian NM
 Project: Eddy County (NAD 83 NM Eastern)
 Reference Site: Sec 27-T19S-R29E
 Site Error: 5.00 ft
 Reference Well: Turquoise PWU 27-61H
 Well Error: 0.50 ft
 Reference Wellbore: Wellbore #1
 Reference Design: Permit Plan 3

Local Co-ordinate Reference: Well Turquoise PWU 27-61H
 TVD Reference: RKB @ 3370.00ft
 MD Reference: RKB @ 3370.00ft
 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-T19S-R29E - Turquoise PWU 27 10H - Original Hole - T&D												Offset Site Error:	5.00 ft
Survey Program:												Offset Well Error:	0.00 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	5.02	-179.84	-179.84	-1,390.01	-3.79	1,390.24				
50.00	50.00	25.00	25.00	5.03	-179.84	-179.84	-1,390.01	-3.79	1,390.01	1,379.99	10.03	138.653	
100.00	100.00	75.00	75.00	5.03	-179.84	-179.84	-1,390.01	-3.79	1,390.01	1,379.99	10.03	138.631	
150.00	150.00	125.00	125.00	5.03	-179.84	-179.84	-1,390.01	-3.79	1,390.01	1,379.98	10.03	138.520	
200.00	200.00	175.41	175.39	5.05	-179.84	-179.84	-1,390.03	-3.89	1,390.03	1,379.99	10.05	138.325	
250.00	250.00	226.21	226.18	5.07	-179.84	-179.84	-1,390.02	-3.86	1,390.02	1,379.95	10.07	138.040	
264.24	264.24	241.92	241.88	5.08	-179.85	-179.85	-1,390.00	-3.70	1,390.00	1,379.93	10.08	137.942	
300.00	300.00	286.96	275.00	5.10	-179.84	-179.84	-1,390.01	-3.79	1,390.01	1,379.92	10.10	137.672	
350.00	350.00	325.04	325.00	5.13	-179.84	-179.84	-1,390.01	-3.79	1,390.01	1,379.88	10.13	137.223	
357.21	357.21	331.03	330.99	5.13	-179.84	-179.84	-1,389.81	-3.95	1,389.82	1,379.68	10.13	137.133	
400.00	400.00	364.79	364.74	5.17	-179.84	-179.84	-1,389.95	-3.83	1,389.99	1,379.83	10.17	136.698	
450.00	450.00	425.42	425.35	5.21	-179.83	-179.83	-1,390.04	-4.03	1,390.05	1,379.83	10.21	136.100	
500.00	500.00	475.09	475.00	5.26	-179.84	-179.84	-1,390.01	-3.79	1,390.01	1,379.75	10.26	135.426	
550.00	550.00	526.78	526.69	5.32	-179.83	-179.83	-1,390.07	-4.01	1,390.07	1,379.75	10.32	134.694	
600.00	600.00	575.11	575.00	5.38	-179.84	-179.84	-1,390.01	-3.79	1,390.01	1,379.63	10.38	133.890	
650.00	650.00	625.16	625.04	5.45	-179.84	-179.84	-1,390.01	-3.94	1,390.01	1,379.57	10.45	133.035	
700.00	700.00	675.12	675.00	5.52	-179.84	-179.84	-1,390.01	-3.79	1,390.01	1,379.49	10.52	132.127	
750.00	750.00	728.41	728.28	5.60	-179.84	-179.84	-1,390.03	-3.85	1,390.04	1,379.45	10.60	131.176	
770.79	770.79	751.27	751.14	5.63	-179.85	-179.85	-1,389.96	-3.68	1,389.98	1,379.35	10.63	130.760	
800.00	800.00	775.13	775.00	5.68	-179.84	-179.84	-1,390.01	-3.79	1,390.01	1,379.34	10.68	130.175	
850.00	850.00	828.86	825.00	5.76	-179.84	-179.84	-1,390.01	-3.79	1,390.01	1,379.25	10.76	129.139	
897.91	897.91	873.04	872.91	5.85	-179.84	-179.84	-1,390.00	-3.87	1,390.01	1,379.16	10.85	128.115	
900.00	900.00	875.12	874.99	5.85	-179.84	-179.84	-1,390.00	-3.87	1,390.01	1,379.16	10.85	128.069	
950.00	950.00	925.14	925.00	5.95	-179.84	-179.84	-1,390.01	-3.79	1,390.01	1,379.07	10.95	126.971	
1,000.00	1,000.00	975.46	975.32	6.05	-179.84	-179.84	-1,390.03	-3.82	1,390.03	1,378.99	11.05	125.849	
1,050.00	1,050.00	1,025.14	1,025.00	6.15	-179.84	-179.84	-1,390.01	-3.79	1,390.01	1,378.87	11.15	124.702	
1,080.38	1,080.38	1,055.48	1,055.34	6.21	-179.84	-179.84	-1,389.99	-3.86	1,390.00	1,378.79	11.21	123.995	
1,100.00	1,100.00	1,074.69	1,074.56	6.25	-179.84	-179.84	-1,390.00	-3.84	1,390.00	1,378.75	11.25	123.537	
1,150.00	1,150.00	1,125.14	1,125.00	6.36	-179.84	-179.84	-1,390.01	-3.79	1,390.01	1,378.65	11.36	122.361	
1,200.00	1,200.00	1,179.02	1,178.88	6.47	-179.84	-179.84	-1,390.04	-3.78	1,390.05	1,378.58	11.47	121.176	
1,219.66	1,219.66	1,201.06	1,200.92	6.52	-179.84	-179.84	-1,389.96	-3.79	1,389.98	1,378.46	11.52	120.701	
1,250.00	1,250.00	1,225.14	1,225.00	6.59	-179.84	-179.84	-1,390.01	-3.79	1,390.01	1,378.43	11.59	119.976	
1,300.00	1,300.00	1,280.86	1,275.00	6.70	-179.84	-179.84	-1,390.01	-3.79	1,390.01	1,378.31	11.70	118.774	
1,350.00	1,350.00	1,325.14	1,325.00	6.82	-179.84	-179.84	-1,390.01	-3.79	1,390.01	1,378.19	11.82	117.569	
1,400.00	1,400.00	1,378.86	1,375.00	6.95	-179.84	-179.84	-1,390.01	-3.79	1,390.01	1,378.07	11.95	116.363	
1,450.00	1,450.00	1,425.15	1,425.01	7.07	-179.84	-179.84	-1,390.02	-3.80	1,390.03	1,377.96	12.07	115.160	
1,500.00	1,500.00	1,476.09	1,475.95	7.20	-179.84	-179.84	-1,390.01	-3.78	1,390.01	1,377.81	12.20	113.958	
1,505.32	1,505.32	1,481.51	1,481.37	7.21	-179.84	-179.84	-1,390.00	-3.78	1,390.01	1,377.80	12.21	113.830	
1,550.00	1,550.00	1,525.11	1,524.97	7.33	-179.84	-179.84	-1,390.01	-3.84	1,390.01	1,377.68	12.33	112.761	
1,600.00	1,600.00	1,575.15	1,575.00	7.46	-179.84	-179.84	-1,390.01	-3.79	1,390.01	1,377.56	12.46	111.572	
1,650.00	1,650.00	1,626.75	1,626.60	7.59	-179.84	-179.84	-1,390.09	-3.94	1,390.10	1,377.51	12.59	110.397	
1,700.00	1,700.00	1,675.16	1,675.00	7.73	-179.84	-179.84	-1,390.01	-3.79	1,390.01	1,377.29	12.73	109.217	
1,750.00	1,750.00	1,727.25	1,727.08	7.86	-179.84	-179.84	-1,390.08	-3.92	1,390.09	1,377.23	12.86	108.059	
1,800.00	1,800.00	1,775.17	1,775.00	8.00	-179.84	-179.84	-1,390.01	-3.79	1,390.01	1,377.01	13.00	106.901	
1,850.00	1,850.00	1,825.69	1,825.52	8.14	-179.84	-179.84	-1,390.02	-3.85	1,390.03	1,376.88	13.14	105.761	
1,900.00	1,900.00	1,875.17	1,875.00	8.28	-179.84	-179.84	-1,390.01	-3.79	1,390.01	1,376.73	13.28	104.631	
1,950.00	1,950.00	1,926.18	1,926.01	8.43	-179.84	-179.84	-1,390.03	-3.86	1,390.03	1,376.60	13.43	103.516	
2,000.00	2,000.00	1,975.18	1,975.00	8.57	-179.84	-179.84	-1,390.01	-3.79	1,390.01	1,376.44	13.57	102.413	
2,050.00	2,050.00	2,031.02	2,030.85	8.72	-179.84	-179.84	-1,390.04	-3.81	1,390.06	1,376.34	13.72	101.328	
2,071.25	2,071.25	2,055.91	2,055.73	8.78	-179.85	-179.85	-1,389.90	-3.71	1,389.94	1,376.16	13.78	100.862	
2,100.00	2,100.00	2,075.18	2,075.00	8.87	-179.84	-179.84	-1,390.01	-3.79	1,390.01	1,376.15	13.87	100.249	
2,150.00	2,150.00	2,136.81	2,125.00	9.01	-179.84	-179.84	-1,390.01	-3.79	1,390.01	1,376.00	14.01	99.189	

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

Anticollision Report

Company: WCDSC Permian NM
Project: Eddy County (NAD 83 NM Eastern)
Reference Site: Sec 27-T19S-R29E
Site Error: 5.00 ft
Reference Well: Turquoise PWU 27-61H
Well Error: 0.50 ft
Reference Wellbore: Wellbore #1
Reference Design: Permit Plan 3

Local Co-ordinate Reference: Well Turquoise PWU 27-61H
TVD Reference: RKB @ 3370.00ft
MD Reference: RKB @ 3370.00ft
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

Survey Program: Sec 28-T19S-R29E - Turquoise PWU 27 10H - Original Hole - T&D													Offset Site Error:	5.00 ft
Reference													Offset Well Error:	0.00 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	
2,200.00	2,200.00	2,175.19	2,175.00	9.16	-179.84	-179.84	-1,390.01	-3.79	1,390.01	1,375.85	14.16	98.143		
2,250.00	2,250.00	2,227.96	2,227.77	9.31	-179.84	-179.84	-1,390.00	-3.76	1,390.01	1,375.69	14.31	97.111		
2,254.85	2,254.85	2,233.08	2,232.90	9.33	-179.85	-179.85	-1,389.99	-3.74	1,390.00	1,375.67	14.33	97.011		
2,300.00	2,300.00	2,275.45	2,275.25	9.46	-179.84	-179.84	-1,390.06	-3.88	1,390.07	1,375.60	14.46	96.099		
2,350.00	2,350.00	2,328.88	2,328.69	9.62	-179.85	-179.85	-1,389.99	-3.75	1,390.00	1,375.38	14.62	95.093		
2,354.48	2,354.48	2,333.67	2,333.48	9.63	-179.85	-179.85	-1,389.97	-3.73	1,389.98	1,375.35	14.63	95.003		
2,400.00	2,400.00	2,375.60	2,375.40	9.77	-179.84	-179.84	-1,390.04	-3.86	1,390.05	1,375.28	14.77	94.109		
2,450.00	2,450.00	2,425.20	2,425.00	9.92	-179.84	-179.84	-1,390.01	-3.79	1,390.01	1,375.09	14.92	93.135		
2,500.00	2,500.00	2,476.68	2,476.49	10.08	-179.84	-179.84	-1,390.09	-3.84	1,390.10	1,375.02	15.08	92.183		
2,550.00	2,550.00	2,525.20	2,525.00	10.24	-179.84	-179.84	-1,390.01	-3.79	1,390.01	1,374.78	15.24	91.235		
2,600.00	2,600.00	2,576.94	2,576.74	10.39	-179.84	-179.84	-1,390.05	-3.79	1,390.06	1,374.67	15.39	90.310		
2,650.00	2,650.00	2,625.20	2,625.00	10.55	-179.84	-179.84	-1,390.01	-3.79	1,390.01	1,374.46	15.55	89.394		
2,700.00	2,700.00	2,675.63	2,675.43	10.71	-179.84	-179.84	-1,390.02	-3.83	1,390.02	1,374.32	15.71	88.496		
2,750.00	2,750.00	2,725.20	2,725.00	10.87	-179.84	-179.84	-1,390.01	-3.79	1,390.01	1,374.15	15.87	87.611		
2,800.00	2,800.00	2,777.70	2,777.49	11.03	-179.84	-179.84	-1,390.03	-3.80	1,390.04	1,374.01	16.03	86.742		
2,821.69	2,821.69	2,801.04	2,800.84	11.09	-179.84	-179.84	-1,389.98	-3.77	1,389.99	1,373.89	16.09	86.368		
2,850.00	2,850.00	2,825.20	2,825.00	11.18	-179.84	-179.84	-1,390.01	-3.79	1,390.01	1,373.83	16.18	85.883		
2,861.33	2,861.33	2,836.53	2,836.33	11.22	-179.84	-179.84	-1,390.00	-3.81	1,390.01	1,373.79	16.22	85.691		
2,900.00	2,900.00	2,874.90	2,874.70	11.35	-179.84	-179.84	-1,390.01	-3.79	1,390.01	1,373.67	16.35	85.040		
2,950.00	2,950.00	2,925.20	2,925.00	11.51	-179.84	-179.84	-1,390.01	-3.79	1,390.01	1,373.51	16.51	84.211		
3,000.00	3,000.00	2,978.80	2,975.00	11.67	-179.84	-179.84	-1,390.01	-3.79	1,390.01	1,373.35	16.67	83.395		
3,048.80	3,048.80	3,024.00	3,023.80	11.83	-179.84	-179.84	-1,390.00	-3.80	1,390.00	1,373.18	16.83	82.611		
3,050.00	3,050.00	3,025.19	3,024.98	11.83	-179.84	-179.84	-1,390.00	-3.80	1,390.00	1,373.17	16.83	82.592		
3,100.00	3,100.00	3,075.20	3,075.00	11.99	-179.84	-179.84	-1,390.01	-3.79	1,390.01	1,373.02	16.99	81.803		
3,150.00	3,150.00	3,125.57	3,125.37	12.16	-179.84	-179.84	-1,390.05	-3.83	1,390.05	1,372.90	17.16	81.028		
3,200.00	3,200.00	3,175.21	3,175.00	12.32	-179.84	-179.84	-1,390.01	-3.79	1,390.01	1,372.70	17.32	80.261		
3,250.00	3,250.00	3,225.85	3,225.64	12.48	-179.84	-179.84	-1,390.04	-3.83	1,390.05	1,372.57	17.48	79.511		
3,291.77	3,291.77	3,269.68	3,269.45	12.62	-179.84	-179.84	-1,389.99	-3.76	1,390.00	1,372.38	17.62	78.889		
3,300.00	3,300.00	3,275.13	3,274.92	12.65	-179.84	-179.84	-1,390.00	-3.79	1,390.01	1,372.36	17.65	78.768		
3,350.00	3,350.00	3,325.21	3,325.00	12.81	-179.84	-179.84	-1,390.01	-3.79	1,390.01	1,372.20	17.81	78.040		
3,400.00	3,400.00	3,375.21	3,375.00	12.98	-179.84	-179.84	-1,390.01	-3.79	1,390.01	1,372.04	17.98	77.324		
3,450.00	3,450.00	3,425.24	3,425.04	13.13	27.01	27.01	-1,390.02	-3.80	1,389.78	1,371.65	18.13	76.639		
3,500.00	3,499.99	3,475.93	3,475.72	13.29	27.03	27.03	-1,390.01	-3.78	1,389.04	1,370.75	18.29	75.938		
3,550.00	3,549.97	3,525.38	3,525.18	13.44	27.06	27.06	-1,390.03	-3.79	1,387.84	1,369.40	18.44	75.252		
3,600.00	3,599.94	3,575.14	3,574.94	13.59	27.11	27.11	-1,390.01	-3.79	1,386.13	1,367.53	18.59	74.548		
3,650.00	3,649.88	3,625.60	3,625.40	13.75	27.17	27.17	-1,390.02	-3.79	1,383.96	1,365.21	18.75	73.828		
3,700.00	3,699.79	3,675.00	3,674.79	13.90	27.23	27.23	-1,390.01	-3.79	1,381.30	1,362.40	18.90	73.092		
3,750.00	3,749.69	3,725.36	3,725.16	14.05	27.30	27.30	-1,390.02	-3.86	1,378.56	1,359.51	19.05	72.360		
3,800.00	3,799.60	3,774.81	3,774.60	14.20	27.35	27.35	-1,390.01	-3.79	1,375.80	1,356.60	19.20	71.638		
3,850.00	3,849.50	3,825.49	3,825.28	14.36	27.42	27.42	-1,390.02	-3.89	1,373.07	1,353.71	19.36	70.926		
3,900.00	3,899.40	3,874.64	3,874.40	14.51	27.47	27.47	-1,390.01	-3.79	1,370.31	1,350.80	19.51	70.222		
3,950.00	3,949.31	3,925.25	3,925.01	14.67	27.54	27.54	-1,390.01	-3.92	1,367.57	1,347.91	19.67	69.528		
4,000.00	3,999.21	3,974.49	3,974.21	14.83	27.59	27.59	-1,390.01	-3.79	1,364.82	1,345.00	19.83	68.842		
4,050.00	4,049.12	4,022.69	4,022.40	14.98	27.66	27.66	-1,389.99	-3.96	1,362.07	1,342.09	19.98	68.164		
4,100.00	4,099.02	4,074.38	4,074.02	15.14	27.71	27.71	-1,390.01	-3.79	1,359.34	1,339.20	20.14	67.498		
4,150.00	4,148.93	4,118.52	4,118.14	15.30	27.77	27.77	-1,389.98	-3.89	1,356.59	1,336.30	20.30	66.837		
4,200.00	4,198.83	4,173.60	4,173.16	15.46	27.85	27.85	-1,389.83	-4.15	1,353.70	1,333.25	20.45	66.180		
4,250.00	4,248.73	4,224.22	4,223.73	15.61	27.89	27.89	-1,390.01	-3.79	1,351.13	1,330.52	20.61	65.546		
4,300.00	4,298.64	4,272.38	4,271.89	15.77	27.97	27.97	-1,389.82	-4.15	1,348.22	1,327.45	20.77	64.904		
4,350.00	4,348.54	4,324.09	4,323.54	15.93	28.02	28.02	-1,390.01	-3.79	1,345.67	1,324.74	20.93	64.287		
4,400.00	4,398.45	4,371.01	4,370.46	16.09	28.09	28.09	-1,389.80	-4.14	1,342.74	1,321.64	21.09	63.661		
4,450.00	4,448.35	4,423.95	4,423.35	16.25	28.14	28.14	-1,390.01	-3.79	1,340.21	1,318.96	21.25	63.061		

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

Anticollision Report

Company: WCDSC Permian NM
Project: Eddy County (NAD 83 NM Eastern)
Reference Site: Sec 27-T19S-R29E
Site Error: 5.00 ft
Reference Well: Turquoise PWU 27-61H
Well Error: 0.50 ft
Reference Wellbore: Wellbore #1
Reference Design: Permit Plan 3

Local Co-ordinate Reference: Well Turquoise PWU 27-61H
TVD Reference: RKB @ 3370.00ft
MD Reference: RKB @ 3370.00ft
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-T19S-R29E - Turquoise PWU 27 10H - Original Hole - T&D												Offset Site Error:	5.00 ft
Survey Program:												Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Minimum Separation (ft)	Separation Factor	Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N-S (ft)	+E-W (ft)					
4,500.00	4,498.26	4,469.60	4,468.99	16.42	28.21		-1,389.80	-4.06	1,337.29	1,315.87	21.41	62.451	
4,550.00	4,548.16	4,523.81	4,523.16	16.58	28.27		-1,390.01	-3.79	1,334.75	1,313.18	21.57	61.867	
4,600.00	4,598.06	4,567.93	4,567.26	16.74	28.33		-1,389.80	-4.03	1,331.85	1,310.11	21.74	61.273	
4,650.00	4,647.97	4,623.88	4,622.97	16.90	28.39		-1,390.01	-3.79	1,329.31	1,307.41	21.90	60.704	
4,700.00	4,697.87	4,665.16	4,664.44	17.06	28.45		-1,389.77	-3.99	1,326.38	1,304.32	22.06	60.124	
4,750.00	4,747.78	4,723.53	4,722.78	17.23	28.52		-1,390.01	-3.79	1,323.87	1,301.64	22.22	59.572	
4,800.00	4,797.68	4,764.57	4,763.81	17.39	28.58		-1,389.83	-3.93	1,321.00	1,298.62	22.39	59.008	
4,850.00	4,847.59	4,823.38	4,822.59	17.55	28.65		-1,390.01	-3.79	1,318.43	1,295.88	22.55	58.468	
4,900.00	4,897.49	4,883.96	4,883.16	17.72	28.70		-1,389.87	-3.88	1,315.62	1,292.91	22.71	57.921	
4,950.00	4,847.39	4,923.22	4,922.39	17.88	28.78		-1,390.01	-3.79	1,313.01	1,290.13	22.88	57.393	
5,000.00	4,997.30	4,962.02	4,961.19	18.05	28.83		-1,389.89	-3.85	1,310.22	1,287.18	23.04	56.861	
5,050.00	5,047.20	5,022.92	5,022.06	18.21	28.91		-1,389.72	-3.90	1,307.30	1,284.09	23.21	56.333	
5,100.00	5,097.11	5,060.74	5,059.87	18.38	28.96		-1,389.90	-3.83	1,304.83	1,281.46	23.37	55.827	
5,150.00	5,147.01	5,121.81	5,120.71	18.54	29.04		-1,389.71	-3.81	1,301.87	1,278.34	23.54	55.312	
5,200.00	5,196.92	5,172.84	5,171.82	18.71	29.11		-1,390.01	-3.79	1,299.47	1,275.77	23.70	54.824	
5,250.00	5,246.82	5,219.78	5,218.85	18.88	29.17		-1,389.66	-3.75	1,296.43	1,272.56	23.87	54.315	
5,300.00	5,296.72	5,272.70	5,271.72	19.04	29.24		-1,390.01	-3.79	1,294.07	1,270.03	24.03	53.842	
5,350.00	5,346.63	5,317.82	5,316.94	19.21	29.30		-1,389.66	-3.73	1,291.03	1,266.83	24.20	53.345	
5,400.00	5,396.53	5,372.57	5,371.53	19.38	29.37		-1,390.01	-3.79	1,288.67	1,264.30	24.37	52.885	
5,450.00	5,446.44	5,414.87	5,413.83	19.54	29.43		-1,389.58	-3.76	1,285.57	1,261.03	24.54	52.396	
5,500.00	5,496.34	5,472.46	5,471.34	19.71	29.51		-1,390.01	-3.79	1,283.28	1,258.58	24.70	51.952	
5,550.00	5,546.25	5,511.94	5,510.80	19.88	29.56		-1,389.55	-3.75	1,280.17	1,255.30	24.87	51.474	
5,600.00	5,596.15	5,572.35	5,571.15	20.05	29.64		-1,390.01	-3.79	1,277.90	1,252.86	25.04	51.042	
5,650.00	5,646.05	5,609.35	5,608.13	20.22	29.70		-1,389.68	-3.82	1,274.95	1,249.75	25.21	50.581	
5,700.00	5,695.96	5,672.24	5,670.96	20.39	29.78		-1,390.01	-3.79	1,272.52	1,247.15	25.37	50.154	
5,750.00	5,745.86	5,706.61	5,705.31	20.55	29.83		-1,389.71	-3.87	1,269.64	1,244.10	25.54	49.707	
5,800.00	5,795.77	5,772.06	5,770.65	20.72	29.94		-1,389.46	-4.15	1,266.63	1,240.92	25.71	49.268	
5,850.00	5,845.67	5,803.22	5,801.80	20.89	29.97		-1,389.71	-3.99	1,264.33	1,238.45	25.88	48.854	
5,900.00	5,895.58	5,869.33	5,867.72	21.06	30.08		-1,389.27	-4.17	1,261.09	1,235.04	26.05	48.416	
5,950.00	5,945.48	5,896.82	5,895.19	21.23	30.11		-1,389.59	-4.01	1,258.97	1,232.75	26.22	48.020	
6,000.00	5,995.38	5,966.87	5,965.03	21.40	30.21		-1,389.33	-4.17	1,255.80	1,229.42	26.39	47.594	
6,050.00	6,045.29	6,022.33	6,020.29	21.57	30.27		-1,390.01	-3.79	1,253.77	1,227.22	26.55	47.215	
6,100.00	6,095.19	6,064.29	6,062.21	21.74	30.35		-1,389.29	-4.21	1,250.44	1,223.71	26.73	46.788	
6,150.00	6,145.10	6,122.39	6,120.10	21.91	30.42		-1,390.01	-3.79	1,248.43	1,221.54	26.89	46.421	
6,200.00	6,195.00	6,161.92	6,159.59	22.08	30.49		-1,389.34	-4.13	1,245.16	1,218.09	27.07	46.005	
6,250.00	6,244.91	6,222.44	6,219.91	22.26	30.56		-1,390.01	-3.79	1,243.10	1,215.87	27.23	45.645	
6,300.00	6,294.81	6,259.85	6,257.27	22.43	30.64		-1,389.30	-4.18	1,239.82	1,212.41	27.41	45.238	
6,350.00	6,344.71	6,322.57	6,319.71	22.60	30.71		-1,390.01	-3.79	1,237.78	1,210.20	27.57	44.888	
6,400.00	6,394.62	6,356.73	6,353.82	22.77	30.78		-1,389.25	-4.22	1,234.49	1,206.74	27.75	44.489	
6,450.00	6,444.52	6,422.71	6,419.52	22.94	30.85		-1,390.01	-3.79	1,232.46	1,204.54	27.92	44.149	
6,500.00	6,494.43	6,454.57	6,451.32	23.11	30.92		-1,389.35	-4.21	1,229.31	1,201.22	28.09	43.763	
6,550.00	6,544.33	6,522.85	6,519.33	23.28	31.00		-1,390.01	-3.79	1,227.15	1,198.89	28.26	43.427	
6,600.00	6,594.24	6,551.88	6,548.29	23.46	31.06		-1,389.40	-4.17	1,224.10	1,195.67	28.43	43.052	
6,650.00	6,644.14	6,622.06	6,618.21	23.63	31.17		-1,389.31	-4.29	1,221.19	1,192.59	28.60	42.697	
6,700.00	6,694.04	6,650.43	6,646.55	23.80	31.21		-1,389.60	-4.08	1,219.02	1,190.25	28.78	42.363	
6,750.00	6,743.95	6,720.44	6,716.36	23.97	31.33		-1,389.41	-4.36	1,216.01	1,187.07	28.94	42.012	
6,800.00	6,793.85	6,752.51	6,748.40	24.15	31.36		-1,389.74	-4.04	1,213.85	1,184.73	29.12	41.685	
6,850.00	6,843.76	6,818.95	6,814.63	24.32	31.48		-1,389.44	-4.38	1,210.77	1,181.48	29.29	41.339	
6,900.00	6,893.66	6,873.18	6,868.66	24.49	31.53		-1,390.01	-3.79	1,208.64	1,179.18	29.46	41.027	
6,950.00	6,943.57	6,917.83	6,913.28	24.66	31.63		-1,389.60	-4.40	1,205.66	1,176.03	29.63	40.686	
7,000.00	6,993.47	6,973.21	6,968.47	24.84	31.68		-1,390.01	-3.79	1,203.37	1,173.56	29.80	40.376	
7,050.00	7,043.37	7,016.50	7,011.72	25.01	31.78		-1,389.64	-4.40	1,200.44	1,170.46	29.98	40.043	

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

Anticollision Report

Company: WCDSC Permian NM
Project: Eddy County (NAD 83 NM Eastern)
Reference Site: Sec 27-T19S-R29E
Site Error: 5.00 ft
Reference Well: Turquoise PWU 27-61H
Well Error: 0.50 ft
Reference Wellbore: Wellbore #1
Reference Design: Permit Plan 3

Local Co-ordinate Reference: Well Turquoise PWU 27-61H
TVD Reference: RKB @ 3370.00ft
MD Reference: RKB @ 3370.00ft
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-T19S-R29E - Turquoise PWU 27 10H - Original Hole - T&D												Offset Site Error:	5.00 ft
Survey Program:												Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Minimum Separation (ft)	Separation Factor	Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)					
7,100.00	7,093.28	7,073.24	7,068.28	25.18	31.84		-1,390.01	-3.79	1,198.10	1,167.96	30.15	39.739	
7,150.00	7,143.18	7,115.00	7,110.00	25.36	31.93		-1,389.69	-4.30	1,195.24	1,164.91	30.32	39.415	
7,200.00	7,193.09	7,173.26	7,168.09	25.53	31.99		-1,390.01	-3.79	1,192.85	1,162.36	30.49	39.117	
7,250.00	7,242.99	7,214.50	7,209.28	25.71	32.08		-1,389.76	-4.28	1,190.06	1,159.39	30.67	38.802	
7,300.00	7,292.90	7,273.31	7,267.90	25.88	32.15		-1,390.01	-3.79	1,187.61	1,156.77	30.84	38.508	
7,350.00	7,342.80	7,312.31	7,306.84	26.05	32.24		-1,389.68	-4.31	1,184.76	1,153.75	31.02	38.197	
7,400.00	7,392.70	7,373.34	7,367.70	26.23	32.31		-1,390.01	-3.79	1,182.37	1,151.19	31.19	37.913	
7,450.00	7,442.61	7,415.82	7,410.15	26.40	32.40		-1,389.87	-4.11	1,179.67	1,148.31	31.36	37.614	
7,500.00	7,492.51	7,473.28	7,467.51	26.58	32.47		-1,390.01	-3.79	1,177.15	1,145.61	31.53	37.330	
7,550.00	7,542.42	7,522.95	7,517.15	26.75	32.56		-1,390.00	-3.83	1,174.54	1,142.83	31.71	37.043	
7,600.00	7,592.32	7,573.18	7,567.31	26.93	32.66		-1,389.96	-4.26	1,171.93	1,140.05	31.88	36.760	
7,650.00	7,642.23	7,623.17	7,617.23	27.10	32.72		-1,390.01	-3.79	1,169.33	1,137.27	32.05	36.480	
7,700.00	7,692.13	7,673.85	7,667.89	27.27	32.83		-1,390.05	-4.30	1,166.81	1,134.59	32.23	36.205	
7,750.00	7,742.03	7,723.08	7,717.03	27.45	32.88		-1,390.01	-3.79	1,164.13	1,131.72	32.40	35.928	
7,800.00	7,791.94	7,774.74	7,768.67	27.62	32.99		-1,390.09	-4.36	1,161.67	1,129.10	32.58	35.661	
7,850.00	7,841.84	7,833.03	7,826.92	27.80	33.04		-1,389.92	-3.20	1,158.83	1,126.08	32.74	35.390	
7,900.00	7,891.75	7,877.59	7,871.41	27.97	33.16		-1,390.18	-4.21	1,156.57	1,123.64	32.92	35.131	
7,950.00	7,941.65	7,922.93	7,916.65	28.15	33.21		-1,390.01	-3.79	1,153.75	1,120.65	33.10	34.858	
8,000.00	7,991.56	7,999.65	7,993.32	28.32	33.34		-1,389.99	-3.77	1,151.46	1,118.20	33.25	34.628	
8,050.00	8,041.46	8,022.87	8,016.46	28.50	33.38		-1,390.01	-3.79	1,148.58	1,115.13	33.45	34.340	
8,100.00	8,091.36	8,098.72	8,092.28	28.68	33.34		-1,389.97	-3.77	1,146.23	1,112.63	33.60	34.112	
8,150.00	8,141.23	8,122.75	8,116.23	28.85	32.85		-1,390.01	-3.79	1,142.97	1,109.18	33.80	33.819	
8,200.00	8,191.05	8,183.35	8,166.05	29.03	32.58		-1,390.01	-3.79	1,139.41	1,105.44	33.97	33.540	
8,250.00	8,240.81	8,239.27	8,232.65	29.20	32.49		-1,390.27	-3.83	1,135.67	1,101.54	34.14	33.270	
8,300.00	8,290.51	8,300.00	8,265.51	29.38	32.39		-1,390.01	-3.79	1,130.61	1,096.28	34.32	32.940	
8,350.00	8,340.12	8,321.85	8,315.12	29.56	32.41		-1,390.01	-3.79	1,125.37	1,090.87	34.50	32.621	
8,400.00	8,389.65	8,374.59	8,367.71	29.74	32.49		-1,390.04	-3.64	1,119.61	1,084.93	34.67	32.290	
8,450.00	8,439.09	8,424.91	8,417.85	29.92	32.64		-1,389.98	-3.96	1,113.27	1,078.42	34.85	31.945	
8,500.00	8,488.43	8,479.53	8,471.47	30.10	32.87		-1,389.84	-4.63	1,106.38	1,071.36	35.02	31.591	
8,550.00	8,537.64	8,522.88	8,512.64	30.28	38.87		-1,390.01	-3.79	1,099.04	1,063.83	35.20	31.219	
8,600.00	8,586.49	8,574.10	8,561.49	30.46	57.92		-1,390.01	-3.79	1,092.07	1,056.69	35.38	30.868	
8,650.00	8,634.56	8,625.11	8,609.56	30.64	69.80		-1,390.01	-3.79	1,088.00	1,050.44	35.56	30.541	
8,700.00	8,681.50	8,676.35	8,656.50	30.81	77.68		-1,390.01	-3.79	1,081.02	1,045.28	35.74	30.250	
8,750.00	8,726.94	8,726.57	8,700.85	30.99	83.21		-1,390.13	-1.12	1,076.95	1,041.04	35.91	29.988	
8,800.00	8,770.54	8,774.81	8,741.67	31.16	87.48		-1,390.15	-1.22	1,074.84	1,038.74	36.09	29.781	
8,839.35	8,803.33	8,818.57	8,777.28	31.29	90.32		-1,390.19	-0.97	1,074.37	1,038.15	36.23	29.656 CC, ES	
8,850.00	8,811.96	8,820.92	8,779.51	31.32	90.79		-1,390.18	-1.01	1,074.50	1,038.23	36.27	29.625	
8,900.00	8,850.90	8,867.45	8,815.94	31.49	93.43		-1,390.21	-0.93	1,076.28	1,039.83	36.45	29.528	
8,950.00	8,887.04	8,914.36	8,851.26	31.66	95.54		-1,390.28	-0.76	1,080.41	1,043.78	36.63	29.494 SF	
9,000.00	8,920.13	8,960.91	8,884.42	31.83	97.16		-1,390.24	-0.88	1,087.11	1,050.29	36.82	29.525	
9,050.00	8,949.91	9,006.06	8,914.72	32.01	98.27		-1,390.17	-0.88	1,096.51	1,059.50	37.01	29.625	
9,100.00	8,978.15	9,051.34	8,942.74	32.21	98.91		-1,390.13	-0.93	1,108.87	1,071.66	37.21	29.798	
9,150.00	8,998.65	9,096.96	8,968.67	32.42	99.07		-1,390.11	-0.98	1,124.23	1,086.81	37.42	30.045	
9,200.00	9,017.24	9,141.60	8,992.24	32.65	98.78		-1,390.01	-3.79	1,143.78	1,106.16	37.63	30.399	
9,250.00	9,031.78	9,143.78	8,992.90	32.90	96.78		-1,390.08	-1.22	1,163.97	1,126.13	37.84	30.760	
9,300.00	9,042.16	9,188.92	9,013.37	33.16	95.42		-1,390.05	-1.39	1,187.92	1,149.88	38.05	31.223	
9,350.00	9,048.30	9,189.16	9,013.57	33.45	92.50		-1,390.05	-1.39	1,214.41	1,176.17	38.25	31.752	
9,400.00	9,050.16	9,189.20	9,013.61	33.74	89.34		-1,390.05	-1.39	1,243.09	1,204.65	38.44	32.340	
9,450.00	9,050.16	9,189.18	9,013.59	34.07	89.34		-1,390.05	-1.39	1,273.34	1,234.71	38.63	32.962	
9,500.00	9,050.16	9,189.16	9,013.57	34.41	89.34		-1,390.05	-1.39	1,304.80	1,265.99	38.81	33.623	
9,550.00	9,050.16	9,189.14	9,013.55	34.79	89.34		-1,390.05	-1.39	1,337.39	1,298.40	39.00	34.296	
9,600.00	9,050.16	9,189.12	9,013.54	35.18	89.34		-1,390.05	-1.39	1,371.03	1,331.87	39.17	35.005	

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

Anticollision Report

Company: WCDSC Permian NM
Project: Eddy County (NAD 83 NM Eastern)
Reference Site: Sec 27-T19S-R29E
Site Error: 5.00 ft
Reference Well: Turquoise PWU 27-61H
Well Error: 0.50 ft
Reference Wellbore: Wellbore #1
Reference Design: Permit Plan 3

Local Co-ordinate Reference: Well Turquoise PWU 27-61H
TVD Reference: RKB @ 3370.00ft
MD Reference: RKB @ 3370.00ft
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												Offset Site Error:	5.00 ft
Survey Program:												Offset Well Error:	0.00 ft
Sec 28-T19S-R29E - Turquoise PWU 27 10H - Original Hole - T&D													
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Minimum Separation (ft)	Separation Factor	Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)					
9,650.00	9,050.16	9,189.10	9,013.53	35.61		89.33	-1,390.05	-1.39	1,405.65	1,366.30	39.35	35.724	
9,700.00	9,050.16	9,189.09	9,013.51	36.05		89.33	-1,390.05	-1.39	1,441.17	1,401.66	39.51	36.475	
9,750.00	9,050.16	9,189.08	9,013.50	36.53		89.33	-1,390.05	-1.39	1,477.52	1,437.84	39.68	37.235	

Anticollision Report

Company: WCDSC Permian NM
Project: Eddy County (NAD 83 NM Eastern)
Reference Site: Sec 27-T19S-R29E
Site Error: 5.00 ft
Reference Well: Turquoise PWU 27-61H
Well Error: 0.50 ft
Reference Wellbore: Wellbore #1
Reference Design: Permit Plan 3

Local Co-ordinate Reference: Well Turquoise PWU 27-61H
TVD Reference: RKB @ 3370.00ft
MD Reference: RKB @ 3370.00ft
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 29-19S-29E - Onyx PWU 29 28 061H - Wellbore #1 - Wellbore #1														Offset Site Error:	0.00 ft
Survey Program: 50-GYRO-NS-CT, 262-MWD+IFR1														Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis		Highside Toothface (")	Distance		Between Centres (")	Between Ellipses (")	Minimum Separation (")	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)							
7,650.00	7,642.23	19,087.00	9,059.72	27.10	210.60	92.17	-361.62	36.97	1,463.61	1,367.02	96.58	15.154			
7,700.00	7,692.13	19,087.00	9,059.72	27.27	210.60	92.17	-361.62	36.97	1,413.81	1,317.05	96.76	14.612			
7,750.00	7,742.03	19,087.00	9,059.72	27.45	210.60	92.17	-361.62	36.97	1,364.03	1,267.09	96.94	14.071			
7,800.00	7,791.94	19,087.00	9,059.72	27.62	210.60	92.17	-361.62	36.97	1,314.27	1,217.14	97.13	13.531			
7,850.00	7,841.84	19,087.00	9,059.72	27.80	210.60	92.17	-361.62	36.97	1,264.53	1,167.20	97.32	12.993			
7,900.00	7,891.75	19,087.00	9,059.72	27.97	210.60	92.17	-361.62	36.97	1,214.80	1,117.28	97.52	12.456			
7,950.00	7,941.65	19,087.00	9,059.72	28.15	210.60	92.17	-361.62	36.97	1,165.11	1,067.37	97.74	11.921			
8,000.00	7,991.56	19,087.00	9,059.72	28.32	210.60	92.17	-361.62	36.97	1,115.43	1,017.48	97.96	11.387			
8,050.00	8,041.46	19,087.00	9,059.72	28.50	210.60	92.17	-361.62	36.97	1,065.79	967.60	98.19	10.854			
8,100.00	8,091.36	19,087.00	9,059.72	28.68	210.60	93.44	-361.62	36.97	1,016.19	917.75	98.44	10.323			
8,150.00	8,141.23	19,087.00	9,059.72	28.85	210.60	98.51	-361.62	36.97	966.62	867.95	98.67	9.797			
8,200.00	8,191.05	19,087.00	9,059.72	29.03	210.60	103.35	-361.62	36.97	917.12	818.24	98.88	9.275			
8,250.00	8,240.81	19,087.00	9,059.72	29.20	210.60	107.85	-361.62	36.97	867.68	768.63	99.05	8.760			
8,300.00	8,290.51	19,087.00	9,059.72	29.38	210.60	111.94	-361.62	36.97	818.35	719.16	99.19	8.251			
8,350.00	8,340.12	19,087.00	9,059.72	29.56	210.60	115.61	-361.62	36.97	769.14	669.87	99.27	7.748			
8,400.00	8,389.65	19,087.00	9,059.72	29.74	210.60	118.87	-361.62	36.97	720.10	620.80	99.30	7.252			
8,450.00	8,439.09	19,087.00	9,059.72	29.92	210.60	121.74	-361.62	36.97	671.26	572.01	99.25	6.764			
8,500.00	8,488.43	19,087.00	9,059.72	30.10	210.60	124.25	-361.62	36.97	622.68	523.58	99.10	6.283			
8,550.00	8,537.84	19,087.00	9,059.72	30.28	210.60	130.81	-361.62	36.97	574.48	475.64	98.85	5.812			
8,600.00	8,586.49	19,087.00	9,059.72	30.46	210.60	146.35	-361.62	36.97	527.68	429.23	98.45	5.360			
8,650.00	8,634.56	19,087.00	9,059.72	30.64	210.60	155.59	-361.62	36.97	483.43	385.56	97.86	4.940 Alert			
8,700.00	8,681.50	19,087.00	9,059.72	30.81	210.60	161.29	-361.62	36.97	442.87	345.89	96.98	4.567 Alert			
8,750.00	8,726.94	19,087.00	9,059.72	30.99	210.60	165.04	-361.62	36.97	407.48	311.84	95.64	4.260 Alert			
8,800.00	8,770.54	19,087.00	9,059.72	31.16	210.60	167.68	-361.62	36.97	379.01	285.39	93.61	4.049 Alert			
8,850.00	8,811.96	19,087.00	9,059.72	31.32	210.60	169.64	-361.62	36.97	359.32	268.67	90.66	3.964 Alert, SF			
8,900.00	8,850.90	19,087.00	9,059.72	31.49	210.60	171.18	-361.62	36.97	350.09	263.36	86.72	4.037 Alert, ES			
8,915.82	8,862.65	19,087.00	9,059.72	31.54	210.60	171.60	-361.62	36.97	349.51	264.20	85.32	4.097 Alert, CC			
8,950.00	8,887.04	19,087.00	9,059.72	31.66	210.60	172.44	-361.62	36.97	352.19	270.03	82.15	4.287 Alert			
9,000.00	8,920.13	19,087.00	9,059.72	31.83	210.60	173.55	-361.62	36.97	365.41	287.75	77.66	4.705 Alert			
9,050.00	8,949.91	19,087.00	9,059.72	32.01	210.60	174.57	-361.62	36.97	388.54	314.58	73.96	5.253			
9,100.00	8,976.15	19,087.00	9,059.72	32.21	210.60	175.60	-361.62	36.97	419.77	348.38	71.39	5.880			
9,150.00	8,998.65	19,087.00	9,059.72	32.42	210.60	176.74	-361.62	36.97	457.24	387.40	68.84	6.547			
9,200.00	9,017.24	19,087.00	9,059.72	32.65	210.60	178.13	-361.62	36.97	499.31	430.28	69.02	7.234			
9,250.00	9,031.78	19,087.00	9,059.72	32.90	210.60	-179.92	-361.62	36.97	544.61	476.00	68.61	7.938			
9,300.00	9,042.16	19,087.00	9,059.72	33.16	210.60	-176.72	-361.62	36.97	592.12	523.72	68.40	8.657			
9,350.00	9,048.30	19,087.00	9,059.72	33.45	210.60	-170.02	-361.62	36.97	641.01	572.74	68.27	9.390			
9,400.00	9,050.16	19,087.00	9,059.72	33.74	210.60	-150.83	-361.62	36.97	690.67	622.51	68.16	10.133			
9,450.00	9,050.16	19,087.00	9,059.72	34.07	210.60	-150.83	-361.62	36.97	740.52	672.45	68.07	10.878			
9,500.00	9,050.16	19,087.00	9,059.72	34.41	210.60	-150.83	-361.62	36.97	790.40	722.39	68.01	11.622			
9,550.00	9,050.16	19,087.00	9,059.72	34.79	210.60	-150.83	-361.62	36.97	840.29	772.33	67.95	12.366			
9,600.00	9,050.16	19,087.00	9,059.72	35.18	210.60	-150.83	-361.62	36.97	890.19	822.28	67.91	13.108			
9,650.00	9,050.16	19,087.00	9,059.72	35.61	210.60	-150.83	-361.62	36.97	940.10	872.22	67.88	13.849			
9,700.00	9,050.16	19,087.00	9,059.72	36.05	210.60	-150.83	-361.62	36.97	990.02	922.16	67.86	14.590			
9,750.00	9,050.16	19,087.00	9,059.72	36.53	210.60	-150.83	-361.62	36.97	1,039.95	972.11	67.84	15.330			
9,800.00	9,050.16	19,087.00	9,059.72	37.01	210.60	-150.83	-361.62	36.97	1,089.88	1,022.06	67.82	16.069			
9,850.00	9,050.16	19,087.00	9,059.72	37.54	210.60	-150.83	-361.62	36.97	1,139.83	1,072.01	67.82	16.808			
9,900.00	9,050.16	19,087.00	9,059.72	38.07	210.60	-150.83	-361.62	36.97	1,189.77	1,121.96	67.81	17.546			
9,950.00	9,050.16	19,087.00	9,059.72	38.63	210.60	-150.83	-361.62	36.97	1,239.72	1,171.92	67.80	18.284			
10,000.00	9,050.16	19,087.00	9,059.72	39.19	210.60	-150.83	-361.62	36.97	1,289.68	1,221.87	67.80	19.021			
10,050.00	9,050.16	19,087.00	9,059.72	39.79	210.60	-150.83	-361.62	36.97	1,339.63	1,271.83	67.80	19.758			
10,100.00	9,050.16	19,087.00	9,059.72	40.40	210.60	-150.83	-361.62	36.97	1,389.59	1,321.79	67.80	20.494			
10,150.00	9,050.16	19,087.00	9,059.72	41.03	210.60	-150.83	-361.62	36.97	1,439.56	1,371.75	67.81	21.230			

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

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference:	Well Turquoise PWU 27-61H
Project:	Eddy County (NAD 83 NM Eastern)	TVD Reference:	RKB @ 3370.00ft
Reference Site:	Sec 27-T19S-R29E	MD Reference:	RKB @ 3370.00ft
Site Error:	5.00 ft	North Reference:	Grid
Reference Well:	Turquoise PWU 27-61H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 3	Offset TVD Reference:	Offset Datum

Offset Design Sec 29-19S-29E - Onyx PWU 29 28 061H - Wellbore #1 - Wellbore #1													Offset Site Error:	0.00 ft
Survey Program: 50-GYRO-NS-CT, 262-MWD+IFR1													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	Between Centres	Between Ellipses	Minimum Separation	Separation Factor			
(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	(°)	+N/-S (ft)	+E/-W (ft)	(ft)	(ft)	(ft)			
10,200.00	9,050.16	19,087.00	9,059.72	41.66	210.60	-150.83	-361.62	36.97	1,489.52	1,421.71	67.81	21.965		

Anticollision Report

Company: WCDSC Permian NM
Project: Eddy County (NAD 83 NM Eastern)
Reference Site: Sec 27-T19S-R29E
Site Error: 5.00 ft
Reference Well: Turquoise PWU 27-61H
Well Error: 0.50 ft
Reference Wellbore: Wellbore #1
Reference Design: Permit Plan 3

Local Co-ordinate Reference: Well Turquoise PWU 27-61H
TVD Reference: RKB @ 3370.00ft
MD Reference: RKB @ 3370.00ft
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 29-19S-29E - Onyx PWU 29-28 9H - Original Hole - Original Hole												Offset Site Error:	0.00 ft
Survey Program: 25-GYRO-NS-CT, 248-MWD+IFR1												Offset Well Error:	0.00 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Minimum Separation (ft)	Separation Factor	Warning		
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)					
7,800.00	7,791.94	18,905.02	8,980.04	27.62	210.19	-158.35	597.45	70.63	1,478.72	1,322.53	156.19	9.467	
7,850.00	7,841.84	18,908.28	8,980.16	27.80	210.25	-158.15	597.46	73.89	1,439.42	1,280.05	159.38	9.032	
7,900.00	7,891.75	18,911.54	8,980.28	27.97	210.32	-157.94	597.47	77.15	1,400.80	1,238.09	162.72	8.609	
7,950.00	7,941.65	18,914.80	8,980.40	28.15	210.38	-157.73	597.48	80.40	1,362.92	1,196.70	166.21	8.200	
8,000.00	7,991.56	18,918.06	8,980.53	28.32	210.45	-157.53	597.49	83.66	1,325.82	1,155.95	169.87	7.805	
8,050.00	8,041.46	18,921.32	8,980.65	28.50	210.52	-157.32	597.50	86.92	1,289.60	1,115.91	173.69	7.425	
8,100.00	8,091.36	18,909.00	8,980.19	28.68	210.27	-158.34	597.46	74.61	1,254.42	1,077.00	177.41	7.071	
8,150.00	8,141.23	18,909.00	8,980.19	28.85	210.27	-159.12	597.46	74.61	1,220.54	1,039.04	181.50	6.725	
8,200.00	8,191.05	18,909.00	8,980.19	29.03	210.27	-159.72	597.46	74.61	1,188.28	1,002.52	185.77	6.397	
8,250.00	8,240.81	18,909.00	8,980.19	29.20	210.27	-160.20	597.46	74.61	1,157.79	967.60	190.18	6.088	
8,300.00	8,290.51	18,909.00	8,980.19	29.38	210.27	-160.59	597.46	74.61	1,129.20	934.48	194.72	5.799	
8,350.00	8,340.12	18,909.00	8,980.19	29.56	210.27	-160.92	597.46	74.61	1,102.67	903.32	199.34	5.531	
8,400.00	8,389.65	18,909.00	8,980.19	29.74	210.27	-161.20	597.46	74.61	1,078.36	874.35	204.00	5.286	
8,450.00	8,439.09	18,909.00	8,980.19	29.92	210.27	-161.44	597.46	74.61	1,056.42	847.77	208.65	5.063	
8,500.00	8,488.43	18,909.00	8,980.19	30.10	210.27	-161.64	597.46	74.61	1,037.01	823.80	213.21	4.864 Alert	
8,550.00	8,537.64	18,909.00	8,980.19	30.28	210.27	-156.48	597.46	74.61	1,020.28	802.66	217.62	4.688 Alert	
8,600.00	8,586.49	18,909.00	8,980.19	30.46	210.27	-139.99	597.46	74.61	1,006.25	784.51	221.74	4.538 Alert	
8,650.00	8,634.56	18,909.00	8,980.19	30.64	210.27	-130.48	597.46	74.61	995.07	769.65	225.42	4.414 Alert	
8,700.00	8,681.50	18,909.00	8,980.19	30.81	210.27	-124.72	597.46	74.61	986.93	758.35	228.58	4.318 Alert	
8,750.00	8,726.94	18,909.00	8,980.19	30.99	210.27	-120.89	597.46	74.61	981.97	750.85	231.12	4.249 Alert	
8,800.00	8,770.54	18,909.00	8,980.19	31.16	210.27	-118.05	597.46	74.61	980.27	747.29	232.98	4.208 Alert	
8,800.80	8,771.22	18,909.00	8,980.19	31.16	210.27	-118.01	597.46	74.61	980.27	747.27	233.00	4.207 Alert, CC, ES	
8,850.00	8,811.96	18,909.00	8,980.19	31.32	210.27	-115.72	597.46	74.61	981.87	747.75	234.11	4.194 Alert, SF	
8,900.00	8,850.90	18,909.00	8,980.19	31.49	210.27	-113.60	597.46	74.61	986.72	752.21	234.51	4.208 Alert	
8,950.00	8,887.04	18,909.00	8,980.19	31.66	210.27	-111.55	597.46	74.61	994.76	760.58	234.18	4.248 Alert	
9,000.00	8,920.13	18,909.00	8,980.19	31.83	210.27	-109.46	597.46	74.61	1,005.84	772.67	233.17	4.314 Alert	
9,050.00	8,949.91	18,909.00	8,980.19	32.01	210.27	-107.26	597.46	74.61	1,019.79	788.25	231.54	4.404 Alert	
9,100.00	8,976.15	18,909.00	8,980.19	32.21	210.27	-104.91	597.46	74.61	1,036.37	807.03	229.35	4.519 Alert	
9,150.00	8,998.65	18,909.00	8,980.19	32.42	210.27	-102.40	597.46	74.61	1,055.35	828.66	226.69	4.655 Alert	
9,200.00	9,017.24	18,909.00	8,980.19	32.65	210.27	-99.71	597.46	74.61	1,076.46	852.81	223.65	4.813 Alert	
9,250.00	9,031.78	18,909.00	8,980.19	32.90	210.27	-96.87	597.46	74.61	1,099.42	879.11	220.31	4.990 Alert	
9,300.00	9,042.16	18,909.00	8,980.19	33.16	210.27	-93.89	597.46	74.61	1,123.95	907.21	216.74	5.186	
9,350.00	9,048.30	18,909.00	8,980.19	33.45	210.27	-90.79	597.46	74.61	1,149.76	936.74	213.02	5.397	
9,400.00	9,050.16	18,909.00	8,980.19	33.74	210.27	-87.86	597.46	74.61	1,176.59	967.39	209.20	5.624	
9,450.00	9,050.16	18,909.00	8,980.19	34.07	210.27	-87.86	597.46	74.61	1,204.61	999.26	205.35	5.866	
9,500.00	9,050.16	18,909.00	8,980.19	34.41	210.27	-87.86	597.46	74.61	1,234.02	1,032.53	201.49	6.124	
9,550.00	9,050.16	18,909.00	8,980.19	34.79	210.27	-87.86	597.46	74.61	1,264.73	1,067.04	197.68	6.398	
9,600.00	9,050.16	18,909.00	8,980.19	35.18	210.27	-87.86	597.46	74.61	1,296.63	1,102.73	193.90	6.687	
9,650.00	9,050.16	18,909.00	8,980.19	35.61	210.27	-87.86	597.46	74.61	1,329.66	1,139.45	190.20	6.991	
9,700.00	9,050.16	18,909.00	8,980.19	36.05	210.27	-87.86	597.46	74.61	1,363.71	1,177.14	186.57	7.309	
9,750.00	9,050.16	18,909.00	8,980.19	36.53	210.27	-87.86	597.46	74.61	1,398.73	1,215.69	183.04	7.642	
9,800.00	9,050.16	18,909.00	8,980.19	37.01	210.27	-87.86	597.46	74.61	1,434.63	1,255.04	179.59	7.988	
9,850.00	9,050.16	18,909.00	8,980.19	37.54	210.27	-87.86	597.46	74.61	1,471.35	1,295.11	176.25	8.348	

Anticollision Report

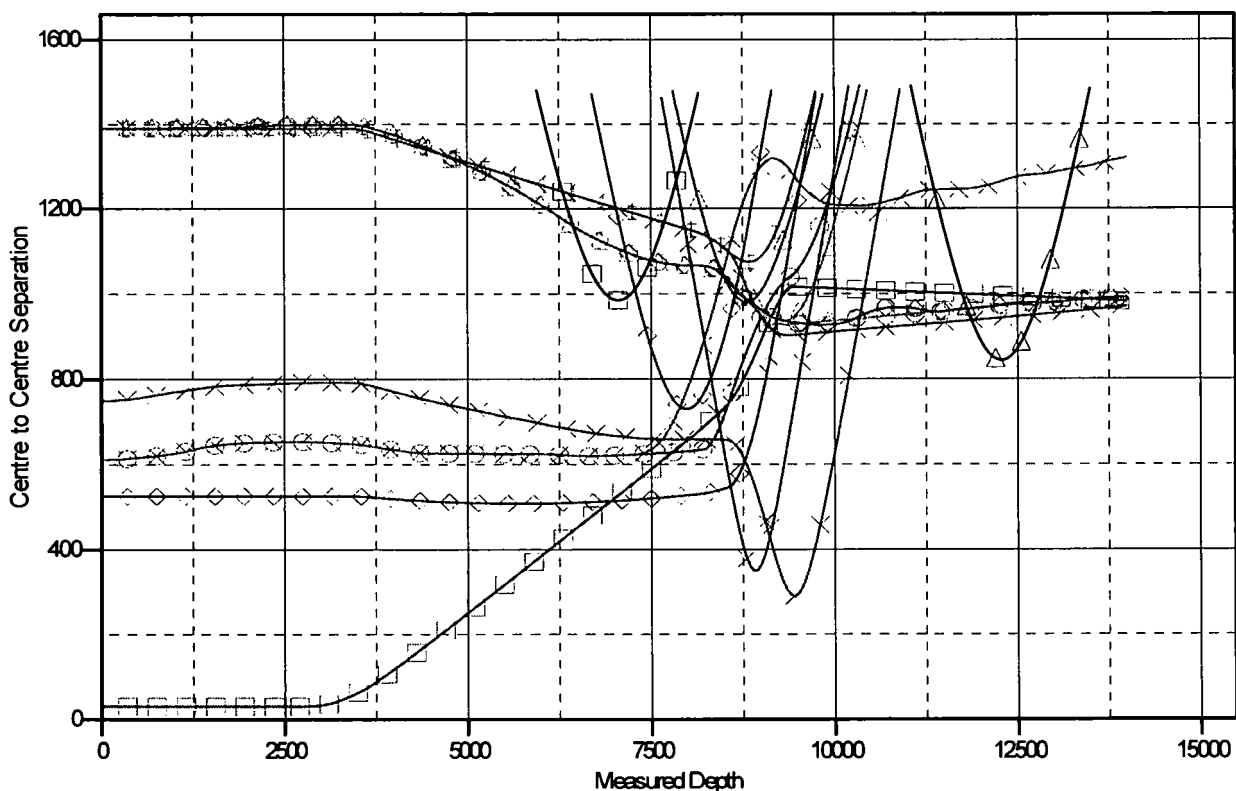
Company: WCDSC Permian NM
Project: Eddy County (NAD 83 NM Eastern)
Reference Site: Sec 27-T19S-R29E
Site Error: 5.00 ft
Reference Well: Turquoise PWU 27-61H
Well Error: 0.50 ft
Reference Wellbore: Wellbore #1
Reference Design: Permit Plan 3

Local Co-ordinate Reference: Well Turquoise PWU 27-61H
TVD Reference: RKB @ 3370.00ft
MD Reference: RKB @ 3370.00ft
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 @ 3370.00ft
 Offset Depths are relative to Offset Datum
 Central Meridian is -104.333334

Coordinates are relative to: Turquoise PWU 27-61H
 Coordinate System is US State Plane 1983, New Mexico Eastern Zone
 Grid Convergence at Surface is: 0.14°

Ladder Plot



LEGEND

- | | | |
|--|---|--|
| <ul style="list-style-type: none"> Partway Well Unit 8 V0, Wellbore #1, Wellbore #1 V0 Turquoise PWU 27-61H, Wellbore #1, Wellbore #1 V0 Turquoise PWU 27-61H, Wellbore #1, Permit Plan 3 V0 Turquoise PWU 27-1H, Pilot Wellbore, Pilot Wellbore V0 Turquoise PWU 27-1H, Wellbore #1, Wellbore #1 V0 Partway Well Unit 10, Original Hole, Original Hole V0 | <ul style="list-style-type: none"> Turquoise PWU 27-10H, Wellbore #1, Wellbore #1 V0 Turquoise PWU 27-10H, Original Hole, Plan 1 V0 Turquoise PWU 27-10H, Original Hole, Plan 1 V0 Turquoise PWU 27-10H, Original Hole, Plan 1 V0 Turquoise PWU 27-10H, Original Hole, Plan 1 V0 Turquoise PWU 27-10H, Original Hole, Actual V0 | <ul style="list-style-type: none"> Partway Well Unit 15 (Active), Wellbore #1, Wellbore #1 V0 Coal PWU 28-61H, Wellbore #1, Wellbore #1 V0 Omni PWU 28-61H, Wellbore #1, Wellbore #1 V0 Omni PWU 28-61H, Original Hole, Original Hole V0 |
|--|---|--|

Anticollision Report

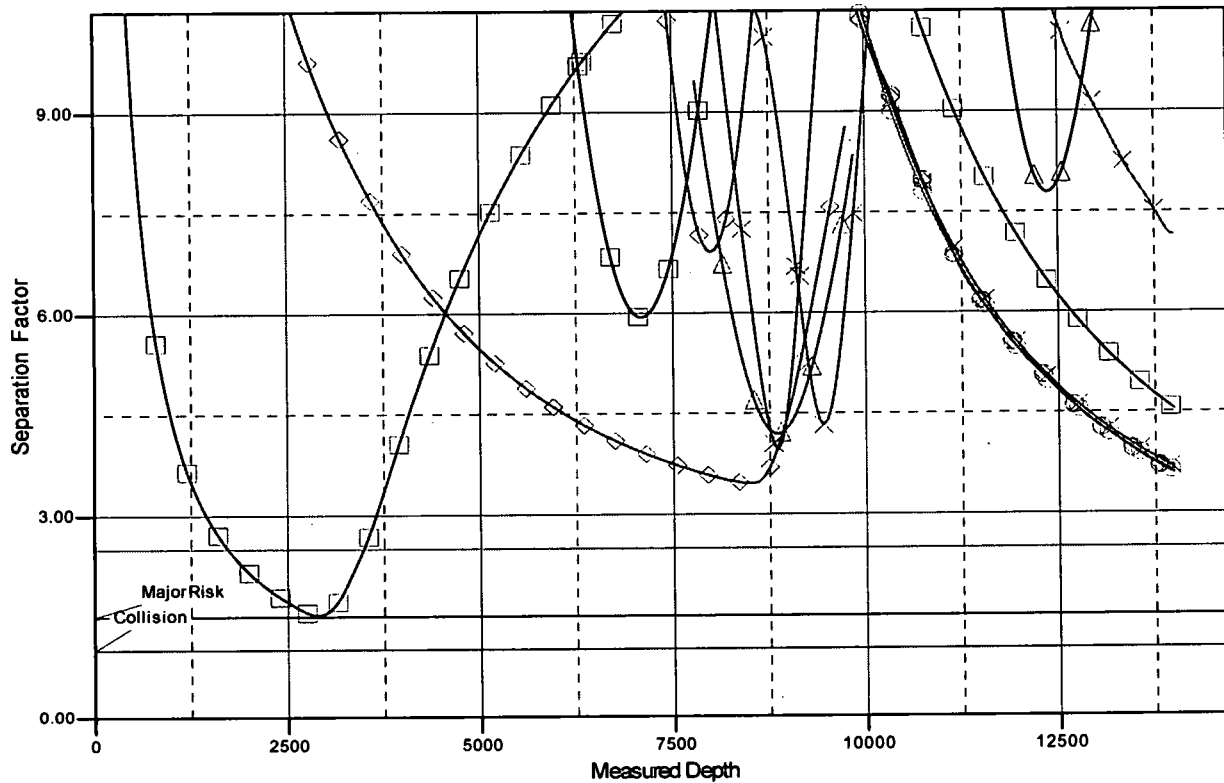
Company: WCDSC Permian NM
Project: Eddy County (NAD 83 NM Eastern)
Reference Site: Sec 27-T19S-R29E
Site Error: 5.00 ft
Reference Well: Turquoise PWU 27-61H
Well Error: 0.50 ft
Reference Wellbore: Wellbore #1
Reference Design: Permit Plan 3

Local Co-ordinate Reference: Well Turquoise PWU 27-61H
TVD Reference: RKB @ 3370.00ft
MD Reference: RKB @ 3370.00ft
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 @ 3370.00ft
 Offset Depths are relative to Offset Datum
 Central Meridian is -104.333334

Coordinates are relative to: Turquoise PWU 27-61H
 Coordinate System is US State Plane 1983, New Mexico Eastern Zone
 Grid Convergence at Surface is: 0.14°

Separation Factor Plot



LEGEND

Parkway West Unit 8 WD, Wellbore #1, Wellbore #1 V0
 Turquoise PWU 27-61H, Wellbore #1, Wellbore #1 V0
 Turquoise PWU 27-61H, Wellbore #1, Permit Plan 3 V0
 Turquoise PWU 27-1H, Permit Wellbore, Permit Wellbore V0
 Turquoise PWU 27-1H, Wellbore #1, Wellbore #1 V0
 Parkway West Unit 10, Original Hole, Original Hole V0

Turquoise PWU 27-10H, Wellbore #1, Wellbore #1 V0
 Turquoise PWU 27-10H, Original Hole, P3-1 V0
 Turquoise PWU 27-10H, Original Hole, Plan 1 V0
 Turquoise PWU 27-10H, Original Hole, PTL V0
 Turquoise PWU 27-10H, Original Hole, TSD V0
 Turquoise PWU 27-10H, Original Hole, Actual V0

Parkway West Unit 15 (Active), Wellbore #1, Wellbore #1 V0
 Coal PWU 28-61H, Wellbore #1, Wellbore #1 V0
 Onys PWU 28-28 051H, Wellbore #1, Wellbore #1 V0
 Onys PWU 28-28 05H, Original Hole, Original Hole V0

WCDSC Permian NM

Eddy County (NAD 83 NM Eastern)

Sec 27-T19S-R29E

Turquoise PWU 27-61H

Wellbore #1

Plan: Permit Plan 3

Standard Planning Report - Geographic

24 July, 2018

Planning Report - Geographic

Database: EDM r5000.141_Prod US
Company: WCDSC Permian NM
Project: Eddy County (NAD 83 NM Eastern)
Site: Sec 27-T19S-R29E
Well: Turquoise PWU 27-61H
Wellbore: Wellbore #1
Design: Permit Plan 3

Local Co-ordinate Reference:	Well Turquoise PWU 27-61H
TVD Reference:	RKB @ 3370.00ft
MD Reference:	RKB @ 3370.00ft
North Reference:	Grid
Survey Calculation Method:	Minimum Curvature

Project	Eddy County (NAD 83 NM Eastern)		
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 27-T19S-R29E				
Site Position:		Northing:	596,312.10 usft	Latitude:	32.639037
From:	Map	Easting:	622,012.70 usft	Longitude:	-104.071247
Position Uncertainty:	5.00 ft	Slot Radius:	13-3/16 "	Grid Convergence:	0.14

Well	Turquoise PWU 27-61H				
Well Position	+N/-S	0.00 ft	Northing:	595,319.97 usft	Latitude: 32.636312
	+E/-W	0.00 ft	Easting:	621,736.42 usft	Longitude: -104.072153
Position Uncertainty		0.50 ft	Wellhead Elevation:		Ground Level: 3,345.10 ft

Wellbore #1					
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	4/20/2018	7.13	60.35	48,042.85397517

Design Permit Plan 3				
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction
	(ft)	(ft)	(ft)	(°)
	0.00	0.00	0.00	85.45

Plan Survey Tool Program		Date	7/24/2018		
Depth From (ft)	Depth To (ft)	Survey (Wellbore)	Tool Name	Remarks	
1	0.00	13,993.69 Permit Plan 3 (Wellbore #1)	MWD+IFR1		
			OWSG MWD + IFR1		

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,400.00	0.00	0.00	3,400.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,683.69	3.55	153.15	3,683.51	-7.83	3.96	1.25	1.25	0.00	153.15	
8,087.59	3.55	153.15	8,078.98	-250.85	126.98	0.00	0.00	0.00	0.00	
8,538.16	10.30	155.51	8,526.00	-300.00	150.00	1.50	1.50	0.52	3.58	
9,396.50	90.00	89.48	9,050.16	-381.89	722.21	10.00	9.29	-7.69	-66.37	PBHL - Turquoise P
13,993.84	90.00	89.48	9,050.16	-340.47	5,319.36	0.00	0.00	0.00	0.00	PBHL - Turquoise P

Planning Report - Geographic

Database: EDM r5000.141_Prod US
 Company: WCDSC Permian NM
 Project: Eddy County (NAD 83 NM Eastern)
 Site: Sec 27-T19S-R29E
 Well: Turquoise PWU 27-61H
 Wellbore: Wellbore #1
 Design: Permit Plan 3

Local Co-ordinate Reference: Well Turquoise PWU 27-61H
 TVD Reference: RKB @ 3370.00ft
 MD Reference: RKB @ 3370.00ft
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature

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	595,319.97	621,736.42	32.636312	-104.072153
100.00	0.00	0.00	100.00	0.00	0.00	595,319.97	621,736.42	32.636312	-104.072153
200.00	0.00	0.00	200.00	0.00	0.00	595,319.97	621,736.42	32.636312	-104.072153
300.00	0.00	0.00	300.00	0.00	0.00	595,319.97	621,736.42	32.636312	-104.072153
400.00	0.00	0.00	400.00	0.00	0.00	595,319.97	621,736.42	32.636312	-104.072153
500.00	0.00	0.00	500.00	0.00	0.00	595,319.97	621,736.42	32.636312	-104.072153
600.00	0.00	0.00	600.00	0.00	0.00	595,319.97	621,736.42	32.636312	-104.072153
700.00	0.00	0.00	700.00	0.00	0.00	595,319.97	621,736.42	32.636312	-104.072153
800.00	0.00	0.00	800.00	0.00	0.00	595,319.97	621,736.42	32.636312	-104.072153
900.00	0.00	0.00	900.00	0.00	0.00	595,319.97	621,736.42	32.636312	-104.072153
1,000.00	0.00	0.00	1,000.00	0.00	0.00	595,319.97	621,736.42	32.636312	-104.072153
1,100.00	0.00	0.00	1,100.00	0.00	0.00	595,319.97	621,736.42	32.636312	-104.072153
1,200.00	0.00	0.00	1,200.00	0.00	0.00	595,319.97	621,736.42	32.636312	-104.072153
1,300.00	0.00	0.00	1,300.00	0.00	0.00	595,319.97	621,736.42	32.636312	-104.072153
1,400.00	0.00	0.00	1,400.00	0.00	0.00	595,319.97	621,736.42	32.636312	-104.072153
1,500.00	0.00	0.00	1,500.00	0.00	0.00	595,319.97	621,736.42	32.636312	-104.072153
1,600.00	0.00	0.00	1,600.00	0.00	0.00	595,319.97	621,736.42	32.636312	-104.072153
1,700.00	0.00	0.00	1,700.00	0.00	0.00	595,319.97	621,736.42	32.636312	-104.072153
1,800.00	0.00	0.00	1,800.00	0.00	0.00	595,319.97	621,736.42	32.636312	-104.072153
1,900.00	0.00	0.00	1,900.00	0.00	0.00	595,319.97	621,736.42	32.636312	-104.072153
2,000.00	0.00	0.00	2,000.00	0.00	0.00	595,319.97	621,736.42	32.636312	-104.072153
2,100.00	0.00	0.00	2,100.00	0.00	0.00	595,319.97	621,736.42	32.636312	-104.072153
2,200.00	0.00	0.00	2,200.00	0.00	0.00	595,319.97	621,736.42	32.636312	-104.072153
2,300.00	0.00	0.00	2,300.00	0.00	0.00	595,319.97	621,736.42	32.636312	-104.072153
2,400.00	0.00	0.00	2,400.00	0.00	0.00	595,319.97	621,736.42	32.636312	-104.072153
2,500.00	0.00	0.00	2,500.00	0.00	0.00	595,319.97	621,736.42	32.636312	-104.072153
2,600.00	0.00	0.00	2,600.00	0.00	0.00	595,319.97	621,736.42	32.636312	-104.072153
2,700.00	0.00	0.00	2,700.00	0.00	0.00	595,319.97	621,736.42	32.636312	-104.072153
2,800.00	0.00	0.00	2,800.00	0.00	0.00	595,319.97	621,736.42	32.636312	-104.072153
2,900.00	0.00	0.00	2,900.00	0.00	0.00	595,319.97	621,736.42	32.636312	-104.072153
3,000.00	0.00	0.00	3,000.00	0.00	0.00	595,319.97	621,736.42	32.636312	-104.072153
3,100.00	0.00	0.00	3,100.00	0.00	0.00	595,319.97	621,736.42	32.636312	-104.072153
3,200.00	0.00	0.00	3,200.00	0.00	0.00	595,319.97	621,736.42	32.636312	-104.072153
3,300.00	0.00	0.00	3,300.00	0.00	0.00	595,319.97	621,736.42	32.636312	-104.072153
3,400.00	0.00	0.00	3,400.00	0.00	0.00	595,319.97	621,736.42	32.636312	-104.072153
3,500.00	1.25	153.15	3,499.99	-0.97	0.49	595,319.00	621,736.92	32.636309	-104.072151
3,600.00	2.50	153.15	3,599.94	-3.89	1.97	595,316.08	621,738.39	32.636301	-104.072146
3,683.69	3.55	153.15	3,683.51	-7.83	3.96	595,312.14	621,740.39	32.636290	-104.072140
3,700.00	3.55	153.15	3,699.79	-8.73	4.42	595,311.24	621,740.84	32.636288	-104.072139
3,800.00	3.55	153.15	3,799.60	-14.25	7.21	595,305.72	621,743.64	32.636273	-104.072129
3,900.00	3.55	153.15	3,899.40	-19.77	10.01	595,300.21	621,746.43	32.636258	-104.072120
4,000.00	3.55	153.15	3,999.21	-25.29	12.80	595,294.69	621,749.22	32.636242	-104.072111
4,100.00	3.55	153.15	4,099.02	-30.80	15.59	595,289.17	621,752.02	32.636227	-104.072102
4,200.00	3.55	153.15	4,198.83	-36.32	18.39	595,283.65	621,754.81	32.636212	-104.072093
4,300.00	3.55	153.15	4,298.64	-41.84	21.18	595,278.13	621,757.60	32.636197	-104.072084
4,400.00	3.55	153.15	4,398.45	-47.36	23.97	595,272.61	621,760.40	32.636182	-104.072075
4,500.00	3.55	153.15	4,498.26	-52.88	26.77	595,267.10	621,763.19	32.636166	-104.072066
4,600.00	3.55	153.15	4,598.06	-58.40	29.56	595,261.58	621,765.98	32.636151	-104.072057
4,700.00	3.55	153.15	4,697.87	-63.91	32.35	595,256.06	621,768.78	32.636136	-104.072048
4,800.00	3.55	153.15	4,797.68	-69.43	35.15	595,250.54	621,771.57	32.636121	-104.072039
4,900.00	3.55	153.15	4,897.49	-74.95	37.94	595,245.02	621,774.36	32.636106	-104.072030
5,000.00	3.55	153.15	4,997.30	-80.47	40.73	595,239.50	621,777.16	32.636091	-104.072021
5,100.00	3.55	153.15	5,097.11	-85.99	43.53	595,233.99	621,779.95	32.636075	-104.072012
5,200.00	3.55	153.15	5,196.92	-91.51	46.32	595,228.47	621,782.74	32.636060	-104.072003
5,300.00	3.55	153.15	5,296.72	-97.02	49.11	595,222.95	621,785.54	32.636045	-104.071994

Planning Report - Geographic

Database: EDM r5000.141_Prod US
 Company: WCDSC Permian NM
 Project: Eddy County (NAD 83 NM Eastern)
 Site: Sec 27-T19S-R29E
 Well: Turquoise PWU 27-61H
 Wellbore: Wellbore #1
 Design: Permit Plan 3

Local Co-ordinate Reference: Well Turquoise PWU 27-61H
 TVD Reference: RKB @ 3370.00ft
 MD Reference: RKB @ 3370.00ft
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature

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	3.55	153.15	5,396.53	-102.54	51.91	595,217.43	621,788.33	32.636030	-104.071985
5,500.00	3.55	153.15	5,496.34	-108.06	54.70	595,211.91	621,791.12	32.636015	-104.071976
5,600.00	3.55	153.15	5,596.15	-113.58	57.49	595,206.39	621,793.92	32.635999	-104.071967
5,700.00	3.55	153.15	5,695.96	-119.10	60.29	595,200.88	621,796.71	32.635984	-104.071958
5,800.00	3.55	153.15	5,795.77	-124.62	63.08	595,195.36	621,799.50	32.635969	-104.071949
5,900.00	3.55	153.15	5,895.58	-130.13	65.87	595,189.84	621,802.30	32.635954	-104.071940
6,000.00	3.55	153.15	5,995.38	-135.65	68.67	595,184.32	621,805.09	32.635939	-104.071931
6,100.00	3.55	153.15	6,095.19	-141.17	71.46	595,178.80	621,807.88	32.635923	-104.071922
6,200.00	3.55	153.15	6,195.00	-146.69	74.25	595,173.28	621,810.68	32.635908	-104.071913
6,300.00	3.55	153.15	6,294.81	-152.21	77.05	595,167.77	621,813.47	32.635893	-104.071904
6,400.00	3.55	153.15	6,394.62	-157.73	79.84	595,162.25	621,816.26	32.635878	-104.071895
6,500.00	3.55	153.15	6,494.43	-163.24	82.63	595,156.73	621,819.06	32.635863	-104.071886
6,600.00	3.55	153.15	6,594.24	-168.76	85.43	595,151.21	621,821.85	32.635848	-104.071877
6,700.00	3.55	153.15	6,694.04	-174.28	88.22	595,145.69	621,824.65	32.635832	-104.071868
6,800.00	3.55	153.15	6,793.85	-179.80	91.01	595,140.17	621,827.44	32.635817	-104.071859
6,900.00	3.55	153.15	6,893.66	-185.32	93.81	595,134.66	621,830.23	32.635802	-104.071850
7,000.00	3.55	153.15	6,993.47	-190.84	96.60	595,129.14	621,833.03	32.635787	-104.071841
7,100.00	3.55	153.15	7,093.28	-196.35	99.39	595,123.62	621,835.82	32.635772	-104.071831
7,200.00	3.55	153.15	7,193.09	-201.87	102.19	595,118.10	621,838.61	32.635756	-104.071822
7,300.00	3.55	153.15	7,292.90	-207.39	104.98	595,112.58	621,841.41	32.635741	-104.071813
7,400.00	3.55	153.15	7,392.70	-212.91	107.78	595,107.06	621,844.20	32.635726	-104.071804
7,500.00	3.55	153.15	7,492.51	-218.43	110.57	595,101.55	621,846.99	32.635711	-104.071795
7,600.00	3.55	153.15	7,592.32	-223.95	113.36	595,096.03	621,849.79	32.635696	-104.071786
7,700.00	3.55	153.15	7,692.13	-229.47	116.16	595,090.51	621,852.58	32.635680	-104.071777
7,800.00	3.55	153.15	7,791.94	-234.98	118.95	595,084.99	621,855.37	32.635665	-104.071768
7,900.00	3.55	153.15	7,891.75	-240.50	121.74	595,079.47	621,858.17	32.635650	-104.071759
8,000.00	3.55	153.15	7,991.56	-246.02	124.54	595,073.95	621,860.96	32.635635	-104.071750
8,087.59	3.55	153.15	8,078.98	-250.85	126.98	595,069.12	621,863.41	32.635622	-104.071742
8,100.00	3.73	153.33	8,091.36	-251.56	127.34	595,068.42	621,863.76	32.635620	-104.071741
8,200.00	5.23	154.31	8,191.05	-258.57	130.77	595,061.40	621,867.20	32.635600	-104.071730
8,300.00	6.73	154.85	8,290.51	-267.98	135.24	595,051.99	621,871.66	32.635574	-104.071716
8,400.00	8.23	155.20	8,389.65	-279.78	140.73	595,040.19	621,877.16	32.635542	-104.071698
8,500.00	9.73	155.44	8,488.43	-293.96	147.25	595,026.01	621,883.67	32.635503	-104.071677
8,538.16	10.30	155.51	8,526.00	-300.00	150.00	595,019.97	621,886.42	32.635486	-104.071668
8,600.00	13.97	131.37	8,586.49	-309.97	157.90	595,010.00	621,894.32	32.635459	-104.071642
8,700.00	22.34	113.31	8,681.50	-325.51	184.48	594,994.46	621,920.90	32.635416	-104.071556
8,800.00	31.65	105.11	8,770.54	-339.91	227.37	594,980.06	621,963.80	32.635376	-104.071417
8,900.00	41.25	100.40	8,850.90	-352.73	285.28	594,967.24	622,021.70	32.635340	-104.071229
9,000.00	50.99	97.21	8,920.13	-363.59	356.43	594,956.38	622,092.85	32.635310	-104.070998
9,021.18	53.06	96.66	8,933.17	-365.60	373.00	594,954.37	622,109.42	32.635305	-104.070944
First Take Point @ 9021' MD, 1357' FNL, 100' FWL									
9,100.00	60.79	94.81	8,976.15	-372.15	438.67	594,947.82	622,175.09	32.635286	-104.070731
9,200.00	70.63	92.83	9,017.24	-378.16	529.50	594,941.82	622,265.92	32.635269	-104.070436
9,300.00	80.48	91.08	9,042.16	-381.42	626.16	594,938.55	622,362.58	32.635259	-104.070122
9,396.50	90.00	89.48	9,050.16	-381.89	722.21	594,938.09	622,458.63	32.635257	-104.069810
Land Point @ 9397' MD, 1373' FNL, 449' FWL									
9,400.00	90.00	89.48	9,050.16	-381.85	725.71	594,938.12	622,462.13	32.635257	-104.069798
9,500.00	90.00	89.48	9,050.16	-380.95	825.71	594,939.02	622,562.13	32.635259	-104.069474
9,600.00	90.00	89.48	9,050.16	-380.05	925.70	594,939.92	622,662.12	32.635261	-104.069149
9,700.00	90.00	89.48	9,050.16	-379.15	1,025.70	594,940.82	622,762.12	32.635263	-104.068824
9,800.00	90.00	89.48	9,050.16	-378.25	1,125.69	594,941.72	622,862.12	32.635265	-104.068499
9,900.00	90.00	89.48	9,050.16	-377.35	1,225.69	594,942.62	622,962.11	32.635266	-104.068174
10,000.00	90.00	89.48	9,050.16	-376.45	1,325.69	594,943.52	623,062.11	32.635268	-104.067849
10,100.00	90.00	89.48	9,050.16	-375.55	1,425.68	594,944.43	623,162.10	32.635270	-104.067524

Planning Report - Geographic

Database: EDM r5000.141_Prod US
 Company: WCDSC Permian NM
 Project: Eddy County (NAD 83 NM Eastern)
 Site: Sec 27-T19S-R29E
 Well: Turquoise PWU 27-61H
 Wellbore: Wellbore #1
 Design: Permit Plan 3

Local Co-ordinate Reference: Well Turquoise PWU 27-61H
 TVD Reference: RKB @ 3370.00ft
 MD Reference: RKB @ 3370.00ft
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature

Planned Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
10,200.00	90.00	89.48	9,050.16	-374.65	1,525.68	594,945.33	623,262.10	32.635272	-104.067200
10,300.00	90.00	89.48	9,050.16	-373.75	1,625.67	594,946.23	623,362.09	32.635274	-104.066875
10,400.00	90.00	89.48	9,050.16	-372.85	1,725.67	594,947.13	623,462.09	32.635275	-104.066550
10,500.00	90.00	89.48	9,050.16	-371.95	1,825.67	594,948.03	623,562.09	32.635277	-104.066225
10,600.00	90.00	89.48	9,050.16	-371.04	1,925.66	594,948.93	623,662.08	32.635279	-104.065900
10,700.00	90.00	89.48	9,050.16	-370.14	2,025.66	594,949.83	623,762.08	32.635281	-104.065575
10,800.00	90.00	89.48	9,050.16	-369.24	2,125.65	594,950.73	623,862.07	32.635282	-104.065251
10,900.00	90.00	89.48	9,050.16	-368.34	2,225.65	594,951.63	623,962.07	32.635284	-104.064926
11,000.00	90.00	89.48	9,050.16	-367.44	2,325.65	594,952.53	624,062.06	32.635286	-104.064601
11,100.00	90.00	89.48	9,050.16	-366.54	2,425.64	594,953.43	624,162.06	32.635288	-104.064276
11,200.00	90.00	89.48	9,050.16	-365.64	2,525.64	594,954.33	624,262.06	32.635290	-104.063951
11,300.00	90.00	89.48	9,050.16	-364.74	2,625.63	594,955.24	624,362.05	32.635291	-104.063626
11,400.00	90.00	89.48	9,050.16	-363.84	2,725.63	594,956.14	624,462.05	32.635293	-104.063302
11,500.00	90.00	89.48	9,050.16	-362.94	2,825.63	594,957.04	624,562.04	32.635295	-104.062977
11,600.00	90.00	89.48	9,050.16	-362.04	2,925.62	594,957.94	624,662.04	32.635297	-104.062652
11,700.00	90.00	89.48	9,050.16	-361.13	3,025.62	594,958.84	624,762.03	32.635298	-104.062327
11,800.00	90.00	89.48	9,050.16	-360.23	3,125.61	594,959.74	624,862.03	32.635300	-104.062002
11,900.00	90.00	89.48	9,050.16	-359.33	3,225.61	594,960.64	624,962.03	32.635302	-104.061677
12,000.00	90.00	89.48	9,050.16	-358.43	3,325.60	594,961.54	625,062.02	32.635304	-104.061352
12,100.00	90.00	89.48	9,050.16	-357.53	3,425.60	594,962.44	625,162.02	32.635306	-104.061028
12,200.00	90.00	89.48	9,050.16	-356.63	3,525.60	594,963.34	625,262.01	32.635307	-104.060703
12,300.00	90.00	89.48	9,050.16	-355.73	3,625.59	594,964.24	625,362.01	32.635309	-104.060378
12,400.00	90.00	89.48	9,050.16	-354.83	3,725.59	594,965.15	625,462.01	32.635311	-104.060053
12,500.00	90.00	89.48	9,050.16	-353.93	3,825.58	594,966.05	625,562.00	32.635313	-104.059728
12,600.00	90.00	89.48	9,050.16	-353.03	3,925.58	594,966.95	625,662.00	32.635314	-104.059403
12,700.00	90.00	89.48	9,050.16	-352.13	4,025.58	594,967.85	625,761.99	32.635316	-104.059079
12,800.00	90.00	89.48	9,050.16	-351.23	4,125.57	594,968.75	625,861.99	32.635318	-104.058754
12,900.00	90.00	89.48	9,050.16	-350.32	4,225.57	594,969.65	625,961.98	32.635320	-104.058429
13,000.00	90.00	89.48	9,050.16	-349.42	4,325.56	594,970.55	626,061.98	32.635322	-104.058104
13,100.00	90.00	89.48	9,050.16	-348.52	4,425.56	594,971.45	626,161.98	32.635323	-104.057779
13,200.00	90.00	89.48	9,050.16	-347.62	4,525.56	594,972.35	626,261.97	32.635325	-104.057454
13,300.00	90.00	89.48	9,050.16	-346.72	4,625.55	594,973.25	626,361.97	32.635327	-104.057130
13,400.00	90.00	89.48	9,050.16	-345.82	4,725.55	594,974.15	626,461.96	32.635329	-104.056805
13,500.00	90.00	89.48	9,050.16	-344.92	4,825.54	594,975.05	626,561.96	32.635330	-104.056480
13,600.00	90.00	89.48	9,050.16	-344.02	4,925.54	594,975.96	626,661.95	32.635332	-104.056155
13,700.00	90.00	89.48	9,050.16	-343.12	5,025.54	594,976.86	626,761.95	32.635334	-104.055830
13,800.00	90.00	89.48	9,050.16	-342.22	5,125.53	594,977.76	626,861.95	32.635336	-104.055505
13,900.00	90.00	89.48	9,050.16	-341.32	5,225.53	594,978.66	626,961.94	32.635337	-104.055180
13,993.82	90.00	89.48	9,050.16	-340.47	5,319.34	594,979.50	627,055.76	32.635339	-104.054876
Last Take Point @ 13994' MD, 1310' FNL, 230' FEL									
13,993.84	90.00	89.48	9,050.16	-340.47	5,319.36	594,979.50	627,055.77	32.635339	-104.054876
PBHL; 1310' FNL, 230' FEL									

Planning Report - Geographic

Database: EDM r5000.141_Prod US
Company: WCDSC Permian NM
Project: Eddy County (NAD 83 NM Eastern)
Site: Sec 27-T19S-R29E
Well: Turquoise PWU 27-61H
Wellbore: Wellbore #1
Design: Permit Plan 3

Local Co-ordinate Reference: Well Turquoise PWU 27-61H
TVD Reference: RKB @ 3370.00ft
MD Reference: RKB @ 3370.00ft
North Reference: Grid
Survey Calculation Method: Minimum Curvature

Design Targets

Target Name

- hit/miss target	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- Shape	(°)	(°)	(ft)	(ft)	(ft)	(usft)	(usft)		
PBHL - Turquoise PWL	0.00	0.00	0.00	-340.47	5,319.36	594,979.50	627,055.77	32.635339	-104.054876
- plan misses target center by 5330.25ft at 0.00ft MD (0.00 TVD, 0.00 N, 0.00 E)									
- Point									
Vertical Point - Turquoise	0.00	0.00	8,180.00	-318.02	324.85	595,001.96	622,061.27	32.635436	-104.071100
- plan misses target center by 203.27ft at 8203.27ft MD (8194.31 TVD, -258.84 N, 130.90 E)									
- Point									

Plan Annotations

Measured	Vertical	Local Coordinates		Comment
Depth	Depth	+N/-S	+E/-W	
(ft)	(ft)	(ft)	(ft)	
9,021.18	8,933.17	-365.60	373.00	First Take Point @ 9021' MD, 1357' FNL, 100' FWL
9,396.50	9,050.16	-381.89	722.21	Land Point @ 9397' MD, 1373' FNL, 449' FWL
13,993.82	9,050.16	-340.47	5,319.34	Last Take Point @ 13994' MD, 1310' FNL, 230' FEL
13,993.84	9,050.16	-340.47	5,319.36	PBHL; 1310' FNL, 230' FEL