

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENTFORM APPROVED
OMB NO. 1004-0137
Expires: January 31, 2018**SUNDRY NOTICES AND REPORTS ON WELLS**
*Do not use this form for proposals to drill or to re-enter an abandoned well. Use form 3160-3 (APD) for such proposals.***SUBMIT IN TRIPLICATE - Other instructions on page 2**

1. Type of Well ☒ Oil Well ☐ Gas Well ☐ Other		5. Lease Serial No. NMNM100568
2. Name of Operator DEVON ENERGY PRODUCTION COMPANY Contact: REBECCA DEAL Email: Rebecca.Deal@dvn.com		6. If Indian, Allottee or Tribe Name
3a. Address 6488 SEVEN RIVERS HIGHWAY ARTESIA, NM 88211	3b. Phone No. (include area code) Ph: 405-228-8429	7. If Unit or CA/Agreement, Name and/or No.
4. Location of Well (Footage, Sec., T., R., M., or Survey Description) Sec 23 T26S R34E NESE 2449FSL 830FEL 32.028339 N Lat, 103.435028 W Lon		8. Well Name and No. MEAN GREEN 23-35 FED COM 3H ✓
		9. API Well No. 30-025-44597-00-X1
		10. Field and Pool or Exploratory Area JABALINA
		11. County or Parish, State LEA COUNTY, NM

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

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

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

Devon Energy Production Co. respectfully requests the following changes to the original APD:

TVD/MD from 12789'/22,661' Wolfcamp to 1105'/20,897' Bone Spring

Casing design - From four string to three due to FM change - See attached detailed drilling plan

Please see attached Plat, AC Report, Drilling and Directional Plan

**SEE ATTACHED FOR
CONDITIONS OF APPROVAL**

14. I hereby certify that the foregoing is true and correct. Electronic Submission #419542 verified by the BLM Well Information System For DEVON ENERGY PRODUCTION COMPANY LP, sent to the Hobbs Committed to AFMSS for processing by PRISCILLA PEREZ on 05/15/2018 (18PP1030SE)	
Name (Printed/Typed) REBECCA DEAL	Title REGULATORY COMPLIANCE PROFESSI
Signature (Electronic Submission)	Date 05/10/2018

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By <u>ZOTIA STEVENS</u>	Title <u>PETROLEUM ENGINEER</u>	Date <u>05/29/2018</u>
Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.		Office Hobbs

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

(Instructions on page 2)

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

Devon Energy, Mean Green 23-35 Fed com 3H

1. Geologic Formations

TVD of target	11,005'	Pilot hole depth	
MD at TD:	20,897'	Deepest expected fresh water:	

Basin

Formation	Depth (TVD) from KB	Water/Mineral Bearing/ Target Zone?	Hazards*
Rustler	993	Barren	
Top of Salt	1408	Barren	
Base of Salt/Delaware	5051	Oil	
Cherry Canyon	6371	Oil	
Lower Brushy Canyon	9327	Oil	
1st BSPG Lime	9577	Oil	
1st BSPG Sand	10509	Oil	
TZ Top	10897	Oil	

*H2S, water flows, loss of circulation, abnormal pressures, etc.

Devon Energy, Mean Green 23-35 Fed com 3H

2. Casing Program

Hole Size	Casing Interval		Csg. Size	Weight (lbs)	Grade	Conn	SF Collapse	SF Burst	SF Tension
	From	To							
17.5"	0	1050'	13.375"	54.548	H-40	STC	1.125	1.25	1.6
12.25"	0	5,350'	9.625"	40	J-55	LTC	1.125	1.25	1.6
8.75"	0	20,897'	5.5"	17	P-110	BTC	1.125	1.25	1.6
BLM Minimum Safety Factor							1.125	1.25	1.6 Dry 1.8 Wet

All casing strings will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.h

Must have table for contingency casing

	Y or N
Is casing new? If used, attach certification as required in Onshore Order #1	Y
Does casing meet API specifications? If no, attach casing specification sheet.	Y
Is premium or uncommon casing planned? If yes attach casing specification sheet.	N
Does the above casing design meet or exceed BLM's minimum standards? If not provide justification (loading assumptions, casing design criteria).	Y
Will the intermediate pipe be kept at a minimum 1/3 fluid filled to avoid approaching the collapse pressure rating of the casing?	Y
Is well located within Capitan Reef?	N
If yes, does production casing cement tie back a minimum of 50' above the Reef?	
Is well within the designated 4 string boundary.	
Is well located in SOPA but not in R-111-P?	N
If yes, are the first 2 strings cemented to surface and 3 rd string cement tied back 500' into previous casing?	
Is well located in R-111-P and SOPA?	N
If yes, are the first three strings cemented to surface?	
Is 2 nd string set 100' to 600' below the base of salt?	
Is well located in high Cave/Karst?	N
If yes, are there two strings cemented to surface?	
(For 2 string wells) If yes, is there a contingency casing if lost circulation occurs?	
Is well located in critical Cave/Karst?	N
If yes, are there three strings cemented to surface?	

Devon Energy, Mean Green 23-35 Fed com 3H

3. Cementing Program

Casing	# Sks	Wt. lb/ gal	H ₂ O gal/sk	Yld ft ³ / sack	500# Comp. Strength (hours)	Slurry Description
13-3/8" Surface	823	14.8	6.32	1.33	6	Tail: Class C Cement + 0.125 lbs/sack Poly-E-Flake
9-5/8" Inter.	1073	12.9	9.81	1.85	14	Lead: (65:35) Class C Cement: Poz (Fly Ash): 6% BWOC Bentonite + 5% BWOW Sodium Chloride + 0.125 lbs/sack Poly-E-Flake
	306	14.8	6.32	1.33	6	Tail: Class C Cement + 0.125 lbs/sack Poly-E-Flake
5-1/2" Prod.	617	11	16.9	3.17	22	Lead: Tuned Light ® + 0.125 lb/sk Pol-E-Flake
	2283	14.5	5.31	1.2	6	Tail: (50:50) Class H Cement: Poz (Fly Ash) + 0.5% bwoc HALAD-344 + 0.4% bwoc CFR-3 + 0.2% BWOC HR-601 + 2% bwoc Bentonite

Casing String	TOC	% Excess
13-3/8" Surface	0'	50%
9-5/8" Intermediate	0'	30%
5-1/2" Production Casing	5150'	25%

Devon Energy, Mean Green 23-35 Fed com 3H

4. Mud Program

Depth		Type	Weight (ppg)	Viscosity	Water Loss
From	To				
0	1050'	FW Gel	8.6-8.8	28-34	N/C
1050'	5,350'	Saturated Brine	10.0-10.2	28-34	N/C
5,350'	20,897'	Cut Brine	8.5-9.3	28-34	N/C

Sufficient mud materials to maintain mud properties and meet minimum lost circulation and weight increase requirements will be kept on location at all times.

What will be used to monitor the loss or gain of fluid?	PVT/Pason/Visual Monitoring
---	-----------------------------

5. Drilling Conditions

Condition	Specify what type and where?
BH Pressure at deepest TVD	4780 psi
Abnormal Temperature	No

Mitigation measure for abnormal conditions. Describe. Lost circulation material/sweeps/mud scavengers.

Hydrogen Sulfide (H2S) monitors will be installed prior to drilling out the surface shoe. If H2S is detected in concentrations greater than 100 ppm, the operator will comply with the provisions of Onshore Oil and Gas Order #6. If Hydrogen Sulfide is encountered, measured values and formations will be provided to the BLM.	
N	H2S is present
Y	H2S Plan attached

8. Other facets of operation

Is this a walking operation? Potentially

1. In the event the spudder rig is unable to drill the surface holes the drilling rig will batch drill the surface holes and run/cement surface casing; walking the rig to next wells on the pad.
2. The drilling rig will then batch drill the intermediate sections with either OBM or cut brine and run/cement intermediate casing; the wellbore will be isolated with a blind flange and pressure gauge installed for monitoring the well before walking to the next well.
3. The drilling rig will then batch drill the production hole sections on the wells with OBM, run/cement production casing, and install TA caps or tubing heads for completions.

Devon Energy, Mean Green 23-35 Fed com 3H

NOTE: During batch operations the drilling rig will be moved from well to well however, it will not be removed from the pad until all wells have production casing run/cemented.

Will be pre-setting casing? Potentially

1. Spudder rig will move in and drill surface hole.
 - a. Rig will utilize fresh water based mud to drill 17½" surface hole to TD. Solids control will be handled entirely on a closed loop basis.
2. After drilling the surface hole section, the spudder rig will run casing and cement following all of the applicable rules and regulations (OnShore Order 2, all COAs and NMOCD regulations).
3. The wellhead will be installed and tested once the 13-3/8" surface casing is cut off and the WOC time has been reached.
4. A blind flange with the same pressure rating as the wellhead will be installed to seal the wellbore. Pressure will be monitored with a pressure gauge installed on the wellhead.
5. Spudder rig operations is expected to take 4-5 days per well on a multi well pad.
6. The NMOCD will be contacted and notified 24 hours prior to commencing spudder rig operations.
7. Drilling operations will be performed with the drilling rig. At that time an approved BOP stack will be nipped up and tested on the wellhead before drilling operations commences on each well.
 - a. The NMOCD will be contacted / notified 24 hours before the drilling rig moves back on to the pad with the pre-set surface casing.

Attachments

- ☒ Directional Plan
☐ Other, describe

WCDSC Permian NM

Lea County (NAD83 New Mexico East)

Sec 23-T26S-R34E

Mean Green 23-35 Fed Com 3H

Wellbore #1

Plan: Permit Plan 1

Standard Planning Report - Geographic

30 April, 2018

Planning Report - Geographic

Database:	EDM r5000.141_Prod US	Local Co-ordinate Reference	Well Mean Green 23-35 Fed Com 3H
Company:	WCDSC Permian NM	TVD Reference:	RKB @ 3224.80ft
Project:	Lea County (NAD83 New Mexico East)	MD Reference:	RKB @ 3224.80ft
Site:	Sec 23-T26S-R34E	North Reference:	Grid
Well:	Mean Green 23-35 Fed Com 3H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Permit Plan 1		

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

Site	Sec 23-T26S-R34E				
Site Position:		Northing:	372,742.50 usft	Latitude:	32.021552
From:	Lat/Long	Easting:	820,445.44 usft	Longitude:	-103.432756
Position Uncertainty:	0.00 ft	Slot Radius:	13-3/16 "	Grid Convergence:	0.48 °

Well	Mean Green 23-35 Fed Com 3H					
Well Position	+N-S	0.00 ft	Northing:	375,205.72 usft	Latitude:	32.028338
	+E-W	0.00 ft	Easting:	819,780.60 usft	Longitude:	-103.434835
Position Uncertainty		0.50 ft	Wellhead Elevation:		Ground Level:	3,192.70 ft

Wellbore	Wellbore #1					
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength	
			(°)	(°)	(nT)	
	IGRF2015	4/18/2018	6.79	59.89	47,751.88092646	

Design	Permit Plan 1				
Audit Notes:					
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.00	
Vertical Section:	Depth From (TVD)	+N-S	+E-W	Direction	
	(ft)	(ft)	(ft)	(°)	
	0.00	0.00	0.00	176.95	

Plan Survey Tool Program	Date	4/30/2018			
Depth From	Depth To	Survey (Wellbore)	Tool Name	Remarks	
(ft)	(ft)				
1	0.00	20,897.67 Permit Plan 1 (Wellbore #1)	MWD+HDGM		
			OWSG MWD + HDGM		

Planning Report - Geographic

Database: EDM r5000.141_Prod US
Company: WCDSC Permian NM
Project: Lea County (NAD83 New Mexico East)
Site: Sec 23-T26S-R34E
Well: Mean Green 23-35 Fed Com 3H
Wellbore: Wellbore #1
Design: Permit Plan 1

Local Co-ordinate Reference Well Mean Green 23-35 Fed Com 3H
TVD Reference: RKB @ 3224.80ft
MD Reference: RKB @ 3224.80ft
North Reference: Grid
Survey Calculation Method: Minimum Curvature

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	
2,500.00	0.00	0.00	2,500.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,773.16	3.41	73.30	2,773.00	2.34	7.79	1.25	1.25	0.00	73.30	
7,781.56	3.41	73.30	7,772.50	88.05	293.51	0.00	0.00	0.00	0.00	
8,009.19	0.00	0.00	8,000.00	90.00	300.00	1.50	-1.50	0.00	180.00	
10,109.19	0.00	0.00	10,100.00	90.00	300.00	0.00	0.00	0.00	0.00	
10,285.11	16.71	35.79	10,273.44	110.66	314.90	9.50	9.50	0.00	35.79	
11,373.74	90.00	179.50	11,005.00	-475.00	450.00	9.50	6.73	13.20	142.52	
20,897.67	90.00	179.50	11,005.00	-9,998.57	533.11	0.00	0.00	0.00	0.00	PBHL-Mean Green 23

Planning Report - Geographic

Database: EDM r5000.141_Prod US
 Company: WCDSC Permian NM
 Project: Lea County (NAD83 New Mexico East)
 Site: Sec 23-T26S-R34E
 Well: Mean Green 23-35 Fed Com 3H
 Wellbore: Wellbore #1
 Design: Permit Plan 1

Local Co-ordinate Reference
 TVD Reference: RKB @ 3224.80ft
 MD Reference: RKB @ 3224.80ft
 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	375,205.72	819,780.60	32.028338	-103.434835
100.00	0.00	0.00	100.00	0.00	0.00	375,205.72	819,780.60	32.028338	-103.434835
200.00	0.00	0.00	200.00	0.00	0.00	375,205.72	819,780.60	32.028338	-103.434835
300.00	0.00	0.00	300.00	0.00	0.00	375,205.72	819,780.60	32.028338	-103.434835
400.00	0.00	0.00	400.00	0.00	0.00	375,205.72	819,780.60	32.028338	-103.434835
500.00	0.00	0.00	500.00	0.00	0.00	375,205.72	819,780.60	32.028338	-103.434835
600.00	0.00	0.00	600.00	0.00	0.00	375,205.72	819,780.60	32.028338	-103.434835
700.00	0.00	0.00	700.00	0.00	0.00	375,205.72	819,780.60	32.028338	-103.434835
800.00	0.00	0.00	800.00	0.00	0.00	375,205.72	819,780.60	32.028338	-103.434835
900.00	0.00	0.00	900.00	0.00	0.00	375,205.72	819,780.60	32.028338	-103.434835
1,000.00	0.00	0.00	1,000.00	0.00	0.00	375,205.72	819,780.60	32.028338	-103.434835
1,100.00	0.00	0.00	1,100.00	0.00	0.00	375,205.72	819,780.60	32.028338	-103.434835
1,200.00	0.00	0.00	1,200.00	0.00	0.00	375,205.72	819,780.60	32.028338	-103.434835
1,300.00	0.00	0.00	1,300.00	0.00	0.00	375,205.72	819,780.60	32.028338	-103.434835
1,400.00	0.00	0.00	1,400.00	0.00	0.00	375,205.72	819,780.60	32.028338	-103.434835
1,500.00	0.00	0.00	1,500.00	0.00	0.00	375,205.72	819,780.60	32.028338	-103.434835
1,600.00	0.00	0.00	1,600.00	0.00	0.00	375,205.72	819,780.60	32.028338	-103.434835
1,700.00	0.00	0.00	1,700.00	0.00	0.00	375,205.72	819,780.60	32.028338	-103.434835
1,800.00	0.00	0.00	1,800.00	0.00	0.00	375,205.72	819,780.60	32.028338	-103.434835
1,900.00	0.00	0.00	1,900.00	0.00	0.00	375,205.72	819,780.60	32.028338	-103.434835
2,000.00	0.00	0.00	2,000.00	0.00	0.00	375,205.72	819,780.60	32.028338	-103.434835
2,100.00	0.00	0.00	2,100.00	0.00	0.00	375,205.72	819,780.60	32.028338	-103.434835
2,200.00	0.00	0.00	2,200.00	0.00	0.00	375,205.72	819,780.60	32.028338	-103.434835
2,300.00	0.00	0.00	2,300.00	0.00	0.00	375,205.72	819,780.60	32.028338	-103.434835
2,400.00	0.00	0.00	2,400.00	0.00	0.00	375,205.72	819,780.60	32.028338	-103.434835
2,500.00	0.00	0.00	2,500.00	0.00	0.00	375,205.72	819,780.60	32.028338	-103.434835
Begin Nudge									
2,600.00	1.25	73.30	2,599.99	0.31	1.04	375,206.03	819,781.64	32.028338	-103.434832
2,700.00	2.50	73.30	2,699.94	1.25	4.18	375,206.97	819,784.77	32.028341	-103.434822
2,773.16	3.41	73.30	2,773.00	2.34	7.79	375,208.06	819,788.39	32.028344	-103.434810
EOB									
2,800.00	3.41	73.30	2,799.79	2.80	9.32	375,208.52	819,789.92	32.028345	-103.434805
2,900.00	3.41	73.30	2,899.61	4.51	15.03	375,210.23	819,795.62	32.028350	-103.434787
3,000.00	3.41	73.30	2,999.44	6.22	20.73	375,211.94	819,801.33	32.028354	-103.434768
3,100.00	3.41	73.30	3,099.26	7.93	26.44	375,213.65	819,807.03	32.028359	-103.434750
3,200.00	3.41	73.30	3,199.08	9.64	32.14	375,215.36	819,812.74	32.028363	-103.434731
3,300.00	3.41	73.30	3,298.90	11.35	37.85	375,217.07	819,818.44	32.028368	-103.434713
3,400.00	3.41	73.30	3,398.73	13.07	43.55	375,218.78	819,824.15	32.028372	-103.434694
3,500.00	3.41	73.30	3,498.55	14.78	49.26	375,220.50	819,829.85	32.028377	-103.434676
3,600.00	3.41	73.30	3,598.37	16.49	54.96	375,222.21	819,835.56	32.028382	-103.434657
3,700.00	3.41	73.30	3,698.19	18.20	60.67	375,223.92	819,841.26	32.028386	-103.434639
3,800.00	3.41	73.30	3,798.02	19.91	66.37	375,225.63	819,846.97	32.028391	-103.434621
3,900.00	3.41	73.30	3,897.84	21.62	72.08	375,227.34	819,852.67	32.028395	-103.434602
4,000.00	3.41	73.30	3,997.66	23.33	77.78	375,229.05	819,858.38	32.028400	-103.434584
4,100.00	3.41	73.30	4,097.48	25.05	83.49	375,230.76	819,864.08	32.028404	-103.434565
4,200.00	3.41	73.30	4,197.31	26.76	89.19	375,232.48	819,869.78	32.028409	-103.434547
4,300.00	3.41	73.30	4,297.13	28.47	94.89	375,234.19	819,875.49	32.028414	-103.434528
4,400.00	3.41	73.30	4,396.95	30.18	100.60	375,235.90	819,881.19	32.028418	-103.434510
4,500.00	3.41	73.30	4,496.77	31.89	106.30	375,237.61	819,886.90	32.028423	-103.434491
4,600.00	3.41	73.30	4,596.60	33.60	112.01	375,239.32	819,892.60	32.028427	-103.434473
4,700.00	3.41	73.30	4,696.42	35.31	117.71	375,241.03	819,898.31	32.028432	-103.434455
4,800.00	3.41	73.30	4,796.24	37.03	123.42	375,242.74	819,904.01	32.028436	-103.434436
4,900.00	3.41	73.30	4,896.06	38.74	129.12	375,244.45	819,909.72	32.028441	-103.434418

Planning Report - Geographic

Database: EDM r5000.141_Prod US
 Company: WCDSC Permian NM
 Project: Lea County (NAD83 New Mexico East)
 Site: Sec 23-T26S-R34E
 Well: Mean Green 23-35 Fed Com 3H
 Wellbore: Wellbore #1
 Design: Permit Plan 1

Local Co-ordinate Reference Well Mean Green 23-35 Fed Com 3H
 TVD Reference: RKB @ 3224.80ft
 MD Reference: RKB @ 3224.80ft
 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
5,000.00	3.41	73.30	4,995.89	40.45	134.83	375,246.17	819,915.42	32.028446	-103.434399
5,100.00	3.41	73.30	5,095.71	42.16	140.53	375,247.88	819,921.13	32.028450	-103.434381
5,200.00	3.41	73.30	5,195.53	43.87	146.24	375,249.59	819,926.83	32.028455	-103.434362
5,300.00	3.41	73.30	5,295.35	45.58	151.94	375,251.30	819,932.54	32.028459	-103.434344
5,400.00	3.41	73.30	5,395.18	47.29	157.65	375,253.01	819,938.24	32.028464	-103.434325
5,500.00	3.41	73.30	5,495.00	49.01	163.35	375,254.72	819,943.95	32.028468	-103.434307
5,600.00	3.41	73.30	5,594.82	50.72	169.06	375,256.43	819,949.65	32.028473	-103.434288
5,700.00	3.41	73.30	5,694.64	52.43	174.76	375,258.15	819,955.35	32.028478	-103.434270
5,800.00	3.41	73.30	5,794.47	54.14	180.46	375,259.86	819,961.06	32.028482	-103.434252
5,900.00	3.41	73.30	5,894.29	55.85	186.17	375,261.57	819,966.76	32.028487	-103.434233
6,000.00	3.41	73.30	5,994.11	57.56	191.87	375,263.28	819,972.47	32.028491	-103.434215
6,100.00	3.41	73.30	6,093.93	59.27	197.58	375,264.99	819,978.17	32.028496	-103.434196
6,200.00	3.41	73.30	6,193.76	60.98	203.28	375,266.70	819,983.88	32.028500	-103.434178
6,300.00	3.41	73.30	6,293.58	62.70	208.99	375,268.41	819,989.58	32.028505	-103.434159
6,400.00	3.41	73.30	6,393.40	64.41	214.69	375,270.13	819,995.29	32.028510	-103.434141
6,500.00	3.41	73.30	6,493.22	66.12	220.40	375,271.84	820,000.99	32.028514	-103.434122
6,600.00	3.41	73.30	6,593.05	67.83	226.10	375,273.55	820,006.70	32.028519	-103.434104
6,700.00	3.41	73.30	6,692.87	69.54	231.81	375,275.26	820,012.40	32.028523	-103.434085
6,800.00	3.41	73.30	6,792.69	71.25	237.51	375,276.97	820,018.11	32.028528	-103.434067
6,900.00	3.41	73.30	6,892.51	72.96	243.22	375,278.68	820,023.81	32.028533	-103.434049
7,000.00	3.41	73.30	6,992.34	74.68	248.92	375,280.39	820,029.51	32.028537	-103.434030
7,100.00	3.41	73.30	7,092.16	76.39	254.62	375,282.11	820,035.22	32.028542	-103.434012
7,200.00	3.41	73.30	7,191.98	78.10	260.33	375,283.82	820,040.92	32.028546	-103.433993
7,300.00	3.41	73.30	7,291.80	79.81	266.03	375,285.53	820,046.63	32.028551	-103.433975
7,400.00	3.41	73.30	7,391.63	81.52	271.74	375,287.24	820,052.33	32.028555	-103.433956
7,500.00	3.41	73.30	7,491.45	83.23	277.44	375,288.95	820,058.04	32.028560	-103.433938
7,600.00	3.41	73.30	7,591.27	84.94	283.15	375,290.66	820,063.74	32.028565	-103.433919
7,700.00	3.41	73.30	7,691.09	86.66	288.85	375,292.37	820,069.45	32.028569	-103.433901
7,781.56	3.41	73.30	7,772.51	88.05	293.51	375,293.77	820,074.10	32.028573	-103.433886
EOH									
7,800.00	3.14	73.30	7,790.92	88.35	294.51	375,294.07	820,075.11	32.028574	-103.433883
7,900.00	1.64	73.30	7,890.83	89.55	298.51	375,295.27	820,079.10	32.028577	-103.433870
8,000.00	0.14	73.30	7,990.81	90.00	299.99	375,295.71	820,080.58	32.028578	-103.433865
8,009.19	0.00	0.00	8,000.00	90.00	300.00	375,295.72	820,080.59	32.028578	-103.433865
Drop to Vertical									
8,100.00	0.00	0.00	8,090.81	90.00	300.00	375,295.72	820,080.59	32.028578	-103.433865
8,200.00	0.00	0.00	8,190.81	90.00	300.00	375,295.72	820,080.59	32.028578	-103.433865
8,300.00	0.00	0.00	8,290.81	90.00	300.00	375,295.72	820,080.59	32.028578	-103.433865
8,400.00	0.00	0.00	8,390.81	90.00	300.00	375,295.72	820,080.59	32.028578	-103.433865
8,500.00	0.00	0.00	8,490.81	90.00	300.00	375,295.72	820,080.59	32.028578	-103.433865
8,600.00	0.00	0.00	8,590.81	90.00	300.00	375,295.72	820,080.59	32.028578	-103.433865
8,700.00	0.00	0.00	8,690.81	90.00	300.00	375,295.72	820,080.59	32.028578	-103.433865
8,800.00	0.00	0.00	8,790.81	90.00	300.00	375,295.72	820,080.59	32.028578	-103.433865
8,900.00	0.00	0.00	8,890.81	90.00	300.00	375,295.72	820,080.59	32.028578	-103.433865
9,000.00	0.00	0.00	8,990.81	90.00	300.00	375,295.72	820,080.59	32.028578	-103.433865
9,100.00	0.00	0.00	9,090.81	90.00	300.00	375,295.72	820,080.59	32.028578	-103.433865
9,200.00	0.00	0.00	9,190.81	90.00	300.00	375,295.72	820,080.59	32.028578	-103.433865
9,300.00	0.00	0.00	9,290.81	90.00	300.00	375,295.72	820,080.59	32.028578	-103.433865
9,400.00	0.00	0.00	9,390.81	90.00	300.00	375,295.72	820,080.59	32.028578	-103.433865
9,500.00	0.00	0.00	9,490.81	90.00	300.00	375,295.72	820,080.59	32.028578	-103.433865
9,600.00	0.00	0.00	9,590.81	90.00	300.00	375,295.72	820,080.59	32.028578	-103.433865
9,700.00	0.00	0.00	9,690.81	90.00	300.00	375,295.72	820,080.59	32.028578	-103.433865
9,800.00	0.00	0.00	9,790.81	90.00	300.00	375,295.72	820,080.59	32.028578	-103.433865

Planning Report - Geographic

Database:	EDM r5000.141_Prod US	Local Co-ordinate Reference	Well Mean Green 23-35 Fed Com 3H
Company:	WCDSC Permian NM	TVD Reference:	RKB @ 3224.80ft
Project:	Lea County (NAD83 New Mexico East)	MD Reference:	RKB @ 3224.80ft
Site:	Sec 23-T26S-R34E	North Reference:	Grid
Well:	Mean Green 23-35 Fed Com 3H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Permit Plan 1		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
9,900.00	0.00	0.00	9,890.81	90.00	300.00	375,295.72	820,080.59	32.028578	-103.433865
10,000.00	0.00	0.00	9,990.81	90.00	300.00	375,295.72	820,080.59	32.028578	-103.433865
10,100.00	0.00	0.00	10,090.81	90.00	300.00	375,295.72	820,080.59	32.028578	-103.433865
10,109.19	0.00	0.00	10,100.00	90.00	300.00	375,295.72	820,080.59	32.028578	-103.433865
KOP @ 10109' MD, 2539' FSL, 530' FEL									
10,200.00	8.63	35.79	10,190.47	95.53	303.99	375,301.25	820,084.58	32.028593	-103.433852
10,285.11	16.71	35.79	10,273.44	110.66	314.90	375,316.38	820,095.49	32.028634	-103.433816
EOB @ 35.79° TF									
10,300.00	15.61	38.99	10,287.74	113.95	317.41	375,319.67	820,098.00	32.028643	-103.433808
10,400.00	10.37	75.56	10,385.30	126.68	334.63	375,332.40	820,115.23	32.028678	-103.433752
10,500.00	12.25	124.61	10,483.57	122.89	352.13	375,328.61	820,132.72	32.028667	-103.433696
10,600.00	19.27	148.95	10,579.85	102.68	369.41	375,308.40	820,150.01	32.028611	-103.433641
10,700.00	27.76	159.77	10,671.51	66.61	386.01	375,272.33	820,166.61	32.028512	-103.433588
10,800.00	36.73	165.72	10,756.02	15.66	401.48	375,221.38	820,182.07	32.028371	-103.433539
10,826.23	39.11	166.88	10,776.71	0.00	405.29	375,205.72	820,185.88	32.028328	-103.433528
1st Take Point @ 10826' MD, 2449' FSL, 425' FEL									
10,900.00	45.88	169.58	10,831.07	-48.77	415.37	375,156.95	820,195.97	32.028194	-103.433496
11,000.00	55.13	172.39	10,894.61	-124.90	427.33	375,080.82	820,207.92	32.027984	-103.433460
11,100.00	64.43	174.62	10,944.89	-210.67	437.01	374,995.05	820,217.61	32.027748	-103.433431
11,200.00	73.76	176.53	10,980.54	-303.70	444.16	374,902.02	820,224.75	32.027493	-103.433410
11,300.00	83.11	178.27	11,000.57	-401.46	448.57	374,804.26	820,229.16	32.027224	-103.433399
11,373.74	90.00	179.50	11,005.00	-475.00	450.00	374,730.72	820,230.59	32.027022	-103.433396
Land Point									
11,400.00	90.00	179.50	11,005.00	-501.26	450.23	374,704.46	820,230.82	32.026949	-103.433396
11,500.00	90.00	179.50	11,005.00	-601.26	451.10	374,604.46	820,231.70	32.026675	-103.433396
11,600.00	90.00	179.50	11,005.00	-701.26	451.97	374,504.46	820,232.57	32.026400	-103.433396
11,700.00	90.00	179.50	11,005.00	-801.25	452.85	374,404.47	820,233.44	32.026125	-103.433396
11,800.00	90.00	179.50	11,005.00	-901.25	453.72	374,304.47	820,234.31	32.025850	-103.433396
11,900.00	90.00	179.50	11,005.00	-1,001.24	454.59	374,204.48	820,235.19	32.025575	-103.433395
12,000.00	90.00	179.50	11,005.00	-1,101.24	455.47	374,104.48	820,236.06	32.025300	-103.433395
12,100.00	90.00	179.50	11,005.00	-1,201.24	456.34	374,004.48	820,236.93	32.025025	-103.433395
12,200.00	90.00	179.50	11,005.00	-1,301.23	457.21	373,904.49	820,237.80	32.024750	-103.433395
12,300.00	90.00	179.50	11,005.00	-1,401.23	458.08	373,804.49	820,238.68	32.024476	-103.433395
12,400.00	90.00	179.50	11,005.00	-1,501.23	458.96	373,704.50	820,239.55	32.024201	-103.433395
12,500.00	90.00	179.50	11,005.00	-1,601.22	459.83	373,604.50	820,240.42	32.023926	-103.433395
12,600.00	90.00	179.50	11,005.00	-1,701.22	460.70	373,504.50	820,241.30	32.023651	-103.433395
12,700.00	90.00	179.50	11,005.00	-1,801.21	461.57	373,404.51	820,242.17	32.023376	-103.433394
12,800.00	90.00	179.50	11,005.00	-1,901.21	462.45	373,304.51	820,243.04	32.023101	-103.433394
12,900.00	90.00	179.50	11,005.00	-2,001.21	463.32	373,204.52	820,243.91	32.022826	-103.433394
13,000.00	90.00	179.50	11,005.00	-2,101.20	464.19	373,104.52	820,244.79	32.022551	-103.433394
13,100.00	90.00	179.50	11,005.00	-2,201.20	465.06	373,004.52	820,245.66	32.022277	-103.433394
13,200.00	90.00	179.50	11,005.00	-2,301.19	465.94	372,904.53	820,246.53	32.022002	-103.433394
13,300.00	90.00	179.50	11,005.00	-2,401.19	466.81	372,804.53	820,247.40	32.021727	-103.433394
13,400.00	90.00	179.50	11,005.00	-2,501.19	467.68	372,704.54	820,248.28	32.021452	-103.433393
13,500.00	90.00	179.50	11,005.00	-2,601.18	468.55	372,604.54	820,249.15	32.021177	-103.433393
13,600.00	90.00	179.50	11,005.00	-2,701.18	469.43	372,504.54	820,250.02	32.020902	-103.433393
13,700.00	90.00	179.50	11,005.00	-2,801.18	470.30	372,404.55	820,250.89	32.020627	-103.433393
13,800.00	90.00	179.50	11,005.00	-2,901.17	471.17	372,304.55	820,251.77	32.020352	-103.433393
13,900.00	90.00	179.50	11,005.00	-3,001.17	472.05	372,204.56	820,252.64	32.020078	-103.433393
14,000.00	90.00	179.50	11,005.00	-3,101.16	472.92	372,104.56	820,253.51	32.019803	-103.433393
14,100.00	90.00	179.50	11,005.00	-3,201.16	473.79	372,004.56	820,254.38	32.019528	-103.433393
14,200.00	90.00	179.50	11,005.00	-3,301.16	474.66	371,904.57	820,255.26	32.019253	-103.433392
14,300.00	90.00	179.50	11,005.00	-3,401.15	475.54	371,804.57	820,256.13	32.018978	-103.433392

Planning Report - Geographic

Database: EDM r5000.141_Prod US
 Company: WCDSC Permian NM
 Project: Lea County (NAD83 New Mexico East)
 Site: Sec 23-T26S-R34E
 Well: Mean Green 23-35 Fed Com 3H
 Wellbore: Wellbore #1
 Design: Permit Plan 1

Local Co-ordinate Reference
 TVD Reference: RKB @ 3224.80ft
 MD Reference: RKB @ 3224.80ft
 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	
14,400.00	90.00	179.50	11,005.00	-3,501.15	476.41	371,704.58	820,257.00	32.018703	-103.433392	
14,500.00	90.00	179.50	11,005.00	-3,601.15	477.28	371,604.58	820,257.88	32.018428	-103.433392	
14,600.00	90.00	179.50	11,005.00	-3,701.14	478.15	371,504.58	820,258.75	32.018153	-103.433392	
14,700.00	90.00	179.50	11,005.00	-3,801.14	479.03	371,404.59	820,259.62	32.017879	-103.433392	
14,800.00	90.00	179.50	11,005.00	-3,901.13	479.90	371,304.59	820,260.49	32.017604	-103.433392	
14,900.00	90.00	179.50	11,005.00	-4,001.13	480.77	371,204.60	820,261.37	32.017329	-103.433392	
15,000.00	90.00	179.50	11,005.00	-4,101.13	481.64	371,104.60	820,262.24	32.017054	-103.433391	
15,100.00	90.00	179.50	11,005.00	-4,201.12	482.52	371,004.60	820,263.11	32.016779	-103.433391	
15,200.00	90.00	179.50	11,005.00	-4,301.12	483.39	370,904.61	820,263.98	32.016504	-103.433391	
15,300.00	90.00	179.50	11,005.00	-4,401.11	484.26	370,804.61	820,264.86	32.016229	-103.433391	
15,400.00	90.00	179.50	11,005.00	-4,501.11	485.14	370,704.62	820,265.73	32.015954	-103.433391	
15,500.00	90.00	179.50	11,005.00	-4,601.11	486.01	370,604.62	820,266.60	32.015680	-103.433391	
15,600.00	90.00	179.50	11,005.00	-4,701.10	486.88	370,504.62	820,267.47	32.015405	-103.433391	
15,700.00	90.00	179.50	11,005.00	-4,801.10	487.75	370,404.63	820,268.35	32.015130	-103.433391	
15,800.00	90.00	179.50	11,005.00	-4,901.10	488.63	370,304.63	820,269.22	32.014855	-103.433390	
15,900.00	90.00	179.50	11,005.00	-5,001.09	489.50	370,204.64	820,270.09	32.014580	-103.433390	
16,000.00	90.00	179.50	11,005.00	-5,101.09	490.37	370,104.64	820,270.97	32.014305	-103.433390	
16,100.00	90.00	179.50	11,005.00	-5,201.08	491.24	370,004.64	820,271.84	32.014030	-103.433390	
16,200.00	90.00	179.50	11,005.00	-5,301.08	492.12	369,904.65	820,272.71	32.013755	-103.433390	
16,300.00	90.00	179.50	11,005.00	-5,401.08	492.99	369,804.65	820,273.58	32.013481	-103.433390	
16,400.00	90.00	179.50	11,005.00	-5,501.07	493.86	369,704.66	820,274.46	32.013206	-103.433390	
16,500.00	90.00	179.50	11,005.00	-5,601.07	494.73	369,604.66	820,275.33	32.012931	-103.433390	
16,600.00	90.00	179.50	11,005.00	-5,701.07	495.61	369,504.66	820,276.20	32.012656	-103.433389	
16,700.00	90.00	179.50	11,005.00	-5,801.06	496.48	369,404.67	820,277.07	32.012381	-103.433389	
16,800.00	90.00	179.50	11,005.00	-5,901.06	497.35	369,304.67	820,277.95	32.012106	-103.433389	
16,900.00	90.00	179.50	11,005.00	-6,001.05	498.23	369,204.68	820,278.82	32.011831	-103.433389	
17,000.00	90.00	179.50	11,005.00	-6,101.05	499.10	369,104.68	820,279.69	32.011556	-103.433389	
17,100.00	90.00	179.50	11,005.00	-6,201.05	499.97	369,004.68	820,280.56	32.011282	-103.433389	
17,200.00	90.00	179.50	11,005.00	-6,301.04	500.84	368,904.69	820,281.44	32.011007	-103.433389	
17,300.00	90.00	179.50	11,005.00	-6,401.04	501.72	368,804.69	820,282.31	32.010732	-103.433388	
17,400.00	90.00	179.50	11,005.00	-6,501.03	502.59	368,704.70	820,283.18	32.010457	-103.433388	
17,500.00	90.00	179.50	11,005.00	-6,601.03	503.46	368,604.70	820,284.06	32.010182	-103.433388	
17,600.00	90.00	179.50	11,005.00	-6,701.03	504.33	368,504.70	820,284.93	32.009907	-103.433388	
17,700.00	90.00	179.50	11,005.00	-6,801.02	505.21	368,404.71	820,285.80	32.009632	-103.433388	
17,800.00	90.00	179.50	11,005.00	-6,901.02	506.08	368,304.71	820,286.67	32.009357	-103.433388	
17,900.00	90.00	179.50	11,005.00	-7,001.02	506.95	368,204.72	820,287.55	32.009083	-103.433388	
18,000.00	90.00	179.50	11,005.00	-7,101.01	507.82	368,104.72	820,288.42	32.008808	-103.433388	
18,100.00	90.00	179.50	11,005.00	-7,201.01	508.70	368,004.72	820,289.29	32.008533	-103.433387	
18,200.00	90.00	179.50	11,005.00	-7,301.00	509.57	367,904.73	820,290.16	32.008258	-103.433387	
18,300.00	90.00	179.50	11,005.00	-7,401.00	510.44	367,804.73	820,291.04	32.007983	-103.433387	
18,400.00	90.00	179.50	11,005.00	-7,501.00	511.31	367,704.74	820,291.91	32.007708	-103.433387	
18,500.00	90.00	179.50	11,005.00	-7,600.99	512.19	367,604.74	820,292.78	32.007433	-103.433387	
18,600.00	90.00	179.50	11,005.00	-7,700.99	513.06	367,504.74	820,293.65	32.007158	-103.433387	
18,700.00	90.00	179.50	11,005.00	-7,800.99	513.93	367,404.75	820,294.53	32.006884	-103.433387	
18,800.00	90.00	179.50	11,005.00	-7,900.98	514.81	367,304.75	820,295.40	32.006609	-103.433387	
18,900.00	90.00	179.50	11,005.00	-8,000.98	515.68	367,204.76	820,296.27	32.006334	-103.433386	
19,000.00	90.00	179.50	11,005.00	-8,100.97	516.55	367,104.76	820,297.14	32.006059	-103.433386	
19,100.00	90.00	179.50	11,005.00	-8,200.97	517.42	367,004.76	820,298.02	32.005784	-103.433386	
19,200.00	90.00	179.50	11,005.00	-8,300.97	518.30	366,904.77	820,298.89	32.005509	-103.433386	
19,300.00	90.00	179.50	11,005.00	-8,400.96	519.17	366,804.77	820,299.76	32.005234	-103.433386	
19,400.00	90.00	179.50	11,005.00	-8,500.96	520.04	366,704.78	820,300.64	32.004959	-103.433386	
19,500.00	90.00	179.50	11,005.00	-8,600.95	520.91	366,604.78	820,301.51	32.004685	-103.433386	
19,600.00	90.00	179.50	11,005.00	-8,700.95	521.79	366,504.78	820,302.38	32.004410	-103.433386	
19,700.00	90.00	179.50	11,005.00	-8,800.95	522.66	366,404.79	820,303.25	32.004135	-103.433385	

Planning Report - Geographic

Database: EDM r5000.141_Prod US
 Company: WCDSC Permian NM
 Project: Lea County (NAD83 New Mexico East)
 Site: Sec 23-T26S-R34E
 Well: Mean Green 23-35 Fed Com 3H
 Wellbore: Wellbore #1
 Design: Permit Plan 1

Local Co-ordinate Reference
 TVD Reference:
 MD Reference:
 North Reference:
 Survey Calculation Method:

Well Mean Green 23-35 Fed Com 3H
 RKB @ 3224.80ft
 RKB @ 3224.80ft
 Grid
 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
19,800.00	90.00	179.50	11,005.00	-8,900.94	523.53	366,304.79	820,304.13	32.003860	-103.433385
19,900.00	90.00	179.50	11,005.00	-9,000.94	524.40	366,204.80	820,305.00	32.003585	-103.433385
20,000.00	90.00	179.50	11,005.00	-9,100.94	525.28	366,104.80	820,305.87	32.003310	-103.433385
20,100.00	90.00	179.50	11,005.00	-9,200.93	526.15	366,004.80	820,306.74	32.003035	-103.433385
20,200.00	90.00	179.50	11,005.00	-9,300.93	527.02	365,904.81	820,307.62	32.002760	-103.433385
20,300.00	90.00	179.50	11,005.00	-9,400.92	527.90	365,804.81	820,308.49	32.002486	-103.433385
20,400.00	90.00	179.50	11,005.00	-9,500.92	528.77	365,704.82	820,309.36	32.002211	-103.433384
20,500.00	90.00	179.50	11,005.00	-9,600.92	529.64	365,604.82	820,310.23	32.001936	-103.433384
20,600.00	90.00	179.50	11,005.00	-9,700.91	530.51	365,504.82	820,311.11	32.001661	-103.433384
20,700.00	90.00	179.50	11,005.00	-9,800.91	531.39	365,404.83	820,311.98	32.001386	-103.433384
20,767.67	90.00	179.50	11,005.00	-9,868.58	531.98	365,337.16	820,312.57	32.001200	-103.433384
Last Take Point @ 20768' MD, 330' FSL, 380' FEL									
20,800.00	90.00	179.50	11,005.00	-9,900.91	532.26	365,304.83	820,312.85	32.001111	-103.433384
20,897.67	90.00	179.50	11,005.00	-9,998.57	533.11	365,207.17	820,313.70	32.000843	-103.433384
PBHL; 200' FSL, 380' FEL									

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
PBHL-Mean Green 23-3	0.00	0.00	0.00	-9,998.35	537.31	365,207.39	820,317.91	32.000843	-103.433370
- plan misses target center by 10012.78ft at 0.00ft MD (0.00 TVD, 0.00 N, 0.00 E)									
- Point									
Vertical Point - Mean Gr	0.00	0.00	8,000.00	150.00	300.00	375,355.72	820,080.59	32.028743	-103.433863
- plan misses target center by 60.00ft at 8009.19ft MD (8000.00 TVD, 90.00 N, 300.00 E)									
- Point									

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
2,500.00	2,500.00	0.00	0.00	Begin Nudge
2,773.16	2,773.00	2.34	7.79	EOB
7,781.56	7,772.51	88.05	293.51	EOH
8,009.19	8,000.00	90.00	300.00	Drop to Vertical
10,109.19	10,100.00	90.00	300.00	KOP @ 10109' MD, 2539' FSL, 530' FEL
10,285.11	10,273.44	110.66	314.90	EOB @ 35.79° TF
10,826.23	10,776.71	0.00	405.29	1st Take Point @ 10826' MD, 2449' FSL, 425' FEL
11,373.74	11,005.00	-475.00	450.00	Land Point
20,767.67	11,005.00	-9,868.58	531.98	Last Take Point @ 20768' MD, 330' FSL, 380' FEL
20,897.67	11,005.00	-9,998.57	533.11	PBHL; 200' FSL, 380' FEL

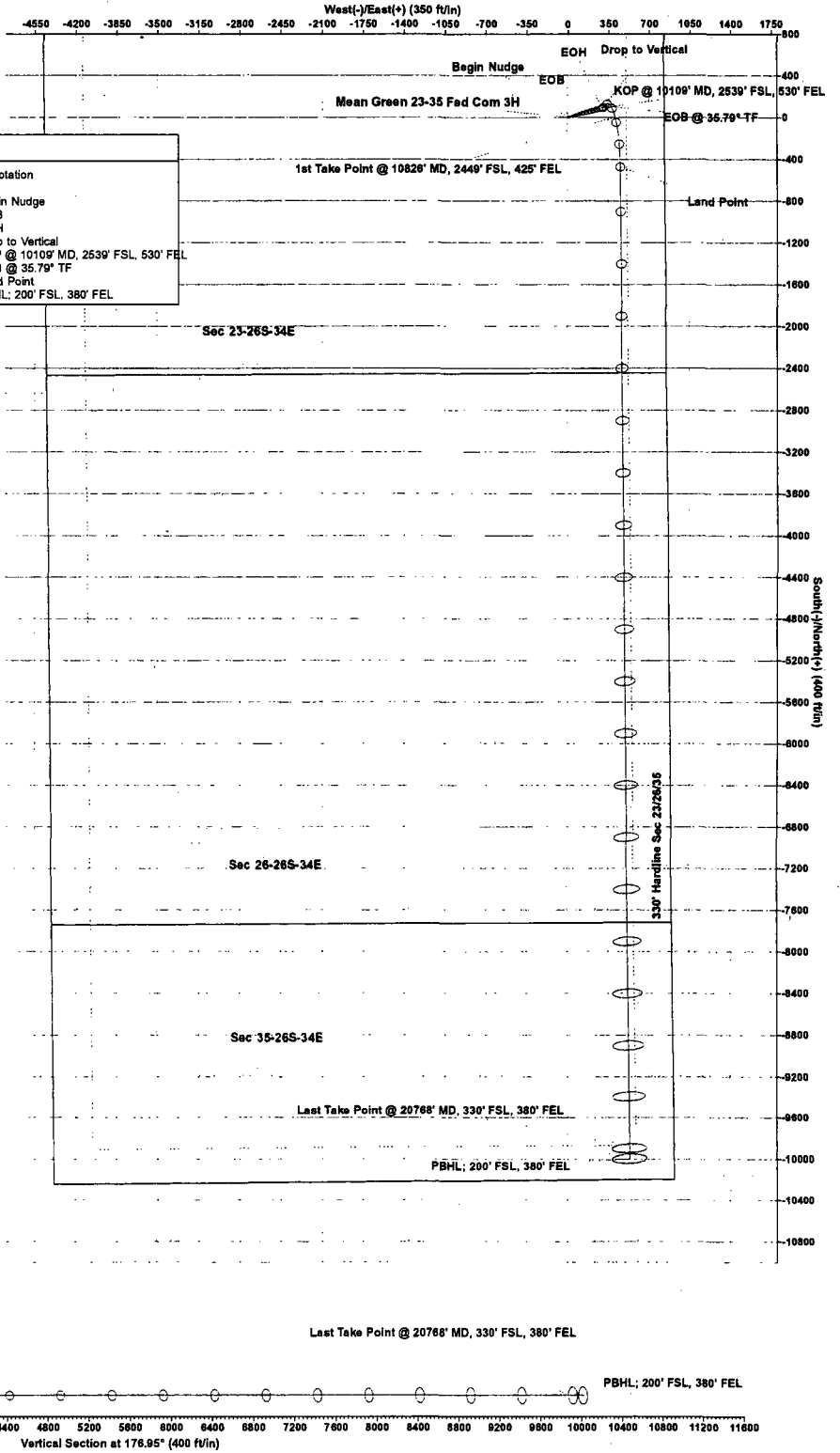
WCDSC Permian NM

WELL DETAILS: Mean Green 23-35 Fed Com 3H

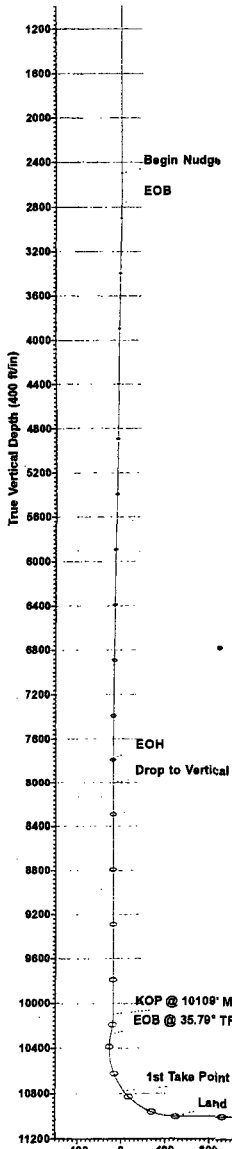
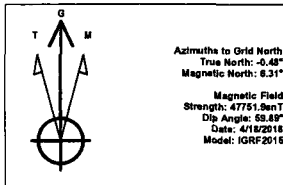
RKB @ 3224.80ft
3192.70
Northing 375205.72 Easting 819780.80 Latitude 32.028337 Longitude -103.434835

SECTION DETAILS Permit Plan 1

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dieg	Vsect	Annotation
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2500.00	0.00	0.00	2500.00	0.00	0.00	0.00	0.00	Begin Nudge
2773.16	3.41	73.30	2773.00	2.34	7.79	1.25	-1.62	EOB
7781.56	3.41	73.30	7772.50	88.05	293.51	0.00	-72.30	EOH
8008.19	0.00	0.00	8000.00	90.00	300.00	1.50	-73.90	Drop to Vertical
10109.19	0.00	0.00	10100.00	90.00	300.00	0.00	-73.90	KOP @ 10109' MD, 2539' FSL, 530' FEL
10285.11	16.71	35.79	10273.44	110.66	314.90	9.50	-93.74	EOB @ 35.79° TF
11373.74	90.00	179.50	11005.00	-475.00	450.00	9.50	498.29	Land Point
20897.67	90.00	179.50	11005.00	-9998.57	533.11	0.00	10012.78	PBHL: 200' FSL, 380' FEL



devon



South(North) (400 ft/in)

Vertical Section at 178.95° (400 ft/in)

WCDSC Permian NM

Lea County (NAD83 New Mexico East)

Sec 23-T26S-R34E

Mean Green 23-35 Fed Com 3H

Wellbore #1

Permit Plan 1

Anticollision Report

30 April, 2018

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference	Well Mean Green 23-35 Fed Com 3H
Project:	Lea County (NAD83 New Mexico East)	TVD Reference:	RKB @ 3224.80ft
Reference Site:	Sec 23-T26S-R34E	MD Reference:	RKB @ 3224.80ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Mean Green 23-35 Fed Com 3H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Reference	Permit Plan 1
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria
Interpolation Method	MD Interval 100.00ft
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	4/30/2018		
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.00	20,897.67	Permit Plan 1 (Wellbore #1)	MWD+HDGM	OWSG MWD + HDGM

Summary						
Site Name	Reference Measure	Offset Measure	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation	Warning
Offset Well - Wellbore - Design						
Sec 23-T26S-R34E						
Mean Green 23 FED 1H - Original Hole - Actuals	9,119.10	11,580.46	168.32	78.10	1.866	Minor Risk, CC, ES, SF
Mean Green 23 FED 1H - Original Hole - Plan 1	9,119.21	11,455.11	149.36	117.15	4.638	Alert, CC, ES, SF
Mean Green 23 FED 1H - Original Hole - T&D						Out of range
Mean Green 23-35 Fed Com 1H - Wellbore #1 - Permit PI	2,500.00	2,500.00	60.03	42.55	3.434	Alert, CC, ES
Mean Green 23-35 Fed Com 1H - Wellbore #1 - Permit PI	2,600.00	2,600.01	61.08	42.89	3.358	Alert, SF
Mean Green 23-35 Fed Com 2H - Wellbore #1 - Permit PI	2,500.00	2,506.50	30.05	12.53	1.716	Minor Risk, CC, ES
Mean Green 23-35 Fed Com 2H - Wellbore #1 - Permit PI	8,400.00	8,405.92	100.52	40.52	1.675	Minor Risk, SF
Mean Green 23-35 Fed Com 4H - Wellbore #1 - Permit PI	2,500.00	2,500.00	90.03	72.55	5.151	CC, ES
Mean Green 23-35 Fed Com 4H - Wellbore #1 - Permit PI	20,897.67	20,699.35	779.02	487.00	2.668	Alert, SF
Sec 26-26S-34E						
Hondo Federal 1 - Wellbore #1 - Wellbore #1						Out of range
Mean Green 26 FED 1H - Original Hole - Original Hole						Out of range
Mean Green 26 FED 1H - Original Hole - Plan 1 v3						Out of range
Mean Green 26 FED 1H - Original Hole - Plan 3v1						Out of range
Mean Green 26 FED 1H - Original Hole - PTL						Out of range
Mean Green 26 FED 1H - Original Hole - T&D						Out of range
Rattlesnake Federal Unit 1 - Wellbore #1 - Wellbore #1						Out of range

Offset Design														Offset Site Error: 0.00 ft	
Sec 23-T26S-R34E - Mean Green 23 FED 1H - Original Hole - Actuals														Offset Well Error: 0.00 ft	
Survey Program: 149-GYRO-NS, 8818-MWD+IGRF															
Reference		Offset		Semi Major Axis		Offset Wellbore Centre		Distance		Minimum Separation		Warning			
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Separation (ft)	Factor			
7,700.00	7,691.09	11,586.31	9,133.08	27.45	58.39	23.82	98.76	468.19	1,430.13	1,394.60	35.53	40.255			
7,800.00	7,790.92	11,587.39	9,133.07	27.82	58.41	21.82	99.84	468.17	1,330.39	1,294.50	35.88	37.076			
7,900.00	7,890.83	11,587.92	9,133.07	28.18	58.42	16.37	100.37	468.16	1,230.84	1,194.55	36.29	33.918			
8,000.00	7,990.81	11,587.67	9,133.07	28.53	58.41	13.47	100.12	468.17	1,131.67	1,094.89	36.78	30.767			
8,100.00	8,090.81	11,586.98	9,133.07	28.88	58.40	86.79	99.43	468.18	1,032.89	995.51	37.38	27.632			
8,200.00	8,190.81	11,586.29	9,133.08	29.23	58.39	87.02	98.74	468.19	934.37	896.27	38.10	24.525			
8,300.00	8,290.81	11,585.62	9,133.08	29.58	58.38	87.25	98.07	468.20	836.20	797.22	38.99	21.449			
8,400.00	8,390.81	11,584.95	9,133.09	29.93	58.37	87.48	97.41	468.21	738.52	698.40	40.13	18.404			
8,500.00	8,490.81	11,584.30	9,133.09	30.28	58.36	87.70	96.75	468.22	641.56	599.89	41.67	15.397			

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

Anticollision Report

Company: WCDSC Permian NM
Project: Lea County (NAD83 New Mexico East)
Reference Site: Sec 23-T26S-R34E
Site Error: 0.00 ft
Reference Well: Mean Green 23-35 Fed Com 3H
Well Error: 0.50 ft
Reference Wellbore: Wellbore #1
Reference Design: Permit Plan 1

Local Co-ordinate Reference: Well Mean Green 23-35 Fed Com 3H
TVD Reference: RKB @ 3224.80ft
MD Reference: RKB @ 3224.80ft
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 23-T26S-R34E - Mean Green 23 FED 1H - Original Hole - Actuals													Offset Site Error:
Survey Program: 149-GYRO-NS, 8618-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)	Offset Wellbore Centre E-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
8,600.00	8,590.81	11,583.66	9,133.10	30.63	58.35	87.92	96.11	468.24	545.70	501.83	43.86	12.441	
8,700.00	8,690.81	11,583.03	9,133.10	30.98	58.34	88.14	95.48	468.25	451.83	404.45	47.18	9.572	
8,800.00	8,790.81	11,582.40	9,133.10	31.33	58.33	88.35	94.86	468.26	360.77	308.23	52.53	6.867	
8,900.00	8,890.81	11,581.79	9,133.11	31.68	58.32	88.56	94.24	468.27	276.29	214.73	61.56	4.488	Alert
9,000.00	8,990.81	11,581.19	9,133.11	32.03	58.31	88.76	93.64	468.28	206.19	130.16	76.04	2.712	Alert
9,100.00	9,090.81	11,580.60	9,133.11	32.38	58.30	88.96	93.05	468.29	169.40	79.82	89.57	1.891	Minor Risk
9,119.10	9,109.91	11,580.48	9,133.11	32.45	58.30	89.00	92.94	468.29	168.32	78.10	90.22	1.866	Minor Risk, CC, ES, SF
9,200.00	9,190.81	11,580.01	9,133.12	32.73	58.29	89.16	92.46	468.30	186.75	103.09	83.66	2.232	Minor Risk
9,300.00	9,290.81	11,579.44	9,133.12	33.09	58.28	89.36	91.89	468.31	247.09	178.35	68.74	3.594	Alert
9,400.00	9,390.81	11,578.87	9,133.12	33.44	58.27	89.55	91.32	468.32	327.46	269.17	58.30	5.617	
9,500.00	9,490.81	11,578.31	9,133.13	33.79	58.26	89.74	90.77	468.33	416.42	364.20	52.23	7.973	
9,600.00	9,590.81	11,577.76	9,133.13	34.14	58.25	89.93	90.22	468.34	509.50	460.80	48.70	10.462	
9,700.00	9,690.81	11,577.22	9,133.13	34.49	58.24	90.11	89.68	468.35	604.78	558.20	46.59	12.982	
9,800.00	9,790.81	11,576.69	9,133.14	34.84	58.23	90.29	89.14	468.36	701.38	656.09	45.29	15.486	
9,900.00	9,890.81	11,576.16	9,133.14	35.20	58.22	90.47	88.62	468.37	798.82	754.33	44.49	17.954	
10,000.00	9,990.81	11,575.65	9,133.14	35.55	58.22	90.65	88.10	468.38	896.82	852.81	44.01	20.379	
10,100.00	10,090.81	11,575.14	9,133.15	35.90	58.21	90.82	87.59	468.38	995.22	951.49	43.73	22.757	
10,200.00	10,190.47	11,579.66	9,133.12	36.26	58.28	28.01	92.11	468.31	1,092.98	1,049.44	43.53	25.106	
10,300.00	10,287.74	11,595.75	9,133.02	36.63	58.54	16.63	108.20	468.03	1,187.53	1,144.17	43.36	27.390	
10,400.00	10,385.30	11,607.12	9,132.93	37.01	58.73	6.45	119.57	467.83	1,282.53	1,239.27	43.26	29.646	
10,500.00	10,483.57	11,602.34	9,132.97	37.38	58.65	-8.63	114.79	467.91	1,378.70	1,335.52	43.18	31.927	
10,600.00	10,579.85	11,583.01	9,133.10	37.73	58.34	-8.54	95.46	468.25	1,473.29	1,430.19	43.10	34.187	

Anticollision Report

Company: WCDSC Permian NM
 Project: Lea County (NAD83 New Mexico East)
 Reference Site: Sec 23-T26S-R34E
 Site Error: 0.00 ft
 Reference Well: Mean Green 23-35 Fed Com 3H
 Well Error: 0.50 ft
 Reference Wellbore: Wellbore #1
 Reference Design: Permit Plan 1

Local Co-ordinate Reference
 TVD Reference:
 MD Reference:
 North Reference:
 Survey Calculation Method:
 Output errors are at
 Database:
 Offset TVD Reference:

Well Mean Green 23-35 Fed Com 3H
 RKB @ 3224.80ft
 RKB @ 3224.80ft
 Grid
 Minimum Curvature
 2.00 sigma
 EDM r5000.141_Prod US
 Offset Datum

Offset Design Sec 23-T26S-R34E - Mean Green 23 FED 1H - Original Hole - Plan 1														Offset Site Error: 0.00 ft	
Survey Program: O-GYRO														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)		
7,700.00	7,691.09	11,456.57	9,133.22	27.45	0.00	29.67	92.76	449.34	1,427.99	1,415.16	12.82	111.360			
7,800.00	7,790.92	11,457.89	9,133.21	27.82	0.00	26.71	94.08	449.33	1,328.16	1,315.08	13.08	101.527			
7,900.00	7,890.83	11,458.72	9,133.21	28.18	0.00	18.98	94.91	449.32	1,228.49	1,215.13	13.35	92.004			
8,000.00	7,990.81	11,458.82	9,133.21	28.53	0.00	15.04	95.01	449.32	1,129.13	1,115.48	13.64	82.764			
8,100.00	8,090.81	11,458.49	9,133.21	28.88	0.00	88.20	94.68	449.32	1,030.09	1,016.13	13.96	73.808			
8,200.00	8,190.81	11,458.16	9,133.21	29.23	0.00	88.33	94.35	449.32	931.26	916.96	14.30	65.138			
8,300.00	8,290.81	11,457.83	9,133.21	29.58	0.00	88.46	94.02	449.33	832.71	818.04	14.67	56.747			
8,400.00	8,390.81	11,457.50	9,133.22	29.93	0.00	88.59	93.69	449.33	734.55	719.44	15.11	48.620			
8,500.00	8,490.81	11,457.17	9,133.22	30.28	0.00	88.71	93.36	449.33	636.96	621.33	15.63	40.746			
8,600.00	8,590.81	11,456.84	9,133.22	30.63	0.00	88.84	93.03	449.33	540.26	523.95	16.31	33.120			
8,700.00	8,690.81	11,456.50	9,133.22	30.98	0.00	88.97	92.69	449.34	445.02	427.74	17.28	25.759			
8,800.00	8,790.81	11,456.17	9,133.22	31.33	0.00	89.09	92.36	449.34	352.42	333.62	18.80	18.747			
8,900.00	8,890.81	11,455.84	9,133.22	31.68	0.00	89.22	92.03	449.34	265.25	243.77	21.48	12.346			
9,000.00	8,990.81	11,455.51	9,133.22	32.03	0.00	89.35	91.70	449.35	191.10	164.75	26.34	7.254			
9,100.00	9,090.81	11,455.18	9,133.22	32.38	0.00	89.48	91.37	449.35	150.59	118.74	31.84	4.729 Alert			
9,119.21	9,110.03	11,455.11	9,133.22	32.45	0.00	89.50	91.30	449.35	149.36	117.15	32.20	4.638 Alert, CC, ES, SF			
9,200.00	9,190.81	11,454.85	9,133.22	32.73	0.00	89.60	91.04	449.35	169.81	139.80	30.01	5.659			
9,300.00	9,290.81	11,454.52	9,133.23	33.09	0.00	89.73	90.70	449.35	234.50	209.34	25.17	9.318			
9,400.00	9,390.81	11,454.18	9,133.23	33.44	0.00	89.86	90.37	449.36	318.04	295.77	22.27	14.278			
9,500.00	9,490.81	11,453.85	9,133.23	33.79	0.00	89.98	90.04	449.36	409.03	388.19	20.84	19.627			
9,600.00	9,590.81	11,453.52	9,133.23	34.14	0.00	90.11	89.71	449.36	503.45	483.30	20.15	24.982			
9,700.00	9,690.81	11,453.19	9,133.23	34.49	0.00	90.24	89.38	449.37	599.68	579.83	19.85	30.211			
9,800.00	9,790.81	11,452.86	9,133.23	34.84	0.00	90.37	89.05	449.37	696.98	677.22	19.76	35.271			
9,900.00	9,890.81	11,452.53	9,133.23	35.20	0.00	90.49	88.71	449.37	794.94	775.14	19.80	40.153			
10,000.00	9,990.81	11,452.19	9,133.23	35.55	0.00	90.62	88.38	449.38	893.36	873.44	19.91	44.861			
10,100.00	10,090.81	11,451.86	9,133.23	35.90	0.00	90.75	88.05	449.38	992.09	972.01	20.08	49.400			
10,200.00	10,190.47	11,457.03	9,133.22	36.26	0.00	26.02	93.22	449.33	1,090.19	1,069.93	20.26	53.811			
10,300.00	10,287.74	11,475.01	9,133.16	36.63	0.00	14.78	111.20	449.18	1,185.14	1,164.73	20.41	58.066			
10,400.00	10,385.30	11,487.27	9,133.12	37.01	0.00	5.35	123.45	449.07	1,280.51	1,259.91	20.60	62.151			
10,500.00	10,483.57	11,483.00	9,133.13	37.38	0.00	-7.97	119.18	449.11	1,377.07	1,356.24	20.83	66.114			
10,600.00	10,579.85	11,482.32	9,133.20	37.73	0.00	-7.16	98.51	449.29	1,472.03	1,450.96	21.07	69.875			

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

Anticollision Report

Company: WCDSC Permian NM
 Project: Lea County (NAD83 New Mexico East)
 Reference Site: Sec 23-T26S-R34E
 Site Error: 0.00 ft
 Reference Well: Mean Green 23-35 Fed Com 3H
 Well Error: 0.50 ft
 Reference Wellbore: Wellbore #1
 Reference Design: Permit Plan 1

Local Co-ordinate Reference
 TVD Reference: RKB @ 3224.80ft
 MD Reference: RKB @ 3224.80ft
 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 23-T26S-R34E - Mean Green 23-35 Fed Com 1H - Wellbore #1 - Permit Plan 1														Offset Site Error: 0.00 ft
Survey Program: 0-MWD+HDGM														Offset Well Error: 0.50 ft
Reference	Offset	Semi Major Axis		Distance		Minimum		Separation		Warning				
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
0.00	0.00	0.00	0.00	0.50	0.50	-90.28	-0.29	-60.03	60.03					
100.00	100.00	100.00	100.00	0.51	0.51	-90.28	-0.29	-60.03	60.03	59.00	1.03	58.307		
200.00	200.00	200.00	200.00	0.69	0.69	-90.28	-0.29	-60.03	60.03	58.64	1.39	43.264		
300.00	300.00	300.00	300.00	0.98	0.98	-90.28	-0.29	-60.03	60.03	58.08	1.95	30.720		
400.00	400.00	400.00	400.00	1.30	1.30	-90.28	-0.29	-60.03	60.03	57.44	2.60	23.123		
500.00	500.00	500.00	500.00	1.63	1.64	-90.28	-0.29	-60.03	60.03	56.76	3.27	18.361		
600.00	600.00	600.00	600.00	1.98	1.98	-90.28	-0.29	-60.03	60.03	56.07	3.96	15.167		
700.00	700.00	700.00	700.00	2.33	2.33	-90.28	-0.29	-60.03	60.03	55.38	4.66	12.895		
800.00	800.00	800.00	800.00	2.68	2.68	-90.28	-0.29	-60.03	60.03	54.67	5.36	11.205		
900.00	900.00	900.00	900.00	3.03	3.03	-90.28	-0.29	-60.03	60.03	53.97	6.06	9.900		
1,000.00	1,000.00	1,000.00	1,000.00	3.39	3.39	-90.28	-0.29	-60.03	60.03	53.26	6.77	8.865		
1,100.00	1,100.00	1,100.00	1,100.00	3.74	3.74	-90.28	-0.29	-60.03	60.03	52.55	7.48	8.024		
1,200.00	1,200.00	1,200.00	1,200.00	4.10	4.10	-90.28	-0.29	-60.03	60.03	51.84	8.19	7.328		
1,300.00	1,300.00	1,300.00	1,300.00	4.45	4.45	-90.28	-0.29	-60.03	60.03	51.13	8.90	6.742		
1,400.00	1,400.00	1,400.00	1,400.00	4.81	4.81	-90.28	-0.29	-60.03	60.03	50.41	9.62	6.242		
1,500.00	1,500.00	1,500.00	1,500.00	5.16	5.17	-90.28	-0.29	-60.03	60.03	49.70	10.33	5.811		
1,600.00	1,600.00	1,600.00	1,600.00	5.52	5.52	-90.28	-0.29	-60.03	60.03	48.99	11.04	5.435		
1,700.00	1,700.00	1,700.00	1,700.00	5.88	5.88	-90.28	-0.29	-60.03	60.03	48.27	11.76	5.105		
1,800.00	1,800.00	1,800.00	1,800.00	6.24	6.24	-90.28	-0.29	-60.03	60.03	47.56	12.47	4.813 Alert		
1,900.00	1,900.00	1,900.00	1,900.00	6.59	6.59	-90.28	-0.29	-60.03	60.03	46.84	13.19	4.552 Alert		
2,000.00	2,000.00	2,000.00	2,000.00	6.95	6.95	-90.28	-0.29	-60.03	60.03	46.13	13.90	4.318 Alert		
2,100.00	2,100.00	2,100.00	2,100.00	7.31	7.31	-90.28	-0.29	-60.03	60.03	45.41	14.62	4.107 Alert		
2,200.00	2,200.00	2,200.00	2,200.00	7.67	7.67	-90.28	-0.29	-60.03	60.03	44.70	15.33	3.915 Alert		
2,300.00	2,300.00	2,300.00	2,300.00	8.02	8.03	-90.28	-0.29	-60.03	60.03	43.98	16.05	3.741 Alert		
2,400.00	2,400.00	2,400.00	2,400.00	8.38	8.38	-90.28	-0.29	-60.03	60.03	43.27	16.76	3.581 Alert		
2,500.00	2,500.00	2,500.00	2,500.00	8.74	8.74	-90.28	-0.29	-60.03	60.03	42.55	17.48	3.434 Alert, CC, ES		
2,600.00	2,599.99	2,600.01	2,599.99	9.09	9.10	-163.86	-0.29	-60.03	61.08	42.89	18.19	3.358 Alert, SF		
2,700.00	2,699.94	2,700.06	2,699.94	9.44	9.46	-164.67	-0.29	-60.03	64.23	45.34	18.89	3.400 Alert		
2,800.00	2,799.79	2,800.21	2,799.79	9.79	9.82	-165.83	-0.29	-60.03	69.42	49.83	19.60	3.542 Alert		
2,900.00	2,899.61	2,900.39	2,899.61	10.14	10.17	-166.94	-0.29	-60.03	75.21	54.91	20.30	3.704 Alert		
3,000.00	2,999.44	3,000.56	2,999.44	10.49	10.53	-167.89	-0.29	-60.03	81.03	60.02	21.01	3.857 Alert		
3,100.00	3,099.26	3,100.74	3,099.26	10.84	10.89	-168.71	-0.29	-60.03	86.86	65.14	21.72	4.000 Alert		
3,200.00	3,199.08	3,200.92	3,199.08	11.19	11.25	-169.43	-0.29	-60.03	92.71	70.28	22.42	4.134 Alert		
3,300.00	3,298.90	3,301.10	3,298.90	11.54	11.61	-170.07	-0.29	-60.03	98.57	75.44	23.13	4.261 Alert		
3,400.00	3,398.73	3,401.27	3,398.73	11.90	11.97	-170.63	-0.29	-60.03	104.44	80.60	23.84	4.381 Alert		
3,500.00	3,498.55	3,501.45	3,498.55	12.25	12.33	-171.14	-0.29	-60.03	110.32	85.77	24.55	4.493 Alert		
3,600.00	3,598.37	3,601.63	3,598.37	12.61	12.69	-171.59	-0.29	-60.03	116.21	90.95	25.26	4.600 Alert		
3,700.00	3,698.19	3,701.81	3,698.19	12.97	13.04	-172.00	-0.29	-60.03	122.11	96.13	25.97	4.701 Alert		
3,800.00	3,798.02	3,798.02	3,798.02	13.32	13.39	-172.37	-0.29	-60.03	128.01	101.34	26.67	4.800 Alert		
3,900.00	3,897.84	3,897.47	3,897.47	13.68	13.74	-172.35	0.50	-60.29	134.05	106.67	27.38	4.896 Alert		
4,000.00	3,997.66	3,996.86	3,996.82	14.04	14.10	-171.65	2.92	-61.10	140.38	112.29	28.08	4.998 Alert		
4,100.00	4,097.48	4,096.11	4,095.98	14.40	14.45	-170.34	6.97	-62.45	147.06	118.27	28.79	5.108		
4,200.00	4,197.31	4,195.19	4,194.88	14.76	14.81	-168.53	12.63	-64.34	154.20	124.70	29.49	5.228		
4,300.00	4,297.13	4,305.84	4,293.56	15.12	15.20	-166.30	19.88	-66.76	161.92	131.68	30.24	5.355		
4,400.00	4,396.95	4,406.37	4,392.68	15.47	15.56	-164.09	27.70	-69.36	170.03	139.09	30.95	5.494		
4,500.00	4,496.77	4,506.91	4,491.80	15.83	15.92	-162.08	35.52	-71.97	178.38	146.72	31.66	5.635		
4,600.00	4,596.60	4,607.44	4,590.92	16.20	16.28	-160.25	43.34	-74.57	186.92	154.55	32.37	5.775		
4,700.00	4,696.42	4,707.98	4,690.04	16.56	16.64	-158.58	51.15	-77.18	195.64	162.56	33.08	5.914		
4,800.00	4,796.24	4,808.51	4,789.17	16.92	17.01	-157.05	58.97	-79.79	204.51	170.71	33.80	6.051		
4,900.00	4,896.06	4,909.05	4,888.29	17.28	17.37	-155.66	66.79	-82.39	213.51	179.00	34.51	6.186		
5,000.00	4,995.89	5,009.58	4,987.41	17.64	17.73	-154.37	74.61	-85.00	222.62	187.40	35.23	6.319		

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

Anticollision Report

Company: WCDSC Permian NM
 Project: Lea County (NAD83 New Mexico East)
 Reference Site: Sec 23-T26S-R34E
 Site Error: 0.00 ft
 Reference Well: Mean Green 23-35 Fed Com 3H
 Well Error: 0.50 ft
 Reference Wellbore: Wellbore #1
 Reference Design: Permit Plan 1

Local Co-ordinate Reference
 TVD Reference: RKB @ 3224.80ft
 MD Reference: RKB @ 3224.80ft
 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 23-T26S-R34E - Mean Green 23-35 Fed Com 1H - Wellbore #1 - Permit Plan 1														Offset Site Error: 0.00 ft
Survey Program: 0-MWD+HDGM														Offset Well Error: 0.50 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (ft)	Separation Factor	Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		+N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)				
5,100.00	5,095.71	5,089.88	5,086.53	18.00	18.02	-153.19	82.43	-87.60	231.84	195.97	35.87	6.463		
5,200.00	5,195.53	5,189.34	5,185.66	18.36	18.38	-152.10	90.24	-90.21	241.15	204.57	36.59	6.591		
5,300.00	5,295.35	5,288.81	5,284.78	18.72	18.74	-151.09	98.06	-92.82	250.54	213.24	37.30	6.717		
5,400.00	5,395.18	5,388.27	5,383.90	19.09	19.10	-150.15	105.88	-95.42	260.00	221.99	38.02	6.839		
5,500.00	5,495.00	5,487.74	5,483.02	19.45	19.46	-149.28	113.70	-98.03	269.53	230.80	38.73	6.959		
5,600.00	5,594.82	5,587.20	5,582.15	19.81	19.82	-148.46	121.51	-100.83	279.11	239.67	39.45	7.076		
5,700.00	5,694.64	5,686.67	5,681.27	20.17	20.19	-147.71	129.33	-103.24	288.75	248.59	40.16	7.190		
5,800.00	5,794.47	5,786.13	5,780.39	20.54	20.55	-147.00	137.15	-105.85	298.43	257.55	40.88	7.300		
5,900.00	5,894.29	5,885.59	5,879.51	20.90	20.91	-146.33	144.97	-108.45	308.16	266.56	41.60	7.408		
6,000.00	5,994.11	5,985.06	5,978.64	21.26	21.27	-145.71	152.79	-111.06	317.92	275.61	42.31	7.513		
6,100.00	6,093.93	6,084.52	6,077.76	21.63	21.64	-145.12	160.60	-113.66	327.72	284.69	43.03	7.616		
6,200.00	6,193.76	6,183.99	6,176.88	21.99	22.00	-144.57	168.42	-116.27	337.55	293.80	43.75	7.715		
6,300.00	6,293.58	6,283.45	6,276.00	22.35	22.36	-144.05	176.24	-118.87	347.41	302.94	44.47	7.812		
6,400.00	6,393.40	6,382.92	6,375.13	22.72	22.73	-143.56	184.06	-121.48	357.30	312.11	45.19	7.907		
6,500.00	6,493.22	6,482.38	6,474.25	23.08	23.09	-143.09	191.87	-124.09	367.21	321.30	45.91	7.999		
6,600.00	6,593.05	6,581.85	6,573.37	23.44	23.46	-142.65	199.69	-126.69	377.14	330.52	46.63	8.089		
6,700.00	6,692.87	6,681.31	6,672.49	23.81	23.82	-142.23	207.51	-129.30	387.10	339.75	47.35	8.176		
6,800.00	6,792.69	6,780.77	6,771.62	24.17	24.18	-141.83	215.33	-131.90	397.08	349.01	48.07	8.261		
6,900.00	6,892.51	6,880.24	6,870.74	24.54	24.55	-141.45	223.15	-134.51	407.07	358.28	48.79	8.344		
7,000.00	6,992.34	6,979.70	6,969.86	24.90	24.91	-141.09	230.96	-137.12	417.08	367.57	49.51	8.425		
7,100.00	7,092.16	7,079.17	7,068.98	25.26	25.28	-140.75	238.78	-139.72	427.10	376.88	50.23	8.503		
7,200.00	7,191.98	7,178.63	7,168.10	25.63	25.65	-140.42	246.60	-142.33	437.14	386.20	50.95	8.580		
7,300.00	7,291.80	7,278.10	7,267.23	25.99	26.01	-140.11	254.42	-144.93	447.20	395.53	51.67	8.655		
7,400.00	7,391.63	7,377.56	7,366.35	26.36	26.38	-139.81	262.23	-147.54	457.26	404.87	52.39	8.728		
7,500.00	7,491.45	7,477.02	7,465.47	26.72	26.74	-139.53	270.05	-150.15	467.34	414.23	53.11	8.799		
7,600.00	7,591.27	7,576.49	7,564.59	27.09	27.11	-139.25	277.87	-152.75	477.43	423.60	53.83	8.869		
7,700.00	7,691.09	7,675.95	7,663.72	27.45	27.48	-138.99	285.69	-155.36	487.53	432.97	54.56	8.936		
7,800.00	7,790.92	7,775.15	7,762.62	27.82	27.87	-138.81	293.17	-157.85	496.99	441.65	55.34	8.981		
7,900.00	7,890.83	7,874.72	7,860.07	28.18	28.27	-138.60	297.92	-159.44	503.23	447.11	56.12	8.967		
8,000.00	7,990.81	7,974.57	7,959.90	28.53	28.66	-138.79	299.70	-160.03	505.56	448.68	56.88	8.889		
8,100.00	8,090.81	8,074.48	8,059.81	28.88	29.02	-65.49	299.71	-160.03	505.58	447.99	57.59	8.779		
8,200.00	8,190.81	8,203.48	8,190.81	29.23	29.37	-65.49	299.71	-160.03	505.58	447.28	58.29	8.673		
8,300.00	8,290.81	8,303.48	8,290.81	29.58	29.72	-65.49	299.71	-160.03	505.58	446.58	59.00	8.569		
8,400.00	8,390.81	8,403.48	8,390.81	29.93	30.08	-65.49	299.71	-160.03	505.58	445.87	59.70	8.468		
8,500.00	8,490.81	8,503.48	8,490.81	30.28	30.43	-65.49	299.71	-160.03	505.58	445.17	60.41	8.369		
8,600.00	8,590.81	8,603.48	8,590.81	30.63	30.79	-65.49	299.71	-160.03	505.58	444.46	61.12	8.272		
8,700.00	8,690.81	8,703.48	8,690.81	30.98	31.14	-65.49	299.71	-160.03	505.58	443.75	61.82	8.178		
8,800.00	8,790.81	8,803.48	8,790.81	31.33	31.50	-65.49	299.71	-160.03	505.58	443.04	62.53	8.085		
8,900.00	8,890.81	8,903.48	8,890.81	31.68	31.85	-65.49	299.71	-160.03	505.58	442.34	63.24	7.995		
9,000.00	8,990.81	9,003.48	8,990.81	32.03	32.21	-65.49	299.71	-160.03	505.58	441.63	63.95	7.906		
9,100.00	9,090.81	9,103.48	9,090.81	32.38	32.56	-65.49	299.71	-160.03	505.58	440.92	64.65	7.820		
9,200.00	9,190.81	9,203.48	9,190.81	32.73	32.92	-65.49	299.71	-160.03	505.58	440.21	65.36	7.735		
9,300.00	9,290.81	9,303.48	9,290.81	33.09	33.27	-65.49	299.71	-160.03	505.58	439.51	66.07	7.652		
9,400.00	9,390.81	9,403.48	9,390.81	33.44	33.63	-65.49	299.71	-160.03	505.58	438.80	66.78	7.571		
9,500.00	9,490.81	9,503.48	9,490.81	33.79	33.98	-65.49	299.71	-160.03	505.58	438.09	67.49	7.491		
9,600.00	9,590.81	9,603.48	9,590.81	34.14	34.34	-65.49	299.71	-160.03	505.58	437.38	68.20	7.414		
9,700.00	9,690.81	9,703.48	9,690.81	34.49	34.69	-65.49	299.71	-160.03	505.58	436.67	68.90	7.337		
9,800.00	9,790.81	9,803.48	9,790.81	34.84	35.05	-65.49	299.71	-160.03	505.58	435.96	69.61	7.263		
9,900.00	9,890.81	9,903.48	9,890.81	35.20	35.40	-65.49	299.71	-160.03	505.58	435.25	70.32	7.189		
10,000.00	9,990.81	10,003.48	9,990.81	35.55	35.76	-65.49	299.71	-160.03	505.58	434.54	71.03	7.118		
10,100.00	10,090.81	10,103.48	10,090.81	35.90	36.12	-65.49	299.71	-160.03	505.58	433.83	71.74	7.047		

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

Anticollision Report

Company: WCDSC Permian NM
Project: Lea County (NAD83 New Mexico East)
Reference Site: Sec 23-T26S-R34E
Site Error: 0.00 ft
Reference Well: Mean Green 23-35 Fed Com 3H
Well Error: 0.50 ft
Reference Wellbore: Wellbore #1
Reference Design: Permit Plan 1

Local Co-ordinate Reference
TVD Reference: Well Mean Green 23-35 Fed Com 3H
MD Reference: RKB @ 3224.80ft
North Reference: RKB @ 3224.80ft
Survey Calculation Method: Grid
Output errors are at: Minimum Curvature
Database: 2.00 sigma
Offset TVD Reference: EDM r5000.141_Prod US
 .Offset Datum

Offset Design: Sec 23-T26S-R34E - Mean Green 23-35 Fed Com 1H - Wellbore #1 - Permit Plan 1													Offset Site Error: 0.00 ft
Survey Program: 0-MWD+HDGM													Offset Well Error: 0.50 ft
Reference	Offset	Semi Major Axis		Distance		Minimum		Separation		Warning			
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N-S (ft)	+E-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
10,200.00	10,190.47	10,203.14	10,190.47	36.26	36.47	-101.91	299.71	-160.03	506.96	434.50	72.46	6.997	
10,300.00	10,287.74	10,300.41	10,287.74	36.63	36.82	-107.12	299.71	-160.03	512.30	439.14	73.17	7.002	
10,400.00	10,385.30	10,402.03	10,385.30	37.01	37.18	-145.85	299.71	-160.03	524.05	450.16	73.90	7.092	
10,500.00	10,483.57	10,503.76	10,483.57	37.38	37.54	164.09	299.71	-160.03	541.82	467.22	74.61	7.262	
10,600.00	10,579.85	10,607.48	10,579.85	37.73	37.91	139.84	299.71	-160.03	564.92	489.62	75.30	7.503	
10,700.00	10,671.51	10,684.17	10,671.51	38.04	38.18	129.87	299.71	-160.03	593.72	517.86	75.86	7.827	
10,800.00	10,756.02	10,768.69	10,756.02	38.32	38.48	124.97	299.71	-160.03	629.26	552.85	76.41	8.235	
10,900.00	10,831.07	10,843.74	10,831.07	38.58	38.75	121.74	299.71	-160.03	672.70	595.81	76.89	8.749	
11,000.00	10,894.61	10,907.28	10,894.61	38.82	38.98	118.46	299.71	-160.03	724.77	647.48	77.29	9.377	
11,100.00	10,944.89	10,957.56	10,944.89	39.07	39.16	114.01	299.71	-160.03	785.46	707.87	77.59	10.123	
11,200.00	10,980.54	11,006.80	10,980.54	39.34	39.33	107.50	299.71	-160.03	853.90	776.06	77.84	10.970	
11,300.00	11,000.57	11,013.24	11,000.57	39.62	39.35	98.37	299.71	-160.03	928.46	850.56	77.90	11.919	
11,400.00	11,005.00	11,017.67	11,005.00	39.90	39.37	90.00	299.71	-160.03	1,006.96	929.05	77.91	12.925	
11,500.00	11,005.00	11,017.67	11,005.00	40.21	39.37	90.00	299.71	-160.03	1,088.68	1,010.77	77.91	13.974	
11,600.00	11,005.00	11,017.67	11,005.00	40.57	39.37	90.00	299.71	-160.03	1,173.24	1,096.32	77.91	15.059	
11,700.00	11,005.00	11,017.67	11,005.00	40.98	39.37	90.00	299.71	-160.03	1,260.05	1,182.13	77.92	16.171	
11,800.00	11,005.00	11,017.67	11,005.00	41.43	39.37	90.00	299.71	-160.03	1,348.70	1,270.77	77.93	17.307	
11,900.00	11,005.00	11,017.67	11,005.00	41.93	39.37	90.00	299.71	-160.03	1,438.83	1,360.89	77.94	18.460	

Anticollision Report

Company: WCDSC Permian NM
 Project: Lea County (NAD83 New Mexico East)
 Reference Site: Sec 23-T26S-R34E
 Site Error: 0.00 ft
 Reference Well: Mean Green 23-35 Fed Com 3H
 Well Error: 0.50 ft
 Reference Wellbore: Wellbore #1
 Reference Design: Permit Plan 1

Local Co-ordinate Reference
 TVD Reference: RKB @ 3224.80ft
 MD Reference: RKB @ 3224.80ft
 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 23-T26S-R34E - Mean Green 23-35 Fed Com 2H - Wellbore #1 - Permit Plan 2													Offset Site Error: 0.00 ft
Survey Program: 0-MWD+HDGM													Offset Well Error: 0.50 ft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
0.00	0.00	6.50	-6.50	0.50	0.50	-90.48	-0.25	-30.05	30.05				
100.00	100.00	106.50	93.50	0.51	0.52	-90.48	-0.25	-30.05	30.05	29.01	1.04	28.923	
200.00	200.00	206.50	193.50	0.69	0.72	-90.48	-0.25	-30.05	30.05	28.64	1.41	21.282	
300.00	300.00	306.50	293.50	0.98	1.01	-90.48	-0.25	-30.05	30.05	28.06	1.98	15.146	
400.00	400.00	406.50	393.50	1.30	1.33	-90.48	-0.25	-30.05	30.05	27.42	2.63	11.434	
500.00	500.00	506.50	493.50	1.63	1.67	-90.48	-0.25	-30.05	30.05	26.75	3.30	9.099	
600.00	600.00	606.50	593.50	1.98	2.01	-90.48	-0.25	-30.05	30.05	26.06	3.99	7.528	
700.00	700.00	706.50	693.50	2.33	2.36	-90.48	-0.25	-30.05	30.05	25.36	4.69	6.408	
800.00	800.00	806.50	793.50	2.68	2.71	-90.48	-0.25	-30.05	30.05	24.66	5.39	5.573	
900.00	900.00	906.50	893.50	3.03	3.07	-90.48	-0.25	-30.05	30.05	23.95	6.10	4.928	Alert
1,000.00	1,000.00	1,006.50	993.50	3.39	3.42	-90.48	-0.25	-30.05	30.05	23.24	6.81	4.415	Alert
1,100.00	1,100.00	1,106.50	1,093.50	3.74	3.78	-90.48	-0.25	-30.05	30.05	22.53	7.52	3.998	Alert
1,200.00	1,200.00	1,206.50	1,193.50	4.10	4.13	-90.48	-0.25	-30.05	30.05	21.82	8.23	3.652	Alert
1,300.00	1,300.00	1,306.50	1,293.50	4.45	4.49	-90.48	-0.25	-30.05	30.05	21.11	8.94	3.361	Alert
1,400.00	1,400.00	1,406.50	1,393.50	4.81	4.84	-90.48	-0.25	-30.05	30.05	20.40	9.65	3.113	Alert
1,500.00	1,500.00	1,506.50	1,493.50	5.16	5.20	-90.48	-0.25	-30.05	30.05	19.68	10.36	2.899	Alert
1,600.00	1,600.00	1,606.50	1,593.50	5.52	5.56	-90.48	-0.25	-30.05	30.05	18.97	11.08	2.712	Alert
1,700.00	1,700.00	1,706.50	1,693.50	5.88	5.91	-90.48	-0.25	-30.05	30.05	18.25	11.79	2.548	Alert
1,800.00	1,800.00	1,806.50	1,793.50	6.24	6.27	-90.48	-0.25	-30.05	30.05	17.54	12.51	2.402	Minor Risk
1,900.00	1,900.00	1,906.50	1,893.50	6.59	6.63	-90.48	-0.25	-30.05	30.05	16.83	13.22	2.273	Minor Risk
2,000.00	2,000.00	2,006.50	1,993.50	6.95	6.99	-90.48	-0.25	-30.05	30.05	16.11	13.94	2.156	Minor Risk
2,100.00	2,100.00	2,106.50	2,093.50	7.31	7.34	-90.48	-0.25	-30.05	30.05	15.40	14.65	2.051	Minor Risk
2,200.00	2,200.00	2,206.50	2,193.50	7.67	7.70	-90.48	-0.25	-30.05	30.05	14.68	15.37	1.955	Minor Risk
2,300.00	2,300.00	2,306.50	2,293.50	8.02	8.06	-90.48	-0.25	-30.05	30.05	13.96	16.08	1.868	Minor Risk
2,400.00	2,400.00	2,406.50	2,393.50	8.38	8.42	-90.48	-0.25	-30.05	30.05	13.25	16.80	1.789	Minor Risk
2,500.00	2,500.00	2,506.50	2,493.50	8.74	8.78	-90.48	-0.25	-30.05	30.05	12.53	17.51	1.716	Minor Risk, CC, ES
2,600.00	2,599.99	2,606.51	2,593.49	9.09	9.13	-164.34	-0.25	-30.05	31.10	12.87	18.22	1.706	Minor Risk
2,700.00	2,699.94	2,706.56	2,693.44	9.44	9.49	-165.80	-0.25	-30.05	34.26	15.33	18.93	1.810	Minor Risk
2,800.00	2,799.79	2,793.29	2,793.29	9.79	9.80	-167.71	-0.25	-30.05	39.49	19.90	19.58	2.016	Minor Risk
2,900.00	2,899.61	2,893.77	2,893.77	10.14	10.16	-168.89	0.16	-29.40	44.64	24.36	20.29	2.201	Minor Risk
3,000.00	2,999.44	2,994.44	2,994.40	10.49	10.51	-168.92	1.50	-27.25	48.24	27.26	20.98	2.299	Minor Risk
3,100.00	3,099.26	3,095.19	3,095.06	10.84	10.86	-168.06	3.78	-23.60	50.26	28.59	21.67	2.319	Minor Risk
3,200.00	3,199.08	3,204.25	3,195.44	11.19	11.25	-166.36	6.96	-18.51	50.81	28.42	22.39	2.269	Minor Risk
3,300.00	3,298.90	3,304.26	3,295.22	11.54	11.60	-164.43	10.37	-13.06	50.99	27.90	23.10	2.208	Minor Risk
3,400.00	3,398.73	3,404.28	3,395.00	11.90	11.96	-162.53	13.78	-7.60	51.23	27.43	23.80	2.153	Minor Risk
3,500.00	3,498.55	3,504.29	3,494.78	12.25	12.31	-160.64	17.19	-2.14	51.52	27.02	24.50	2.103	Minor Risk
3,600.00	3,598.37	3,604.30	3,594.56	12.61	12.67	-158.77	20.60	3.32	51.88	26.67	25.21	2.058	Minor Risk
3,700.00	3,698.19	3,695.68	3,694.33	12.97	12.99	-156.94	24.02	8.78	52.28	26.39	25.89	2.019	Minor Risk
3,800.00	3,798.02	3,804.33	3,794.11	13.32	13.38	-155.13	27.43	14.24	52.74	26.11	26.63	1.981	Minor Risk
3,900.00	3,897.84	3,904.35	3,893.89	13.68	13.74	-153.35	30.84	19.70	53.25	25.91	27.34	1.948	Minor Risk
4,000.00	3,997.66	4,004.36	3,993.67	14.04	14.10	-151.62	34.25	25.15	53.81	25.76	28.05	1.918	Minor Risk
4,100.00	4,097.48	4,104.38	4,093.44	14.40	14.45	-149.91	37.66	30.61	54.41	25.65	28.76	1.892	Minor Risk
4,200.00	4,197.31	4,204.39	4,193.22	14.76	14.81	-148.25	41.07	36.07	55.07	25.59	29.48	1.868	Minor Risk
4,300.00	4,297.13	4,304.41	4,293.00	15.12	15.17	-146.63	44.48	41.53	55.77	25.58	30.19	1.847	Minor Risk
4,400.00	4,396.95	4,404.42	4,392.78	15.47	15.53	-145.05	47.90	46.99	56.51	25.60	30.91	1.828	Minor Risk
4,500.00	4,496.77	4,504.44	4,492.56	15.83	15.89	-143.51	51.31	52.45	57.30	25.67	31.62	1.812	Minor Risk
4,600.00	4,596.60	4,604.45	4,592.33	16.20	16.25	-142.01	54.72	57.90	58.12	25.78	32.34	1.797	Minor Risk
4,700.00	4,696.42	4,704.47	4,692.11	16.56	16.61	-140.56	58.13	63.36	58.99	25.93	33.06	1.784	Minor Risk
4,800.00	4,796.24	4,804.48	4,791.89	16.92	16.97	-139.15	61.54	68.82	59.89	26.11	33.78	1.773	Minor Risk
4,900.00	4,896.06	4,904.50	4,891.67	17.28	17.34	-137.78	64.95	74.28	60.82	26.32	34.50	1.763	Minor Risk
5,000.00	4,995.89	5,004.51	4,991.44	17.64	17.70	-136.45	68.36	79.74	61.79	26.57	35.22	1.754	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: Lea County (NAD83 New Mexico East)
 Reference Site: Sec 23-T26S-R34E
 Site Error: 0.00 ft
 Reference Well: Mean Green 23-35 Fed Com 3H
 Well Error: 0.50 ft
 Reference Wellbore: Wellbore #1
 Reference Design: Permit Plan 1

Local Co-ordinate Reference
 TVD Reference: Well Mean Green 23-35 Fed Com 3H
 MD Reference: RKB @ 3224.80ft
 North Reference: RKB @ 3224.80ft
 Survey Calculation Method: Grid
 Output errors are at: Minimum Curvature
 Database: 2.00 sigma
 EDM r5000.141_Prod US
 Offset TVD Reference: Offset Datum

Offset Design Sec 23-T26S-R34E - Mean Green 23-35 Fed Com 2H - Wellbore #1 - Permit Plan 2													Offset Site Error: 0.00 ft
Survey Program: 0-MWD+HDGM													Offset Well Error: 0.50 ft
Reference		Offset		Semi Major Axis		Distance							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
5,100.00	5,095.71	5,104.53	5,091.22	18.00	18.06	-135.17	71.78	85.20	62.80	26.85	35.95	1.747	Minor Risk
5,200.00	5,195.53	5,204.54	5,191.00	18.36	18.42	-133.93	75.19	90.65	63.83	27.16	36.67	1.741	Minor Risk
5,300.00	5,295.35	5,304.56	5,290.78	18.72	18.78	-132.72	78.60	96.11	64.89	27.50	37.39	1.735	Minor Risk
5,400.00	5,395.18	5,404.57	5,390.56	19.09	19.15	-131.56	82.01	101.57	65.98	27.86	38.12	1.731	Minor Risk
5,500.00	5,495.00	5,504.59	5,490.33	19.45	19.51	-130.44	85.42	107.03	67.09	28.25	38.84	1.727	Minor Risk
5,600.00	5,594.82	5,604.60	5,590.11	19.81	19.87	-129.35	88.83	112.49	68.24	28.67	39.57	1.724	Minor Risk
5,700.00	5,694.64	5,704.62	5,689.89	20.17	20.24	-128.29	92.25	117.95	69.40	29.11	40.29	1.722	Minor Risk
5,800.00	5,794.47	5,804.63	5,789.67	20.54	20.60	-127.28	95.66	123.40	70.59	29.57	41.02	1.721	Minor Risk
5,900.00	5,894.29	5,904.64	5,889.45	20.90	20.96	-126.29	99.07	128.86	71.80	30.05	41.75	1.720	Minor Risk
6,000.00	5,994.11	6,004.66	5,989.22	21.26	21.33	-125.34	102.48	134.32	73.02	30.55	42.48	1.719	Minor Risk
6,100.00	6,093.93	6,104.67	6,089.00	21.63	21.69	-124.43	105.89	139.78	74.27	31.07	43.20	1.719	Minor Risk
6,200.00	6,193.76	6,204.69	6,188.78	21.99	22.05	-123.54	109.30	145.24	75.54	31.61	43.93	1.720	Minor Risk
6,300.00	6,293.58	6,304.70	6,288.56	22.35	22.42	-122.68	112.71	150.70	76.82	32.16	44.66	1.720	Minor Risk
6,400.00	6,393.40	6,404.72	6,388.33	22.72	22.78	-121.85	116.13	156.15	78.13	32.74	45.39	1.721	Minor Risk
6,500.00	6,493.22	6,504.73	6,488.11	23.08	23.15	-121.05	119.54	161.61	79.44	33.32	46.12	1.723	Minor Risk
6,600.00	6,593.05	6,595.25	6,587.89	23.44	23.48	-120.27	122.95	167.07	80.77	33.96	46.81	1.725	Minor Risk
6,700.00	6,692.87	6,704.76	6,687.67	23.81	23.88	-119.52	126.36	172.53	82.12	34.54	47.58	1.726	Minor Risk
6,800.00	6,792.69	6,804.78	6,787.45	24.17	24.24	-118.79	129.77	177.99	83.48	35.17	48.31	1.728	Minor Risk
6,900.00	6,892.51	6,904.79	6,887.22	24.54	24.61	-118.09	133.18	183.45	84.85	35.82	49.04	1.730	Minor Risk
7,000.00	6,992.34	7,004.81	6,987.00	24.90	24.97	-117.41	136.59	188.90	86.24	36.47	49.77	1.733	Minor Risk
7,100.00	7,092.16	7,104.82	7,086.78	25.26	25.33	-116.75	140.01	194.36	87.64	37.14	50.50	1.735	Minor Risk
7,200.00	7,191.98	7,204.84	7,186.56	25.63	25.70	-116.11	143.42	199.82	89.04	37.82	51.23	1.738	Minor Risk
7,300.00	7,291.80	7,304.85	7,286.33	25.99	26.06	-115.49	146.83	205.28	90.46	38.51	51.96	1.741	Minor Risk
7,400.00	7,391.63	7,404.87	7,386.11	26.36	26.43	-114.89	150.24	210.74	91.89	39.20	52.69	1.744	Minor Risk
7,500.00	7,491.45	7,504.88	7,485.89	26.72	26.80	-114.31	153.65	216.20	93.33	39.91	53.42	1.747	Minor Risk
7,600.00	7,591.27	7,595.10	7,585.67	27.09	27.12	-113.75	157.06	221.65	94.78	40.66	54.12	1.751	Minor Risk
7,700.00	7,691.09	7,704.91	7,685.45	27.45	27.53	-113.20	160.47	227.11	96.24	41.35	54.88	1.754	Minor Risk
7,800.00	7,790.92	7,804.93	7,785.22	27.82	27.89	-112.65	163.89	232.57	97.69	42.07	55.61	1.756	Minor Risk
7,900.00	7,890.83	7,904.96	7,884.98	28.18	28.26	-111.18	167.30	238.03	98.50	42.15	56.35	1.748	Minor Risk
8,000.00	7,990.81	8,005.09	7,984.64	28.53	28.62	-108.30	170.70	243.48	98.52	41.44	57.09	1.726	Minor Risk
8,083.99	8,074.80	8,076.73	8,068.29	28.82	28.89	-105.23	173.56	248.06	98.42	40.76	57.66	1.707	Minor Risk
8,100.00	8,090.81	8,105.30	8,084.23	28.88	28.99	-31.27	174.11	248.93	98.40	40.58	57.82	1.702	Minor Risk
8,200.00	8,190.81	8,205.50	8,183.82	29.23	29.36	-27.53	177.51	254.38	98.69	40.14	58.55	1.686	Minor Risk
8,300.00	8,290.81	8,305.71	8,283.40	29.58	29.72	-23.84	180.92	259.82	99.40	40.12	58.28	1.677	Minor Risk
8,400.00	8,390.81	8,405.92	8,382.99	29.93	30.09	-20.21	184.32	265.27	100.52	40.52	60.00	1.675	Minor Risk, SF
8,500.00	8,490.81	8,506.13	8,482.57	30.28	30.46	-16.68	187.73	270.72	102.04	41.31	60.72	1.680	Minor Risk
8,600.00	8,590.81	8,606.33	8,582.16	30.63	30.82	-13.26	191.13	276.17	103.93	42.49	61.44	1.692	Minor Risk
8,700.00	8,690.81	8,706.54	8,681.74	30.98	31.19	-9.97	194.54	281.62	106.17	44.02	62.15	1.708	Minor Risk
8,800.00	8,790.81	8,806.75	8,781.33	31.33	31.56	-6.83	197.94	287.06	108.76	45.90	62.86	1.730	Minor Risk
8,900.00	8,890.81	8,893.04	8,880.92	31.68	31.87	-3.85	201.35	292.51	111.65	48.14	63.52	1.758	Minor Risk
9,000.00	8,990.81	9,007.16	8,980.50	32.03	32.29	-1.02	204.75	297.96	114.84	50.56	64.27	1.787	Minor Risk
9,100.00	9,090.81	9,107.37	9,080.09	32.38	32.66	1.65	208.16	303.41	118.28	53.31	64.98	1.820	Minor Risk
9,200.00	9,190.81	9,207.58	9,179.67	32.73	33.02	4.17	211.56	308.85	121.97	56.30	65.68	1.857	Minor Risk
9,300.00	9,290.81	9,292.21	9,279.26	33.09	33.33	6.53	214.97	314.30	125.89	59.56	66.32	1.898	Minor Risk
9,400.00	9,390.81	9,407.99	9,378.84	33.44	33.76	8.75	218.37	319.75	130.00	62.92	67.08	1.938	Minor Risk
9,500.00	9,490.81	9,491.80	9,478.43	33.79	34.06	10.83	221.78	325.20	134.29	66.58	67.72	1.983	Minor Risk
9,600.00	9,590.81	9,608.41	9,578.01	34.14	34.49	12.77	225.18	330.65	138.76	70.28	68.48	2.026	Minor Risk
9,700.00	9,690.81	9,708.62	9,677.60	34.49	34.86	14.60	228.59	336.09	143.37	74.19	69.18	2.072	Minor Risk
9,800.00	9,790.81	9,808.82	9,777.19	34.84	35.22	16.31	231.99	341.54	148.12	78.24	69.88	2.120	Minor Risk
9,900.00	9,890.81	9,909.03	9,876.77	35.20	35.59	17.91	235.40	346.99	152.99	82.41	70.58	2.167	Minor Risk
10,000.00	9,990.81	10,009.24	9,976.36	35.55	35.96	19.41	238.80	352.44	157.97	86.69	71.29	2.216	Minor Risk

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

Anticollision Report

Company:	WCDSC Permian NM	Local Co-ordinate Reference	Well Mean Green 23-35 Fed Com 3H
Project:	Lea County (NAD83 New Mexico East)	TVD Reference:	RKB @ 3224.80ft
Reference Site:	Sec 23-T26S-R34E	MD Reference:	RKB @ 3224.80ft
Site Error:	0.00 ft	North Reference:	Grid
Reference Well:	Mean Green 23-35 Fed Com 3H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.50 ft	Output errors are at	2.00 sigma
Reference Wellbore	Wellbore #1	Database:	EDM r5000.141_Prod US
Reference Design:	Permit Plan 1	Offset TVD Reference:	Offset Datum

Offset Design Sec 23-T26S-R34E - Mean Green 23-35 Fed Com 2H - Wellbore #1 - Permit Plan 2													Offset Site Error:	0.00 ft
Survey Program: 0-MWD+HDGM													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning	
10,100.00	10,090.81	10,109.45	10,075.94	35.90	36.33	20.82	242.21	357.89	163.06	91.07	71.99	2.265	Minor Risk	
10,200.00	10,190.47	10,209.59	10,175.59	36.26	36.69	-14.26	245.61	363.34	161.61	88.90	72.70	2.223	Minor Risk	
10,300.00	10,287.74	10,288.84	10,273.82	36.63	36.98	-18.58	248.97	369.71	144.63	71.27	73.36	1.972	Minor Risk	
10,400.00	10,385.30	10,387.58	10,372.35	37.01	37.35	-58.12	252.34	374.10	131.87	57.75	74.12	1.779	Minor Risk	
10,427.73	10,412.60	10,415.10	10,399.82	37.12	37.45	-74.11	253.28	375.60	131.22	56.88	74.34	1.765	Minor Risk	
10,500.00	10,483.57	10,486.47	10,471.03	37.38	37.71	-111.99	255.72	379.50	135.75	60.83	74.92	1.812	Minor Risk	
10,600.00	10,579.85	10,582.80	10,567.17	37.73	38.06	-141.27	259.00	384.76	157.19	81.51	75.68	2.077	Minor Risk	
10,700.00	10,671.51	10,673.94	10,658.12	38.04	38.39	-155.78	262.11	389.73	195.66	119.29	76.37	2.562	Alert	
10,800.00	10,756.02	10,757.38	10,741.39	38.32	38.70	-164.01	264.96	394.29	249.53	172.58	76.96	3.242	Alert	
10,900.00	10,831.07	10,830.84	10,814.69	38.58	38.97	-169.19	267.47	398.30	316.85	239.39	77.45	4.091	Alert	
11,000.00	10,894.61	10,907.70	10,876.03	38.82	39.25	-172.91	269.56	401.65	395.49	317.59	77.90	5.077		
11,100.00	10,944.89	10,940.08	10,923.71	39.07	39.37	-176.32	271.19	404.26	483.19	405.06	78.13	6.184		
11,200.00	10,980.54	10,972.87	10,956.43	39.34	39.49	178.73	272.31	406.05	577.54	499.22	78.32	7.374		
11,300.00	11,000.57	10,989.77	10,973.29	39.62	39.55	160.67	272.89	406.98	675.95	597.54	78.41	8.621		
11,400.00	11,005.00	11,009.13	10,974.39	39.90	39.62	56.51	272.93	407.04	775.77	697.28	78.49	9.884		
11,500.00	11,005.00	10,987.51	10,971.04	40.21	39.54	53.13	272.81	406.85	875.62	797.20	78.42	11.166		
11,600.00	11,005.00	10,984.15	10,967.68	40.57	39.53	50.06	272.70	406.87	975.49	897.08	78.41	12.440		
11,700.00	11,005.00	10,980.78	10,964.32	40.98	39.52	47.26	272.58	406.48	1,075.38	996.97	78.41	13.715		
11,800.00	11,005.00	10,977.42	10,960.96	41.43	39.51	44.72	272.47	406.30	1,175.27	1,096.86	78.41	14.989		
11,900.00	11,005.00	10,974.05	10,957.61	41.93	39.50	42.41	272.35	406.12	1,275.17	1,196.76	78.41	16.263		
12,000.00	11,005.00	10,970.69	10,954.25	42.47	39.48	40.31	272.24	405.93	1,375.08	1,296.67	78.41	17.536		
12,100.00	11,005.00	10,967.32	10,950.89	43.05	39.47	38.40	272.12	405.75	1,475.00	1,396.58	78.42	18.810		

Anticollision Report

Company: WCDSC Permian NM
 Project: Lea County (NAD83 New Mexico East)
 Reference Site: Sec 23-T26S-R34E
 Site Error: 0.00 ft
 Reference Well: Mean Green 23-35 Fed Com 3H
 Well Error: 0.50 ft
 Reference Wellbore: Wellbore #1
 Reference Design: Permit Plan 1

Local Co-ordinate Reference: Well Mean Green 23-35 Fed Com 3H
 TVD Reference: RKB @ 3224.80ft
 MD Reference: RKB @ 3224.80ft
 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 23-T26S-R34E - Mean Green 23-35 Fed Com 4H - Wellbore #1 - Permit Plan 1													Offset Site Error: 0.00 ft
Survey Program: 0-MWD+HDGM													Offset Well Error: 0.50 ft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Distance		Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)		Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)					
0.00	0.00	0.00	0.00	0.50	0.50	-90.11	-0.18	-90.03	90.03				
100.00	100.00	100.00	100.00	0.51	0.51	-90.11	-0.18	-90.03	90.03	89.00	1.03	87.458	
200.00	200.00	200.00	200.00	0.69	0.69	-90.11	-0.18	-90.03	90.03	88.65	1.39	64.903	
300.00	300.00	300.00	300.00	0.98	0.98	-90.11	-0.18	-90.03	90.03	88.08	1.95	46.084	
400.00	400.00	400.00	400.00	1.30	1.30	-90.11	-0.18	-90.03	90.03	87.44	2.60	34.686	
500.00	500.00	500.00	500.00	1.63	1.63	-90.11	-0.18	-90.03	90.03	86.76	3.27	27.542	
600.00	600.00	600.00	600.00	1.98	1.98	-90.11	-0.18	-90.03	90.03	86.08	3.96	22.750	
700.00	700.00	700.00	700.00	2.33	2.33	-90.11	-0.18	-90.03	90.03	85.38	4.65	19.342	
800.00	800.00	800.00	800.00	2.68	2.68	-90.11	-0.18	-90.03	90.03	84.68	5.36	16.806	
900.00	900.00	900.00	900.00	3.03	3.03	-90.11	-0.18	-90.03	90.03	83.97	6.06	14.850	
1,000.00	1,000.00	1,000.00	1,000.00	3.39	3.39	-90.11	-0.18	-90.03	90.03	83.26	6.77	13.297	
1,100.00	1,100.00	1,100.00	1,100.00	3.74	3.74	-90.11	-0.18	-90.03	90.03	82.55	7.48	12.035	
1,200.00	1,200.00	1,200.00	1,200.00	4.10	4.10	-90.11	-0.18	-90.03	90.03	81.84	8.19	10.990	
1,300.00	1,300.00	1,300.00	1,300.00	4.45	4.45	-90.11	-0.18	-90.03	90.03	81.13	8.90	10.111	
1,400.00	1,400.00	1,400.00	1,400.00	4.81	4.81	-90.11	-0.18	-90.03	90.03	80.42	9.62	9.362	
1,500.00	1,500.00	1,500.00	1,500.00	5.16	5.17	-90.11	-0.18	-90.03	90.03	79.70	10.33	8.716	
1,600.00	1,600.00	1,600.00	1,600.00	5.52	5.52	-90.11	-0.18	-90.03	90.03	78.99	11.04	8.152	
1,700.00	1,700.00	1,700.00	1,700.00	5.88	5.88	-90.11	-0.18	-90.03	90.03	78.28	11.76	7.657	
1,800.00	1,800.00	1,800.00	1,800.00	6.24	6.24	-90.11	-0.18	-90.03	90.03	77.56	12.47	7.218	
1,900.00	1,900.00	1,900.00	1,900.00	6.59	6.59	-90.11	-0.18	-90.03	90.03	76.85	13.19	6.827	
2,000.00	2,000.00	2,000.00	2,000.00	6.95	6.95	-90.11	-0.18	-90.03	90.03	76.13	13.90	6.476	
2,100.00	2,100.00	2,100.00	2,100.00	7.31	7.31	-90.11	-0.18	-90.03	90.03	75.42	14.62	6.159	
2,200.00	2,200.00	2,200.00	2,200.00	7.67	7.67	-90.11	-0.18	-90.03	90.03	74.70	15.33	5.872	
2,300.00	2,300.00	2,300.00	2,300.00	8.02	8.02	-90.11	-0.18	-90.03	90.03	73.99	16.05	5.610	
2,400.00	2,400.00	2,400.00	2,400.00	8.38	8.38	-90.11	-0.18	-90.03	90.03	73.27	16.76	5.371	
2,500.00	2,500.00	2,500.00	2,500.00	8.74	8.74	-90.11	-0.18	-90.03	90.03	72.55	17.48	5.151 CC, ES	
2,600.00	2,599.99	2,598.94	2,598.93	9.09	9.09	-163.17	0.50	-90.60	91.66	73.47	18.18	5.041	
2,700.00	2,699.94	2,697.72	2,697.68	9.44	9.44	-162.50	2.54	-92.31	96.53	77.65	18.87	5.114	
2,800.00	2,799.79	2,796.19	2,796.05	9.79	9.79	-161.51	5.93	-95.15	104.59	85.02	19.56	5.346	
2,900.00	2,899.61	2,913.28	2,893.89	10.14	10.21	-160.14	10.63	-99.09	114.42	94.11	20.31	5.633	
3,000.00	2,999.44	3,006.40	2,993.00	10.49	10.54	-158.61	16.21	-103.76	125.06	104.07	20.99	5.959	
3,100.00	3,099.26	3,107.01	3,092.12	10.84	10.90	-157.33	21.80	-108.44	135.77	114.08	21.69	6.260	
3,200.00	3,199.08	3,207.63	3,191.23	11.19	11.26	-156.23	27.38	-113.11	146.54	124.15	22.39	6.544	
3,300.00	3,298.90	3,306.25	3,290.35	11.54	11.62	-155.28	32.96	-117.78	157.36	134.26	23.10	6.812	
3,400.00	3,398.73	3,391.13	3,389.46	11.90	11.92	-154.48	38.54	-122.46	168.21	144.47	23.74	7.084	
3,500.00	3,498.55	3,509.49	3,488.58	12.25	12.34	-153.73	44.12	-127.13	179.09	154.58	24.52	7.305	
3,600.00	3,598.37	3,589.90	3,587.69	12.61	12.63	-153.09	49.71	-131.81	190.00	164.85	25.15	7.554	
3,700.00	3,698.19	3,689.28	3,686.81	12.97	12.99	-152.52	55.29	-136.48	200.93	175.07	25.86	7.770	
3,800.00	3,798.02	3,788.66	3,785.92	13.32	13.35	-152.00	60.87	-141.16	211.88	185.31	26.57	7.975	
3,900.00	3,897.84	3,888.04	3,885.04	13.68	13.71	-151.54	66.45	-145.83	222.84	195.57	27.27	8.170	
4,000.00	3,997.66	3,987.42	3,984.15	14.04	14.07	-151.12	72.03	-150.51	233.82	205.83	27.98	8.356	
4,100.00	4,097.48	4,086.81	4,083.27	14.40	14.43	-150.74	77.62	-155.18	244.80	216.11	28.69	8.532	
4,200.00	4,197.31	4,186.19	4,182.38	14.76	14.80	-150.39	83.20	-159.86	255.80	226.40	29.40	8.700	
4,300.00	4,297.13	4,285.57	4,281.50	15.12	15.16	-150.07	88.78	-164.53	266.80	236.69	30.11	8.860	
4,400.00	4,396.95	4,384.95	4,380.61	15.47	15.52	-149.77	94.36	-169.21	277.82	246.99	30.82	9.013	
4,500.00	4,496.77	4,484.33	4,479.73	15.83	15.88	-149.50	99.95	-173.88	288.84	257.30	31.53	9.159	
4,600.00	4,596.60	4,583.72	4,578.84	16.20	16.24	-149.25	105.53	-178.56	299.86	267.62	32.25	9.299	
4,700.00	4,696.42	4,683.10	4,677.96	16.56	16.61	-149.01	111.11	-183.23	310.89	277.93	32.96	9.433	
4,800.00	4,796.24	4,782.48	4,777.07	16.92	16.97	-148.80	116.69	-187.91	321.93	288.26	33.67	9.561	
4,900.00	4,896.06	4,881.86	4,876.18	17.28	17.33	-148.59	122.27	-192.58	332.97	298.58	34.38	9.684	
5,000.00	4,995.89	4,981.24	4,975.30	17.64	17.69	-148.40	127.86	-197.26	344.01	308.91	35.10	9.801	

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

Anticollision Report

Company: WCDSC Permian NM
 Project: Lea County (NAD83 New Mexico East)
 Reference Site: Sec 23-T26S-R34E
 Site Error: 0.00 ft
 Reference Well: Mean Green 23-35 Fed Com 3H
 Well Error: 0.50 ft
 Reference Wellbore: Wellbore #1
 Reference Design: Permit Plan 1

Local Co-ordinate Reference: Well Mean Green 23-35 Fed Com 3H
 TVD Reference: RKB @ 3224.80ft
 MD Reference: RKB @ 3224.80ft
 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 23-T26S-R34E - Mean Green 23-35 Fed Com 4H - Wellbore #1 - Permit Plan 1													Offset Site Error: 0.00 ft
Survey Program: 0-MWD+HDGM													Offset Well Error: 0.50 ft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Tooface (")	Offset Wellbore Centre +N/-S (ft)	Offset Wellbore Centre +E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	
5,100.00	5,095.71	5,080.63	5,074.41	18.00	18.06	-148.22	133.44	-201.93	355.06	319.25	35.81	9.914	
5,200.00	5,195.53	5,180.01	5,173.53	18.36	18.42	-148.05	139.02	-206.61	366.11	329.58	36.53	10.023	
5,300.00	5,295.35	5,283.23	5,276.50	18.72	18.80	-147.92	144.60	-211.28	376.95	339.68	37.27	10.114	
5,400.00	5,395.18	5,382.14	5,385.28	19.09	19.19	-148.00	148.45	-214.50	385.78	347.73	38.05	10.140	
5,500.00	5,495.00	5,501.39	5,494.52	19.45	19.58	-148.36	149.82	-215.65	392.18	353.38	38.80	10.107	
5,600.00	5,594.82	5,601.70	5,594.82	19.81	19.94	-148.81	149.82	-215.65	397.27	357.75	39.52	10.053	
5,700.00	5,694.64	5,701.52	5,694.64	20.17	20.29	-149.25	149.82	-215.65	402.38	362.15	40.23	10.002	
5,800.00	5,794.47	5,801.34	5,794.47	20.54	20.65	-149.68	149.82	-215.65	407.51	366.57	40.94	9.953	
5,900.00	5,894.29	5,901.16	5,894.29	20.90	21.00	-150.09	149.82	-215.65	412.66	371.01	41.65	9.907	
6,000.00	5,994.11	6,000.99	5,994.11	21.26	21.35	-150.50	149.82	-215.65	417.84	375.47	42.37	9.862	
6,100.00	6,093.93	6,100.81	6,093.93	21.63	21.71	-150.90	149.82	-215.65	423.04	379.96	43.08	9.820	
6,200.00	6,193.76	6,200.63	6,193.76	21.99	22.06	-151.29	149.82	-215.65	428.25	384.46	43.79	9.779	
6,300.00	6,293.58	6,300.45	6,293.58	22.35	22.42	-151.66	149.82	-215.65	433.49	388.98	44.51	9.740	
6,400.00	6,393.40	6,400.28	6,393.40	22.72	22.77	-152.03	149.82	-215.65	438.74	393.52	45.22	9.702	
6,500.00	6,493.22	6,500.10	6,493.22	23.08	23.13	-152.39	149.82	-215.65	444.01	398.08	45.94	9.666	
6,600.00	6,593.05	6,600.08	6,593.05	23.44	23.48	-152.74	149.82	-215.65	449.30	402.65	46.65	9.631	
6,700.00	6,692.87	6,700.26	6,692.87	23.81	23.84	-153.09	149.82	-215.65	454.60	407.24	47.37	9.598	
6,800.00	6,792.69	6,800.44	6,792.69	24.17	24.19	-153.42	149.82	-215.65	459.93	411.85	48.08	9.566	
6,900.00	6,892.51	6,900.61	6,892.51	24.54	24.55	-153.75	149.82	-215.65	465.26	416.47	48.80	9.535	
7,000.00	6,992.34	7,000.79	6,992.34	24.90	24.91	-154.07	149.82	-215.65	470.61	421.10	49.51	9.505	
7,100.00	7,092.16	7,100.97	7,092.16	25.26	25.26	-154.39	149.82	-215.65	475.98	425.75	50.23	9.477	
7,200.00	7,191.98	7,201.15	7,191.98	25.63	25.62	-154.69	149.82	-215.65	481.36	430.41	50.94	9.449	
7,300.00	7,291.80	7,301.32	7,291.80	25.99	25.98	-154.99	149.82	-215.65	486.75	435.09	51.66	9.422	
7,400.00	7,391.63	7,401.50	7,391.63	26.36	26.33	-155.28	149.82	-215.65	492.16	439.78	52.37	9.397	
7,500.00	7,491.45	7,501.68	7,491.45	26.72	26.69	-155.57	149.82	-215.65	497.57	444.48	53.08	9.372	
7,600.00	7,591.27	7,601.86	7,591.27	27.09	27.05	-155.85	149.82	-215.65	503.00	449.20	53.81	9.348	
7,700.00	7,691.09	7,702.03	7,691.09	27.45	27.40	-156.13	149.82	-215.65	508.45	453.92	54.52	9.325	
7,800.00	7,790.92	7,802.21	7,790.92	27.82	27.76	-156.40	149.82	-215.65	513.86	458.62	55.24	9.302	
7,900.00	7,890.83	7,902.30	7,890.83	28.18	28.12	-156.61	149.82	-215.65	517.68	461.73	55.95	9.252	
8,000.00	7,990.81	8,002.31	7,990.81	28.53	28.47	-156.68	149.82	-215.65	519.10	462.44	56.66	9.161	
8,100.00	8,090.81	8,102.31	8,090.81	28.88	28.83	-83.38	149.82	-215.65	519.11	461.74	57.37	9.048	
8,200.00	8,190.81	8,202.31	8,190.81	29.23	29.19	-83.38	149.82	-215.65	519.11	461.03	58.08	8.938	
8,300.00	8,290.81	8,302.31	8,290.81	29.58	29.54	-83.38	149.82	-215.65	519.11	460.32	58.79	8.830	
8,400.00	8,390.81	8,402.31	8,390.81	29.93	29.90	-83.38	149.82	-215.65	519.11	459.62	59.50	8.725	
8,500.00	8,490.81	8,502.31	8,490.81	30.28	30.26	-83.38	149.82	-215.65	519.11	458.91	60.20	8.622	
8,600.00	8,590.81	8,602.31	8,590.81	30.63	30.61	-83.38	149.82	-215.65	519.11	458.20	60.91	8.522	
8,700.00	8,690.81	8,702.31	8,690.81	30.98	30.97	-83.38	149.82	-215.65	519.11	457.49	61.62	8.424	
8,800.00	8,790.81	8,802.31	8,790.81	31.33	31.33	-83.38	149.82	-215.65	519.11	456.78	62.33	8.328	
8,900.00	8,890.81	8,902.31	8,890.81	31.68	31.68	-83.38	149.82	-215.65	519.11	456.07	63.04	8.235	
9,000.00	8,990.81	9,002.31	8,990.81	32.03	32.04	-83.38	149.82	-215.65	519.11	455.36	63.75	8.143	
9,100.00	9,090.81	9,102.31	9,090.81	32.38	32.40	-83.38	149.82	-215.65	519.11	454.65	64.46	8.053	
9,200.00	9,190.81	9,202.31	9,190.81	32.73	32.75	-83.38	149.82	-215.65	519.11	453.94	65.17	7.966	
9,300.00	9,290.81	9,302.31	9,290.81	33.09	33.11	-83.38	149.82	-215.65	519.11	453.23	65.88	7.880	
9,400.00	9,390.81	9,402.31	9,390.81	33.44	33.47	-83.38	149.82	-215.65	519.11	452.52	66.59	7.796	
9,500.00	9,490.81	9,502.31	9,490.81	33.79	33.82	-83.38	149.82	-215.65	519.11	451.81	67.30	7.714	
9,600.00	9,590.81	9,602.31	9,590.81	34.14	34.18	-83.38	149.82	-215.65	519.11	451.10	68.01	7.633	
9,700.00	9,690.81	9,702.31	9,690.81	34.49	34.54	-83.38	149.82	-215.65	519.11	450.39	68.72	7.554	
9,800.00	9,790.81	9,802.31	9,790.81	34.84	34.90	-83.38	149.82	-215.65	519.11	449.68	69.43	7.477	
9,900.00	9,890.81	9,902.31	9,890.81	35.20	35.25	-83.38	149.82	-215.65	519.11	448.97	70.14	7.401	
10,000.00	9,990.81	10,002.31	9,990.81	35.55	35.61	-83.38	149.82	-215.65	519.11	448.26	70.85	7.327	
10,100.00	10,090.81	10,102.31	10,090.81	35.90	35.97	-83.38	149.82	-215.65	519.11	447.55	71.56	7.254	

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

Anticollision Report

Company: WCDSC Permian NM
 Project: Lea County (NAD83 New Mexico East)
 Reference Site: Sec 23-T26S-R34E
 Site Error: 0.00 ft
 Reference Well: Mean Green 23-35 Fed Com 3H
 Well Error: 0.50 ft
 Reference Wellbore: Wellbore #1
 Reference Design: Permit Plan 1

Local Co-ordinate Reference: Well Mean Green 23-35 Fed Com 3H
 TVD Reference: RKB @ 3224.80ft
 MD Reference: RKB @ 3224.80ft
 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 23-T26S-R34E - Mean Green 23-35 Fed Com 4H - Wellbore #1 - Permit Plan 1													Offset Site Error: 0.00 ft
Survey Program: 0-MWD+HDGM													Offset Well Error: 0.50 ft
Reference		Offset		Semi Major Axis		Distance		Minimum Separation		Separation Factor		Warning	
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
10,200.00	10,190.47	10,197.35	10,190.47	36.26	36.31	-119.55	149.82	-215.65	522.47	450.21	72.26	7.230	
10,300.00	10,287.74	10,288.91	10,291.82	36.63	36.64	-124.75	144.92	-215.65	533.98	461.02	72.96	7.319	
10,400.00	10,385.30	10,394.07	10,384.71	37.01	36.93	-165.53	124.74	-215.65	550.29	476.69	73.60	7.477	
10,500.00	10,483.57	10,484.10	10,488.37	37.38	37.18	141.40	91.76	-215.65	568.84	494.68	74.16	7.670	
10,600.00	10,579.85	10,569.97	10,542.44	37.73	37.39	113.37	48.46	-215.65	588.77	514.16	74.60	7.892	
10,700.00	10,671.51	10,652.52	10,606.77	38.04	37.57	99.26	-3.15	-215.65	609.15	534.25	74.90	8.133	
10,800.00	10,756.02	10,732.42	10,661.37	38.32	37.73	90.51	-61.40	-215.65	629.08	554.03	75.05	8.382	
10,900.00	10,831.07	10,810.21	10,706.24	38.58	37.91	84.40	-124.87	-215.65	647.74	572.65	75.10	8.625	
11,000.00	10,894.61	10,886.35	10,741.45	38.82	38.09	79.90	-192.32	-215.65	664.40	589.32	75.08	8.849	
11,100.00	10,944.89	10,961.18	10,767.04	39.07	38.26	76.57	-262.58	-215.65	678.45	603.39	75.07	9.038	
11,200.00	10,980.54	11,035.01	10,783.11	39.34	38.44	74.19	-334.58	-215.65	689.41	614.31	75.10	9.180	
11,300.00	11,000.57	11,108.07	10,789.78	39.62	38.61	72.64	-407.29	-215.65	696.89	621.67	75.22	9.264	
11,400.00	11,005.00	11,202.04	10,790.00	39.90	38.85	72.11	-501.26	-215.65	699.73	624.13	75.61	9.255	
11,500.00	11,005.00	11,302.04	10,790.00	40.21	39.15	72.13	-601.26	-215.65	700.56	624.38	76.18	9.196	
11,600.00	11,005.00	11,402.04	10,790.00	40.57	39.50	72.15	-701.26	-215.65	701.39	624.54	76.86	9.126	
11,700.00	11,005.00	11,502.03	10,790.00	40.98	39.90	72.17	-801.25	-215.65	702.22	624.60	77.63	9.046	
11,800.00	11,005.00	11,602.03	10,790.00	41.43	40.35	72.19	-901.25	-215.65	703.05	624.56	78.49	8.957	
11,900.00	11,005.00	11,702.03	10,790.00	41.93	40.85	72.21	-1,001.24	-215.65	703.89	624.44	79.44	8.860	
12,000.00	11,005.00	11,802.02	10,790.00	42.47	41.39	72.24	-1,101.24	-215.65	704.72	624.23	80.49	8.756	
12,100.00	11,005.00	11,902.02	10,790.00	43.05	41.97	72.26	-1,201.24	-215.65	705.55	623.94	81.61	8.645	
12,200.00	11,005.00	12,002.01	10,790.00	43.67	42.59	72.28	-1,301.23	-215.65	706.38	623.57	82.81	8.530	
12,300.00	11,005.00	12,102.01	10,790.00	44.33	43.26	72.30	-1,401.23	-215.65	707.21	623.12	84.09	8.410	
12,400.00	11,005.00	12,202.01	10,790.00	45.03	43.96	72.32	-1,501.23	-215.65	708.04	622.59	85.45	8.286	
12,500.00	11,005.00	12,302.00	10,790.00	45.76	44.70	72.34	-1,601.22	-215.65	708.87	622.00	86.87	8.160	
12,600.00	11,005.00	12,402.00	10,790.00	46.53	45.47	72.36	-1,701.22	-215.65	709.70	621.34	88.36	8.032	
12,700.00	11,005.00	12,502.00	10,790.00	47.32	46.27	72.39	-1,801.21	-215.65	710.54	620.62	89.92	7.902	
12,800.00	11,005.00	12,601.99	10,790.00	48.15	47.11	72.41	-1,901.21	-215.65	711.37	619.84	91.53	7.772	
12,900.00	11,005.00	12,701.99	10,790.00	49.01	47.97	72.43	-2,001.21	-215.65	712.20	619.00	93.20	7.641	
13,000.00	11,005.00	12,801.98	10,790.00	49.90	48.87	72.45	-2,101.20	-215.65	713.03	618.10	94.93	7.511	
13,100.00	11,005.00	12,901.98	10,790.00	50.81	49.78	72.47	-2,201.20	-215.65	713.86	617.16	96.71	7.382	
13,200.00	11,005.00	13,001.98	10,790.00	51.75	50.73	72.49	-2,301.19	-215.65	714.70	616.16	98.53	7.253	
13,300.00	11,005.00	13,101.97	10,790.00	52.71	51.69	72.51	-2,401.19	-215.65	715.53	615.13	100.40	7.127	
13,400.00	11,005.00	13,201.97	10,790.00	53.69	52.68	72.53	-2,501.19	-215.65	716.36	614.04	102.32	7.001	
13,500.00	11,005.00	13,301.96	10,790.00	54.69	53.69	72.55	-2,601.18	-215.65	717.19	612.92	104.27	6.878	
13,600.00	11,005.00	13,401.96	10,790.00	55.71	54.72	72.58	-2,701.18	-215.65	718.03	611.76	106.27	6.757	
13,700.00	11,005.00	13,501.96	10,790.00	56.76	55.77	72.60	-2,801.18	-215.65	718.86	610.56	108.30	6.638	
13,800.00	11,005.00	13,601.95	10,790.00	57.82	56.83	72.62	-2,901.17	-215.65	719.69	609.32	110.37	6.521	
13,900.00	11,005.00	13,701.95	10,790.00	58.89	57.92	72.64	-3,001.17	-215.65	720.52	608.06	112.47	6.407	
14,000.00	11,005.00	13,801.95	10,790.00	59.98	59.01	72.66	-3,101.16	-215.65	721.36	606.76	114.60	6.295	
14,100.00	11,005.00	13,901.94	10,790.00	61.09	60.13	72.68	-3,201.16	-215.65	722.19	605.43	116.76	6.185	
14,200.00	11,005.00	14,001.94	10,790.00	62.21	61.25	72.70	-3,301.16	-215.65	723.02	604.08	118.94	6.079	
14,300.00	11,005.00	14,101.93	10,790.00	63.35	62.39	72.72	-3,401.15	-215.65	723.86	602.70	121.16	5.975	
14,400.00	11,005.00	14,201.93	10,790.00	64.50	63.55	72.74	-3,501.15	-215.65	724.69	601.30	123.39	5.873	
14,500.00	11,005.00	14,301.93	10,790.00	65.66	64.71	72.76	-3,601.15	-215.65	725.52	599.87	125.66	5.774	
14,600.00	11,005.00	14,401.92	10,790.00	66.83	65.89	72.78	-3,701.14	-215.65	726.36	598.42	127.94	5.677	
14,700.00	11,005.00	14,501.92	10,790.00	68.01	67.07	72.80	-3,801.14	-215.65	727.19	596.94	130.25	5.583	
14,800.00	11,005.00	14,601.92	10,790.00	69.20	68.27	72.82	-3,901.13	-215.65	728.02	595.45	132.57	5.491	
14,900.00	11,005.00	14,701.91	10,790.00	70.41	69.48	72.84	-4,001.13	-215.65	728.86	593.94	134.92	5.402	
15,000.00	11,005.00	14,801.91	10,790.00	71.62	70.69	72.86	-4,101.13	-215.65	729.69	592.41	137.28	5.315	
15,100.00	11,005.00	14,901.90	10,790.00	72.84	71.92	72.88	-4,201.12	-215.65	730.53	590.86	139.66	5.231	
15,200.00	11,005.00	15,001.90	10,790.00	74.07	73.15	72.90	-4,301.12	-215.65	731.36	589.30	142.06	5.148	

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

Anticollision Report

Company: WCDSC Permian NM
 Project: Lea County (NAD83 New Mexico East)
 Reference Site: Sec 23-T26S-R34E
 Site Error: 0.00 ft
 Reference Well: Mean Green 23-35 Fed Com 3H
 Well Error: 0.50 ft
 Reference Wellbore: Wellbore #1
 Reference Design: Permit Plan 1

Local Co-ordinate Reference
 TVD Reference: RKB @ 3224.80ft
 MD Reference: RKB @ 3224.80ft
 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 23-T26S-R34E - Mean Green 23-35 Fed Com 4H - Wellbore #1 - Permit Plan 1													Offset Site Error: 0.00 ft
Survey Program: 0-MWD+HDGM													Offset Well Error: 0.50 ft
Reference		Offset		Semi Major Axis			Distance						
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor	Warning
15,300.00	11,005.00	15,101.90	10,790.00	75.30	74.39	72.92	-4,401.11	-215.65	732.19	587.72	144.47	5.068	
15,400.00	11,005.00	15,201.89	10,790.00	76.55	75.64	72.94	-4,501.11	-215.65	733.03	586.13	146.90	4.990	Alert
15,500.00	11,005.00	15,301.89	10,790.00	77.80	76.89	72.96	-4,601.11	-215.65	733.88	584.52	149.34	4.914	Alert
15,600.00	11,005.00	15,401.88	10,790.00	79.06	78.15	72.98	-4,701.10	-215.65	734.70	582.90	151.80	4.840	Alert
15,700.00	11,005.00	15,501.88	10,790.00	80.32	79.42	73.00	-4,801.10	-215.65	735.53	581.27	154.27	4.768	Alert
15,800.00	11,005.00	15,601.88	10,790.00	81.60	80.70	73.02	-4,901.10	-215.65	736.37	579.62	156.75	4.698	Alert
15,900.00	11,005.00	15,701.87	10,790.00	82.87	81.98	73.04	-5,001.09	-215.65	737.20	577.96	159.24	4.630	Alert
16,000.00	11,005.00	15,801.87	10,790.00	84.16	83.26	73.06	-5,101.09	-215.65	738.04	576.29	161.74	4.563	Alert
16,100.00	11,005.00	15,901.87	10,790.00	85.45	84.55	73.08	-5,201.08	-215.65	738.87	574.61	164.26	4.498	Alert
16,200.00	11,005.00	16,001.86	10,790.00	86.74	85.85	73.10	-5,301.08	-215.65	739.71	572.92	166.78	4.435	Alert
16,300.00	11,005.00	16,101.86	10,790.00	88.04	87.15	73.12	-5,401.08	-215.65	740.54	571.22	169.32	4.374	Alert
16,400.00	11,005.00	16,201.85	10,790.00	89.34	88.45	73.14	-5,501.07	-215.65	741.38	569.52	171.86	4.314	Alert
16,500.00	11,005.00	16,301.85	10,790.00	90.65	89.76	73.16	-5,601.07	-215.65	742.21	567.80	174.41	4.255	Alert
16,600.00	11,005.00	16,401.85	10,790.00	91.96	91.08	73.18	-5,701.07	-215.65	743.05	566.07	176.97	4.199	Alert
16,700.00	11,005.00	16,501.84	10,790.00	93.28	92.40	73.20	-5,801.06	-215.65	743.88	564.34	179.54	4.143	Alert
16,800.00	11,005.00	16,601.84	10,790.00	94.60	93.72	73.22	-5,901.06	-215.65	744.72	562.59	182.12	4.089	Alert
16,900.00	11,005.00	16,701.84	10,790.00	95.93	95.04	73.24	-6,001.05	-215.65	745.55	560.85	184.71	4.036	Alert
17,000.00	11,005.00	16,801.83	10,790.00	97.26	96.37	73.26	-6,101.05	-215.65	746.39	559.09	187.30	3.985	Alert
17,100.00	11,005.00	16,901.83	10,790.00	98.59	97.70	73.28	-6,201.05	-215.65	747.22	557.32	189.90	3.935	Alert
17,200.00	11,005.00	17,001.82	10,790.00	99.92	99.04	73.30	-6,301.04	-215.65	748.06	555.55	192.51	3.886	Alert
17,300.00	11,005.00	17,101.82	10,790.00	101.26	100.38	73.32	-6,401.04	-215.65	748.90	553.78	195.12	3.838	Alert
17,400.00	11,005.00	17,201.82	10,790.00	102.60	101.72	73.33	-6,501.03	-215.65	749.73	551.99	197.74	3.792	Alert
17,500.00	11,005.00	17,301.81	10,790.00	103.95	103.07	73.35	-6,601.03	-215.65	750.57	550.20	200.36	3.746	Alert
17,600.00	11,005.00	17,401.81	10,790.00	105.30	104.41	73.37	-6,701.03	-215.65	751.40	548.41	202.99	3.702	Alert
17,700.00	11,005.00	17,501.80	10,790.00	106.65	105.76	73.39	-6,801.02	-215.65	752.24	546.61	205.63	3.658	Alert
17,800.00	11,005.00	17,601.80	10,790.00	108.00	107.12	73.41	-6,901.02	-215.65	753.08	544.80	208.27	3.616	Alert
17,900.00	11,005.00	17,701.80	10,790.00	109.35	108.47	73.43	-7,001.02	-215.65	753.91	542.99	210.92	3.574	Alert
18,000.00	11,005.00	17,801.79	10,790.00	110.71	109.83	73.45	-7,101.01	-215.65	754.75	541.18	213.57	3.534	Alert
18,100.00	11,005.00	17,901.79	10,790.00	112.07	111.19	73.47	-7,201.01	-215.65	755.58	539.36	216.23	3.494	Alert
18,200.00	11,005.00	18,001.79	10,790.00	113.44	112.55	73.49	-7,301.00	-215.65	756.42	537.53	218.89	3.456	Alert
18,300.00	11,005.00	18,101.78	10,790.00	114.80	113.92	73.51	-7,401.00	-215.65	757.26	535.70	221.56	3.418	Alert
18,400.00	11,005.00	18,201.78	10,790.00	116.17	115.28	73.52	-7,501.00	-215.65	758.10	533.87	224.23	3.381	Alert
18,500.00	11,005.00	18,301.77	10,790.00	117.54	116.65	73.54	-7,600.99	-215.65	758.93	532.03	226.90	3.345	Alert
18,600.00	11,005.00	18,401.77	10,790.00	118.91	118.02	73.56	-7,700.99	-215.65	759.77	530.19	229.58	3.309	Alert
18,700.00	11,005.00	18,501.77	10,790.00	120.28	119.39	73.58	-7,800.99	-215.65	760.61	528.34	232.27	3.275	Alert
18,800.00	11,005.00	18,601.76	10,790.00	121.66	120.77	73.60	-7,900.98	-215.65	761.44	526.49	234.95	3.241	Alert
18,900.00	11,005.00	18,701.76	10,790.00	123.03	122.14	73.62	-8,000.98	-215.65	762.28	524.64	237.64	3.208	Alert
19,000.00	11,005.00	18,801.76	10,790.00	124.41	123.52	73.64	-8,100.97	-215.65	763.12	522.78	240.34	3.175	Alert
19,100.00	11,005.00	18,901.75	10,790.00	125.79	124.90	73.65	-8,200.97	-215.65	763.95	520.92	243.03	3.143	Alert
19,200.00	11,005.00	19,001.75	10,790.00	127.18	126.28	73.67	-8,300.97	-215.65	764.79	519.06	245.74	3.112	Alert
19,300.00	11,005.00	19,101.74	10,790.00	128.56	127.66	73.69	-8,400.96	-215.65	765.63	517.19	248.44	3.082	Alert
19,400.00	11,005.00	19,201.74	10,790.00	129.94	129.05	73.71	-8,500.96	-215.65	766.47	515.32	251.15	3.052	Alert
19,500.00	11,005.00	19,301.74	10,790.00	131.33	130.43	73.73	-8,600.95	-215.65	767.30	513.45	253.86	3.023	Alert
19,600.00	11,005.00	19,401.73	10,790.00	132.72	131.82	73.75	-8,700.95	-215.65	768.14	511.57	256.57	2.994	Alert
19,700.00	11,005.00	19,501.73	10,790.00	134.11	133.21	73.76	-8,800.95	-215.65	768.98	509.69	259.29	2.966	Alert
19,800.00	11,005.00	19,601.72	10,790.00	135.50	134.60	73.78	-8,900.94	-215.65	769.82	507.81	262.01	2.938	Alert
19,900.00	11,005.00	19,701.72	10,790.00	136.89	135.99	73.80	-9,000.94	-215.65	770.66	505.93	264.73	2.911	Alert
20,000.00	11,005.00	19,801.72	10,790.00	138.28	137.38	73.82	-9,100.94	-215.65	771.49	504.04	267.46	2.885	Alert
20,100.00	11,005.00	19,901.71	10,790.00	139.68	138.77	73.84	-9,200.93	-215.65	772.33	502.15	270.18	2.859	Alert
20,200.00	11,005.00	20,001.71	10,790.00	141.08	140.16	73.85	-9,300.93	-215.65	773.17	500.26	272.91	2.833	Alert
20,300.00	11,005.00	20,101.71	10,790.00	142.47	141.56	73.87	-9,400.92	-215.65	774.01	498.36	275.65	2.808	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: Lea County (NAD83 New Mexico East)
Reference Site: Sec 23-T26S-R34E
Site Error: 0.00 ft
Reference Well: Mean Green 23-35 Fed Com 3H
Well Error: 0.50 ft
Reference Wellbore: Wellbore #1
Reference Design: Permit Plan 1

Local Co-ordinate Reference: Well Mean Green 23-35 Fed Com 3H
TVD Reference: RKB @ 3224.80ft
MD Reference: RKB @ 3224.80ft
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 23-T26S-R34E - Mean Green 23-35 Fed Com 4H - Wellbore #1 - Permit Plan 1													Offset Site Error:	0.00 ft
Survey Program: 0-MWD+HDGM													Offset Well Error:	0.50 ft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (ft)	Vertical Depth (ft)	Measured Depth (ft)	Vertical Depth (ft)	Reference (ft)	Offset (ft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (ft)	+E/-W (ft)	Between Centres (ft)	Between Ellipses (ft)	Minimum Separation (ft)	Separation Factor		
20,400.00	11,005.00	20,201.70	10,790.00	143.87	142.96	73.89	-9,500.92	-215.65	774.85	496.47	278.38	2.783	Alert	
20,500.00	11,005.00	20,301.70	10,790.00	145.27	144.35	73.91	-9,600.82	-215.65	775.69	494.57	281.12	2.759	Alert	
20,600.00	11,005.00	20,401.69	10,790.00	146.67	145.75	73.93	-9,700.91	-215.65	776.52	492.67	283.86	2.736	Alert	
20,700.00	11,005.00	20,501.69	10,790.00	148.07	147.15	73.94	-9,800.91	-215.65	777.36	490.76	286.60	2.712	Alert	
20,800.00	11,005.00	20,601.69	10,790.00	149.47	148.55	73.96	-9,900.91	-215.65	778.20	488.86	289.34	2.690	Alert	
20,897.67	11,005.00	20,699.35	10,790.00	150.84	149.92	73.98	-9,998.57	-215.65	779.02	487.00	292.03	2.668	Alert, SF	

Anticollision Report

Company: WCDSC Permian NM
Project: Lea County (NAD83 New Mexico East)
Reference Site: Sec 23-T26S-R34E
Site Error: 0.00 ft
Reference Well: Mean Green 23-35 Fed Com 3H
Well Error: 0.50 ft
Reference Wellbore: Wellbore #1
Reference Design: Permit Plan 1

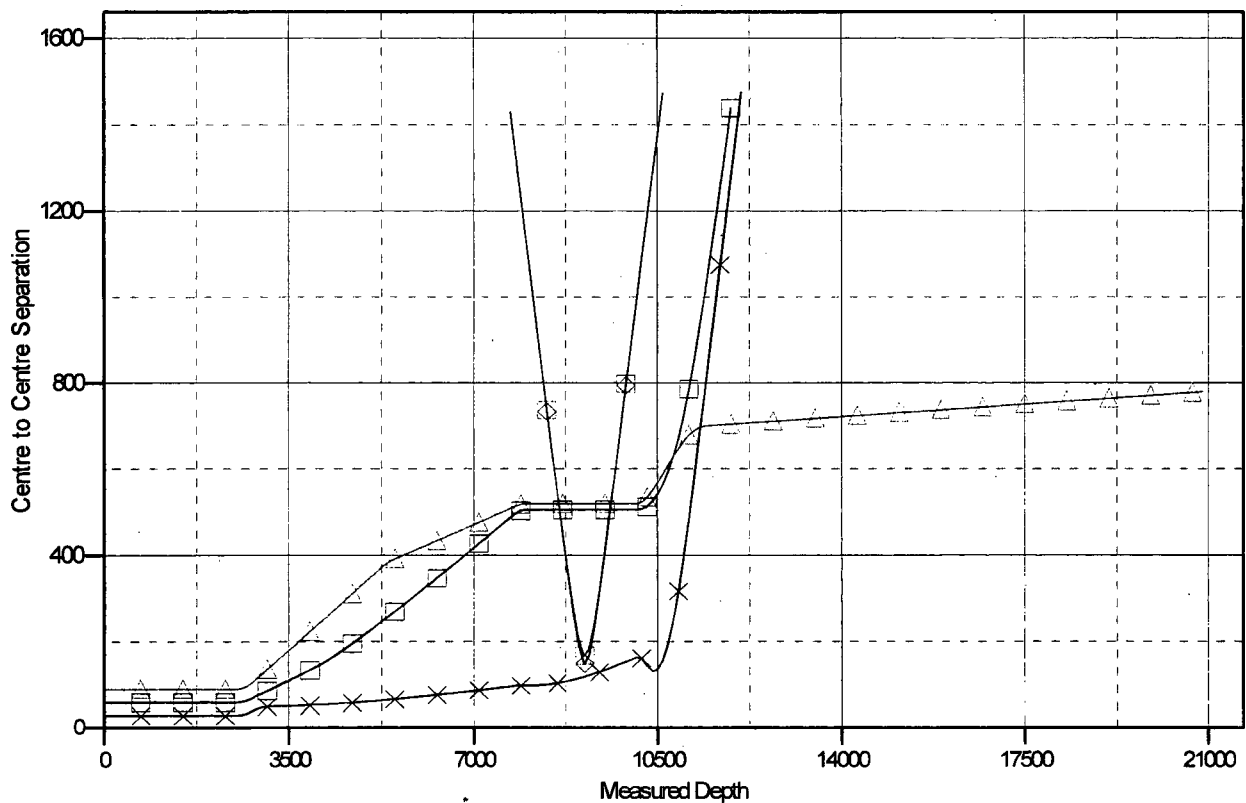
Local Co-ordinate Reference
TVD Reference:
MD Reference:
North Reference:
Survey Calculation Method:
Output errors are at
Database:
Offset TVD Reference:

Well Mean Green 23-35 Fed Com 3H
 RKB @ 3224.80ft
 RKB @ 3224.80ft
 Grid
 Minimum-Curvature
 2.00 sigma
 EDM r5000.141_Prod US
 Offset Datum

Reference Depths are relative to RKB @ 3224.80ft
 Offset Depths are relative to Offset Datum
 Central Meridian is -104.333334

Coordinates are relative to: Mean Green 23-35 Fed Com 3H
 Coordinate System is US State Plane 1983, New Mexico Eastern Zone
 Grid Convergence at Surface is: 0.48°

Ladder Plot



LEGEND

Mean Green 23-35 Fed Com 2H, Wellbore #1, Permit Plan 2 V0
 Mean Green 23-35 Fed Com 1H, Original Hole, Actual V0
 Mean Green 23-35 Fed Com 1H, Original Hole, Plan 1 V0
 Mean Green 23-35 Fed Com 4H, Wellbore #1, Permit Plan 1 V0
 Mean Green 23-35 Fed Com 1H, Wellbore #1, Permit Plan 1 V0

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

Anticollision Report

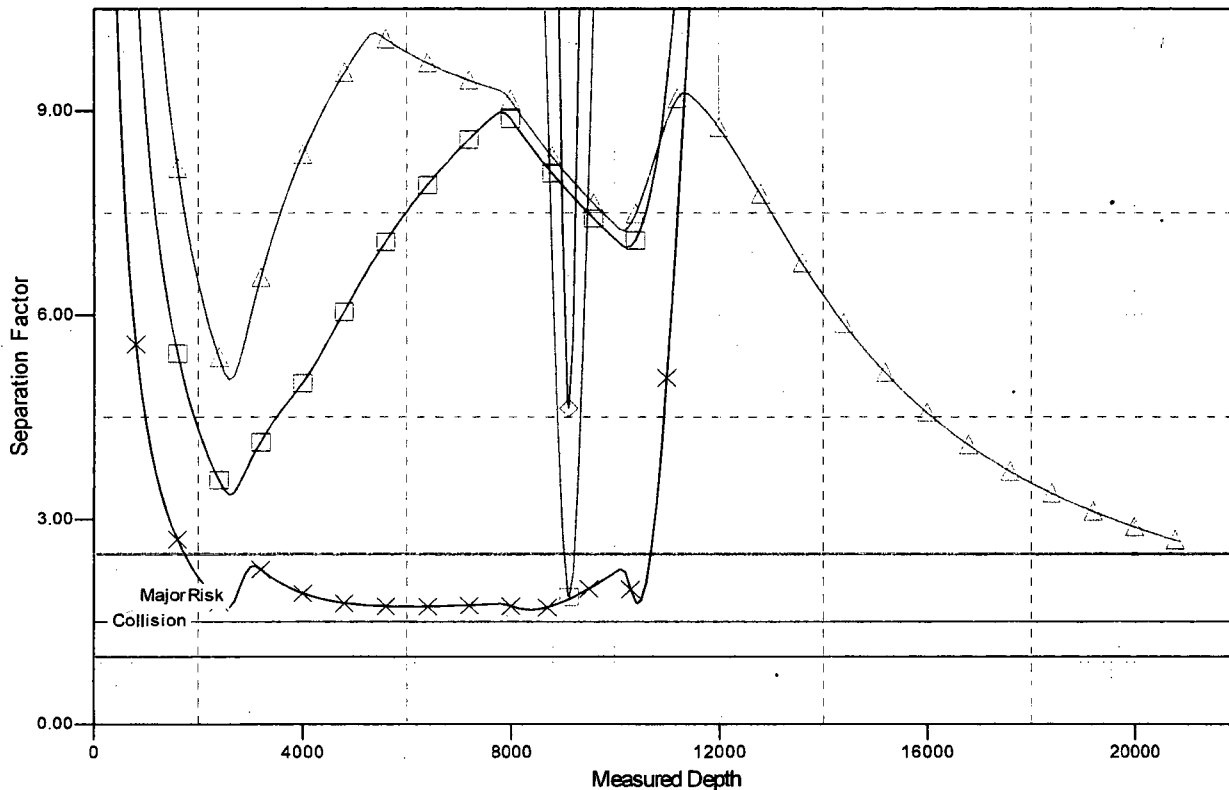
Company: WCDSC Permian NM
Project: Lea County (NAD83 New Mexico East)
Reference Site: Sec 23-T26S-R34E
Site Error: 0.00 ft
Reference Well: Mean Green 23-35 Fed Com 3H
Well Error: 0.50 ft
Reference Wellbore: Wellbore #1
Reference Design: Permit Plan 1

Local Co-ordinate Reference
TVD Reference: RKB @ 3224.80ft
MD Reference: RKB @ 3224.80ft
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 @ 3224.80ft
 Offset Depths are relative to Offset Datum
 Central Meridian is -104.333334

Coordinates are relative to: Mean Green 23-35 Fed Com 3H
 Coordinate System is US State Plane 1983, New Mexico Eastern Zone
 Grid Convergence at Surface is: 0.48°

Separation Factor Plot



LEGEND

Mean Green 23-35 Fed Com 2H, Wellbore #1, Permit Plan 2 V0
 Mean Green 23 FED 1H, Original Hole, Actual V0
 Mean Green 23 FED 1H, Original Hole, Plan 1 V0
 Mean Green 23-35 Fed Com 4H, Wellbore #1, Permit Plan 1 V0
 Mean Green 23-35 Fed Com 1H, Wellbore #1, Permit Plan 1 V0

PECOS DISTRICT

DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Devon Energy Production Company
LEASE NO.:	NMNM100568
WELL NAME & NO.:	Mean Green 23-35 Fed Com 3H
SURFACE HOLE FOOTAGE:	2449'/S & 830'/E
BOTTOM HOLE FOOTAGE:	200'/S & 380'/E
LOCATION:	Section 23, T.26 S., R.34 E., NMPM
COUNTY:	Lea County, New Mexico

COA

All previous COA still apply expect the following:

H2S	☐ Yes	☒ No	
Potash	☒ None	☐ Secretary	☐ R-111-P
Cave/Karst Potential	☒ Low	☐ Medium	☐ High
Variance	☐ None	☒ Flex Hose	☐ Other
Wellhead	☐ Conventional	☒ Multibowl	☐ Both
Other	☐ 4 String Area	☐ Capitan Reef	☐ WIPP

A. Hydrogen Sulfide

Hydrogen Sulfide (H2S) monitors shall be installed prior to drilling out the surface shoe. If H2S is detected in concentrations greater than 100 ppm, the Hydrogen Sulfide area shall meet Onshore Order 6 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, provide measured values and formations to the BLM.

B. CASING

1. The 13-3/8 inch surface casing shall be set at approximately **1050** feet (a minimum of 25 feet into the Rustler Anhydrite and above the salt) and cemented to the surface.
 - a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
 - b. Wait on cement (WOC) time for a primary cement job will be a minimum of **8 hours** or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement)

- c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
- d. If cement falls back, remedial cementing will be done prior to drilling out that string.

Operator shall filled 1/3rd casing with fluid while running intermediate casing to maintain collapse safety factor.

2. The minimum required fill of cement behind the 9 5/8 inch intermediate casing is:

- Cement to surface. If cement does not circulate see B.1.a, c-d above.

3. The minimum required fill of cement behind the 5-1/2 inch production casing is:

- Cement should tie-back at least 200 feet into previous casing string. Operator shall provide method of verification. **Additional cement maybe required. Excess calculates to -31%.**

C. PRESSURE CONTROL

1. Variance approved to use flex line from BOP to choke manifold. Manufacturer's specification to be readily available. No external damage to flex line. Flex line to be installed as straight as possible (no hard bends).
2. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **2000 (2M)** psi.
3. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the 7-5/8 intermediate casing shoe shall be **3000 (3M)** psi.

GENERAL REQUIREMENTS

The BLM is to be notified in advance for a representative to witness:

- a. Spudding well (minimum of 24 hours)
- b. Setting and/or Cementing of all casing strings (minimum of 4 hours)
- c. BOPE tests (minimum of 4 hours)

☒ Chaves and Roosevelt Counties
Call the Roswell Field Office, 2909 West Second St., Roswell NM 88201.
During office hours call (575) 627-0272.
After office hours call (575)

☒ Eddy County
Call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220,
(575) 361-2822

☒ Lea County

Call the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240, (575)
393-3612

1. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.
 - a. In the event the operator has proposed to drill multiple wells utilizing a skid/walking rig. Operator shall secure the wellbore on the current well, after installing and testing the wellhead, by installing a blind flange of like pressure rating to the wellhead and a pressure gauge that can be monitored while drilling is performed on the other well(s).
 - b. **The operator proposes to set surface casing with Spudder Rig**
 - **Notify the BLM when moving in and removing the Spudder Rig.**
 - **Notify the BLM when moving in the 2nd Rig. Rig to be moved in within 90 days of notification that Spudder Rig has left the location.**
 - **BOP/BOPE test to be conducted per Onshore Oil and Gas Order No. 2 as soon as 2nd Rig is rigged up on well.**
2. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works are located, this does not include the dog house or stairway area.
3. The record of the drilling rate along with the GR/N well log (one log per well pad is acceptable) run from TD to surface (horizontal well – vertical portion of hole) shall be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.

A. CASING

1. Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size or are Non-API. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.). The initial wellhead installed on the well will remain on the well with spools used as needed.
2. Wait on cement (WOC) for Potash Areas: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive

strength of 500 psi for all cement blends, 2) until cement has been in place at least 24 hours. WOC time will be recorded in the driller's log. The casing integrity test can be done (prior to the cement setting up) immediately after bumping the plug.

3. Wait on cement (WOC) for Water Basin: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements. The casing integrity test can be done (prior to the cement setting up) immediately after bumping the plug.
4. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. Have well specific cement details onsite prior to pumping the cement for each casing string.
5. No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.
6. On that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Formation at the shoe shall be tested to a minimum of the mud weight equivalent anticipated to control the formation pressure to the next casing depth or at total depth of the well. This test shall be performed before drilling more than 20 feet of new hole.
7. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.
8. Whenever a casing string is cemented in the R-111-P potash area, the NMOCD requirements shall be followed.

B. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.
2. If a variance is approved for a flexible hose to be installed from the BOP to the choke manifold, the following requirements apply: The flex line must meet the requirements of API 16C. Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating.

Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.

3. 5M or higher system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.
4. If the operator has proposed a multi-bowl wellhead assembly in the APD. The following requirements must be met:
 - a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
 - b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
 - c. Manufacturer representative shall install the test plug for the initial BOP test.
 - d. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
 - e. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.
5. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
 - a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead when specified), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).
 - b. In potash areas, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. For all casing strings, casing cut-off and BOP installation can be initiated at twelve hours after bumping the plug. However, **no tests** shall commence until the cement has had a minimum of 24 hours setup time, except the casing pressure test can be initiated immediately after bumping the plug (only applies to single stage cement jobs).

- c. The tests shall be done by an independent service company utilizing a test plug. The results of the test shall be reported to the appropriate BLM office.
- d. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one hour chart. A circular chart shall have a maximum 2 hour clock. If a twelve hour or twenty-four hour chart is used, tester shall make a notation that it is run with a two hour clock.
- e. All tests are required to be recorded on a calibrated test chart. A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.
- f. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes. This test shall be performed prior to the test at full stack pressure.
- g. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the Wolfcamp formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per Onshore Order No. 2.

C. DRILLING MUD

Mud system monitoring equipment, with derrick floor indicators and visual and audio alarms, shall be operating before drilling into the Wolfcamp formation, and shall be used until production casing is run and cemented.

D. WASTE MATERIAL AND FLUIDS

All waste (i.e. drilling fluids, trash, salts, chemicals, sewage, gray water, etc.) created as a result of drilling operations and completion operations shall be safely contained and disposed of properly at a waste disposal facility. No waste material or fluid shall be disposed of on the well location or surrounding area.

Porto-johns and trash containers will be on-location during fracturing operations or any other crew-intensive operations.

Waste Minimization Plan (WMP)

In the interest of resource development, submission of additional well gas capture development plan information is deferred but may be required by the BLM Authorized Officer at a later date.

ZS 052918

13 3/8	surface csg in a	17 1/2	inch hole.	Design Factors			SURFACE		
Segment	#/ft	Grade	Coupling	Joint	Collapse	Burst	Length	Weight	
"A"	48.00	H 40	ST&C	6.39	1.6	0.61	1,050	50,400	
"B"							0	0	
w/8.4#/g mud, 30min Sfc Csg Test psig: 753			Tail Cmt	does	circ to sfc.	Totals:	1,050	50,400	
Comparison of Proposed to Minimum Required Cement Volumes									
Hole	Annular	1 Stage	1 Stage	Min	1 Stage	Drilling	Calc	Req'd	Min Dist
Size	Volume	Cmt Sx	CuFt Cmt	Cu Ft	% Excess	Mud Wt	MASP	BOPE	Hole-Cplg
17 1/2	0.6946	823	1103	784	41	8.80	1658	2M	1.56

Burst Frac Gradient(s) for Segment(s) A, B = , b All > 0.70, OK.

9 5/8	casing inside the	13 3/8	Design Factors				INTERMEDIATE		
Segment	#/ft	Grade	Coupling	Joint	Collapse	Burst	Length	Weight	
"A"	40.00	J 55	LT&C	2.43	0.91	0.74	5,350	214,000	
"B"			LT&C				0	0	
w/8.4#/g mud, 30min Sfc Csg Test psig:						Totals:	5,350	214,000	
The cement volume(s) are intended to achieve a top of				0	ft from surface or a		1050	overlap.	
Hole Size	Annular Volume	1 Stage Cmt Sx	1 Stage CuFt Cmt	Min Cu Ft	1 Stage % Excess	Drilling Mud Wt	Calc MASP	Req'd BOPE	Min Dist Hole-Cplg
12 1/4	0.3132	1379	2392	1761	36	10.20	2896	3M	0.81

Burst Frac Gradient(s) for Segment(s): A, B, C, D = 0.74, b, c, d

All > 0.70, OK.

ALT. COLLAPSE SF : 0.91*1.5= 1.37

5 1/2 casing inside the 9 5/8			Design Factors			PRODUCTION			
Segment	#/ft	Grade	Coupling	Body	Collapse	Burst	Length	Weight	
"A"	17.00	P 110	VAM SG	2.92	1.53	2	10,109	171,853	
"B"	17.00	P 110	VAM SG	9.56	1.32	2	10,788	183,396	
w/8.4#/g mud, 30min Sfc Csg Test psig: 2,224							Totals:	20,897 355,249	
B would be:				35.85	1.41	if it were a vertical wellbore.			
No Pilot Hole Planned			MTD	Max VTD	Csg VD	Curve KOP	Dogleg°	Severity°	
			20897	11005	11005	10109	90	7	
The cement volume(s) are intended to achieve a top of					5150	ft from surface or a		200 overlap.	
Hole Size	Annular Volume	1 Stage Cmt Sx	1 Stage CuFt Cmt	Min Cu Ft	1 Stage % Excess	Drilling Mud Wt	Calc MASP	Req'd BOPE	Min Dist Hole-Cplg
8 3/4	0.2526	2283	2740	3985	-31	9.30			1.35