Form 3160-5
(June 2019)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB No. 1004-0137
Expires: October 31, 2021

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.

SUBMIT IN TRIPLICATE *- Other instructions on page 2*

5. Lease Serial No. NMNM0629320Z

6. If Indian, Allottee or Tribe Name

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

1. Type of Well
☑ Oil Well ☐ Gas Well ☐ Other

8. Well Name and No. LOS VAQUEROS FED COM/434H

2. Name of Operator EARTHSTONE OPERATING LLC

9. API Well No. 3002549578

3a. Address 300 N MARIENFIELD STREET SUITE 1000, MID

3b. Phone No. *(include area code)* (432) 695-4222

10. Field and Pool or Exploratory Area WC-025 G-09 S263619C/WOLFCAMP

4. Location of Well *(Footage, Sec., T.,R.,M., or Survey Description)* SEC 30/T26S/R35E/NMP

11. Country or Parish, State LEA/NM

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

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

API: 30-025-49578
CHANGE WELL NAME
FROM: LOS VAQUEROS FED 434H
TO: ~~LOS VAQUEROS FED 524H;~~ LOS VAQUEROS FED COM 524H
CHANGE SURFACE HOLE LOCATION
FROM: B-30-26S-35E; 353' FNL, 1634' FEL
TO: B-30-26S-35E; 353' FNL, 1600' FEL;
CHANGE FIRST TAKE POINT
FROM: A-20-26S-35E; 100' FNL, 1144' FEL
TO: A-20-26S-35E; 100' FNL, 880' FEL;
STATE LINE CROSSING
LOT 5-31-26S-35E; 0' FSL, 880' FEL;
Continued on page 3 additional information

14. I hereby certify that the foregoing is true and correct. Name *(Printed/Typed)* JENNIFER ELROD / Ph: (940) 452-6214

Title Senior Regulatory Analyst

Signature (Electronic Submission)

Date 01/16/2024

THE SPACE FOR FEDERAL OR STATE OFICE USE

Approved by CHRISTOPHER WALLS / Ph: (575) 234-2234 / Approved

Title Petroleum Engineer

Date 01/29/2024

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 CARLSBAD

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 ofthis form to U.S. Department ofthe Interior, Bureau ofLand 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

Additional Remarks

CHANGE LTP & BHL LOCATION

FROM: LOT 5-31-26S-35E, LEA COUNTY, NEW MEXICO

TO: SECT. 25, BLOCK C-24, PUBLIC SCHOOL LAND SURVEY A-701, LOVING COUNTY, TEXAS

DRILLING & CASING DESIGN CHANGES ATTACHED

Location of Well

0. SHL: NWNE / 353 FNL / 1634 FEL / TWSP: 26S / RANGE: 35E / SECTION: 30 / LAT: 32.0205788 / LONG: -103.40321 (TVD: 0 feet, MD: 0 feet)

PPP: NENE / 165 FNL / 1330 FEL / TWSP: 26S / RANGE: 35E / SECTION: 30 / LAT: 32.021099 / LONG: -103.402239 (TVD: 7086 feet, MD: 7100 feet)

PPP: NESE / 2641 FNL / 1149 FEL / TWSP: 26S / RANGE: 35E / SECTION: 30 / LAT: 32.014233 / LONG: -103.401633 (TVD: 12768 feet, MD: 15200 feet)

PPP: SENE / 1322 FNL / 1147 FEL / TWSP: 26S / RANGE: 35E / SECTION: 30 / LAT: 32.017806 / LONG: -103.401633 (TVD: 12771 feet, MD: 13900 feet)

BHL: LOT 5 / 10 FSL / 1155 FEL / TWSP: 26S / RANGE: 35E / SECTION: 31 / LAT: 32.0003183 / LONG: -103.4016339 (TVD: 12755 feet, MD: 20262 feet)

District I
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720
District III
1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

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

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

[X] AMENDED REPORT
WELL NUMBER, SHL, FTP, LTP, BHL, STATE LINE CROSSING

WELL LOCATION AND ACREAGE DEDICATION PLAT

1 API Number	2 Pool Code	3 Pool Name
30-025-49578	96776	JABALINA; WOLFCAMP, SOUTHWEST

4 Property Code	5 Property Name	6 Well Number
331213	LOS VAQUEROS FED COM	524H

7 OGRID No.	8 Operator Name	9 Elevation
331165	EARTHSTONE OPERATING LLC	3180.76'

[10] Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
B	30	26-S	35-E		353'	NORTH	1600'	EAST	LEA

[11] State Line Crossing If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
5	31	26-S	35-E		0'	SOUTH	880'	EAST	LEA

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

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

***BHL & LTP WILL BE IN TEXAS**

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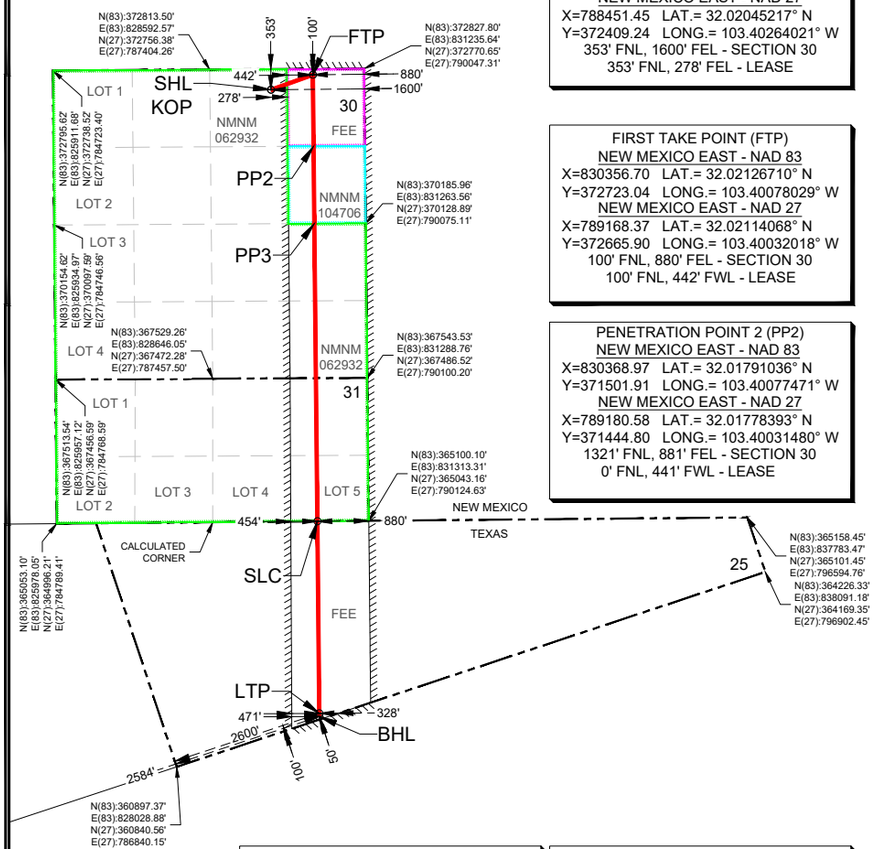


SURFACE HOLE LOCATION (SHL)
KICK OFF POINT (KOP)
NEW MEXICO EAST - NAD 83
X=829639.79 LAT.= 32.02057856° N
Y=372466.36 LONG.= 103.40310035° W
NEW MEXICO EAST - NAD 27
X=788451.45 LAT.= 32.02045217° N
Y=372409.24 LONG.= 103.40264021° W
353' FNL, 1600' FEL - SECTION 30
353' FNL, 278' FEL - LEASE

FIRST TAKE POINT (FTP)
NEW MEXICO EAST - NAD 83
X=830356.70 LAT.= 32.02126710° N
Y=372723.04 LONG.= 103.40078029° W
NEW MEXICO EAST - NAD 27
X=789168.37 LAT.= 32.02114068° N
Y=372665.90 LONG.= 103.40032018° W
100' FNL, 880' FEL - SECTION 30
100' FNL, 442' FWL - LEASE

PENETRATION POINT 2 (PP2)
NEW MEXICO EAST - NAD 83
X=830368.97 LAT.= 32.01791036° N
Y=371501.91 LONG.= 103.40077471° W
NEW MEXICO EAST - NAD 27
X=789180.58 LAT.= 32.01778393° N
Y=371444.80 LONG.= 103.40031480° W
1321' FNL, 881' FEL - SECTION 30
0' FNL, 441' FWL - LEASE

PENETRATION POINT 3 (PP3)
NEW MEXICO EAST - NAD 83
X=830382.24 LAT.= 32.01427875° N
Y=370180.78 LONG.= 103.40076868° W
NEW MEXICO EAST - NAD 27
X=789193.79 LAT.= 32.01415230° N
Y=370123.71 LONG.= 103.40030898° W
2642' FSL, 881' FEL - SECTION 30
0' FSL, 441' FWL - LEASE

LAST TAKE POINT (LTP)
TEXAS CENTRAL - NAD 83
X=1345641.52 LAT.= 31.99126745° N
Y=10701111.33 LONG.= 103.40073043° W
TEXAS CENTRAL - NAD 27
X=1049178.80 LAT.= 31.99114086° N
Y= 858532.41 LONG.= 103.40027176° W
100' FSL, 2600' FWL - SECTION 25
100' FSL, 471' FWL - LEASE

STATE LINE CROSSING (SLC)
NEW MEXICO EAST - NAD 83
X=830433.34 LAT.= 32.00029108° N
Y=365092.27 LONG.= 103.40074545° W
NEW MEXICO EAST - NAD 27
X=789244.67 LAT.= 32.00016456° N
Y=365035.34 LONG.= 103.40028655° W
0' FSL, 880' FEL - SECTION 31
0' FSL, 454' FWL - LEASE

BOTTOM HOLE LOCATION (BHL)
TEXAS CENTRAL - NAD 83
X=1345640.13 LAT.= 31.99112172° N
Y=10701058.33 LONG.= 103.40073018° W
TEXAS CENTRAL - NAD 27
X=1049177.41 LAT.= 31.99099513° N
Y= 858479.42 LONG.= 103.40027152° W
50' FSL, 2584' FWL - SECTION 25
50' FSL, 471' FWL - LEASE

17 OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Signature 12/15/2023 Date

Jennifer Elrod
Printed Name

jennifer.elrod@permianres.com
E-mail Address

[18] SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

Date of Survey

Signature and Seal of Professional Surveyor:

CHARLES L. JURICA
NEW MEXICO
25490
PROFESSIONAL SURVEYOR

12/13/2023

Certificate Number

EARTHSTONE OPERATING, LLC

SHEET NO. 1 OF 1

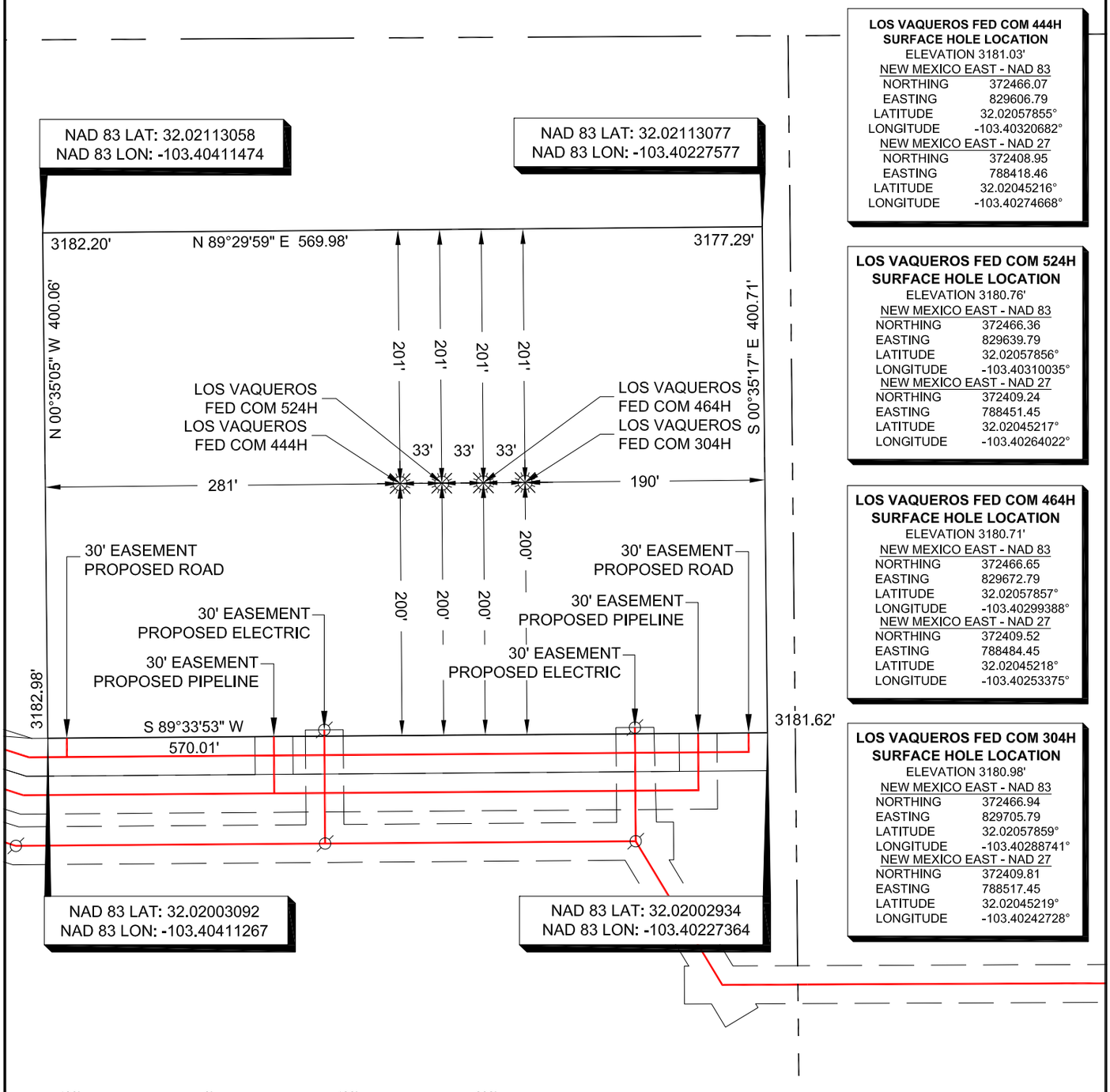
NATURE OF WORK PAD SITE EXHIBIT DATE 11-30-23 SRID NO.

PROJECT- LOS VAQUEROS WELL PAD 4 PLAT JOB OR AFE

SEC. 30 BLK OR RANGE 35E TWP 26S MERIDIAN NEW MEXICO PRINCIPAL MERIDIAN CO. LEA STATE NEW MEXICO

REMARKS TOTAL AREA= 5.239 ACRES (228,216 SQUARE FEET) RE: ☐ AS-BUILT ☑ STAKING

PROP. ROW. WIDTH TEMP. WORK ROW WIDTH



LOS VAQUEROS FED COM 444H SURFACE HOLE LOCATION
ELEVATION 3181.03'

NEW MEXICO EAST - NAD 83	
NORTHING	372466.07
EASTING	829606.79
LATITUDE	32.02057855°
LONGITUDE	-103.40320682°
NEW MEXICO EAST - NAD 27	
NORTHING	372408.95
EASTING	788418.46
LATITUDE	32.02045216°
LONGITUDE	-103.40274668°

LOS VAQUEROS FED COM 524H SURFACE HOLE LOCATION
ELEVATION 3180.76'

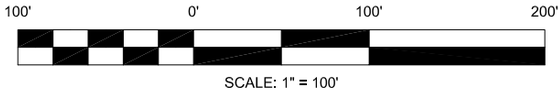
NEW MEXICO EAST - NAD 83	
NORTHING	372466.36
EASTING	829639.79
LATITUDE	32.02057856°
LONGITUDE	-103.40310035°
NEW MEXICO EAST - NAD 27	
NORTHING	372409.24
EASTING	788451.45
LATITUDE	32.02045217°
LONGITUDE	-103.40264022°

LOS VAQUEROS FED COM 464H SURFACE HOLE LOCATION
ELEVATION 3180.71'

NEW MEXICO EAST - NAD 83	
NORTHING	372466.65
EASTING	829672.79
LATITUDE	32.02057857°
LONGITUDE	-103.40299388°
NEW MEXICO EAST - NAD 27	
NORTHING	372409.52
EASTING	788484.45
LATITUDE	32.02045218°
LONGITUDE	-103.40253375°

LOS VAQUEROS FED COM 304H SURFACE HOLE LOCATION
ELEVATION 3180.98'

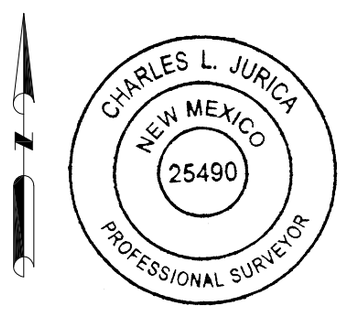
NEW MEXICO EAST - NAD 83	
NORTHING	372466.94
EASTING	829705.79
LATITUDE	32.02057859°
LONGITUDE	-103.40288741°
NEW MEXICO EAST - NAD 27	
NORTHING	372409.81
EASTING	788517.45
LATITUDE	32.02045219°
LONGITUDE	-103.40242728°



SCALE: 1" = 100'

NOTES:

1. BEARINGS, DISTANCES, AREA AND COORDINATES SHOWN HEREON ARE CORRELATED TO THE NEW MEXICO STATE PLANE COORDINATE SYSTEM OF 1983, EAST ZONE, AS DETERMINED BY GPS OPUS OBSERVATIONS. ALL BEARINGS AND DISTANCES SHOWN ARE GRID.
2. LATITUDE & LONGITUDE ARE NAD 83 DECIMAL GEOGRAPHIC.
3. THIS SURVEY WAS PERFORMED WITHOUT THE BENEFIT OF A TITLE REPORT AND THE REVIEW OF THE ABSTRACT OF TITLE. THERE MAY BE EASEMENTS AND/OR COVENANTS AFFECTING THIS PROPERTY NOT SHOWN HEREON. LOCATION OF ALL IMPROVEMENTS WAS BEYOND COMMISSIONED SCOPE OF THIS PROJECT AND HAS BEEN SPECIFICALLY OMITTED. VESTING DOCUMENTS NOT FURNISHED FOR THIS SURVEY.



DATE: 11-30-23 DATE SURVEYED 10-05-23 DRAFT AVP

JOB NO. 20061 FIELD BOOK V. JR01, P. 14 REV. 1

FILE 20061 LOS VAQUEROS WELL PAD 4 PLAT

TRANSGLOBAL SERVICES LLC
TBPELS FIRM# 10194245
201 West Wall Street, Suite 325
Midland, TX 79701
(817) 529-1180 ~ Fax (817) 529-1181

I, CHARLES JURICA, A NEW MEXICO PROFESSIONAL LAND SURVEYOR, DO HEREBY CERTIFY THAT I CONDUCTED AND AM RESPONSIBLE FOR THIS SURVEY, THAT THIS SURVEY IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF, AND THAT THIS SURVEY AND PLAT MEET THE MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO.

CHARLES JURICA NEW MEXICO PS #25490 12/13/2023
DATE

Permian Resources - Los Vaqueros Fed Com 524H

1. Geologic Formations

Formation	Lithology	Elevation	TVD	Target
Rustler	Sandstone	2171	1040	No
Top of Salt	Salt	1711	1500	No
Lamar	Anhydrite/Shale	-2123	5334	No
Capitan	Limestone	NP	NP	No
Cherry Canyon	Sandstone	-2167	5378	No
Brushy Canyon	Sandstone	NP	NP	No
Bone Spring Lime	Limestone	-6063	9274	No
1st Bone Spring Sand	Sandstone/Limestone/Shale	-7389	10600	No
2nd Bone Spring Sand	Sandstone/Limestone/Shale	-7851	11062	No
3rd Bone Spring Sand	Sandstone/Limestone/Shale	-8931	12142	No
Wolfcamp A/XY	Sandstone/Limestone/Shale	-9343	12554	No
Wolfcamp B	Sandstone/Limestone/Shale	-9765	12976	Yes

2. Blowout Prevention

BOP installed and tested before drilling	Size?	Min. Required WP	Type	x	Tested to:
8.75	13-5/8"	5M	Annular	x	5000 psi
			Blind Ram	x	5000 psi
			Pipe Ram	x	
			Double Ram		
			Other*		
6.75	13-5/8"	10M	Annular	x	50% testing pressure
			Blind Ram	x	5000 psi
			Pipe Ram	x	
			Double Ram		
			Other*		

Equipment: BOPE with working pressure ratings in excess of anticipated maximum surface pressure will be utilized for well control from drill out of surface casing to TMD. The System may be upgraded to a higher pressure but still tested to the working pressure listed in the table above. If the system is upgraded all the components installed will be functional and tested. All BOPE connections shall be flanged, welded or clamped. All choke lines shall be straight unless targeted with running tees or tee blocks are used, and choke lines shall be anchored to prevent whip and reduce vibrations. All valves in the choke line & the choke manifold shall be full opening as to not cause restrictions and to allow for straight fluid paths to minimize potential erosion. All gauges utilized in the well control system shall be of a type designed for drilling fluid service. A top drive inside BOP valve will be utilized at all times. Subs equipped with full opening valves sized to fit the drill pipe and collars will be available on the rig floor in the open position. The key to operate said valve equipped subs will be on the rig floor at all times. The accumulator system will have sufficient capacity to open the HCR and close all three sets of rams plus the annular preventer while retaining at least 300 psi above precharge on the closing manifold (accumulator system shall be capable of doing so without using the closing unit pumps). The fluid reservoir capacity will be double the usable fluid volume of the accumulator system capacity, and the fluid level will be maintained at the manufacturer's recommended level. Prior to connecting the closing unit to the BOP stack, an accumulator precharge pressure test shall be performed to ensure the precharge pressure is within 100 psi of the desired precharge pressure (only nitrogen gas will be used to precharge). Two independent power sources will be made available at all times to power the closing unit pumps so that the pumps can automatically start when the closing valve manifold pressure has decreased to the preset level. Closing unit pumps will be sized to allow opening of HCR and closing of annular preventer on 5" drill pipe achieving at least 200 psi above precharge pressure with the accumulator system isolated from service in less than two minutes. A valve shall be installed in the closing line as close to the annular preventer as possible to act as a locking device; the valve shall be maintained in the open position and shall be closed only when the power source for the accumulator system is inoperative. Remote controls capable of opening and closing all preventers & the HCR shall be readily accessible to the driller; master controls with the same capability will be operable at the accumulator. The wellhead will be a multibowl speed head allowing for hangoff of intermediate casing & isolation of the 133/8 x 95/8 annulus without breaking the connection between the BOP & wellhead to install an additional casing head. A wear bushing will be installed & inspected frequently to guard against internal wear to wellhead. VBRs (variablebore rams) will be run in upper rambody of BOP stack to provide redundancy to annular preventer while RIH w/ production casing;

Requesting Variance? YES
Variance request: Flex hose and offline cement variances, see attachments in section 8.
Testing Procedure: The BOP test shall be performed before drilling out of the surface casing shoe and will occur at a minimum: a. when initially installed b. whenever any seal subject to test pressure is broken c. following related repairs d. at 30 day intervals e. checked daily as to mechanical operating conditions. The ram type preventer(s) will be tested using a test plug to 250 psi (low) and 5,000 psi (high) (casinghead WP) with a test plug upon its installation onto the 13 surface casing. If a test plug is not used, the ram type preventer(s) shall be tested to 70% of the minimum internal yield pressure of the casing. The annular type preventer(s) shall be tested to 3500 psi. Pressure will be maintained for at least 10 minutes or until provisions of the test are met, whichever is longer. A Sundry Notice (Form 3160 5), along with a copy of the BOP test report, shall be submitted to the local BLM office within 5 working days following the test. If the bleed line is connected into the buffer tank (header), all BOP equipment including the buffer tank and associated valves will be rated at the required BOP pressure. The BLM office will be provided with a minimum of four (4) hours notice of BOP testing to allow witnessing. The BOP Configuration, choke manifold layout, and accumulator system, will be in compliance with Onshore Order 2 for a 5,000 psi system. A remote accumulator and a multi-bowl system will be used, please see attachment in section 8 for multi-bowl procedure. Pressures, capacities, and specific placement and use of the manual and/or hydraulic controls, accumulator controls, bleed lines, etc., will be identified at the time of the BLM 'witnessed BOP test. Any remote controls will be capable of both opening and closing all preventers and shall be readily accessible.

Choke Diagram Attachemnt: 5 M Choe Manifold
BOP Diagram Attachment: BOP Schematic

3. Casing

String	Hole Size	Casing Size	Top	Bottom	Top TVD	Bottom TVD	Length	Grade	Weight	Connection	Collapse SF	Burst SF	Joint SF Type	Joint SF	Body SF Type	Body SF
Surface	12.25	9.625	0	1130	0	1130	1130	J55	40	BTC	4.60	4.72	Dry	4.92	Dry	4.34
Intermediate	8.75	7.625	0	12000	0	12000	12000	P110HS	29.7	MOFXL	2.75	2.01	Dry	1.84	Dry	3.08
Production	6.75	5.5	0	11500	0	13060	11500	P110RY	20	GEOCONN	1.21	1.54	Dry	2.06	Dry	2.06
Production	6.75	5.5	11500	23960	13060	13060	12460	P110RY	20	Bushmaster SL	1.21	1.54	Dry	2.06	Dry	2.06
								BLM Min Safety Factor			1.125	1		1.6		1.6

Non API casing spec sheets and casing design assumptions attached.

4. Cement

String	Lead/Tail	Top MD	Bottom MD	Quanity (sx)	Yield	Density	Cu Ft	Excess %	Cement Type	Additives
Surface	lead	0	900	310	1.88	12.9	570	100%	Class C	EconoCem-HLC + 5% Salt + 5% Kol-Seal
Surface	Tail	900	1130	90	1.34	14.8	110	50%	Class C	Accelerator
Intermediate	Lead	0	9600	780	1.88	12.9	1450	50%	Class C	EconoCem-HLC + 5% Salt + 5% Kol-Seal
Intermediate	Tail	9600	12000	280	1.34	14.8	370	50%	Class C	Retarder
Production	Lead	11500	12660	90	2.41	11.5	210	40%	Class H	POZ, Extender, Fluid Loss, Dispersant, Retarder
Production	Tail	12660	23960	690	1.73	12.5	1180	25%	Class H	POZ, Extender, Fluid Loss, Dispersant, Retarder

Permian Resources requests to pump a two stage cement job on the 7-5/8" intermediate casing string with the first stage being pumped conventionally with the calculated top of cement at the Cherry Canyon and the second stage performed as a bradenhead squeeze with planned cement from the Brushy Canyon to surface. If cement is not visually confirmed to circulate to surface, the final cement top after the second stage job will be verified by Echo-meter. If necessary, a top out consisting of 1,500 sack of Class C cement + 3% Salt + Bentonite Gel (2.30 yld, 12.9 ppg) will be executed as a contingency. If cement is still unable to circulate to surface, another Echo-meter run will be performed for cement top verification.

Permian Resources 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.

Permian Resources will report to the BLM the volume of fluid (limited to 5 bbls) used to flush intermediate casing valves following backside cementing procedures.

Permian Resources requests to pump an Optional Lead if well conditions dictate in an attempt to bring cement inside the surface casing. If cement reaches the desired height, the BLM will be notified and the second stage bradenhead squeeze and subsequent TOC verification will be negated.

Permian Resources requests the option to conduct the bradenhead squeeze and TOC verification offline as per standard approval from BLM when unplanned remediation is needed and batch drilling is approved. In the event the bradenhead is conducted, we will ensure the first stage cement job is cemented properly and the well is static with floats holding and no pressure on the csg annulus as with all other casing strings where batch drilling operations occur before moving off the rig. The TA cap will also be installed per Cactus procedure and pressure inside the casing will be monitored via the valve on the TA cap as per standard batch drilling ops.

5. Circulating Medium

Mud System Type: Closed
Will an air or gas system be used: No
Describe what will be on location to control well or mitigate oter conditions: Sufficient quantities of mud materials will be on the well site at all times for the purpose of assuring well control and maintaining wellbore integrity. Surface interval will employ fresh water mud. The intermediate hole will utilize a saturated brine fluid to inhibit salt washout. The production hole will employ brine based and oil base fluid to inhibit formation reactivity and of the appropriate density to maintain well control.

Describe the mud monitoring system utilized: Centrifuge separation system. Open tank monitoring with EDR will be used for drilling fluids and return volumes. Open tank monitoring will be used for cement and cuttings return volumes. Mud properties will be monitored at least every 24 hours using industry accepted mud check practices.

Cuttings Volume: 8440 Cu Ft

Circulating Medium Table

Top Depth	Bottom Depth	Mud Type	Min Weight	Max Weight
0	1130	Spud Mud	8.6	9.5
1130	12000	Water Based Mud	10	10
12000	11500	OBM	9	13.5
11500	23960	OBM	9	13.5

6. Test, Logging, Coring

List of production tests including testing procedures, equipment and safety measures:
Will utilize MWD/LWD (Gamma Ray logging) from intermediate hole to TD of the well.
List of open and cased hole logs run in the well:
DIRECTIONAL SURVEY,GAMMA RAY LOG,
Coring operation description for the well:
N/A

7. Pressure

Anticipated Bottom Hole Pressure	9170	psi
Anticipated Surface Pressure	6295	psi
Anticipated Bottom Hole Temperature	183	°F
Anticipated Abnormal pressure, temp, or geo hazards	No	

8. Waste Management

Waste Type:	**Drilling**
Waste content description:	Fresh water based drilling fluid
Amount of waste:	1500 bbls
Waste disposal frequency:	Weekly (after drilling all surfaces)
Safe containment description:	Steel tanks with plastic-lined containment berms
Waste disposal type:	Haul to commercial facility
Disposal location ownership:	Commercial
Waste Type:	**Grey Water & Human Waste**
Waste content description:	Grey Water/Human Waste
Amount of waste:	5000 gallons
Waste disposal frequency:	Weekly
Safe containment description:	Approved waste storage tanks with containment
Waste disposal type:	Haul to commercial facility
Disposal location ownership:	Commercial
Waste Type:	**Garbage**
Waste content description:	General trash/garbage
Amount of waste:	5000 lbs
Waste disposal frequency:	Weekly
Safe containment description:	Enclosed trash trailer
Waste disposal type:	Haul to commercial facility
Disposal location ownership:	Commercial
Waste Type:	**Drilling**
Waste content description:	Drill Cuttings
Amount of waste:	8440 Cu Ft
Waste disposal frequency:	Per well
Safe containment description:	Steel tanks
Waste disposal type:	Haul to commercial facility
Disposal location ownership:	Commercial
Waste Type:	**Drilling**
Waste content description:	Brine water based drilling fluid
Amount of waste:	1500 bbls
Waste disposal frequency:	Monthly
Safe containment description:	Steel tanks with plastic-lined containment berms
Waste disposal type:	Haul to commercial facility
Disposal location ownership:	Commercial

9. Other Information

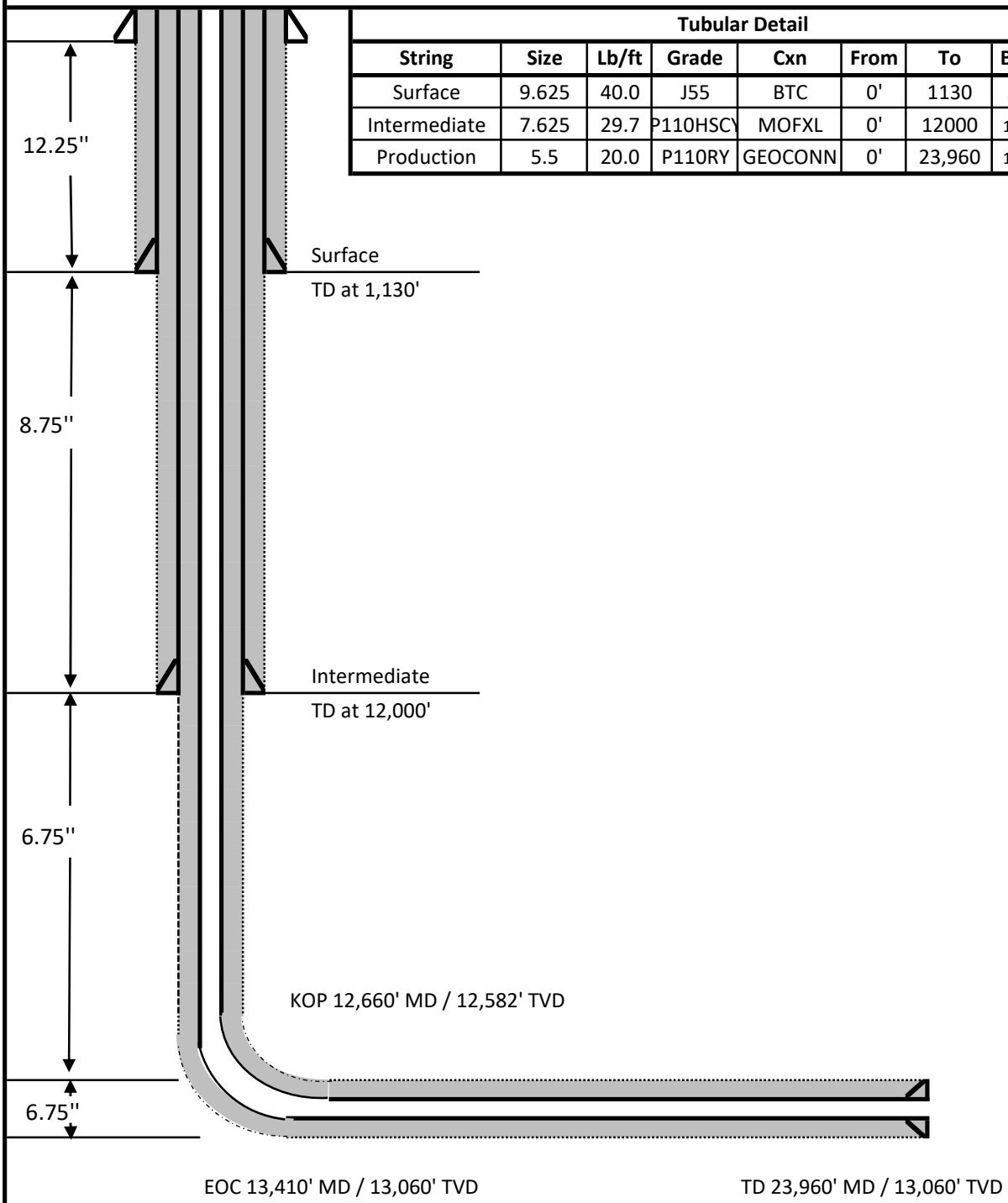
Well Plan and AC Report: attached
Batching Drilling Procedure: attached
WBD: attached
Flex Hose Specs: attached
Offline Cementing Procedure Attached:

Permian Resources

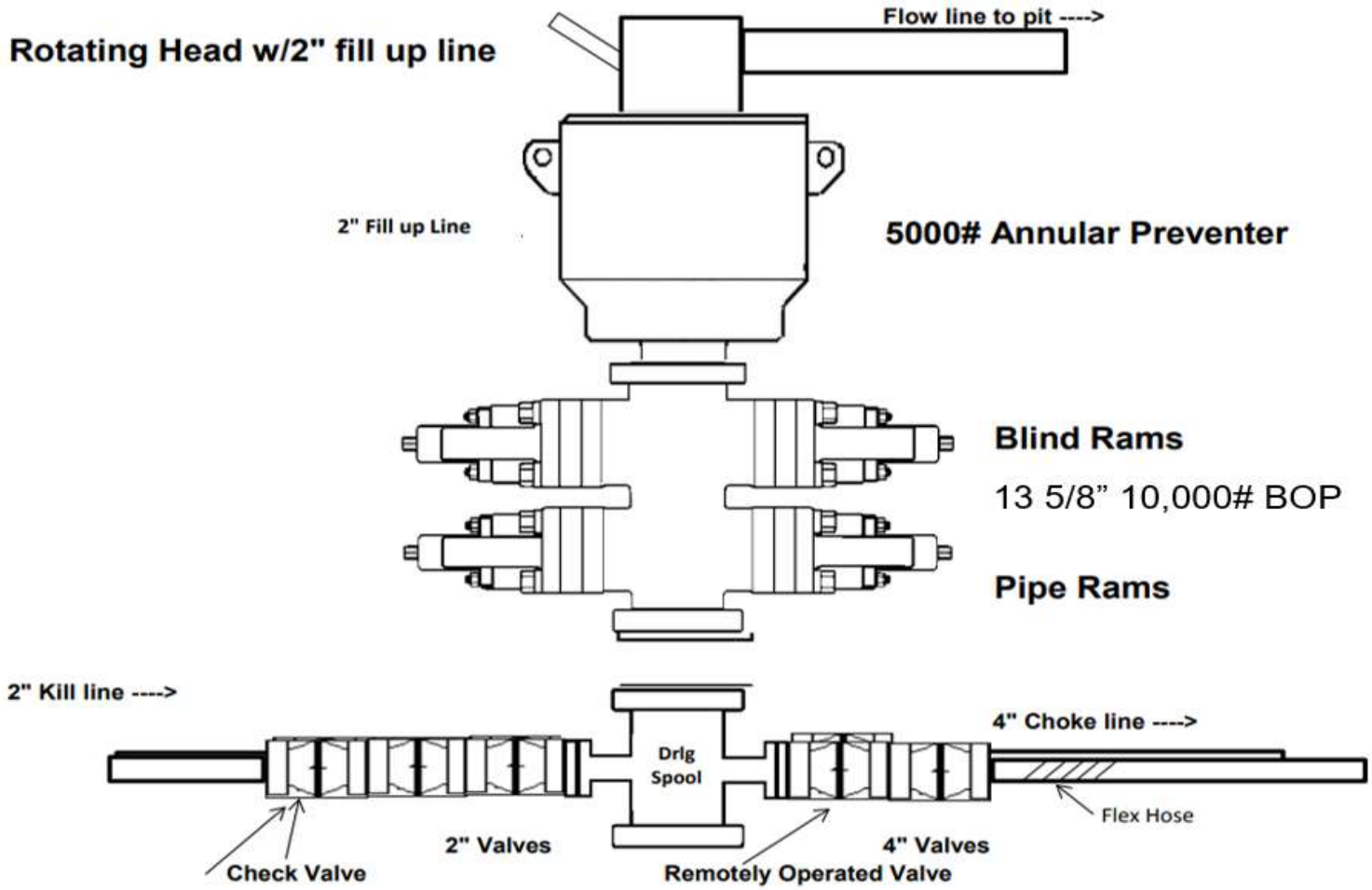
Well: Los Vaqueros Fed Com 524H
State New Mexico **County:** Lea
FM Target: Wolfcamp B
Location: Lot B, Section 30, T26S, R35E, 353' FNL, 1600' FEL
SLC: Lot 5, Section 31, T26S, R35E, 0' FSL, 880' FEL
KB Elev: 3211 **KB:** 30 **GL Elev:** 3181

Tubular Detail

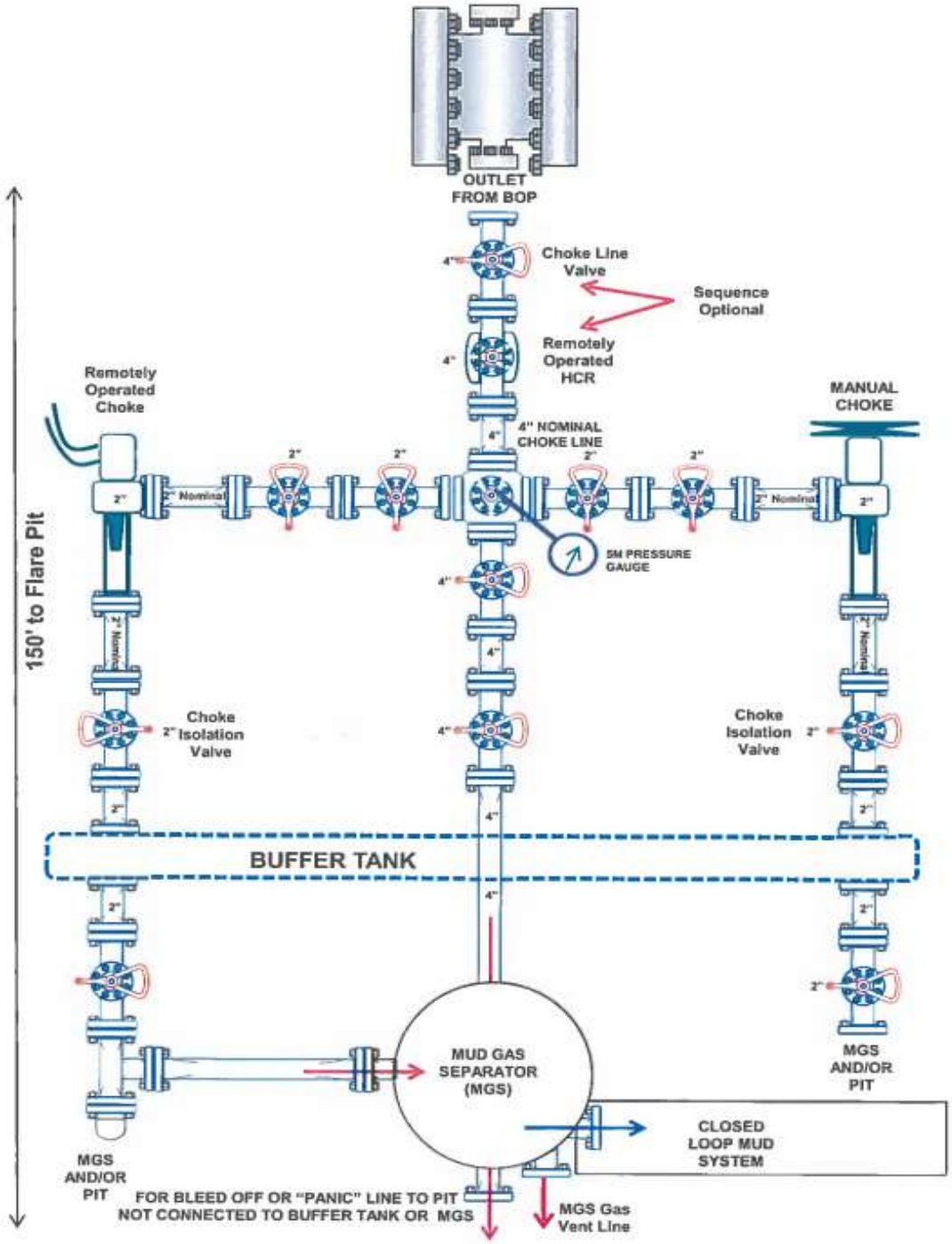
String	Size	Lb/ft	Grade	Cxn	From	To	Burst	Cllps
Surface	9.625	40.0	J55	BTC	0'	1130	3950	2,570
Intermediate	7.625	29.7	P110HSCY	MOFXL	0'	12000	11680	7,200
Production	5.5	20.0	P110RY	GEOCONN	0'	23,960	13720	11,100



10,000 BOP Schematic



10M Choke Manifold Equipment (With MGS + Closed Loop)



Continental
ContiTech

CONTITECH RUBBER Industrial Kft.	No:QC-DB- 210/ 2014
	Page: 9 / 113

QUALITY CONTROL INSPECTION AND TEST CERTIFICATE

CERT. N°: 504

PURCHASER:	ContiTech Oil & Marine Corp.			P.O. N°:	4500409659
CONTITECH RUBBER order N°:	538236	HOSE TYPE:	3" ID		Choke and Kill Hose
HOSE SERIAL N°:	67255	NOMINAL / ACTUAL LENGTH:			10,67 m / 10,77 m
W.P. 68,9 MPa	10000 psi	T.P. 103,4 MPa	15000 psi	Duration:	60 min.

Pressure test with water at ambient temperature

See attachment. (1 page)

↑ 10 mm = 10 Min.
→ 10 mm = 20 MPa

COUPLINGS Type	Serial N°		Quality	Heat N°
3" coupling with	9251	9254	AISI 4130	A0579N
4 1/16" 10K API b.w. Flange end			AISI 4130	035608

Not Designed For Well Testing

API Spec 16 C

Temperature rate:"B"

All metal parts are flawless

WE CERTIFY THAT THE ABOVE HOSE HAS BEEN MANUFACTURED IN ACCORDANCE WITH THE TERMS OF THE ORDER INSPECTED AND PRESSURE TESTED AS ABOVE WITH SATISFACTORY RESULT.

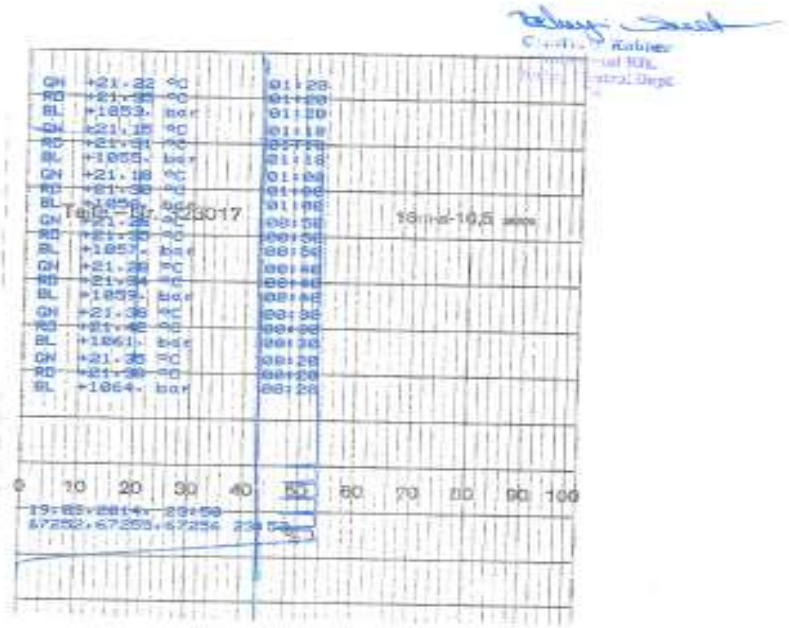
STATEMENT OF CONFORMITY: We hereby certify that the above items/equipment supplied by us are in conformity with the terms, conditions and specifications of the above Purchaser Order and that these items/equipment were fabricated inspected and tested in accordance with the referenced standards, codes and specifications and meet the relevant acceptance criteria and design requirements.

COUNTRY OF ORIGIN HUNGARY/EU

Date:	Inspector	Quality Control
20. March 2014.		

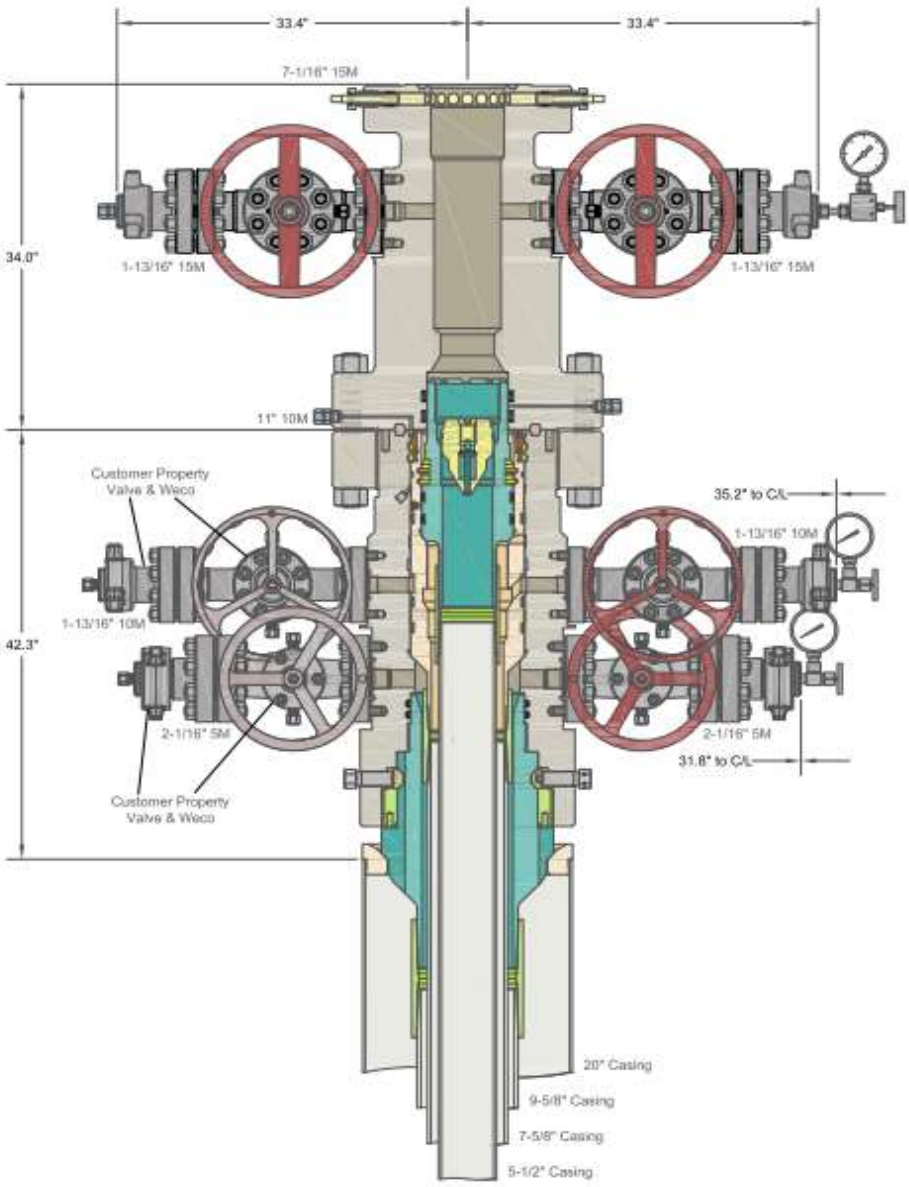
ATTACHMENT OF QUALITY CONTROL INSPECTION AND TEST CERTIFICATE No: 501, 504, 505

Page: 1 / 1



Hose Data Sheet

CRI Order No.	538236
Customer	ContiTech Oil & Marine Corp.
Customer Order No	4500409659
Item No.	1
Hose Type	Flexible Hose
Standard	**API SPEC 16 C**
Inside dia in inches	3
Length	35 ft
Type of coupling one end	FLANGE 4.1/16" 10K API SPEC 6A TYPE 6BX FLANGE C/W BX155 R.GR.SOUR
Type of coupling other end	FLANGE 4.1/16" 10K API SPEC 6A TYPE 6BX FLANGE C/W BX155 R.GR.SOUR
H2S service NACE MR0175	Yes
Working Pressure	10 000 psi
Design Pressure	10 000 psi
Test Pressure	15 000 psi
Safety Factor	2,25
Marking	USUAL PHOENIX
Cover	NOT FIRE RESISTANT
Outside protection	St.steel outer wrap
Internal stripwound tube	No
Lining	OIL + GAS RESISTANT SOUR
Safety clamp	No
Lifting collar	No
Element C	No
Safety chain	No
Safety wire rope	No
Max.design temperature [°C]	100
Min.design temperature [°C]	-20
Min. Bend Radius operating [m]	0,90
Min. Bend Radius storage [m]	0,90
Electrical continuity	The Hose is electrically continuous
Type of packing	WOODEN CRATE ISPM-15



ALL DIMENSIONS APPROXIMATE

CACTUS WELLHEAD LLC	PERMIAN RESOURCES HOBBS, NM		
20" x 9-5/8" x 7-5/8" x 5-1/2" MBU-T-CFL-R-DLBO Wellhead System With 11" 10M x 7-1/16" 15M CTH-DBLHPS Tubing Head And Hand Wheel Casing Valves & Back Pressure Valve	DRAWN	DLE	26OCT23
	APPRV		
	DRAWING NO.	HBE0001074	

Permian Resources Casing Design Criteria

A sundry will be requested if any lesser grade or different size casing is substituted. All casing will be centralized as specified in Onshore Order II. Casing will be tested as specified in Onshore Order II.

Casing Design Assumptions:

Surface

1) Burst Design Loads
    a. Displacement to Gas
        i. Internal: Assumes a full column of gas in the casing with a gas gradient of 0.7 psi/ft in the absence of better information. It is limited to the controlling pressure based on the maximum expected pore pressure within the next drilling interval.
        ii. External: Mud weight to TOC and cement mix water gradient (8.4 ppg) below TOC.
    b. Casing Pressure Test
        i. Internal: Displacement fluid plus surface pressure required to comply with regulatory casing test pressure requirements of Onshore Oil and Gas Order II and NM NMAC 19.15.16 of NMOCD regulations.
        ii. External: Mud weight to TOC and cement mix water (8.4 ppg) below TOC.
2) Collapse Loads
    a. Cementing
        i. Internal: Displacement fluid density.
        ii. External: Mud weight from TOC to surface and cement slurry weight from TOC to shoe.
    b. Lost Returns with Mud Drop
        i. Internal: Lost circulation at the TD of the next hole section and the fluid level falls to a depth where the hydrostatic pressure of the mud column equals pore pressure at the depth of the lost circulation zone.
        ii. External: Mud weight to TOC and cement slurry(s) density below TOC
3) Tension Loads
    a. Overpull Force
        i. Axial: Dry weight of the string plus 100,000 lbs applied in a stuck pipe situation.
    b. Green Cement Casing Test
        i. Axial: Buoyant weight of the string plus cement plug bump pressure load.

Intermediate I

1) Burst Design Loads
    a. Displacement to Gas
        i. Internal: Assumes a full column of gas in the casing with a gas gradient of 0.7 psi/ft in the absence of better information. It is limited to the controlling pressure based on the maximum expected pore pressure within the next drilling interval.
        ii. External: Mud weight to TOC and cement mix water gradient (8.4 ppg) below TOC.
    b. Casing Pressure Test
        i. Internal: Displacement fluid plus surface pressure required to comply with regulatory casing test pressure requirements of Onshore Oil and Gas Order II and NM NMAC 19.15.16 of NMOCD regulations.
        ii. External: Mud weight to TOC and cement mix water (8.4 ppg) below TOC.
2) Collapse Loads
    a. Cementing

i. Internal: Displacement fluid density.
ii. External: Mud weight from TOC to surface and cement slurry weight from TOC to shoe.

b. Lost Returns with Mud Drop
i. Internal: Lost circulation at the TD of the next hole section and the fluid level falls to a depth where the hydrostatic pressure of the mud column equals pore pressure at the depth of the lost circulation zone.
ii. External: Mud weight to TOC and cement slurry(s) density below TOC

3) Tension Loads
a. Overpull Force
i. Axial: Dry weight of the string plus 50,000 lbs applied in a stuck pipe situation.
b. Green Cement Casing Test
i. Axial: Buoyant weight of the string plus cement plug bump pressure load.

Intermediate or Intermediate II

1) Burst Design Loads
a. Gas Kick Profile
i. Internal: Load profile based on influx encountered in lateral portion of wellbore with a maximum influx volume of 150 bbls and a kick intensity of 1.5 ppg using maximum anticipated MW of 9.9 ppg.
ii. External: Mud weight to TOC and cement mix water gradient (8.4 ppg) below TOC.
b. Casing Pressure Test
i. Internal: Displacement fluid plus surface pressure required to comply with regulatory casing test pressure requirements of Onshore Oil and Gas Order II and NM NMAC 19.15.16 of NMOCD regulations.
ii. External: Mud weight to TOC and cement mix water (8.4 ppg) below TOC.

2) Collapse Loads
a. Cementing
i. Internal: Displacement fluid density.
ii. External: Mud weight from TOC to surface and cement slurry weight from TOC to shoe.
b. Lost Returns with Mud Drop
i. Internal: Lost circulation at the deepest TVD of the next hole section and the fluid level falls to a depth where the hydrostatic pressure of the mud column equals pore pressure at the depth of the lost circulation zone.
ii. External: Mud weight to TOC and cement slurry(s) density below TOC

3) Tension Loads
a. Overpull Force
i. Axial: Dry weight of the string plus 50,000 lbs applied in a stuck pipe situation.
b. Green Cement Casing Test
i. Axial: Buoyant weight of the string plus cement plug bump pressure load.

Production

1) Burst Design Loads
a. Injection Down Casing
i. Internal: Surface pressure plus injection fluid gradient
ii. External: Mud base-fluid density to top of cement and cement mix water gradient (8.4 ppg) below TOC.
b. Casing Pressure Test (Drilling)

i. Internal: Displacement fluid plus surface pressure required to comply with regulatory casing test pressure requirements of Onshore Oil and Gas Order II and NM NMAC 19.15.16 of NMOCD regulations.
ii. External: Mud weight to TOC and cement mix water (8.4 ppg) below TOC.

c. Casing Pressure Test (Production)
i. Internal: The design pressure test should be the greater of the planned test pressure prior to stimulation down the casing, the regulatory test pressure, and the expected gas lift system pressure. The design test fluid should be the fluid associated with the pressure test having the greatest pressure.
ii. External: Mud base-fluid density to top of cement and cement mix water gradient (8.4 ppg) below TOC.

d. Tubing Leak
i. Internal: SITP plus a packer fluid gradient to the top of packer.
ii. External: Mud base-fluid density to top of cement and cement mix water gradient (8.4 ppg) below TOC.

2) Collapse Loads
a. Cementing
i. Internal: Displacement fluid density.
ii. External: Mud weight from TOC to surface and cement slurry weight from TOC to shoe.

b. Full Evacuation
i. Internal: Fully void pipe.
ii. External: Mud weight to TOC and cement slurry(s) density below TOC

3) Tension Loads
a. Overpull Force
i. Axial: Dry weight of the string plus 50,000 lbs applied in a stuck pipe situation.

b. Green Cement Casing Test
i. Axial: Buoyant weight of the string plus cement plug bump pressure load.

Permian Resources
Multi-Well Pad Batch Drilling Procedure

Surface Casing - PR intends to Batch set all surface casing to a depth approved in the APD. Surface Holes will be batch drilled by a rig. Appropriate notifications will be made prior to spudding the well, running and cementing casing and prior to skidding to the rig to the next well on pad.

1. Drill Surface hole to Approved Depth with Rig and perform wellbore cleanup cycles. Trip out and rack back drilling BHA.
2. Run and land planned surface casing see Illustration 1-1 Below to depth approved in APD.
3. Set packoff and test to 5k psi
4. Offline Cement
5. Install wellhead with pressure gauge and nightcap. Nightcap is shown on final wellhead Stack up Illustration #2-2.
6. Skid Rig to adjacent well to drill Surface hole.
7. Surface casing test will be performed by the rig in order to allow ample time for Cement to develop 500psi compressive strength. Casing test to 0.22 psi/ft or 1500 psi whichever is greater - not to exceed 70% casing burst.

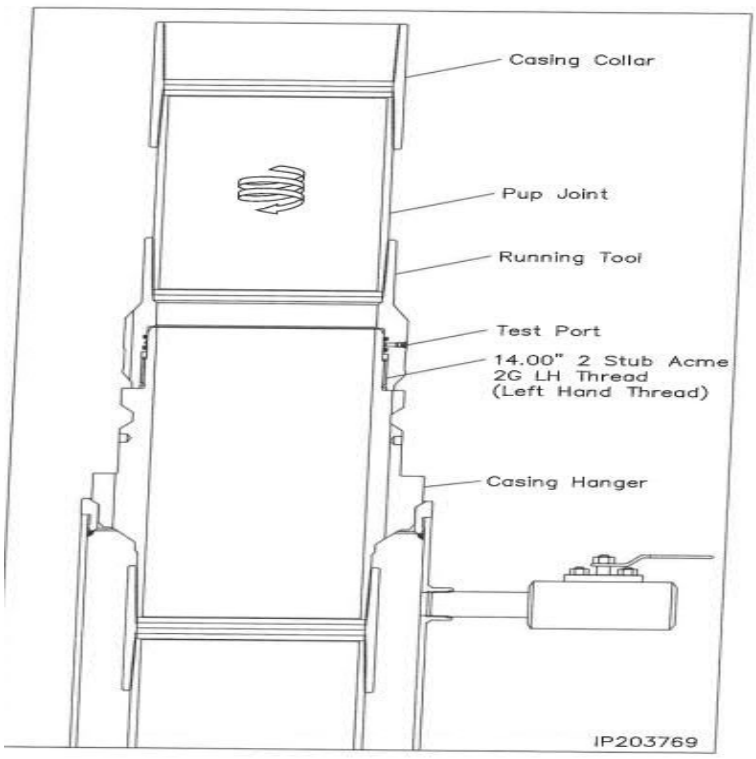


Illustration 1-1

Intermediate Casing – PR intends to Batch set all intermediate casing strings to a depth approved in the APD. Intermediate Holes will be batch drilled by the rig. Appropriate notifications will be made prior to testing BOPE, and prior to running/cementing all casing strings.

1. Rig will remove the nightcap and install and test BOPE.
2. Test Surface casing per COA WOC timing (.22 psi/ft or 1500 psi whichever is greater) - not to exceed 70% casing burst. Cement must have achieved 500psi compressive strength prior to test.
3. Install wear bushing then drill out surface casing shoe-track plus 20' and conduct FIT to minimum of the MW equivalent anticipated to control the formation pressure to the next casing point.
4. Drill Intermediate hole to approved casing point. Trip out of hole with BHA to run Casing.
5. Remove wear bushing then run and land Intermediate Casing with mandrel hanger in wellhead.
6. Cement casing to surface with floats holding.
7. Washout stack then run wash tool in wellhead and wash hanger and pack-off setting area.
8. Install pack-off and test void to 5,000 psi for 15 minutes. Nightcap shown on final wellhead stack up illustration 2-2 on page 3.
9. Test casing per COA WOC timing (.22 psi/ft or 1500 psi whichever is greater) - not to exceed 70% casing burst. Cement must have achieved 500psi compressive strength prior to test.
10. Install nightcap – skid rig to adjacent well to drill Intermediate hole.

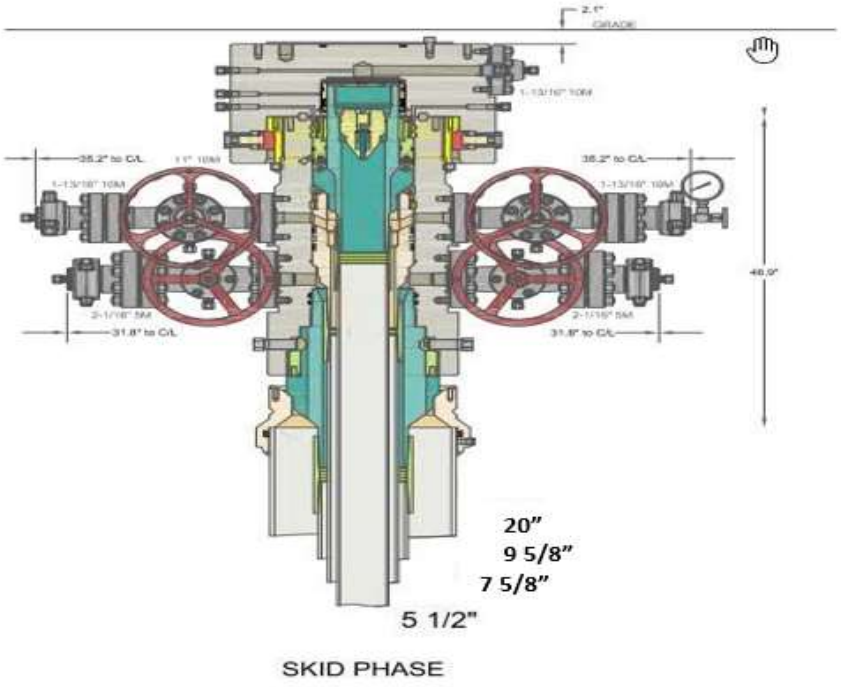


Illustration 2-2

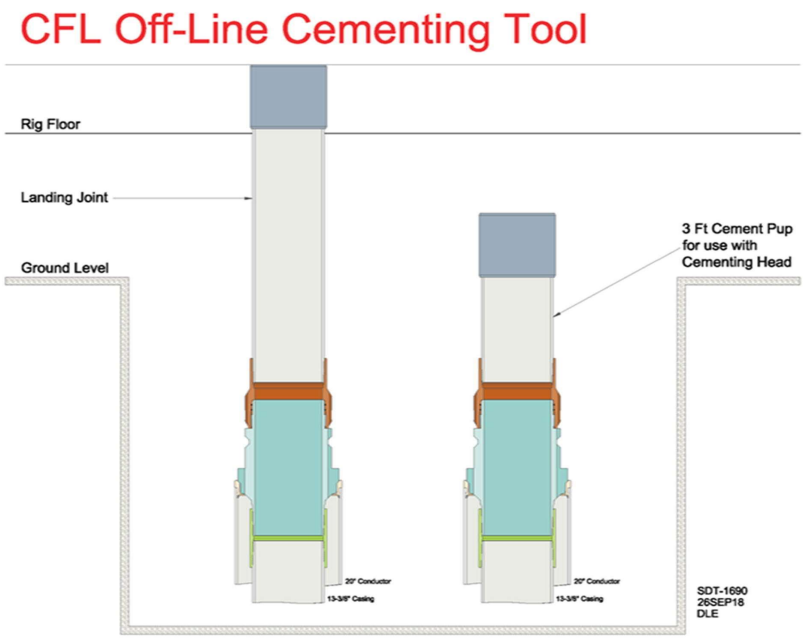
Production Casing – PR intends to Batch set all Production casings with Rig. Appropriate notifications will be made prior Testing BOPE, and prior to running/cementing all casing strings.

1. Drilling Rig will remove the nightcap and install and test BOPE.
2. Install wear bushing then drill Intermediate shoe-track plus 20' and conduct FIT to minimum MW equivalent to control the formation pressure to TD of well.
3. Drill Vertical hole to KOP – Trip out for Curve BHA.
4. Drill Curve, landing in production interval – Trip for Lateral BHA.
5. Drill Lateral / Production hole to Permitted BHL, perform cleanup cycles and trip out to run Production Casing.
6. Remove wear bushing then run Production casing to TD landing casing mandrel in wellhead.
7. Cement Production string with floats holding.
8. Run in with wash tool and wash wellhead area – install pack-off and test void to 5,000psi for 15 minutes.
9. Install BPV in Production mandrel hanger – Nipple down BOPE and install nightcap.
10. Test nightcap void to 5,000 psi for 30 minutes per illustration 2-2
11. Skid rig to adjacent well on pad to drill production hole.

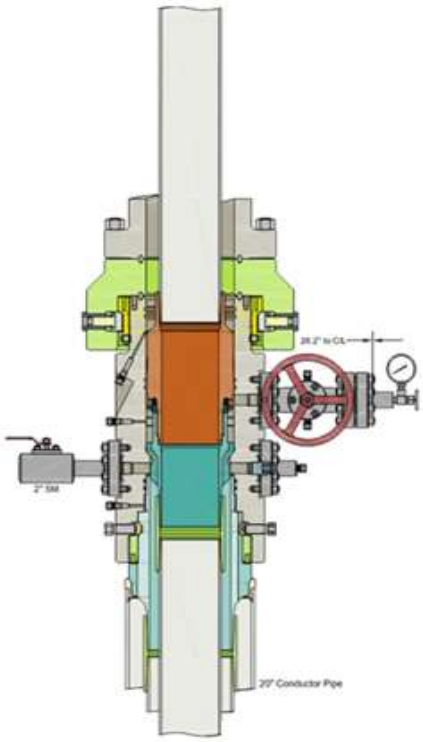
Permian Resources Offline Cementing Procedure
Surface & Intermediate Casing

1. Drill hole to Total Depth with Rig and perform wellbore cleanup cycles.
2. Run and casing to Depth.
3. Land casing with mandrel.
4. Circulate 1.5 csg capacity.
5. Flow test – Confirm well is static and floats are holding.
6. Set Annular packoff and pressure test. Test to 5k.
7. Nipple down BOP and install cap flange.
8. Skid rig to next well on pad
9. Remove cap flange (confirm well is static before removal)
    a) If well is not static use the casing outlet valves to kill well
    b) Drillers method will be used in well control event
    c) High pressure return line will be rigged up to lower casing valve and run to choke manifold to control annular pressure
    d) Kill mud will be circulated once influx is circulated out of hole
    e) Confirm well is static and remove cap flange to start offline cement operations
10. Install offline cement tool.
11. Rig up cementers.
12. Circulate bottoms up with cement truck
13. Commence planned cement job, take returns through the annulus wellhead valve
14. After plug is bumped confirm floats hold and well is static
15. Rig down cementers and equipment
16. Install night cap with pressure gauge to monitor.

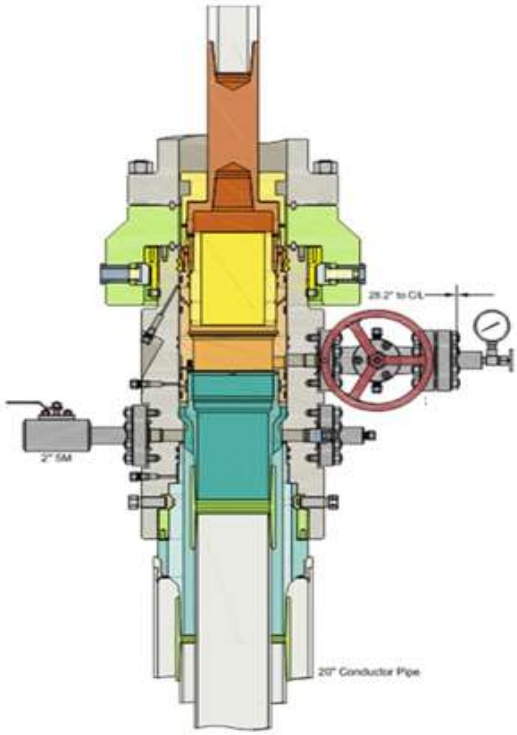
13 3/8" Surface



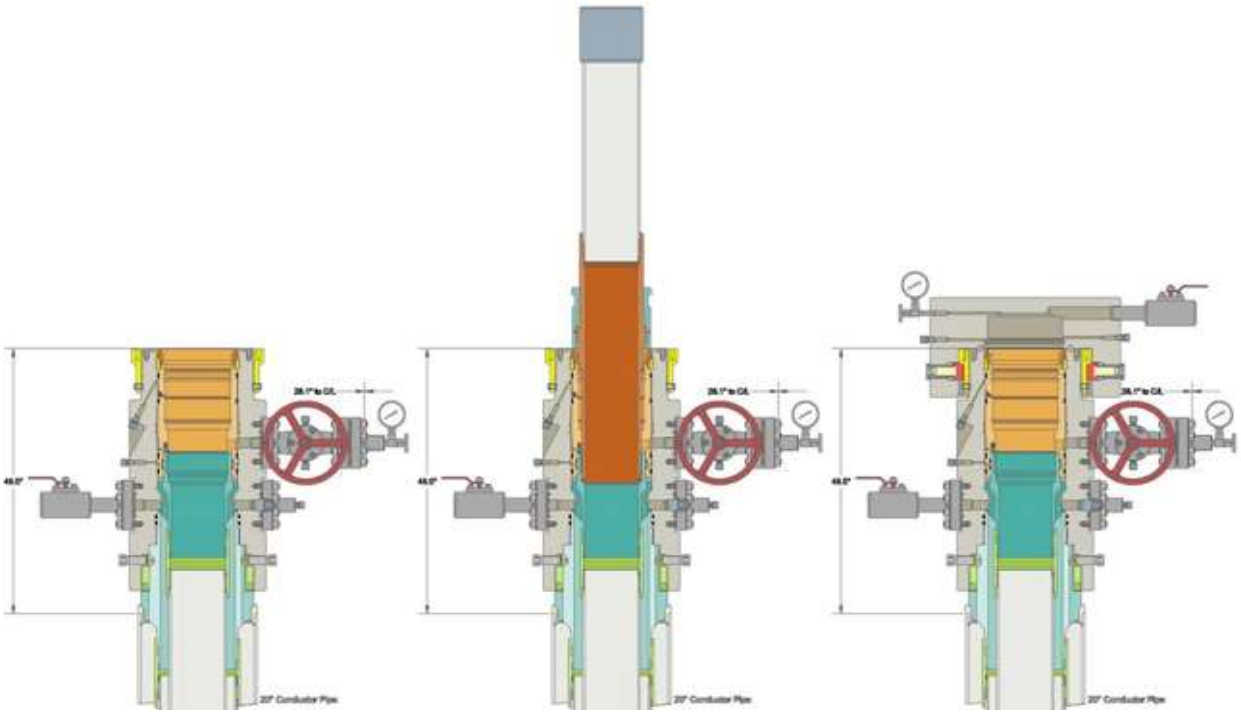
Intermediate



Run 7 5/8" Casing
Land Casing on 7 5/8" Mandrel Hanger
Cement 7 5/8" Casing
Retrieve Running Tool



Run 9 5/8" Packoff
Test Upper and Lower Seals
Engage Lockring
Retrieve Running Tool

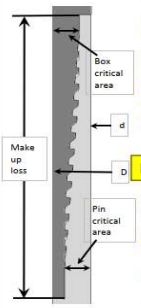




Metal One Corp.	MO-FXL	CDS#	MO-FXL 7-5/8 29.7
Metal One	*1 Pipe Body: BMP P110HSCY MinYS125ksi Min95%WT		P110HSCY
			MinYS125ksi
			Min95%WT
	Connection Data Sheet	Date	20-Sep-23

Geometry

MO-FXL



Pipe Body

Grade *	P110HSCY		P110HSCY	
Pipe OD (D)	7 5/8	in	193.68	mm
Weight	29.70	lb/ft	44.25	kg/m
Actual weight	29.04		43.26	kg/m
Wall Thickness (t)	0.375	in	9.53	mm
Pipe ID (d)	6.875	in	174.63	mm
Pipe body cross section	8.541	in^2	5,510	mm^2
Drift Dia.	6.750	in	171.45	mm

Connection

Box OD (W)	7.625	in	193.68	mm
PIN ID	6.875	in	174.63	mm
Make up Loss	4.219	in	107.16	mm
Box Critical Area	5.714	in^2	3686	mm^2
Joint load efficiency	70	%	70	%
Thread Taper	1 / 10 (1.2" per ft)			
Number of Threads	5 TPI			

Performance

Performance Properties for Pipe Body

S.M.Y.S. *1	1,068	kips	4,749	kN
M.I.Y.P. *1	11,680	psi	80.55	MPa
Collapse Strength *1	7,200	psi	49.66	MPa

Note S.M.Y.S.= Specified Minimum YIELD Strength of Pipe body
M.I.Y.P. = Minimum Internal Yield Pressure of Pipe body

* BMP P110HSCY: MinYS125ksi, Min95%WT, Collapse Strength 7,200psi
Performance Data Sheet: 7.625" 29.7lb/ft P110HSCY Rev3, dated 9/19/2023

Performance Properties for Connection

Tensile Yield load	747 kips (70% of S.M.Y.S.)
Min. Compression Yield	747 kips (70% of S.M.Y.S.)
Internal Pressure	9,340 psi (80% of M.I.Y.P.)
External Pressure	100% of Collapse Strength
Max. DLS (deg. /100ft)	30

Recommended Torque

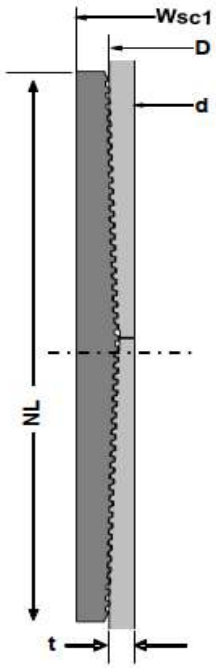
Min.	15,500	ft-lb	21,000	N-m
Opti.	17,200	ft-lb	23,300	N-m
Max.	18,900	ft-lb	25,600	N-m
Operational Max.	23,600	ft-lb	32,000	N-m

Note : Operational Max. torque can be applied for high torque application

Metal One Corp.	GEOCONN-SC Pipe Body: SeAH P110RY(SMYS110ksi) & 95%RBW *1 Coupling: P110CY (SMYS110ksi) Connection Data Sheet	Page	MAI GC 5.5 20 SeAH PRY 95%RW
Metal One			SC-CplgOD 6.050 P110CY
		Date	29-Sep-21
		Rev.	0

Geometry

GEOCONN-SC



Pipe Body

Grade *1	SeAH P110RY	-	SeAH P110RY	
SMYS	110	ksi	110	ksi
Pipe OD (D)	5.500	in	139.70	mm
Weight	20.00	lb/ft	29.80	kg/m
Wall Thickness (t)	0.361	in	9.17	mm
Pipe ID (d)	4.778	in	121.36	mm
Drift Dia.	4.653	in	118.19	mm

Connection

Coupling SMYS	110	ksi	110	ksi
Coupling OD (Wsc1)	6.050	in	153.67	mm
Coupling Length (NL)	8.350	in	212.09	mm
Make up Loss	4.125	in	104.78	mm
Pipe Critical Area	5.83	in^2	3,760	mm^2
Box Critical Area	6.00	in^2	3,874	mm^2
Thread Taper	1 / 16 (3/4" per ft)			
Number of Threads	5 TPI			

Performance

Performance Properties for Pipe Body

S.M.Y.S.	641	kips	2,852	kN
M.I.Y.P. *1	13,720	psi	94.62	MPa
Collapse Strength	11,100	psi	76.55	MPa

Note S.M.Y.S.= Specified Minimum YIELD Strength of Pipe body
M.I.Y.P. = Minimum Internal Yield Pressure of Pipe body

*1 Pipe: SeAH P110RY (SMYS110ksi), Min Wall Thickness of Pipe Body: 95% of Nom wall

Performance Properties for Connection

Min. Connection Joint Strength	100% of S.M.Y.S.
Min. Compression Yield	100% of S.M.Y.S.
Internal Pressure	100% of M.I.Y.P.
External Pressure	100% of Collapse Strength
Max. DLS (deg. /100ft)	>90

Recommended Torque

Min.	14,600	ft-lb	19,700	N-m
Opti.	16,200	ft-lb	21,900	N-m
Max.	17,800	ft-lb	24,100	N-m
Operational Max.	19,500	ft-lb	26,400	N-m

Note : Operational Max. torque can be applied for high torque application

SeAH

5.5" 20# .361" P-110 Restricted Yield (RY)

Dimensions (Nominal)

Outside Diameter	5.500	in.
Wall	0.361	in.
Inside Diameter	4.778	in.
Drift	4.653	in.
Weight, T&C	20.000	lbs/ft
Weight, PE	19.830	lbs/ft

Performance Properties (Minimum)

Minimum Yield Strength	110000	psi
Maximum Yield Strength	125000	psi
Collapse, PE	11100	psi
Internal Yield Pressure		
PE	12630	psi
LTC	12360	psi
BTC	12360	psi
Yield Strength, Pipe Body	641	1000 lbs
Joint Strength		
LTC	548	1000 lbs
BTC	667	1000 lbs

Fermata Technologies

5.500 x 20.00# P-110 RY Bushmaster® SL (95% RBW)

Pipe Body Data		
Nominal OD	5.500	Inches
Wall Thickness	0.361	Inches
Weight	20.00	lb/ft
PE Weight	19.83	lb/ft
Nominal ID	4.778	Inches
Drift	4.653	Inches
Minimum Yield Strength	110,000	PSI
Minimum Tensile Strength	125,000	PSI
RBW	95.0%	Rating

Connection Data		
Connection OD	5.900	Inches
Connection ID	4.778	Inches
Make-Up Loss	4.892	Inches
Tension Efficiency	100%	Rating
Compression Efficiency	100%	Rating
Yield Strength in Tension	641,000	LBS.
Yield Strength in Compression	641,000	LBS.
MIYP (Burst)	13,720	PSI
Collapse*	11,110	PSI
Uniaxial Bending	92	º/100 FT

Make-Up Torque		
Yield Torque	41,000	FT-LBS.
Max Operating Torque	32,800	FT-LBS.
Max Make-Up	22,000	FT-LBS.
Optimum Make-Up	20,000	FT-LBS.
Minimum Make-Up	18,000	FT-LBS.

For Technical Support please email support@fermata-tech.com or call (281) 941-5257. 9/21/2023

*Collapse value based on API collapse +10-15% depending on D/t ratio and is used for example only. The actual collapse rating is 100% of pipe body and will vary depending on the mill. Verify the collapse rating of the pipe body with the manufacturer.

NEW MEXICO

(SP) LEA
LOS VAQUEROS FED PROJECT
LOS VAQUEROS FED 524H

OWB
PWP0

Anticollision Report

13 December, 2023

Permian Resources

Anticollision Report

Company:	NEW MEXICO	**Local Co-ordinate Reference:**	Well LOS VAQUEROS FED 524H
Project:	(SP) LEA	**TVD Reference:**	KB @ 3211.0usft
Reference Site:	LOS VAQUEROS FED PROJECT	**MD Reference:**	KB @ 3211.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	LOS VAQUEROS FED 524H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OWB	**Database:**	Compass
Reference Design:	PWP0	**Offset TVD Reference:**	Offset Datum

Reference PWP0

Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	Stations	**Error Model:**	ISCWSA
Depth Range:	Unlimited	**Scan Method:**	Closest Approach 3D
Results Limited by:	Maximum centre distance of 800.0usft	**Error Surface:**	Pedal Curve
Warning Levels Evaluated at:	2.00 **Sigma**	**Casing Method:**	Not applied

Survey Tool Program **Date** 12/13/2023

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.0	23,960.0	PWP0 (OWB)	MWD	OWSG_Rev2_ MWD - Standard

Summary

Site Name Offset Well - Wellbore - Design	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
LOS VAQUEROS FED PROJECT						
LOS VAQUEROS FED 304H - OWB - PWP0	2,000.0	2,000.0	66.0	51.9	4.673	CC
LOS VAQUEROS FED 304H - OWB - PWP0	2,300.0	2,293.3	66.8	50.7	4.143	ES
LOS VAQUEROS FED 304H - OWB - PWP0	2,600.0	2,586.4	70.3	52.3	3.899	SF
LOS VAQUEROS FED 444H - OWB - PWP0	2,000.0	2,000.0	33.0	18.9	2.337	CC
LOS VAQUEROS FED 444H - OWB - PWP0	2,500.0	2,505.1	33.5	16.0	1.913	ES
LOS VAQUEROS FED 444H - OWB - PWP0	12,300.0	12,281.8	111.4	23.9	1.273	Level 3, SF
LOS VAQUEROS FED 464H - OWB - PWP0	2,000.0	2,000.0	33.0	18.9	2.337	CC
LOS VAQUEROS FED 464H - OWB - PWP0	2,900.0	2,894.0	35.2	14.6	1.711	ES
LOS VAQUEROS FED 464H - OWB - PWP0	3,000.0	2,993.8	36.2	14.8	1.693	SF

Offset Design: LOS VAQUEROS FED PROJECT - LOS VAQUEROS FED 304H - OWB - PWP0 **Offset Site Error:** 0.0 usft

Survey Program: 0-MWD **Rule Assigned:** **Offset Well Error:** 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	89.50	0.6	66.0	66.0				
100.0	100.0	100.0	100.0	0.3	0.3	89.50	0.6	66.0	66.0	65.5	0.50	131.516	
200.0	200.0	200.0	200.0	0.6	0.6	89.50	0.6	66.0	66.0	64.8	1.22	54.154	
300.0	300.0	300.0	300.0	1.0	1.0	89.50	0.6	66.0	66.0	64.1	1.94	34.097	
400.0	400.0	400.0	400.0	1.3	1.3	89.50	0.6	66.0	66.0	63.3	2.65	24.881	
500.0	500.0	500.0	500.0	1.7	1.7	89.50	0.6	66.0	66.0	62.6	3.37	19.587	
600.0	600.0	600.0	600.0	2.0	2.0	89.50	0.6	66.0	66.0	61.9	4.09	16.151	
700.0	700.0	700.0	700.0	2.4	2.4	89.50	0.6	66.0	66.0	61.2	4.80	13.740	
800.0	800.0	800.0	800.0	2.8	2.8	89.50	0.6	66.0	66.0	60.5	5.52	11.956	
900.0	900.0	900.0	900.0	3.1	3.1	89.50	0.6	66.0	66.0	59.8	6.24	10.582	
1,000.0	1,000.0	1,000.0	1,000.0	3.5	3.5	89.50	0.6	66.0	66.0	59.0	6.95	9.491	
1,100.0	1,100.0	1,100.0	1,100.0	3.8	3.8	89.50	0.6	66.0	66.0	58.3	7.67	8.604	
1,200.0	1,200.0	1,200.0	1,200.0	4.2	4.2	89.50	0.6	66.0	66.0	57.6	8.39	7.868	
1,300.0	1,300.0	1,300.0	1,300.0	4.6	4.6	89.50	0.6	66.0	66.0	56.9	9.11	7.249	
1,400.0	1,400.0	1,400.0	1,400.0	4.9	4.9	89.50	0.6	66.0	66.0	56.2	9.82	6.720	
1,500.0	1,500.0	1,500.0	1,500.0	5.3	5.3	89.50	0.6	66.0	66.0	55.5	10.54	6.263	
1,600.0	1,600.0	1,600.0	1,600.0	5.6	5.6	89.50	0.6	66.0	66.0	54.7	11.26	5.864	
1,700.0	1,700.0	1,700.0	1,700.0	6.0	6.0	89.50	0.6	66.0	66.0	54.0	11.97	5.513	

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

Permian Resources

Anticollision Report

Company:	NEW MEXICO	**Local Co-ordinate Reference:**	Well LOS VAQUEROS FED 524H
Project:	(SP) LEA	**TVD Reference:**	KB @ 3211.0usft
Reference Site:	LOS VAQUEROS FED PROJECT	**MD Reference:**	KB @ 3211.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	LOS VAQUEROS FED 524H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OWB	**Database:**	Compass
Reference Design:	PWP0	**Offset TVD Reference:**	Offset Datum

Offset Design: LOS VAQUEROS FED PROJECT - LOS VAQUEROS FED 304H - OWB - PWP0 — **Offset Site Error:** 0.0 usft

Survey Program: 0-MWD — **Rule Assigned:** — **Offset Well Error:** 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
1,800.0	1,800.0	1,800.0	1,800.0	6.3	6.3	89.50	0.6	66.0	66.0	53.3	12.69	5.201	
1,900.0	1,900.0	1,900.0	1,900.0	6.7	6.7	89.50	0.6	66.0	66.0	52.6	13.41	4.923	
2,000.0	2,000.0	2,000.0	2,000.0	7.1	7.1	89.50	0.6	66.0	66.0	51.9	14.12	4.673	CC
2,100.0	2,100.0	2,097.8	2,097.8	7.4	7.4	23.67	0.9	67.6	66.1	51.3	14.81	4.461	
2,200.0	2,199.8	2,195.6	2,195.4	7.8	7.7	24.68	1.8	72.6	66.3	50.9	15.48	4.286	
2,300.0	2,299.5	2,293.3	2,292.8	8.1	8.1	26.34	3.3	80.8	66.8	50.7	16.13	4.143	ES
2,400.0	2,398.7	2,391.0	2,389.8	8.5	8.4	28.62	5.4	92.2	67.6	50.8	16.76	4.030	
2,500.0	2,497.5	2,488.8	2,486.4	8.8	8.8	31.46	8.0	106.9	68.7	51.3	17.39	3.949	
2,600.0	2,595.6	2,586.4	2,582.3	9.2	9.2	34.80	11.3	124.8	70.3	52.3	18.02	3.899	SF
2,700.0	2,693.4	2,684.0	2,677.6	9.6	9.5	37.72	15.2	146.0	73.8	55.2	18.66	3.957	
2,800.0	2,791.3	2,782.2	2,772.6	10.0	9.9	39.35	19.6	170.2	80.4	61.1	19.33	4.162	
2,900.0	2,889.1	2,881.9	2,868.9	10.4	10.3	40.52	24.2	195.6	87.8	67.7	20.08	4.373	
3,000.0	2,986.9	2,981.6	2,965.2	10.8	10.8	41.51	28.9	221.0	95.2	74.3	20.84	4.567	
3,100.0	3,084.7	3,081.4	3,061.5	11.2	11.2	42.36	33.5	246.4	102.6	81.0	21.62	4.746	
3,200.0	3,182.5	3,181.1	3,157.8	11.6	11.7	43.09	38.1	271.8	110.0	87.6	22.40	4.911	
3,300.0	3,280.3	3,280.8	3,254.2	12.1	12.1	43.73	42.8	297.2	117.5	94.3	23.19	5.065	
3,400.0	3,378.1	3,380.5	3,350.5	12.5	12.6	44.30	47.4	322.6	124.9	100.9	23.99	5.206	
3,500.0	3,476.0	3,480.2	3,446.8	12.9	13.1	44.80	52.0	348.0	132.4	107.6	24.80	5.338	
3,600.0	3,573.8	3,579.9	3,543.1	13.4	13.6	45.24	56.7	373.3	139.9	114.2	25.62	5.460	
3,700.0	3,671.6	3,679.6	3,639.4	13.8	14.0	45.64	61.3	398.7	147.4	120.9	26.44	5.573	
3,800.0	3,769.4	3,779.4	3,735.7	14.3	14.5	46.01	65.9	424.1	154.8	127.6	27.27	5.679	
3,900.0	3,867.2	3,879.1	3,832.1	14.7	15.0	46.34	70.5	449.5	162.3	134.2	28.10	5.777	
4,000.0	3,965.0	3,978.8	3,928.4	15.2	15.5	46.64	75.2	474.9	169.8	140.9	28.94	5.869	
4,100.0	4,062.8	4,078.5	4,024.7	15.6	16.0	46.91	79.8	500.3	177.4	147.6	29.78	5.955	
4,200.0	4,160.7	4,178.2	4,121.0	16.1	16.5	47.16	84.4	525.7	184.9	154.2	30.63	6.036	
4,300.0	4,258.5	4,277.9	4,217.3	16.5	17.0	47.40	89.1	551.1	192.4	160.9	31.48	6.111	
4,400.0	4,356.3	4,377.6	4,313.6	17.0	17.5	47.61	93.7	576.5	199.9	167.6	32.33	6.182	
4,500.0	4,454.1	4,477.4	4,410.0	17.4	18.1	47.81	98.3	601.8	207.4	174.2	33.19	6.249	
4,600.0	4,551.9	4,577.1	4,506.3	17.9	18.6	48.00	103.0	627.2	214.9	180.9	34.05	6.312	
4,700.0	4,649.7	4,676.8	4,602.6	18.4	19.1	48.17	107.6	652.6	222.5	187.5	34.91	6.372	
4,800.0	4,747.5	4,776.5	4,698.9	18.8	19.6	48.33	112.2	678.0	230.0	194.2	35.78	6.428	
4,900.0	4,845.4	4,876.2	4,795.2	19.3	20.1	48.48	116.9	703.4	237.5	200.9	36.65	6.481	
5,000.0	4,943.2	4,975.9	4,891.6	19.8	20.7	48.62	121.5	728.8	245.0	207.5	37.52	6.531	
5,100.0	5,041.0	5,075.6	4,987.9	20.2	21.2	48.76	126.1	754.2	252.6	214.2	38.39	6.579	
5,200.0	5,138.8	5,175.4	5,084.2	20.7	21.7	48.88	130.8	779.6	260.1	220.8	39.26	6.624	
5,300.0	5,236.6	5,275.1	5,180.5	21.2	22.2	49.00	135.4	805.0	267.6	227.5	40.14	6.667	
5,400.0	5,334.4	5,374.8	5,276.8	21.6	22.8	49.11	140.0	830.3	275.2	234.1	41.02	6.708	
5,500.0	5,432.3	5,474.5	5,373.1	22.1	23.3	49.22	144.7	855.7	282.7	240.8	41.90	6.747	
5,600.0	5,530.1	5,574.2	5,469.5	22.6	23.8	49.32	149.3	881.1	290.2	247.5	42.78	6.784	
5,700.0	5,627.9	5,673.9	5,565.8	23.1	24.4	49.42	153.9	906.5	297.8	254.1	43.66	6.820	
5,767.4	5,693.8	5,741.2	5,630.7	23.4	24.7	49.48	157.0	923.6	302.9	258.6	44.26	6.843	
5,800.0	5,725.7	5,773.6	5,662.1	23.5	24.9	49.52	158.6	931.9	305.4	260.9	44.54	6.857	
5,900.0	5,824.1	5,873.2	5,758.2	24.0	25.4	49.35	163.2	957.2	314.8	269.5	45.37	6.940	
6,000.0	5,923.0	5,972.4	5,854.1	24.4	26.0	48.77	167.8	982.5	326.5	280.4	46.12	7.081	
6,100.0	6,022.4	6,071.2	5,949.5	24.8	26.5	47.84	172.4	1,007.7	340.6	293.8	46.79	7.279	
6,200.0	6,122.1	6,169.4	6,044.3	25.2	27.0	46.62	176.9	1,032.7	357.2	309.8	47.41	7.534	
6,300.0	6,222.0	6,266.9	6,138.6	25.5	27.5	45.19	181.5	1,057.5	376.4	328.4	47.97	7.847	
6,367.4	6,289.4	6,332.2	6,201.6	25.7	27.9	110.31	184.5	1,074.1	390.9	342.6	48.32	8.090	
6,400.0	6,322.0	6,363.7	6,232.0	25.8	28.1	109.69	186.0	1,082.1	398.2	349.7	48.48	8.214	
6,500.0	6,422.0	6,460.3	6,325.3	26.1	28.6	107.94	190.5	1,106.7	421.0	372.0	49.01	8.590	
6,600.0	6,522.0	6,556.9	6,418.6	26.4	29.1	106.37	194.9	1,131.3	444.1	394.6	49.56	8.962	
6,700.0	6,622.0	6,653.5	6,511.9	26.7	29.6	104.96	199.4	1,155.9	467.5	417.4	50.13	9.327	

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

Permian Resources

Anticollision Report

Company:	NEW MEXICO	**Local Co-ordinate Reference:**	Well LOS VAQUEROS FED 524H
Project:	(SP) LEA	**TVD Reference:**	KB @ 3211.0usft
Reference Site:	LOS VAQUEROS FED PROJECT	**MD Reference:**	KB @ 3211.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	LOS VAQUEROS FED 524H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OWB	**Database:**	Compass
Reference Design:	PWP0	**Offset TVD Reference:**	Offset Datum

Offset Design: LOS VAQUEROS FED PROJECT - LOS VAQUEROS FED 304H - OWB - PWP0 — **Offset Site Error:** 0.0 usft

Survey Program: 0-MWD — **Rule Assigned:** — **Offset Well Error:** 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
6,800.0	6,722.0	6,757.2	6,612.2	27.1	30.2	103.60	204.2	1,182.0	490.9	440.1	50.80	9.664	
6,900.0	6,822.0	6,873.4	6,725.4	27.4	30.8	102.40	208.9	1,207.6	511.6	460.0	51.61	9.913	
7,000.0	6,922.0	6,991.6	6,841.6	27.7	31.3	101.47	212.8	1,229.0	528.6	476.3	52.39	10.091	
7,100.0	7,022.0	7,111.4	6,960.2	28.0	31.8	100.80	215.8	1,245.8	542.0	488.8	53.12	10.203	
7,200.0	7,122.0	7,232.5	7,080.7	28.3	32.3	100.34	218.0	1,257.9	551.4	497.6	53.79	10.251	
7,300.0	7,222.0	7,354.5	7,202.4	28.6	32.7	100.08	219.3	1,264.9	556.9	502.5	54.40	10.237	
7,400.0	7,322.0	7,474.1	7,322.0	29.0	33.0	100.00	219.7	1,266.9	558.5	503.5	54.96	10.161	
7,500.0	7,422.0	7,574.1	7,422.0	29.3	33.3	100.00	219.7	1,266.9	558.5	502.9	55.62	10.041	
7,600.0	7,522.0	7,674.1	7,522.0	29.6	33.6	100.00	219.7	1,266.9	558.5	502.2	56.28	9.923	
7,700.0	7,622.0	7,774.1	7,622.0	29.9	33.9	100.00	219.7	1,266.9	558.5	501.6	56.94	9.808	
7,800.0	7,722.0	7,874.1	7,722.0	30.2	34.2	100.00	219.7	1,266.9	558.5	500.9	57.60	9.695	
7,900.0	7,822.0	7,974.1	7,822.0	30.6	34.4	100.00	219.7	1,266.9	558.5	500.2	58.27	9.585	
8,000.0	7,922.0	8,074.1	7,922.0	30.9	34.7	100.00	219.7	1,266.9	558.5	499.6	58.93	9.477	
8,100.0	8,022.0	8,174.1	8,022.0	31.2	35.0	100.00	219.7	1,266.9	558.5	498.9	59.60	9.371	
8,200.0	8,122.0	8,274.1	8,122.0	31.5	35.3	100.00	219.7	1,266.9	558.5	498.2	60.26	9.268	
8,300.0	8,222.0	8,374.1	8,222.0	31.9	35.6	100.00	219.7	1,266.9	558.5	497.6	60.93	9.166	
8,400.0	8,322.0	8,474.1	8,322.0	32.2	35.9	100.00	219.7	1,266.9	558.5	496.9	61.60	9.067	
8,500.0	8,422.0	8,574.1	8,422.0	32.5	36.2	100.00	219.7	1,266.9	558.5	496.2	62.27	8.969	
8,600.0	8,522.0	8,674.1	8,522.0	32.9	36.5	100.00	219.7	1,266.9	558.5	495.6	62.94	8.873	
8,700.0	8,622.0	8,774.1	8,622.0	33.2	36.8	100.00	219.7	1,266.9	558.5	494.9	63.61	8.780	
8,800.0	8,722.0	8,874.1	8,722.0	33.5	37.1	100.00	219.7	1,266.9	558.5	494.2	64.28	8.688	
8,900.0	8,822.0	8,974.1	8,822.0	33.8	37.4	100.00	219.7	1,266.9	558.5	493.5	64.96	8.598	
9,000.0	8,922.0	9,074.1	8,922.0	34.2	37.7	100.00	219.7	1,266.9	558.5	492.9	65.63	8.509	
9,100.0	9,022.0	9,174.1	9,022.0	34.5	38.0	100.00	219.7	1,266.9	558.5	492.2	66.31	8.423	
9,200.0	9,122.0	9,274.1	9,122.0	34.8	38.3	100.00	219.7	1,266.9	558.5	491.5	66.99	8.337	
9,300.0	9,222.0	9,374.1	9,222.0	35.2	38.6	100.00	219.7	1,266.9	558.5	490.8	67.66	8.254	
9,400.0	9,322.0	9,474.1	9,322.0	35.5	38.9	100.00	219.7	1,266.9	558.5	490.2	68.34	8.172	
9,500.0	9,422.0	9,574.1	9,422.0	35.8	39.2	100.00	219.7	1,266.9	558.5	489.5	69.02	8.092	
9,600.0	9,522.0	9,674.1	9,522.0	36.2	39.5	100.00	219.7	1,266.9	558.5	488.8	69.70	8.013	
9,700.0	9,622.0	9,774.1	9,622.0	36.5	39.8	100.00	219.7	1,266.9	558.5	488.1	70.38	7.935	
9,800.0	9,722.0	9,874.1	9,722.0	36.8	40.1	100.00	219.7	1,266.9	558.5	487.4	71.06	7.859	
9,900.0	9,822.0	9,974.1	9,822.0	37.2	40.4	100.00	219.7	1,266.9	558.5	486.7	71.74	7.785	
10,000.0	9,922.0	10,074.1	9,922.0	37.5	40.7	100.00	219.7	1,266.9	558.5	486.1	72.43	7.711	
10,100.0	10,022.0	10,174.1	10,022.0	37.8	41.0	100.00	219.7	1,266.9	558.5	485.4	73.11	7.639	
10,200.0	10,122.0	10,274.1	10,122.0	38.2	41.3	100.00	219.7	1,266.9	558.5	484.7	73.79	7.568	
10,300.0	10,222.0	10,374.1	10,222.0	38.5	41.6	100.00	219.7	1,266.9	558.5	484.0	74.48	7.499	
10,400.0	10,322.0	10,474.1	10,322.0	38.9	41.9	100.00	219.7	1,266.9	558.5	483.3	75.16	7.431	
10,500.0	10,422.0	10,574.1	10,422.0	39.2	42.2	100.00	219.7	1,266.9	558.5	482.6	75.85	7.363	
10,600.0	10,522.0	10,674.1	10,522.0	39.5	42.6	100.00	219.7	1,266.9	558.5	482.0	76.53	7.297	
10,700.0	10,622.0	10,774.1	10,622.0	39.9	42.9	100.00	219.7	1,266.9	558.5	481.3	77.22	7.232	
10,800.0	10,722.0	10,874.1	10,722.0	40.2	43.2	100.00	219.7	1,266.9	558.5	480.6	77.91	7.169	
10,900.0	10,822.0	10,974.1	10,822.0	40.5	43.5	100.00	219.7	1,266.9	558.5	479.9	78.60	7.106	
11,000.0	10,922.0	11,074.1	10,922.0	40.9	43.8	100.00	219.7	1,266.9	558.5	479.2	79.28	7.044	
11,100.0	11,022.0	11,174.1	11,022.0	41.2	44.1	100.00	219.7	1,266.9	558.5	478.5	79.97	6.984	
11,200.0	11,122.0	11,274.1	11,122.0	41.6	44.5	100.00	219.7	1,266.9	558.5	477.8	80.66	6.924	
11,300.0	11,222.0	11,374.1	11,222.0	41.9	44.8	100.00	219.7	1,266.9	558.5	477.1	81.35	6.865	
11,400.0	11,322.0	11,474.1	11,322.0	42.2	45.1	100.00	219.7	1,266.9	558.5	476.4	82.04	6.807	
11,500.0	11,422.0	11,574.1	11,422.0	42.6	45.4	100.00	219.7	1,266.9	558.5	475.8	82.73	6.751	
11,600.0	11,522.0	11,674.1	11,522.0	42.9	45.7	100.00	219.7	1,266.9	558.5	475.1	83.42	6.695	
11,700.0	11,622.0	11,759.8	11,607.6	43.3	46.0	100.44	215.4	1,267.0	559.5	475.3	84.18	6.646	
11,800.0	11,722.0	11,838.2	11,684.0	43.6	46.2	102.12	198.6	1,267.1	564.0	479.1	84.95	6.640	
11,900.0	11,822.0	11,909.3	11,750.2	44.0	46.4	104.67	172.6	1,267.4	573.5	487.9	85.60	6.700	

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

Permian Resources

Anticollision Report

Company:	NEW MEXICO	**Local Co-ordinate Reference:**	Well LOS VAQUEROS FED 524H
Project:	(SP) LEA	**TVD Reference:**	KB @ 3211.0usft
Reference Site:	LOS VAQUEROS FED PROJECT	**MD Reference:**	KB @ 3211.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	LOS VAQUEROS FED 524H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OWB	**Database:**	Compass
Reference Design:	PWP0	**Offset TVD Reference:**	Offset Datum

Offset Design: LOS VAQUEROS FED PROJECT - LOS VAQUEROS FED 304H - OWB - PWP0 — **Offset Site Error:** 0.0 usft

Survey Program: 0-MWD — **Rule Assigned:** — **Offset Well Error:** 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
12,000.0	11,922.0	11,975.0	11,807.2	44.3	46.5	107.76	140.2	1,267.7	589.7	503.7	85.98	6.858	
12,100.0	12,022.0	12,025.0	11,847.4	44.6	46.6	110.51	110.5	1,268.0	613.8	528.0	85.74	7.158	
12,200.0	12,122.0	12,075.0	11,884.2	45.0	46.6	113.52	76.7	1,268.4	646.7	561.6	85.08	7.601	
12,300.0	12,222.0	12,107.9	11,906.4	45.3	46.7	115.59	52.5	1,268.6	688.3	604.7	83.66	8.228	
12,400.0	12,322.0	12,139.9	11,926.4	45.7	46.7	117.65	27.5	1,268.8	738.1	656.1	81.99	9.002	
12,500.0	12,422.0	12,167.0	11,942.0	46.0	46.7	119.42	5.3	1,269.1	795.2	715.0	80.15	9.921	

Permian Resources

Anticollision Report

Company:	NEW MEXICO	**Local Co-ordinate Reference:**	Well LOS VAQUEROS FED 524H
Project:	(SP) LEA	**TVD Reference:**	KB @ 3211.0usft
Reference Site:	LOS VAQUEROS FED PROJECT	**MD Reference:**	KB @ 3211.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	LOS VAQUEROS FED 524H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OWB	**Database:**	Compass
Reference Design:	PWP0	**Offset TVD Reference:**	Offset Datum

Offset Design: LOS VAQUEROS FED PROJECT - LOS VAQUEROS FED 444H - OWB - PWP0 — **Offset Site Error:** 0.0 usft

Survey Program: 0-MWD — **Rule Assigned:** — **Offset Well Error:** 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	-90.50	-0.3	-33.0	33.0				
100.0	100.0	100.0	100.0	0.3	0.3	-90.50	-0.3	-33.0	33.0	32.5	0.50	65.758	
200.0	200.0	200.0	200.0	0.6	0.6	-90.50	-0.3	-33.0	33.0	31.8	1.22	27.077	
300.0	300.0	300.0	300.0	1.0	1.0	-90.50	-0.3	-33.0	33.0	31.1	1.94	17.048	
400.0	400.0	400.0	400.0	1.3	1.3	-90.50	-0.3	-33.0	33.0	30.3	2.65	12.441	
500.0	500.0	500.0	500.0	1.7	1.7	-90.50	-0.3	-33.0	33.0	29.6	3.37	9.794	
600.0	600.0	600.0	600.0	2.0	2.0	-90.50	-0.3	-33.0	33.0	28.9	4.09	8.076	
700.0	700.0	700.0	700.0	2.4	2.4	-90.50	-0.3	-33.0	33.0	28.2	4.80	6.870	
800.0	800.0	800.0	800.0	2.8	2.8	-90.50	-0.3	-33.0	33.0	27.5	5.52	5.978	
900.0	900.0	900.0	900.0	3.1	3.1	-90.50	-0.3	-33.0	33.0	26.8	6.24	5.291	
1,000.0	1,000.0	1,000.0	1,000.0	3.5	3.5	-90.50	-0.3	-33.0	33.0	26.0	6.95	4.745	
1,100.0	1,100.0	1,100.0	1,100.0	3.8	3.8	-90.50	-0.3	-33.0	33.0	25.3	7.67	4.302	
1,200.0	1,200.0	1,200.0	1,200.0	4.2	4.2	-90.50	-0.3	-33.0	33.0	24.6	8.39	3.934	
1,300.0	1,300.0	1,300.0	1,300.0	4.6	4.6	-90.50	-0.3	-33.0	33.0	23.9	9.11	3.624	
1,400.0	1,400.0	1,400.0	1,400.0	4.9	4.9	-90.50	-0.3	-33.0	33.0	23.2	9.82	3.360	
1,500.0	1,500.0	1,500.0	1,500.0	5.3	5.3	-90.50	-0.3	-33.0	33.0	22.5	10.54	3.131	
1,600.0	1,600.0	1,600.0	1,600.0	5.6	5.6	-90.50	-0.3	-33.0	33.0	21.7	11.26	2.932	
1,700.0	1,700.0	1,700.0	1,700.0	6.0	6.0	-90.50	-0.3	-33.0	33.0	21.0	11.97	2.756	
1,800.0	1,800.0	1,800.0	1,800.0	6.3	6.3	-90.50	-0.3	-33.0	33.0	20.3	12.69	2.601	
1,900.0	1,900.0	1,900.0	1,900.0	6.7	6.7	-90.50	-0.3	-33.0	33.0	19.6	13.41	2.462	
2,000.0	2,000.0	2,000.0	2,000.0	7.1	7.1	-90.50	-0.3	-33.0	33.0	18.9	14.12	2.337 CC	
2,100.0	2,100.0	2,101.0	2,101.0	7.4	7.4	-156.53	0.5	-31.4	33.0	18.2	14.83	2.227	
2,200.0	2,199.8	2,202.1	2,201.9	7.8	7.8	-156.12	2.9	-26.6	33.1	17.6	15.51	2.132	
2,300.0	2,299.5	2,303.1	2,302.6	8.1	8.1	-155.44	6.8	-18.6	33.1	17.0	16.18	2.049	
2,400.0	2,398.7	2,404.2	2,402.8	8.5	8.5	-154.50	12.3	-7.5	33.3	16.4	16.84	1.976	
2,500.0	2,497.5	2,505.1	2,502.5	8.8	8.9	-153.31	19.4	6.8	33.5	16.0	17.49	1.913 ES	
2,600.0	2,595.6	2,605.1	2,601.0	9.2	9.2	-153.46	27.1	22.4	35.4	17.2	18.20	1.944	
2,700.0	2,693.4	2,705.1	2,699.4	9.6	9.6	-154.76	34.8	37.9	38.9	20.0	18.91	2.055	
2,800.0	2,791.3	2,805.0	2,797.8	10.0	10.0	-155.85	42.6	53.5	42.4	22.7	19.62	2.159	
2,900.0	2,889.1	2,904.9	2,896.2	10.4	10.4	-156.77	50.3	69.0	45.9	25.5	20.34	2.256	
3,000.0	2,986.9	3,004.9	2,994.7	10.8	10.8	-157.56	58.0	84.6	49.4	28.3	21.07	2.346	
3,100.0	3,084.7	3,104.8	3,093.1	11.2	11.2	-158.24	65.7	100.1	52.9	31.2	21.79	2.429	
3,200.0	3,182.5	3,204.7	3,191.5	11.6	11.6	-158.84	73.4	115.6	56.5	34.0	22.53	2.508	
3,300.0	3,280.3	3,304.7	3,289.9	12.1	12.0	-159.36	81.1	131.2	60.0	36.8	23.26	2.581	
3,400.0	3,378.1	3,404.6	3,388.3	12.5	12.4	-159.83	88.8	146.7	63.6	39.6	24.00	2.650	
3,500.0	3,476.0	3,504.5	3,486.8	12.9	12.8	-160.25	96.5	162.3	67.2	42.4	24.74	2.715	
3,600.0	3,573.8	3,604.5	3,585.2	13.4	13.2	-160.63	104.2	177.8	70.7	45.2	25.48	2.775	
3,700.0	3,671.6	3,704.4	3,683.6	13.8	13.6	-160.97	111.9	193.4	74.3	48.1	26.22	2.833	
3,800.0	3,769.4	3,804.4	3,782.0	14.3	14.1	-161.28	119.6	208.9	77.8	50.9	26.97	2.887	
3,900.0	3,867.2	3,904.3	3,880.4	14.7	14.5	-161.56	127.3	224.5	81.4	53.7	27.71	2.938	
4,000.0	3,965.0	4,004.2	3,978.8	15.2	14.9	-161.82	135.0	240.0	85.0	56.5	28.46	2.986	
4,100.0	4,062.8	4,104.2	4,077.3	15.6	15.3	-162.05	142.7	255.6	88.5	59.3	29.21	3.031	
4,200.0	4,160.7	4,204.1	4,175.7	16.1	15.8	-162.27	150.4	271.1	92.1	62.2	29.96	3.075	
4,300.0	4,258.5	4,304.0	4,274.1	16.5	16.2	-162.48	158.1	286.7	95.7	65.0	30.71	3.116	
4,400.0	4,356.3	4,404.0	4,372.5	17.0	16.6	-162.66	165.8	302.2	99.3	67.8	31.47	3.155	
4,500.0	4,454.1	4,503.9	4,470.9	17.4	17.0	-162.84	173.5	317.8	102.8	70.6	32.22	3.192	
4,600.0	4,551.9	4,603.8	4,569.3	17.9	17.5	-163.00	181.2	333.3	106.4	73.4	32.98	3.227	
4,700.0	4,649.7	4,703.8	4,667.8	18.4	17.9	-163.15	188.9	348.9	110.0	76.3	33.73	3.261	
4,800.0	4,747.5	4,803.7	4,766.2	18.8	18.3	-163.30	196.7	364.4	113.6	79.1	34.49	3.293	
4,900.0	4,845.4	4,903.6	4,864.6	19.3	18.8	-163.43	204.4	380.0	117.2	81.9	35.25	3.324	
5,000.0	4,943.2	5,003.6	4,963.0	19.8	19.2	-163.56	212.1	395.5	120.7	84.7	36.01	3.353	
5,100.0	5,041.0	5,103.5	5,061.4	20.2	19.6	-163.68	219.8	411.1	124.3	87.5	36.77	3.381	

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

Permian Resources

Anticollision Report

Company:	NEW MEXICO	**Local Co-ordinate Reference:**	Well LOS VAQUEROS FED 524H
Project:	(SP) LEA	**TVD Reference:**	KB @ 3211.0usft
Reference Site:	LOS VAQUEROS FED PROJECT	**MD Reference:**	KB @ 3211.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	LOS VAQUEROS FED 524H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OWB	**Database:**	Compass
Reference Design:	PWP0	**Offset TVD Reference:**	Offset Datum

Offset Design: LOS VAQUEROS FED PROJECT - LOS VAQUEROS FED 444H - OWB - PWP0 — **Offset Site Error:** 0.0 usft

Survey Program: 0-MWD — **Rule Assigned:** — **Offset Well Error:** 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
5,200.0	5,138.8	5,203.5	5,159.8	20.7	20.1	-163.79	227.5	426.6	127.9	90.4	37.52	3.408	
5,300.0	5,236.6	5,303.4	5,258.3	21.2	20.5	-163.90	235.2	442.2	131.5	93.2	38.29	3.434	
5,400.0	5,334.4	5,403.3	5,356.7	21.6	21.0	-164.00	242.9	457.7	135.1	96.0	39.05	3.459	
5,500.0	5,432.3	5,503.3	5,455.1	22.1	21.4	-164.09	250.6	473.3	138.6	98.8	39.81	3.483	
5,600.0	5,530.1	5,603.2	5,553.5	22.6	21.8	-164.18	258.3	488.8	142.2	101.7	40.57	3.506	
5,700.0	5,627.9	5,703.1	5,651.9	23.1	22.3	-164.27	266.0	504.4	145.8	104.5	41.33	3.528	
5,767.4	5,693.8	5,770.5	5,718.3	23.4	22.6	-164.32	271.2	514.9	148.2	106.4	41.85	3.542	
5,800.0	5,725.7	5,803.1	5,750.4	23.5	22.7	-164.34	273.7	519.9	149.2	107.1	42.09	3.545	
5,900.0	5,824.1	5,903.1	5,848.8	24.0	23.1	-164.12	281.4	535.5	150.0	107.2	42.86	3.500	
6,000.0	5,923.0	6,003.0	5,947.3	24.4	23.6	-163.52	289.1	551.0	147.5	103.8	43.64	3.379	
6,100.0	6,022.4	6,102.4	6,045.1	24.8	24.0	-162.46	296.8	566.5	141.6	97.2	44.44	3.187	
6,200.0	6,122.1	6,200.0	6,141.5	25.2	24.4	-161.11	303.6	580.2	134.1	88.8	45.25	2.963	
6,300.0	6,222.0	6,293.8	6,234.6	25.5	24.8	-159.69	308.7	590.6	126.4	80.4	46.04	2.746	
6,367.4	6,289.4	6,358.4	6,298.9	25.7	25.1	-92.47	311.5	596.2	121.2	74.6	46.55	2.604	
6,400.0	6,322.0	6,389.7	6,330.1	25.8	25.2	-91.98	312.6	598.4	118.8	72.0	46.79	2.540	
6,500.0	6,422.0	6,486.0	6,426.2	26.1	25.5	-90.83	315.1	603.4	113.6	66.1	47.47	2.394	
6,600.0	6,522.0	6,582.5	6,522.7	26.4	25.9	-90.32	316.1	605.4	111.5	63.4	48.07	2.319	
6,642.0	6,564.0	6,623.8	6,564.0	26.6	26.0	-90.30	316.1	605.5	111.4	63.1	48.33	2.305	
6,700.0	6,622.0	6,681.8	6,622.0	26.7	26.2	-90.30	316.1	605.5	111.4	62.7	48.72	2.287	
6,800.0	6,722.0	6,781.8	6,722.0	27.1	26.5	-90.30	316.1	605.5	111.4	62.0	49.40	2.255	
6,900.0	6,822.0	6,881.8	6,822.0	27.4	26.8	-90.30	316.1	605.5	111.4	61.3	50.07	2.225	
7,000.0	6,922.0	6,981.8	6,922.0	27.7	27.1	-90.30	316.1	605.5	111.4	60.7	50.75	2.195	
7,100.0	7,022.0	7,081.8	7,022.0	28.0	27.5	-90.30	316.1	605.5	111.4	60.0	51.43	2.166	
7,200.0	7,122.0	7,181.8	7,122.0	28.3	27.8	-90.30	316.1	605.5	111.4	59.3	52.11	2.138	
7,300.0	7,222.0	7,281.8	7,222.0	28.6	28.1	-90.30	316.1	605.5	111.4	58.6	52.79	2.110	
7,400.0	7,322.0	7,381.8	7,322.0	29.0	28.4	-90.30	316.1	605.5	111.4	57.9	53.47	2.084	
7,500.0	7,422.0	7,481.8	7,422.0	29.3	28.8	-90.30	316.1	605.5	111.4	57.3	54.15	2.057	
7,600.0	7,522.0	7,581.8	7,522.0	29.6	29.1	-90.30	316.1	605.5	111.4	56.6	54.84	2.032	
7,700.0	7,622.0	7,681.8	7,622.0	29.9	29.4	-90.30	316.1	605.5	111.4	55.9	55.52	2.007	
7,800.0	7,722.0	7,781.8	7,722.0	30.2	29.7	-90.30	316.1	605.5	111.4	55.2	56.21	1.982	
7,900.0	7,822.0	7,881.8	7,822.0	30.6	30.1	-90.30	316.1	605.5	111.4	54.5	56.89	1.958	
8,000.0	7,922.0	7,981.8	7,922.0	30.9	30.4	-90.30	316.1	605.5	111.4	53.8	57.58	1.935	
8,100.0	8,022.0	8,081.8	8,022.0	31.2	30.7	-90.30	316.1	605.5	111.4	53.1	58.27	1.912	
8,200.0	8,122.0	8,181.8	8,122.0	31.5	31.1	-90.30	316.1	605.5	111.4	52.5	58.95	1.890	
8,300.0	8,222.0	8,281.8	8,222.0	31.9	31.4	-90.30	316.1	605.5	111.4	51.8	59.64	1.868	
8,400.0	8,322.0	8,381.8	8,322.0	32.2	31.7	-90.30	316.1	605.5	111.4	51.1	60.33	1.847	
8,500.0	8,422.0	8,481.8	8,422.0	32.5	32.0	-90.30	316.1	605.5	111.4	50.4	61.02	1.826	
8,600.0	8,522.0	8,581.8	8,522.0	32.9	32.4	-90.30	316.1	605.5	111.4	49.7	61.71	1.805	
8,700.0	8,622.0	8,681.8	8,622.0	33.2	32.7	-90.30	316.1	605.5	111.4	49.0	62.40	1.785	
8,800.0	8,722.0	8,781.8	8,722.0	33.5	33.0	-90.30	316.1	605.5	111.4	48.3	63.10	1.766	
8,900.0	8,822.0	8,881.8	8,822.0	33.8	33.4	-90.30	316.1	605.5	111.4	47.6	63.79	1.747	
9,000.0	8,922.0	8,981.8	8,922.0	34.2	33.7	-90.30	316.1	605.5	111.4	46.9	64.48	1.728	
9,100.0	9,022.0	9,081.8	9,022.0	34.5	34.1	-90.30	316.1	605.5	111.4	46.2	65.17	1.709	
9,200.0	9,122.0	9,181.8	9,122.0	34.8	34.4	-90.30	316.1	605.5	111.4	45.5	65.87	1.691	
9,300.0	9,222.0	9,281.8	9,222.0	35.2	34.7	-90.30	316.1	605.5	111.4	44.8	66.56	1.674	
9,400.0	9,322.0	9,381.8	9,322.0	35.5	35.1	-90.30	316.1	605.5	111.4	44.2	67.26	1.657	
9,500.0	9,422.0	9,481.8	9,422.0	35.8	35.4	-90.30	316.1	605.5	111.4	43.5	67.95	1.640	
9,600.0	9,522.0	9,581.8	9,522.0	36.2	35.7	-90.30	316.1	605.5	111.4	42.8	68.65	1.623	
9,700.0	9,622.0	9,681.8	9,622.0	36.5	36.1	-90.30	316.1	605.5	111.4	42.1	69.34	1.607	
9,800.0	9,722.0	9,781.8	9,722.0	36.8	36.4	-90.30	316.1	605.5	111.4	41.4	70.04	1.591	
9,900.0	9,822.0	9,881.8	9,822.0	37.2	36.8	-90.30	316.1	605.5	111.4	40.7	70.74	1.575	
10,000.0	9,922.0	9,981.8	9,922.0	37.5	37.1	-90.30	316.1	605.5	111.4	40.0	71.44	1.560	

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

Permian Resources

Anticollision Report

Company:	NEW MEXICO	**Local Co-ordinate Reference:**	Well LOS VAQUEROS FED 524H
Project:	(SP) LEA	**TVD Reference:**	KB @ 3211.0usft
Reference Site:	LOS VAQUEROS FED PROJECT	**MD Reference:**	KB @ 3211.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	LOS VAQUEROS FED 524H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OWB	**Database:**	Compass
Reference Design:	PWP0	**Offset TVD Reference:**	Offset Datum

Offset Design: LOS VAQUEROS FED PROJECT - LOS VAQUEROS FED 444H - OWB - PWP0 — **Offset Site Error:** 0.0 usft

Survey Program: 0-MWD — **Rule Assigned:** — **Offset Well Error:** 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
10,100.0	10,022.0	10,081.8	10,022.0	37.8	37.4	-90.30	316.1	605.5	111.4	39.3	72.13	1.545	
10,200.0	10,122.0	10,181.8	10,122.0	38.2	37.8	-90.30	316.1	605.5	111.4	38.6	72.83	1.530	
10,300.0	10,222.0	10,281.8	10,222.0	38.5	38.1	-90.30	316.1	605.5	111.4	37.9	73.53	1.515	
10,400.0	10,322.0	10,381.8	10,322.0	38.9	38.5	-90.30	316.1	605.5	111.4	37.2	74.23	1.501	
10,500.0	10,422.0	10,481.8	10,422.0	39.2	38.8	-90.30	316.1	605.5	111.4	36.5	74.93	1.487	Level 3
10,600.0	10,522.0	10,581.8	10,522.0	39.5	39.1	-90.30	316.1	605.5	111.4	35.8	75.63	1.473	Level 3
10,700.0	10,622.0	10,681.8	10,622.0	39.9	39.5	-90.30	316.1	605.5	111.4	35.1	76.33	1.460	Level 3
10,800.0	10,722.0	10,781.8	10,722.0	40.2	39.8	-90.30	316.1	605.5	111.4	34.4	77.03	1.446	Level 3
10,900.0	10,822.0	10,881.8	10,822.0	40.5	40.2	-90.30	316.1	605.5	111.4	33.7	77.73	1.433	Level 3
11,000.0	10,922.0	10,981.8	10,922.0	40.9	40.5	-90.30	316.1	605.5	111.4	33.0	78.43	1.421	Level 3
11,100.0	11,022.0	11,081.8	11,022.0	41.2	40.8	-90.30	316.1	605.5	111.4	32.3	79.13	1.408	Level 3
11,200.0	11,122.0	11,181.8	11,122.0	41.6	41.2	-90.30	316.1	605.5	111.4	31.6	79.83	1.396	Level 3
11,300.0	11,222.0	11,281.8	11,222.0	41.9	41.5	-90.30	316.1	605.5	111.4	30.9	80.53	1.383	Level 3
11,400.0	11,322.0	11,381.8	11,322.0	42.2	41.9	-90.30	316.1	605.5	111.4	30.2	81.23	1.371	Level 3
11,500.0	11,422.0	11,481.8	11,422.0	42.6	42.2	-90.30	316.1	605.5	111.4	29.5	81.94	1.360	Level 3
11,600.0	11,522.0	11,581.8	11,522.0	42.9	42.6	-90.30	316.1	605.5	111.4	28.8	82.64	1.348	Level 3
11,700.0	11,622.0	11,681.8	11,622.0	43.3	42.9	-90.30	316.1	605.5	111.4	28.1	83.34	1.337	Level 3
11,800.0	11,722.0	11,781.8	11,722.0	43.6	43.3	-90.30	316.1	605.5	111.4	27.4	84.04	1.326	Level 3
11,900.0	11,822.0	11,881.8	11,822.0	44.0	43.6	-90.30	316.1	605.5	111.4	26.7	84.75	1.315	Level 3
12,000.0	11,922.0	11,981.8	11,922.0	44.3	43.9	-90.30	316.1	605.5	111.4	26.0	85.45	1.304	Level 3
12,100.0	12,022.0	12,081.8	12,022.0	44.6	44.3	-90.30	316.1	605.5	111.4	25.3	86.15	1.293	Level 3
12,200.0	12,122.0	12,181.8	12,122.0	45.0	44.6	-90.30	316.1	605.5	111.4	24.6	86.86	1.283	Level 3
12,293.8	12,215.9	12,275.7	12,215.9	45.3	45.0	-90.57	315.6	605.5	111.4	23.9	87.50	1.273	Level 3
12,300.0	12,222.0	12,281.8	12,222.0	45.3	45.0	-90.74	315.3	605.5	111.4	23.9	87.54	1.273	Level 3, SF
12,400.0	12,322.0	12,379.0	12,317.7	45.7	45.3	-98.71	299.7	605.7	112.6	24.9	87.76	1.283	Level 3
12,500.0	12,422.0	12,466.7	12,399.8	46.0	45.5	-113.17	269.2	606.0	122.7	35.9	86.81	1.413	Level 3
12,600.0	12,522.0	12,541.3	12,464.4	46.4	45.6	-127.51	231.9	606.4	150.8	67.1	83.71	1.802	
12,660.5	12,582.5	12,580.0	12,495.3	46.6	45.7	-134.41	208.6	606.6	177.3	96.2	81.15	2.185	
12,675.0	12,597.0	12,588.7	12,502.0	46.6	45.7	44.05	203.1	606.6	184.5	104.0	80.51	2.292	
12,700.0	12,622.0	12,603.6	12,513.2	46.7	45.7	40.75	193.3	606.7	197.0	117.6	79.42	2.480	
12,725.0	12,646.8	12,618.4	12,524.0	46.8	45.7	37.84	183.2	606.8	209.5	131.1	78.34	2.674	
12,750.0	12,671.5	12,633.1	12,534.5	46.8	45.7	35.26	172.9	607.0	221.9	144.6	77.27	2.872	
12,775.0	12,695.9	12,650.0	12,546.1	46.9	45.8	32.79	160.6	607.1	234.2	157.6	76.52	3.060	
12,800.0	12,720.1	12,662.2	12,554.2	47.0	45.8	30.98	151.5	607.2	246.2	171.0	75.15	3.276	
12,825.0	12,743.8	12,675.0	12,562.5	47.0	45.8	29.29	141.7	607.3	258.0	184.1	73.91	3.490	
12,850.0	12,767.1	12,691.0	12,572.4	47.1	45.8	27.61	129.2	607.4	269.4	196.3	73.09	3.686	
12,875.0	12,789.9	12,705.3	12,580.9	47.1	45.8	26.20	117.7	607.5	280.6	208.5	72.09	3.892	
12,900.0	12,812.1	12,719.5	12,589.1	47.2	45.8	24.95	106.0	607.6	291.3	220.2	71.10	4.097	
12,925.0	12,833.7	12,733.7	12,596.9	47.3	45.8	23.83	94.1	607.8	301.7	231.5	70.13	4.302	
12,950.0	12,854.6	12,750.0	12,605.3	47.3	45.8	22.76	80.2	607.9	311.6	242.2	69.41	4.490	
12,975.0	12,874.8	12,762.0	12,611.3	47.3	45.8	21.93	69.8	608.0	321.1	252.8	68.27	4.703	
13,000.0	12,894.1	12,775.0	12,617.4	47.4	45.8	21.15	58.4	608.1	330.2	262.9	67.29	4.906	
13,025.0	12,912.6	12,790.0	12,624.1	47.4	45.8	20.41	44.9	608.3	338.7	272.2	66.53	5.091	
13,050.0	12,930.2	12,800.0	12,628.3	47.4	45.9	19.84	35.9	608.3	346.8	281.5	65.40	5.304	
13,075.0	12,946.9	12,818.0	12,635.5	47.5	45.9	19.19	19.3	608.5	354.4	289.5	64.94	5.457	
13,100.0	12,962.5	12,831.9	12,640.5	47.5	45.9	18.68	6.4	608.6	361.5	297.3	64.21	5.630	
13,125.0	12,977.1	12,850.0	12,646.6	47.5	45.9	18.16	-10.7	608.8	368.1	304.3	63.79	5.770	
13,150.0	12,990.7	12,859.7	12,649.5	47.5	45.9	17.81	-19.9	608.9	374.1	311.2	62.89	5.949	
13,175.0	13,003.1	12,875.0	12,653.8	47.5	45.9	17.44	-34.6	609.1	379.6	317.2	62.39	6.085	
13,200.0	13,014.3	12,887.4	12,657.0	47.5	45.9	17.14	-46.6	609.2	384.6	322.8	61.79	6.224	
13,225.0	13,024.4	12,900.0	12,659.8	47.5	45.9	16.88	-58.8	609.3	389.0	327.8	61.28	6.348	
13,250.0	13,033.3	12,915.1	12,662.8	47.5	45.9	16.64	-73.6	609.5	392.9	332.0	60.94	6.448	

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

Permian Resources

Anticollision Report

Company:	NEW MEXICO	**Local Co-ordinate Reference:**	Well LOS VAQUEROS FED 524H
Project:	(SP) LEA	**TVD Reference:**	KB @ 3211.0usft
Reference Site:	LOS VAQUEROS FED PROJECT	**MD Reference:**	KB @ 3211.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	LOS VAQUEROS FED 524H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OWB	**Database:**	Compass
Reference Design:	PWP0	**Offset TVD Reference:**	Offset Datum

Offset Design: LOS VAQUEROS FED PROJECT - LOS VAQUEROS FED 444H - OWB - PWP0 — **Offset Site Error:** 0.0 usft

Survey Program: 0-MWD — **Offset Well Error:** 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Rule Assigned: Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
13,275.0	13,040.9	12,925.0	12,664.6	47.5	45.9	16.46	-83.4	609.6	396.3	335.8	60.51	6.550	
13,300.0	13,047.2	12,942.7	12,667.1	47.5	45.9	16.28	-100.9	609.7	399.0	338.7	60.35	6.612	
13,325.0	13,052.3	12,956.5	12,668.7	47.6	45.9	16.16	-114.6	609.9	401.3	341.1	60.17	6.669	
13,350.0	13,056.1	12,975.0	12,670.1	47.6	45.9	16.05	-133.1	610.1	403.0	342.9	60.10	6.705	
13,375.0	13,058.6	12,984.0	12,670.6	47.6	45.9	16.00	-142.1	610.1	404.0	344.0	60.02	6.732	
13,400.0	13,059.8	13,000.0	12,671.0	47.6	45.9	15.97	-158.0	610.3	404.6	344.5	60.05	6.737	
13,410.5	13,060.0	13,003.8	12,671.0	47.6	45.9	15.97	-161.9	610.4	404.6	344.5	60.09	6.733	
13,500.0	13,060.0	13,093.4	12,671.0	47.6	46.0	15.97	-251.4	611.3	404.6	344.4	60.25	6.716	
13,600.0	13,060.0	13,193.4	12,671.0	47.8	46.1	15.96	-351.4	612.3	404.6	344.1	60.47	6.691	
13,700.0	13,060.0	13,293.4	12,671.0	48.0	46.4	15.96	-451.4	613.3	404.6	343.9	60.74	6.662	
13,800.0	13,060.0	13,393.4	12,671.0	48.2	46.7	15.96	-551.4	614.3	404.6	343.5	61.06	6.627	
13,900.0	13,060.0	13,493.4	12,671.0	48.6	47.1	15.96	-651.4	615.3	404.6	343.2	61.42	6.587	
14,000.0	13,060.0	13,593.4	12,671.0	49.0	47.5	15.95	-751.4	616.3	404.6	342.7	61.84	6.542	
14,100.0	13,060.0	13,693.4	12,671.0	49.4	48.0	15.95	-851.4	617.3	404.6	342.3	62.30	6.494	
14,200.0	13,060.0	13,793.4	12,671.0	50.0	48.5	15.95	-951.4	618.4	404.6	341.8	62.81	6.441	
14,300.0	13,060.0	13,893.4	12,671.0	50.5	49.1	15.95	-1,051.4	619.4	404.6	341.2	63.37	6.385	
14,400.0	13,060.0	13,993.4	12,671.0	51.1	49.7	15.94	-1,151.4	620.4	404.6	340.6	63.96	6.325	
14,500.0	13,060.0	14,093.4	12,671.0	51.8	50.4	15.94	-1,251.3	621.4	404.6	340.0	64.60	6.262	
14,600.0	13,060.0	14,193.4	12,671.0	52.5	51.1	15.94	-1,351.3	622.4	404.6	339.3	65.28	6.197	
14,700.0	13,060.0	14,293.4	12,671.0	53.2	51.9	15.94	-1,451.3	623.4	404.5	338.5	66.00	6.129	
14,800.0	13,060.0	14,393.4	12,671.0	54.0	52.7	15.93	-1,551.3	624.5	404.5	337.8	66.76	6.059	
14,900.0	13,060.0	14,493.4	12,671.0	54.8	53.6	15.93	-1,651.3	625.5	404.5	337.0	67.56	5.988	
15,000.0	13,060.0	14,593.4	12,671.0	55.7	54.4	15.93	-1,751.3	626.5	404.5	336.1	68.39	5.915	
15,100.0	13,060.0	14,693.4	12,671.0	56.6	55.4	15.93	-1,851.3	627.5	404.5	335.3	69.26	5.841	
15,200.0	13,060.0	14,793.4	12,671.0	57.5	56.3	15.92	-1,951.3	628.5	404.5	334.4	70.16	5.766	
15,300.0	13,060.0	14,893.4	12,671.0	58.5	57.3	15.92	-2,051.3	629.5	404.5	333.4	71.09	5.690	
15,400.0	13,060.0	14,993.4	12,671.0	59.5	58.3	15.92	-2,151.3	630.5	404.5	332.5	72.05	5.614	
15,500.0	13,060.0	15,093.4	12,671.0	60.5	59.3	15.92	-2,251.3	631.6	404.5	331.5	73.05	5.538	
15,600.0	13,060.0	15,193.4	12,671.0	61.5	60.4	15.91	-2,351.3	632.6	404.5	330.4	74.07	5.461	
15,700.0	13,060.0	15,293.4	12,671.0	62.6	61.5	15.91	-2,451.3	633.6	404.5	329.4	75.11	5.385	
15,800.0	13,060.0	15,393.4	12,671.0	63.7	62.6	15.91	-2,551.3	634.6	404.5	328.3	76.19	5.309	
15,900.0	13,060.0	15,493.4	12,671.0	64.8	63.7	15.91	-2,651.3	635.6	404.5	327.2	77.29	5.234	
16,000.0	13,060.0	15,593.4	12,671.0	66.0	64.9	15.90	-2,751.3	636.6	404.5	326.1	78.41	5.159	
16,100.0	13,060.0	15,693.4	12,671.0	67.1	66.1	15.90	-2,851.3	637.6	404.5	324.9	79.56	5.084	
16,200.0	13,060.0	15,793.4	12,671.0	68.3	67.3	15.90	-2,951.3	638.7	404.5	323.7	80.72	5.011	
16,300.0	13,060.0	15,893.4	12,671.0	69.5	68.5	15.90	-3,051.3	639.7	404.5	322.6	81.91	4.938	
16,400.0	13,060.0	15,993.4	12,671.0	70.7	69.7	15.89	-3,151.2	640.7	404.5	321.3	83.12	4.866	
16,500.0	13,060.0	16,093.4	12,671.0	71.9	71.0	15.89	-3,251.2	641.7	404.5	320.1	84.35	4.795	
16,600.0	13,060.0	16,193.4	12,671.0	73.2	72.3	15.89	-3,351.2	642.7	404.5	318.9	85.59	4.725	
16,700.0	13,060.0	16,293.4	12,671.0	74.5	73.6	15.89	-3,451.2	643.7	404.4	317.6	86.86	4.656	
16,800.0	13,060.0	16,393.4	12,671.0	75.8	74.9	15.88	-3,551.2	644.7	404.4	316.3	88.14	4.589	
16,900.0	13,060.0	16,493.4	12,671.0	77.0	76.2	15.88	-3,651.2	645.8	404.4	315.0	89.44	4.522	
17,000.0	13,060.0	16,593.4	12,671.0	78.4	77.5	15.88	-3,751.2	646.8	404.4	313.7	90.75	4.457	
17,100.0	13,060.0	16,693.4	12,671.0	79.7	78.8	15.88	-3,851.2	647.8	404.4	312.4	92.07	4.392	
17,200.0	13,060.0	16,793.4	12,671.0	81.0	80.2	15.87	-3,951.2	648.8	404.4	311.0	93.41	4.329	
17,300.0	13,060.0	16,893.4	12,671.0	82.4	81.5	15.87	-4,051.2	649.8	404.4	309.6	94.77	4.267	
17,400.0	13,060.0	16,993.4	12,671.0	83.7	82.9	15.87	-4,151.2	650.8	404.4	308.3	96.14	4.207	
17,500.0	13,060.0	17,093.4	12,671.0	85.1	84.3	15.87	-4,251.2	651.8	404.4	306.9	97.52	4.147	
17,600.0	13,060.0	17,193.4	12,671.0	86.5	85.7	15.86	-4,351.2	652.9	404.4	305.5	98.91	4.089	
17,700.0	13,060.0	17,293.4	12,671.0	87.8	87.1	15.86	-4,451.2	653.9	404.4	304.1	100.31	4.031	
17,800.0	13,060.0	17,393.4	12,671.0	89.2	88.5	15.86	-4,551.2	654.9	404.4	302.7	101.72	3.975	
17,900.0	13,060.0	17,493.4	12,671.0	90.6	89.9	15.86	-4,651.2	655.9	404.4	301.2	103.15	3.920	

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

Permian Resources

Anticollision Report

Company:	NEW MEXICO	**Local Co-ordinate Reference:**	Well LOS VAQUEROS FED 524H
Project:	(SP) LEA	**TVD Reference:**	KB @ 3211.0usft
Reference Site:	LOS VAQUEROS FED PROJECT	**MD Reference:**	KB @ 3211.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	LOS VAQUEROS FED 524H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OWB	**Database:**	Compass
Reference Design:	PWP0	**Offset TVD Reference:**	Offset Datum

Offset Design: LOS VAQUEROS FED PROJECT - LOS VAQUEROS FED 444H - OWB - PWP0 — **Offset Site Error:** 0.0 usft

Survey Program: 0-MWD — **Offset Well Error:** 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Rule Assigned: Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
18,000.0	13,060.0	17,593.4	12,671.0	92.0	91.3	15.85	-4,751.2	656.9	404.4	299.8	104.58	3.867	
18,100.0	13,060.0	17,693.4	12,671.0	93.5	92.8	15.85	-4,851.2	657.9	404.4	298.4	106.02	3.814	
18,200.0	13,060.0	17,793.4	12,671.0	94.9	94.2	15.85	-4,951.2	659.0	404.4	296.9	107.48	3.762	
18,300.0	13,060.0	17,893.4	12,671.0	96.3	95.6	15.85	-5,051.2	660.0	404.4	295.4	108.94	3.712	
18,400.0	13,060.0	17,993.4	12,671.0	97.8	97.1	15.84	-5,151.1	661.0	404.4	294.0	110.41	3.662	
18,500.0	13,060.0	18,093.4	12,671.0	99.2	98.5	15.84	-5,251.1	662.0	404.4	292.5	111.89	3.614	
18,600.0	13,060.0	18,193.4	12,671.0	100.7	100.0	15.84	-5,351.1	663.0	404.3	291.0	113.37	3.567	
18,700.0	13,060.0	18,293.4	12,671.0	102.1	101.5	15.84	-5,451.1	664.0	404.3	289.5	114.86	3.520	
18,800.0	13,060.0	18,393.4	12,671.0	103.6	103.0	15.83	-5,551.1	665.0	404.3	288.0	116.37	3.475	
18,900.0	13,060.0	18,493.4	12,671.0	105.1	104.4	15.83	-5,651.1	666.1	404.3	286.5	117.87	3.430	
19,000.0	13,060.0	18,593.4	12,671.0	106.5	105.9	15.83	-5,751.1	667.1	404.3	284.9	119.39	3.387	
19,100.0	13,060.0	18,693.4	12,671.0	108.0	107.4	15.82	-5,851.1	668.1	404.3	283.4	120.91	3.344	
19,200.0	13,060.0	18,793.4	12,671.0	109.5	108.9	15.82	-5,951.1	669.1	404.3	281.9	122.43	3.302	
19,300.0	13,060.0	18,893.4	12,671.0	111.0	110.4	15.82	-6,051.1	670.1	404.3	280.3	123.97	3.262	
19,400.0	13,060.0	18,993.4	12,671.0	112.5	111.9	15.82	-6,151.1	671.1	404.3	278.8	125.50	3.221	
19,500.0	13,060.0	19,093.4	12,671.0	114.0	113.4	15.81	-6,251.1	672.1	404.3	277.3	127.05	3.182	
19,600.0	13,060.0	19,193.4	12,671.0	115.5	114.9	15.81	-6,351.1	673.2	404.3	275.7	128.60	3.144	
19,700.0	13,060.0	19,293.4	12,671.0	117.0	116.4	15.81	-6,451.1	674.2	404.3	274.1	130.15	3.106	
19,800.0	13,060.0	19,393.4	12,671.0	118.5	117.9	15.81	-6,551.1	675.2	404.3	272.6	131.71	3.070	
19,900.0	13,060.0	19,493.4	12,671.0	120.0	119.5	15.80	-6,651.1	676.2	404.3	271.0	133.27	3.034	
20,000.0	13,060.0	19,593.4	12,671.0	121.5	121.0	15.80	-6,751.1	677.2	404.3	269.4	134.84	2.998	
20,100.0	13,060.0	19,693.4	12,671.0	123.0	122.5	15.80	-6,851.1	678.2	404.3	267.9	136.41	2.964	
20,200.0	13,060.0	19,793.4	12,671.0	124.6	124.0	15.80	-6,951.1	679.2	404.3	266.3	137.99	2.930	
20,300.0	13,060.0	19,893.4	12,671.0	126.1	125.6	15.79	-7,051.0	680.3	404.3	264.7	139.57	2.896	
20,400.0	13,060.0	19,993.4	12,671.0	127.6	127.1	15.79	-7,151.0	681.3	404.3	263.1	141.15	2.864	
20,500.0	13,060.0	20,093.4	12,671.0	129.1	128.7	15.79	-7,251.0	682.3	404.3	261.5	142.74	2.832	
20,600.0	13,060.0	20,193.4	12,671.0	130.7	130.2	15.79	-7,351.0	683.3	404.2	259.9	144.34	2.801	
20,624.2	13,060.0	20,217.5	12,671.0	131.1	130.6	15.79	-7,375.2	683.6	404.2	259.5	144.72	2.793	
20,624.4	13,060.0	20,217.8	12,671.0	131.1	130.6	15.79	-7,375.4	683.6	404.2	259.5	144.72	2.793	
20,624.4	13,060.0	20,217.8	12,671.0	131.1	130.6	15.79	-7,375.5	683.6	404.2	259.5	144.73	2.793	
20,700.0	13,060.0	20,293.4	12,671.0	132.2	131.7	15.79	-7,451.0	684.3	404.2	258.3	145.93	2.770	
20,800.0	13,060.0	20,393.4	12,671.0	133.8	133.3	15.79	-7,551.0	685.3	404.2	256.7	147.54	2.740	
20,900.0	13,060.0	20,493.4	12,671.0	135.3	134.8	15.79	-7,651.0	686.3	404.2	255.1	149.14	2.710	
21,000.0	13,060.0	20,593.4	12,671.0	136.8	136.4	15.79	-7,751.0	687.3	404.2	253.5	150.75	2.682	
21,100.0	13,060.0	20,693.4	12,671.0	138.4	137.9	15.79	-7,851.0	688.3	404.2	251.9	152.37	2.653	
21,200.0	13,060.0	20,793.4	12,671.0	139.9	139.5	15.79	-7,951.0	689.3	404.2	250.3	153.98	2.625	
21,300.0	13,060.0	20,893.4	12,671.0	141.5	141.1	15.79	-8,051.0	690.3	404.2	248.6	155.60	2.598	
21,400.0	13,060.0	20,993.4	12,671.0	143.1	142.6	15.79	-8,151.0	691.3	404.2	247.0	157.23	2.571	
21,500.0	13,060.0	21,093.4	12,671.0	144.6	144.2	15.79	-8,251.0	692.3	404.2	245.4	158.85	2.545	
21,600.0	13,060.0	21,193.4	12,671.0	146.2	145.7	15.79	-8,351.0	693.4	404.2	243.8	160.48	2.519	
21,700.0	13,060.0	21,293.4	12,671.0	147.7	147.3	15.79	-8,451.0	694.4	404.2	242.1	162.11	2.494	
21,800.0	13,060.0	21,393.4	12,671.0	149.3	148.9	15.79	-8,551.0	695.4	404.2	240.5	163.74	2.469	
21,900.0	13,060.0	21,493.4	12,671.0	150.9	150.4	15.79	-8,651.0	696.4	404.3	238.9	165.38	2.444	
22,000.0	13,060.0	21,593.4	12,671.0	152.4	152.0	15.79	-8,750.9	697.4	404.3	237.2	167.02	2.420	
22,100.0	13,060.0	21,693.4	12,671.0	154.0	153.6	15.79	-8,850.9	698.4	404.3	235.6	168.66	2.397	
22,200.0	13,060.0	21,793.4	12,671.0	155.6	155.2	15.79	-8,950.9	699.4	404.3	234.0	170.30	2.374	
22,300.0	13,060.0	21,893.4	12,671.0	157.1	156.7	15.79	-9,050.9	700.4	404.3	232.3	171.94	2.351	
22,400.0	13,060.0	21,993.4	12,671.0	158.7	158.3	15.79	-9,150.9	701.4	404.3	230.7	173.59	2.329	
22,500.0	13,060.0	22,093.4	12,671.0	160.3	159.9	15.79	-9,250.9	702.4	404.3	229.0	175.24	2.307	
22,600.0	13,060.0	22,193.4	12,671.0	161.9	161.5	15.79	-9,350.9	703.4	404.3	227.4	176.89	2.285	
22,700.0	13,060.0	22,293.4	12,671.0	163.4	163.1	15.79	-9,450.9	704.4	404.3	225.7	178.55	2.264	
22,800.0	13,060.0	22,393.4	12,671.0	165.0	164.6	15.79	-9,550.9	705.4	404.3	224.1	180.20	2.243	

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

Permian Resources

Anticollision Report

Company:	NEW MEXICO	**Local Co-ordinate Reference:**	Well LOS VAQUEROS FED 524H
Project:	(SP) LEA	**TVD Reference:**	KB @ 3211.0usft
Reference Site:	LOS VAQUEROS FED PROJECT	**MD Reference:**	KB @ 3211.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	LOS VAQUEROS FED 524H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OWB	**Database:**	Compass
Reference Design:	PWP0	**Offset TVD Reference:**	Offset Datum

Offset Design: LOS VAQUEROS FED PROJECT - LOS VAQUEROS FED 444H - OWB - PWP0

Offset Site Error: 0.0 usft

Survey Program: 0-MWD

Offset Well Error: 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Rule Assigned: Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
22,900.0	13,060.0	22,493.4	12,671.0	166.6	166.2	15.79	-9,650.9	706.4	404.3	222.4	181.86	2.223	
23,000.0	13,060.0	22,593.4	12,671.0	168.2	167.8	15.79	-9,750.9	707.4	404.3	220.7	183.52	2.203	
23,100.0	13,060.0	22,693.4	12,671.0	169.8	169.4	15.79	-9,850.9	708.4	404.3	219.1	185.18	2.183	
23,200.0	13,060.0	22,793.4	12,671.0	171.3	171.0	15.79	-9,950.9	709.4	404.3	217.4	186.84	2.164	
23,300.0	13,060.0	22,893.4	12,671.0	172.9	172.6	15.79	-10,050.9	710.4	404.3	215.7	188.51	2.145	
23,400.0	13,060.0	22,993.4	12,671.0	174.5	174.2	15.79	-10,150.9	711.4	404.3	214.1	190.17	2.126	
23,500.0	13,060.0	23,093.4	12,671.0	176.1	175.8	15.79	-10,250.9	712.4	404.3	212.4	191.84	2.107	
23,600.0	13,060.0	23,193.4	12,671.0	177.7	177.3	15.79	-10,350.9	713.4	404.3	210.7	193.51	2.089	
23,700.0	13,060.0	23,293.4	12,671.0	179.3	178.9	15.79	-10,450.9	714.4	404.3	209.1	195.18	2.071	
23,800.0	13,060.0	23,393.4	12,671.0	180.9	180.5	15.79	-10,550.9	715.4	404.3	207.4	196.85	2.054	
23,900.0	13,060.0	23,493.4	12,671.0	182.5	182.1	15.79	-10,650.9	716.5	404.3	205.7	198.52	2.036	
23,960.0	13,060.0	23,553.4	12,671.0	183.4	183.1	15.79	-10,710.9	717.1	404.3	204.7	199.53	2.026	

Permian Resources

Anticollision Report

Company:	NEW MEXICO	**Local Co-ordinate Reference:**	Well LOS VAQUEROS FED 524H
Project:	(SP) LEA	**TVD Reference:**	KB @ 3211.0usft
Reference Site:	LOS VAQUEROS FED PROJECT	**MD Reference:**	KB @ 3211.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	LOS VAQUEROS FED 524H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OWB	**Database:**	Compass
Reference Design:	PWP0	**Offset TVD Reference:**	Offset Datum

Offset Design: LOS VAQUEROS FED PROJECT - LOS VAQUEROS FED 464H - OWB - PWP0 — **Offset Site Error:** 0.0 usft

Survey Program: 0-MWD — **Rule Assigned:** — **Offset Well Error:** 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	89.50	0.3	33.0	33.0				
100.0	100.0	100.0	100.0	0.3	0.3	89.50	0.3	33.0	33.0	32.5	0.50	65.758	
200.0	200.0	200.0	200.0	0.6	0.6	89.50	0.3	33.0	33.0	31.8	1.22	27.077	
300.0	300.0	300.0	300.0	1.0	1.0	89.50	0.3	33.0	33.0	31.1	1.94	17.048	
400.0	400.0	400.0	400.0	1.3	1.3	89.50	0.3	33.0	33.0	30.3	2.65	12.441	
500.0	500.0	500.0	500.0	1.7	1.7	89.50	0.3	33.0	33.0	29.6	3.37	9.794	
600.0	600.0	600.0	600.0	2.0	2.0	89.50	0.3	33.0	33.0	28.9	4.09	8.076	
700.0	700.0	700.0	700.0	2.4	2.4	89.50	0.3	33.0	33.0	28.2	4.80	6.870	
800.0	800.0	800.0	800.0	2.8	2.8	89.50	0.3	33.0	33.0	27.5	5.52	5.978	
900.0	900.0	900.0	900.0	3.1	3.1	89.50	0.3	33.0	33.0	26.8	6.24	5.291	
1,000.0	1,000.0	1,000.0	1,000.0	3.5	3.5	89.50	0.3	33.0	33.0	26.0	6.95	4.745	
1,100.0	1,100.0	1,100.0	1,100.0	3.8	3.8	89.50	0.3	33.0	33.0	25.3	7.67	4.302	
1,200.0	1,200.0	1,200.0	1,200.0	4.2	4.2	89.50	0.3	33.0	33.0	24.6	8.39	3.934	
1,300.0	1,300.0	1,300.0	1,300.0	4.6	4.6	89.50	0.3	33.0	33.0	23.9	9.11	3.624	
1,400.0	1,400.0	1,400.0	1,400.0	4.9	4.9	89.50	0.3	33.0	33.0	23.2	9.82	3.360	
1,500.0	1,500.0	1,500.0	1,500.0	5.3	5.3	89.50	0.3	33.0	33.0	22.5	10.54	3.131	
1,600.0	1,600.0	1,600.0	1,600.0	5.6	5.6	89.50	0.3	33.0	33.0	21.7	11.26	2.932	
1,700.0	1,700.0	1,700.0	1,700.0	6.0	6.0	89.50	0.3	33.0	33.0	21.0	11.97	2.756	
1,800.0	1,800.0	1,800.0	1,800.0	6.3	6.3	89.50	0.3	33.0	33.0	20.3	12.69	2.601	
1,900.0	1,900.0	1,900.0	1,900.0	6.7	6.7	89.50	0.3	33.0	33.0	19.6	13.41	2.462	
2,000.0	2,000.0	2,000.0	2,000.0	7.1	7.1	89.50	0.3	33.0	33.0	18.9	14.12	2.337 CC	
2,100.0	2,100.0	2,098.9	2,098.9	7.4	7.4	23.80	0.7	34.7	33.1	18.3	14.82	2.232	
2,200.0	2,199.8	2,197.8	2,197.6	7.8	7.8	25.19	2.0	39.6	33.3	17.8	15.49	2.151	
2,300.0	2,299.5	2,296.7	2,296.1	8.1	8.1	27.46	4.1	47.9	33.7	17.6	16.14	2.090	
2,400.0	2,398.7	2,395.5	2,394.3	8.5	8.5	30.52	7.1	59.4	34.4	17.6	16.79	2.051	
2,500.0	2,497.5	2,494.4	2,492.0	8.8	8.8	34.27	11.0	74.2	35.5	18.0	17.43	2.034	
2,600.0	2,595.6	2,594.3	2,590.3	9.2	9.2	39.81	15.3	91.0	35.6	17.4	18.16	1.959	
2,700.0	2,693.4	2,694.2	2,688.7	9.6	9.6	47.29	19.6	107.8	34.8	15.9	18.93	1.839	
2,772.7	2,764.5	2,766.8	2,760.2	9.9	9.8	52.87	22.8	120.0	34.6	15.1	19.50	1.777	
2,800.0	2,791.3	2,794.1	2,787.1	10.0	9.9	54.97	24.0	124.6	34.7	14.9	19.72	1.758	
2,900.0	2,889.1	2,894.0	2,885.4	10.4	10.3	62.57	28.3	141.4	35.2	14.6	20.55	1.711 ES	
3,000.0	2,986.9	2,993.8	2,983.8	10.8	10.7	69.85	32.7	158.2	36.2	14.8	21.39	1.693 SF	
3,100.0	3,084.7	3,093.7	3,082.2	11.2	11.1	76.60	37.0	174.9	37.9	15.6	22.25	1.701	
3,200.0	3,182.5	3,193.6	3,180.6	11.6	11.5	82.72	41.4	191.7	40.0	16.8	23.12	1.728	
3,300.0	3,280.3	3,293.5	3,278.9	12.1	11.9	88.18	45.7	208.5	42.5	18.5	23.98	1.771	
3,400.0	3,378.1	3,393.4	3,377.3	12.5	12.3	92.98	50.1	225.3	45.3	20.5	24.84	1.825	
3,500.0	3,476.0	3,493.3	3,475.7	12.9	12.8	97.20	54.4	242.1	48.5	22.8	25.70	1.886	
3,600.0	3,573.8	3,593.2	3,574.0	13.4	13.2	100.88	58.8	258.9	51.8	25.3	26.55	1.952	
3,700.0	3,671.6	3,693.1	3,672.4	13.8	13.6	104.11	63.1	275.7	55.4	28.0	27.39	2.022	
3,800.0	3,769.4	3,793.0	3,770.8	14.3	14.0	106.94	67.5	292.5	59.1	30.9	28.23	2.093	
3,900.0	3,867.2	3,892.9	3,869.2	14.7	14.4	109.43	71.8	309.3	62.9	33.8	29.07	2.164	
4,000.0	3,965.0	3,992.8	3,967.5	15.2	14.9	111.63	76.2	326.1	66.9	37.0	29.91	2.235	
4,100.0	4,062.8	4,092.6	4,065.9	15.6	15.3	113.58	80.5	342.9	70.9	40.1	30.74	2.306	
4,200.0	4,160.7	4,192.5	4,164.3	16.1	15.7	115.32	84.8	359.7	75.0	43.4	31.58	2.375	
4,300.0	4,258.5	4,292.4	4,262.7	16.5	16.1	116.88	89.2	376.5	79.1	46.7	32.41	2.442	
4,400.0	4,356.3	4,392.3	4,361.0	17.0	16.6	118.28	93.5	393.2	83.4	50.1	33.24	2.508	
4,500.0	4,454.1	4,492.2	4,459.4	17.4	17.0	119.55	97.9	410.0	87.6	53.5	34.07	2.571	
4,600.0	4,551.9	4,592.1	4,557.8	17.9	17.4	120.70	102.2	426.8	91.9	57.0	34.91	2.633	
4,700.0	4,649.7	4,692.0	4,656.2	18.4	17.9	121.75	106.6	443.6	96.2	60.5	35.74	2.693	
4,800.0	4,747.5	4,791.9	4,754.5	18.8	18.3	122.70	110.9	460.4	100.6	64.0	36.57	2.751	
4,900.0	4,845.4	4,891.8	4,852.9	19.3	18.7	123.58	115.3	477.2	105.0	67.6	37.40	2.807	
5,000.0	4,943.2	4,991.7	4,951.3	19.8	19.2	124.38	119.6	494.0	109.4	71.2	38.24	2.861	

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

Permian Resources

Anticollision Report

Company:	NEW MEXICO	**Local Co-ordinate Reference:**	Well LOS VAQUEROS FED 524H
Project:	(SP) LEA	**TVD Reference:**	KB @ 3211.0usft
Reference Site:	LOS VAQUEROS FED PROJECT	**MD Reference:**	KB @ 3211.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	LOS VAQUEROS FED 524H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OWB	**Database:**	Compass
Reference Design:	PWP0	**Offset TVD Reference:**	Offset Datum

Offset Design: LOS VAQUEROS FED PROJECT - LOS VAQUEROS FED 464H - OWB - PWP0 — **Offset Site Error:** 0.0 usft

Survey Program: 0-MWD — **Offset Well Error:** 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Rule Assigned: Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
5,100.0	5,041.0	5,091.6	5,049.7	20.2	19.6	125.13	124.0	510.8	113.8	74.8	39.07	2.913	
5,200.0	5,138.8	5,191.5	5,148.0	20.7	20.0	125.81	128.3	527.6	118.3	78.4	39.90	2.964	
5,300.0	5,236.6	5,291.3	5,246.4	21.2	20.5	126.45	132.7	544.4	122.7	82.0	40.74	3.013	
5,400.0	5,334.4	5,391.2	5,344.8	21.6	20.9	127.05	137.0	561.2	127.2	85.6	41.57	3.060	
5,500.0	5,432.3	5,491.1	5,443.2	22.1	21.3	127.60	141.4	578.0	131.7	89.3	42.41	3.106	
5,600.0	5,530.1	5,591.0	5,541.5	22.6	21.8	128.11	145.7	594.8	136.2	93.0	43.24	3.150	
5,700.0	5,627.9	5,690.9	5,639.9	23.1	22.2	128.60	150.0	611.5	140.7	96.6	44.08	3.192	
5,767.4	5,693.8	5,758.2	5,706.2	23.4	22.5	128.91	153.0	622.9	143.8	99.1	44.64	3.220	
5,800.0	5,725.7	5,790.8	5,738.3	23.5	22.7	129.01	154.4	628.3	145.1	100.2	44.92	3.231	
5,900.0	5,824.1	5,890.8	5,836.7	24.0	23.1	128.62	158.7	645.1	147.8	102.0	45.80	3.228	
6,000.0	5,923.0	5,990.7	5,935.1	24.4	23.5	127.15	163.1	661.9	148.4	101.7	46.74	3.176	
6,100.0	6,022.4	6,090.4	6,033.4	24.8	24.0	124.57	167.4	678.7	147.1	99.4	47.73	3.082	
6,200.0	6,122.1	6,189.9	6,131.3	25.2	24.4	120.76	171.8	695.4	144.3	95.5	48.77	2.958	
6,300.0	6,222.0	6,289.0	6,228.9	25.5	24.9	115.56	176.1	712.1	140.5	90.7	49.83	2.820	
6,367.4	6,289.4	6,355.5	6,294.4	25.7	25.2	177.35	179.0	723.3	138.0	87.4	50.54	2.730	
6,400.0	6,322.0	6,387.6	6,326.0	25.8	25.3	175.07	180.4	728.7	136.9	86.0	50.87	2.691	
6,500.0	6,422.0	6,486.1	6,423.0	26.1	25.7	167.89	184.7	745.2	135.1	83.3	51.79	2.608	
6,533.2	6,455.2	6,518.8	6,455.2	26.2	25.9	165.49	186.1	750.7	134.9	82.9	52.07	2.592	
6,600.0	6,522.0	6,584.6	6,520.0	26.4	26.2	160.65	188.9	761.8	135.4	82.9	52.56	2.577	
6,700.0	6,622.0	6,683.1	6,617.0	26.7	26.6	153.55	193.2	778.3	138.0	84.8	53.18	2.595	
6,800.0	6,722.0	6,781.6	6,714.0	27.1	27.0	146.80	197.5	794.9	142.7	89.0	53.66	2.659	
6,900.0	6,822.0	6,880.0	6,811.0	27.4	27.5	140.55	201.8	811.5	149.2	95.2	54.05	2.761	
7,000.0	6,922.0	6,978.5	6,908.0	27.7	27.9	134.88	206.1	828.0	157.4	103.0	54.39	2.894	
7,100.0	7,022.0	7,077.0	7,004.9	28.0	28.4	129.79	210.4	844.6	167.0	112.3	54.72	3.052	
7,200.0	7,122.0	7,175.5	7,101.9	28.3	28.8	125.29	214.7	861.1	177.8	122.7	55.06	3.229	
7,300.0	7,222.0	7,274.0	7,198.9	28.6	29.2	121.30	218.9	877.7	189.6	134.1	55.43	3.420	
7,400.0	7,322.0	7,372.5	7,295.9	29.0	29.7	117.80	223.2	894.2	202.1	146.3	55.83	3.621	
7,500.0	7,422.0	7,470.9	7,392.9	29.3	30.1	114.71	227.5	910.8	215.4	159.1	56.26	3.828	
7,600.0	7,522.0	7,569.4	7,489.9	29.6	30.6	111.97	231.8	927.3	229.2	172.5	56.73	4.040	
7,700.0	7,622.0	7,667.9	7,586.8	29.9	31.0	109.55	236.1	943.9	243.4	186.2	57.23	4.254	
7,800.0	7,722.0	7,766.4	7,683.8	30.2	31.4	107.40	240.4	960.5	258.1	200.3	57.75	4.468	
7,900.0	7,822.0	7,864.9	7,780.8	30.6	31.9	105.48	244.6	977.0	273.0	214.7	58.30	4.683	
8,000.0	7,922.0	7,963.3	7,877.8	30.9	32.3	103.76	248.9	993.6	288.2	229.4	58.88	4.896	
8,100.0	8,022.0	8,061.8	7,974.8	31.2	32.8	102.22	253.2	1,010.1	303.7	244.2	59.46	5.107	
8,200.0	8,122.0	8,160.3	8,071.8	31.5	33.2	100.82	257.5	1,026.7	319.3	259.3	60.07	5.316	
8,300.0	8,222.0	8,258.8	8,168.8	31.9	33.6	99.55	261.8	1,043.2	335.2	274.5	60.69	5.523	
8,400.0	8,322.0	8,357.3	8,265.7	32.2	34.1	98.40	266.1	1,059.8	351.1	289.8	61.32	5.727	
8,500.0	8,422.0	8,455.7	8,362.7	32.5	34.5	97.35	270.4	1,076.3	367.2	305.3	61.95	5.927	
8,600.0	8,522.0	8,554.2	8,459.7	32.9	35.0	96.38	274.6	1,092.9	383.4	320.8	62.60	6.125	
8,700.0	8,622.0	8,652.7	8,556.7	33.2	35.4	95.50	278.9	1,109.4	399.7	336.5	63.26	6.319	
8,800.0	8,722.0	8,751.2	8,653.7	33.5	35.8	94.68	283.2	1,126.0	416.1	352.2	63.92	6.510	
8,900.0	8,822.0	8,849.7	8,750.7	33.8	36.3	93.92	287.5	1,142.6	432.6	368.0	64.59	6.698	
9,000.0	8,922.0	8,948.1	8,847.6	34.2	36.7	93.22	291.8	1,159.1	449.1	383.9	65.26	6.882	
9,100.0	9,022.0	9,046.6	8,944.6	34.5	37.2	92.57	296.1	1,175.7	465.7	399.8	65.93	7.063	
9,200.0	9,122.0	9,145.1	9,041.6	34.8	37.6	91.97	300.4	1,192.2	482.3	415.7	66.61	7.241	
9,300.0	9,222.0	9,243.6	9,138.6	35.2	38.0	91.40	304.6	1,208.8	499.0	431.7	67.30	7.415	
9,400.0	9,322.0	9,342.8	9,236.3	35.5	38.5	90.87	309.0	1,225.5	515.8	447.8	67.99	7.586	
9,500.0	9,422.0	9,462.8	9,354.9	35.8	39.0	90.35	313.5	1,243.1	530.4	461.6	68.85	7.704	
9,600.0	9,522.0	9,584.2	9,475.5	36.2	39.5	89.98	316.9	1,256.0	541.1	471.4	69.63	7.770	
9,700.0	9,622.0	9,706.5	9,597.5	36.5	39.9	89.77	318.9	1,264.0	547.6	477.3	70.32	7.787	
9,800.0	9,722.0	9,829.2	9,720.3	36.8	40.3	89.69	319.7	1,266.9	550.0	479.1	70.92	7.755	
9,900.0	9,822.0	9,931.0	9,822.0	37.2	40.6	89.69	319.7	1,266.9	550.0	478.4	71.59	7.682	

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

Permian Resources

Anticollision Report

Company:	NEW MEXICO	**Local Co-ordinate Reference:**	Well LOS VAQUEROS FED 524H
Project:	(SP) LEA	**TVD Reference:**	KB @ 3211.0usft
Reference Site:	LOS VAQUEROS FED PROJECT	**MD Reference:**	KB @ 3211.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	LOS VAQUEROS FED 524H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OWB	**Database:**	Compass
Reference Design:	PWP0	**Offset TVD Reference:**	Offset Datum

Offset Design: LOS VAQUEROS FED PROJECT - LOS VAQUEROS FED 464H - OWB - PWP0 — **Offset Site Error:** 0.0 usft

Survey Program: 0-MWD — **Rule Assigned:** — **Offset Well Error:** 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
10,000.0	9,922.0	10,031.0	9,922.0	37.5	40.9	89.69	319.7	1,266.9	550.0	477.7	72.28	7.610	
10,100.0	10,022.0	10,131.0	10,022.0	37.8	41.2	89.69	319.7	1,266.9	550.0	477.0	72.96	7.539	
10,200.0	10,122.0	10,231.0	10,122.0	38.2	41.5	89.69	319.7	1,266.9	550.0	476.4	73.64	7.469	
10,300.0	10,222.0	10,331.0	10,222.0	38.5	41.8	89.69	319.7	1,266.9	550.0	475.7	74.33	7.400	
10,400.0	10,322.0	10,431.0	10,322.0	38.9	42.2	89.69	319.7	1,266.9	550.0	475.0	75.01	7.333	
10,500.0	10,422.0	10,531.0	10,422.0	39.2	42.5	89.69	319.7	1,266.9	550.0	474.3	75.69	7.266	
10,600.0	10,522.0	10,631.0	10,522.0	39.5	42.8	89.69	319.7	1,266.9	550.0	473.6	76.38	7.201	
10,700.0	10,622.0	10,731.0	10,622.0	39.9	43.1	89.69	319.7	1,266.9	550.0	472.9	77.07	7.137	
10,800.0	10,722.0	10,831.0	10,722.0	40.2	43.4	89.69	319.7	1,266.9	550.0	472.3	77.75	7.074	
10,900.0	10,822.0	10,931.0	10,822.0	40.5	43.7	89.69	319.7	1,266.9	550.0	471.6	78.44	7.012	
11,000.0	10,922.0	11,031.0	10,922.0	40.9	44.0	89.69	319.7	1,266.9	550.0	470.9	79.13	6.951	
11,100.0	11,022.0	11,131.0	11,022.0	41.2	44.3	89.69	319.7	1,266.9	550.0	470.2	79.81	6.891	
11,200.0	11,122.0	11,231.0	11,122.0	41.6	44.6	89.69	319.7	1,266.9	550.0	469.5	80.50	6.832	
11,300.0	11,222.0	11,331.0	11,222.0	41.9	45.0	89.69	319.7	1,266.9	550.0	468.8	81.19	6.774	
11,400.0	11,322.0	11,431.0	11,322.0	42.2	45.3	89.69	319.7	1,266.9	550.0	468.1	81.88	6.717	
11,500.0	11,422.0	11,531.0	11,422.0	42.6	45.6	89.69	319.7	1,266.9	550.0	467.4	82.57	6.661	
11,600.0	11,522.0	11,631.0	11,522.0	42.9	45.9	89.69	319.7	1,266.9	550.0	466.7	83.26	6.606	
11,700.0	11,622.0	11,731.0	11,622.0	43.3	46.2	89.69	319.7	1,266.9	550.0	466.1	83.95	6.551	
11,800.0	11,722.0	11,831.0	11,722.0	43.6	46.5	89.69	319.7	1,266.9	550.0	465.4	84.65	6.498	
11,900.0	11,822.0	11,931.0	11,822.0	44.0	46.8	89.69	319.7	1,266.9	550.0	464.7	85.34	6.445	
12,000.0	11,922.0	12,031.0	11,922.0	44.3	47.2	89.69	319.7	1,266.9	550.0	464.0	86.03	6.393	
12,100.0	12,022.0	12,131.0	12,022.0	44.6	47.5	89.69	319.7	1,266.9	550.0	463.3	86.72	6.342	
12,200.0	12,122.0	12,231.0	12,122.0	45.0	47.8	89.69	319.7	1,266.9	550.0	462.6	87.41	6.292	
12,300.0	12,222.0	12,331.0	12,222.0	45.3	48.1	89.69	319.7	1,266.9	550.0	461.9	88.11	6.242	
12,310.0	12,232.0	12,341.0	12,232.0	45.4	48.2	89.69	319.7	1,266.9	550.0	461.8	88.18	6.238	
12,400.0	12,322.0	12,430.5	12,321.4	45.7	48.4	90.02	316.5	1,266.9	550.0	461.2	88.81	6.193	
12,500.0	12,422.0	12,525.0	12,413.6	46.0	48.7	92.11	296.5	1,267.1	550.7	461.1	89.59	6.146	
12,600.0	12,522.0	12,609.1	12,490.9	46.4	48.9	95.50	263.7	1,267.5	554.0	463.5	90.44	6.125	
12,660.5	12,582.5	12,653.5	12,529.1	46.6	48.9	97.82	241.0	1,267.7	558.5	467.6	90.89	6.145	
12,675.0	12,597.0	12,663.5	12,537.4	46.6	49.0	-80.88	235.4	1,267.7	560.0	469.0	90.98	6.155	
12,700.0	12,622.0	12,680.6	12,551.3	46.7	49.0	-79.63	225.4	1,267.8	562.6	471.5	91.10	6.176	
12,725.0	12,646.8	12,700.0	12,566.6	46.8	49.0	-78.28	213.6	1,268.0	565.5	474.3	91.21	6.200	
12,750.0	12,671.5	12,714.3	12,577.6	46.8	49.0	-77.20	204.4	1,268.1	568.6	477.3	91.23	6.232	
12,775.0	12,695.9	12,730.8	12,590.0	46.9	49.1	-76.02	193.4	1,268.2	571.8	480.6	91.25	6.267	
12,800.0	12,720.1	12,750.0	12,603.8	47.0	49.1	-74.74	180.2	1,268.3	575.2	483.9	91.27	6.302	
12,825.0	12,743.8	12,763.5	12,613.2	47.0	49.1	-73.74	170.5	1,268.4	578.6	487.5	91.17	6.347	
12,850.0	12,767.1	12,779.7	12,624.1	47.1	49.1	-72.64	158.6	1,268.5	582.2	491.1	91.08	6.392	
12,875.0	12,789.9	12,795.7	12,634.5	47.1	49.1	-71.59	146.4	1,268.6	585.8	494.8	90.97	6.439	
12,900.0	12,812.1	12,811.6	12,644.5	47.2	49.1	-70.57	134.0	1,268.8	589.4	498.5	90.82	6.489	
12,925.0	12,833.7	12,825.0	12,652.5	47.3	49.1	-69.67	123.3	1,268.9	593.0	502.3	90.61	6.544	
12,950.0	12,854.6	12,843.2	12,662.9	47.3	49.2	-68.65	108.4	1,269.0	596.5	506.0	90.47	6.594	
12,975.0	12,874.8	12,858.8	12,671.4	47.3	49.2	-67.76	95.2	1,269.1	600.0	509.7	90.26	6.647	
13,000.0	12,894.1	12,875.0	12,679.8	47.4	49.2	-66.89	81.4	1,269.3	603.4	513.4	90.06	6.700	
13,025.0	12,912.6	12,889.9	12,687.0	47.4	49.2	-66.11	68.4	1,269.4	606.7	516.9	89.82	6.755	
13,050.0	12,930.2	12,905.4	12,694.1	47.4	49.2	-65.36	54.6	1,269.6	609.9	520.3	89.60	6.807	
13,075.0	12,946.9	12,925.0	12,702.5	47.5	49.2	-64.55	36.9	1,269.7	613.0	523.6	89.44	6.854	
13,100.0	12,962.5	12,936.1	12,706.9	47.5	49.2	-64.00	26.7	1,269.8	615.9	526.7	89.15	6.909	
13,125.0	12,977.1	12,950.0	12,712.1	47.5	49.2	-63.42	13.8	1,270.0	618.6	529.7	88.92	6.957	
13,150.0	12,990.7	12,966.6	12,717.8	47.5	49.2	-62.84	-1.8	1,270.1	621.2	532.4	88.73	7.000	
13,175.0	13,003.1	12,981.8	12,722.5	47.5	49.2	-62.34	-16.3	1,270.3	623.5	535.0	88.54	7.042	
13,200.0	13,014.3	13,000.0	12,727.6	47.5	49.2	-61.84	-33.7	1,270.4	625.7	537.3	88.42	7.077	
13,225.0	13,024.4	13,012.1	12,730.6	47.5	49.2	-61.48	-45.5	1,270.5	627.6	539.4	88.24	7.113	

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

Permian Resources

Anticollision Report

Company:	NEW MEXICO	**Local Co-ordinate Reference:**	Well LOS VAQUEROS FED 524H
Project:	(SP) LEA	**TVD Reference:**	KB @ 3211.0usft
Reference Site:	LOS VAQUEROS FED PROJECT	**MD Reference:**	KB @ 3211.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	LOS VAQUEROS FED 524H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OWB	**Database:**	Compass
Reference Design:	PWP0	**Offset TVD Reference:**	Offset Datum

Offset Design: LOS VAQUEROS FED PROJECT - LOS VAQUEROS FED 464H - OWB - PWP0 — **Offset Site Error:** 0.0 usft

Survey Program: 0-MWD — **Offset Well Error:** 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Rule Assigned: Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
13,250.0	13,033.3	13,025.0	12,733.4	47.5	49.2	-61.16	-58.0	1,270.7	629.3	541.2	88.10	7.143	
13,275.0	13,040.9	13,042.4	12,736.8	47.5	49.2	-60.84	-75.1	1,270.8	630.8	542.7	88.03	7.166	
13,300.0	13,047.2	13,057.4	12,739.1	47.5	49.2	-60.59	-90.0	1,271.0	632.0	544.0	87.96	7.184	
13,325.0	13,052.3	13,075.0	12,741.3	47.6	49.3	-60.38	-107.4	1,271.2	633.0	545.0	87.94	7.197	
13,350.0	13,056.1	13,087.6	12,742.5	47.6	49.3	-60.25	-119.9	1,271.3	633.7	545.7	87.93	7.206	
13,375.0	13,058.6	13,100.0	12,743.3	47.6	49.3	-60.17	-132.3	1,271.4	634.1	546.2	87.97	7.209	
13,400.0	13,059.8	13,117.7	12,743.9	47.6	49.3	-60.12	-150.0	1,271.6	634.3	546.3	88.04	7.205	
13,410.5	13,060.0	13,125.5	12,744.0	47.6	49.3	-60.12	-157.7	1,271.7	634.3	546.3	88.07	7.202	
13,414.5	13,060.0	13,127.0	12,744.0	47.6	49.3	-60.12	-159.3	1,271.7	634.3	546.2	88.09	7.201	
13,500.0	13,060.0	13,212.5	12,744.0	47.6	49.4	-60.12	-244.8	1,272.5	634.3	545.9	88.43	7.173	
13,600.0	13,060.0	13,312.5	12,744.0	47.8	49.5	-60.12	-344.8	1,273.5	634.3	545.4	88.91	7.134	
13,700.0	13,060.0	13,412.5	12,744.0	48.0	49.7	-60.12	-444.8	1,274.5	634.3	544.8	89.49	7.088	
13,800.0	13,060.0	13,512.5	12,744.0	48.2	49.9	-60.12	-544.8	1,275.5	634.3	544.2	90.17	7.035	
13,900.0	13,060.0	13,612.5	12,744.0	48.6	50.2	-60.12	-644.8	1,276.5	634.3	543.4	90.93	6.976	
14,000.0	13,060.0	13,712.5	12,744.0	49.0	50.6	-60.12	-744.8	1,277.5	634.3	542.5	91.79	6.911	
14,100.0	13,060.0	13,812.5	12,744.0	49.4	51.0	-60.12	-844.8	1,278.5	634.3	541.6	92.73	6.841	
14,200.0	13,060.0	13,912.5	12,744.0	50.0	51.5	-60.12	-944.8	1,279.5	634.3	540.6	93.76	6.766	
14,300.0	13,060.0	14,012.5	12,744.0	50.5	52.0	-60.12	-1,044.7	1,280.5	634.3	539.5	94.86	6.687	
14,400.0	13,060.0	14,112.5	12,744.0	51.1	52.6	-60.12	-1,144.7	1,281.5	634.3	538.3	96.05	6.604	
14,500.0	13,060.0	14,212.5	12,744.0	51.8	53.2	-60.12	-1,244.7	1,282.5	634.3	537.0	97.31	6.518	
14,600.0	13,060.0	14,312.5	12,744.0	52.5	53.8	-60.12	-1,344.7	1,283.5	634.3	535.7	98.65	6.430	
14,700.0	13,060.0	14,412.5	12,744.0	53.2	54.6	-60.12	-1,444.7	1,284.5	634.3	534.3	100.05	6.340	
14,800.0	13,060.0	14,512.5	12,744.0	54.0	55.3	-60.12	-1,544.7	1,285.5	634.3	532.8	101.52	6.248	
14,900.0	13,060.0	14,612.5	12,744.0	54.8	56.1	-60.12	-1,644.7	1,286.5	634.3	531.3	103.06	6.155	
15,000.0	13,060.0	14,712.5	12,744.0	55.7	57.0	-60.12	-1,744.7	1,287.5	634.3	529.7	104.66	6.061	
15,100.0	13,060.0	14,812.5	12,744.0	56.6	57.8	-60.12	-1,844.7	1,288.5	634.3	528.0	106.31	5.967	
15,200.0	13,060.0	14,912.5	12,744.0	57.5	58.7	-60.12	-1,944.7	1,289.5	634.3	526.3	108.03	5.872	
15,300.0	13,060.0	15,012.5	12,744.0	58.5	59.7	-60.12	-2,044.7	1,290.5	634.3	524.5	109.79	5.778	
15,400.0	13,060.0	15,112.5	12,744.0	59.5	60.6	-60.12	-2,144.7	1,291.5	634.3	522.7	111.61	5.684	
15,500.0	13,060.0	15,212.5	12,744.0	60.5	61.6	-60.12	-2,244.7	1,292.5	634.3	520.9	113.47	5.590	
15,600.0	13,060.0	15,312.5	12,744.0	61.5	62.7	-60.12	-2,344.7	1,293.5	634.3	518.9	115.38	5.498	
15,700.0	13,060.0	15,412.5	12,744.0	62.6	63.7	-60.12	-2,444.7	1,294.5	634.3	517.0	117.34	5.406	
15,800.0	13,060.0	15,512.5	12,744.0	63.7	64.8	-60.12	-2,544.7	1,295.5	634.3	515.0	119.33	5.316	
15,900.0	13,060.0	15,612.5	12,744.0	64.8	65.9	-60.12	-2,644.7	1,296.4	634.3	513.0	121.37	5.226	
16,000.0	13,060.0	15,712.5	12,744.0	66.0	67.0	-60.12	-2,744.7	1,297.4	634.3	510.9	123.44	5.139	
16,100.0	13,060.0	15,812.5	12,744.0	67.1	68.2	-60.12	-2,844.7	1,298.4	634.3	508.8	125.55	5.052	
16,200.0	13,060.0	15,912.5	12,744.0	68.3	69.3	-60.12	-2,944.7	1,299.4	634.3	506.6	127.69	4.968	
16,300.0	13,060.0	16,012.5	12,744.0	69.5	70.5	-60.12	-3,044.6	1,300.4	634.3	504.5	129.87	4.884	
16,400.0	13,060.0	16,112.5	12,744.0	70.7	71.7	-60.12	-3,144.6	1,301.4	634.3	502.3	132.07	4.803	
16,500.0	13,060.0	16,212.5	12,744.0	71.9	72.9	-60.12	-3,244.6	1,302.4	634.3	500.0	134.31	4.723	
16,600.0	13,060.0	16,312.5	12,744.0	73.2	74.2	-60.12	-3,344.6	1,303.4	634.3	497.8	136.57	4.645	
16,700.0	13,060.0	16,412.5	12,744.0	74.5	75.4	-60.12	-3,444.6	1,304.4	634.3	495.5	138.86	4.568	
16,800.0	13,060.0	16,512.5	12,744.0	75.8	76.7	-60.12	-3,544.6	1,305.4	634.3	493.2	141.18	4.493	
16,900.0	13,060.0	16,612.5	12,744.0	77.0	78.0	-60.12	-3,644.6	1,306.4	634.3	490.8	143.51	4.420	
17,000.0	13,060.0	16,712.5	12,744.0	78.4	79.3	-60.12	-3,744.6	1,307.4	634.3	488.5	145.88	4.348	
17,100.0	13,060.0	16,812.5	12,744.0	79.7	80.6	-60.12	-3,844.6	1,308.4	634.3	486.1	148.26	4.279	
17,200.0	13,060.0	16,912.5	12,744.0	81.0	81.9	-60.12	-3,944.6	1,309.4	634.3	483.7	150.66	4.210	
17,300.0	13,060.0	17,012.5	12,744.0	82.4	83.2	-60.12	-4,044.6	1,310.4	634.3	481.2	153.08	4.144	
17,400.0	13,060.0	17,112.5	12,744.0	83.7	84.6	-60.12	-4,144.6	1,311.4	634.3	478.8	155.53	4.079	
17,500.0	13,060.0	17,212.5	12,744.0	85.1	85.9	-60.12	-4,244.6	1,312.4	634.3	476.3	157.99	4.015	
17,600.0	13,060.0	17,312.5	12,744.0	86.5	87.3	-60.12	-4,344.6	1,313.4	634.3	473.9	160.46	3.953	
17,700.0	13,060.0	17,412.5	12,744.0	87.8	88.7	-60.12	-4,444.6	1,314.4	634.3	471.4	162.95	3.893	

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

Permian Resources

Anticollision Report

Company:	NEW MEXICO	**Local Co-ordinate Reference:**	Well LOS VAQUEROS FED 524H
Project:	(SP) LEA	**TVD Reference:**	KB @ 3211.0usft
Reference Site:	LOS VAQUEROS FED PROJECT	**MD Reference:**	KB @ 3211.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	LOS VAQUEROS FED 524H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OWB	**Database:**	Compass
Reference Design:	PWP0	**Offset TVD Reference:**	Offset Datum

Offset Design: LOS VAQUEROS FED PROJECT - LOS VAQUEROS FED 464H - OWB - PWP0 — **Offset Site Error:** 0.0 usft

Survey Program: 0-MWD — **Rule Assigned:** — **Offset Well Error:** 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
17,800.0	13,060.0	17,512.5	12,744.0	89.2	90.1	-60.12	-4,544.6	1,315.4	634.3	468.9	165.46	3.834	
17,900.0	13,060.0	17,612.5	12,744.0	90.6	91.5	-60.12	-4,644.6	1,316.4	634.3	466.3	167.99	3.776	
18,000.0	13,060.0	17,712.5	12,744.0	92.0	92.9	-60.12	-4,744.6	1,317.4	634.3	463.8	170.52	3.720	
18,100.0	13,060.0	17,812.5	12,744.0	93.5	94.3	-60.12	-4,844.6	1,318.4	634.3	461.3	173.07	3.665	
18,200.0	13,060.0	17,912.5	12,744.0	94.9	95.7	-60.12	-4,944.6	1,319.4	634.3	458.7	175.64	3.612	
18,300.0	13,060.0	18,012.5	12,744.0	96.3	97.1	-60.12	-5,044.6	1,320.4	634.3	456.1	178.21	3.559	
18,400.0	13,060.0	18,112.5	12,744.0	97.8	98.5	-60.12	-5,144.5	1,321.4	634.3	453.5	180.80	3.508	
18,500.0	13,060.0	18,212.5	12,744.0	99.2	100.0	-60.12	-5,244.5	1,322.4	634.3	450.9	183.40	3.459	
18,600.0	13,060.0	18,312.5	12,744.0	100.7	101.4	-60.12	-5,344.5	1,323.4	634.3	448.3	186.01	3.410	
18,700.0	13,060.0	18,412.5	12,744.0	102.1	102.9	-60.12	-5,444.5	1,324.4	634.3	445.7	188.63	3.363	
18,800.0	13,060.0	18,512.5	12,744.0	103.6	104.3	-60.12	-5,544.5	1,325.3	634.3	443.1	191.26	3.317	
18,900.0	13,060.0	18,612.5	12,744.0	105.1	105.8	-60.12	-5,644.5	1,326.3	634.3	440.4	193.91	3.271	
19,000.0	13,060.0	18,712.5	12,744.0	106.5	107.3	-60.12	-5,744.5	1,327.3	634.3	437.8	196.56	3.227	
19,100.0	13,060.0	18,812.5	12,744.0	108.0	108.7	-60.12	-5,844.5	1,328.3	634.3	435.1	199.21	3.184	
19,200.0	13,060.0	18,912.5	12,744.0	109.5	110.2	-60.12	-5,944.5	1,329.3	634.3	432.5	201.88	3.142	
19,300.0	13,060.0	19,012.5	12,744.0	111.0	111.7	-60.12	-6,044.5	1,330.3	634.3	429.8	204.56	3.101	
19,400.0	13,060.0	19,112.5	12,744.0	112.5	113.2	-60.12	-6,144.5	1,331.3	634.3	427.1	207.24	3.061	
19,500.0	13,060.0	19,212.5	12,744.0	114.0	114.7	-60.12	-6,244.5	1,332.3	634.3	424.4	209.93	3.022	
19,600.0	13,060.0	19,312.5	12,744.0	115.5	116.2	-60.12	-6,344.5	1,333.3	634.3	421.7	212.63	2.983	
19,700.0	13,060.0	19,412.5	12,744.0	117.0	117.7	-60.12	-6,444.5	1,334.3	634.3	419.0	215.33	2.946	
19,800.0	13,060.0	19,512.5	12,744.0	118.5	119.2	-60.12	-6,544.5	1,335.3	634.3	416.3	218.04	2.909	
19,900.0	13,060.0	19,612.5	12,744.0	120.0	120.7	-60.12	-6,644.5	1,336.3	634.3	413.6	220.76	2.873	
20,000.0	13,060.0	19,712.5	12,744.0	121.5	122.2	-60.12	-6,744.5	1,337.3	634.3	410.9	223.49	2.838	
20,100.0	13,060.0	19,812.5	12,744.0	123.0	123.7	-60.12	-6,844.5	1,338.3	634.3	408.1	226.22	2.804	
20,200.0	13,060.0	19,912.5	12,744.0	124.6	125.2	-60.12	-6,944.5	1,339.3	634.3	405.4	228.95	2.771	
20,300.0	13,060.0	20,012.5	12,744.0	126.1	126.7	-60.12	-7,044.5	1,340.3	634.3	402.6	231.70	2.738	
20,400.0	13,060.0	20,112.5	12,744.0	127.6	128.3	-60.12	-7,144.4	1,341.3	634.3	399.9	234.44	2.706	
20,500.0	13,060.0	20,212.5	12,744.0	129.1	129.8	-60.12	-7,244.4	1,342.3	634.3	397.1	237.20	2.674	
20,600.0	13,060.0	20,312.5	12,744.0	130.7	131.3	-60.12	-7,344.4	1,343.3	634.3	394.4	239.95	2.644	
20,624.2	13,060.0	20,336.7	12,744.0	131.1	131.7	-60.12	-7,368.6	1,343.5	634.3	393.7	240.62	2.636	
20,624.4	13,060.0	20,337.0	12,744.0	131.1	131.7	-60.12	-7,368.9	1,343.5	634.3	393.7	240.63	2.636	
20,627.8	13,060.0	20,340.3	12,744.0	131.1	131.7	-60.12	-7,372.2	1,343.6	634.3	393.6	240.72	2.635	
20,700.0	13,060.0	20,412.4	12,744.0	132.2	132.8	-60.12	-7,444.4	1,344.3	634.3	391.6	242.72	2.614	
20,800.0	13,060.0	20,512.4	12,744.0	133.8	134.4	-60.12	-7,544.4	1,345.3	634.3	388.9	245.48	2.584	
20,900.0	13,060.0	20,612.4	12,744.0	135.3	135.9	-60.12	-7,644.4	1,346.3	634.3	386.1	248.26	2.555	
21,000.0	13,060.0	20,712.4	12,744.0	136.8	137.5	-60.12	-7,744.4	1,347.3	634.3	383.3	251.03	2.527	
21,100.0	13,060.0	20,812.4	12,744.0	138.4	139.0	-60.12	-7,844.3	1,348.3	634.4	380.5	253.81	2.499	
21,200.0	13,060.0	20,912.4	12,744.0	139.9	140.6	-60.12	-7,944.3	1,349.3	634.4	377.8	256.60	2.472	
21,300.0	13,060.0	21,012.4	12,744.0	141.5	142.1	-60.12	-8,044.3	1,350.3	634.4	375.0	259.38	2.446	
21,400.0	13,060.0	21,112.4	12,744.0	143.1	143.6	-60.12	-8,144.3	1,351.3	634.4	372.2	262.18	2.420	
21,500.0	13,060.0	21,212.4	12,744.0	144.6	145.2	-60.12	-8,244.3	1,352.3	634.4	369.4	264.97	2.394	
21,600.0	13,060.0	21,312.4	12,744.0	146.2	146.8	-60.12	-8,344.3	1,353.4	634.4	366.6	267.77	2.369	
21,700.0	13,060.0	21,412.4	12,744.0	147.7	148.3	-60.12	-8,444.3	1,354.4	634.4	363.8	270.58	2.344	
21,800.0	13,060.0	21,512.4	12,744.0	149.3	149.9	-60.12	-8,544.3	1,355.4	634.4	361.0	273.38	2.320	
21,900.0	13,060.0	21,612.4	12,744.0	150.9	151.4	-60.12	-8,644.3	1,356.4	634.4	358.2	276.19	2.297	
22,000.0	13,060.0	21,712.4	12,744.0	152.4	153.0	-60.12	-8,744.3	1,357.4	634.4	355.4	279.01	2.274	
22,100.0	13,060.0	21,812.4	12,744.0	154.0	154.6	-60.12	-8,844.3	1,358.4	634.4	352.5	281.82	2.251	
22,200.0	13,060.0	21,912.4	12,744.0	155.6	156.1	-60.12	-8,944.3	1,359.4	634.4	349.7	284.64	2.229	
22,300.0	13,060.0	22,012.4	12,744.0	157.1	157.7	-60.12	-9,044.3	1,360.4	634.4	346.9	287.46	2.207	
22,400.0	13,060.0	22,112.4	12,744.0	158.7	159.3	-60.12	-9,144.3	1,361.4	634.4	344.1	290.29	2.185	
22,500.0	13,060.0	22,212.4	12,744.0	160.3	160.8	-60.12	-9,244.3	1,362.4	634.4	341.3	293.12	2.164	
22,600.0	13,060.0	22,312.4	12,744.0	161.9	162.4	-60.12	-9,344.3	1,363.4	634.4	338.4	295.95	2.144	

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

Permian Resources

Anticollision Report

Company:	NEW MEXICO	**Local Co-ordinate Reference:**	Well LOS VAQUEROS FED 524H
Project:	(SP) LEA	**TVD Reference:**	KB @ 3211.0usft
Reference Site:	LOS VAQUEROS FED PROJECT	**MD Reference:**	KB @ 3211.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	LOS VAQUEROS FED 524H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OWB	**Database:**	Compass
Reference Design:	PWP0	**Offset TVD Reference:**	Offset Datum

Offset Design: LOS VAQUEROS FED PROJECT - LOS VAQUEROS FED 464H - OWB - PWP0 — **Offset Site Error:** 0.0 usft

Survey Program: 0-MWD — **Rule Assigned:** — **Offset Well Error:** 0.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
22,700.0	13,060.0	22,412.4	12,744.0	163.4	164.0	-60.12	-9,444.3	1,364.4	634.4	335.6	298.78	2.123	
22,800.0	13,060.0	22,512.4	12,744.0	165.0	165.5	-60.12	-9,544.3	1,365.4	634.4	332.8	301.62	2.103	
22,900.0	13,060.0	22,612.4	12,744.0	166.6	167.1	-60.12	-9,644.3	1,366.5	634.4	329.9	304.45	2.084	
23,000.0	13,060.0	22,712.4	12,744.0	168.2	168.7	-60.12	-9,744.3	1,367.5	634.4	327.1	307.29	2.064	
23,100.0	13,060.0	22,812.4	12,744.0	169.8	170.3	-60.12	-9,844.2	1,368.5	634.4	324.3	310.14	2.046	
23,200.0	13,060.0	22,912.4	12,744.0	171.3	171.9	-60.12	-9,944.2	1,369.5	634.4	321.4	312.98	2.027	
23,300.0	13,060.0	23,012.4	12,744.0	172.9	173.4	-60.12	-10,044.2	1,370.5	634.4	318.6	315.83	2.009	
23,400.0	13,060.0	23,112.4	12,744.0	174.5	175.0	-60.12	-10,144.2	1,371.5	634.4	315.7	318.68	1.991	
23,500.0	13,060.0	23,212.4	12,744.0	176.1	176.6	-60.12	-10,244.2	1,372.5	634.4	312.9	321.53	1.973	
23,600.0	13,060.0	23,312.4	12,744.0	177.7	178.2	-60.12	-10,344.2	1,373.5	634.4	310.0	324.38	1.956	
23,700.0	13,060.0	23,412.4	12,744.0	179.3	179.8	-60.12	-10,444.2	1,374.5	634.4	307.2	327.24	1.939	
23,704.8	13,060.0	23,417.2	12,744.0	179.3	179.9	-60.12	-10,449.0	1,374.6	634.4	307.0	327.37	1.938	
23,800.0	13,060.0	23,496.6	12,744.0	180.9	181.1	-60.13	-10,528.4	1,375.4	634.6	304.1	330.47	1.920	
23,900.0	13,060.0	23,496.6	12,744.0	182.5	181.1	-60.13	-10,528.4	1,375.4	644.9	313.5	331.41	1.946	
23,960.0	13,060.0	23,496.6	12,744.0	183.4	181.1	-60.13	-10,528.4	1,375.4	658.3	329.7	328.67	2.003	

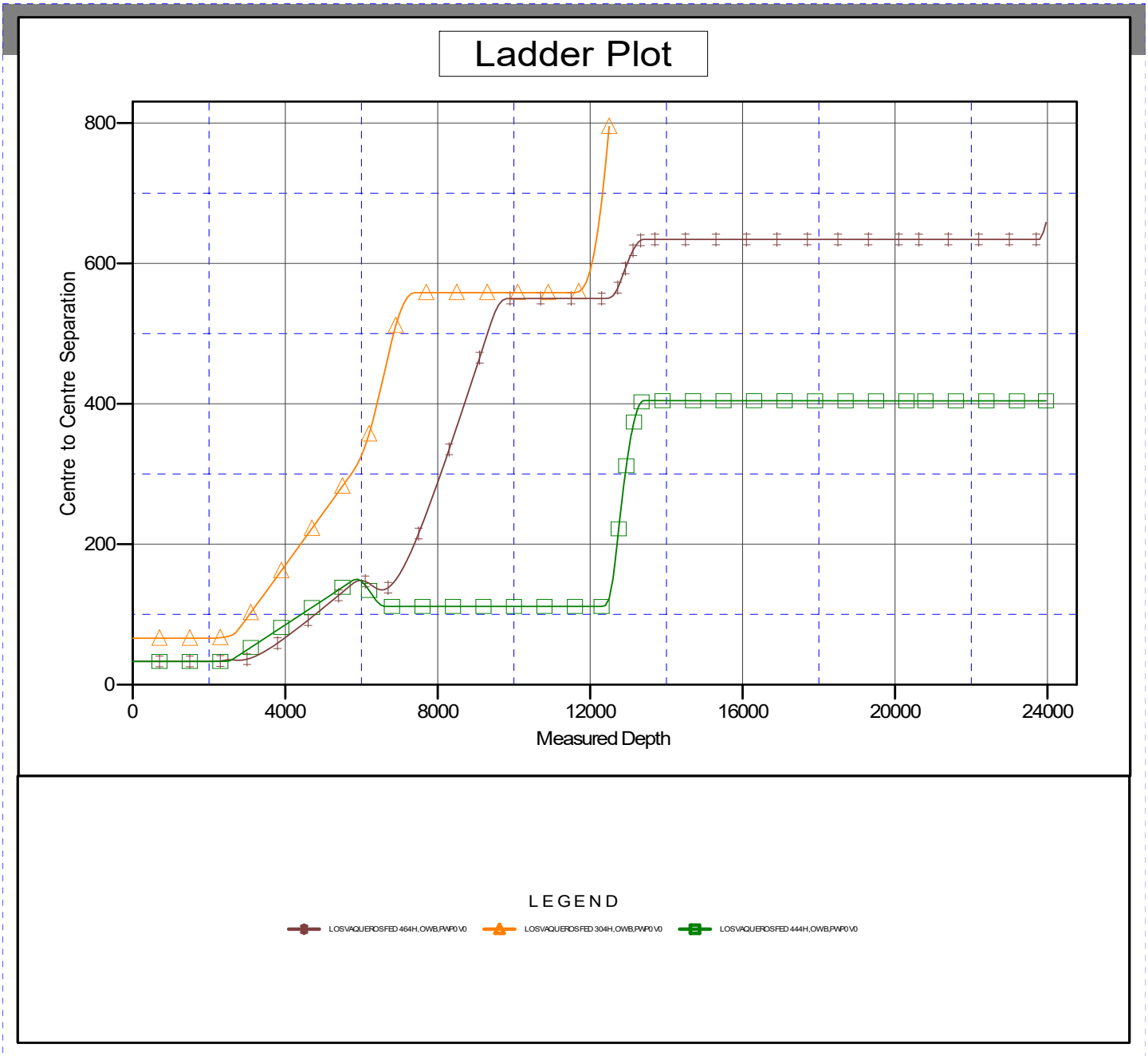
Permian Resources

Anticollision Report

Company:	NEW MEXICO	**Local Co-ordinate Reference:**	Well LOS VAQUEROS FED 524H
Project:	(SP) LEA	**TVD Reference:**	KB @ 3211.0usft
Reference Site:	LOS VAQUEROS FED PROJECT	**MD Reference:**	KB @ 3211.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	LOS VAQUEROS FED 524H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OWB	**Database:**	Compass
Reference Design:	PWP0	**Offset TVD Reference:**	Offset Datum

Reference Depths are relative to KB @ 3211.0usft
Offset Depths are relative to Offset Datum
Central Meridian is 104° 20' 0.000 W

Coordinates are relative to: LOS VAQUEROS FED 524H
Coordinate System is US State Plane 1983, New Mexico Eastern Zone
Grid Convergence at Surface is: 0.49°



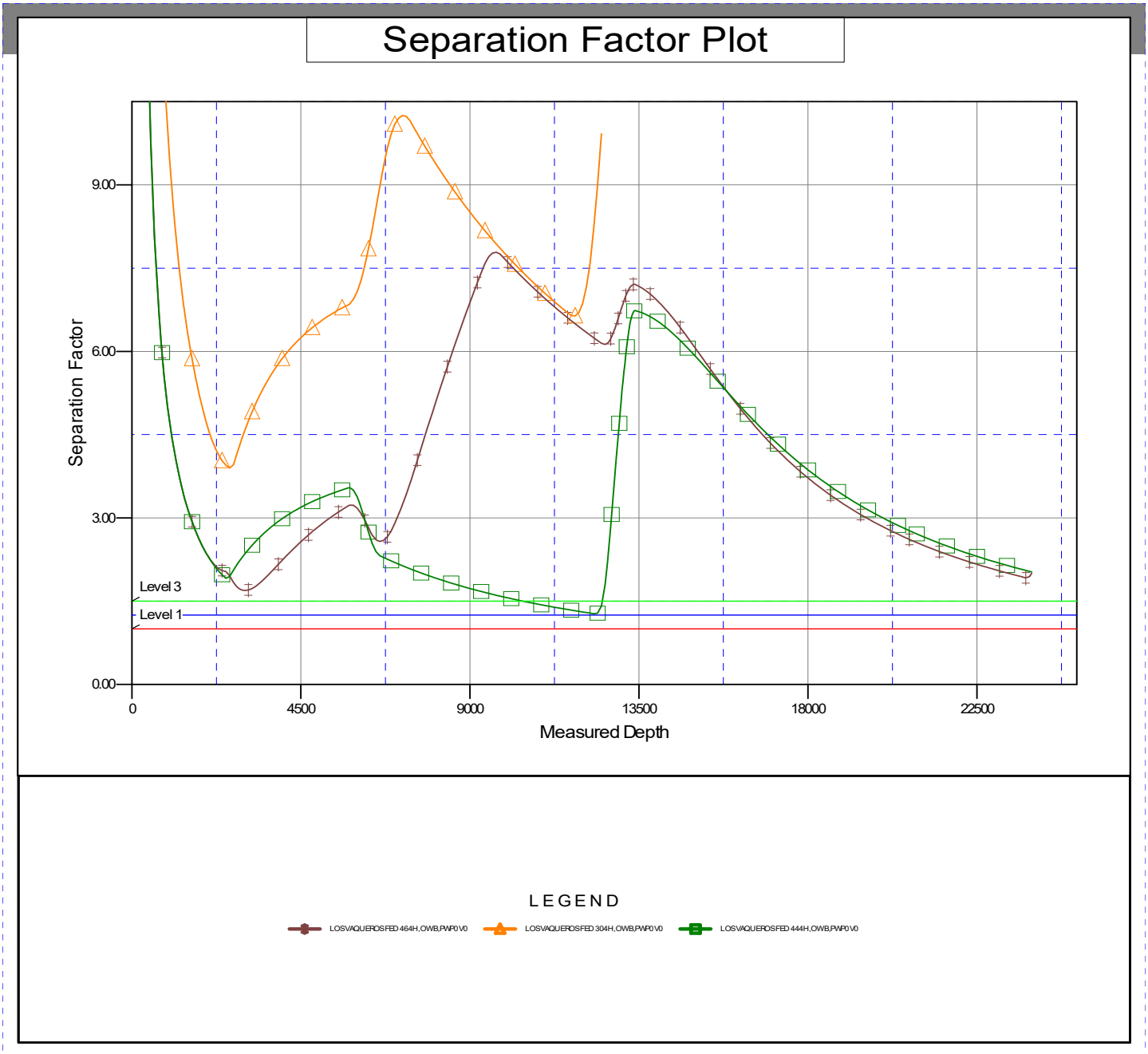
Permian Resources

Anticollision Report

Company:	NEW MEXICO	**Local Co-ordinate Reference:**	Well LOS VAQUEROS FED 524H
Project:	(SP) LEA	**TVD Reference:**	KB @ 3211.0usft
Reference Site:	LOS VAQUEROS FED PROJECT	**MD Reference:**	KB @ 3211.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	LOS VAQUEROS FED 524H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	0.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OWB	**Database:**	Compass
Reference Design:	PWP0	**Offset TVD Reference:**	Offset Datum

Reference Depths are relative to KB @ 3211.0usft
Offset Depths are relative to Offset Datum
Central Meridian is 104° 20' 0.000 W

Coordinates are relative to: LOS VAQUEROS FED 524H
Coordinate System is US State Plane 1983, New Mexico Eastern Zone
Grid Convergence at Surface is: 0.49°



NEW MEXICO

(SP) LEA
LOS VAQUEROS FED PROJECT
LOS VAQUEROS FED 524H

OWB

Plan: PWP0

Standard Planning Report - Geographic

13 December, 2023

Permian Resources

Planning Report - Geographic

Database:	Compass	**Local Co-ordinate Reference:**	Well LOS VAQUEROS FED 524H
Company:	NEW MEXICO	**TVD Reference:**	KB @ 3211.0usft
Project:	(SP) LEA	**MD Reference:**	KB @ 3211.0usft
Site:	LOS VAQUEROS FED PROJECT	**North Reference:**	Grid
Well:	LOS VAQUEROS FED 524H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OWB		
Design:	PWP0		

Project (SP) LEA

Map System:	US State Plane 1983	**System Datum:**	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site LOS VAQUEROS FED PROJECT

Site Position:		**Northing:**	372,466.94 usft	**Latitude:**	32° 1' 14.083 N
From:	Map	**Easting:**	829,705.79 usft	**Longitude:**	103° 24' 10.395 W
Position Uncertainty:	0.0 usft	**Slot Radius:**	13-3/16 "		

Well LOS VAQUEROS FED 524H

Well Position	**+N/-S**	0.0 usft	**Northing:**	372,466.36 usft	**Latitude:**	32° 1' 14.083 N
	+E/-W	0.0 usft	**Easting:**	829,639.79 usft	**Longitude:**	103° 24' 11.161 W
Position Uncertainty		0.0 usft	**Wellhead Elevation:**	usft	**Ground Level:**	3,181.0 usft
Grid Convergence:		0.49 °				

Wellbore OWB

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	12/31/2009	7.66	60.08	48,690.74828047

Design PWP0

Audit Notes:

Version:		**Phase:**	PROTOTYPE	**Tie On Depth:**	0.0

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	175.58

Plan Survey Tool Program **Date** 12/13/2023

	Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.0	23,960.0	PWP0 (OWB)	MWD OWSG_Rev2_ MWD - Star	

Permian Resources

Planning Report - Geographic

Database:	Compass	**Local Co-ordinate Reference:**	Well LOS VAQUEROS FED 524H
Company:	NEW MEXICO	**TVD Reference:**	KB @ 3211.0usft
Project:	(SP) LEA	**MD Reference:**	KB @ 3211.0usft
Site:	LOS VAQUEROS FED PROJECT	**North Reference:**	Grid
Well:	LOS VAQUEROS FED 524H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OWB		
Design:	PWP0		

Plan Sections

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,600.0	12.00	66.17	2,595.6	25.3	57.3	2.00	2.00	0.00	66.17	
5,767.4	12.00	66.17	5,693.8	291.4	659.6	0.00	0.00	0.00	0.00	
6,367.4	0.00	0.00	6,289.4	316.7	716.9	2.00	-2.00	0.00	180.00	
12,660.5	0.00	0.00	12,582.5	316.7	716.9	0.00	0.00	0.00	0.00	
13,410.5	90.00	179.43	13,060.0	-160.7	721.7	12.00	12.00	23.92	179.43	
20,624.2	90.00	179.43	13,060.0	-7,374.1	793.5	0.00	0.00	0.00	0.00	SLC-LOS VAQUER
20,624.4	90.00	179.42	13,060.0	-7,374.4	793.5	2.00	0.10	-2.00	-87.02	
23,960.0	90.00	179.42	13,060.0	-10,709.8	827.1	0.00	0.00	0.00	0.00	BHL-LOS VAQUER

Permian Resources

Planning Report - Geographic

Database:	Compass	**Local Co-ordinate Reference:**	Well LOS VAQUEROS FED 524H
Company:	NEW MEXICO	**TVD Reference:**	KB @ 3211.0usft
Project:	(SP) LEA	**MD Reference:**	KB @ 3211.0usft
Site:	LOS VAQUEROS FED PROJECT	**North Reference:**	Grid
Well:	LOS VAQUEROS FED 524H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OWB		
Design:	PWP0		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
0.0	0.00	0.00	0.0	0.0	0.0	372,466.36	829,639.79	32° 1' 14.083 N	103° 24' 11.161 W
100.0	0.00	0.00	100.0	0.0	0.0	372,466.36	829,639.79	32° 1' 14.083 N	103° 24' 11.161 W
200.0	0.00	0.00	200.0	0.0	0.0	372,466.36	829,639.79	32° 1' 14.083 N	103° 24' 11.161 W
300.0	0.00	0.00	300.0	0.0	0.0	372,466.36	829,639.79	32° 1' 14.083 N	103° 24' 11.161 W
400.0	0.00	0.00	400.0	0.0	0.0	372,466.36	829,639.79	32° 1' 14.083 N	103° 24' 11.161 W
500.0	0.00	0.00	500.0	0.0	0.0	372,466.36	829,639.79	32° 1' 14.083 N	103° 24' 11.161 W
600.0	0.00	0.00	600.0	0.0	0.0	372,466.36	829,639.79	32° 1' 14.083 N	103° 24' 11.161 W
700.0	0.00	0.00	700.0	0.0	0.0	372,466.36	829,639.79	32° 1' 14.083 N	103° 24' 11.161 W
800.0	0.00	0.00	800.0	0.0	0.0	372,466.36	829,639.79	32° 1' 14.083 N	103° 24' 11.161 W
900.0	0.00	0.00	900.0	0.0	0.0	372,466.36	829,639.79	32° 1' 14.083 N	103° 24' 11.161 W
1,000.0	0.00	0.00	1,000.0	0.0	0.0	372,466.36	829,639.79	32° 1' 14.083 N	103° 24' 11.161 W
1,100.0	0.00	0.00	1,100.0	0.0	0.0	372,466.36	829,639.79	32° 1' 14.083 N	103° 24' 11.161 W
1,200.0	0.00	0.00	1,200.0	0.0	0.0	372,466.36	829,639.79	32° 1' 14.083 N	103° 24' 11.161 W
1,300.0	0.00	0.00	1,300.0	0.0	0.0	372,466.36	829,639.79	32° 1' 14.083 N	103° 24' 11.161 W
1,400.0	0.00	0.00	1,400.0	0.0	0.0	372,466.36	829,639.79	32° 1' 14.083 N	103° 24' 11.161 W
1,500.0	0.00	0.00	1,500.0	0.0	0.0	372,466.36	829,639.79	32° 1' 14.083 N	103° 24' 11.161 W
1,600.0	0.00	0.00	1,600.0	0.0	0.0	372,466.36	829,639.79	32° 1' 14.083 N	103° 24' 11.161 W
1,700.0	0.00	0.00	1,700.0	0.0	0.0	372,466.36	829,639.79	32° 1' 14.083 N	103° 24' 11.161 W
1,800.0	0.00	0.00	1,800.0	0.0	0.0	372,466.36	829,639.79	32° 1' 14.083 N	103° 24' 11.161 W
1,900.0	0.00	0.00	1,900.0	0.0	0.0	372,466.36	829,639.79	32° 1' 14.083 N	103° 24' 11.161 W
2,000.0	0.00	0.00	2,000.0	0.0	0.0	372,466.36	829,639.79	32° 1' 14.083 N	103° 24' 11.161 W
Start Build 2.00									
2,100.0	2.00	66.17	2,100.0	0.7	1.6	372,467.06	829,641.38	32° 1' 14.090 N	103° 24' 11.143 W
2,200.0	4.00	66.17	2,199.8	2.8	6.4	372,469.18	829,646.17	32° 1' 14.110 N	103° 24' 11.087 W
2,300.0	6.00	66.17	2,299.5	6.3	14.4	372,472.70	829,654.14	32° 1' 14.144 N	103° 24' 10.994 W
2,400.0	8.00	66.17	2,398.7	11.3	25.5	372,477.62	829,665.29	32° 1' 14.192 N	103° 24' 10.864 W
2,500.0	10.00	66.17	2,497.5	17.6	39.8	372,483.95	829,679.60	32° 1' 14.253 N	103° 24' 10.697 W
2,600.0	12.00	66.17	2,595.6	25.3	57.3	372,491.66	829,697.05	32° 1' 14.328 N	103° 24' 10.494 W
Start 3167.4 hold at 2600.0 MD									
2,700.0	12.00	66.17	2,693.4	33.7	76.3	372,500.06	829,716.07	32° 1' 14.410 N	103° 24' 10.272 W
2,800.0	12.00	66.17	2,791.3	42.1	95.3	372,508.46	829,735.09	32° 1' 14.491 N	103° 24' 10.050 W
2,900.0	12.00	66.17	2,889.1	50.5	114.3	372,516.86	829,754.11	32° 1' 14.573 N	103° 24' 9.828 W
3,000.0	12.00	66.17	2,986.9	58.9	133.3	372,525.26	829,773.12	32° 1' 14.654 N	103° 24' 9.607 W
3,100.0	12.00	66.17	3,084.7	67.3	152.4	372,533.66	829,792.14	32° 1' 14.736 N	103° 24' 9.385 W
3,200.0	12.00	66.17	3,182.5	75.7	171.4	372,542.06	829,811.16	32° 1' 14.817 N	103° 24' 9.163 W
3,300.0	12.00	66.17	3,280.3	84.1	190.4	372,550.46	829,830.18	32° 1' 14.899 N	103° 24' 8.942 W
3,400.0	12.00	66.17	3,378.1	92.5	209.4	372,558.87	829,849.20	32° 1' 14.980 N	103° 24' 8.720 W
3,500.0	12.00	66.17	3,476.0	100.9	228.4	372,567.27	829,868.22	32° 1' 15.062 N	103° 24' 8.498 W
3,600.0	12.00	66.17	3,573.8	109.3	247.4	372,575.67	829,887.23	32° 1' 15.143 N	103° 24' 8.276 W
3,700.0	12.00	66.17	3,671.6	117.7	266.5	372,584.07	829,906.25	32° 1' 15.225 N	103° 24' 8.055 W
3,800.0	12.00	66.17	3,769.4	126.1	285.5	372,592.47	829,925.27	32° 1' 15.306 N	103° 24' 7.833 W
3,900.0	12.00	66.17	3,867.2	134.5	304.5	372,600.87	829,944.29	32° 1' 15.388 N	103° 24' 7.611 W
4,000.0	12.00	66.17	3,965.0	142.9	323.5	372,609.27	829,963.31	32° 1' 15.469 N	103° 24' 7.389 W
4,100.0	12.00	66.17	4,062.8	151.3	342.5	372,617.68	829,982.32	32° 1' 15.551 N	103° 24' 7.168 W
4,200.0	12.00	66.17	4,160.7	159.7	361.6	372,626.08	830,001.34	32° 1' 15.632 N	103° 24' 6.946 W
4,300.0	12.00	66.17	4,258.5	168.1	380.6	372,634.48	830,020.36	32° 1' 15.714 N	103° 24' 6.724 W
4,400.0	12.00	66.17	4,356.3	176.5	399.6	372,642.88	830,039.38	32° 1' 15.795 N	103° 24' 6.503 W
4,500.0	12.00	66.17	4,454.1	184.9	418.6	372,651.28	830,058.40	32° 1' 15.877 N	103° 24' 6.281 W
4,600.0	12.00	66.17	4,551.9	193.3	437.6	372,659.68	830,077.42	32° 1' 15.958 N	103° 24' 6.059 W
4,700.0	12.00	66.17	4,649.7	201.7	456.6	372,668.08	830,096.43	32° 1' 16.040 N	103° 24' 5.837 W
4,800.0	12.00	66.17	4,747.5	210.1	475.7	372,676.49	830,115.45	32° 1' 16.121 N	103° 24' 5.616 W
4,900.0	12.00	66.17	4,845.4	218.5	494.7	372,684.89	830,134.47	32° 1' 16.203 N	103° 24' 5.394 W
5,000.0	12.00	66.17	4,943.2	226.9	513.7	372,693.29	830,153.49	32° 1' 16.284 N	103° 24' 5.172 W
5,100.0	12.00	66.17	5,041.0	235.3	532.7	372,701.69	830,172.51	32° 1' 16.366 N	103° 24' 4.950 W

Permian Resources

Planning Report - Geographic

Database:	Compass	**Local Co-ordinate Reference:**	Well LOS VAQUEROS FED 524H
Company:	NEW MEXICO	**TVD Reference:**	KB @ 3211.0usft
Project:	(SP) LEA	**MD Reference:**	KB @ 3211.0usft
Site:	LOS VAQUEROS FED PROJECT	**North Reference:**	Grid
Well:	LOS VAQUEROS FED 524H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OWB		
Design:	PWP0		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
5,200.0	12.00	66.17	5,138.8	243.7	551.7	372,710.09	830,191.52	32° 1' 16.448 N	103° 24' 4.729 W
5,300.0	12.00	66.17	5,236.6	252.1	570.8	372,718.49	830,210.54	32° 1' 16.529 N	103° 24' 4.507 W
5,400.0	12.00	66.17	5,334.4	260.5	589.8	372,726.89	830,229.56	32° 1' 16.611 N	103° 24' 4.285 W
5,500.0	12.00	66.17	5,432.3	268.9	608.8	372,735.30	830,248.58	32° 1' 16.692 N	103° 24' 4.064 W
5,600.0	12.00	66.17	5,530.1	277.3	627.8	372,743.70	830,267.60	32° 1' 16.774 N	103° 24' 3.842 W
5,700.0	12.00	66.17	5,627.9	285.7	646.8	372,752.10	830,286.61	32° 1' 16.855 N	103° 24' 3.620 W
5,767.4	12.00	66.17	5,693.8	291.4	659.6	372,757.76	830,299.43	32° 1' 16.910 N	103° 24' 3.471 W
Start Drop -2.00									
5,800.0	11.35	66.17	5,725.7	294.1	665.7	372,760.43	830,305.47	32° 1' 16.936 N	103° 24' 3.400 W
5,900.0	9.35	66.17	5,824.1	301.3	682.1	372,767.68	830,321.90	32° 1' 17.006 N	103° 24' 3.209 W
6,000.0	7.35	66.17	5,923.0	307.2	695.4	372,773.55	830,335.18	32° 1' 17.063 N	103° 24' 3.054 W
6,100.0	5.35	66.17	6,022.4	311.7	705.5	372,778.02	830,345.29	32° 1' 17.107 N	103° 24' 2.936 W
6,200.0	3.35	66.17	6,122.1	314.7	712.4	372,781.08	830,352.23	32° 1' 17.136 N	103° 24' 2.855 W
6,300.0	1.35	66.17	6,222.0	316.4	716.2	372,782.74	830,355.97	32° 1' 17.152 N	103° 24' 2.811 W
6,367.4	0.00	0.00	6,289.4	316.7	716.9	372,783.06	830,356.70	32° 1' 17.155 N	103° 24' 2.803 W
Start 6293.1 hold at 6367.4 MD									
6,400.0	0.00	0.00	6,322.0	316.7	716.9	372,783.06	830,356.70	32° 1' 17.155 N	103° 24' 2.803 W
6,500.0	0.00	0.00	6,422.0	316.7	716.9	372,783.06	830,356.70	32° 1' 17.155 N	103° 24' 2.803 W
6,600.0	0.00	0.00	6,522.0	316.7	716.9	372,783.06	830,356.70	32° 1' 17.155 N	103° 24' 2.803 W
6,700.0	0.00	0.00	6,622.0	316.7	716.9	372,783.06	830,356.70	32° 1' 17.155 N	103° 24' 2.803 W
6,800.0	0.00	0.00	6,722.0	316.7	716.9	372,783.06	830,356.70	32° 1' 17.155 N	103° 24' 2.803 W
6,900.0	0.00	0.00	6,822.0	316.7	716.9	372,783.06	830,356.70	32° 1' 17.155 N	103° 24' 2.803 W
7,000.0	0.00	0.00	6,922.0	316.7	716.9	372,783.06	830,356.70	32° 1' 17.155 N	103° 24' 2.803 W
7,100.0	0.00	0.00	7,022.0	316.7	716.9	372,783.06	830,356.70	32° 1' 17.155 N	103° 24' 2.803 W
7,200.0	0.00	0.00	7,122.0	316.7	716.9	372,783.06	830,356.70	32° 1' 17.155 N	103° 24' 2.803 W
7,300.0	0.00	0.00	7,222.0	316.7	716.9	372,783.06	830,356.70	32° 1' 17.155 N	103° 24' 2.803 W
7,400.0	0.00	0.00	7,322.0	316.7	716.9	372,783.06	830,356.70	32° 1' 17.155 N	103° 24' 2.803 W
7,500.0	0.00	0.00	7,422.0	316.7	716.9	372,783.06	830,356.70	32° 1' 17.155 N	103° 24' 2.803 W
7,600.0	0.00	0.00	7,522.0	316.7	716.9	372,783.06	830,356.70	32° 1' 17.155 N	103° 24' 2.803 W
7,700.0	0.00	0.00	7,622.0	316.7	716.9	372,783.06	830,356.70	32° 1' 17.155 N	103° 24' 2.803 W
7,800.0	0.00	0.00	7,722.0	316.7	716.9	372,783.06	830,356.70	32° 1' 17.155 N	103° 24' 2.803 W
7,900.0	0.00	0.00	7,822.0	316.7	716.9	372,783.06	830,356.70	32° 1' 17.155 N	103° 24' 2.803 W
8,000.0	0.00	0.00	7,922.0	316.7	716.9	372,783.06	830,356.70	32° 1' 17.155 N	103° 24' 2.803 W
8,100.0	0.00	0.00	8,022.0	316.7	716.9	372,783.06	830,356.70	32° 1' 17.155 N	103° 24' 2.803 W
8,200.0	0.00	0.00	8,122.0	316.7	716.9	372,783.06	830,356.70	32° 1' 17.155 N	103° 24' 2.803 W
8,300.0	0.00	0.00	8,222.0	316.7	716.9	372,783.06	830,356.70	32° 1' 17.155 N	103° 24' 2.803 W
8,400.0	0.00	0.00	8,322.0	316.7	716.9	372,783.06	830,356.70	32° 1' 17.155 N	103° 24' 2.803 W
8,500.0	0.00	0.00	8,422.0	316.7	716.9	372,783.06	830,356.70	32° 1' 17.155 N	103° 24' 2.803 W
8,600.0	0.00	0.00	8,522.0	316.7	716.9	372,783.06	830,356.70	32° 1' 17.155 N	103° 24' 2.803 W
8,700.0	0.00	0.00	8,622.0	316.7	716.9	372,783.06	830,356.70	32° 1' 17.155 N	103° 24' 2.803 W
8,800.0	0.00	0.00	8,722.0	316.7	716.9	372,783.06	830,356.70	32° 1' 17.155 N	103° 24' 2.803 W
8,900.0	0.00	0.00	8,822.0	316.7	716.9	372,783.06	830,356.70	32° 1' 17.155 N	103° 24' 2.803 W
9,000.0	0.00	0.00	8,922.0	316.7	716.9	372,783.06	830,356.70	32° 1' 17.155 N	103° 24' 2.803 W
9,100.0	0.00	0.00	9,022.0	316.7	716.9	372,783.06	830,356.70	32° 1' 17.155 N	103° 24' 2.803 W
9,200.0	0.00	0.00	9,122.0	316.7	716.9	372,783.06	830,356.70	32° 1' 17.155 N	103° 24' 2.803 W
9,300.0	0.00	0.00	9,222.0	316.7	716.9	372,783.06	830,356.70	32° 1' 17.155 N	103° 24' 2.803 W
9,400.0	0.00	0.00	9,322.0	316.7	716.9	372,783.06	830,356.70	32° 1' 17.155 N	103° 24' 2.803 W
9,500.0	0.00	0.00	9,422.0	316.7	716.9	372,783.06	830,356.70	32° 1' 17.155 N	103° 24' 2.803 W
9,600.0	0.00	0.00	9,522.0	316.7	716.9	372,783.06	830,356.70	32° 1' 17.155 N	103° 24' 2.803 W
9,700.0	0.00	0.00	9,622.0	316.7	716.9	372,783.06	830,356.70	32° 1' 17.155 N	103° 24' 2.803 W
9,800.0	0.00	0.00	9,722.0	316.7	716.9	372,783.06	830,356.70	32° 1' 17.155 N	103° 24' 2.803 W
9,900.0	0.00	0.00	9,822.0	316.7	716.9	372,783.06	830,356.70	32° 1' 17.155 N	103° 24' 2.803 W
10,000.0	0.00	0.00	9,922.0	316.7	716.9	372,783.06	830,356.70	32° 1' 17.155 N	103° 24' 2.803 W
10,100.0	0.00	0.00	10,022.0	316.7	716.9	372,783.06	830,356.70	32° 1' 17.155 N	103° 24' 2.803 W

Permian Resources

Planning Report - Geographic

Database:	Compass	**Local Co-ordinate Reference:**	Well LOS VAQUEROS FED 524H
Company:	NEW MEXICO	**TVD Reference:**	KB @ 3211.0usft
Project:	(SP) LEA	**MD Reference:**	KB @ 3211.0usft
Site:	LOS VAQUEROS FED PROJECT	**North Reference:**	Grid
Well:	LOS VAQUEROS FED 524H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OWB		
Design:	PWP0		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
10,200.0	0.00	0.00	10,122.0	316.7	716.9	372,783.06	830,356.70	32° 1' 17.155 N	103° 24' 2.803 W
10,300.0	0.00	0.00	10,222.0	316.7	716.9	372,783.06	830,356.70	32° 1' 17.155 N	103° 24' 2.803 W
10,400.0	0.00	0.00	10,322.0	316.7	716.9	372,783.06	830,356.70	32° 1' 17.155 N	103° 24' 2.803 W
10,500.0	0.00	0.00	10,422.0	316.7	716.9	372,783.06	830,356.70	32° 1' 17.155 N	103° 24' 2.803 W
10,600.0	0.00	0.00	10,522.0	316.7	716.9	372,783.06	830,356.70	32° 1' 17.155 N	103° 24' 2.803 W
10,700.0	0.00	0.00	10,622.0	316.7	716.9	372,783.06	830,356.70	32° 1' 17.155 N	103° 24' 2.803 W
10,800.0	0.00	0.00	10,722.0	316.7	716.9	372,783.06	830,356.70	32° 1' 17.155 N	103° 24' 2.803 W
10,900.0	0.00	0.00	10,822.0	316.7	716.9	372,783.06	830,356.70	32° 1' 17.155 N	103° 24' 2.803 W
11,000.0	0.00	0.00	10,922.0	316.7	716.9	372,783.06	830,356.70	32° 1' 17.155 N	103° 24' 2.803 W
11,100.0	0.00	0.00	11,022.0	316.7	716.9	372,783.06	830,356.70	32° 1' 17.155 N	103° 24' 2.803 W
11,200.0	0.00	0.00	11,122.0	316.7	716.9	372,783.06	830,356.70	32° 1' 17.155 N	103° 24' 2.803 W
11,300.0	0.00	0.00	11,222.0	316.7	716.9	372,783.06	830,356.70	32° 1' 17.155 N	103° 24' 2.803 W
11,400.0	0.00	0.00	11,322.0	316.7	716.9	372,783.06	830,356.70	32° 1' 17.155 N	103° 24' 2.803 W
11,500.0	0.00	0.00	11,422.0	316.7	716.9	372,783.06	830,356.70	32° 1' 17.155 N	103° 24' 2.803 W
11,600.0	0.00	0.00	11,522.0	316.7	716.9	372,783.06	830,356.70	32° 1' 17.155 N	103° 24' 2.803 W
11,700.0	0.00	0.00	11,622.0	316.7	716.9	372,783.06	830,356.70	32° 1' 17.155 N	103° 24' 2.803 W
11,800.0	0.00	0.00	11,722.0	316.7	716.9	372,783.06	830,356.70	32° 1' 17.155 N	103° 24' 2.803 W
11,900.0	0.00	0.00	11,822.0	316.7	716.9	372,783.06	830,356.70	32° 1' 17.155 N	103° 24' 2.803 W
12,000.0	0.00	0.00	11,922.0	316.7	716.9	372,783.06	830,356.70	32° 1' 17.155 N	103° 24' 2.803 W
12,100.0	0.00	0.00	12,022.0	316.7	716.9	372,783.06	830,356.70	32° 1' 17.155 N	103° 24' 2.803 W
12,200.0	0.00	0.00	12,122.0	316.7	716.9	372,783.06	830,356.70	32° 1' 17.155 N	103° 24' 2.803 W
12,300.0	0.00	0.00	12,222.0	316.7	716.9	372,783.06	830,356.70	32° 1' 17.155 N	103° 24' 2.803 W
12,400.0	0.00	0.00	12,322.0	316.7	716.9	372,783.06	830,356.70	32° 1' 17.155 N	103° 24' 2.803 W
12,500.0	0.00	0.00	12,422.0	316.7	716.9	372,783.06	830,356.70	32° 1' 17.155 N	103° 24' 2.803 W
12,600.0	0.00	0.00	12,522.0	316.7	716.9	372,783.06	830,356.70	32° 1' 17.155 N	103° 24' 2.803 W
12,660.5	0.00	0.00	12,582.5	316.7	716.9	372,783.06	830,356.70	32° 1' 17.155 N	103° 24' 2.803 W
Start DLS 12.00 TFO 179.43									
12,675.0	1.74	179.43	12,597.0	316.5	716.9	372,782.84	830,356.70	32° 1' 17.153 N	103° 24' 2.803 W
12,700.0	4.74	179.43	12,622.0	315.1	716.9	372,781.42	830,356.71	32° 1' 17.139 N	103° 24' 2.803 W
12,725.0	7.74	179.43	12,646.8	312.3	717.0	372,778.70	830,356.74	32° 1' 17.112 N	103° 24' 2.803 W
12,750.0	10.74	179.43	12,671.5	308.3	717.0	372,774.69	830,356.78	32° 1' 17.073 N	103° 24' 2.803 W
12,775.0	13.74	179.43	12,695.9	303.0	717.0	372,769.39	830,356.83	32° 1' 17.020 N	103° 24' 2.803 W
12,800.0	16.74	179.43	12,720.1	296.5	717.1	372,762.82	830,356.90	32° 1' 16.955 N	103° 24' 2.803 W
12,825.0	19.74	179.43	12,743.8	288.6	717.2	372,754.99	830,356.98	32° 1' 16.878 N	103° 24' 2.803 W
12,850.0	22.74	179.43	12,767.1	279.6	717.3	372,745.93	830,357.07	32° 1' 16.788 N	103° 24' 2.802 W
12,875.0	25.74	179.43	12,789.9	269.3	717.4	372,735.67	830,357.17	32° 1' 16.686 N	103° 24' 2.802 W
12,900.0	28.74	179.43	12,812.1	257.9	717.5	372,724.23	830,357.28	32° 1' 16.573 N	103° 24' 2.802 W
12,925.0	31.74	179.43	12,833.7	245.3	717.6	372,711.64	830,357.41	32° 1' 16.449 N	103° 24' 2.802 W
12,950.0	34.74	179.43	12,854.6	231.6	717.8	372,697.94	830,357.55	32° 1' 16.313 N	103° 24' 2.802 W
12,975.0	37.74	179.43	12,874.8	216.8	717.9	372,683.16	830,357.69	32° 1' 16.167 N	103° 24' 2.801 W
13,000.0	40.74	179.43	12,894.1	201.0	718.1	372,667.34	830,357.85	32° 1' 16.010 N	103° 24' 2.801 W
13,025.0	43.74	179.43	12,912.6	184.2	718.2	372,650.54	830,358.02	32° 1' 15.844 N	103° 24' 2.801 W
13,050.0	46.74	179.43	12,930.2	166.4	718.4	372,632.79	830,358.20	32° 1' 15.668 N	103° 24' 2.801 W
13,075.0	49.74	179.43	12,946.9	147.8	718.6	372,614.14	830,358.38	32° 1' 15.484 N	103° 24' 2.800 W
13,100.0	52.74	179.43	12,962.5	128.3	718.8	372,594.65	830,358.58	32° 1' 15.291 N	103° 24' 2.800 W
13,125.0	55.74	179.43	12,977.1	108.0	719.0	372,574.37	830,358.78	32° 1' 15.090 N	103° 24' 2.800 W
13,150.0	58.74	179.43	12,990.7	87.0	719.2	372,553.35	830,358.99	32° 1' 14.882 N	103° 24' 2.799 W
13,175.0	61.74	179.43	13,003.1	65.3	719.4	372,531.65	830,359.20	32° 1' 14.667 N	103° 24' 2.799 W
13,200.0	64.74	179.43	13,014.3	43.0	719.6	372,509.33	830,359.43	32° 1' 14.447 N	103° 24' 2.799 W
13,225.0	67.74	179.43	13,024.4	20.1	719.9	372,486.45	830,359.65	32° 1' 14.220 N	103° 24' 2.798 W
13,250.0	70.74	179.43	13,033.3	-3.3	720.1	372,463.07	830,359.89	32° 1' 13.989 N	103° 24' 2.798 W
13,275.0	73.74	179.43	13,040.9	-27.1	720.3	372,439.27	830,360.12	32° 1' 13.753 N	103° 24' 2.798 W
13,300.0	76.74	179.43	13,047.2	-51.3	720.6	372,415.10	830,360.36	32° 1' 13.514 N	103° 24' 2.797 W
13,325.0	79.74	179.43	13,052.3	-75.7	720.8	372,390.63	830,360.61	32° 1' 13.272 N	103° 24' 2.797 W

Permian Resources

Planning Report - Geographic

Database:	Compass	**Local Co-ordinate Reference:**	Well LOS VAQUEROS FED 524H
Company:	NEW MEXICO	**TVD Reference:**	KB @ 3211.0usft
Project:	(SP) LEA	**MD Reference:**	KB @ 3211.0usft
Site:	LOS VAQUEROS FED PROJECT	**North Reference:**	Grid
Well:	LOS VAQUEROS FED 524H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OWB		
Design:	PWP0		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
13,350.0	82.74	179.43	13,056.1	-100.4	721.1	372,365.92	830,360.85	32° 1' 13.027 N	103° 24' 2.797 W
13,375.0	85.74	179.43	13,058.6	-125.3	721.3	372,341.05	830,361.10	32° 1' 12.781 N	103° 24' 2.796 W
13,400.0	88.74	179.43	13,059.8	-150.3	721.6	372,316.09	830,361.35	32° 1' 12.534 N	103° 24' 2.796 W
13,410.5	90.00	179.43	13,060.0	-160.7	721.7	372,305.62	830,361.45	32° 1' 12.431 N	103° 24' 2.796 W
Start 7213.7 hold at 13410.5 MD									
13,500.0	90.00	179.43	13,060.0	-250.3	722.6	372,216.09	830,362.35	32° 1' 11.545 N	103° 24' 2.794 W
13,600.0	90.00	179.43	13,060.0	-350.3	723.6	372,116.10	830,363.34	32° 1' 10.555 N	103° 24' 2.793 W
13,700.0	90.00	179.43	13,060.0	-450.3	724.5	372,016.10	830,364.34	32° 1' 9.566 N	103° 24' 2.791 W
13,800.0	90.00	179.43	13,060.0	-550.3	725.5	371,916.11	830,365.33	32° 1' 8.576 N	103° 24' 2.790 W
13,900.0	90.00	179.43	13,060.0	-650.2	726.5	371,816.11	830,366.33	32° 1' 7.587 N	103° 24' 2.788 W
14,000.0	90.00	179.43	13,060.0	-750.2	727.5	371,716.12	830,367.33	32° 1' 6.597 N	103° 24' 2.787 W
14,100.0	90.00	179.43	13,060.0	-850.2	728.5	371,616.12	830,368.32	32° 1' 5.607 N	103° 24' 2.785 W
14,200.0	90.00	179.43	13,060.0	-950.2	729.5	371,516.13	830,369.32	32° 1' 4.618 N	103° 24' 2.783 W
14,300.0	90.00	179.43	13,060.0	-1,050.2	730.5	371,416.13	830,370.31	32° 1' 3.628 N	103° 24' 2.782 W
14,400.0	90.00	179.43	13,060.0	-1,150.2	731.5	371,316.14	830,371.31	32° 1' 2.639 N	103° 24' 2.780 W
14,500.0	90.00	179.43	13,060.0	-1,250.2	732.5	371,216.14	830,372.31	32° 1' 1.649 N	103° 24' 2.779 W
14,600.0	90.00	179.43	13,060.0	-1,350.2	733.5	371,116.15	830,373.30	32° 1' 0.660 N	103° 24' 2.777 W
14,700.0	90.00	179.43	13,060.0	-1,450.2	734.5	371,016.15	830,374.30	32° 0' 59.670 N	103° 24' 2.776 W
14,800.0	90.00	179.43	13,060.0	-1,550.2	735.5	370,916.16	830,375.30	32° 0' 58.681 N	103° 24' 2.774 W
14,900.0	90.00	179.43	13,060.0	-1,650.2	736.5	370,816.16	830,376.29	32° 0' 57.691 N	103° 24' 2.773 W
15,000.0	90.00	179.43	13,060.0	-1,750.2	737.5	370,716.17	830,377.29	32° 0' 56.702 N	103° 24' 2.771 W
15,100.0	90.00	179.43	13,060.0	-1,850.2	738.5	370,616.17	830,378.28	32° 0' 55.712 N	103° 24' 2.770 W
15,200.0	90.00	179.43	13,060.0	-1,950.2	739.5	370,516.18	830,379.28	32° 0' 54.723 N	103° 24' 2.768 W
15,300.0	90.00	179.43	13,060.0	-2,050.2	740.5	370,416.18	830,380.28	32° 0' 53.733 N	103° 24' 2.766 W
15,400.0	90.00	179.43	13,060.0	-2,150.2	741.5	370,316.19	830,381.27	32° 0' 52.743 N	103° 24' 2.765 W
15,500.0	90.00	179.43	13,060.0	-2,250.2	742.5	370,216.19	830,382.27	32° 0' 51.754 N	103° 24' 2.763 W
15,600.0	90.00	179.43	13,060.0	-2,350.2	743.5	370,116.20	830,383.26	32° 0' 50.764 N	103° 24' 2.762 W
15,700.0	90.00	179.43	13,060.0	-2,450.2	744.5	370,016.20	830,384.26	32° 0' 49.775 N	103° 24' 2.760 W
15,800.0	90.00	179.43	13,060.0	-2,550.2	745.5	369,916.20	830,385.26	32° 0' 48.785 N	103° 24' 2.759 W
15,900.0	90.00	179.43	13,060.0	-2,650.1	746.5	369,816.21	830,386.25	32° 0' 47.796 N	103° 24' 2.757 W
16,000.0	90.00	179.43	13,060.0	-2,750.1	747.5	369,716.21	830,387.25	32° 0' 46.806 N	103° 24' 2.756 W
16,100.0	90.00	179.43	13,060.0	-2,850.1	748.5	369,616.22	830,388.24	32° 0' 45.817 N	103° 24' 2.754 W
16,200.0	90.00	179.43	13,060.0	-2,950.1	749.5	369,516.22	830,389.24	32° 0' 44.827 N	103° 24' 2.752 W
16,300.0	90.00	179.43	13,060.0	-3,050.1	750.4	369,416.23	830,390.24	32° 0' 43.838 N	103° 24' 2.751 W
16,400.0	90.00	179.43	13,060.0	-3,150.1	751.4	369,316.23	830,391.23	32° 0' 42.848 N	103° 24' 2.749 W
16,500.0	90.00	179.43	13,060.0	-3,250.1	752.4	369,216.24	830,392.23	32° 0' 41.858 N	103° 24' 2.748 W
16,600.0	90.00	179.43	13,060.0	-3,350.1	753.4	369,116.24	830,393.22	32° 0' 40.869 N	103° 24' 2.746 W
16,700.0	90.00	179.43	13,060.0	-3,450.1	754.4	369,016.25	830,394.22	32° 0' 39.879 N	103° 24' 2.745 W
16,800.0	90.00	179.43	13,060.0	-3,550.1	755.4	368,916.25	830,395.22	32° 0' 38.890 N	103° 24' 2.743 W
16,900.0	90.00	179.43	13,060.0	-3,650.1	756.4	368,816.26	830,396.21	32° 0' 37.900 N	103° 24' 2.742 W
17,000.0	90.00	179.43	13,060.0	-3,750.1	757.4	368,716.26	830,397.21	32° 0' 36.911 N	103° 24' 2.740 W
17,100.0	90.00	179.43	13,060.0	-3,850.1	758.4	368,616.27	830,398.21	32° 0' 35.921 N	103° 24' 2.739 W
17,200.0	90.00	179.43	13,060.0	-3,950.1	759.4	368,516.27	830,399.20	32° 0' 34.932 N	103° 24' 2.737 W
17,300.0	90.00	179.43	13,060.0	-4,050.1	760.4	368,416.28	830,400.20	32° 0' 33.942 N	103° 24' 2.735 W
17,400.0	90.00	179.43	13,060.0	-4,150.1	761.4	368,316.28	830,401.19	32° 0' 32.953 N	103° 24' 2.734 W
17,500.0	90.00	179.43	13,060.0	-4,250.1	762.4	368,216.29	830,402.19	32° 0' 31.963 N	103° 24' 2.732 W
17,600.0	90.00	179.43	13,060.0	-4,350.1	763.4	368,116.29	830,403.19	32° 0' 30.973 N	103° 24' 2.731 W
17,700.0	90.00	179.43	13,060.0	-4,450.1	764.4	368,016.30	830,404.18	32° 0' 29.984 N	103° 24' 2.729 W
17,800.0	90.00	179.43	13,060.0	-4,550.1	765.4	367,916.30	830,405.18	32° 0' 28.994 N	103° 24' 2.728 W
17,900.0	90.00	179.43	13,060.0	-4,650.0	766.4	367,816.31	830,406.17	32° 0' 28.005 N	103° 24' 2.726 W
18,000.0	90.00	179.43	13,060.0	-4,750.0	767.4	367,716.31	830,407.17	32° 0' 27.015 N	103° 24' 2.725 W
18,100.0	90.00	179.43	13,060.0	-4,850.0	768.4	367,616.32	830,408.17	32° 0' 26.026 N	103° 24' 2.723 W
18,200.0	90.00	179.43	13,060.0	-4,950.0	769.4	367,516.32	830,409.16	32° 0' 25.036 N	103° 24' 2.722 W
18,300.0	90.00	179.43	13,060.0	-5,050.0	770.4	367,416.33	830,410.16	32° 0' 24.047 N	103° 24' 2.720 W

Permian Resources

Planning Report - Geographic

Database:	Compass	**Local Co-ordinate Reference:**	Well LOS VAQUEROS FED 524H
Company:	NEW MEXICO	**TVD Reference:**	KB @ 3211.0usft
Project:	(SP) LEA	**MD Reference:**	KB @ 3211.0usft
Site:	LOS VAQUEROS FED PROJECT	**North Reference:**	Grid
Well:	LOS VAQUEROS FED 524H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OWB		
Design:	PWP0		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
18,400.0	90.00	179.43	13,060.0	-5,150.0	771.4	367,316.33	830,411.15	32° 0' 23.057 N	103° 24' 2.718 W
18,500.0	90.00	179.43	13,060.0	-5,250.0	772.4	367,216.34	830,412.15	32° 0' 22.068 N	103° 24' 2.717 W
18,600.0	90.00	179.43	13,060.0	-5,350.0	773.4	367,116.34	830,413.15	32° 0' 21.078 N	103° 24' 2.715 W
18,700.0	90.00	179.43	13,060.0	-5,450.0	774.4	367,016.35	830,414.14	32° 0' 20.088 N	103° 24' 2.714 W
18,800.0	90.00	179.43	13,060.0	-5,550.0	775.3	366,916.35	830,415.14	32° 0' 19.099 N	103° 24' 2.712 W
18,900.0	90.00	179.43	13,060.0	-5,650.0	776.3	366,816.36	830,416.13	32° 0' 18.109 N	103° 24' 2.711 W
19,000.0	90.00	179.43	13,060.0	-5,750.0	777.3	366,716.36	830,417.13	32° 0' 17.120 N	103° 24' 2.709 W
19,100.0	90.00	179.43	13,060.0	-5,850.0	778.3	366,616.37	830,418.13	32° 0' 16.130 N	103° 24' 2.708 W
19,200.0	90.00	179.43	13,060.0	-5,950.0	779.3	366,516.37	830,419.12	32° 0' 15.141 N	103° 24' 2.706 W
19,300.0	90.00	179.43	13,060.0	-6,050.0	780.3	366,416.38	830,420.12	32° 0' 14.151 N	103° 24' 2.705 W
19,400.0	90.00	179.43	13,060.0	-6,150.0	781.3	366,316.38	830,421.11	32° 0' 13.162 N	103° 24' 2.703 W
19,500.0	90.00	179.43	13,060.0	-6,250.0	782.3	366,216.39	830,422.11	32° 0' 12.172 N	103° 24' 2.701 W
19,600.0	90.00	179.43	13,060.0	-6,350.0	783.3	366,116.39	830,423.11	32° 0' 11.183 N	103° 24' 2.700 W
19,700.0	90.00	179.43	13,060.0	-6,450.0	784.3	366,016.40	830,424.10	32° 0' 10.193 N	103° 24' 2.698 W
19,800.0	90.00	179.43	13,060.0	-6,550.0	785.3	365,916.40	830,425.10	32° 0' 9.203 N	103° 24' 2.697 W
19,900.0	90.00	179.43	13,060.0	-6,649.9	786.3	365,816.41	830,426.10	32° 0' 8.214 N	103° 24' 2.695 W
20,000.0	90.00	179.43	13,060.0	-6,749.9	787.3	365,716.41	830,427.09	32° 0' 7.224 N	103° 24' 2.694 W
20,100.0	90.00	179.43	13,060.0	-6,849.9	788.3	365,616.42	830,428.09	32° 0' 6.235 N	103° 24' 2.692 W
20,200.0	90.00	179.43	13,060.0	-6,949.9	789.3	365,516.42	830,429.08	32° 0' 5.245 N	103° 24' 2.691 W
20,300.0	90.00	179.43	13,060.0	-7,049.9	790.3	365,416.43	830,430.08	32° 0' 4.256 N	103° 24' 2.689 W
20,400.0	90.00	179.43	13,060.0	-7,149.9	791.3	365,316.43	830,431.08	32° 0' 3.266 N	103° 24' 2.687 W
20,500.0	90.00	179.43	13,060.0	-7,249.9	792.3	365,216.44	830,432.07	32° 0' 2.277 N	103° 24' 2.686 W
20,600.0	90.00	179.43	13,060.0	-7,349.9	793.3	365,116.44	830,433.07	32° 0' 1.287 N	103° 24' 2.684 W
20,624.2	90.00	179.43	13,060.0	-7,374.1	793.5	365,092.27	830,433.31	32° 0' 1.048 N	103° 24' 2.684 W
20,624.4	90.00	179.42	13,060.0	-7,374.4	793.5	365,092.00	830,433.31	32° 0' 1.045 N	103° 24' 2.684 W
Start 3335.6 hold at 20624.4 MD									
20,700.0	90.00	179.42	13,060.0	-7,449.9	794.3	365,016.45	830,434.07	32° 0' 0.298 N	103° 24' 2.683 W
20,800.0	90.00	179.42	13,060.0	-7,549.9	795.3	364,916.45	830,435.08	31° 59' 59.308 N	103° 24' 2.681 W
20,900.0	90.00	179.42	13,060.0	-7,649.9	796.3	364,816.46	830,436.08	31° 59' 58.318 N	103° 24' 2.679 W
21,000.0	90.00	179.42	13,060.0	-7,749.9	797.3	364,716.46	830,437.09	31° 59' 57.329 N	103° 24' 2.678 W
21,100.0	90.00	179.42	13,060.0	-7,849.9	798.3	364,616.47	830,438.09	31° 59' 56.339 N	103° 24' 2.676 W
21,200.0	90.00	179.42	13,060.0	-7,949.9	799.3	364,516.47	830,439.10	31° 59' 55.350 N	103° 24' 2.674 W
21,300.0	90.00	179.42	13,060.0	-8,049.9	800.3	364,416.48	830,440.10	31° 59' 54.360 N	103° 24' 2.673 W
21,400.0	90.00	179.42	13,060.0	-8,149.9	801.3	364,316.48	830,441.11	31° 59' 53.371 N	103° 24' 2.671 W
21,500.0	90.00	179.42	13,060.0	-8,249.9	802.3	364,216.49	830,442.11	31° 59' 52.381 N	103° 24' 2.669 W
21,600.0	90.00	179.42	13,060.0	-8,349.9	803.3	364,116.49	830,443.12	31° 59' 51.392 N	103° 24' 2.668 W
21,700.0	90.00	179.42	13,060.0	-8,449.9	804.3	364,016.50	830,444.13	31° 59' 50.402 N	103° 24' 2.666 W
21,800.0	90.00	179.42	13,060.0	-8,549.9	805.3	363,916.50	830,445.13	31° 59' 49.413 N	103° 24' 2.664 W
21,900.0	90.00	179.42	13,060.0	-8,649.8	806.3	363,816.51	830,446.14	31° 59' 48.423 N	103° 24' 2.663 W
22,000.0	90.00	179.42	13,060.0	-8,749.8	807.4	363,716.51	830,447.14	31° 59' 47.433 N	103° 24' 2.661 W
22,100.0	90.00	179.42	13,060.0	-8,849.8	808.4	363,616.52	830,448.15	31° 59' 46.444 N	103° 24' 2.659 W
22,200.0	90.00	179.42	13,060.0	-8,949.8	809.4	363,516.52	830,449.15	31° 59' 45.454 N	103° 24' 2.658 W
22,300.0	90.00	179.42	13,060.0	-9,049.8	810.4	363,416.53	830,450.16	31° 59' 44.465 N	103° 24' 2.656 W
22,400.0	90.00	179.42	13,060.0	-9,149.8	811.4	363,316.53	830,451.16	31° 59' 43.475 N	103° 24' 2.655 W
22,500.0	90.00	179.42	13,060.0	-9,249.8	812.4	363,216.54	830,452.17	31° 59' 42.486 N	103° 24' 2.653 W
22,600.0	90.00	179.42	13,060.0	-9,349.8	813.4	363,116.54	830,453.17	31° 59' 41.496 N	103° 24' 2.651 W
22,700.0	90.00	179.42	13,060.0	-9,449.8	814.4	363,016.55	830,454.18	31° 59' 40.507 N	103° 24' 2.650 W
22,800.0	90.00	179.42	13,060.0	-9,549.8	815.4	362,916.55	830,455.19	31° 59' 39.517 N	103° 24' 2.648 W
22,900.0	90.00	179.42	13,060.0	-9,649.8	816.4	362,816.56	830,456.19	31° 59' 38.528 N	103° 24' 2.646 W
23,000.0	90.00	179.42	13,060.0	-9,749.8	817.4	362,716.56	830,457.20	31° 59' 37.538 N	103° 24' 2.645 W
23,100.0	90.00	179.42	13,060.0	-9,849.8	818.4	362,616.57	830,458.20	31° 59' 36.548 N	103° 24' 2.643 W
23,200.0	90.00	179.42	13,060.0	-9,949.8	819.4	362,516.57	830,459.21	31° 59' 35.559 N	103° 24' 2.641 W
23,300.0	90.00	179.42	13,060.0	-10,049.8	820.4	362,416.58	830,460.21	31° 59' 34.569 N	103° 24' 2.640 W
23,400.0	90.00	179.42	13,060.0	-10,149.8	821.4	362,316.58	830,461.22	31° 59' 33.580 N	103° 24' 2.638 W

Permian Resources

Planning Report - Geographic

Database:	Compass	**Local Co-ordinate Reference:**	Well LOS VAQUEROS FED 524H
Company:	NEW MEXICO	**TVD Reference:**	KB @ 3211.0usft
Project:	(SP) LEA	**MD Reference:**	KB @ 3211.0usft
Site:	LOS VAQUEROS FED PROJECT	**North Reference:**	Grid
Well:	LOS VAQUEROS FED 524H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OWB		
Design:	PWP0		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
23,500.0	90.00	179.42	13,060.0	-10,249.8	822.4	362,216.59	830,462.22	31° 59' 32.590 N	103° 24' 2.636 W
23,600.0	90.00	179.42	13,060.0	-10,349.8	823.4	362,116.59	830,463.23	31° 59' 31.601 N	103° 24' 2.635 W
23,700.0	90.00	179.42	13,060.0	-10,449.8	824.4	362,016.60	830,464.23	31° 59' 30.611 N	103° 24' 2.633 W
23,800.0	90.00	179.42	13,060.0	-10,549.8	825.5	361,916.60	830,465.24	31° 59' 29.622 N	103° 24' 2.631 W
23,900.0	90.00	179.42	13,060.0	-10,649.7	826.5	361,816.61	830,466.25	31° 59' 28.632 N	103° 24' 2.630 W
23,960.0	90.00	179.42	13,060.0	-10,709.8	827.1	361,756.60	830,466.85	31° 59' 28.038 N	103° 24' 2.629 W
TD at 23960.0									

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
FTP-LOS VAQUEROS - plan misses target center by 156.8usft at 13069.1usft MD (12943.0 TVD, 152.3 N, 718.5 E) - Point	0.00	0.00	13,060.0	256.7	716.9	372,723.04	830,356.70	32° 1' 16.562 N	103° 24' 2.809 W
LTP-LOS VAQUEROS - plan misses target center by 7.0usft at 23900.0usft MD (13060.0 TVD, -10649.7 N, 826.5 E) - Point	0.00	0.00	13,060.0	-10,656.7	826.5	361,809.61	830,466.31	31° 59' 28.563 N	103° 24' 2.630 W
BHL-LOS VAQUEROS - plan hits target center - Point	0.00	0.00	13,060.0	-10,709.8	827.1	361,756.60	830,466.85	31° 59' 28.038 N	103° 24' 2.629 W
SLC-LOS VAQUEROS - plan hits target center - Point	0.00	0.00	13,060.0	-7,374.1	793.5	365,092.27	830,433.31	32° 0' 1.048 N	103° 24' 2.684 W

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
2,000.0	2,000.0	0.0	0.0	Start Build 2.00
2,600.0	2,595.6	25.3	57.3	Start 3167.4 hold at 2600.0 MD
5,767.4	5,693.8	291.4	659.6	Start Drop -2.00
6,367.4	6,289.4	316.7	716.9	Start 6293.1 hold at 6367.4 MD
12,660.5	12,582.5	316.7	716.9	Start DLS 12.00 TFO 179.43
13,410.5	13,060.0	-160.7	721.7	Start 7213.7 hold at 13410.5 MD
20,624.4	13,060.0	-7,374.4	793.5	Start 3335.6 hold at 20624.4 MD
23,960.0	13,060.0	-10,709.8	827.1	TD at 23960.0

PECOS DISTRICT
DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Earthstone
LEASE NO.:	**NMNM62932**
LOCATION:	Section 30, T.26 S, R.35 E., NMPM
COUNTY:	Lea County, New Mexico
WELL NAME & NO.:	Los Vaqueros Fed 524H
SURFACE HOLE FOOTAGE:	353'/N & 1600'/E
BOTTOM HOLE FOOTAGE:	0'/S & 880'E

Previously known as **Los Vaqueros Fed 434H**. *Changes approved through engineering via* ***Sundry 2769911*** *on 1-24-2024. Any previous COAs not addressed within the updated COAs still apply.*

COA

H_2S	○ Yes	◉ No		
Potash / WIPP	◉ None	○ Secretary	○ R-111-P	☐ WIPP
Cave / Karst	◉ Low	○ Medium	○ High	○ Critical
Wellhead	○ Conventional	◉ Multibowl	○ Both	○ Diverter
Cementing	☐ Primary Squeeze	☐ Cont. Squeeze	☐ EchoMeter	☐ DV Tool
Special Req	☐ Break Testing	☐ Water Disposal	☑ COM	☐ Unit
Variance	☑ Flex Hose	☐ Casing Clearance	☐ Pilot Hole	☐ Capitan Reef
Variance	☐ Four-String	☑ Offline Cementing	☐ Fluid-Filled	☐ Open Annulus
☐ **Batch APD / Sundry**				

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 must meet all requirements from **43 CFR 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 **9-5/8** inch surface casing shall be set at approximately **1130** feet (a minimum of 25 feet (Lea County) into the Rustler Anhydrite, above the salt, and below usable fresh water) and cemented to the surface.

    a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type of 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.

2. The minimum required fill of cement behind the **7-5/8** inch intermediate casing is:
   - Cement to surface. If cement does not circulate see B.1.a, c-d above.

Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst.

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.

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. Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the 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 must be followed.

D. SPECIAL REQUIREMENT (S)

Offline Cementing
Contact the BLM prior to the commencement of any offline cementing procedure.

Communitization Agreement

- The operator will submit a Communitization Agreement to the Santa Fe Office, 301 Dinosaur Trail Santa Fe, New Mexico 87508, at least 90 days before the anticipated date of first production from a well subject to a spacing order issued by the New Mexico Oil Conservation Division. The Communitization Agreement will include the signatures of all working interest owners in all Federal and Indian leases subject to the Communitization Agreement (i.e., operating rights owners and lessees of record), or certification that the operator has obtained the written signatures of all such owners and will make those signatures available to the BLM immediately upon request.
- If the operator does not comply with this condition of approval, the BLM may take enforcement actions that include, but are not limited to, those specified in 43 CFR 3163.1.
- In addition, the well sign shall include the surface and bottom hole lease numbers. When the Communitization Agreement number is known, it shall also be on the sign.

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)

☒ Eddy County
Email **or** call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220, **BLM_NM_CFO_DrillingNotifications@BLM.GOV**
(575) 361-2822

☒ 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.

3. The record of the drilling rate along with the GR/N well log run from TD to surface (horizontal well – vertical portion of hole) shall be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.

A. CASING

1. Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size or are Non-API. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.). The initial wellhead installed on the well will remain on the well with spools used as needed.

2. Wait on cement (WOC) for Potash Areas: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi for all cement blends, 2) until cement has been in place at least 24 hours. WOC time will be recorded in the driller's log. The casing intergrity 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 part 3170 Subpart 3172** 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. 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.

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 valve on casing head below test plug 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 water basin (8 hours) or potash (24 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.

ZS 1/26/2024

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS

Operator: Earthstone Operating, LLC 300 N. Marienfeld St Ste 1000 Midland, TX 79701	OGRID: 331165
	Action Number: 320498
	Action Type: [C-103] NOI Change of Plans (C-103A)

CONDITIONS

Created By	Condition	Condition Date
pkautz	None	3/25/2024