

Well Name: ARENA ROJA FED UNIT	Well Location: T26S / R35E / SEC 27 / NENW / 32.01969 / -103.358589	County or Parish/State: LEA / NM
Well Number: 812H	Type of Well: OIL WELL	Allottee or Tribe Name:
Lease Number: NMNM97910	Unit or CA Name: ARENA ROJA FEDERAL	Unit or CA Number: NMNM112744X
US Well Number: 3002553446	Operator: DEVON ENERGY PRODUCTION COMPANY LP	

Notice of Intent

Sundry ID: 2875448

Type of Submission: Notice of Intent	Type of Action: APD Change
Date Sundry Submitted: 09/24/2025	Time Sundry Submitted: 12:28
Date proposed operation will begin: 09/24/2025	

Procedure Description: Devon Energy Production Company L.P. respectfully requests the following changes to the approved APD: BHL change from 20 FSL & 2430 FWL, 34-26S-35E to 20 FNL & 2170 FEL, 27-26S-35E. TVD/MD change from 12800'/20280' to 13000'/ 28605' Spacing change from 233.44 acs to 933.76 acs Casing program change: Surface casing size change. Surface, Intermediate, and Production casing depth changes. Cement volume changes to accommodate casing change. Please see attached revised C-102, spec sheets, and drilling & directional plans.

NOI Attachments

Procedure Description

- ARENA_ROJA_FED_UNIT_812H_Permit_Plan_1_20251008082111.pdf
- 5.5_20lb_P110HP_CDC_HTQ_20250924122001.pdf
- 13.375_54.5lb_J55_20250924122000.pdf
- ARENA_ROJA_FED_UNIT_812H_C_102_U_Turn_NOI_20250924121901.pdf
- ARENA_ROJA_FED_UNIT_812H_9_18_2025_20250924121859.pdf

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Well Name: ARENA ROJA FED UNIT	Well Location: T26S / R35E / SEC 27 / NENW / 32.01969 / -103.358589	County or Parish/State: LEA / NM
Well Number: 812H	Type of Well: OIL WELL	Allottee or Tribe Name:
Lease Number: NMNM97910	Unit or CA Name: ARENA ROJA FEDERAL	Unit or CA Number: NMNM112744X
US Well Number: 3002553446	Operator: DEVON ENERGY PRODUCTION COMPANY LP	

Conditions of Approval

Specialist Review

Arena_Roja_Fed_Unit_812H_Sundry_ID_2875448_20251015123802.pdf

Operator

I certify that the foregoing is true and correct. 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. Electronic submission of Sundry Notices through this system satisfies regulations requiring a

Operator Electronic Signature: REBECCA DEAL

Signed on: OCT 08, 2025 08:23 AM

Name: DEVON ENERGY PRODUCTION COMPANY LP

Title: Regulatory Professional

Street Address: 333 W SHERIDAN AVE

City: OKLAHOMA CITYState: OK

Phone: (405) 228-8429

Email address: REBECCA.DEAL@DVN.COM

Field

Representative Name:

Street Address:

City:State:Zip:

Phone:

Email address:

BLM Point of Contact

BLM POC Name: LONG VO

BLM POC Title: Petroleum Engineer

BLM POC Phone: 5759885402

BLM POC Email Address: LVO@BLM.GOV

Disposition: Approved

Disposition Date: 10/15/2025

Signature: Long Vo

Form 3160-5
(October 2024)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB No. 1004-0220
Expires: October 31, 2027

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.

5. Lease Serial No.

6. If Indian, Allottee or Tribe Name

SUBMIT IN TRIPLICATE - Other instructions on page 2

1. Type of Well

☐ Oil Well

☐ Gas Well

☐ Other

2. Name of Operator

3a. Address

3b. Phone No. (include area code)

4. Location of Well (Footage, Sec., T.,R.,M., or Survey Description)

7. If Unit of CA/Agreement, Name and/or No.

8. Well Name and No.

9. API Well No.

10. Field and Pool or Exploratory Area

11. Country or Parish, State

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

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

13. Describe Proposed or Completed Operation: Clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleate horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be perfonned 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 recompletion 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 detennined that the site is ready for final inspection.)

14. I hereby certify that the foregoing is true and correct. Name (Printed/Typed)

Title

Signature

Date

THE SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by

Title

Date

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

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.

GENERAL INSTRUCTIONS

This form is designed for submitting proposals to perform certain well operations and reports of such operations when completed as indicated on Federal and Indian lands pursuant to applicable Federal law and regulations. Any necessary special instructions concerning the use of this form and the number of copies to be submitted, particularly with regard to local area or regional procedures and practices, are either shown below, will be issued by or may be obtained from the local Federal office.

SPECIFIC INSTRUCTIONS

Item 4 - Locations on Federal or Indian land should be described in accordance with Federal requirements. Consult the local Federal office for specific instructions.

Item 13: Proposals to abandon a well and subsequent reports of abandonment should include such special information as is required by the local Federal office. In addition, such proposals and reports should include reasons for the abandonment; data on any former or present productive zones or other zones with present significant fluid contents not sealed off by cement or otherwise; depths (top and bottom) and method of placement of cement plugs; mud or other material placed below, between and above plugs; amount, size, method of parting of any casing, liner or tubing pulled and the depth to the top of any tubing left in the hole; method of closing top of well and date well site conditioned for final inspection looking for approval of the abandonment. If the proposal will involve **hydraulic fracturing operations**, you must comply with 43 CFR 3162.3-3, including providing information about the protection of usable water. Operators should provide the best available information about all formations containing water and their depths. This information could include data and interpretation of resistivity logs run on nearby wells. Information may also be obtained from state or tribal regulatory agencies and from local BLM offices.

NOTICES

The privacy Act of 1974 and the regulation in 43 CFR 2.48(d) provide that you be furnished the following information in connection with information required by this application.

AUTHORITY: 30 U.S.C. 181 et seq., 351 et seq., 25 U.S.C. 396; 43 CFR 3160.

PRINCIPAL PURPOSE: The information is used to: (1) Evaluate, when appropriate, approve applications, and report completion of subsequent well operations, on a Federal or Indian lease; and (2) document for administrative use, information for the management, disposal and use of National Resource lands and resources, such as: (a) evaluating the equipment and procedures to be used during a proposed subsequent well operation and reviewing the completed well operations for compliance with the approved plan; (b) requesting and granting approval to perform those actions covered by 43 CFR 3162.3-2, 3162.3-3, and 3162.3-4; (c) reporting the beginning or resumption of production, as required by 43 CFR 3162.4-1(c) and (d) analyzing future applications to drill or modify operations in light of data obtained and methods used.

ROUTINE USES: Information from the record and/or the record will be transferred to appropriate Federal, State, local or foreign agencies, when relevant to civil, criminal or regulatory investigations or prosecutions in connection with congressional inquiries or to consumer reporting agencies to facilitate collection of debts owed the Government.

EFFECT OF NOT PROVIDING THE INFORMATION: Filing of this notice and report and disclosure of the information is mandatory for those subsequent well operations specified in 43 CFR 3162.3-2, 3162.3-3, 3162.3-4.

The Paperwork Reduction Act of 1995 requires us to inform you that:

The BLM collects this information to evaluate proposed and/or completed subsequent well operations on Federal or Indian oil and gas leases.

Response to this request is mandatory.

The BLM would like you to know that you do not have to respond to this or any other Federal agency-sponsored information collection unless it displays a currently valid OMB control number.

BURDEN HOURS STATEMENT: Public reporting burden for this form is estimated to average 8 hours per response, including the time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding the burden estimate or any other aspect of this form to U.S. Department of the Interior, Bureau of Land Management (1004-0137), Bureau Information Collection Clearance Officer (WO-630), 1849 C St., N.W., Mail Stop 401 LS, Washington, D.C. 20240

Additional Information

Location of Well

0. SHL: NENW / 655 FNL / 1635 FWL / TWSP: 26S / RANGE: 35E / SECTION: 27 / LAT: 32.01969 / LONG: -103.358589 (TVD: 0 feet, MD: 0 feet)

PPP: NENW / 100 FNL / 2430 FWL / TWSP: 26S / RANGE: 35E / SECTION: 27 / LAT: 32.021216 / LONG: -103.356024 (TVD: 12317 feet, MD: 12402 feet)

BHL: LOT 3 / 20 FSL / 2430 FWL / TWSP: 26S / RANGE: 35E / SECTION: 34 / LAT: 32.000361 / LONG: -103.356017 (TVD: 12800 feet, MD: 20280 feet)

CONFIDENTIAL

Released to Imaging: 11/18/2025 9:57:05 AM

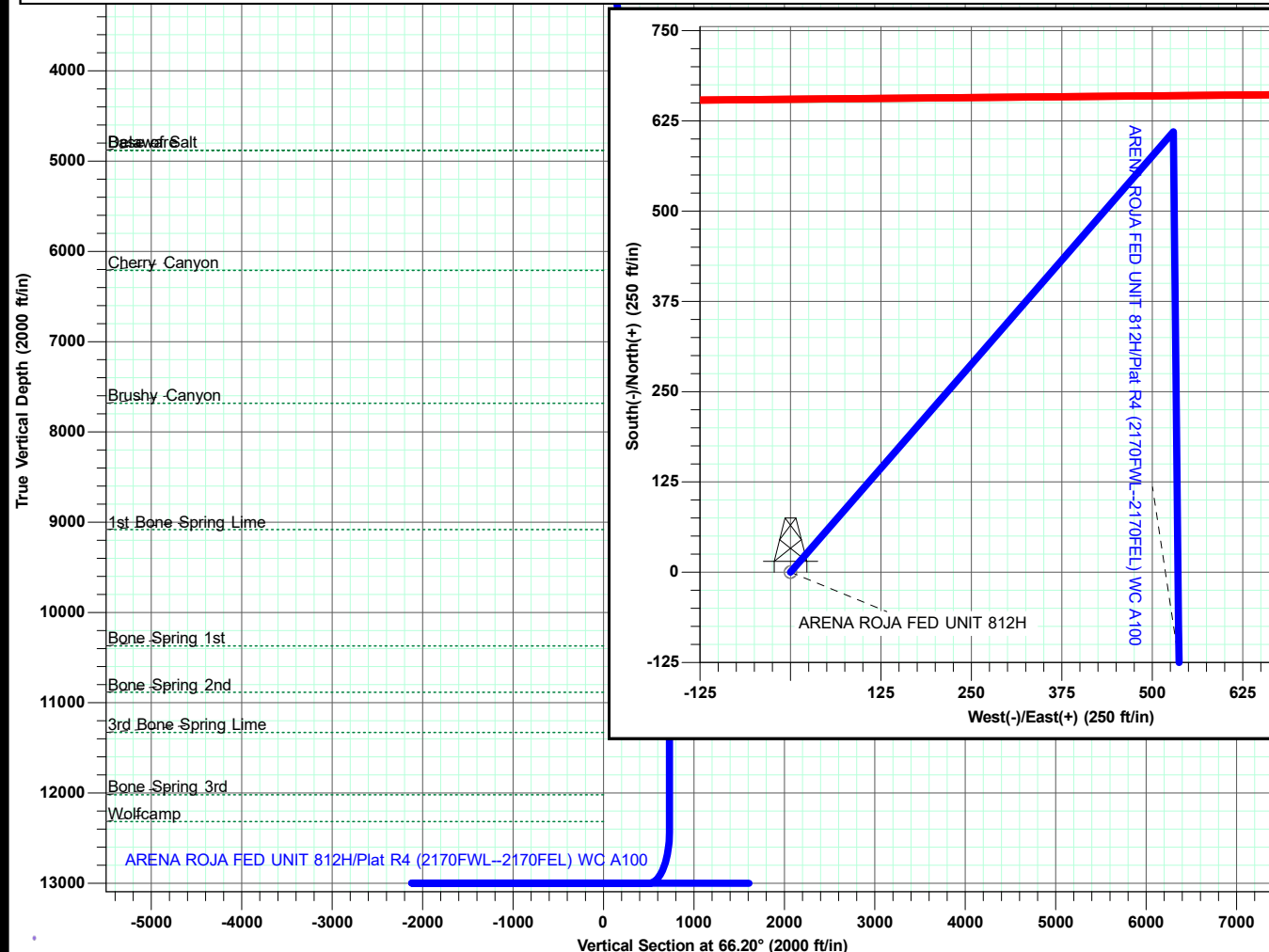
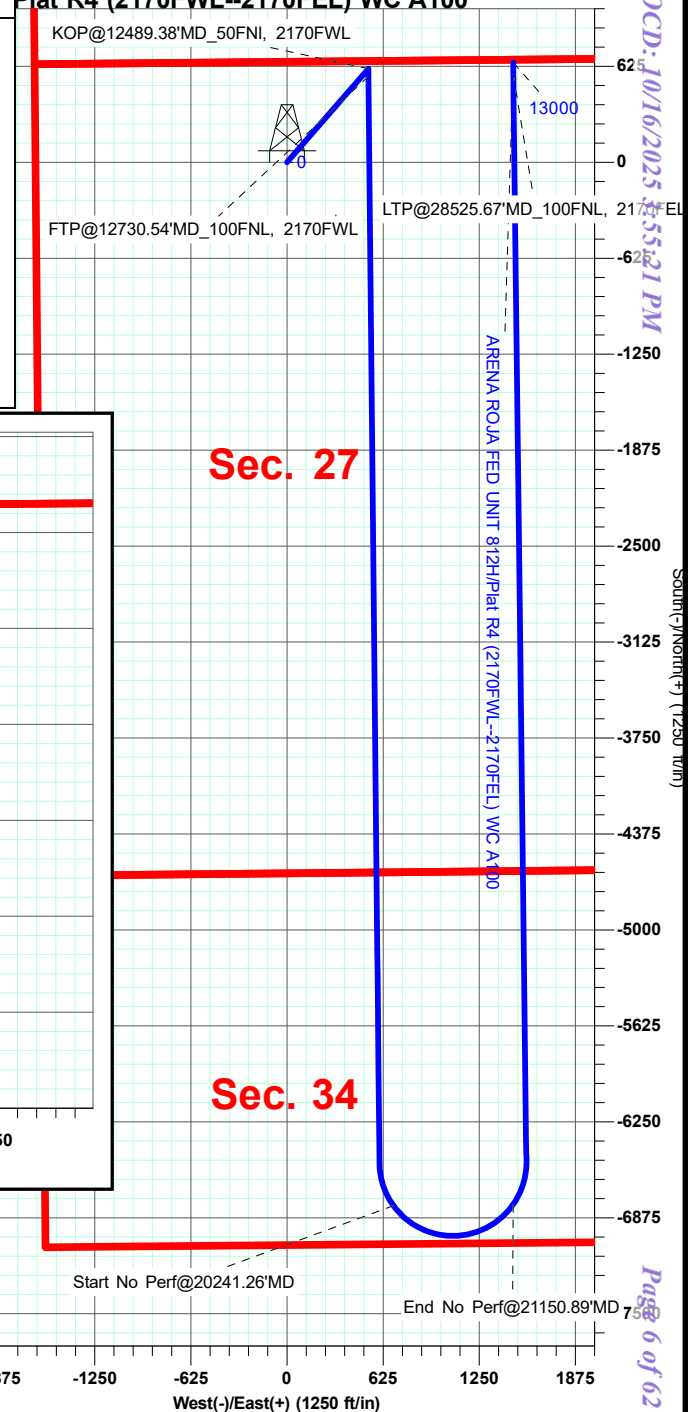


GL:3090.80+26ft @ 3116.80ft
Ground Level 3090.80

ARENA ROJA FED UNIT 812H
Lea County (NAD83 New Mexico East)
Northing: 372264.65
Easting: 843438.63
Lat: 32.0196898
Long: -103.3585884
Plat R4 (2170FWL--2170FEL) WC A100

SECTION DETAILS
ARENA ROJA FED UNIT 812H

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	Vsect
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2000.00	0.00	0.00	2000.00	0.00	0.00	0.00	0.00
2454.86	9.10	40.95	2452.95	27.22	23.62	2.00	32.59
7107.48	9.10	40.95	7047.05	582.81	505.76	0.00	697.94
7562.34	0.00	0.00	7500.00	610.02	529.38	2.00	730.53
12489.38	0.00	0.00	12427.04	610.02	529.38	0.00	730.53
13389.38	90.00	179.42	13000.00	37.09	535.18	10.00	504.64
19946.38	90.00	179.42	13000.00	-6519.57	601.56	0.00	-2080.43
20691.55	90.00	90.00	13000.00	-6992.20	1079.00	12.00	-1834.31
21447.23	90.00	359.32	13000.00	-6509.06	1556.43	12.00	-1202.51
28525.67	90.00	359.32	13000.00	568.88	1472.22	0.00	1576.60
28605.67	90.00	359.32	13000.00	648.88	1471.27	0.00	1608.00



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Source: Northing (+) (1250 ft/in)

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Planning Report - Geographic

Database:	EDM_5000.17	Local Co-ordinate Reference:	Well ARENA ROJA FED UNIT 812H
Company:	WCDCS Permian NM	TVD Reference:	GL:3090.80+26ft @ 3116.80ft
Project:	Lea County (NAD83 New Mexico East)	MD Reference:	GL:3090.80+26ft @ 3116.80ft
Site:	Sec 27-T26S-R35E	North Reference:	Grid
Well:	ARENA ROJA FED UNIT 812H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plat R4 (2170FWL--2170FEL) WC A100		

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 27-T26S-R35E			
Site Position:		Northing:	372,704.19 usft	Latitude:	32.0209382
From:	Lat/Long	Easting:	841,809.63 usft	Longitude:	-103.3638311
Position Uncertainty:	5.00 ft	Slot Radius:	13.20 in		

Well	ARENA ROJA FED UNIT 812H					
Well Position	+N/-S	0.00 ft	Northing:	372,264.65 usft	Latitude:	32.0196898
	+E/-W	0.00 ft	Easting:	843,438.63 usft	Longitude:	-103.3585884
Position Uncertainty		0.50 ft	Wellhead Elevation:	ft	Ground Level:	3,090.80 ft
Grid Convergence:		0.52 °				

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	12/31/2019	6.56	59.87	47,581.02882960

Design	Plat R4 (2170FWL--2170FEL) WC A100			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	66.20

Plan Survey Tool Program	Date	10/7/2025		
Depth From (ft)	Depth To (ft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	28,605.67 Plat R4 (2170FWL--2170FEL) W	MWD+IFR1+FDIR OWSG MWD + IFR1 + FDIR C	

Planning Report - Geographic

Database:	EDM_5000.17	Local Co-ordinate Reference:	Well ARENA ROJA FED UNIT 812H
Company:	WCDSC Permian NM	TVD Reference:	GL:3090.80+26ft @ 3116.80ft
Project:	Lea County (NAD83 New Mexico East)	MD Reference:	GL:3090.80+26ft @ 3116.80ft
Site:	Sec 27-T26S-R35E	North Reference:	Grid
Well:	ARENA ROJA FED UNIT 812H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plat R4 (2170FWL--2170FEL) WC A100		

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	
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,454.86	9.10	40.95	2,452.95	27.22	23.62	2.00	2.00	0.00	40.95	
7,107.48	9.10	40.95	7,047.05	582.81	505.76	0.00	0.00	0.00	0.00	
7,562.34	0.00	0.00	7,500.00	610.02	529.38	2.00	-2.00	0.00	180.00	
12,489.38	0.00	0.00	12,427.04	610.02	529.38	0.00	0.00	0.00	0.00	
13,389.38	90.00	179.42	13,000.00	37.09	535.18	10.00	10.00	0.00	179.42	
19,946.38	90.00	179.42	13,000.00	-6,519.57	601.56	0.00	0.00	0.00	0.00	
20,691.55	90.00	90.00	13,000.00	-6,992.21	1,079.00	12.00	0.00	-12.00	-90.00	
21,447.23	90.00	359.32	13,000.00	-6,509.06	1,556.43	12.00	0.00	-12.00	-90.00	
28,525.67	90.00	359.32	13,000.00	568.88	1,472.22	0.00	0.00	0.00	0.00	LTP (812H) 100FNL,
28,605.67	90.00	359.32	13,000.00	648.88	1,471.27	0.00	0.00	0.00	0.00	

Planning Report - Geographic

Database:	EDM_5000.17	Local Co-ordinate Reference:	Well ARENA ROJA FED UNIT 812H
Company:	WCDC Permian NM	TVD Reference:	GL:3090.80+26ft @ 3116.80ft
Project:	Lea County (NAD83 New Mexico East)	MD Reference:	GL:3090.80+26ft @ 3116.80ft
Site:	Sec 27-T26S-R35E	North Reference:	Grid
Well:	ARENA ROJA FED UNIT 812H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plat R4 (2170FWL--2170FEL) WC A100		

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	372,264.65	843,438.63	32.0196898	-103.3585884
100.00	0.00	0.00	100.00	0.00	0.00	372,264.65	843,438.63	32.0196898	-103.3585884
200.00	0.00	0.00	200.00	0.00	0.00	372,264.65	843,438.63	32.0196898	-103.3585884
300.00	0.00	0.00	300.00	0.00	0.00	372,264.65	843,438.63	32.0196898	-103.3585884
400.00	0.00	0.00	400.00	0.00	0.00	372,264.65	843,438.63	32.0196898	-103.3585884
500.00	0.00	0.00	500.00	0.00	0.00	372,264.65	843,438.63	32.0196898	-103.3585884
600.00	0.00	0.00	600.00	0.00	0.00	372,264.65	843,438.63	32.0196898	-103.3585884
700.00	0.00	0.00	700.00	0.00	0.00	372,264.65	843,438.63	32.0196898	-103.3585884
800.00	0.00	0.00	800.00	0.00	0.00	372,264.65	843,438.63	32.0196898	-103.3585884
900.00	0.00	0.00	900.00	0.00	0.00	372,264.65	843,438.63	32.0196898	-103.3585884
967.00	0.00	0.00	967.00	0.00	0.00	372,264.65	843,438.63	32.0196898	-103.3585884
Rustler									
1,000.00	0.00	0.00	1,000.00	0.00	0.00	372,264.65	843,438.63	32.0196898	-103.3585884
1,100.00	0.00	0.00	1,100.00	0.00	0.00	372,264.65	843,438.63	32.0196898	-103.3585884
1,200.00	0.00	0.00	1,200.00	0.00	0.00	372,264.65	843,438.63	32.0196898	-103.3585884
1,300.00	0.00	0.00	1,300.00	0.00	0.00	372,264.65	843,438.63	32.0196898	-103.3585884
1,400.00	0.00	0.00	1,400.00	0.00	0.00	372,264.65	843,438.63	32.0196898	-103.3585884
1,430.00	0.00	0.00	1,430.00	0.00	0.00	372,264.65	843,438.63	32.0196898	-103.3585884
Salt									
1,500.00	0.00	0.00	1,500.00	0.00	0.00	372,264.65	843,438.63	32.0196898	-103.3585884
1,600.00	0.00	0.00	1,600.00	0.00	0.00	372,264.65	843,438.63	32.0196898	-103.3585884
1,700.00	0.00	0.00	1,700.00	0.00	0.00	372,264.65	843,438.63	32.0196898	-103.3585884
1,800.00	0.00	0.00	1,800.00	0.00	0.00	372,264.65	843,438.63	32.0196898	-103.3585884
1,900.00	0.00	0.00	1,900.00	0.00	0.00	372,264.65	843,438.63	32.0196898	-103.3585884
2,000.00	0.00	0.00	2,000.00	0.00	0.00	372,264.65	843,438.63	32.0196898	-103.3585884
2,100.00	2.00	40.95	2,099.98	1.32	1.14	372,265.97	843,439.77	32.0196934	-103.3585847
2,200.00	4.00	40.95	2,199.84	5.27	4.57	372,269.92	843,443.20	32.0197042	-103.3585735
2,300.00	6.00	40.95	2,299.45	11.85	10.29	372,276.50	843,448.91	32.0197221	-103.3585549
2,400.00	8.00	40.95	2,398.70	21.06	18.27	372,285.70	843,456.90	32.0197472	-103.3585288
2,454.86	9.10	40.95	2,452.95	27.22	23.62	372,291.86	843,462.25	32.0197640	-103.3585114
2,500.00	9.10	40.95	2,497.52	32.61	28.30	372,297.25	843,466.92	32.0197787	-103.3584962
2,600.00	9.10	40.95	2,596.27	44.55	38.66	372,309.20	843,477.29	32.0198113	-103.3584624
2,700.00	9.10	40.95	2,695.01	56.49	49.02	372,321.14	843,487.65	32.0198439	-103.3584286
2,800.00	9.10	40.95	2,793.75	68.43	59.38	372,333.08	843,498.01	32.0198764	-103.3583948
2,900.00	9.10	40.95	2,892.49	80.37	69.75	372,345.02	843,508.38	32.0199090	-103.3583611
3,000.00	9.10	40.95	2,991.23	92.31	80.11	372,356.96	843,518.74	32.0199416	-103.3583273
3,100.00	9.10	40.95	3,089.98	104.25	90.47	372,368.90	843,529.10	32.0199741	-103.3582935
3,200.00	9.10	40.95	3,188.72	116.20	100.84	372,380.84	843,539.46	32.0200067	-103.3582597
3,300.00	9.10	40.95	3,287.46	128.14	111.20	372,392.79	843,549.83	32.0200393	-103.3582259
3,400.00	9.10	40.95	3,386.20	140.08	121.56	372,404.73	843,560.19	32.0200718	-103.3581922
3,500.00	9.10	40.95	3,484.95	152.02	131.92	372,416.67	843,570.55	32.0201044	-103.3581584
3,600.00	9.10	40.95	3,583.69	163.96	142.29	372,428.61	843,580.92	32.0201370	-103.3581246
3,700.00	9.10	40.95	3,682.43	175.90	152.65	372,440.55	843,591.28	32.0201695	-103.3580908
3,800.00	9.10	40.95	3,781.17	187.84	163.01	372,452.49	843,601.64	32.0202021	-103.3580570
3,900.00	9.10	40.95	3,879.91	199.79	173.38	372,464.43	843,612.00	32.0202346	-103.3580233
4,000.00	9.10	40.95	3,978.66	211.73	183.74	372,476.38	843,622.37	32.0202672	-103.3579895
4,100.00	9.10	40.95	4,077.40	223.67	194.10	372,488.32	843,632.73	32.0202998	-103.3579557
4,200.00	9.10	40.95	4,176.14	235.61	204.46	372,500.26	843,643.09	32.0203323	-103.3579219
4,300.00	9.10	40.95	4,274.88	247.55	214.83	372,512.20	843,653.46	32.0203649	-103.3578881
4,400.00	9.10	40.95	4,373.62	259.49	225.19	372,524.14	843,663.82	32.0203975	-103.3578544
4,500.00	9.10	40.95	4,472.37	271.43	235.55	372,536.08	843,674.18	32.0204300	-103.3578206
4,600.00	9.10	40.95	4,571.11	283.38	245.92	372,548.02	843,684.54	32.0204626	-103.3577868
4,700.00	9.10	40.95	4,669.85	295.32	256.28	372,559.97	843,694.91	32.0204952	-103.3577530
4,800.00	9.10	40.95	4,768.59	307.26	266.64	372,571.91	843,705.27	32.0205277	-103.3577192

Planning Report - Geographic

Database:	EDM_5000.17	Local Co-ordinate Reference:	Well ARENA ROJA FED UNIT 812H
Company:	WCDC Permian NM	TVD Reference:	GL:3090.80+26ft @ 3116.80ft
Project:	Lea County (NAD83 New Mexico East)	MD Reference:	GL:3090.80+26ft @ 3116.80ft
Site:	Sec 27-T26S-R35E	North Reference:	Grid
Well:	ARENA ROJA FED UNIT 812H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plat R4 (2170FWL--2170FEL) WC A100		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
4,900.00	9.10	40.95	4,867.34	319.20	277.00	372,583.85	843,715.63	32.0205603	-103.3576855
4,912.83	9.10	40.95	4,880.00	320.73	278.33	372,585.38	843,716.96	32.0205645	-103.3576811
Base of Salt - Delaware									
5,000.00	9.10	40.95	4,966.08	331.14	287.37	372,595.79	843,726.00	32.0205929	-103.3576517
5,100.00	9.10	40.95	5,064.82	343.08	297.73	372,607.73	843,736.36	32.0206254	-103.3576179
5,200.00	9.10	40.95	5,163.56	355.02	308.09	372,619.67	843,746.72	32.0206580	-103.3575841
5,300.00	9.10	40.95	5,262.30	366.97	318.46	372,631.61	843,757.08	32.0206906	-103.3575503
5,400.00	9.10	40.95	5,361.05	378.91	328.82	372,643.56	843,767.45	32.0207231	-103.3575166
5,500.00	9.10	40.95	5,459.79	390.85	339.18	372,655.50	843,777.81	32.0207557	-103.3574828
5,600.00	9.10	40.95	5,558.53	402.79	349.54	372,667.44	843,788.17	32.0207883	-103.3574490
5,700.00	9.10	40.95	5,657.27	414.73	359.91	372,679.38	843,798.54	32.0208208	-103.3574152
5,800.00	9.10	40.95	5,756.01	426.67	370.27	372,691.32	843,808.90	32.0208534	-103.3573814
5,900.00	9.10	40.95	5,854.76	438.62	380.63	372,703.26	843,819.26	32.0208859	-103.3573477
6,000.00	9.10	40.95	5,953.50	450.56	391.00	372,715.20	843,829.62	32.0209185	-103.3573139
6,100.00	9.10	40.95	6,052.24	462.50	401.36	372,727.15	843,839.99	32.0209511	-103.3572801
6,200.00	9.10	40.95	6,150.98	474.44	411.72	372,739.09	843,850.35	32.0209836	-103.3572463
6,260.78	9.10	40.95	6,211.00	481.70	418.02	372,746.34	843,856.65	32.0210034	-103.3572258
Cherry Canyon									
6,300.00	9.10	40.95	6,249.73	486.38	422.09	372,751.03	843,860.71	32.0210162	-103.3572125
6,400.00	9.10	40.95	6,348.47	498.32	432.45	372,762.97	843,871.08	32.0210488	-103.3571788
6,500.00	9.10	40.95	6,447.21	510.26	442.81	372,774.91	843,881.44	32.0210813	-103.3571450
6,600.00	9.10	40.95	6,545.95	522.21	453.17	372,786.85	843,891.80	32.0211139	-103.3571112
6,700.00	9.10	40.95	6,644.69	534.15	463.54	372,798.79	843,902.16	32.0211465	-103.3570774
6,800.00	9.10	40.95	6,743.44	546.09	473.90	372,810.74	843,912.53	32.0211790	-103.3570436
6,900.00	9.10	40.95	6,842.18	558.03	484.26	372,822.68	843,922.89	32.0212116	-103.3570098
7,000.00	9.10	40.95	6,940.92	569.97	494.63	372,834.62	843,933.25	32.0212442	-103.3569761
7,107.48	9.10	40.95	7,047.05	582.81	505.76	372,847.45	843,944.39	32.0212792	-103.3569398
7,200.00	7.25	40.95	7,138.63	592.74	514.38	372,857.38	843,953.01	32.0213062	-103.3569117
7,300.00	5.25	40.95	7,238.03	600.96	521.51	372,865.60	843,960.14	32.0213287	-103.3568884
7,400.00	3.25	40.95	7,337.75	606.55	526.37	372,871.20	843,964.99	32.0213439	-103.3568726
7,500.00	1.25	40.95	7,437.66	609.51	528.94	372,874.16	843,967.56	32.0213520	-103.3568642
7,562.34	0.00	0.00	7,500.00	610.02	529.38	372,874.67	843,968.01	32.0213534	-103.3568628
7,600.00	0.00	0.00	7,537.66	610.02	529.38	372,874.67	843,968.01	32.0213534	-103.3568628
7,700.00	0.00	0.00	7,637.66	610.02	529.38	372,874.67	843,968.01	32.0213534	-103.3568628
7,746.34	0.00	0.00	7,684.00	610.02	529.38	372,874.67	843,968.01	32.0213534	-103.3568628
Brushy Canyon									
7,800.00	0.00	0.00	7,737.66	610.02	529.38	372,874.67	843,968.01	32.0213534	-103.3568628
7,900.00	0.00	0.00	7,837.66	610.02	529.38	372,874.67	843,968.01	32.0213534	-103.3568628
8,000.00	0.00	0.00	7,937.66	610.02	529.38	372,874.67	843,968.01	32.0213534	-103.3568628
8,100.00	0.00	0.00	8,037.66	610.02	529.38	372,874.67	843,968.01	32.0213534	-103.3568628
8,200.00	0.00	0.00	8,137.66	610.02	529.38	372,874.67	843,968.01	32.0213534	-103.3568628
8,300.00	0.00	0.00	8,237.66	610.02	529.38	372,874.67	843,968.01	32.0213534	-103.3568628
8,400.00	0.00	0.00	8,337.66	610.02	529.38	372,874.67	843,968.01	32.0213534	-103.3568628
8,500.00	0.00	0.00	8,437.66	610.02	529.38	372,874.67	843,968.01	32.0213534	-103.3568628
8,600.00	0.00	0.00	8,537.66	610.02	529.38	372,874.67	843,968.01	32.0213534	-103.3568628
8,700.00	0.00	0.00	8,637.66	610.02	529.38	372,874.67	843,968.01	32.0213534	-103.3568628
8,800.00	0.00	0.00	8,737.66	610.02	529.38	372,874.67	843,968.01	32.0213534	-103.3568628
8,900.00	0.00	0.00	8,837.66	610.02	529.38	372,874.67	843,968.01	32.0213534	-103.3568628
9,000.00	0.00	0.00	8,937.66	610.02	529.38	372,874.67	843,968.01	32.0213534	-103.3568628
9,100.00	0.00	0.00	9,037.66	610.02	529.38	372,874.67	843,968.01	32.0213534	-103.3568628
9,145.34	0.00	0.00	9,083.00	610.02	529.38	372,874.67	843,968.01	32.0213534	-103.3568628
1st Bone Spring Lime									
9,200.00	0.00	0.00	9,137.66	610.02	529.38	372,874.67	843,968.01	32.0213534	-103.3568628
9,300.00	0.00	0.00	9,237.66	610.02	529.38	372,874.67	843,968.01	32.0213534	-103.3568628

Planning Report - Geographic

Database:	EDM_5000.17	Local Co-ordinate Reference:	Well ARENA ROJA FED UNIT 812H
Company:	WCDSC Permian NM	TVD Reference:	GL:3090.80+26ft @ 3116.80ft
Project:	Lea County (NAD83 New Mexico East)	MD Reference:	GL:3090.80+26ft @ 3116.80ft
Site:	Sec 27-T26S-R35E	North Reference:	Grid
Well:	ARENA ROJA FED UNIT 812H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plat R4 (2170FWL--2170FEL) WC A100		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
9,400.00	0.00	0.00	9,337.66	610.02	529.38	372,874.67	843,968.01	32.0213534	-103.3568628
9,500.00	0.00	0.00	9,437.66	610.02	529.38	372,874.67	843,968.01	32.0213534	-103.3568628
9,600.00	0.00	0.00	9,537.66	610.02	529.38	372,874.67	843,968.01	32.0213534	-103.3568628
9,700.00	0.00	0.00	9,637.66	610.02	529.38	372,874.67	843,968.01	32.0213534	-103.3568628
9,800.00	0.00	0.00	9,737.66	610.02	529.38	372,874.67	843,968.01	32.0213534	-103.3568628
9,900.00	0.00	0.00	9,837.66	610.02	529.38	372,874.67	843,968.01	32.0213534	-103.3568628
10,000.00	0.00	0.00	9,937.66	610.02	529.38	372,874.67	843,968.01	32.0213534	-103.3568628
10,100.00	0.00	0.00	10,037.66	610.02	529.38	372,874.67	843,968.01	32.0213534	-103.3568628
10,200.00	0.00	0.00	10,137.66	610.02	529.38	372,874.67	843,968.01	32.0213534	-103.3568628
10,300.00	0.00	0.00	10,237.66	610.02	529.38	372,874.67	843,968.01	32.0213534	-103.3568628
10,400.00	0.00	0.00	10,337.66	610.02	529.38	372,874.67	843,968.01	32.0213534	-103.3568628
10,432.34	0.00	0.00	10,370.00	610.02	529.38	372,874.67	843,968.01	32.0213534	-103.3568628
Bone Spring 1st									
10,500.00	0.00	0.00	10,437.66	610.02	529.38	372,874.67	843,968.01	32.0213534	-103.3568628
10,600.00	0.00	0.00	10,537.66	610.02	529.38	372,874.67	843,968.01	32.0213534	-103.3568628
10,700.00	0.00	0.00	10,637.66	610.02	529.38	372,874.67	843,968.01	32.0213534	-103.3568628
10,800.00	0.00	0.00	10,737.66	610.02	529.38	372,874.67	843,968.01	32.0213534	-103.3568628
10,900.00	0.00	0.00	10,837.66	610.02	529.38	372,874.67	843,968.01	32.0213534	-103.3568628
10,946.34	0.00	0.00	10,884.00	610.02	529.38	372,874.67	843,968.01	32.0213534	-103.3568628
Bone Spring 2nd									
11,000.00	0.00	0.00	10,937.66	610.02	529.38	372,874.67	843,968.01	32.0213534	-103.3568628
11,100.00	0.00	0.00	11,037.66	610.02	529.38	372,874.67	843,968.01	32.0213534	-103.3568628
11,200.00	0.00	0.00	11,137.66	610.02	529.38	372,874.67	843,968.01	32.0213534	-103.3568628
11,300.00	0.00	0.00	11,237.66	610.02	529.38	372,874.67	843,968.01	32.0213534	-103.3568628
11,392.34	0.00	0.00	11,330.00	610.02	529.38	372,874.67	843,968.01	32.0213534	-103.3568628
3rd Bone Spring Lime									
11,400.00	0.00	0.00	11,337.66	610.02	529.38	372,874.67	843,968.01	32.0213534	-103.3568628
11,500.00	0.00	0.00	11,437.66	610.02	529.38	372,874.67	843,968.01	32.0213534	-103.3568628
11,600.00	0.00	0.00	11,537.66	610.02	529.38	372,874.67	843,968.01	32.0213534	-103.3568628
11,700.00	0.00	0.00	11,637.66	610.02	529.38	372,874.67	843,968.01	32.0213534	-103.3568628
11,800.00	0.00	0.00	11,737.66	610.02	529.38	372,874.67	843,968.01	32.0213534	-103.3568628
11,900.00	0.00	0.00	11,837.66	610.02	529.38	372,874.67	843,968.01	32.0213534	-103.3568628
12,000.00	0.00	0.00	11,937.66	610.02	529.38	372,874.67	843,968.01	32.0213534	-103.3568628
12,082.34	0.00	0.00	12,020.00	610.02	529.38	372,874.67	843,968.01	32.0213534	-103.3568628
Bone Spring 3rd									
12,100.00	0.00	0.00	12,037.66	610.02	529.38	372,874.67	843,968.01	32.0213534	-103.3568628
12,200.00	0.00	0.00	12,137.66	610.02	529.38	372,874.67	843,968.01	32.0213534	-103.3568628
12,300.00	0.00	0.00	12,237.66	610.02	529.38	372,874.67	843,968.01	32.0213534	-103.3568628
12,379.34	0.00	0.00	12,317.00	610.02	529.38	372,874.67	843,968.01	32.0213534	-103.3568628
Wolfcamp									
12,400.00	0.00	0.00	12,337.66	610.02	529.38	372,874.67	843,968.01	32.0213534	-103.3568628
12,489.38	0.00	0.00	12,427.04	610.02	529.38	372,874.67	843,968.01	32.0213534	-103.3568628
KOP@12489.38'MD_50FNI, 2170FWL									
12,500.00	1.06	179.42	12,437.66	609.92	529.38	372,874.57	843,968.01	32.0213531	-103.3568628
12,550.00	6.06	179.42	12,487.55	606.82	529.41	372,871.46	843,968.04	32.0213446	-103.3568628
12,600.00	11.06	179.42	12,536.97	599.38	529.49	372,864.02	843,968.12	32.0213241	-103.3568627
12,650.00	16.06	179.42	12,585.56	587.66	529.61	372,852.30	843,968.24	32.0212919	-103.3568627
12,700.00	21.06	179.42	12,632.95	571.75	529.77	372,836.39	843,968.40	32.0212482	-103.3568626
12,730.54	24.12	179.42	12,661.14	560.02	529.89	372,824.66	843,968.52	32.0212159	-103.3568626
FTP@12730.54'MD_100FNL, 2170FWL									
12,750.00	26.06	179.42	12,678.77	551.77	529.97	372,816.41	843,968.60	32.0211932	-103.3568626
12,800.00	31.06	179.42	12,722.67	527.87	530.21	372,792.52	843,968.84	32.0211276	-103.3568625
12,850.00	36.06	179.42	12,764.32	500.24	530.49	372,764.88	843,969.12	32.0210516	-103.3568624
12,900.00	41.06	179.42	12,803.40	469.08	530.81	372,733.73	843,969.44	32.0209660	-103.3568623

Planning Report - Geographic

Database:	EDM_5000.17	Local Co-ordinate Reference:	Well ARENA ROJA FED UNIT 812H
Company:	WCDCS Permian NM	TVD Reference:	GL:3090.80+26ft @ 3116.80ft
Project:	Lea County (NAD83 New Mexico East)	MD Reference:	GL:3090.80+26ft @ 3116.80ft
Site:	Sec 27-T26S-R35E	North Reference:	Grid
Well:	ARENA ROJA FED UNIT 812H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plat R4 (2170FWL--2170FEL) WC A100		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
12,950.00	46.06	179.42	12,839.62	434.64	531.16	372,699.28	843,969.78	32.0208713	-103.3568622
13,000.00	51.06	179.42	12,872.70	397.17	531.54	372,661.81	843,970.16	32.0207683	-103.3568620
13,050.00	56.06	179.42	12,902.39	356.96	531.94	372,621.60	843,970.57	32.0206577	-103.3568619
13,100.00	61.06	179.42	12,928.46	314.31	532.37	372,578.96	843,971.00	32.0205405	-103.3568617
13,150.00	66.06	179.42	12,950.72	269.56	532.83	372,534.21	843,971.46	32.0204175	-103.3568616
13,200.00	71.06	179.42	12,968.98	223.03	533.30	372,487.68	843,971.93	32.0202896	-103.3568614
13,250.00	76.06	179.42	12,983.13	175.10	533.78	372,439.74	843,972.41	32.0201578	-103.3568612
13,300.00	81.06	179.42	12,993.04	126.11	534.28	372,390.76	843,972.91	32.0200232	-103.3568611
13,350.00	86.06	179.42	12,998.65	76.44	534.78	372,341.09	843,973.41	32.0198867	-103.3568609
13,389.38	90.00	179.42	13,000.00	37.09	535.18	372,301.74	843,973.81	32.0197785	-103.3568608
13,400.00	90.00	179.42	13,000.00	26.47	535.29	372,291.12	843,973.92	32.0197493	-103.3568607
13,500.00	90.00	179.42	13,000.00	-73.52	536.30	372,191.13	843,974.93	32.0194744	-103.3568604
13,600.00	90.00	179.42	13,000.00	-173.52	537.31	372,091.13	843,975.94	32.0191996	-103.3568600
13,700.00	90.00	179.42	13,000.00	-273.51	538.33	371,991.14	843,976.95	32.0189247	-103.3568597
13,800.00	90.00	179.42	13,000.00	-373.51	539.34	371,891.14	843,977.97	32.0186498	-103.3568593
13,900.00	90.00	179.42	13,000.00	-473.50	540.35	371,791.15	843,978.98	32.0183750	-103.3568590
14,000.00	90.00	179.42	13,000.00	-573.49	541.36	371,691.15	843,979.99	32.0181001	-103.3568586
14,100.00	90.00	179.42	13,000.00	-673.49	542.37	371,591.16	843,981.00	32.0178252	-103.3568583
14,200.00	90.00	179.42	13,000.00	-773.48	543.39	371,491.17	843,982.01	32.0175503	-103.3568579
14,300.00	90.00	179.42	13,000.00	-873.48	544.40	371,391.17	843,983.03	32.0172755	-103.3568576
14,400.00	90.00	179.42	13,000.00	-973.47	545.41	371,291.18	843,984.04	32.0170006	-103.3568572
14,500.00	90.00	179.42	13,000.00	-1,073.47	546.42	371,191.18	843,985.05	32.0167257	-103.3568569
14,600.00	90.00	179.42	13,000.00	-1,173.46	547.44	371,091.19	843,986.06	32.0164509	-103.3568565
14,700.00	90.00	179.42	13,000.00	-1,273.46	548.45	370,991.19	843,987.08	32.0161760	-103.3568562
14,800.00	90.00	179.42	13,000.00	-1,373.45	549.46	370,891.20	843,988.09	32.0159011	-103.3568558
14,900.00	90.00	179.42	13,000.00	-1,473.45	550.47	370,791.20	843,989.10	32.0156263	-103.3568555
15,000.00	90.00	179.42	13,000.00	-1,573.44	551.48	370,691.21	843,990.11	32.0153514	-103.3568551
15,100.00	90.00	179.42	13,000.00	-1,673.44	552.50	370,591.21	843,991.12	32.0150765	-103.3568548
15,200.00	90.00	179.42	13,000.00	-1,773.43	553.51	370,491.22	843,992.14	32.0148016	-103.3568544
15,300.00	90.00	179.42	13,000.00	-1,873.43	554.52	370,391.22	843,993.15	32.0145268	-103.3568541
15,400.00	90.00	179.42	13,000.00	-1,973.42	555.53	370,291.23	843,994.16	32.0142519	-103.3568537
15,500.00	90.00	179.42	13,000.00	-2,073.42	556.55	370,191.23	843,995.17	32.0139770	-103.3568534
15,600.00	90.00	179.42	13,000.00	-2,173.41	557.56	370,091.24	843,996.19	32.0137022	-103.3568530
15,700.00	90.00	179.42	13,000.00	-2,273.41	558.57	369,991.25	843,997.20	32.0134273	-103.3568527
15,800.00	90.00	179.42	13,000.00	-2,373.40	559.58	369,891.25	843,998.21	32.0131524	-103.3568523
15,900.00	90.00	179.42	13,000.00	-2,473.40	560.60	369,791.26	843,999.22	32.0128775	-103.3568520
16,000.00	90.00	179.42	13,000.00	-2,573.39	561.61	369,691.26	844,000.24	32.0126027	-103.3568516
16,100.00	90.00	179.42	13,000.00	-2,673.39	562.62	369,591.27	844,001.25	32.0123278	-103.3568513
16,200.00	90.00	179.42	13,000.00	-2,773.38	563.63	369,491.27	844,002.26	32.0120529	-103.3568509
16,300.00	90.00	179.42	13,000.00	-2,873.38	564.64	369,391.28	844,003.27	32.0117781	-103.3568506
16,400.00	90.00	179.42	13,000.00	-2,973.37	565.66	369,291.28	844,004.28	32.0115032	-103.3568502
16,500.00	90.00	179.42	13,000.00	-3,073.37	566.67	369,191.29	844,005.30	32.0112283	-103.3568499
16,600.00	90.00	179.42	13,000.00	-3,173.36	567.68	369,091.29	844,006.31	32.0109535	-103.3568495
16,700.00	90.00	179.42	13,000.00	-3,273.36	568.69	368,991.30	844,007.32	32.0106786	-103.3568492
16,800.00	90.00	179.42	13,000.00	-3,373.35	569.71	368,891.30	844,008.33	32.0104037	-103.3568488
16,900.00	90.00	179.42	13,000.00	-3,473.35	570.72	368,791.31	844,009.35	32.0101288	-103.3568484
17,000.00	90.00	179.42	13,000.00	-3,573.34	571.73	368,691.31	844,010.36	32.0098540	-103.3568481
17,100.00	90.00	179.42	13,000.00	-3,673.34	572.74	368,591.32	844,011.37	32.0095791	-103.3568477
17,200.00	90.00	179.42	13,000.00	-3,773.33	573.75	368,491.32	844,012.38	32.0093042	-103.3568474
17,300.00	90.00	179.42	13,000.00	-3,873.33	574.77	368,391.33	844,013.39	32.0090294	-103.3568470
17,400.00	90.00	179.42	13,000.00	-3,973.32	575.78	368,291.34	844,014.41	32.0087545	-103.3568467
17,500.00	90.00	179.42	13,000.00	-4,073.32	576.79	368,191.34	844,015.42	32.0084796	-103.3568463
17,600.00	90.00	179.42	13,000.00	-4,173.31	577.80	368,091.35	844,016.43	32.0082048	-103.3568460
17,700.00	90.00	179.42	13,000.00	-4,273.31	578.82	367,991.35	844,017.44	32.0079299	-103.3568456
17,800.00	90.00	179.42	13,000.00	-4,373.30	579.83	367,891.36	844,018.46	32.0076550	-103.3568453

Planning Report - Geographic

Database:	EDM_5000.17	Local Co-ordinate Reference:	Well ARENA ROJA FED UNIT 812H
Company:	WCDCS Permian NM	TVD Reference:	GL:3090.80+26ft @ 3116.80ft
Project:	Lea County (NAD83 New Mexico East)	MD Reference:	GL:3090.80+26ft @ 3116.80ft
Site:	Sec 27-T26S-R35E	North Reference:	Grid
Well:	ARENA ROJA FED UNIT 812H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plat R4 (2170FWL--2170FEL) WC A100		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
17,900.00	90.00	179.42	13,000.00	-4,473.30	580.84	367,791.36	844,019.47	32.0073801	-103.3568449
18,000.00	90.00	179.42	13,000.00	-4,573.29	581.85	367,691.37	844,020.48	32.0071053	-103.3568446
18,100.00	90.00	179.42	13,000.00	-4,673.28	582.87	367,591.37	844,021.49	32.0068304	-103.3568442
18,200.00	90.00	179.42	13,000.00	-4,773.28	583.88	367,491.38	844,022.51	32.0065555	-103.3568439
18,300.00	90.00	179.42	13,000.00	-4,873.27	584.89	367,391.38	844,023.52	32.0062807	-103.3568435
18,400.00	90.00	179.42	13,000.00	-4,973.27	585.90	367,291.39	844,024.53	32.0060058	-103.3568432
18,500.00	90.00	179.42	13,000.00	-5,073.26	586.91	367,191.39	844,025.54	32.0057309	-103.3568428
18,600.00	90.00	179.42	13,000.00	-5,173.26	587.93	367,091.40	844,026.55	32.0054560	-103.3568425
18,700.00	90.00	179.42	13,000.00	-5,273.25	588.94	366,991.40	844,027.57	32.0051812	-103.3568421
18,800.00	90.00	179.42	13,000.00	-5,373.25	589.95	366,891.41	844,028.58	32.0049063	-103.3568418
18,900.00	90.00	179.42	13,000.00	-5,473.24	590.96	366,791.42	844,029.59	32.0046314	-103.3568414
19,000.00	90.00	179.42	13,000.00	-5,573.24	591.98	366,691.42	844,030.60	32.0043566	-103.3568411
19,100.00	90.00	179.42	13,000.00	-5,673.23	592.99	366,591.43	844,031.62	32.0040817	-103.3568407
19,200.00	90.00	179.42	13,000.00	-5,773.23	594.00	366,491.43	844,032.63	32.0038068	-103.3568404
19,300.00	90.00	179.42	13,000.00	-5,873.22	595.01	366,391.44	844,033.64	32.0035320	-103.3568400
19,400.00	90.00	179.42	13,000.00	-5,973.22	596.02	366,291.44	844,034.65	32.0032571	-103.3568397
19,500.00	90.00	179.42	13,000.00	-6,073.21	597.04	366,191.45	844,035.66	32.0029822	-103.3568393
19,600.00	90.00	179.42	13,000.00	-6,173.21	598.05	366,091.45	844,036.68	32.0027073	-103.3568390
19,700.00	90.00	179.42	13,000.00	-6,273.20	599.06	365,991.46	844,037.69	32.0024325	-103.3568386
19,800.00	90.00	179.42	13,000.00	-6,373.20	600.07	365,891.46	844,038.70	32.0021576	-103.3568383
19,900.00	90.00	179.42	13,000.00	-6,473.19	601.09	365,791.47	844,039.71	32.0018827	-103.3568379
19,946.38	90.00	179.42	13,000.00	-6,519.57	601.56	365,745.09	844,040.18	32.0017552	-103.3568377
19,950.00	90.00	178.99	13,000.00	-6,523.19	601.61	365,741.47	844,040.23	32.0017453	-103.3568377
19,975.00	90.00	175.99	13,000.00	-6,548.16	602.70	365,716.50	844,041.33	32.0016766	-103.3568349
20,000.00	90.00	172.99	13,000.00	-6,573.04	605.10	365,691.62	844,043.73	32.0016082	-103.3568279
20,025.00	90.00	169.99	13,000.00	-6,597.77	608.81	365,666.90	844,047.43	32.0015401	-103.3568166
20,050.00	90.00	166.99	13,000.00	-6,622.26	613.80	365,642.40	844,052.42	32.0014727	-103.3568013
20,075.00	90.00	163.99	13,000.00	-6,646.46	620.06	365,618.20	844,058.69	32.0014060	-103.3567818
20,100.00	90.00	160.99	13,000.00	-6,670.30	627.58	365,594.36	844,066.21	32.0013403	-103.3567582
20,125.00	90.00	157.99	13,000.00	-6,693.71	636.34	365,570.95	844,074.97	32.0012757	-103.3567306
20,150.00	90.00	154.99	13,000.00	-6,716.63	646.32	365,548.03	844,084.94	32.0012125	-103.3566991
20,175.00	90.00	151.99	13,000.00	-6,739.00	657.47	365,525.66	844,096.10	32.0011507	-103.3566638
20,200.00	90.00	148.99	13,000.00	-6,760.75	669.79	365,503.91	844,108.42	32.0010906	-103.3566247
20,225.00	90.00	145.99	13,000.00	-6,781.83	683.23	365,482.83	844,121.85	32.0010324	-103.3565820
20,241.26	90.00	144.03	13,000.00	-6,795.15	692.55	365,469.51	844,131.18	32.0009955	-103.3565523
Start No Perf@20241.26'MD									
20,250.00	90.00	142.99	13,000.00	-6,802.18	697.75	365,462.48	844,136.37	32.0009761	-103.3565357
20,275.00	90.00	139.99	13,000.00	-6,821.74	713.31	365,442.92	844,151.94	32.0009219	-103.3564861
20,300.00	90.00	136.99	13,000.00	-6,840.46	729.88	365,424.21	844,168.51	32.0008701	-103.3564332
20,325.00	90.00	133.99	13,000.00	-6,858.28	747.41	365,406.38	844,186.03	32.0008206	-103.3563772
20,350.00	90.00	130.99	13,000.00	-6,875.16	765.84	365,389.50	844,204.47	32.0007738	-103.3563182
20,375.00	90.00	127.99	13,000.00	-6,891.06	785.13	365,373.60	844,223.76	32.0007296	-103.3562564
20,400.00	90.00	124.99	13,000.00	-6,905.92	805.23	365,358.74	844,243.86	32.0006883	-103.3561921
20,425.00	90.00	121.99	13,000.00	-6,919.72	826.08	365,344.95	844,264.71	32.0006498	-103.3561252
20,450.00	90.00	118.99	13,000.00	-6,932.40	847.62	365,332.27	844,286.25	32.0006144	-103.3560561
20,475.00	90.00	115.99	13,000.00	-6,943.93	869.79	365,320.73	844,308.42	32.0005822	-103.3559849
20,500.00	90.00	112.99	13,000.00	-6,954.29	892.54	365,310.37	844,331.17	32.0005531	-103.3559118
20,525.00	90.00	109.99	13,000.00	-6,963.45	915.80	365,301.21	844,354.43	32.0005274	-103.3558371
20,550.00	90.00	106.99	13,000.00	-6,971.38	939.51	365,293.29	844,378.14	32.0005050	-103.3557608
20,575.00	90.00	103.99	13,000.00	-6,978.05	963.60	365,286.61	844,402.23	32.0004861	-103.3556833
20,600.00	90.00	100.99	13,000.00	-6,983.45	988.01	365,281.21	844,426.63	32.0004706	-103.3556048
20,625.00	90.00	97.99	13,000.00	-6,987.57	1,012.66	365,277.09	844,451.29	32.0004587	-103.3555254
20,650.00	90.00	94.99	13,000.00	-6,990.40	1,037.50	365,274.26	844,476.13	32.0004503	-103.3554453
20,675.00	90.00	91.99	13,000.00	-6,991.92	1,062.45	365,272.74	844,501.08	32.0004455	-103.3553649

Planning Report - Geographic

Database:	EDM_5000.17	Local Co-ordinate Reference:	Well ARENA ROJA FED UNIT 812H
Company:	WCDCS Permian NM	TVD Reference:	GL:3090.80+26ft @ 3116.80ft
Project:	Lea County (NAD83 New Mexico East)	MD Reference:	GL:3090.80+26ft @ 3116.80ft
Site:	Sec 27-T26S-R35E	North Reference:	Grid
Well:	ARENA ROJA FED UNIT 812H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plat R4 (2170FWL--2170FEL) WC A100		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
20,691.55	90.00	90.00	13,000.00	-6,992.21	1,079.00	365,272.46	844,517.62	32.0004443	-103.3553115
20,700.00	90.00	88.99	13,000.00	-6,992.13	1,087.45	365,272.53	844,526.07	32.0004443	-103.3552843
20,725.00	90.00	85.99	13,000.00	-6,991.03	1,112.42	365,273.63	844,551.05	32.0004467	-103.3552037
20,750.00	90.00	82.99	13,000.00	-6,988.63	1,137.30	365,276.03	844,575.93	32.0004527	-103.3551234
20,775.00	90.00	79.99	13,000.00	-6,984.93	1,162.02	365,279.73	844,600.65	32.0004622	-103.3550435
20,800.00	90.00	76.99	13,000.00	-6,979.94	1,186.52	365,284.72	844,625.14	32.0004753	-103.3549644
20,825.00	90.00	73.99	13,000.00	-6,973.68	1,210.72	365,290.99	844,649.34	32.0004919	-103.3548861
20,850.00	90.00	70.99	13,000.00	-6,966.15	1,234.55	365,298.51	844,673.18	32.0005120	-103.3548090
20,875.00	90.00	67.99	13,000.00	-6,957.39	1,257.97	365,307.27	844,696.59	32.0005355	-103.3547333
20,900.00	90.00	64.99	13,000.00	-6,947.42	1,280.89	365,317.24	844,719.51	32.0005624	-103.3546590
20,925.00	90.00	61.99	13,000.00	-6,936.26	1,303.26	365,328.40	844,741.88	32.0005925	-103.3545866
20,950.00	90.00	58.99	13,000.00	-6,923.95	1,325.01	365,340.71	844,763.64	32.0006258	-103.3545160
20,975.00	90.00	55.99	13,000.00	-6,910.51	1,346.09	365,354.15	844,784.71	32.0006622	-103.3544477
21,000.00	90.00	52.99	13,000.00	-6,895.99	1,366.44	365,368.67	844,805.06	32.0007016	-103.3543816
21,025.00	90.00	49.99	13,000.00	-6,880.42	1,385.99	365,384.24	844,824.62	32.0007439	-103.3543181
21,050.00	90.00	46.99	13,000.00	-6,863.86	1,404.71	365,400.81	844,843.34	32.0007890	-103.3542572
21,075.00	90.00	43.99	13,000.00	-6,846.33	1,422.54	365,418.33	844,861.16	32.0008367	-103.3541992
21,100.00	90.00	40.99	13,000.00	-6,827.90	1,439.42	365,436.76	844,878.05	32.0008869	-103.3541442
21,125.00	90.00	37.99	13,000.00	-6,808.61	1,455.32	365,456.06	844,893.94	32.0009396	-103.3540924
21,150.00	90.00	34.99	13,000.00	-6,788.51	1,470.18	365,476.15	844,908.81	32.0009944	-103.3540438
21,150.89	90.00	34.88	13,000.00	-6,787.78	1,470.69	365,476.88	844,909.32	32.0009964	-103.3540422
End No Perf@21150.89'MD									
21,175.00	90.00	31.99	13,000.00	-6,767.66	1,483.97	365,497.00	844,922.60	32.0010514	-103.3539987
21,200.00	90.00	28.99	13,000.00	-6,746.12	1,496.65	365,518.54	844,935.28	32.0011103	-103.3539572
21,225.00	90.00	25.99	13,000.00	-6,723.94	1,508.19	365,540.72	844,946.82	32.0011710	-103.3539194
21,250.00	90.00	22.99	13,000.00	-6,701.19	1,518.55	365,563.47	844,957.18	32.0012332	-103.3538853
21,275.00	90.00	19.99	13,000.00	-6,677.93	1,527.71	365,586.73	844,966.33	32.0012969	-103.3538551
21,300.00	90.00	16.99	13,000.00	-6,654.23	1,535.63	365,610.43	844,974.26	32.0013619	-103.3538288
21,325.00	90.00	13.99	13,000.00	-6,630.14	1,542.31	365,634.52	844,980.93	32.0014279	-103.3538066
21,350.00	90.00	10.99	13,000.00	-6,605.73	1,547.71	365,658.93	844,986.34	32.0014949	-103.3537884
21,375.00	90.00	7.99	13,000.00	-6,581.08	1,551.83	365,683.59	844,990.46	32.0015626	-103.3537744
21,400.00	90.00	4.99	13,000.00	-6,556.24	1,554.66	365,708.42	844,993.28	32.0016308	-103.3537646
21,425.00	90.00	1.99	13,000.00	-6,531.29	1,556.18	365,733.37	844,994.80	32.0016993	-103.3537589
21,447.23	90.00	359.32	13,000.00	-6,509.06	1,556.43	365,755.60	844,995.05	32.0017604	-103.3537575
21,500.00	90.00	359.32	13,000.00	-6,456.29	1,555.80	365,808.37	844,994.43	32.0019054	-103.3537580
21,600.00	90.00	359.32	13,000.00	-6,356.30	1,554.61	365,908.36	844,993.24	32.0021803	-103.3537589
21,700.00	90.00	359.32	13,000.00	-6,256.31	1,553.42	366,008.35	844,992.05	32.0024552	-103.3537598
21,800.00	90.00	359.32	13,000.00	-6,156.32	1,552.23	366,108.34	844,990.86	32.0027300	-103.3537607
21,900.00	90.00	359.32	13,000.00	-6,056.32	1,551.04	366,208.34	844,989.67	32.0030049	-103.3537616
22,000.00	90.00	359.32	13,000.00	-5,956.33	1,549.85	366,308.33	844,988.48	32.0032798	-103.3537625
22,100.00	90.00	359.32	13,000.00	-5,856.34	1,548.66	366,408.32	844,987.29	32.0035546	-103.3537634
22,200.00	90.00	359.32	13,000.00	-5,756.34	1,547.47	366,508.32	844,986.10	32.0038295	-103.3537644
22,300.00	90.00	359.32	13,000.00	-5,656.35	1,546.28	366,608.31	844,984.91	32.0041044	-103.3537653
22,400.00	90.00	359.32	13,000.00	-5,556.36	1,545.09	366,708.30	844,983.72	32.0043793	-103.3537662
22,500.00	90.00	359.32	13,000.00	-5,456.37	1,543.91	366,808.29	844,982.53	32.0046541	-103.3537671
22,600.00	90.00	359.32	13,000.00	-5,356.37	1,542.72	366,908.29	844,981.34	32.0049290	-103.3537680
22,700.00	90.00	359.32	13,000.00	-5,256.38	1,541.53	367,008.28	844,980.15	32.0052039	-103.3537689
22,800.00	90.00	359.32	13,000.00	-5,156.39	1,540.34	367,108.27	844,978.96	32.0054787	-103.3537698
22,900.00	90.00	359.32	13,000.00	-5,056.39	1,539.15	367,208.26	844,977.77	32.0057536	-103.3537708
23,000.00	90.00	359.32	13,000.00	-4,956.40	1,537.96	367,308.26	844,976.58	32.0060285	-103.3537717
23,100.00	90.00	359.32	13,000.00	-4,856.41	1,536.77	367,408.25	844,975.39	32.0063033	-103.3537726
23,200.00	90.00	359.32	13,000.00	-4,756.42	1,535.58	367,508.24	844,974.20	32.0065782	-103.3537735
23,300.00	90.00	359.32	13,000.00	-4,656.42	1,534.39	367,608.24	844,973.01	32.0068531	-103.3537744
23,400.00	90.00	359.32	13,000.00	-4,556.43	1,533.20	367,708.23	844,971.82	32.0071280	-103.3537753

Planning Report - Geographic

Database:	EDM_5000.17	Local Co-ordinate Reference:	Well ARENA ROJA FED UNIT 812H
Company:	WCDCS Permian NM	TVD Reference:	GL:3090.80+26ft @ 3116.80ft
Project:	Lea County (NAD83 New Mexico East)	MD Reference:	GL:3090.80+26ft @ 3116.80ft
Site:	Sec 27-T26S-R35E	North Reference:	Grid
Well:	ARENA ROJA FED UNIT 812H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plat R4 (2170FWL--2170FEL) WC A100		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
23,500.00	90.00	359.32	13,000.00	-4,456.44	1,532.01	367,808.22	844,970.63	32.0074028	-103.3537762
23,600.00	90.00	359.32	13,000.00	-4,356.44	1,530.82	367,908.21	844,969.45	32.0076777	-103.3537772
23,700.00	90.00	359.32	13,000.00	-4,256.45	1,529.63	368,008.21	844,968.26	32.0079526	-103.3537781
23,800.00	90.00	359.32	13,000.00	-4,156.46	1,528.44	368,108.20	844,967.07	32.0082274	-103.3537790
23,900.00	90.00	359.32	13,000.00	-4,056.46	1,527.25	368,208.19	844,965.88	32.0085023	-103.3537799
24,000.00	90.00	359.32	13,000.00	-3,956.47	1,526.06	368,308.18	844,964.69	32.0087772	-103.3537808
24,100.00	90.00	359.32	13,000.00	-3,856.48	1,524.87	368,408.18	844,963.50	32.0090520	-103.3537817
24,200.00	90.00	359.32	13,000.00	-3,756.49	1,523.68	368,508.17	844,962.31	32.0093269	-103.3537826
24,300.00	90.00	359.32	13,000.00	-3,656.49	1,522.49	368,608.16	844,961.12	32.0096018	-103.3537836
24,400.00	90.00	359.32	13,000.00	-3,556.50	1,521.30	368,708.16	844,959.93	32.0098766	-103.3537845
24,500.00	90.00	359.32	13,000.00	-3,456.51	1,520.11	368,808.15	844,958.74	32.0101515	-103.3537854
24,600.00	90.00	359.32	13,000.00	-3,356.51	1,518.92	368,908.14	844,957.55	32.0104264	-103.3537863
24,700.00	90.00	359.32	13,000.00	-3,256.52	1,517.73	369,008.13	844,956.36	32.0107013	-103.3537872
24,800.00	90.00	359.32	13,000.00	-3,156.53	1,516.54	369,108.13	844,955.17	32.0109761	-103.3537881
24,900.00	90.00	359.32	13,000.00	-3,056.54	1,515.35	369,208.12	844,953.98	32.0112510	-103.3537890
25,000.00	90.00	359.32	13,000.00	-2,956.54	1,514.16	369,308.11	844,952.79	32.0115259	-103.3537900
25,100.00	90.00	359.32	13,000.00	-2,856.55	1,512.98	369,408.10	844,951.60	32.0118007	-103.3537909
25,200.00	90.00	359.32	13,000.00	-2,756.56	1,511.79	369,508.10	844,950.41	32.0120756	-103.3537918
25,300.00	90.00	359.32	13,000.00	-2,656.56	1,510.60	369,608.09	844,949.22	32.0123505	-103.3537927
25,400.00	90.00	359.32	13,000.00	-2,556.57	1,509.41	369,708.08	844,948.03	32.0126253	-103.3537936
25,500.00	90.00	359.32	13,000.00	-2,456.58	1,508.22	369,808.08	844,946.84	32.0129002	-103.3537945
25,600.00	90.00	359.32	13,000.00	-2,356.59	1,507.03	369,908.07	844,945.65	32.0131751	-103.3537954
25,700.00	90.00	359.32	13,000.00	-2,256.59	1,505.84	370,008.06	844,944.46	32.0134499	-103.3537964
25,800.00	90.00	359.32	13,000.00	-2,156.60	1,504.65	370,108.05	844,943.27	32.0137248	-103.3537973
25,900.00	90.00	359.32	13,000.00	-2,056.61	1,503.46	370,208.05	844,942.08	32.0139997	-103.3537982
26,000.00	90.00	359.32	13,000.00	-1,956.61	1,502.27	370,308.04	844,940.89	32.0142746	-103.3537991
26,100.00	90.00	359.32	13,000.00	-1,856.62	1,501.08	370,408.03	844,939.70	32.0145494	-103.3538000
26,200.00	90.00	359.32	13,000.00	-1,756.63	1,499.89	370,508.02	844,938.52	32.0148243	-103.3538009
26,300.00	90.00	359.32	13,000.00	-1,656.63	1,498.70	370,608.02	844,937.33	32.0150992	-103.3538018
26,400.00	90.00	359.32	13,000.00	-1,556.64	1,497.51	370,708.01	844,936.14	32.0153740	-103.3538028
26,500.00	90.00	359.32	13,000.00	-1,456.65	1,496.32	370,808.00	844,934.95	32.0156489	-103.3538037
26,600.00	90.00	359.32	13,000.00	-1,356.66	1,495.13	370,908.00	844,933.76	32.0159238	-103.3538046
26,700.00	90.00	359.32	13,000.00	-1,256.66	1,493.94	371,007.99	844,932.57	32.0161986	-103.3538055
26,800.00	90.00	359.32	13,000.00	-1,156.67	1,492.75	371,107.98	844,931.38	32.0164735	-103.3538064
26,900.00	90.00	359.32	13,000.00	-1,056.68	1,491.56	371,207.97	844,930.19	32.0167484	-103.3538073
27,000.00	90.00	359.32	13,000.00	-956.68	1,490.37	371,307.97	844,929.00	32.0170232	-103.3538082
27,100.00	90.00	359.32	13,000.00	-856.69	1,489.18	371,407.96	844,927.81	32.0172981	-103.3538092
27,200.00	90.00	359.32	13,000.00	-756.70	1,487.99	371,507.95	844,926.62	32.0175730	-103.3538101
27,300.00	90.00	359.32	13,000.00	-656.71	1,486.80	371,607.94	844,925.43	32.0178479	-103.3538110
27,400.00	90.00	359.32	13,000.00	-556.71	1,485.61	371,707.94	844,924.24	32.0181227	-103.3538119
27,500.00	90.00	359.32	13,000.00	-456.72	1,484.42	371,807.93	844,923.05	32.0183976	-103.3538128
27,600.00	90.00	359.32	13,000.00	-356.73	1,483.23	371,907.92	844,921.86	32.0186725	-103.3538137
27,700.00	90.00	359.32	13,000.00	-256.73	1,482.05	372,007.92	844,920.67	32.0189473	-103.3538146
27,800.00	90.00	359.32	13,000.00	-156.74	1,480.86	372,107.91	844,919.48	32.0192222	-103.3538155
27,900.00	90.00	359.32	13,000.00	-56.75	1,479.67	372,207.90	844,918.29	32.0194971	-103.3538165
28,000.00	90.00	359.32	13,000.00	43.25	1,478.48	372,307.89	844,917.10	32.0197719	-103.3538174
28,100.00	90.00	359.32	13,000.00	143.24	1,477.29	372,407.89	844,915.91	32.0200468	-103.3538183
28,200.00	90.00	359.32	13,000.00	243.23	1,476.10	372,507.88	844,914.72	32.0203217	-103.3538192
28,300.00	90.00	359.32	13,000.00	343.22	1,474.91	372,607.87	844,913.53	32.0205965	-103.3538201
28,400.00	90.00	359.32	13,000.00	443.22	1,473.72	372,707.86	844,912.34	32.0208714	-103.3538210
28,500.00	90.00	359.32	13,000.00	543.21	1,472.53	372,807.86	844,911.15	32.0211463	-103.3538219
28,525.67	90.00	359.32	13,000.00	568.88	1,472.22	372,833.53	844,910.85	32.0212168	-103.3538222
LTP@28525.67MD_100FNL, 2170FEL									
28,605.67	90.00	359.32	13,000.00	648.88	1,471.27	372,913.52	844,909.90	32.0214367	-103.3538229

Planning Report - Geographic

Database:	EDM_5000.17	Local Co-ordinate Reference:	Well ARENA ROJA FED UNIT 812H
Company:	WCDSC Permian NM	TVD Reference:	GL:3090.80+26ft @ 3116.80ft
Project:	Lea County (NAD83 New Mexico East)	MD Reference:	GL:3090.80+26ft @ 3116.80ft
Site:	Sec 27-T26S-R35E	North Reference:	Grid
Well:	ARENA ROJA FED UNIT 812H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plat R4 (2170FWL--2170FEL) WC A100		

Design Targets										
Target Name										
- hit/miss target	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	
- Shape	(°)	(°)	(ft)	(ft)	(ft)	(usft)	(usft)			
FTP (812H) 100FNI, 21 - plan misses target center by 770.95ft at 0.00ft MD (0.00 TVD, 0.00 N, 0.00 E) - Point	0.00	0.00	0.00	560.02	529.85	372,824.67	843,968.48	32.0212159	-103.3568627	
KOP (812H) 50FNI, 217I - plan misses target center by 807.69ft at 0.00ft MD (0.00 TVD, 0.00 N, 0.00 E) - Point	0.00	0.00	0.00	610.02	529.38	372,874.67	843,968.01	32.0213534	-103.3568628	
TP#2 (251FSL, 2297FW - plan misses target center by 6833.81ft at 0.00ft MD (0.00 TVD, 0.00 N, 0.00 E) - Point	0.00	0.00	0.00	-6,795.15	725.81	365,469.51	844,164.44	32.0009947	-103.3564450	
TP#3 (251FSL, 2288FEL - plan misses target center by 6935.78ft at 0.00ft MD (0.00 TVD, 0.00 N, 0.00 E) - Point	0.00	0.00	0.00	-6,787.78	1,425.13	365,476.88	844,863.76	32.0009976	-103.3541891	
LTP (812H) 100FNL, 2 - plan hits target center - Point	0.00	0.00	13,000.00	568.88	1,472.22	372,833.53	844,910.85	32.0212168	-103.3538222	

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
967.00	967.00	Rustler				
1,430.00	1,430.00	Salt				
4,912.83	4,880.00	Base of Salt				
4,912.83	4,880.00	Delaware				
6,260.78	6,211.00	Cherry Canyon				
7,746.34	7,684.00	Brushy Canyon				
9,145.34	9,083.00	1st Bone Spring Lime				
10,432.34	10,370.00	Bone Spring 1st				
10,946.34	10,884.00	Bone Spring 2nd				
11,392.34	11,330.00	3rd Bone Spring Lime				
12,082.34	12,020.00	Bone Spring 3rd				
12,379.34	12,317.00	Wolfcamp				

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
12,489.38	12,427.04	610.02	529.38	KOP@12489.38'MD_50FNI, 2170FWL	
12,730.54	12,661.14	560.02	529.89	FTP@12730.54'MD_100FNL, 2170FWL	
20,241.26	13,000.00	-6,795.15	692.55	Start No Perf@20241.26'MD	
21,150.89	13,000.00	-6,787.78	1,470.69	End No Perf@21150.89'MD	
28,525.67	13,000.00	568.88	1,472.22	LTP@28525.67'MD_100FNL, 2170FEL	



U. S. Steel Tubular Products

5.500" 20.00lb/ft (0.361" Wall) P110 HP USS-CDC HTQ[®]

2/21/2024 7:47:29 AM



MECHANICAL PROPERTIES	Pipe	USS-CDC HTQ [®]		--
Minimum Yield Strength	125,000	--	psi	--
Maximum Yield Strength	140,000	--	psi	--
Minimum Tensile Strength	130,000	--	psi	--
DIMENSIONS	Pipe	USS-CDC HTQ [®]		--
Outside Diameter	5.500	6.300	in.	--
Wall Thickness	0.361	--	in.	--
Inside Diameter	4.778	4.778	in.	--
Standard Drift	4.653	4.653	in.	--
Alternate Drift	--	--	in.	--
Nominal Linear Weight, T&C	20.00	--	lb/ft	--
Plain End Weight	19.83	--	lb/ft	--
SECTION AREA	Pipe	USS-CDC HTQ [®]		--
Critical Area	5.828	5.828	sq. in.	--
Joint Efficiency	--	97.0	%	--
PERFORMANCE	Pipe	USS-CDC HTQ [®]		--
Minimum Collapse Pressure	13,150	13,150	psi	--
External Pressure Leak Resistance	--	10,520	psi	--
Minimum Internal Yield Pressure	14,360	14,360	psi	--
Minimum Pipe Body Yield Strength	729,000	--	lb	--
Joint Strength	--	707,000	lb	--
Compression Rating	--	424,000	lb	--
Reference Length	--	23,567	ft	--
Maximum Uniaxial Bend Rating	--	60.6	deg/100 ft	--
MAKE-UP DATA	Pipe	USS-CDC HTQ [®]		--
Make-Up Loss	--	4.63	in.	--
Minimum Make-Up Torque	--	14,500	ft-lb	--
Maximum Make-Up Torque	--	20,500	ft-lb	--
Connection Yield Torque	--	25,300	ft-lb	--

UNCONTROLLED

Notes

1.

Other than proprietary collapse and connection values, performance properties have been calculated using standard equations defined by API 5C3 and do not incorporate any additional design or safety factors. Calculations assume nominal pipe OD, nominal wall thickness and Specified Minimum Yield Strength (SMYS).
2.

Uniaxial bending rating shown is structural only, and equal to compression efficiency.
3.

Torques have been calculated assuming a thread compound friction factor of 1.0 and are recommended only. Field make-up torques may require adjustment based on actual field conditions (e.g. make-up speed, temperature, thread compound, etc.).
4.

Reference length is calculated by joint strength divided by nominal threaded and coupled weight with 1.5 safety factor.
5.

Connection external pressure leak resistance has been verified to 80% API pipe body collapse pressure following the guidelines of API 5C5 Cal II.

Legal Notice

USS - CDC HTQ[®] (High Torque Casing Drilling Connection) is a trademark of U. S. Steel Corporation. This product is a modified API Buttress threaded and coupled connection designed for drilling with casing applications. All material contained in this publication is for general information only. This material should not therefore be used or relied upon for any specific application without independent competent professional examination and verification of accuracy, suitability and applicability. Anyone making use of this material does so at their own risk and assumes any and all liability resulting from such use. U. S. Steel disclaims any and all expressed or implied warranties of fitness for any general or particular application.



13-3/8" 54.50# .380 J-55

Dimensions (Nominal)

Outside Diameter	13.375	in.
Wall	0.380	in.
Inside Diameter	12.615	in.
Drift	12.459	in.
Weight, T&C	54.500	lbs/ft
Weight, PE	52.790	lbs/ft

Performance Ratings, Minimum

Collapse, PE	1130	psi
Internal Yields Pressure		
PE	2730	psi
STC	2730	PSI
BTC	2730	psi
Yield Strength, Pipe Body	853	1000 lbs
Joint Strength, STC	514	1000 lbs
Joint Strength, BTC	909	1000 lbs

Note: SeAH Steel has produced this specification sheet for general information only. SeAH does not assume liability or responsibility for any loss or injury resulting from the use of information or data contained herein. All applications for the material described are at the customer's own risk and responsibility.

C-102 Submit Electronically Via OCD Permitting	State of New Mexico Energy, Minerals & Natural Resources Department OIL CONSERVATION DIVISION		Revised July, 2024	
	Submittal Type:	☐ Initial Submittal ☒ Amended Report ☐ As Drilled		

WELL LOCATION INFORMATION

API Number 30-025-53446	Pool Code 96776	Pool Name JABALINA;WOLFCAMP, SOUTHWEST
Property Code 34832	Property Name ARENA ROJA FED UNIT	Well Number 812H
OGRID No. 6137	Operator Name DEVON ENERGY PRODUCTION COMPANY, L.P.	Ground Level Elevation 3090.8'
Surface Owner: ☐ State ☐ Fee ☐ Tribal ☒ Federal		Mineral Owner: ☐ State ☐ Fee ☐ Tribal ☒ Federal

Surface Location

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County
C	27	26-S	35-E		655' N	1635' W	32.019690	103.358588	LEA

Bottom Hole Location

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County
B	27	26-S	35-E		20' N	2170' E	32.021437	103.353822	LEA

Dedicated Acres 933.76	Infill or Defining Well Defining	Defining Well API N/A	Overlapping Spacing Unit (Y/N) Y	Consolidation Code U
Order Numbers			Well setbacks are under Common Ownership: ☒ Yes ☐ No	

Kick Off Point (KOP)

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County
C	27	26-S	35-E		50' N	2170' W	32.021353	103.356863	LEA

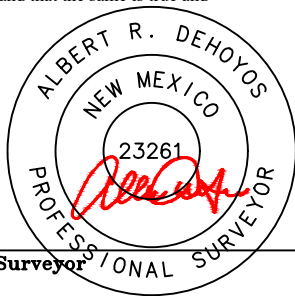
First Take Point (FTP)

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County
C	27	26-S	35-E		100' N	2170' W	32.021216	103.356863	LEA

Last Take Point (LTP)

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County
B	27	26-S	35-E		100' N	2170' E	32.021217	103.353822	LEA

		Spacing Unit Type Horizontal Vertical	Ground Floor Elevation:
		HZ	

OPERATOR CERTIFICATIONS I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and, if the well is a vertical or directional well, that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of a working interest or unleased mineral interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division. If this well is a horizontal well, I further certify that this organization has received the consent of at least one lessee or owner of a working interest or unleased mineral interest in each tract (in the target pool or formation) in which any part of the well's completed interval will be located or obtained a compulsory pooling order from the division.		SURVEYOR CERTIFICATIONS I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under supervision, and that the same is true and correct to the best of my belief.	
Signature  Date 9/23/2025		Signature and Seal of Professional Surveyor 	
Printed Name Rebecca Deal, Regulatory Analyst Email Address rebecca.deal@dvn.com		Certificate Number 23261	Date of Survey 08/20/2025

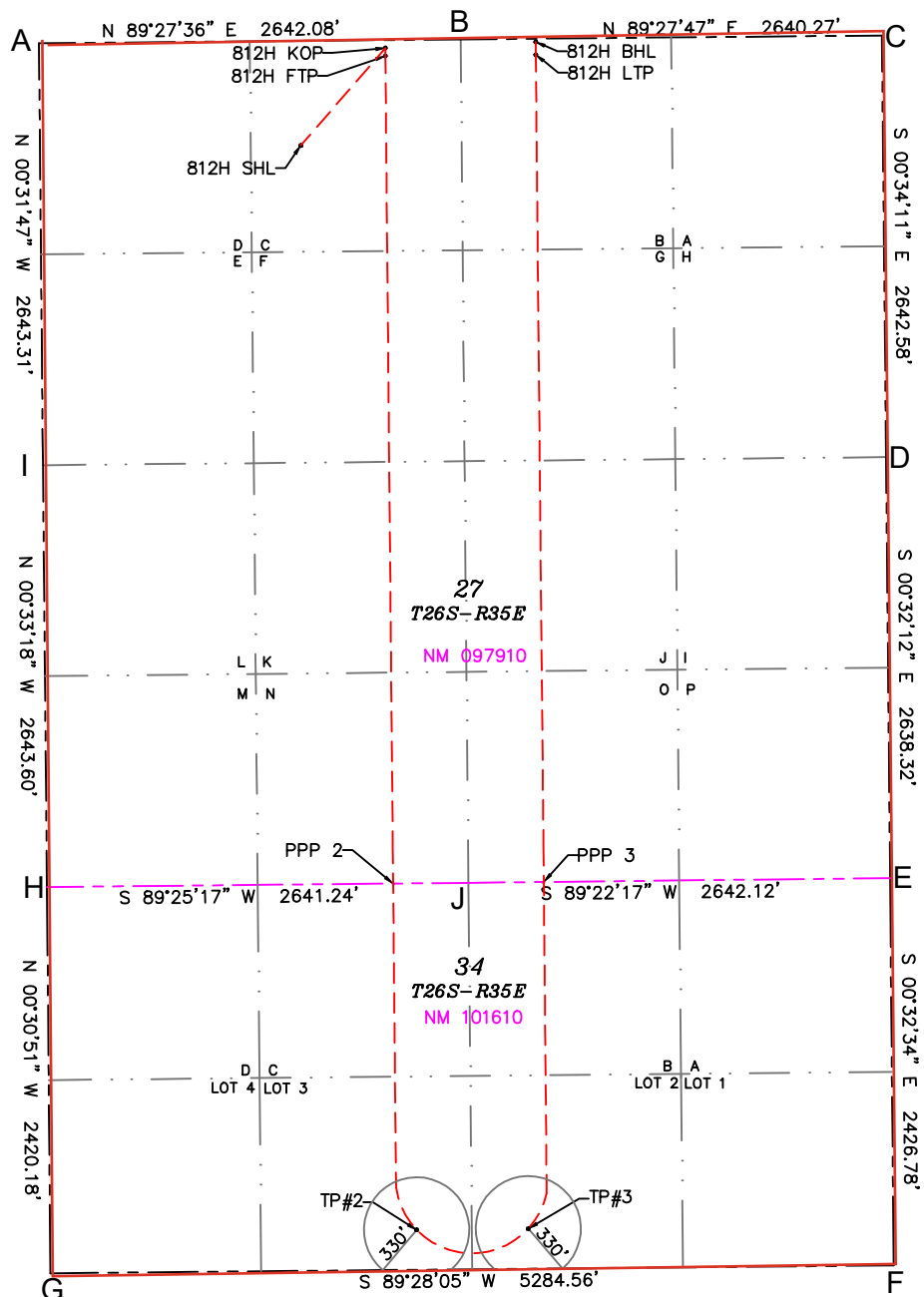
ACREAGE DEDICATION PLATS

This grid represents a standard section. You may superimpose a non-standard section, or larger area, over this grid. Operators must outline the dedicated acreage in a red box, clearly show the well surface location and bottom hole location, if it is directionally drilled, with the dimensions from the section lines in the cardinal directions. If this is a horizontal wellbore show on this plat the location of the First Take Point and Last Take Point, and the point within the Completed interval (other than the First Take Point or Last Take Point) that is closest to any outer boundary of the tract.

Surveyors shall use the latest United States government survey or dependent resurvey. Well locations will be in reference to the New Mexico Principal Meridian. If the land is not surveyed contact the OCD Engineering Bureau. Independent subdivision surveys will not be acceptable.

SURFACE HOLE LOCATION GEODETIC COORDINATES NAD 83 NMSP EAST SURFACE LOCATION 655' FNL 1635' FWL SECTION 27 EL: 3090.8' N: 372264.65/E: 843438.63 LAT: 32.019690/LON: 103.358588
KICK OFF POINT 50' FNL 2170' FWL SECTION 27 N: 372874.67/E: 843968.01 LAT: 32.021353/LON: 103.356863
FIRST TAKE POINT (PPP 1) 100' FNL 2170' FWL SECTION 27 N: 372824.67/E: 843968.48 LAT: 32.021216/LON: 103.356863
TAKE POINT #2 251' FSL 2297' FWL SECTION 34 N: 365469.51/E: 844164.44 LAT: 32.000995/LON: 103.356445
TAKE POINT #3 251' FSL 2288' FEL SECTION 34 N: 365476.88/E: 844863.76 LAT: 32.000998/LON: 103.354189
LAST TAKE POINT 100' FNL 2170' FEL SECTION 27 N: 372833.53/E: 844910.85 LAT: 32.021217/LON: 103.353822
BOTTOM HOLE LOCATION 20' FNL 2170' FEL SECTION 27 N: 372913.52/E: 844910.06 LAT: 32.021437/LON: 103.353822
PPP 2 0' FNL 2169' FWL SECTION 34 N: 367639.45/E: 844016.89 LAT: 32.006963/LON: 103.356858
PPP 3 0' FNL 2170' FEL SECTION 34 N: 367649.40/E: 844960.96 LAT: 32.006966/LON: 103.353812

A=N:372904.21 E:841797.65
B=N:372929.11 E:844439.61
C=N:372953.86 E:847079.76
D=N:370311.41 E:847106.04
E=N:367673.21 E:847130.76
F=N:365246.54/E:847153.74
G=N:365197.46/E:841869.41
H=N:367617.55 E:841847.69
I=N:370261.02 E:841822.08
J=N:367644.22 E:844488.79



ARENA ROJA FED UNIT 812H

1. Geologic Formations

TVD of target	13000	Pilot hole depth	N/A
MD at TD:	28605	Deepest expected fresh water	

Basin

Formation	Depth (TVD) from KB	Water/Mineral Bearing/Target Zone?	Hazards*
Rustler	967		
Salt	1430		
Base of Salt	4880		
Delaware	4880		
Cherry Canyon	6211		
Brushy Canyon	7684		
1st Bone Spring Lime	9083		
Bone Spring 1st	10370		
Bone Spring 2nd	10884		
3rd Bone Spring Lime	11330		
Bone Spring 3rd	12020		
Wolfcamp	12317		

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

ARENA ROJA FED UNIT 812H

2. Casing Program

Hole Size	Csg. Size	Wt (PPF)	Grade	Conn	Casing Interval		Casing Interval	
					From (MD)	To (MD)	From (TVD)	To (TVD)
17 1/2	13 3/8	54 1/2	J-55	BTC	0	1037	0	1037
9 7/8	8 5/8	32	P110HP	Talon	0	12389	0	12389
7 7/8	5 1/2	20	P110HP	CDC-HTQ	0	28605	0	13000

• All casing strings will be tested in accordance with Onshore Oil and Gas Order #2 IILB.1.h Must have table for contingency casing.

3. Cementing Program

Assuming no returns are established while drilling, Devon requests to pump a two stage cement job on the intermediate casing string with the first stage being pumped conventionally with the calculated top of cement at the Brushy Canyon and the second stage performed as a bradenhead squeeze with planned cement from the Brushy Canyon to surface. The final cement top will be verified by Echo-meter. Devon will include the Echo-meter verified fluid top and the volume of displacement fluid above the cement slurry in the annulus in all post-drill sundries on wells utilizing this cement program. Devon will report to the BLM the volume of fluid (limited to 1 bbls) used to flush intermediate casing valves following backside cementing procedures.

Casing	# Sks	TOC	Wt. ppg	Yld (ft3/sack)	Slurry Description
Surface	788	Surf	13.2	1.44	Lead: Class C Cement + additives
Int 1	687	Surf	13.0	2.3	2nd State: Bradenhead Squeeze - Lead: Class C Cement + additives
	539	7746	13.2	1.44	Tail: Class H / C + additives
Production	117	10489	9	3.27	Lead: Class H / C + additives
	2133	12489	13.2	1.44	Tail: Class H / C + additives

Casing String	% Excess
Surface	50%
Intermediate 1	30%
Prod	10%

ARENA ROJA FED UNIT 812H

4. Pressure Control Equipment (Three String Design)

BOP installed and tested before drilling which hole?		Size?	Min. Required WP	Type		✓	Tested to:
Int 1		13-5/8"	10M	Annular		X	50% of rated working pressure
				Blind Ram		X	10M
				Pipe Ram			
				Double Ram		X	
				Other*			
Production		13-5/8"	10M	Annular (5M)		X	100% of rated working pressure
				Blind Ram		X	10M
				Pipe Ram			
				Double Ram		X	
				Other*			
				Annular (5M)			
				Blind Ram			
				Pipe Ram			
				Double Ram			
				Other*			
N	A variance is requested for the use of a diverter on the surface casing. See attached for schematic.						
Y	A variance is requested to run a 5 M annular on a 10M system						

ARENA ROJA FED UNIT 812H

5. Mud Program (Three String Design)

Section	Type	Weight (ppg)
Surface	FW Gel	8.5-9
Intermediate	DBE / Cut Brine	10-10.5
Production	OBM	10-10.5

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
---	-----------------------------

6. Logging and Testing Procedures

Logging, Coring and Testing	
X	Will run GR/CNL from TD to surface (horizontal well - vertical portion of hole). Stated logs run will be in the Completion Report and submitted to the BLM.
	No logs are planned based on well control or offset log information.
	Drill stem test? If yes, explain.
	Coring? If yes, explain.

Additional logs planned		Interval
	Resistivity	Int. shoe to KOP
	Density	Int. shoe to KOP
X	CBL	Production casing
	Mud log	Intermediate shoe to TD
	PEX	

7. Drilling Conditions

Condition	Specify what type and where?
BH pressure at deepest TVD	7098
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	H ₂ S is present
Y	H ₂ S plan attached.

ARENA ROJA FED UNIT 812H

8. Other facets of operation

Is this a walking operation? Potentially

- 1 If operator elects, 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 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.

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 batch drill surface hole.
 - a. Rig will utilize fresh water based mud to drill 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 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 pa.
- 6 The NMOCD will be contacted and notified 24 hours prior to commencing spudder rig operations.
- 7 Drilling operations will be performed with drilling rig. A 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

X Directional Plan
 Other, describe

Well Name: ARENA ROJA FED UNIT	Well Location: T26S / R35E / SEC 27 / NENW / 32.01969 / -103.358589	County or Parish/State: LEA / NM
Well Number: 812H	Type of Well: OIL WELL	Allottee or Tribe Name:
Lease Number: NMNM97910	Unit or CA Name: ARENA ROJA FEDERAL	Unit or CA Number: NMNM112744X
US Well Number: 3002553446	Operator: DEVON ENERGY PRODUCTION COMPANY LP	

Notice of Intent

Sundry ID: 2875448

Type of Submission: Notice of Intent	Type of Action: APD Change
Date Sundry Submitted: 09/24/2025	Time Sundry Submitted: 12:28
Date proposed operation will begin: 09/24/2025	

Procedure Description: Devon Energy Production Company L.P. respectfully requests the following changes to the approved APD: BHL change from 20 FSL & 2430 FWL, 34-26S-35E to 20 FNL & 2170 FEL, 27-26S-35E. TVD/MD change from 12800'/20280' to 13000'/ 28605' Spacing change from 233.44 acs to 933.76 acs Casing program change: Surface casing size change. Surface, Intermediate, and Production casing depth changes. Cement volume changes to accommodate casing change. Please see attached revised C-102, spec sheets, and drilling & directional plans.

NOI Attachments

Procedure Description

- ARENA_ROJA_FED_UNIT_812H_Permit_Plan_1_20251008082111.pdf
- 5.5_20lb_P110HP_CDC_HTQ_20250924122001.pdf
- 13.375_54.5lb_J55_20250924122000.pdf
- ARENA_ROJA_FED_UNIT_812H_C_102_U_Turn_NOI_20250924121901.pdf
- ARENA_ROJA_FED_UNIT_812H_9_18_2025_20250924121859.pdf

Well Name: ARENA ROJA FED UNIT

Well Location: T26S / R35E / SEC 27 /
NENW / 32.01969 / -103.358589

County or Parish/State: LEA /
NM

Well Number: 812H

Type of Well: OIL WELL

Allottee or Tribe Name:

Lease Number: NMNM97910

Unit or CA Name: ARENA ROJA
FEDERAL

Unit or CA Number:
NMNM112744X

US Well Number: 3002553446

Operator: DEVON ENERGY
PRODUCTION COMPANY LP

Operator

I certify that the foregoing is true and correct. 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. Electronic submission of Sundry Notices through this system satisfies regulations requiring a

Operator Electronic Signature: REBECCA DEAL

Signed on: OCT 08, 2025 08:23 AM

Name: DEVON ENERGY PRODUCTION COMPANY LP

Title: Regulatory Professional

Street Address: 333 W SHERIDAN AVE

City: OKLAHOMA CITY State: OK

Phone: (405) 228-8429

Email address: REBECCA.DEAL@DVN.COM

Field

Representative Name:

Street Address:

City: State: Zip:

Phone:

Email address:

APPROVED by Long Vo
Petroleum Engineer
Carlsbad Field Office
575-988-50402
LVO@BLM.GOV

**PECOS DISTRICT
DRILLING CONDITIONS OF APPROVAL**

OPERATOR'S NAME:	Devon Energy Production Company LP
LEASE NO.:	NMNM97910
LOCATION:	Section 27, T.26 S., R.35 E., NMPM
COUNTY:	Lea County, New Mexico 

WELL NAME & NO.:	Arena Roja Fed Unit 812H
ATS/API ID:	3002553446
APD ID:	10400095813
Sundry ID:	2875448

COA

H2S	No		
Potash	None	None	
Cave/Karst Potential	Low		
Cave/Karst Potential	☐ Critical		
Variance	☒ None	☒ Flex Hose	☒ Other
Wellhead	Conventional and Multibowl		
Other	☐ 4 String	Capitan Reef None	☐ WIPP
Other	Pilot Hole None	☐ Open Annulus	
Cementing	Contingency Squeeze None	Echo-Meter Int 1	Primary Cement Squeeze None
Special Requirements	☐ Water Disposal/Injection	☐ COM	☒ Unit
Special Requirements	☐ Batch Sundry	Waste Prevention None	
Special Requirements Variance	☐ Break Testing	☐ Offline Cementing	☐ Casing Clearance

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 **43 CFR part 3170 Subpart 3176**, 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 **1040 feet** (a minimum of **25 feet (Lea County)** into the Rustler Anhydrite and above the salt when present, and below usable fresh water) and cemented to the surface. The surface hole shall be **17 1/2 inch** in diameter.
 - 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.

Intermediate casing must be kept fluid filled to meet BLM minimum collapse requirement.

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

Option 1 (Single Stage):

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

Option 2:

Operator has proposed to cement in two stages by conventionally cementing the first stage and performing a bradenhead squeeze on the second stage, contingent upon no returns to surface.

- a. First stage: Operator will cement with intent to reach the top of the **Brushy Canyon at 7684'**.
- b. Second stage:
 - Operator will perform bradenhead squeeze and top-out. Cement to surface. If cement does not reach surface, the appropriate BLM office shall be notified. **(Squeeze 687 sxs Class C)**

Operator has proposed to pump down **13-3/8" X 8-5/8"** annulus after primary cementing stage. Operator must run Echo-meter to verify Cement Slurry/Fluid top in the annulus Or operator shall run a CBL from TD of the 8-5/8" casing to surface after the second stage BH to verify TOC.

Submit results to the BLM. No displacement fluid/wash out shall be utilized at the top of the cement slurry between second stage BH and top out. Operator must run one CBL per Well Pad. Operator may conduct a negative and positive pressure test during completion to remediate sustained casing pressure.

If cement does not reach surface, the next casing string must come to surface.

Operator must use a limited flush fluid volume of 1 bbl following backside cementing procedures.

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.
Cement excess is less than 25%, more cement is required if washout occurs. Adjust cement volume and excess based on a fluid caliper or similar method that reflects the as-drilled size of the wellbore.

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.

Option 1:

- a. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **10,000 (10M) psi. Variance is approved to use a 5000 (5M) Annular which shall be tested to 5000 (5M) psi.**

- b. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the 8-5/8 inch intermediate casing shoe shall be **10,000 (10M) psi. Variance is approved to use a 5000 (5M) Annular which shall be tested to 5000 (5M) psi.**

Option 2:

Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the 13-3/8 inch surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **10,000 (10M) psi. Variance is approved to use a 5000 (5M) Annular which shall be tested to 5000 (5M) psi.**

- 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 43 CFR 3172.6(b)(9) must be followed.

D. SPECIAL REQUIREMENT (S)

Unit Wells

The well sign for a unit well shall include the unit number in addition to the surface and bottom hole lease numbers. This also applies to participating area numbers. If a participating area has not been established, the operator can use the general unit designation, but will replace the unit number with the participating area number when the sign is replaced.

Commercial Well Determination

A commercial well determination shall be submitted after production has been established for at least six months.

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)

☒ Lea County

Call the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240,
(575) 689-5981

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. When 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 **43 CFR part 3170 Subpart 3172** 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.

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 of both lead and tail cement, 2) until cement has been in place at least 8 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 **43 CFR part 3170 Subpart 3172 and API STD 53 Sec. 5.3**.
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. Whenever any seal subject to test pressure is broken, all the tests in 43 CFR 3172.6(b)(9) must be followed.
 - e. 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.
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 cement), 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 cement plug. The BOPE test can be

initiated after bumping the cement plug with the casing valve open. (only applies to single stage cement jobs, prior to the cement setting up.)

- c. The tests shall be done by an independent service company utilizing a test plug not a cup or J-packer and can be initiated immediately with the casing valve open. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to **43 CFR part 3170 Subpart 3172** with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for 8 hours or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).
- 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. The results of the test shall be reported to the appropriate BLM office.
- f. 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.
- g. 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 if test is done with a test plug and 30 minutes without a test plug. This test shall be performed prior to the test at full stack pressure.
- h. 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 **43 CFR part 3170 Subpart 3172**.

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.

Long Vo (LVO) 10/15/2025

Form 3160-5
(October 2024)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB No. 1004-0220
Expires: October 31, 2027

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.

5. Lease Serial No.	
6. If Indian, Allottee or Tribe Name	
7. If Unit of CA/Agreement, Name and/or No.	
8. Well Name and No.	
9. API Well No.	
10. Field and Pool or Exploratory Area	11. Country or Parish, State

1. Type of Well

☐ Oil Well ☐ Gas Well ☐ Other

2. Name of Operator

3a. Address

3b. Phone No. (include area code)

4. Location of Well (Footage, Sec., T.,R.,M., or Survey Description)

12. CHECK THE APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT OR OTHER DATA				
TYPE OF SUBMISSION	TYPE OF ACTION			
☐ Notice of Intent	☐ Acidize	☐ Deepen	☐ Production (Start/Resume)	☐ Water Shut-Off
☐ Subsequent Report	☐ Alter Casing	☐ Hydraulic Fracturing	☐ Reclamation	☐ Well Integrity
☐ Final Abandonment Notice	☐ Casing Repair	☐ New Construction	☐ Recomplete	☐ Other
	☐ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon	
	☐ Convert to Injection	☐ Plug Back	☐ Water Disposal	

13. Describe Proposed or Completed Operation: Clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recomplete 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 perfonned 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 recompletion 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 detennined that the site is ready for final inspection.)

14. I hereby certify that the foregoing is true and correct. Name (Printed/Typed)	Title
Signature	Date

THE SPACE FOR FEDERAL OR STATE OFFICE USE		
Approved by	Title	Date
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	

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)

GENERAL INSTRUCTIONS

This form is designed for submitting proposals to perform certain well operations and reports of such operations when completed as indicated on Federal and Indian lands pursuant to applicable Federal law and regulations. Any necessary special instructions concerning the use of this form and the number of copies to be submitted, particularly with regard to local area or regional procedures and practices, are either shown below, will be issued by or may be obtained from the local Federal office.

SPECIFIC INSTRUCTIONS

Item 4 - Locations on Federal or Indian land should be described in accordance with Federal requirements. Consult the local Federal office for specific instructions.

Item 13: Proposals to abandon a well and subsequent reports of abandonment should include such special information as is required by the local Federal office. In addition, such proposals and reports should include reasons for the abandonment; data on any former or present productive zones or other zones with present significant fluid contents not sealed off by cement or otherwise; depths (top and bottom) and method of placement of cement plugs; mud or other material placed below, between and above plugs; amount, size, method of parting of any casing, liner or tubing pulled and the depth to the top of any tubing left in the hole; method of closing top of well and date well site conditioned for final inspection looking for approval of the abandonment. If the proposal will involve **hydraulic fracturing operations**, you must comply with 43 CFR 3162.3-3, including providing information about the protection of usable water. Operators should provide the best available information about all formations containing water and their depths. This information could include data and interpretation of resistivity logs run on nearby wells. Information may also be obtained from state or tribal regulatory agencies and from local BLM offices.

NOTICES

The privacy Act of 1974 and the regulation in 43 CFR 2.48(d) provide that you be furnished the following information in connection with information required by this application.

AUTHORITY: 30 U.S.C. 181 et seq., 351 et seq., 25 U.S.C. 396; 43 CFR 3160.

PRINCIPAL PURPOSE: The information is used to: (1) Evaluate, when appropriate, approve applications, and report completion of subsequent well operations, on a Federal or Indian lease; and (2) document for administrative use, information for the management, disposal and use of National Resource lands and resources, such as: (a) evaluating the equipment and procedures to be used during a proposed subsequent well operation and reviewing the completed well operations for compliance with the approved plan; (b) requesting and granting approval to perform those actions covered by 43 CFR 3162.3-2, 3162.3-3, and 3162.3-4; (c) reporting the beginning or resumption of production, as required by 43 CFR 3162.4-1(c) and (d) analyzing future applications to drill or modify operations in light of data obtained and methods used.

ROUTINE USES: Information from the record and/or the record will be transferred to appropriate Federal, State, local or foreign agencies, when relevant to civil, criminal or regulatory investigations or prosecutions in connection with congressional inquiries or to consumer reporting agencies to facilitate collection of debts owed the Government.

EFFECT OF NOT PROVIDING THE INFORMATION: Filing of this notice and report and disclosure of the information is mandatory for those subsequent well operations specified in 43 CFR 3162.3-2, 3162.3-3, 3162.3-4.

The Paperwork Reduction Act of 1995 requires us to inform you that:

The BLM collects this information to evaluate proposed and/or completed subsequent well operations on Federal or Indian oil and gas leases.

Response to this request is mandatory.

The BLM would like you to know that you do not have to respond to this or any other Federal agency-sponsored information collection unless it displays a currently valid OMB control number.

BURDEN HOURS STATEMENT: Public reporting burden for this form is estimated to average 8 hours per response, including the time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding the burden estimate or any other aspect of this form to U.S. Department of the Interior, Bureau of Land Management (1004-0137), Bureau Information Collection Clearance Officer (WO-630), 1849 C St., N.W., Mail Stop 401 LS, Washington, D.C. 20240

Additional Information

Location of Well

0. SHL: NENW / 655 FNL / 1635 FWL / TWSP: 26S / RANGE: 35E / SECTION: 27 / LAT: 32.01969 / LONG: -103.358589 (TVD: 0 feet, MD: 0 feet)

PPP: NENW / 100 FNL / 2430 FWL / TWSP: 26S / RANGE: 35E / SECTION: 27 / LAT: 32.021216 / LONG: -103.356024 (TVD: 12317 feet, MD: 12402 feet)

BHL: LOT 3 / 20 FSL / 2430 FWL / TWSP: 26S / RANGE: 35E / SECTION: 34 / LAT: 32.000361 / LONG: -103.356017 (TVD: 12800 feet, MD: 20280 feet)

CONFIDENTIAL

Released to Imaging: 11/18/2025 9:57:05 AM

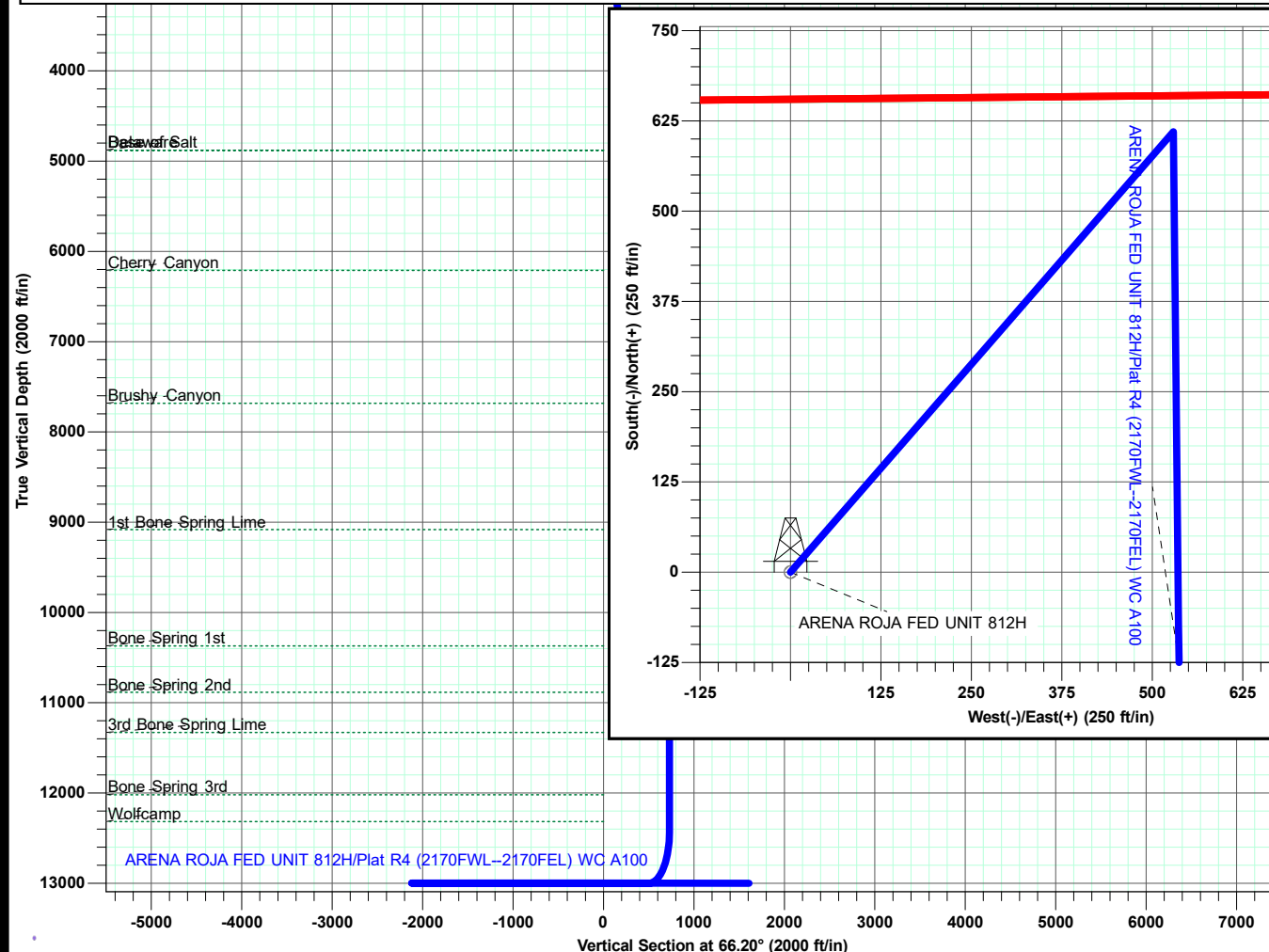
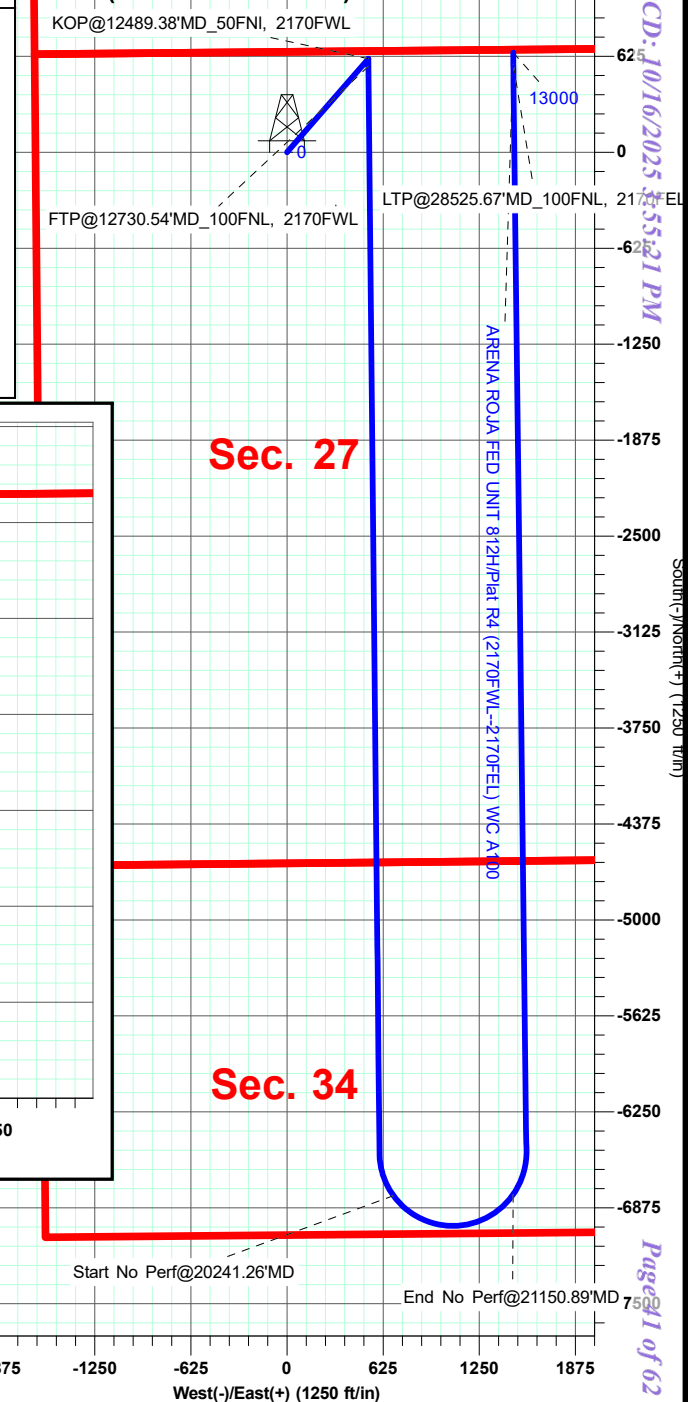


GL:3090.80+26ft @ 3116.80ft
Ground Level 3090.80

ARENA ROJA FED UNIT 812H
Lea County (NAD83 New Mexico East)
Northing: 372264.65
Easting: 843438.63
Lat: 32.0196898
Long: -103.3585884
Plat R4 (2170FWL--2170FEL) WC A100

SECTION DETAILS
ARENA ROJA FED UNIT 812H

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	VSect
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2000.00	0.00	0.00	2000.00	0.00	0.00	0.00	0.00
2454.86	9.10	40.95	2452.95	27.22	23.62	2.00	32.59
7107.48	9.10	40.95	7047.05	582.81	505.76	0.00	697.94
7562.34	0.00	0.00	7500.00	610.02	529.38	2.00	730.53
12489.38	0.00	0.00	12427.04	610.02	529.38	0.00	730.53
13389.38	90.00	179.42	13000.00	37.09	535.18	10.00	504.64
19946.38	90.00	179.42	13000.00	-6519.57	601.56	0.00	-2080.43
20691.55	90.00	90.00	13000.00	-6992.20	1079.00	12.00	-1834.31
21447.23	90.00	359.32	13000.00	-6509.06	1556.43	12.00	-1202.51
28525.67	90.00	359.32	13000.00	568.88	1472.22	0.00	1576.60
28605.67	90.00	359.32	13000.00	648.88	1471.27	0.00	1608.00



Planning Report - Geographic

Database:	EDM_5000.17	Local Co-ordinate Reference:	Well ARENA ROJA FED UNIT 812H
Company:	WCDCS Permian NM	TVD Reference:	GL:3090.80+26ft @ 3116.80ft
Project:	Lea County (NAD83 New Mexico East)	MD Reference:	GL:3090.80+26ft @ 3116.80ft
Site:	Sec 27-T26S-R35E	North Reference:	Grid
Well:	ARENA ROJA FED UNIT 812H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plat R4 (2170FWL--2170FEL) WC A100		

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 27-T26S-R35E				
Site Position:		Northing:	372,704.19 usft	Latitude:	32.0209382
From:	Lat/Long	Easting:	841,809.63 usft	Longitude:	-103.3638311
Position Uncertainty:	5.00 ft	Slot Radius:	13.20 in		

Well	ARENA ROJA FED UNIT 812H					
Well Position	+N/-S	0.00 ft	Northing:	372,264.65 usft	Latitude:	32.0196898
	+E/-W	0.00 ft	Easting:	843,438.63 usft	Longitude:	-103.3585884
Position Uncertainty		0.50 ft	Wellhead Elevation:	ft	Ground Level:	3,090.80 ft
Grid Convergence:		0.52 °				

Wellbore	Wellbore #1				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	12/31/2019	6.56	59.87	47,581.02882960

Design	Plat R4 (2170FWL--2170FEL) WC A100			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	66.20

Plan Survey Tool Program	Date	10/7/2025		
Depth From (ft)	Depth To (ft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	28,605.67 Plat R4 (2170FWL--2170FEL) W	MWD+IFR1+FDIR OWSG MWD + IFR1 + FDIR C	

Planning Report - Geographic

Database:	EDM_5000.17	Local Co-ordinate Reference:	Well ARENA ROJA FED UNIT 812H
Company:	WCDSC Permian NM	TVD Reference:	GL:3090.80+26ft @ 3116.80ft
Project:	Lea County (NAD83 New Mexico East)	MD Reference:	GL:3090.80+26ft @ 3116.80ft
Site:	Sec 27-T26S-R35E	North Reference:	Grid
Well:	ARENA ROJA FED UNIT 812H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plat R4 (2170FWL--2170FEL) WC A100		

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	
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,454.86	9.10	40.95	2,452.95	27.22	23.62	2.00	2.00	0.00	40.95	
7,107.48	9.10	40.95	7,047.05	582.81	505.76	0.00	0.00	0.00	0.00	
7,562.34	0.00	0.00	7,500.00	610.02	529.38	2.00	-2.00	0.00	180.00	
12,489.38	0.00	0.00	12,427.04	610.02	529.38	0.00	0.00	0.00	0.00	
13,389.38	90.00	179.42	13,000.00	37.09	535.18	10.00	10.00	0.00	179.42	
19,946.38	90.00	179.42	13,000.00	-6,519.57	601.56	0.00	0.00	0.00	0.00	
20,691.55	90.00	90.00	13,000.00	-6,992.21	1,079.00	12.00	0.00	-12.00	-90.00	
21,447.23	90.00	359.32	13,000.00	-6,509.06	1,556.43	12.00	0.00	-12.00	-90.00	
28,525.67	90.00	359.32	13,000.00	568.88	1,472.22	0.00	0.00	0.00	0.00	LTP (812H) 100FNL,
28,605.67	90.00	359.32	13,000.00	648.88	1,471.27	0.00	0.00	0.00	0.00	

Planning Report - Geographic

Database:	EDM_5000.17	Local Co-ordinate Reference:	Well ARENA ROJA FED UNIT 812H
Company:	WCDC Permian NM	TVD Reference:	GL:3090.80+26ft @ 3116.80ft
Project:	Lea County (NAD83 New Mexico East)	MD Reference:	GL:3090.80+26ft @ 3116.80ft
Site:	Sec 27-T26S-R35E	North Reference:	Grid
Well:	ARENA ROJA FED UNIT 812H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plat R4 (2170FWL--2170FEL) WC A100		

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	372,264.65	843,438.63	32.0196898	-103.3585884
100.00	0.00	0.00	100.00	0.00	0.00	372,264.65	843,438.63	32.0196898	-103.3585884
200.00	0.00	0.00	200.00	0.00	0.00	372,264.65	843,438.63	32.0196898	-103.3585884
300.00	0.00	0.00	300.00	0.00	0.00	372,264.65	843,438.63	32.0196898	-103.3585884
400.00	0.00	0.00	400.00	0.00	0.00	372,264.65	843,438.63	32.0196898	-103.3585884
500.00	0.00	0.00	500.00	0.00	0.00	372,264.65	843,438.63	32.0196898	-103.3585884
600.00	0.00	0.00	600.00	0.00	0.00	372,264.65	843,438.63	32.0196898	-103.3585884
700.00	0.00	0.00	700.00	0.00	0.00	372,264.65	843,438.63	32.0196898	-103.3585884
800.00	0.00	0.00	800.00	0.00	0.00	372,264.65	843,438.63	32.0196898	-103.3585884
900.00	0.00	0.00	900.00	0.00	0.00	372,264.65	843,438.63	32.0196898	-103.3585884
967.00	0.00	0.00	967.00	0.00	0.00	372,264.65	843,438.63	32.0196898	-103.3585884
Rustler									
1,000.00	0.00	0.00	1,000.00	0.00	0.00	372,264.65	843,438.63	32.0196898	-103.3585884
1,100.00	0.00	0.00	1,100.00	0.00	0.00	372,264.65	843,438.63	32.0196898	-103.3585884
1,200.00	0.00	0.00	1,200.00	0.00	0.00	372,264.65	843,438.63	32.0196898	-103.3585884
1,300.00	0.00	0.00	1,300.00	0.00	0.00	372,264.65	843,438.63	32.0196898	-103.3585884
1,400.00	0.00	0.00	1,400.00	0.00	0.00	372,264.65	843,438.63	32.0196898	-103.3585884
1,430.00	0.00	0.00	1,430.00	0.00	0.00	372,264.65	843,438.63	32.0196898	-103.3585884
Salt									
1,500.00	0.00	0.00	1,500.00	0.00	0.00	372,264.65	843,438.63	32.0196898	-103.3585884
1,600.00	0.00	0.00	1,600.00	0.00	0.00	372,264.65	843,438.63	32.0196898	-103.3585884
1,700.00	0.00	0.00	1,700.00	0.00	0.00	372,264.65	843,438.63	32.0196898	-103.3585884
1,800.00	0.00	0.00	1,800.00	0.00	0.00	372,264.65	843,438.63	32.0196898	-103.3585884
1,900.00	0.00	0.00	1,900.00	0.00	0.00	372,264.65	843,438.63	32.0196898	-103.3585884
2,000.00	0.00	0.00	2,000.00	0.00	0.00	372,264.65	843,438.63	32.0196898	-103.3585884
2,100.00	2.00	40.95	2,099.98	1.32	1.14	372,265.97	843,439.77	32.0196934	-103.3585847
2,200.00	4.00	40.95	2,199.84	5.27	4.57	372,269.92	843,443.20	32.0197042	-103.3585735
2,300.00	6.00	40.95	2,299.45	11.85	10.29	372,276.50	843,448.91	32.0197221	-103.3585549
2,400.00	8.00	40.95	2,398.70	21.06	18.27	372,285.70	843,456.90	32.0197472	-103.3585288
2,454.86	9.10	40.95	2,452.95	27.22	23.62	372,291.86	843,462.25	32.0197640	-103.3585114
2,500.00	9.10	40.95	2,497.52	32.61	28.30	372,297.25	843,466.92	32.0197787	-103.3584962
2,600.00	9.10	40.95	2,596.27	44.55	38.66	372,309.20	843,477.29	32.0198113	-103.3584624
2,700.00	9.10	40.95	2,695.01	56.49	49.02	372,321.14	843,487.65	32.0198439	-103.3584286
2,800.00	9.10	40.95	2,793.75	68.43	59.38	372,333.08	843,498.01	32.0198764	-103.3583948
2,900.00	9.10	40.95	2,892.49	80.37	69.75	372,345.02	843,508.38	32.0199090	-103.3583611
3,000.00	9.10	40.95	2,991.23	92.31	80.11	372,356.96	843,518.74	32.0199416	-103.3583273
3,100.00	9.10	40.95	3,089.98	104.25	90.47	372,368.90	843,529.10	32.0199741	-103.3582935
3,200.00	9.10	40.95	3,188.72	116.20	100.84	372,380.84	843,539.46	32.0200067	-103.3582597
3,300.00	9.10	40.95	3,287.46	128.14	111.20	372,392.79	843,549.83	32.0200393	-103.3582259
3,400.00	9.10	40.95	3,386.20	140.08	121.56	372,404.73	843,560.19	32.0200718	-103.3581922
3,500.00	9.10	40.95	3,484.95	152.02	131.92	372,416.67	843,570.55	32.0201044	-103.3581584
3,600.00	9.10	40.95	3,583.69	163.96	142.29	372,428.61	843,580.92	32.0201370	-103.3581246
3,700.00	9.10	40.95	3,682.43	175.90	152.65	372,440.55	843,591.28	32.0201695	-103.3580908
3,800.00	9.10	40.95	3,781.17	187.84	163.01	372,452.49	843,601.64	32.0202021	-103.3580570
3,900.00	9.10	40.95	3,879.91	199.79	173.38	372,464.43	843,612.00	32.0202346	-103.3580233
4,000.00	9.10	40.95	3,978.66	211.73	183.74	372,476.38	843,622.37	32.0202672	-103.3579895
4,100.00	9.10	40.95	4,077.40	223.67	194.10	372,488.32	843,632.73	32.0202998	-103.3579557
4,200.00	9.10	40.95	4,176.14	235.61	204.46	372,500.26	843,643.09	32.0203323	-103.3579219
4,300.00	9.10	40.95	4,274.88	247.55	214.83	372,512.20	843,653.46	32.0203649	-103.3578881
4,400.00	9.10	40.95	4,373.62	259.49	225.19	372,524.14	843,663.82	32.0203975	-103.3578544
4,500.00	9.10	40.95	4,472.37	271.43	235.55	372,536.08	843,674.18	32.0204300	-103.3578206
4,600.00	9.10	40.95	4,571.11	283.38	245.92	372,548.02	843,684.54	32.0204626	-103.3577868
4,700.00	9.10	40.95	4,669.85	295.32	256.28	372,559.97	843,694.91	32.0204952	-103.3577530
4,800.00	9.10	40.95	4,768.59	307.26	266.64	372,571.91	843,705.27	32.0205277	-103.3577192

Planning Report - Geographic

Database:	EDM_5000.17	Local Co-ordinate Reference:	Well ARENA ROJA FED UNIT 812H
Company:	WCDC Permian NM	TVD Reference:	GL:3090.80+26ft @ 3116.80ft
Project:	Lea County (NAD83 New Mexico East)	MD Reference:	GL:3090.80+26ft @ 3116.80ft
Site:	Sec 27-T26S-R35E	North Reference:	Grid
Well:	ARENA ROJA FED UNIT 812H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plat R4 (2170FWL--2170FEL) WC A100		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
4,900.00	9.10	40.95	4,867.34	319.20	277.00	372,583.85	843,715.63	32.0205603	-103.3576855
4,912.83	9.10	40.95	4,880.00	320.73	278.33	372,585.38	843,716.96	32.0205645	-103.3576811
Base of Salt - Delaware									
5,000.00	9.10	40.95	4,966.08	331.14	287.37	372,595.79	843,726.00	32.0205929	-103.3576517
5,100.00	9.10	40.95	5,064.82	343.08	297.73	372,607.73	843,736.36	32.0206254	-103.3576179
5,200.00	9.10	40.95	5,163.56	355.02	308.09	372,619.67	843,746.72	32.0206580	-103.3575841
5,300.00	9.10	40.95	5,262.30	366.97	318.46	372,631.61	843,757.08	32.0206906	-103.3575503
5,400.00	9.10	40.95	5,361.05	378.91	328.82	372,643.56	843,767.45	32.0207231	-103.3575166
5,500.00	9.10	40.95	5,459.79	390.85	339.18	372,655.50	843,777.81	32.0207557	-103.3574828
5,600.00	9.10	40.95	5,558.53	402.79	349.54	372,667.44	843,788.17	32.0207883	-103.3574490
5,700.00	9.10	40.95	5,657.27	414.73	359.91	372,679.38	843,798.54	32.0208208	-103.3574152
5,800.00	9.10	40.95	5,756.01	426.67	370.27	372,691.32	843,808.90	32.0208534	-103.3573814
5,900.00	9.10	40.95	5,854.76	438.62	380.63	372,703.26	843,819.26	32.0208859	-103.3573477
6,000.00	9.10	40.95	5,953.50	450.56	391.00	372,715.20	843,829.62	32.0209185	-103.3573139
6,100.00	9.10	40.95	6,052.24	462.50	401.36	372,727.15	843,839.99	32.0209511	-103.3572801
6,200.00	9.10	40.95	6,150.98	474.44	411.72	372,739.09	843,850.35	32.0209836	-103.3572463
6,260.78	9.10	40.95	6,211.00	481.70	418.02	372,746.34	843,856.65	32.0210034	-103.3572258
Cherry Canyon									
6,300.00	9.10	40.95	6,249.73	486.38	422.09	372,751.03	843,860.71	32.0210162	-103.3572125
6,400.00	9.10	40.95	6,348.47	498.32	432.45	372,762.97	843,871.08	32.0210488	-103.3571788
6,500.00	9.10	40.95	6,447.21	510.26	442.81	372,774.91	843,881.44	32.0210813	-103.3571450
6,600.00	9.10	40.95	6,545.95	522.21	453.17	372,786.85	843,891.80	32.0211139	-103.3571112
6,700.00	9.10	40.95	6,644.69	534.15	463.54	372,798.79	843,902.16	32.0211465	-103.3570774
6,800.00	9.10	40.95	6,743.44	546.09	473.90	372,810.74	843,912.53	32.0211790	-103.3570436
6,900.00	9.10	40.95	6,842.18	558.03	484.26	372,822.68	843,922.89	32.0212116	-103.3570098
7,000.00	9.10	40.95	6,940.92	569.97	494.63	372,834.62	843,933.25	32.0212442	-103.3569761
7,107.48	9.10	40.95	7,047.05	582.81	505.76	372,847.45	843,944.39	32.0212792	-103.3569398
7,200.00	7.25	40.95	7,138.63	592.74	514.38	372,857.38	843,953.01	32.0213062	-103.3569117
7,300.00	5.25	40.95	7,238.03	600.96	521.51	372,865.60	843,960.14	32.0213287	-103.3568884
7,400.00	3.25	40.95	7,337.75	606.55	526.37	372,871.20	843,964.99	32.0213439	-103.3568726
7,500.00	1.25	40.95	7,437.66	609.51	528.94	372,874.16	843,967.56	32.0213520	-103.3568642
7,562.34	0.00	0.00	7,500.00	610.02	529.38	372,874.67	843,968.01	32.0213534	-103.3568628
7,600.00	0.00	0.00	7,537.66	610.02	529.38	372,874.67	843,968.01	32.0213534	-103.3568628
7,700.00	0.00	0.00	7,637.66	610.02	529.38	372,874.67	843,968.01	32.0213534	-103.3568628
7,746.34	0.00	0.00	7,684.00	610.02	529.38	372,874.67	843,968.01	32.0213534	-103.3568628
Brushy Canyon									
7,800.00	0.00	0.00	7,737.66	610.02	529.38	372,874.67	843,968.01	32.0213534	-103.3568628
7,900.00	0.00	0.00	7,837.66	610.02	529.38	372,874.67	843,968.01	32.0213534	-103.3568628
8,000.00	0.00	0.00	7,937.66	610.02	529.38	372,874.67	843,968.01	32.0213534	-103.3568628
8,100.00	0.00	0.00	8,037.66	610.02	529.38	372,874.67	843,968.01	32.0213534	-103.3568628
8,200.00	0.00	0.00	8,137.66	610.02	529.38	372,874.67	843,968.01	32.0213534	-103.3568628
8,300.00	0.00	0.00	8,237.66	610.02	529.38	372,874.67	843,968.01	32.0213534	-103.3568628
8,400.00	0.00	0.00	8,337.66	610.02	529.38	372,874.67	843,968.01	32.0213534	-103.3568628
8,500.00	0.00	0.00	8,437.66	610.02	529.38	372,874.67	843,968.01	32.0213534	-103.3568628
8,600.00	0.00	0.00	8,537.66	610.02	529.38	372,874.67	843,968.01	32.0213534	-103.3568628
8,700.00	0.00	0.00	8,637.66	610.02	529.38	372,874.67	843,968.01	32.0213534	-103.3568628
8,800.00	0.00	0.00	8,737.66	610.02	529.38	372,874.67	843,968.01	32.0213534	-103.3568628
8,900.00	0.00	0.00	8,837.66	610.02	529.38	372,874.67	843,968.01	32.0213534	-103.3568628
9,000.00	0.00	0.00	8,937.66	610.02	529.38	372,874.67	843,968.01	32.0213534	-103.3568628
9,100.00	0.00	0.00	9,037.66	610.02	529.38	372,874.67	843,968.01	32.0213534	-103.3568628
9,145.34	0.00	0.00	9,083.00	610.02	529.38	372,874.67	843,968.01	32.0213534	-103.3568628
1st Bone Spring Lime									
9,200.00	0.00	0.00	9,137.66	610.02	529.38	372,874.67	843,968.01	32.0213534	-103.3568628
9,300.00	0.00	0.00	9,237.66	610.02	529.38	372,874.67	843,968.01	32.0213534	-103.3568628

Planning Report - Geographic

Database:	EDM_5000.17	Local Co-ordinate Reference:	Well ARENA ROJA FED UNIT 812H
Company:	WCDSO Permian NM	TVD Reference:	GL:3090.80+26ft @ 3116.80ft
Project:	Lea County (NAD83 New Mexico East)	MD Reference:	GL:3090.80+26ft @ 3116.80ft
Site:	Sec 27-T26S-R35E	North Reference:	Grid
Well:	ARENA ROJA FED UNIT 812H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plat R4 (2170FWL--2170FEL) WC A100		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
9,400.00	0.00	0.00	9,337.66	610.02	529.38	372,874.67	843,968.01	32.0213534	-103.3568628
9,500.00	0.00	0.00	9,437.66	610.02	529.38	372,874.67	843,968.01	32.0213534	-103.3568628
9,600.00	0.00	0.00	9,537.66	610.02	529.38	372,874.67	843,968.01	32.0213534	-103.3568628
9,700.00	0.00	0.00	9,637.66	610.02	529.38	372,874.67	843,968.01	32.0213534	-103.3568628
9,800.00	0.00	0.00	9,737.66	610.02	529.38	372,874.67	843,968.01	32.0213534	-103.3568628
9,900.00	0.00	0.00	9,837.66	610.02	529.38	372,874.67	843,968.01	32.0213534	-103.3568628
10,000.00	0.00	0.00	9,937.66	610.02	529.38	372,874.67	843,968.01	32.0213534	-103.3568628
10,100.00	0.00	0.00	10,037.66	610.02	529.38	372,874.67	843,968.01	32.0213534	-103.3568628
10,200.00	0.00	0.00	10,137.66	610.02	529.38	372,874.67	843,968.01	32.0213534	-103.3568628
10,300.00	0.00	0.00	10,237.66	610.02	529.38	372,874.67	843,968.01	32.0213534	-103.3568628
10,400.00	0.00	0.00	10,337.66	610.02	529.38	372,874.67	843,968.01	32.0213534	-103.3568628
10,432.34	0.00	0.00	10,370.00	610.02	529.38	372,874.67	843,968.01	32.0213534	-103.3568628
Bone Spring 1st									
10,500.00	0.00	0.00	10,437.66	610.02	529.38	372,874.67	843,968.01	32.0213534	-103.3568628
10,600.00	0.00	0.00	10,537.66	610.02	529.38	372,874.67	843,968.01	32.0213534	-103.3568628
10,700.00	0.00	0.00	10,637.66	610.02	529.38	372,874.67	843,968.01	32.0213534	-103.3568628
10,800.00	0.00	0.00	10,737.66	610.02	529.38	372,874.67	843,968.01	32.0213534	-103.3568628
10,900.00	0.00	0.00	10,837.66	610.02	529.38	372,874.67	843,968.01	32.0213534	-103.3568628
10,946.34	0.00	0.00	10,884.00	610.02	529.38	372,874.67	843,968.01	32.0213534	-103.3568628
Bone Spring 2nd									
11,000.00	0.00	0.00	10,937.66	610.02	529.38	372,874.67	843,968.01	32.0213534	-103.3568628
11,100.00	0.00	0.00	11,037.66	610.02	529.38	372,874.67	843,968.01	32.0213534	-103.3568628
11,200.00	0.00	0.00	11,137.66	610.02	529.38	372,874.67	843,968.01	32.0213534	-103.3568628
11,300.00	0.00	0.00	11,237.66	610.02	529.38	372,874.67	843,968.01	32.0213534	-103.3568628
11,392.34	0.00	0.00	11,330.00	610.02	529.38	372,874.67	843,968.01	32.0213534	-103.3568628
3rd Bone Spring Lime									
11,400.00	0.00	0.00	11,337.66	610.02	529.38	372,874.67	843,968.01	32.0213534	-103.3568628
11,500.00	0.00	0.00	11,437.66	610.02	529.38	372,874.67	843,968.01	32.0213534	-103.3568628
11,600.00	0.00	0.00	11,537.66	610.02	529.38	372,874.67	843,968.01	32.0213534	-103.3568628
11,700.00	0.00	0.00	11,637.66	610.02	529.38	372,874.67	843,968.01	32.0213534	-103.3568628
11,800.00	0.00	0.00	11,737.66	610.02	529.38	372,874.67	843,968.01	32.0213534	-103.3568628
11,900.00	0.00	0.00	11,837.66	610.02	529.38	372,874.67	843,968.01	32.0213534	-103.3568628
12,000.00	0.00	0.00	11,937.66	610.02	529.38	372,874.67	843,968.01	32.0213534	-103.3568628
12,082.34	0.00	0.00	12,020.00	610.02	529.38	372,874.67	843,968.01	32.0213534	-103.3568628
Bone Spring 3rd									
12,100.00	0.00	0.00	12,037.66	610.02	529.38	372,874.67	843,968.01	32.0213534	-103.3568628
12,200.00	0.00	0.00	12,137.66	610.02	529.38	372,874.67	843,968.01	32.0213534	-103.3568628
12,300.00	0.00	0.00	12,237.66	610.02	529.38	372,874.67	843,968.01	32.0213534	-103.3568628
12,379.34	0.00	0.00	12,317.00	610.02	529.38	372,874.67	843,968.01	32.0213534	-103.3568628
Wolfcamp									
12,400.00	0.00	0.00	12,337.66	610.02	529.38	372,874.67	843,968.01	32.0213534	-103.3568628
12,489.38	0.00	0.00	12,427.04	610.02	529.38	372,874.67	843,968.01	32.0213534	-103.3568628
KOP@12489.38'MD_50FNI, 2170FWL									
12,500.00	1.06	179.42	12,437.66	609.92	529.38	372,874.57	843,968.01	32.0213531	-103.3568628
12,550.00	6.06	179.42	12,487.55	606.82	529.41	372,871.46	843,968.04	32.0213446	-103.3568628
12,600.00	11.06	179.42	12,536.97	599.38	529.49	372,864.02	843,968.12	32.0213241	-103.3568627
12,650.00	16.06	179.42	12,585.56	587.66	529.61	372,852.30	843,968.24	32.0212919	-103.3568627
12,700.00	21.06	179.42	12,632.95	571.75	529.77	372,836.39	843,968.40	32.0212482	-103.3568626
12,730.54	24.12	179.42	12,661.14	560.02	529.89	372,824.66	843,968.52	32.0212159	-103.3568626
FTP@12730.54'MD_100FNL, 2170FWL									
12,750.00	26.06	179.42	12,678.77	551.77	529.97	372,816.41	843,968.60	32.0211932	-103.3568626
12,800.00	31.06	179.42	12,722.67	527.87	530.21	372,792.52	843,968.84	32.0211276	-103.3568625
12,850.00	36.06	179.42	12,764.32	500.24	530.49	372,764.88	843,969.12	32.0210516	-103.3568624
12,900.00	41.06	179.42	12,803.40	469.08	530.81	372,733.73	843,969.44	32.0209660	-103.3568623

Planning Report - Geographic

Database:	EDM_5000.17	Local Co-ordinate Reference:	Well ARENA ROJA FED UNIT 812H
Company:	WCDCS Permian NM	TVD Reference:	GL:3090.80+26ft @ 3116.80ft
Project:	Lea County (NAD83 New Mexico East)	MD Reference:	GL:3090.80+26ft @ 3116.80ft
Site:	Sec 27-T26S-R35E	North Reference:	Grid
Well:	ARENA ROJA FED UNIT 812H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plat R4 (2170FWL--2170FEL) WC A100		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
12,950.00	46.06	179.42	12,839.62	434.64	531.16	372,699.28	843,969.78	32.0208713	-103.3568622
13,000.00	51.06	179.42	12,872.70	397.17	531.54	372,661.81	843,970.16	32.0207683	-103.3568620
13,050.00	56.06	179.42	12,902.39	356.96	531.94	372,621.60	843,970.57	32.0206577	-103.3568619
13,100.00	61.06	179.42	12,928.46	314.31	532.37	372,578.96	843,971.00	32.0205405	-103.3568617
13,150.00	66.06	179.42	12,950.72	269.56	532.83	372,534.21	843,971.46	32.0204175	-103.3568616
13,200.00	71.06	179.42	12,968.98	223.03	533.30	372,487.68	843,971.93	32.0202896	-103.3568614
13,250.00	76.06	179.42	12,983.13	175.10	533.78	372,439.74	843,972.41	32.0201578	-103.3568612
13,300.00	81.06	179.42	12,993.04	126.11	534.28	372,390.76	843,972.91	32.0200232	-103.3568611
13,350.00	86.06	179.42	12,998.65	76.44	534.78	372,341.09	843,973.41	32.0198867	-103.3568609
13,389.38	90.00	179.42	13,000.00	37.09	535.18	372,301.74	843,973.81	32.0197785	-103.3568608
13,400.00	90.00	179.42	13,000.00	26.47	535.29	372,291.12	843,973.92	32.0197493	-103.3568607
13,500.00	90.00	179.42	13,000.00	-73.52	536.30	372,191.13	843,974.93	32.0194744	-103.3568604
13,600.00	90.00	179.42	13,000.00	-173.52	537.31	372,091.13	843,975.94	32.0191996	-103.3568600
13,700.00	90.00	179.42	13,000.00	-273.51	538.33	371,991.14	843,976.95	32.0189247	-103.3568597
13,800.00	90.00	179.42	13,000.00	-373.51	539.34	371,891.14	843,977.97	32.0186498	-103.3568593
13,900.00	90.00	179.42	13,000.00	-473.50	540.35	371,791.15	843,978.98	32.0183750	-103.3568590
14,000.00	90.00	179.42	13,000.00	-573.49	541.36	371,691.15	843,979.99	32.0181001	-103.3568586
14,100.00	90.00	179.42	13,000.00	-673.49	542.37	371,591.16	843,981.00	32.0178252	-103.3568583
14,200.00	90.00	179.42	13,000.00	-773.48	543.39	371,491.17	843,982.01	32.0175503	-103.3568579
14,300.00	90.00	179.42	13,000.00	-873.48	544.40	371,391.17	843,983.03	32.0172755	-103.3568576
14,400.00	90.00	179.42	13,000.00	-973.47	545.41	371,291.18	843,984.04	32.0170006	-103.3568572
14,500.00	90.00	179.42	13,000.00	-1,073.47	546.42	371,191.18	843,985.05	32.0167257	-103.3568569
14,600.00	90.00	179.42	13,000.00	-1,173.46	547.44	371,091.19	843,986.06	32.0164509	-103.3568565
14,700.00	90.00	179.42	13,000.00	-1,273.46	548.45	370,991.19	843,987.08	32.0161760	-103.3568562
14,800.00	90.00	179.42	13,000.00	-1,373.45	549.46	370,891.20	843,988.09	32.0159011	-103.3568558
14,900.00	90.00	179.42	13,000.00	-1,473.45	550.47	370,791.20	843,989.10	32.0156263	-103.3568555
15,000.00	90.00	179.42	13,000.00	-1,573.44	551.48	370,691.21	843,990.11	32.0153514	-103.3568551
15,100.00	90.00	179.42	13,000.00	-1,673.44	552.50	370,591.21	843,991.12	32.0150765	-103.3568548
15,200.00	90.00	179.42	13,000.00	-1,773.43	553.51	370,491.22	843,992.14	32.0148016	-103.3568544
15,300.00	90.00	179.42	13,000.00	-1,873.43	554.52	370,391.22	843,993.15	32.0145268	-103.3568541
15,400.00	90.00	179.42	13,000.00	-1,973.42	555.53	370,291.23	843,994.16	32.0142519	-103.3568537
15,500.00	90.00	179.42	13,000.00	-2,073.42	556.55	370,191.23	843,995.17	32.0139770	-103.3568534
15,600.00	90.00	179.42	13,000.00	-2,173.41	557.56	370,091.24	843,996.19	32.0137022	-103.3568530
15,700.00	90.00	179.42	13,000.00	-2,273.41	558.57	369,991.25	843,997.20	32.0134273	-103.3568527
15,800.00	90.00	179.42	13,000.00	-2,373.40	559.58	369,891.25	843,998.21	32.0131524	-103.3568523
15,900.00	90.00	179.42	13,000.00	-2,473.40	560.60	369,791.26	843,999.22	32.0128775	-103.3568520
16,000.00	90.00	179.42	13,000.00	-2,573.39	561.61	369,691.26	844,000.24	32.0126027	-103.3568516
16,100.00	90.00	179.42	13,000.00	-2,673.39	562.62	369,591.27	844,001.25	32.0123278	-103.3568513
16,200.00	90.00	179.42	13,000.00	-2,773.38	563.63	369,491.27	844,002.26	32.0120529	-103.3568509
16,300.00	90.00	179.42	13,000.00	-2,873.38	564.64	369,391.28	844,003.27	32.0117781	-103.3568506
16,400.00	90.00	179.42	13,000.00	-2,973.37	565.66	369,291.28	844,004.28	32.0115032	-103.3568502
16,500.00	90.00	179.42	13,000.00	-3,073.37	566.67	369,191.29	844,005.30	32.0112283	-103.3568499
16,600.00	90.00	179.42	13,000.00	-3,173.36	567.68	369,091.29	844,006.31	32.0109535	-103.3568495
16,700.00	90.00	179.42	13,000.00	-3,273.36	568.69	368,991.30	844,007.32	32.0106786	-103.3568492
16,800.00	90.00	179.42	13,000.00	-3,373.35	569.71	368,891.30	844,008.33	32.0104037	-103.3568488
16,900.00	90.00	179.42	13,000.00	-3,473.35	570.72	368,791.31	844,009.35	32.0101288	-103.3568484
17,000.00	90.00	179.42	13,000.00	-3,573.34	571.73	368,691.31	844,010.36	32.0098540	-103.3568481
17,100.00	90.00	179.42	13,000.00	-3,673.34	572.74	368,591.32	844,011.37	32.0095791	-103.3568477
17,200.00	90.00	179.42	13,000.00	-3,773.33	573.75	368,491.32	844,012.38	32.0093042	-103.3568474
17,300.00	90.00	179.42	13,000.00	-3,873.33	574.77	368,391.33	844,013.39	32.0090294	-103.3568470
17,400.00	90.00	179.42	13,000.00	-3,973.32	575.78	368,291.34	844,014.41	32.0087545	-103.3568467
17,500.00	90.00	179.42	13,000.00	-4,073.32	576.79	368,191.34	844,015.42	32.0084796	-103.3568463
17,600.00	90.00	179.42	13,000.00	-4,173.31	577.80	368,091.35	844,016.43	32.0082048	-103.3568460
17,700.00	90.00	179.42	13,000.00	-4,273.31	578.82	367,991.35	844,017.44	32.0079299	-103.3568456
17,800.00	90.00	179.42	13,000.00	-4,373.30	579.83	367,891.36	844,018.46	32.0076550	-103.3568453

Planning Report - Geographic

Database:	EDM_5000.17	Local Co-ordinate Reference:	Well ARENA ROJA FED UNIT 812H
Company:	WCDCS Permian NM	TVD Reference:	GL:3090.80+26ft @ 3116.80ft
Project:	Lea County (NAD83 New Mexico East)	MD Reference:	GL:3090.80+26ft @ 3116.80ft
Site:	Sec 27-T26S-R35E	North Reference:	Grid
Well:	ARENA ROJA FED UNIT 812H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plat R4 (2170FWL--2170FEL) WC A100		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
17,900.00	90.00	179.42	13,000.00	-4,473.30	580.84	367,791.36	844,019.47	32.0073801	-103.3568449
18,000.00	90.00	179.42	13,000.00	-4,573.29	581.85	367,691.37	844,020.48	32.0071053	-103.3568446
18,100.00	90.00	179.42	13,000.00	-4,673.28	582.87	367,591.37	844,021.49	32.0068304	-103.3568442
18,200.00	90.00	179.42	13,000.00	-4,773.28	583.88	367,491.38	844,022.51	32.0065555	-103.3568439
18,300.00	90.00	179.42	13,000.00	-4,873.27	584.89	367,391.38	844,023.52	32.0062807	-103.3568435
18,400.00	90.00	179.42	13,000.00	-4,973.27	585.90	367,291.39	844,024.53	32.0060058	-103.3568432
18,500.00	90.00	179.42	13,000.00	-5,073.26	586.91	367,191.39	844,025.54	32.0057309	-103.3568428
18,600.00	90.00	179.42	13,000.00	-5,173.26	587.93	367,091.40	844,026.55	32.0054560	-103.3568425
18,700.00	90.00	179.42	13,000.00	-5,273.25	588.94	366,991.40	844,027.57	32.0051812	-103.3568421
18,800.00	90.00	179.42	13,000.00	-5,373.25	589.95	366,891.41	844,028.58	32.0049063	-103.3568418
18,900.00	90.00	179.42	13,000.00	-5,473.24	590.96	366,791.42	844,029.59	32.0046314	-103.3568414
19,000.00	90.00	179.42	13,000.00	-5,573.24	591.98	366,691.42	844,030.60	32.0043566	-103.3568411
19,100.00	90.00	179.42	13,000.00	-5,673.23	592.99	366,591.43	844,031.62	32.0040817	-103.3568407
19,200.00	90.00	179.42	13,000.00	-5,773.23	594.00	366,491.43	844,032.63	32.0038068	-103.3568404
19,300.00	90.00	179.42	13,000.00	-5,873.22	595.01	366,391.44	844,033.64	32.0035320	-103.3568400
19,400.00	90.00	179.42	13,000.00	-5,973.22	596.02	366,291.44	844,034.65	32.0032571	-103.3568397
19,500.00	90.00	179.42	13,000.00	-6,073.21	597.04	366,191.45	844,035.66	32.0029822	-103.3568393
19,600.00	90.00	179.42	13,000.00	-6,173.21	598.05	366,091.45	844,036.68	32.0027073	-103.3568390
19,700.00	90.00	179.42	13,000.00	-6,273.20	599.06	365,991.46	844,037.69	32.0024325	-103.3568386
19,800.00	90.00	179.42	13,000.00	-6,373.20	600.07	365,891.46	844,038.70	32.0021576	-103.3568383
19,900.00	90.00	179.42	13,000.00	-6,473.19	601.09	365,791.47	844,039.71	32.0018827	-103.3568379
19,946.38	90.00	179.42	13,000.00	-6,519.57	601.56	365,745.09	844,040.18	32.0017552	-103.3568377
19,950.00	90.00	178.99	13,000.00	-6,523.19	601.61	365,741.47	844,040.23	32.0017453	-103.3568377
19,975.00	90.00	175.99	13,000.00	-6,548.16	602.70	365,716.50	844,041.33	32.0016766	-103.3568349
20,000.00	90.00	172.99	13,000.00	-6,573.04	605.10	365,691.62	844,043.73	32.0016082	-103.3568279
20,025.00	90.00	169.99	13,000.00	-6,597.77	608.81	365,666.90	844,047.43	32.0015401	-103.3568166
20,050.00	90.00	166.99	13,000.00	-6,622.26	613.80	365,642.40	844,052.42	32.0014727	-103.3568013
20,075.00	90.00	163.99	13,000.00	-6,646.46	620.06	365,618.20	844,058.69	32.0014060	-103.3567818
20,100.00	90.00	160.99	13,000.00	-6,670.30	627.58	365,594.36	844,066.21	32.0013403	-103.3567582
20,125.00	90.00	157.99	13,000.00	-6,693.71	636.34	365,570.95	844,074.97	32.0012757	-103.3567306
20,150.00	90.00	154.99	13,000.00	-6,716.63	646.32	365,548.03	844,084.94	32.0012125	-103.3566991
20,175.00	90.00	151.99	13,000.00	-6,739.00	657.47	365,525.66	844,096.10	32.0011507	-103.3566638
20,200.00	90.00	148.99	13,000.00	-6,760.75	669.79	365,503.91	844,108.42	32.0010906	-103.3566247
20,225.00	90.00	145.99	13,000.00	-6,781.83	683.23	365,482.83	844,121.85	32.0010324	-103.3565820
20,241.26	90.00	144.03	13,000.00	-6,795.15	692.55	365,469.51	844,131.18	32.0009955	-103.3565523
Start No Perf@20241.26'MD									
20,250.00	90.00	142.99	13,000.00	-6,802.18	697.75	365,462.48	844,136.37	32.0009761	-103.3565357
20,275.00	90.00	139.99	13,000.00	-6,821.74	713.31	365,442.92	844,151.94	32.0009219	-103.3564861
20,300.00	90.00	136.99	13,000.00	-6,840.46	729.88	365,424.21	844,168.51	32.0008701	-103.3564332
20,325.00	90.00	133.99	13,000.00	-6,858.28	747.41	365,406.38	844,186.03	32.0008206	-103.3563772
20,350.00	90.00	130.99	13,000.00	-6,875.16	765.84	365,389.50	844,204.47	32.0007738	-103.3563182
20,375.00	90.00	127.99	13,000.00	-6,891.06	785.13	365,373.60	844,223.76	32.0007296	-103.3562564
20,400.00	90.00	124.99	13,000.00	-6,905.92	805.23	365,358.74	844,243.86	32.0006883	-103.3561921
20,425.00	90.00	121.99	13,000.00	-6,919.72	826.08	365,344.95	844,264.71	32.0006498	-103.3561252
20,450.00	90.00	118.99	13,000.00	-6,932.40	847.62	365,332.27	844,286.25	32.0006144	-103.3560561
20,475.00	90.00	115.99	13,000.00	-6,943.93	869.79	365,320.73	844,308.42	32.0005822	-103.3559849
20,500.00	90.00	112.99	13,000.00	-6,954.29	892.54	365,310.37	844,331.17	32.0005531	-103.3559118
20,525.00	90.00	109.99	13,000.00	-6,963.45	915.80	365,301.21	844,354.43	32.0005274	-103.3558371
20,550.00	90.00	106.99	13,000.00	-6,971.38	939.51	365,293.29	844,378.14	32.0005050	-103.3557608
20,575.00	90.00	103.99	13,000.00	-6,978.05	963.60	365,286.61	844,402.23	32.0004861	-103.3556833
20,600.00	90.00	100.99	13,000.00	-6,983.45	988.01	365,281.21	844,426.63	32.0004706	-103.3556048
20,625.00	90.00	97.99	13,000.00	-6,987.57	1,012.66	365,277.09	844,451.29	32.0004587	-103.3555254
20,650.00	90.00	94.99	13,000.00	-6,990.40	1,037.50	365,274.26	844,476.13	32.0004503	-103.3554453
20,675.00	90.00	91.99	13,000.00	-6,991.92	1,062.45	365,272.74	844,501.08	32.0004455	-103.3553649

Planning Report - Geographic

Database:	EDM_5000.17	Local Co-ordinate Reference:	Well ARENA ROJA FED UNIT 812H
Company:	WCDCS Permian NM	TVD Reference:	GL:3090.80+26ft @ 3116.80ft
Project:	Lea County (NAD83 New Mexico East)	MD Reference:	GL:3090.80+26ft @ 3116.80ft
Site:	Sec 27-T26S-R35E	North Reference:	Grid
Well:	ARENA ROJA FED UNIT 812H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plat R4 (2170FWL--2170FEL) WC A100		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
20,691.55	90.00	90.00	13,000.00	-6,992.21	1,079.00	365,272.46	844,517.62	32.0004443	-103.3553115
20,700.00	90.00	88.99	13,000.00	-6,992.13	1,087.45	365,272.53	844,526.07	32.0004443	-103.3552843
20,725.00	90.00	85.99	13,000.00	-6,991.03	1,112.42	365,273.63	844,551.05	32.0004467	-103.3552037
20,750.00	90.00	82.99	13,000.00	-6,988.63	1,137.30	365,276.03	844,575.93	32.0004527	-103.3551234
20,775.00	90.00	79.99	13,000.00	-6,984.93	1,162.02	365,279.73	844,600.65	32.0004622	-103.3550435
20,800.00	90.00	76.99	13,000.00	-6,979.94	1,186.52	365,284.72	844,625.14	32.0004753	-103.3549644
20,825.00	90.00	73.99	13,000.00	-6,973.68	1,210.72	365,290.99	844,649.34	32.0004919	-103.3548861
20,850.00	90.00	70.99	13,000.00	-6,966.15	1,234.55	365,298.51	844,673.18	32.0005120	-103.3548090
20,875.00	90.00	67.99	13,000.00	-6,957.39	1,257.97	365,307.27	844,696.59	32.0005355	-103.3547333
20,900.00	90.00	64.99	13,000.00	-6,947.42	1,280.89	365,317.24	844,719.51	32.0005624	-103.3546590
20,925.00	90.00	61.99	13,000.00	-6,936.26	1,303.26	365,328.40	844,741.88	32.0005925	-103.3545866
20,950.00	90.00	58.99	13,000.00	-6,923.95	1,325.01	365,340.71	844,763.64	32.0006258	-103.3545160
20,975.00	90.00	55.99	13,000.00	-6,910.51	1,346.09	365,354.15	844,784.71	32.0006622	-103.3544477
21,000.00	90.00	52.99	13,000.00	-6,895.99	1,366.44	365,368.67	844,805.06	32.0007016	-103.3543816
21,025.00	90.00	49.99	13,000.00	-6,880.42	1,385.99	365,384.24	844,824.62	32.0007439	-103.3543181
21,050.00	90.00	46.99	13,000.00	-6,863.86	1,404.71	365,400.81	844,843.34	32.0007890	-103.3542572
21,075.00	90.00	43.99	13,000.00	-6,846.33	1,422.54	365,418.33	844,861.16	32.0008367	-103.3541992
21,100.00	90.00	40.99	13,000.00	-6,827.90	1,439.42	365,436.76	844,878.05	32.0008869	-103.3541442
21,125.00	90.00	37.99	13,000.00	-6,808.61	1,455.32	365,456.06	844,893.94	32.0009396	-103.3540924
21,150.00	90.00	34.99	13,000.00	-6,788.51	1,470.18	365,476.15	844,908.81	32.0009944	-103.3540438
21,150.89	90.00	34.88	13,000.00	-6,787.78	1,470.69	365,476.88	844,909.32	32.0009964	-103.3540422
End No Perf@21150.89'MD									
21,175.00	90.00	31.99	13,000.00	-6,767.66	1,483.97	365,497.00	844,922.60	32.0010514	-103.3539987
21,200.00	90.00	28.99	13,000.00	-6,746.12	1,496.65	365,518.54	844,935.28	32.0011103	-103.3539572
21,225.00	90.00	25.99	13,000.00	-6,723.94	1,508.19	365,540.72	844,946.82	32.0011710	-103.3539194
21,250.00	90.00	22.99	13,000.00	-6,701.19	1,518.55	365,563.47	844,957.18	32.0012332	-103.3538853
21,275.00	90.00	19.99	13,000.00	-6,677.93	1,527.71	365,586.73	844,966.33	32.0012969	-103.3538551
21,300.00	90.00	16.99	13,000.00	-6,654.23	1,535.63	365,610.43	844,974.26	32.0013619	-103.3538288
21,325.00	90.00	13.99	13,000.00	-6,630.14	1,542.31	365,634.52	844,980.93	32.0014279	-103.3538066
21,350.00	90.00	10.99	13,000.00	-6,605.73	1,547.71	365,658.93	844,986.34	32.0014949	-103.3537884
21,375.00	90.00	7.99	13,000.00	-6,581.08	1,551.83	365,683.59	844,990.46	32.0015626	-103.3537744
21,400.00	90.00	4.99	13,000.00	-6,556.24	1,554.66	365,708.42	844,993.28	32.0016308	-103.3537646
21,425.00	90.00	1.99	13,000.00	-6,531.29	1,556.18	365,733.37	844,994.80	32.0016993	-103.3537589
21,447.23	90.00	359.32	13,000.00	-6,509.06	1,556.43	365,755.60	844,995.05	32.0017604	-103.3537575
21,500.00	90.00	359.32	13,000.00	-6,456.29	1,555.80	365,808.37	844,994.43	32.0019054	-103.3537580
21,600.00	90.00	359.32	13,000.00	-6,356.30	1,554.61	365,908.36	844,993.24	32.0021803	-103.3537589
21,700.00	90.00	359.32	13,000.00	-6,256.31	1,553.42	366,008.35	844,992.05	32.0024552	-103.3537598
21,800.00	90.00	359.32	13,000.00	-6,156.32	1,552.23	366,108.34	844,990.86	32.0027300	-103.3537607
21,900.00	90.00	359.32	13,000.00	-6,056.32	1,551.04	366,208.34	844,989.67	32.0030049	-103.3537616
22,000.00	90.00	359.32	13,000.00	-5,956.33	1,549.85	366,308.33	844,988.48	32.0032798	-103.3537625
22,100.00	90.00	359.32	13,000.00	-5,856.34	1,548.66	366,408.32	844,987.29	32.0035546	-103.3537634
22,200.00	90.00	359.32	13,000.00	-5,756.34	1,547.47	366,508.32	844,986.10	32.0038295	-103.3537644
22,300.00	90.00	359.32	13,000.00	-5,656.35	1,546.28	366,608.31	844,984.91	32.0041044	-103.3537653
22,400.00	90.00	359.32	13,000.00	-5,556.36	1,545.09	366,708.30	844,983.72	32.0043793	-103.3537662
22,500.00	90.00	359.32	13,000.00	-5,456.37	1,543.91	366,808.29	844,982.53	32.0046541	-103.3537671
22,600.00	90.00	359.32	13,000.00	-5,356.37	1,542.72	366,908.29	844,981.34	32.0049290	-103.3537680
22,700.00	90.00	359.32	13,000.00	-5,256.38	1,541.53	367,008.28	844,980.15	32.0052039	-103.3537689
22,800.00	90.00	359.32	13,000.00	-5,156.39	1,540.34	367,108.27	844,978.96	32.0054787	-103.3537698
22,900.00	90.00	359.32	13,000.00	-5,056.39	1,539.15	367,208.26	844,977.77	32.0057536	-103.3537708
23,000.00	90.00	359.32	13,000.00	-4,956.40	1,537.96	367,308.26	844,976.58	32.0060285	-103.3537717
23,100.00	90.00	359.32	13,000.00	-4,856.41	1,536.77	367,408.25	844,975.39	32.0063033	-103.3537726
23,200.00	90.00	359.32	13,000.00	-4,756.42	1,535.58	367,508.24	844,974.20	32.0065782	-103.3537735
23,300.00	90.00	359.32	13,000.00	-4,656.42	1,534.39	367,608.24	844,973.01	32.0068531	-103.3537744
23,400.00	90.00	359.32	13,000.00	-4,556.43	1,533.20	367,708.23	844,971.82	32.0071280	-103.3537753

Planning Report - Geographic

Database:	EDM_5000.17	Local Co-ordinate Reference:	Well ARENA ROJA FED UNIT 812H
Company:	WCDCS Permian NM	TVD Reference:	GL:3090.80+26ft @ 3116.80ft
Project:	Lea County (NAD83 New Mexico East)	MD Reference:	GL:3090.80+26ft @ 3116.80ft
Site:	Sec 27-T26S-R35E	North Reference:	Grid
Well:	ARENA ROJA FED UNIT 812H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plat R4 (2170FWL--2170FEL) WC A100		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
23,500.00	90.00	359.32	13,000.00	-4,456.44	1,532.01	367,808.22	844,970.63	32.0074028	-103.3537762
23,600.00	90.00	359.32	13,000.00	-4,356.44	1,530.82	367,908.21	844,969.45	32.0076777	-103.3537772
23,700.00	90.00	359.32	13,000.00	-4,256.45	1,529.63	368,008.21	844,968.26	32.0079526	-103.3537781
23,800.00	90.00	359.32	13,000.00	-4,156.46	1,528.44	368,108.20	844,967.07	32.0082274	-103.3537790
23,900.00	90.00	359.32	13,000.00	-4,056.46	1,527.25	368,208.19	844,965.88	32.0085023	-103.3537799
24,000.00	90.00	359.32	13,000.00	-3,956.47	1,526.06	368,308.18	844,964.69	32.0087772	-103.3537808
24,100.00	90.00	359.32	13,000.00	-3,856.48	1,524.87	368,408.18	844,963.50	32.0090520	-103.3537817
24,200.00	90.00	359.32	13,000.00	-3,756.49	1,523.68	368,508.17	844,962.31	32.0093269	-103.3537826
24,300.00	90.00	359.32	13,000.00	-3,656.49	1,522.49	368,608.16	844,961.12	32.0096018	-103.3537836
24,400.00	90.00	359.32	13,000.00	-3,556.50	1,521.30	368,708.16	844,959.93	32.0098766	-103.3537845
24,500.00	90.00	359.32	13,000.00	-3,456.51	1,520.11	368,808.15	844,958.74	32.0101515	-103.3537854
24,600.00	90.00	359.32	13,000.00	-3,356.51	1,518.92	368,908.14	844,957.55	32.0104264	-103.3537863
24,700.00	90.00	359.32	13,000.00	-3,256.52	1,517.73	369,008.13	844,956.36	32.0107013	-103.3537872
24,800.00	90.00	359.32	13,000.00	-3,156.53	1,516.54	369,108.13	844,955.17	32.0109761	-103.3537881
24,900.00	90.00	359.32	13,000.00	-3,056.54	1,515.35	369,208.12	844,953.98	32.0112510	-103.3537890
25,000.00	90.00	359.32	13,000.00	-2,956.54	1,514.16	369,308.11	844,952.79	32.0115259	-103.3537900
25,100.00	90.00	359.32	13,000.00	-2,856.55	1,512.98	369,408.10	844,951.60	32.0118007	-103.3537909
25,200.00	90.00	359.32	13,000.00	-2,756.56	1,511.79	369,508.10	844,950.41	32.0120756	-103.3537918
25,300.00	90.00	359.32	13,000.00	-2,656.56	1,510.60	369,608.09	844,949.22	32.0123505	-103.3537927
25,400.00	90.00	359.32	13,000.00	-2,556.57	1,509.41	369,708.08	844,948.03	32.0126253	-103.3537936
25,500.00	90.00	359.32	13,000.00	-2,456.58	1,508.22	369,808.08	844,946.84	32.0129002	-103.3537945
25,600.00	90.00	359.32	13,000.00	-2,356.59	1,507.03	369,908.07	844,945.65	32.0131751	-103.3537954
25,700.00	90.00	359.32	13,000.00	-2,256.59	1,505.84	370,008.06	844,944.46	32.0134499	-103.3537964
25,800.00	90.00	359.32	13,000.00	-2,156.60	1,504.65	370,108.05	844,943.27	32.0137248	-103.3537973
25,900.00	90.00	359.32	13,000.00	-2,056.61	1,503.46	370,208.05	844,942.08	32.0139997	-103.3537982
26,000.00	90.00	359.32	13,000.00	-1,956.61	1,502.27	370,308.04	844,940.89	32.0142746	-103.3537991
26,100.00	90.00	359.32	13,000.00	-1,856.62	1,501.08	370,408.03	844,939.70	32.0145494	-103.3538000
26,200.00	90.00	359.32	13,000.00	-1,756.63	1,499.89	370,508.02	844,938.52	32.0148243	-103.3538009
26,300.00	90.00	359.32	13,000.00	-1,656.63	1,498.70	370,608.02	844,937.33	32.0150992	-103.3538018
26,400.00	90.00	359.32	13,000.00	-1,556.64	1,497.51	370,708.01	844,936.14	32.0153740	-103.3538028
26,500.00	90.00	359.32	13,000.00	-1,456.65	1,496.32	370,808.00	844,934.95	32.0156489	-103.3538037
26,600.00	90.00	359.32	13,000.00	-1,356.66	1,495.13	370,908.00	844,933.76	32.0159238	-103.3538046
26,700.00	90.00	359.32	13,000.00	-1,256.66	1,493.94	371,007.99	844,932.57	32.0161986	-103.3538055
26,800.00	90.00	359.32	13,000.00	-1,156.67	1,492.75	371,107.98	844,931.38	32.0164735	-103.3538064
26,900.00	90.00	359.32	13,000.00	-1,056.68	1,491.56	371,207.97	844,930.19	32.0167484	-103.3538073
27,000.00	90.00	359.32	13,000.00	-956.68	1,490.37	371,307.97	844,929.00	32.0170232	-103.3538082
27,100.00	90.00	359.32	13,000.00	-856.69	1,489.18	371,407.96	844,927.81	32.0172981	-103.3538092
27,200.00	90.00	359.32	13,000.00	-756.70	1,487.99	371,507.95	844,926.62	32.0175730	-103.3538101
27,300.00	90.00	359.32	13,000.00	-656.71	1,486.80	371,607.94	844,925.43	32.0178479	-103.3538110
27,400.00	90.00	359.32	13,000.00	-556.71	1,485.61	371,707.94	844,924.24	32.0181227	-103.3538119
27,500.00	90.00	359.32	13,000.00	-456.72	1,484.42	371,807.93	844,923.05	32.0183976	-103.3538128
27,600.00	90.00	359.32	13,000.00	-356.73	1,483.23	371,907.92	844,921.86	32.0186725	-103.3538137
27,700.00	90.00	359.32	13,000.00	-256.73	1,482.05	372,007.92	844,920.67	32.0189473	-103.3538146
27,800.00	90.00	359.32	13,000.00	-156.74	1,480.86	372,107.91	844,919.48	32.0192222	-103.3538155
27,900.00	90.00	359.32	13,000.00	-56.75	1,479.67	372,207.90	844,918.29	32.0194971	-103.3538165
28,000.00	90.00	359.32	13,000.00	43.25	1,478.48	372,307.89	844,917.10	32.0197719	-103.3538174
28,100.00	90.00	359.32	13,000.00	143.24	1,477.29	372,407.89	844,915.91	32.0200468	-103.3538183
28,200.00	90.00	359.32	13,000.00	243.23	1,476.10	372,507.88	844,914.72	32.0203217	-103.3538192
28,300.00	90.00	359.32	13,000.00	343.22	1,474.91	372,607.87	844,913.53	32.0205965	-103.3538201
28,400.00	90.00	359.32	13,000.00	443.22	1,473.72	372,707.86	844,912.34	32.0208714	-103.3538210
28,500.00	90.00	359.32	13,000.00	543.21	1,472.53	372,807.86	844,911.15	32.0211463	-103.3538219
28,525.67	90.00	359.32	13,000.00	568.88	1,472.22	372,833.53	844,910.85	32.0212168	-103.3538222
LTP@28525.67MD_100FNL, 2170FEL									
28,605.67	90.00	359.32	13,000.00	648.88	1,471.27	372,913.52	844,909.90	32.0214367	-103.3538229

Planning Report - Geographic

Database:	EDM_5000.17	Local Co-ordinate Reference:	Well ARENA ROJA FED UNIT 812H
Company:	WCDSC Permian NM	TVD Reference:	GL:3090.80+26ft @ 3116.80ft
Project:	Lea County (NAD83 New Mexico East)	MD Reference:	GL:3090.80+26ft @ 3116.80ft
Site:	Sec 27-T26S-R35E	North Reference:	Grid
Well:	ARENA ROJA FED UNIT 812H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plat R4 (2170FWL--2170FEL) WC A100		

Design Targets										
Target Name										
- hit/miss target	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	
- Shape	(°)	(°)	(ft)	(ft)	(ft)	(usft)	(usft)			
FTP (812H) 100FNI, 21	0.00	0.00	0.00	560.02	529.85	372,824.67	843,968.48	32.0212159	-103.3568627	
- plan misses target center by 770.95ft at 0.00ft MD (0.00 TVD, 0.00 N, 0.00 E)										
- Point										
KOP (812H) 50FNI, 217I	0.00	0.00	0.00	610.02	529.38	372,874.67	843,968.01	32.0213534	-103.3568628	
- plan misses target center by 807.69ft at 0.00ft MD (0.00 TVD, 0.00 N, 0.00 E)										
- Point										
TP#2 (251FSL, 2297FW	0.00	0.00	0.00	-6,795.15	725.81	365,469.51	844,164.44	32.0009947	-103.3564450	
- plan misses target center by 6833.81ft at 0.00ft MD (0.00 TVD, 0.00 N, 0.00 E)										
- Point										
TP#3 (251FSL, 2288FEL	0.00	0.00	0.00	-6,787.78	1,425.13	365,476.88	844,863.76	32.0009976	-103.3541891	
- plan misses target center by 6935.78ft at 0.00ft MD (0.00 TVD, 0.00 N, 0.00 E)										
- Point										
LTP (812H) 100FNL, 2	0.00	0.00	13,000.00	568.88	1,472.22	372,833.53	844,910.85	32.0212168	-103.3538222	
- plan hits target center										
- Point										

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
967.00	967.00	Rustler				
1,430.00	1,430.00	Salt				
4,912.83	4,880.00	Base of Salt				
4,912.83	4,880.00	Delaware				
6,260.78	6,211.00	Cherry Canyon				
7,746.34	7,684.00	Brushy Canyon				
9,145.34	9,083.00	1st Bone Spring Lime				
10,432.34	10,370.00	Bone Spring 1st				
10,946.34	10,884.00	Bone Spring 2nd				
11,392.34	11,330.00	3rd Bone Spring Lime				
12,082.34	12,020.00	Bone Spring 3rd				
12,379.34	12,317.00	Wolfcamp				

Plan Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
12,489.38	12,427.04	610.02	529.38	KOP@12489.38'MD_50FNI, 2170FWL	
12,730.54	12,661.14	560.02	529.89	FTP@12730.54'MD_100FNL, 2170FWL	
20,241.26	13,000.00	-6,795.15	692.55	Start No Perf@20241.26'MD	
21,150.89	13,000.00	-6,787.78	1,470.69	End No Perf@21150.89'MD	
28,525.67	13,000.00	568.88	1,472.22	LTP@28525.67'MD_100FNL, 2170FEL	



U. S. Steel Tubular Products

5.500" 20.00lb/ft (0.361" Wall) P110 HP USS-CDC HTQ[®]

2/21/2024 7:47:29 AM



MECHANICAL PROPERTIES	Pipe	USS-CDC HTQ [®]		--
Minimum Yield Strength	125,000	--	psi	--
Maximum Yield Strength	140,000	--	psi	--
Minimum Tensile Strength	130,000	--	psi	--
DIMENSIONS	Pipe	USS-CDC HTQ [®]		--
Outside Diameter	5.500	6.300	in.	--
Wall Thickness	0.361	--	in.	--
Inside Diameter	4.778	4.778	in.	--
Standard Drift	4.653	4.653	in.	--
Alternate Drift	--	--	in.	--
Nominal Linear Weight, T&C	20.00	--	lb/ft	--
Plain End Weight	19.83	--	lb/ft	--
SECTION AREA	Pipe	USS-CDC HTQ [®]		--
Critical Area	5.828	5.828	sq. in.	--
Joint Efficiency	--	97.0	%	--
PERFORMANCE	Pipe	USS-CDC HTQ [®]		--
Minimum Collapse Pressure	13,150	13,150	psi	--
External Pressure Leak Resistance	--	10,520	psi	--
Minimum Internal Yield Pressure	14,360	14,360	psi	--
Minimum Pipe Body Yield Strength	729,000	--	lb	--
Joint Strength	--	707,000	lb	--
Compression Rating	--	424,000	lb	--
Reference Length	--	23,567	ft	--
Maximum Uniaxial Bend Rating	--	60.6	deg/100 ft	--
MAKE-UP DATA	Pipe	USS-CDC HTQ [®]		--
Make-Up Loss	--	4.63	in.	--
Minimum Make-Up Torque	--	14,500	ft-lb	--
Maximum Make-Up Torque	--	20,500	ft-lb	--
Connection Yield Torque	--	25,300	ft-lb	--

UNCONTROLLED

Notes

1.

Other than proprietary collapse and connection values, performance properties have been calculated using standard equations defined by API 5C3 and do not incorporate any additional design or safety factors. Calculations assume nominal pipe OD, nominal wall thickness and Specified Minimum Yield Strength (SMYS).
2.

Uniaxial bending rating shown is structural only, and equal to compression efficiency.
3.

Torques have been calculated assuming a thread compound friction factor of 1.0 and are recommended only. Field make-up torques may require adjustment based on actual field conditions (e.g. make-up speed, temperature, thread compound, etc.).
4.

Reference length is calculated by joint strength divided by nominal threaded and coupled weight with 1.5 safety factor.
5.

Connection external pressure leak resistance has been verified to 80% API pipe body collapse pressure following the guidelines of API 5C5 Cal II.

Legal Notice

USS - CDC HTQ[®] (High Torque Casing Drilling Connection) is a trademark of U. S. Steel Corporation. This product is a modified API Buttress threaded and coupled connection designed for drilling with casing applications. All material contained in this publication is for general information only. This material should not therefore be used or relied upon for any specific application without independent competent professional examination and verification of accuracy, suitability and applicability. Anyone making use of this material does so at their own risk and assumes any and all liability resulting from such use. U. S. Steel disclaims any and all expressed or implied warranties of fitness for any general or particular application.



13-3/8" 54.50# .380 J-55

Dimensions (Nominal)

Outside Diameter	13.375	in.
Wall	0.380	in.
Inside Diameter	12.615	in.
Drift	12.459	in.
Weight, T&C	54.500	lbs/ft
Weight, PE	52.790	lbs/ft

Performance Ratings, Minimum

Collapse, PE	1130	psi
Internal Yields Pressure		
PE	2730	psi
STC	2730	PSI
BTC	2730	psi
Yield Strength, Pipe Body	853	1000 lbs
Joint Strength, STC	514	1000 lbs
Joint Strength, BTC	909	1000 lbs

Note: SeAH Steel has produced this specification sheet for general information only. SeAH does not assume liability or responsibility for any loss or injury resulting from the use of information or data contained herein. All applications for the material described are at the customer's own risk and responsibility.

C-102 Submit Electronically Via OCD Permitting	State of New Mexico Energy, Minerals & Natural Resources Department OIL CONSERVATION DIVISION		Revised July, 2024	
			Submittal Type:	☐ Initial Submittal
				☒ Amended Report
		☐ As Drilled		

WELL LOCATION INFORMATION

API Number 30-025-53446	Pool Code 96776	Pool Name JABALINA;WOLFCAMP, SOUTHWEST
Property Code 34832	Property Name ARENA ROJA FED UNIT	Well Number 812H
OGRID No. 6137	Operator Name DEVON ENERGY PRODUCTION COMPANY, L.P.	Ground Level Elevation 3090.8'
Surface Owner: ☐ State ☐ Fee ☐ Tribal ☒ Federal		Mineral Owner: ☐ State ☐ Fee ☐ Tribal ☒ Federal

Surface Location

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County
C	27	26-S	35-E		655' N	1635' W	32.019690	103.358588	LEA

Bottom Hole Location

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County
B	27	26-S	35-E		20' N	2170' E	32.021437	103.353822	LEA

Dedicated Acres 933.76	Infill or Defining Well Defining	Defining Well API N/A	Overlapping Spacing Unit (Y/N) Y	Consolidation Code U
Order Numbers			Well setbacks are under Common Ownership: ☒ Yes ☐ No	

Kick Off Point (KOP)

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County
C	27	26-S	35-E		50' N	2170' W	32.021353	103.356863	LEA

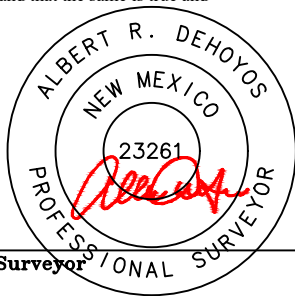
First Take Point (FTP)

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County
C	27	26-S	35-E		100' N	2170' W	32.021216	103.356863	LEA

Last Take Point (LTP)

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County
B	27	26-S	35-E		100' N	2170' E	32.021217	103.353822	LEA

Spacing Unit Type		Horizontal	Vertical	Ground Floor Elevation:
		HZ		

OPERATOR CERTIFICATIONS I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and, if the well is a vertical or directional well, that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of a working interest or unleased mineral interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division. If this well is a horizontal well, I further certify that this organization has received the consent of at least one lessee or owner of a working interest or unleased mineral interest in each tract (in the target pool or formation) in which any part of the well's completed interval will be located or obtained a compulsory pooling order from the division.		SURVEYOR CERTIFICATIONS I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under supervision, and that the same is true and correct to the best of my belief.	
Signature  Date 9/23/2025		Signature and Seal of Professional Surveyor 	
Printed Name Rebecca Deal, Regulatory Analyst Email Address rebecca.deal@dnv.com		Certificate Number 23261 Date of Survey 08/20/2025	

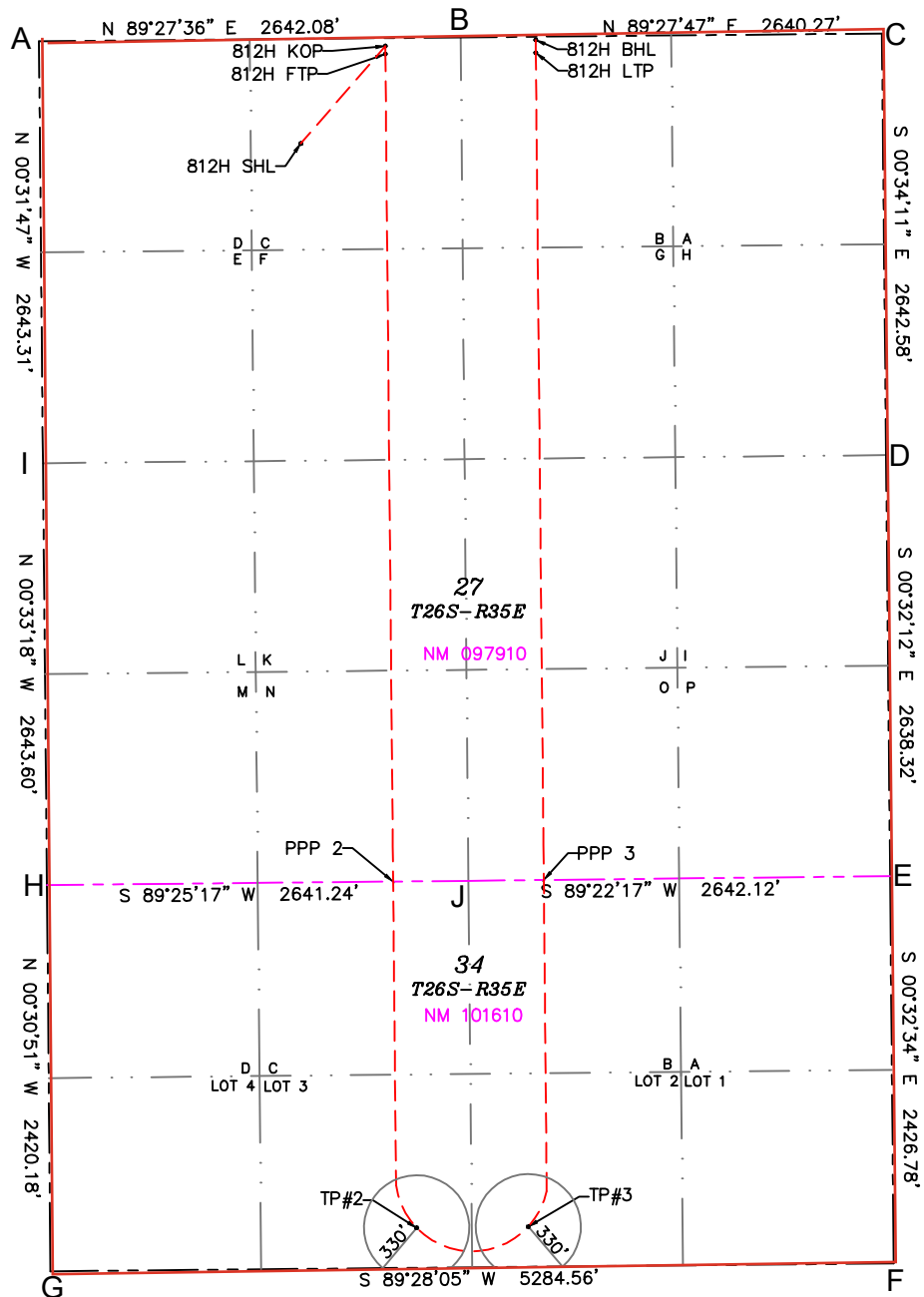
ACREAGE DEDICATION PLATS

This grid represents a standard section. You may superimpose a non-standard section, or larger area, over this grid. Operators must outline the dedicated acreage in a red box, clearly show the well surface location and bottom hole location, if it is directionally drilled, with the dimensions from the section lines in the cardinal directions. If this is a horizontal wellbore show on this plat the location of the First Take Point and Last Take Point, and the point within the Completed interval (other than the First Take Point or Last Take Point) that is closest to any outer boundary of the tract.

Surveyors shall use the latest United States government survey or dependent resurvey. Well locations will be in reference to the New Mexico Principal Meridian. If the land is not surveyed contact the OCD Engineering Bureau. Independent subdivision surveys will not be acceptable.

SURFACE HOLE LOCATION GEODETIC COORDINATES NAD 83 NMSP EAST SURFACE LOCATION 655' FNL 1635' FWL SECTION 27 EL: 3090.8' N: 372264.65/E: 843438.63 LAT: 32.019690/LON: 103.358588
KICK OFF POINT 50' FNL 2170' FWL SECTION 27 N: 372874.67/E: 843968.01 LAT: 32.021353/LON: 103.356863
FIRST TAKE POINT (PPP 1) 100' FNL 2170' FWL SECTION 27 N: 372824.67/E: 843968.48 LAT: 32.021216/LON: 103.356863
TAKE POINT #2 251' FSL 2297' FWL SECTION 34 N: 365469.51/E: 844164.44 LAT: 32.000995/LON: 103.356445
TAKE POINT #3 251' FSL 2288' FEL SECTION 34 N: 365476.88/E: 844863.76 LAT: 32.000998/LON: 103.354189
LAST TAKE POINT 100' FNL 2170' FEL SECTION 27 N: 372833.53/E: 844910.85 LAT: 32.021217/LON: 103.353822
BOTTOM HOLE LOCATION 20' FNL 2170' FEL SECTION 27 N: 372913.52/E: 844910.06 LAT: 32.021437/LON: 103.353822
PPP 2 0' FNL 2169' FWL SECTION 34 N: 367639.45/E: 844016.89 LAT: 32.006963/LON: 103.356858
PPP 3 0' FNL 2170' FEL SECTION 34 N: 367649.40/E: 844960.96 LAT: 32.006966/LON: 103.353812

A=N:372904.21 E:841797.65
B=N:372929.11 E:844439.61
C=N:372953.86 E:847079.76
D=N:370311.41 E:847106.04
E=N:367673.21 E:847130.76
F=N:365246.54/E:847153.74
G=N:365197.46/E:841869.41
H=N:367617.55 E:841847.69
I=N:370261.02 E:841822.08
J=N:367644.22 E:844488.79



ARENA ROJA FED UNIT 812H

1. Geologic Formations

TVD of target	13000	Pilot hole depth	N/A
MD at TD:	28605	Deepest expected fresh water	

Basin

Formation	Depth (TVD) from KB	Water/Mineral Bearing/Target Zone?	Hazards*
Rustler	967		
Salt	1430		
Base of Salt	4880		
Delaware	4880		
Cherry Canyon	6211		
Brushy Canyon	7684		
1st Bone Spring Lime	9083		
Bone Spring 1st	10370		
Bone Spring 2nd	10884		
3rd Bone Spring Lime	11330		
Bone Spring 3rd	12020		
Wolfcamp	12317		

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

ARENA ROJA FED UNIT 812H

2. Casing Program

Hole Size	Csg. Size	Wt (PPF)	Grade	Conn	Casing Interval		Casing Interval	
					From (MD)	To (MD)	From (TVD)	To (TVD)
17 1/2	13 3/8	54 1/2	J-55	BTC	0	1037	0	1037
9 7/8	8 5/8	32	P110HP	Talon	0	12389	0	12389
7 7/8	5 1/2	20	P110HP	CDC-HTQ	0	28605	0	13000

• All casing strings will be tested in accordance with Onshore Oil and Gas Order #2 IILB.1.h Must have table for contingency casing.

3. Cementing Program

Assuming no returns are established while drilling, Devon requests to pump a two stage cement job on the intermediate casing string with the first stage being pumped conventionally with the calculated top of cement at the Brushy Canyon and the second stage performed as a bradenhead squeeze with planned cement from the Brushy Canyon to surface. The final cement top will be verified by Echo-meter. Devon will include the Echo-meter verified fluid top and the volume of displacement fluid above the cement slurry in the annulus in all post-drill sundries on wells utilizing this cement program. Devon will report to the BLM the volume of fluid (limited to 1 bbls) used to flush intermediate casing valves following backside cementing procedures.

Casing	# Sks	TOC	Wt. ppg	Yld (ft3/sack)	Slurry Description
Surface	788	Surf	13.2	1.44	Lead: Class C Cement + additives
Int 1	687	Surf	13.0	2.3	2nd State: Bradenhead Squeeze - Lead: Class C Cement + additives
	539	7746	13.2	1.44	Tail: Class H / C + additives
Production	117	10489	9	3.27	Lead: Class H / C + additives
	2133	12489	13.2	1.44	Tail: Class H / C + additives

Casing String	% Excess
Surface	50%
Intermediate 1	30%
Prod	10%

ARENA ROJA FED UNIT 812H

4. Pressure Control Equipment (Three String Design)

BOP installed and tested before drilling which hole?		Size?	Min. Required WP	Type		✓	Tested to:
Int 1		13-5/8"	10M	Annular		X	50% of rated working pressure
				Blind Ram		X	10M
				Pipe Ram			
				Double Ram		X	
				Other*			
Production		13-5/8"	10M	Annular (5M)		X	100% of rated working pressure
				Blind Ram		X	10M
				Pipe Ram			
				Double Ram		X	
				Other*			
				Annular (5M)			
				Blind Ram			
				Pipe Ram			
				Double Ram			
				Other*			
N	A variance is requested for the use of a diverter on the surface casing. See attached for schematic.						
Y	A variance is requested to run a 5 M annular on a 10M system						

ARENA ROJA FED UNIT 812H

5. Mud Program (Three String Design)

Section	Type	Weight (ppg)
Surface	FW Gel	8.5-9
Intermediate	DBE / Cut Brine	10-10.5
Production	OBM	10-10.5

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
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6. Logging and Testing Procedures

Logging, Coring and Testing	
X	Will run GR/CNL from TD to surface (horizontal well - vertical portion of hole). Stated logs run will be in the Completion Report and submitted to the BLM.
	No logs are planned based on well control or offset log information.
	Drill stem test? If yes, explain.
	Coring? If yes, explain.

Additional logs planned		Interval
	Resistivity	Int. shoe to KOP
	Density	Int. shoe to KOP
X	CBL	Production casing
	Mud log	Intermediate shoe to TD
	PEX	

7. Drilling Conditions

Condition	Specify what type and where?
BH pressure at deepest TVD	7098
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	H ₂ S is present
Y	H ₂ S plan attached.

ARENA ROJA FED UNIT 812H

8. Other facets of operation

Is this a walking operation? Potentially

- 1 If operator elects, 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 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.

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 batch drill surface hole.
 - a. Rig will utilize fresh water based mud to drill 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 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 pa.
- 6 The NMOCD will be contacted and notified 24 hours prior to commencing spudder rig operations.
- 7 Drilling operations will be performed with drilling rig. A 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

X Directional Plan
 Other, describe

27-26-35-C Sundry ID 2875448 Arena Roja Fed Unit 812H.xlsm

Arena Roja Fed Unit 812H

13 3/8		surface csg in a		17 1/2		inch hole.		Design Factors				Surface		
Segment	#/ft	Grade		Coupling		Body	Collapse	Burst	Length	B@s	a-B	a-C	Weight	
"A"	54.50			j 55	btc	15.05	2.32	0.4	1,040	6	0.68	4.39	56,680	
"B"					btc				0				0	
w/8.4#/g mud, 30min Sfc Csg Test psig: 1,457							Tail Cmt	does not	circ to sfc.	Totals:	1,040		56,680	
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	788		1135	722	57	9.00	4032	5M				1.56	
Burst Frac Gradient(s) for Segment(s) A, B = , b All > 0.70, OK.														
Site plot (pipe racks 3 or 4) as per O.D. 1.38, D-3.1, not found														

8 5/8		casing inside the		13 3/8		Design Factors				Int 1		
Segment	#/ft	Grade		Coupling	Joint	Collapse	Burst	Length	B@s	a-B	a-C	Weight
"A"	32.00		p 110	uss talon htq	2.89	0.67	1.26	12,389	1	2.11	1.12	396,448
"B"								0				0
w/8.4#/g mud, 30min Sfc Csg Test psig: 845								Totals:	12,389			396,448
The cement volume(s) are intended to achieve a top of								0	ft from surface or a		1040	overlap.
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
9 7/8	0.1261	539	776	1912	-59	10.50	4231	5M				0.44
r D V Tool(s):			7684				sum of sx	Σ CuFt				Σ%excess
t by stage % :			31	20			1226	2356				23
Class 'H' tail cmt yld > 1.20												

Tail cmt		casing inside the		8 5/8		Design Factors				Prod 1		
Segment	#/ft	Grade		Coupling	Joint	Collapse	Burst	Length	B@s	a-B	a-C	Weight
"A"	20.00		p 110	cdc-htq	2.47	1.79	1.78	12,489	2	2.99	3.00	249,780
"B"	20.00		p 110	cdc-htq	2.54	1.59	1.78	7,457	2	2.99	2.88	149,140
"C"	20.00		p 110	cdc-htq	2.65	1.57	1.78	745	2	2.99	2.88	14,900
"D"	20.00		p 110	cdc-htq	7.54	1.57	1.78	7,914	2	2.99	2.88	158,280
w/8.4#/g mud, 30min Sfc Csg Test psig: 2,748								Totals:	28,605	572,100		
The cement volume(s) are intended to achieve a top of								12189	ft from surface or a		200	overlap.
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			
7 7/8	0.1733	2250	3454	2845	21	10.50			0.79			
Class 'C' tail cmt yld > 1.35												

#N/A											
0	5 1/2			Design Factors				<Choose Casing>			
Segment	#/ft	Grade	Coupling	#N/A	Collapse	Burst	Length	B@s	a-B	a-C	Weight
"A"			0.00				0				0
"B"			0.00				0				0
w/8.4#/g mud, 30min Sfc Csg Test psig:							Totals:	0			0
Cmt vol calc below includes this csg, TOC intended							#N/A	ft from surface or a	#N/A		overlap.
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
0		#N/A	#N/A	0	#N/A						
#N/A Capitan Reef est top XXXX.											

Sante Fe Main Office
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General Information
Phone: (505) 629-6116

Online Phone Directory
<https://www.emnrd.nm.gov/ocd/contact-us>

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

CONDITIONS

Action 516402

CONDITIONS

Operator: DEVON ENERGY PRODUCTION COMPANY, LP 333 West Sheridan Ave. Oklahoma City, OK 73102	OGRID: 6137
	Action Number: 516402
	Action Type: [C-103] NOI Change of Plans (C-103A)

CONDITIONS

Created By	Condition	Condition Date
matthew.gomez	No additives containing PFAS chemicals will be added to the drilling fluids or completion fluids used during drilling, completions, or recompletions operations.	11/18/2025
matthew.gomez	Administrative order required for non-standard spacing unit prior to production.	11/18/2025
matthew.gomez	Notify the OCD 24 hours prior to casing & cement.	11/18/2025
matthew.gomez	For future reference, within C-102's order numbers such as NSL's and NSP's should be reported if available. If no order number is available, please report either "N/A" or pending depending on the circumstance. The "unitized area or area of uniform interest" section should have the applicable Unit or Com ID reported. Any additional sections of the C-102 that are not applicable to the subject well please report as "N/A".	11/18/2025
matthew.gomez	All previous COA's still apply.	11/18/2025