

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.

5. Lease Serial No. NMNM0629320Z

6. If Indian, Allottee or Tribe Name

SUBMIT IN TRIPLICATE - Other instructions on page 2

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

2. Name of Operator EARTHSTONE OPERATING LLC

3a. Address 300 N MARIENFIELD STREET SUITE 1000, MID 3b. Phone No. (include area code) (432) 695-4222

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

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

8. Well Name and No. LOS VAQUEROS FED COM/114H

9. API Well No. 3002549572

10. Field and Pool or Exploratory Area Jabalina/Wolfcamp; Southwest

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 performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports must be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or 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: 30-025-49572

WELL NAME CHANGE

FROM: LOS VAQUEROS FED 114H

TO; ~~LOS VAQUEROS FED 304H~~ LOS VAQUEROS FED COM 304H

SURFACE HOLE LOCATION

FROM: B-30-26S-35E; 353' FNL, 1604' FEL

TO: B-30-26S-35E; 353' FNL, 1534' FEL

FIRST TAKE POINT

FROM: A-30-26S-35E; 100' FNL, 1034' FEL

TO: A-30-26S-35E; 100' FNL, 330' FEL;

STATE LINE CROSSING - LOT 5-31-26S-35E; 0' FSL, 330' FEL;

LTP & BHL CHANGES HAVE BEEN MADE

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

Senior Regulatory Analyst

Title

(Electronic Submission)

Signature

Date 01/12/2024

THE SPACE FOR FEDERAL OR STATE OFFICE USE

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

Petroleum Engineer

Title

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.

GENERAL INSTRUCTIONS

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

SPECIFIC INSTRUCTIONS

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

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

NOTICES

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

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

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

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

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

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

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

Response to this request is mandatory.

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

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

Additional Information

Additional Remarks

FROM: LOT 5-31-26S-32E; LEA COUNTY, NM
TO: SECT. 25, BLOCK C24, PUBLIC LANDS SURVEY A-701; LOVING COUNTY, TX;
DRILLING PLAN & CASING DESIGN CHANGES ATTACHED

Location of Well

0. SHL: NWNE / 353 FNL / 1604 FEL / TWSP: 26S / RANGE: 35E / SECTION: 30 / LAT: 32.0205787 / LONG: -103.4031135 (TVD: 0 feet, MD: 0 feet)
PPP: NENE / 207 FNL / 1330 FEL / TWSP: 26S / RANGE: 35E / SECTION: 30 / LAT: 32.020984 / LONG: -103.402239 (TVD: 5488 feet, MD: 5500 feet)
PPP: SENE / 1322 FNL / 1037 FEL / TWSP: 26S / RANGE: 35E / SECTION: 30 / LAT: 32.017802 / LONG: -103.401279 (TVD: 10570 feet, MD: 11700 feet)
PPP: NESE / 2641 FNL / 1040 FEL / TWSP: 26S / RANGE: 35E / SECTION: 30 / LAT: 32.014228 / LONG: -103.401279 (TVD: 10571 feet, MD: 13000 feet)
BHL: LOT 5 / 10 FSL / 1045 FEL / TWSP: 26S / RANGE: 35E / SECTION: 31 / LAT: 32.0003184 / LONG: -103.4012791 (TVD: 10568 feet, MD: 18060 feet)

CONFIDENTIAL

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

☒ AMENDED REPORT
WELL NUMBER,SHL, FTP,
LTP, BHL, STATE LINE

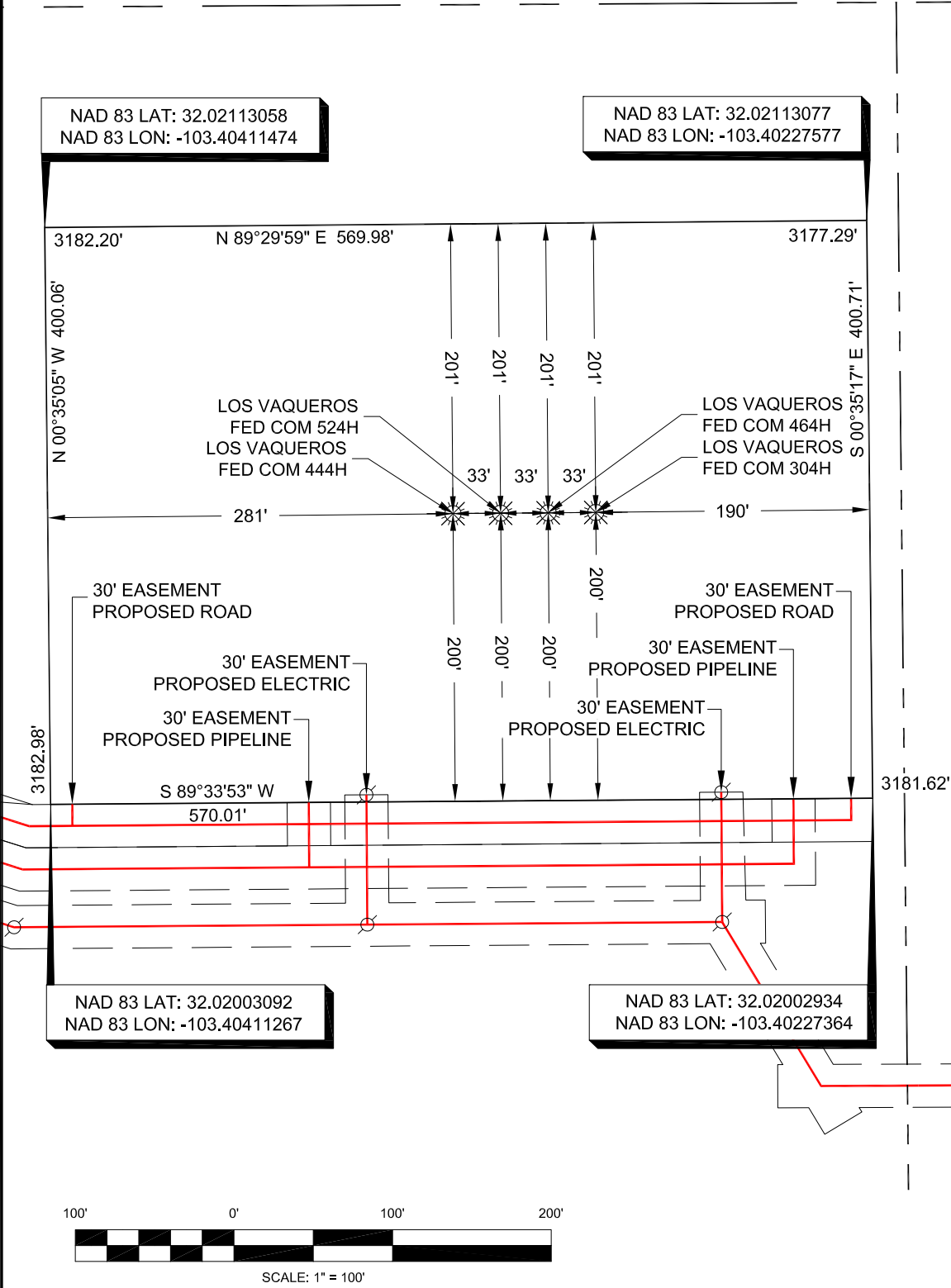
***BHL & LTP WILL BE IN TEXAS**

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°

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 304H

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	Yes
Wolfcamp A/XY	Sandstone/Limestone/Shale	-9343	12554	No
Wolfcamp B	Sandstone/Limestone/Shale	-9765	12976	No

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	11500	0	11500	11500	P110HS	29.7	MOFXL	2.99	2.11	Dry	1.91	Dry	3.20
Production	6.75	5.5	0	11000	0	12021	11000	P110RY	20	GEOCONN	1.32	1.68	Dry	2.21	Dry	2.21
Production	6.75	5.5	11000	22716	12021	12021	11716	P110RY	20	Bushmaster SL	1.32	1.68	Dry	2.21	Dry	2.21
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	Quantity (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	9200	740	1.88	12.9	1390	50%	Class C	EconoCem-HLC + 5% Salt + 5% Kol-Seal
Intermediate	Tail	9200	11500	270	1.34	14.8	350	50%	Class C	Retarder
Production	Lead	11000	11695	70	2.41	11.5	160	40%	Class H	POZ, Extender, Fluid Loss, Dispersant, Retarder
Production	Tail	11695	22716	680	1.73	12.5	1160	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 other 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: 8050 Cu Ft

Circulating Medium Table

Top Depth	Bottom Depth	Mud Type	Min Weight	Max Weight
0	1130	Spud Mud	8.6	9.5
1130	11500	Water Based Mud	10	10
11500	11000	OBM	9	13.5
11000	22716	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

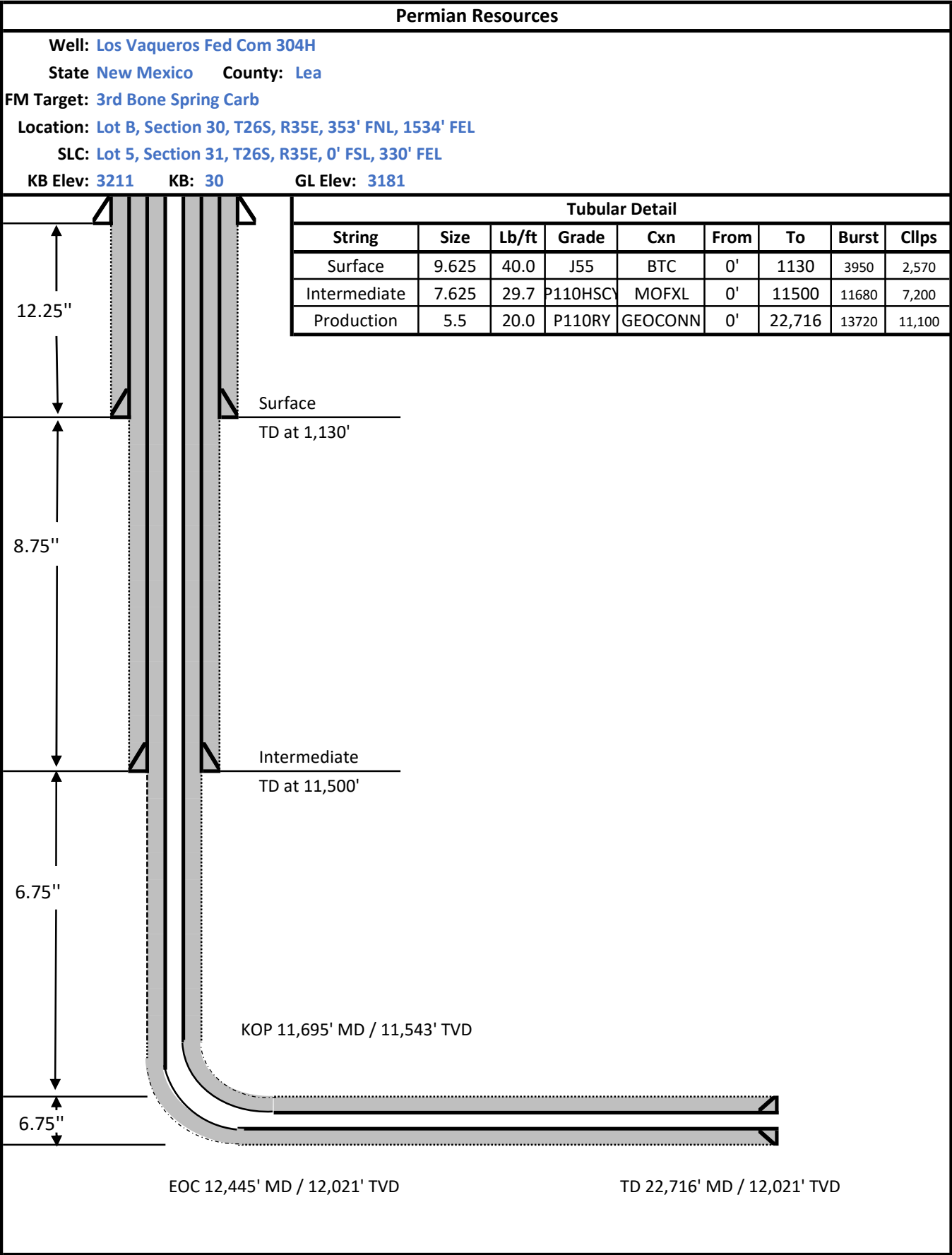
Anticipated Bottom Hole Pressure	8440	psi
Anticipated Surface Pressure	5794	psi
Anticipated Bottom Hole Temperature	174	°F
Anticipated Abnormal pressure, temp, or geo hazards	No	

8. Waste Management

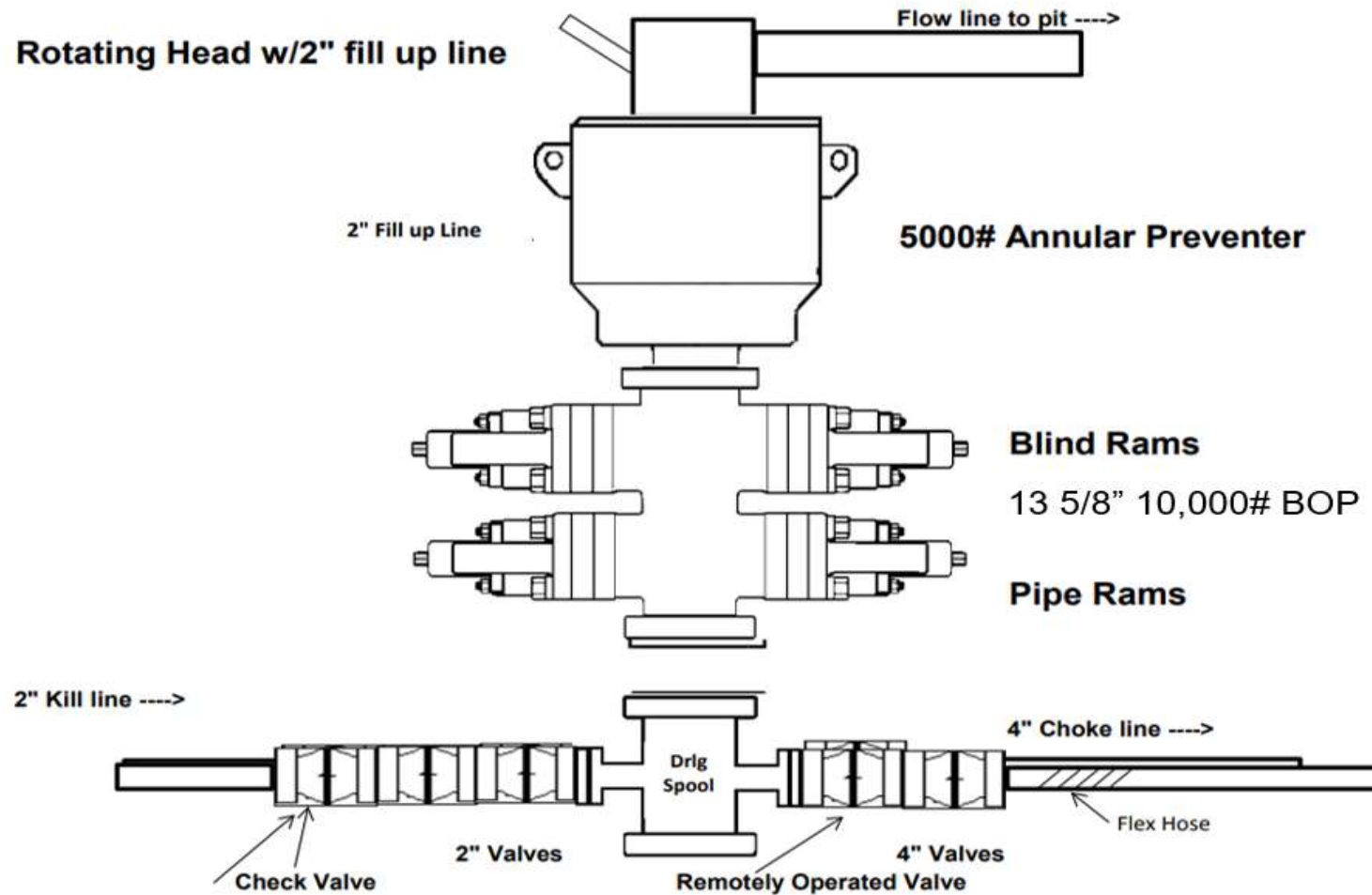
Waste Type:	Drilling
Waste content description:	Fresh water based drilling fluid
Amount of waste:	1500 bbls
Waste disposal frequency:	Weekly (after drilling all surfaces)
Safe containment description:	Steel tanks with plastic-lined containment berms
Waste disposal type:	Haul to commercial facility
Disposal 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:	8050 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

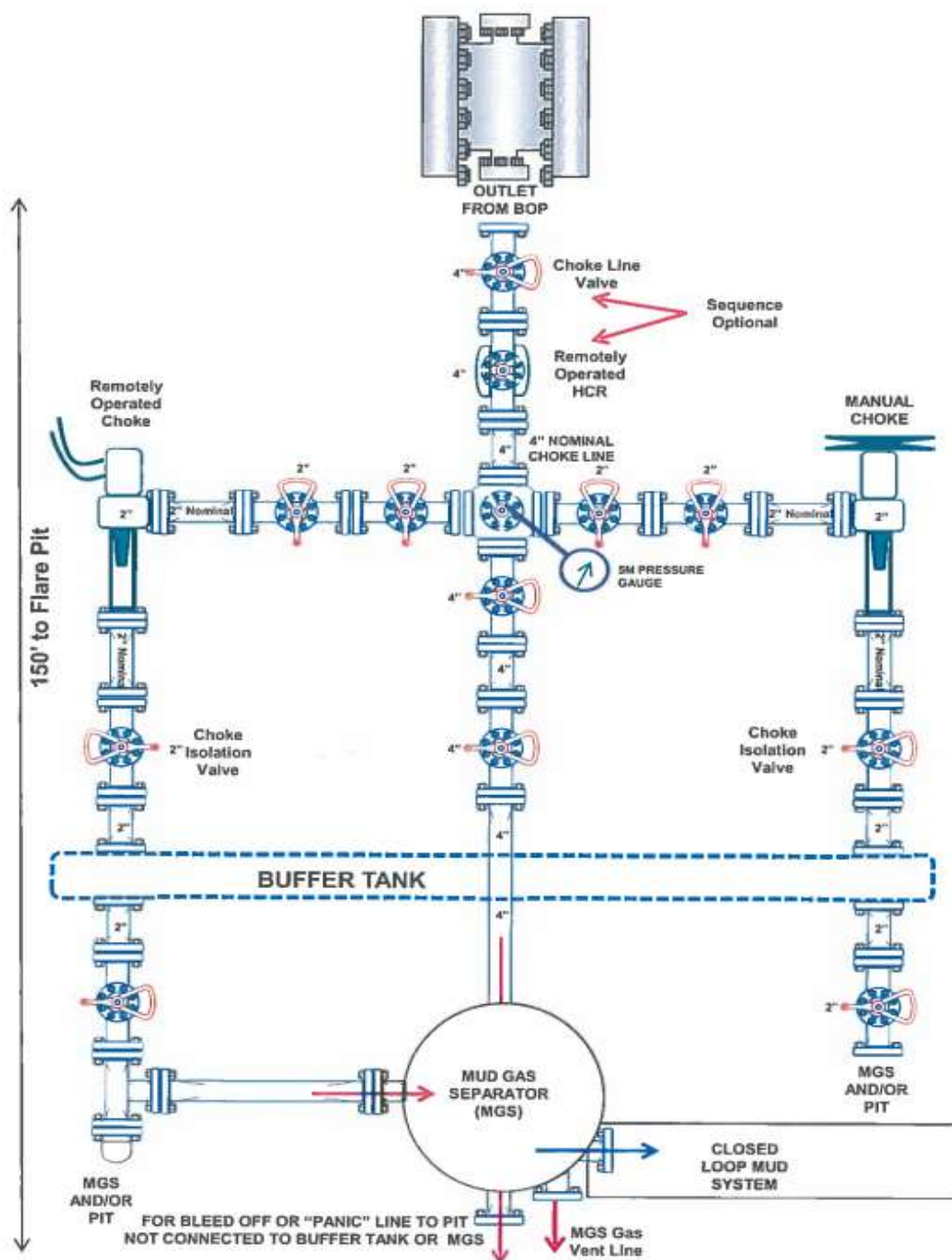
Well Plan and AC Report: attached
Batching Drilling Procedure: attached
WBD: attached
Flex Hose Specs: attached
Offline Cementing Procedure Attached:



10,000 BOP Schematic



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





ContiTech

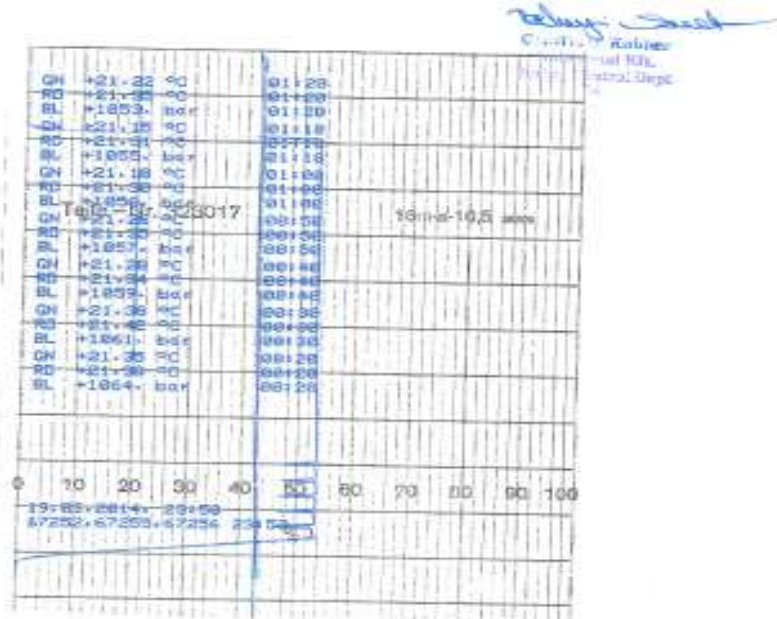
CONTITECH RUBBER Industrial Kft.	No:QC-DB- 210/ 2014 Page: 9 / 113
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QUALITY CONTROL INSPECTION AND TEST CERTIFICATE				CERT. N°: 504	
PURCHASER: ContiTech Oil & Marine Corp.				P.O. N°: 4500408659	
CONTITECH RUBBER order N°: 538236		HOSE TYPE: 3" ID		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	
3" coupling with		9251 9254		AISI 4130	
4 1/16" 10K API b.w. Flange end				AISI 4130	
				A0579N	
				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.				ContiTech Rubber Industrial S.R.L. Quality Control Dept.  	

Centech Rubber Industrial Co., Ltd. (Subsidiary of 10, H-8728 Sangon) H-6701 P.O. Box 102 Sangon, Hangzhou
Phone: +86 571 864 7377 / Fax: +86 52 566 726 / e-mail: info@hdc.coasttech.hk / Internet: www.centech-rubber.hk / www.coasttech.hk
The Court of Chancery County or Registry Court / Registry Court No: Cg 99-09-000503 / EU 197 No: H111537208
Hans Asia Commercial Zrt., Budapest: H-102106-26830000

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

Page: 1 / 1





CONTITECH RUBBER
Industrial Kft.

No:QC-DB- 210/ 2014

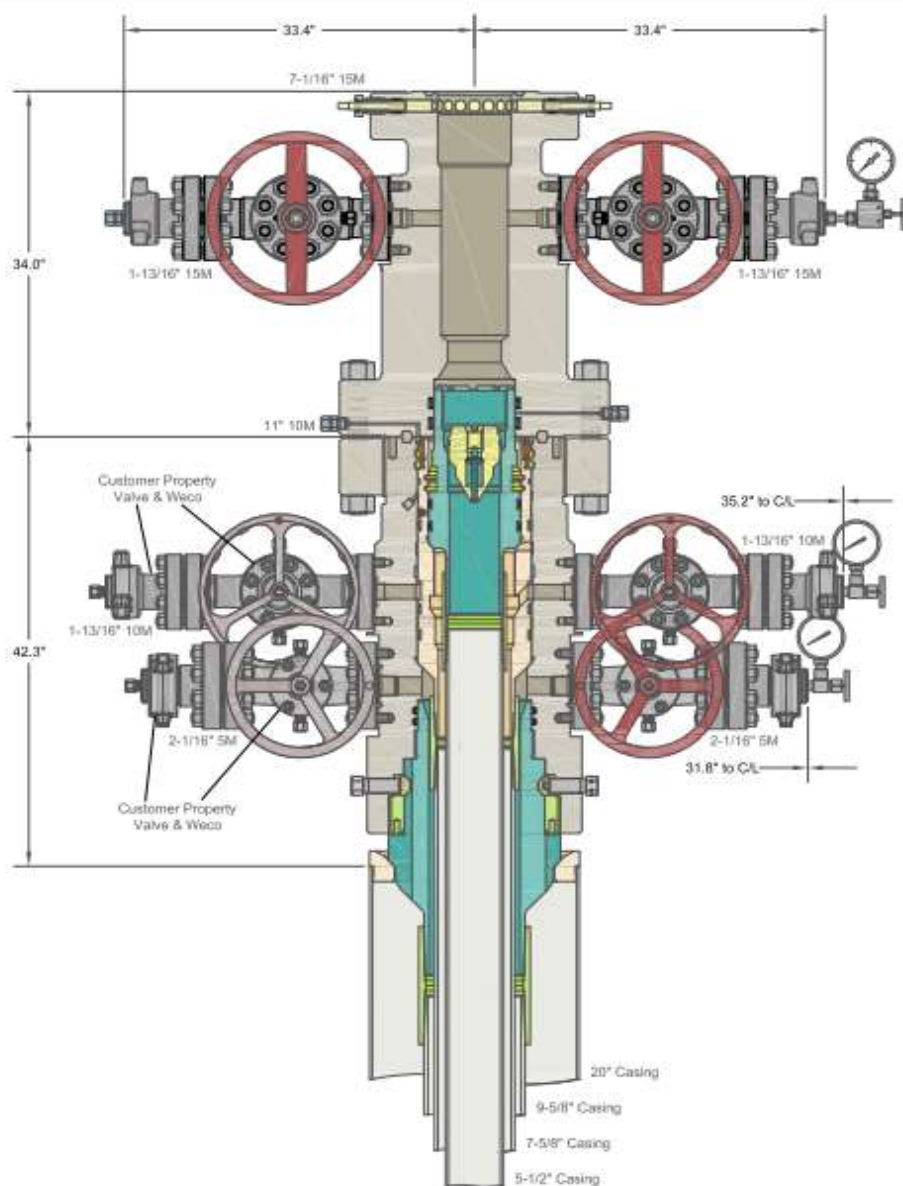
Page: 15 / 113

ContiTech

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

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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.

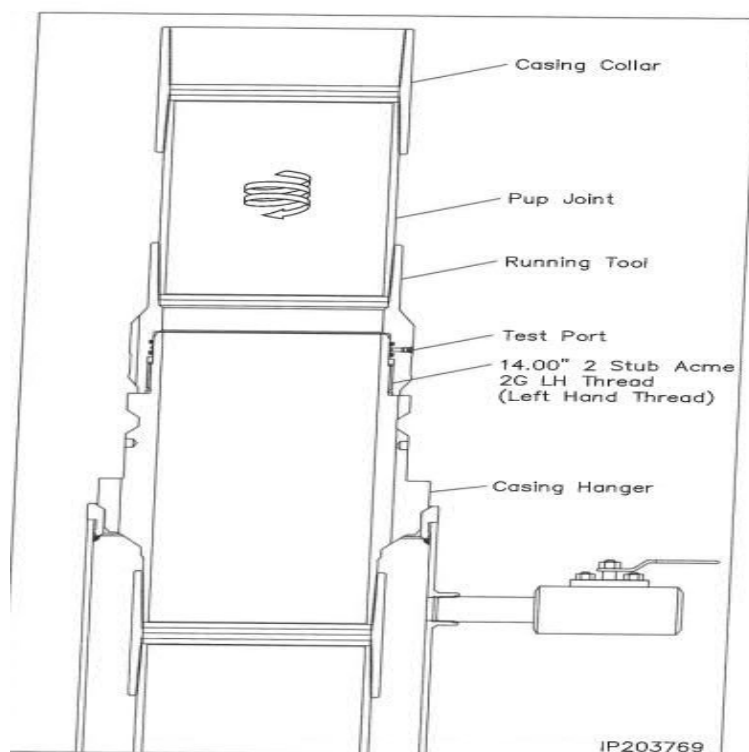


Illustration 1-1

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.

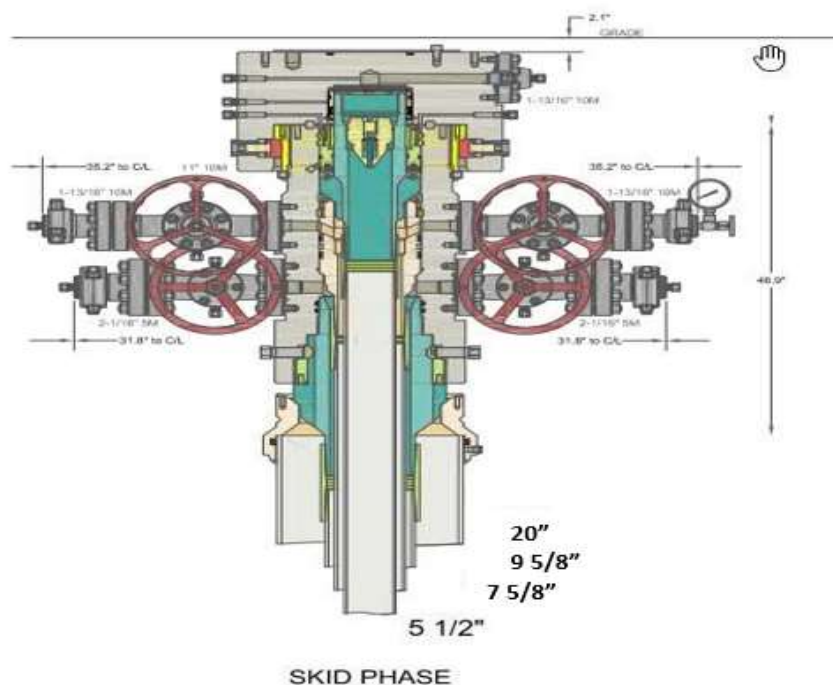


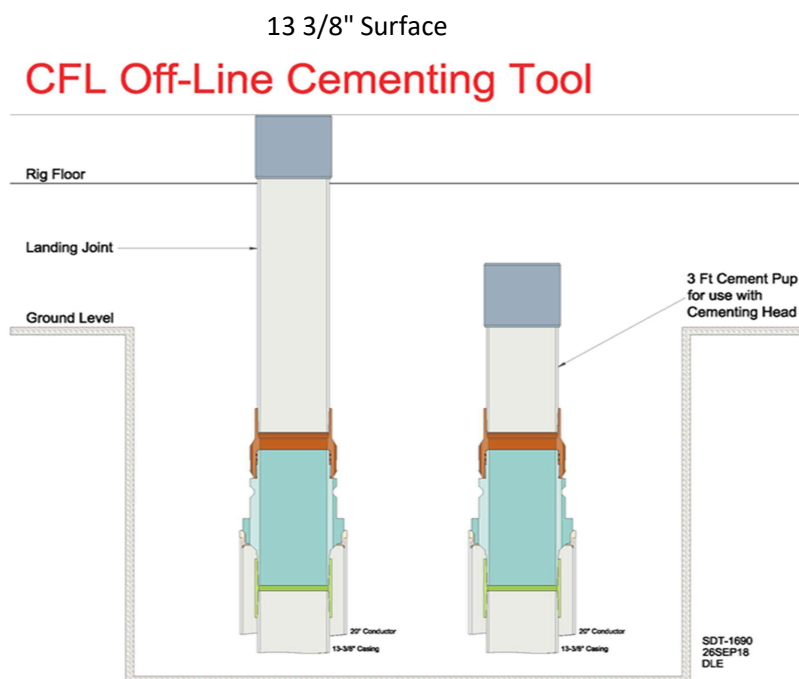
Illustration 2-2

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.

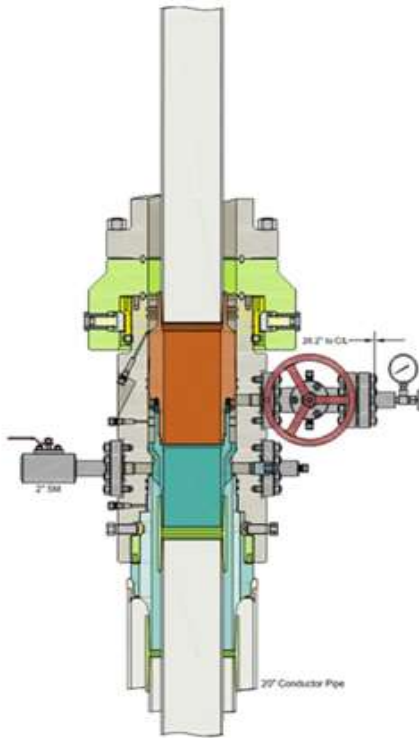
1. Drilling Rig will remove the nightcap and install and test BOPE.
2. Install wear bushing then drill Intermediate shoe-track plus 20' and conduct FIT to minimum MW equivalent to control the formation pressure to TD of well.
3. Drill Vertical hole to KOP – Trip out for Curve BHA.
4. Drill Curve, landing 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

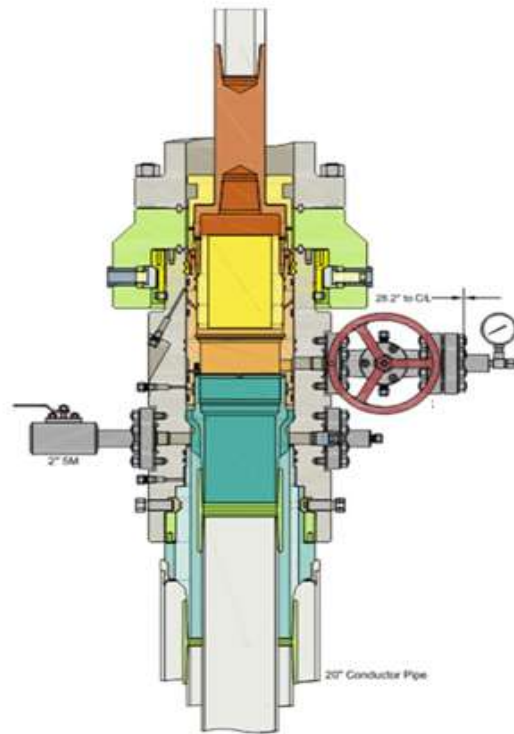
1. Drill hole to Total Depth with Rig and perform wellbore cleanup cycles.
2. Run and casing to Depth.
3. Land casing with mandrel.
4. Circulate 1.5 csg capacity.
5. Flow test – Confirm well is static and floats are holding.
6. Set Annular packoff and pressure test. Test to 5k.
7. Nipple down BOP and 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.



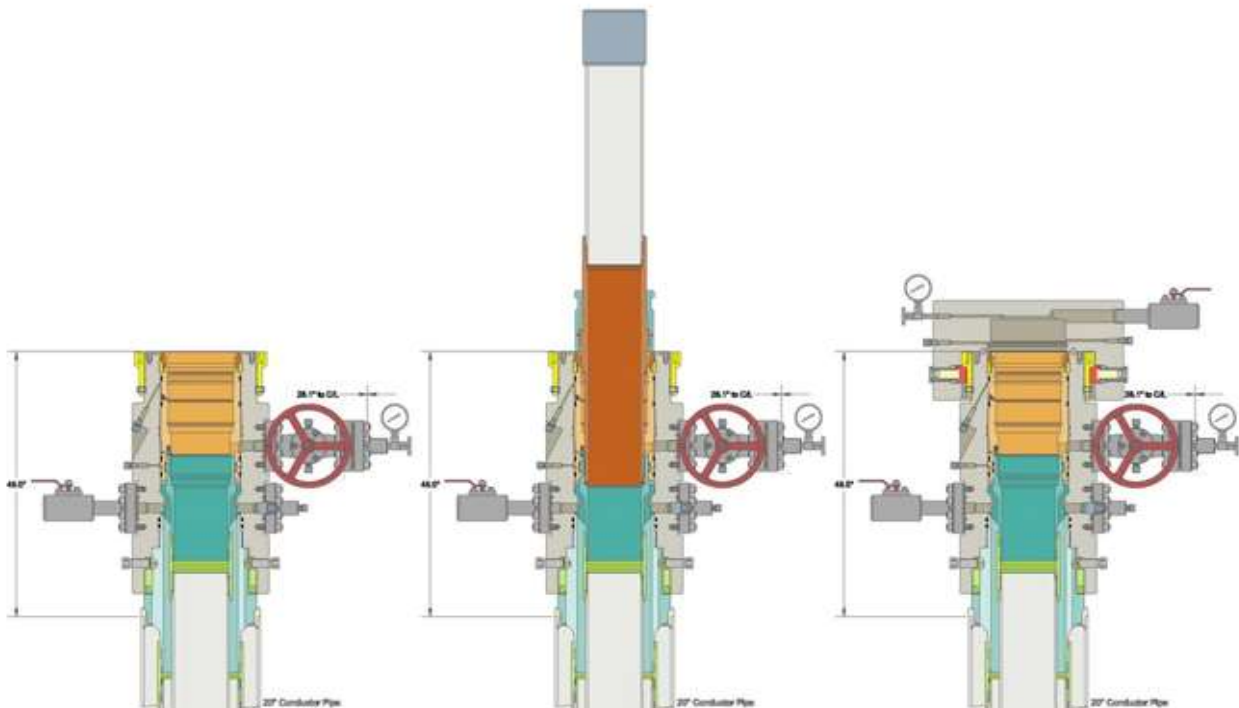
Intermediate



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.

Metal One

MO-FXL

*1 Pipe Body: BMP P110HSCY MinYS125ksi
Min95%WT

CDS#

Date

MO-FXL 7-5/8 29.7

P110HSCY

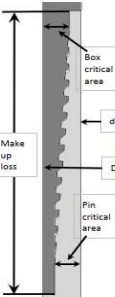
MinYS125ksi

Min95%WT

20-Sep-23

Connection Data Sheet

MO-FXL



Geometry

Imperial

S.I.

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

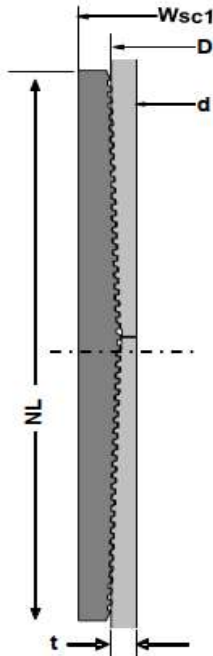
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The products described in this Connection Data Sheet are not recommended for use in deep water offshore applications. For more information, please refer to http://www.mfco.co.jp/mo-con/images/ftp/WebsiteTerms_Active_20230207_1.pdf the contents of which are incorporated by reference into this Connection Data Sheet.

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

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The products described in this Connection Data Sheet are not recommended for use in deep water offshore applications. For more information, please refer to http://www.mto.co.jp/mo-cs/_images/topWebsiteTerms_Active_20332287_1.pdf the contents of which are incorporated by reference into this Connection Data Sheet.



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

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



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	°/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

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*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 304H

OWB

PWP0

Anticollision Report

13 December, 2023

Permian Resources
Anticollision Report

Company:	NEW MEXICO	Local Co-ordinate Reference:	Well LOS VAQUEROS FED 304H
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 304H	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	22,716.7	PWP0 (OWB)	MWD	OWSG_Rev2_ MWD - Standard	

Summary						
Site Name Offset Well - Wellbore - Design	Reference Measured	Offset Measured	Distance		Separation Factor	Warning
	Depth (usft)	Depth (usft)	Between Centres (usft)	Between Ellipses (usft)		
LOS VAQUEROS FED PROJECT						
LOS VAQUEROS FED 444H - OWB - PWP0	2,000.0	2,000.0	99.0	84.9	7.010	CC
LOS VAQUEROS FED 444H - OWB - PWP0	2,300.0	2,309.5	100.0	83.8	6.176	ES
LOS VAQUEROS FED 444H - OWB - PWP0	2,600.0	2,615.0	106.0	87.8	5.813	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	11,700.0	11,656.9	100.0	8.5	1.093	Level 3, ES, SF
LOS VAQUEROS FED 524H - OWB - PWP0	2,000.0	2,000.0	66.0	51.9	4.673	CC
LOS VAQUEROS FED 524H - OWB - PWP0	2,300.0	2,306.4	66.8	50.7	4.132	ES
LOS VAQUEROS FED 524H - OWB - PWP0	2,600.0	2,612.2	70.5	52.4	3.884	SF

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	Offset	Reference	Offset	Semi Major Axis	Highside	Offset Wellbore Centre	Distance			Warning				
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
0.0	0.0	0.0	0.0	0.0	0.0	-90.50	-0.9	-99.0	99.0					
100.0	100.0	100.0	100.0	0.3	0.3	-90.50	-0.9	-99.0	99.0	98.5	0.50	197.273		
200.0	200.0	200.0	200.0	0.6	0.6	-90.50	-0.9	-99.0	99.0	97.8	1.22	81.230		
300.0	300.0	300.0	300.0	1.0	1.0	-90.50	-0.9	-99.0	99.0	97.1	1.94	51.145		
400.0	400.0	400.0	400.0	1.3	1.3	-90.50	-0.9	-99.0	99.0	96.4	2.65	37.322		
500.0	500.0	500.0	500.0	1.7	1.7	-90.50	-0.9	-99.0	99.0	95.6	3.37	29.381		
600.0	600.0	600.0	600.0	2.0	2.0	-90.50	-0.9	-99.0	99.0	94.9	4.09	24.227		
700.0	700.0	700.0	700.0	2.4	2.4	-90.50	-0.9	-99.0	99.0	94.2	4.80	20.611		
800.0	800.0	800.0	800.0	2.8	2.8	-90.50	-0.9	-99.0	99.0	93.5	5.52	17.934		
900.0	900.0	900.0	900.0	3.1	3.1	-90.50	-0.9	-99.0	99.0	92.8	6.24	15.873		
1,000.0	1,000.0	1,000.0	1,000.0	3.5	3.5	-90.50	-0.9	-99.0	99.0	92.0	6.95	14.236		
1,100.0	1,100.0	1,100.0	1,100.0	3.8	3.8	-90.50	-0.9	-99.0	99.0	91.3	7.67	12.906		
1,200.0	1,200.0	1,200.0	1,200.0	4.2	4.2	-90.50	-0.9	-99.0	99.0	90.6	8.39	11.803		
1,300.0	1,300.0	1,300.0	1,300.0	4.6	4.6	-90.50	-0.9	-99.0	99.0	89.9	9.11	10.873		
1,400.0	1,400.0	1,400.0	1,400.0	4.9	4.9	-90.50	-0.9	-99.0	99.0	89.2	9.82	10.080		
1,500.0	1,500.0	1,500.0	1,500.0	5.3	5.3	-90.50	-0.9	-99.0	99.0	88.5	10.54	9.394		
1,600.0	1,600.0	1,600.0	1,600.0	5.6	5.6	-90.50	-0.9	-99.0	99.0	87.7	11.26	8.796		
1,700.0	1,700.0	1,700.0	1,700.0	6.0	6.0	-90.50	-0.9	-99.0	99.0	87.0	11.97	8.269		
1,800.0	1,800.0	1,800.0	1,800.0	6.3	6.3	-90.50	-0.9	-99.0	99.0	86.3	12.69	7.802		
1,900.0	1,900.0	1,900.0	1,900.0	6.7	6.7	-90.50	-0.9	-99.0	99.0	85.6	13.41	7.385		

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

Permian Resources

Anticollision Report

Company:	NEW MEXICO	Local Co-ordinate Reference:	Well LOS VAQUEROS FED 304H
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 304H	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
Measured Depth (usft)	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		Distance Between Centres (usft)		Minimum Separation (usft)	Separation Factor	Warning	
							+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)				
2,000.0	2,000.0	2,000.0	2,000.0	7.1	7.1	-90.50	-0.9	-99.0	99.0	84.9	14.12	7.010	CC	
2,100.0	2,100.0	2,103.2	2,103.2	7.4	7.4	-169.87	0.0	-97.3	99.1	84.3	14.83	6.681		
2,200.0	2,199.8	2,206.4	2,206.2	7.8	7.8	-169.00	2.4	-92.3	99.4	83.9	15.52	6.407		
2,300.0	2,299.5	2,309.5	2,308.9	8.1	8.2	-167.57	6.5	-84.0	100.0	83.8	16.19	6.176	ES	
2,400.0	2,398.7	2,412.6	2,411.2	8.5	8.5	-165.59	12.3	-72.4	100.9	84.0	16.85	5.986		
2,500.0	2,497.5	2,515.2	2,512.4	8.8	8.9	-163.14	19.6	-57.6	102.2	84.7	17.52	5.836		
2,600.0	2,595.6	2,615.0	2,610.7	9.2	9.3	-161.02	27.3	-42.1	106.0	87.8	18.24	5.813	SF	
2,700.0	2,693.1	2,714.7	2,708.9	9.6	9.7	-159.64	35.0	-26.6	113.2	94.2	18.96	5.970		
2,750.0	2,741.5	2,764.5	2,757.9	9.8	9.8	-159.24	38.8	-18.8	118.0	98.7	19.32	6.108		
2,800.0	2,789.8	2,814.2	2,806.9	10.0	10.0	-158.97	42.7	-11.1	123.2	103.5	19.68	6.261		
2,900.0	2,886.4	2,913.7	2,904.8	10.4	10.4	-158.49	50.3	4.4	133.7	113.3	20.41	6.550		
3,000.0	2,982.9	3,013.1	3,002.8	10.9	10.8	-158.08	58.0	19.8	144.2	123.0	21.15	6.817		
3,100.0	3,079.5	3,112.6	3,100.7	11.3	11.2	-157.73	65.7	35.3	154.7	132.8	21.89	7.064		
3,200.0	3,176.1	3,212.0	3,198.6	11.8	11.6	-157.43	73.4	50.8	165.1	142.5	22.65	7.292		
3,300.0	3,272.7	3,311.4	3,296.6	12.2	12.0	-157.16	81.0	66.3	175.6	152.2	23.40	7.504		
3,400.0	3,369.3	3,410.9	3,394.5	12.7	12.4	-156.92	88.7	81.7	186.1	162.0	24.17	7.702		
3,500.0	3,465.9	3,510.3	3,492.4	13.2	12.8	-156.70	96.4	97.2	196.6	171.7	24.94	7.885		
3,600.0	3,562.5	3,609.8	3,590.4	13.6	13.3	-156.51	104.0	112.7	207.1	181.4	25.71	8.057		
3,700.0	3,659.1	3,709.2	3,688.3	14.1	13.7	-156.33	111.7	128.1	217.6	191.1	26.48	8.217		
3,800.0	3,755.7	3,808.7	3,786.3	14.6	14.1	-156.18	119.4	143.6	228.1	200.9	27.26	8.367		
3,900.0	3,852.3	3,908.1	3,884.2	15.1	14.5	-156.03	127.0	159.1	238.6	210.6	28.05	8.508		
4,000.0	3,948.9	4,007.6	3,982.1	15.6	14.9	-155.90	134.7	174.6	249.1	220.3	28.84	8.640		
4,100.0	4,045.5	4,107.0	4,080.1	16.1	15.3	-155.78	142.4	190.0	259.7	230.0	29.63	8.764		
4,200.0	4,142.1	4,206.4	4,178.0	16.6	15.8	-155.67	150.0	205.5	270.2	239.7	30.42	8.881		
4,300.0	4,238.6	4,305.9	4,275.9	17.1	16.2	-155.56	157.7	221.0	280.7	249.5	31.22	8.992		
4,400.0	4,335.2	4,405.3	4,373.9	17.7	16.6	-155.47	165.4	236.5	291.2	259.2	32.01	9.096		
4,500.0	4,431.8	4,504.8	4,471.8	18.2	17.1	-155.38	173.0	251.9	301.7	268.9	32.81	9.194		
4,600.0	4,528.4	4,604.2	4,569.7	18.7	17.5	-155.29	180.7	267.4	312.2	278.6	33.62	9.288		
4,700.0	4,625.0	4,703.7	4,667.7	19.2	17.9	-155.22	188.4	282.9	322.7	288.3	34.42	9.376		
4,800.0	4,721.6	4,803.1	4,765.6	19.7	18.3	-155.14	196.0	298.3	333.2	298.0	35.23	9.460		
4,900.0	4,818.2	4,902.6	4,863.5	20.3	18.8	-155.07	203.7	313.8	343.7	307.7	36.03	9.540		
5,000.0	4,914.8	5,002.0	4,961.5	20.8	19.2	-155.01	211.4	329.3	354.3	317.4	36.84	9.616		
5,100.0	5,011.4	5,101.5	5,059.4	21.3	19.6	-154.95	219.0	344.8	364.8	327.1	37.65	9.688		
5,200.0	5,108.0	5,200.9	5,157.3	21.8	20.1	-154.89	226.7	360.2	375.3	336.8	38.46	9.757		
5,300.0	5,204.6	5,300.3	5,255.3	22.4	20.5	-154.84	234.4	375.7	385.8	346.5	39.28	9.823		
5,400.0	5,301.2	5,399.8	5,353.2	22.9	20.9	-154.79	242.0	391.2	396.3	356.2	40.09	9.885		
5,500.0	5,397.8	5,499.2	5,451.1	23.4	21.4	-154.74	249.7	406.7	406.8	365.9	40.91	9.945		
5,600.0	5,494.4	5,598.7	5,549.1	24.0	21.8	-154.69	257.4	422.1	417.4	375.6	41.72	10.003		
5,700.0	5,590.9	5,698.1	5,647.0	24.5	22.2	-154.65	265.0	437.6	427.9	385.3	42.54	10.058		
5,800.0	5,687.5	5,797.6	5,744.9	25.0	22.7	-154.61	272.7	453.1	438.4	395.0	43.36	10.110		
5,900.0	5,784.1	5,897.0	5,842.9	25.6	23.1	-154.57	280.4	468.5	448.9	404.7	44.18	10.161		
6,000.0	5,880.7	5,996.5	5,940.8	26.1	23.6	-154.53	288.0	484.0	459.4	414.4	45.00	10.209		
6,100.0	5,977.3	6,095.9	6,038.7	26.6	24.0	-154.49	295.7	499.5	469.9	424.1	45.82	10.256		
6,200.0	6,073.9	6,184.9	6,126.6	27.2	24.4	-154.45	302.0	512.3	481.5	434.9	46.59	10.335		
6,300.0	6,170.5	6,272.6	6,213.6	27.7	24.7	-154.42	307.1	522.5	495.3	448.0	47.29	10.473		
6,400.0	6,267.1	6,359.6	6,300.1	28.3	25.1	-154.38	311.0	530.3	511.4	463.5	47.94	10.668		
6,500.0	6,363.7	6,445.7	6,386.0	28.8	25.4	-154.34	313.6	535.7	529.9	481.3	48.54	10.917		
6,600.0	6,460.3	6,530.8	6,471.0	29.3	25.7	-154.30	315.1	538.7	550.7	501.6	49.08	11.219		
6,700.0	6,556.9	6,616.7	6,556.9	29.9	26.0	-154.26	315.5	539.5	573.8	524.2	49.60	11.569		
6,712.2	6,568.7	6,628.5	6,568.7	29.9	26.0	-157.57	315.5	539.5	576.7	527.1	49.67	11.610		
6,800.0	6,653.8	6,713.6	6,653.8	30.4	26.3	-158.51	315.5	539.5	596.7	546.5	50.23	11.879		
6,900.0	6,751.5	6,811.3	6,751.5	30.9	26.6	-159.37	315.5	539.5	616.5	565.7	50.88	12.118		

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

Permian Resources

Anticollision Report

Company:	NEW MEXICO	Local Co-ordinate Reference:	Well LOS VAQUEROS FED 304H
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 304H	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
Measured Depth (usft)	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		Rule Assigned: Distance Between Centres (usft)		Minimum Separation (usft)	Separation Factor	Warning
+N/-S (usft)	+E/-W (usft)												
7,000.0	6,849.9	6,909.7	6,849.9	31.3	26.9	-160.05	315.5	539.5	633.3	581.7	51.53	12.288	
7,100.0	6,948.9	7,008.7	6,948.9	31.8	27.2	-160.57	315.5	539.5	646.8	594.6	52.19	12.392	
7,200.0	7,048.3	7,108.1	7,048.3	32.1	27.5	-160.96	315.5	539.5	657.0	604.2	52.86	12.430	
7,300.0	7,148.0	7,207.8	7,148.0	32.5	27.9	-161.21	315.5	539.5	664.1	610.5	53.53	12.406	
7,400.0	7,247.9	7,307.7	7,247.9	32.8	28.2	-161.34	315.5	539.5	667.8	613.6	54.19	12.322	
7,462.2	7,310.2	7,369.9	7,310.2	33.0	28.4	-81.71	315.5	539.5	668.4	613.8	54.61	12.240	
7,500.0	7,347.9	7,407.7	7,347.9	33.1	28.5	-81.71	315.5	539.5	668.4	613.5	54.86	12.185	
7,600.0	7,447.9	7,507.7	7,447.9	33.4	28.8	-81.71	315.5	539.5	668.4	612.9	55.52	12.040	
7,700.0	7,547.9	7,607.7	7,547.9	33.7	29.2	-81.71	315.5	539.5	668.4	612.2	56.18	11.898	
7,800.0	7,647.9	7,707.7	7,647.9	33.9	29.5	-81.71	315.5	539.5	668.4	611.6	56.84	11.759	
7,900.0	7,747.9	7,807.7	7,747.9	34.2	29.8	-81.71	315.5	539.5	668.4	610.9	57.51	11.622	
8,000.0	7,847.9	7,907.7	7,847.9	34.5	30.1	-81.71	315.5	539.5	668.4	610.2	58.18	11.489	
8,100.0	7,947.9	8,007.7	7,947.9	34.8	30.5	-81.71	315.5	539.5	668.4	609.6	58.84	11.359	
8,200.0	8,047.9	8,107.7	8,047.9	35.1	30.8	-81.71	315.5	539.5	668.4	608.9	59.51	11.231	
8,300.0	8,147.9	8,207.7	8,147.9	35.4	31.1	-81.71	315.5	539.5	668.4	608.2	60.18	11.106	
8,400.0	8,247.9	8,307.7	8,247.9	35.7	31.5	-81.71	315.5	539.5	668.4	607.5	60.85	10.984	
8,500.0	8,347.9	8,407.7	8,347.9	36.0	31.8	-81.71	315.5	539.5	668.4	606.9	61.53	10.864	
8,600.0	8,447.9	8,507.7	8,447.9	36.3	32.1	-81.71	315.5	539.5	668.4	606.2	62.20	10.746	
8,700.0	8,547.9	8,607.7	8,547.9	36.5	32.5	-81.71	315.5	539.5	668.4	605.5	62.87	10.631	
8,800.0	8,647.9	8,707.7	8,647.9	36.8	32.8	-81.71	315.5	539.5	668.4	604.9	63.55	10.518	
8,900.0	8,747.9	8,807.7	8,747.9	37.1	33.1	-81.71	315.5	539.5	668.4	604.2	64.23	10.407	
9,000.0	8,847.9	8,907.7	8,847.9	37.4	33.5	-81.71	315.5	539.5	668.4	603.5	64.90	10.299	
9,100.0	8,947.9	9,007.7	8,947.9	37.7	33.8	-81.71	315.5	539.5	668.4	602.8	65.58	10.192	
9,200.0	9,047.9	9,107.7	9,047.9	38.0	34.1	-81.71	315.5	539.5	668.4	602.1	66.26	10.088	
9,300.0	9,147.9	9,207.7	9,147.9	38.3	34.5	-81.71	315.5	539.5	668.4	601.5	66.94	9.985	
9,400.0	9,247.9	9,307.7	9,247.9	38.6	34.8	-81.71	315.5	539.5	668.4	600.8	67.62	9.885	
9,500.0	9,347.9	9,407.7	9,347.9	38.9	35.2	-81.71	315.5	539.5	668.4	600.1	68.30	9.786	
9,600.0	9,447.9	9,507.7	9,447.9	39.2	35.5	-81.71	315.5	539.5	668.4	599.4	68.98	9.690	
9,700.0	9,547.9	9,607.7	9,547.9	39.6	35.8	-81.71	315.5	539.5	668.4	598.7	69.66	9.595	
9,800.0	9,647.9	9,707.7	9,647.9	39.9	36.2	-81.71	315.5	539.5	668.4	598.1	70.35	9.502	
9,900.0	9,747.9	9,807.7	9,747.9	40.2	36.5	-81.71	315.5	539.5	668.4	597.4	71.03	9.410	
10,000.0	9,847.9	9,907.7	9,847.9	40.5	36.8	-81.71	315.5	539.5	668.4	596.7	71.71	9.320	
10,100.0	9,947.9	10,007.7	9,947.9	40.8	37.2	-81.71	315.5	539.5	668.4	596.0	72.40	9.232	
10,200.0	10,047.9	10,107.7	10,047.9	41.1	37.5	-81.71	315.5	539.5	668.4	595.3	73.08	9.146	
10,300.0	10,147.9	10,207.7	10,147.9	41.4	37.9	-81.71	315.5	539.5	668.4	594.6	73.77	9.061	
10,400.0	10,247.9	10,307.7	10,247.9	41.7	38.2	-81.71	315.5	539.5	668.4	593.9	74.46	8.977	
10,500.0	10,347.9	10,407.7	10,347.9	42.0	38.5	-81.71	315.5	539.5	668.4	593.3	75.14	8.895	
10,600.0	10,447.9	10,507.7	10,447.9	42.3	38.9	-81.71	315.5	539.5	668.4	592.6	75.83	8.814	
10,700.0	10,547.9	10,607.7	10,547.9	42.6	39.2	-81.71	315.5	539.5	668.4	591.9	76.52	8.735	
10,800.0	10,647.9	10,707.7	10,647.9	43.0	39.6	-81.71	315.5	539.5	668.4	591.2	77.21	8.657	
10,900.0	10,747.9	10,807.7	10,747.9	43.3	39.9	-81.71	315.5	539.5	668.4	590.5	77.90	8.580	
11,000.0	10,847.9	10,907.7	10,847.9	43.6	40.3	-81.71	315.5	539.5	668.4	589.8	78.59	8.505	
11,100.0	10,947.9	11,007.7	10,947.9	43.9	40.6	-81.71	315.5	539.5	668.4	589.1	79.28	8.431	
11,200.0	11,047.9	11,107.7	11,047.9	44.2	40.9	-81.71	315.5	539.5	668.4	588.4	79.97	8.358	
11,300.0	11,147.9	11,207.7	11,147.9	44.5	41.3	-81.71	315.5	539.5	668.4	587.7	80.66	8.287	
11,400.0	11,247.9	11,307.7	11,247.9	44.9	41.6	-81.71	315.5	539.5	668.4	587.0	81.35	8.216	
11,500.0	11,347.9	11,407.7	11,347.9	45.2	42.0	-81.71	315.5	539.5	668.4	586.4	82.05	8.147	
11,600.0	11,447.9	11,507.7	11,447.9	45.5	42.3	-81.71	315.5	539.5	668.4	585.7	82.74	8.079	
11,695.6	11,543.5	11,603.3	11,543.5	45.8	42.6	-81.71	315.5	539.5	668.4	585.0	83.40	8.014	
11,700.0	11,547.9	11,607.7	11,547.9	45.8	42.7	98.87	315.5	539.5	668.4	585.0	83.43	8.012	
11,725.0	11,572.9	11,632.7	11,572.9	45.9	42.7	98.93	315.5	539.5	668.5	584.9	83.60	7.997	
11,750.0	11,597.8	11,657.6	11,597.8	46.0	42.8	99.08	315.5	539.5	668.9	585.1	83.78	7.984	

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

Permian Resources

Anticollision Report

Company:	NEW MEXICO	Local Co-ordinate Reference:	Well LOS VAQUEROS FED 304H
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 304H	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	Offset	Reference	Offset	Semi Major Axis	Highside	Offset Wellbore Centre		Distance				Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
11,775.0	11,622.5	11,682.3	11,622.5	46.0	42.9	99.30	315.5	539.5	669.5	585.5	83.96	7.974	
11,800.0	11,647.1	11,706.9	11,647.1	46.1	43.0	99.60	315.5	539.5	670.3	586.1	84.14	7.966	
11,825.0	11,671.3	11,731.1	11,671.3	46.2	43.1	99.97	315.5	539.5	671.3	587.0	84.33	7.961	
11,850.0	11,695.2	11,755.0	11,695.2	46.2	43.2	100.40	315.5	539.5	672.7	588.2	84.51	7.959	
11,875.0	11,718.7	11,778.5	11,718.7	46.3	43.2	100.88	315.5	539.5	674.3	589.6	84.71	7.961	
11,900.0	11,741.7	11,801.5	11,741.7	46.3	43.3	101.39	315.5	539.5	676.4	591.5	84.90	7.967	
11,925.0	11,764.2	11,824.0	11,764.2	46.4	43.4	101.92	315.5	539.5	678.8	593.8	85.09	7.978	
11,950.0	11,786.0	11,845.8	11,786.0	46.4	43.5	102.45	315.5	539.5	681.8	596.5	85.29	7.993	
11,975.0	11,807.2	11,867.0	11,807.2	46.5	43.5	102.98	315.5	539.5	685.2	599.7	85.49	8.015	
12,000.0	11,827.7	11,887.5	11,827.7	46.5	43.6	103.47	315.5	539.5	689.1	603.4	85.69	8.043	
12,025.0	11,847.4	11,907.2	11,847.4	46.6	43.7	103.93	315.5	539.5	693.7	607.8	85.88	8.077	
12,050.0	11,866.3	11,926.1	11,866.3	46.6	43.8	104.32	315.5	539.5	698.9	612.8	86.08	8.119	
12,075.0	11,884.2	11,944.0	11,884.2	46.6	43.8	104.63	315.5	539.5	704.8	618.5	86.27	8.169	
12,100.0	11,901.3	11,961.1	11,901.3	46.7	43.9	104.85	315.5	539.5	711.4	624.9	86.46	8.228	
12,125.0	11,917.3	11,977.1	11,917.3	46.7	43.9	104.95	315.5	539.5	718.7	632.0	86.64	8.295	
12,150.0	11,932.4	11,992.2	11,932.4	46.7	44.0	104.93	315.5	539.5	726.8	640.0	86.82	8.371	
12,175.0	11,946.3	12,006.1	11,946.3	46.8	44.0	104.77	315.5	539.5	735.7	648.7	87.00	8.457	
12,200.0	11,959.2	12,019.0	11,959.2	46.8	44.1	104.44	315.5	539.5	745.4	658.2	87.16	8.552	
12,225.0	11,970.9	12,030.7	11,970.9	46.8	44.1	103.94	315.5	539.5	755.9	668.6	87.32	8.657	
12,250.0	11,981.5	12,041.3	11,981.5	46.8	44.1	103.25	315.5	539.5	767.2	679.7	87.47	8.771	
12,275.0	11,990.8	12,050.6	11,990.8	46.8	44.2	102.35	315.5	539.5	779.2	691.6	87.60	8.895	
12,300.0	11,998.9	12,058.7	11,998.9	46.8	44.2	101.24	315.5	539.5	792.0	704.3	87.73	9.028	

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 304H
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 304H	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	Vertical	Offset	Vertical	Semi Major Axis	Highside	Offset Wellbore Centre		Rule Assigned:		Distance	Minimum		
Depth	Depth	Depth	Depth	Depth	Reference	Toolface	+N/-S	+E/-W	Between	Between	Separation	Separation	Warning	
(usft)	(usft)	(usft)	(usft)	(usft)	(usft)	(°)	(usft)	(usft)	Centres	Ellipses	(usft)	Factor		
0.0	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	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	2,101.1	2,101.1	2,101.1	7.4	7.4	-169.94	0.2	-31.3	33.0	18.2	14.82	2.227	
2,200.0	2,199.8	2,202.3	2,202.1	2,202.1	7.8	7.8	-169.26	1.5	-26.1	33.0	17.5	15.49	2.132	
2,300.0	2,299.5	2,303.4	2,302.8	2,302.8	8.1	8.1	-168.13	3.7	-17.5	33.1	16.9	16.15	2.048	
2,400.0	2,398.7	2,404.5	2,403.2	2,403.2	8.5	8.5	-166.56	6.9	-5.4	33.2	16.4	16.80	1.975	
2,500.0	2,497.5	2,505.5	2,502.9	2,502.9	8.8	8.9	-164.56	10.9	10.1	33.3	15.9	17.43	1.912	
2,600.0	2,595.6	2,605.5	2,601.4	2,601.4	9.2	9.2	-163.35	15.2	26.9	35.4	17.3	18.14	1.952	
2,700.0	2,693.1	2,705.4	2,699.7	2,699.7	9.6	9.6	-163.75	19.6	43.7	40.8	22.0	18.84	2.167	
2,750.0	2,741.5	2,755.2	2,748.8	2,748.8	9.8	9.8	-164.36	21.7	52.0	44.8	25.6	19.20	2.334	
2,800.0	2,789.8	2,805.0	2,797.8	2,797.8	10.0	10.0	-165.03	23.9	60.4	49.2	29.6	19.55	2.516	
2,900.0	2,886.4	2,904.6	2,895.9	2,895.9	10.4	10.4	-166.06	28.2	77.2	58.0	37.7	20.26	2.862	
3,000.0	2,982.9	3,004.2	2,994.0	2,994.0	10.9	10.8	-166.82	32.6	93.9	66.8	45.8	20.97	3.185	
3,100.0	3,079.5	3,103.8	3,092.1	3,092.1	11.3	11.2	-167.40	36.9	110.6	75.6	53.9	21.70	3.486	
3,200.0	3,176.1	3,203.4	3,190.2	3,190.2	11.8	11.6	-167.86	41.2	127.4	84.5	62.0	22.42	3.767	
3,300.0	3,272.7	3,303.0	3,288.3	3,288.3	12.2	12.0	-168.23	45.6	144.1	93.3	70.1	23.15	4.029	
3,400.0	3,369.3	3,402.6	3,386.4	3,386.4	12.7	12.4	-168.54	49.9	160.9	102.1	78.2	23.88	4.276	
3,500.0	3,465.9	3,502.3	3,484.5	3,484.5	13.2	12.8	-168.80	54.2	177.6	111.0	86.3	24.62	4.507	
3,600.0	3,562.5	3,601.9	3,582.6	3,582.6	13.6	13.2	-169.02	58.6	194.4	119.8	94.4	25.36	4.724	
3,700.0	3,659.1	3,701.5	3,680.7	3,680.7	14.1	13.6	-169.21	62.9	211.1	128.6	102.5	26.10	4.929	
3,800.0	3,755.7	3,801.1	3,778.8	3,778.8	14.6	14.0	-169.38	67.2	227.9	137.5	110.6	26.84	5.121	
3,900.0	3,852.3	3,900.7	3,876.9	3,876.9	15.1	14.5	-169.52	71.6	244.6	146.3	118.7	27.59	5.303	
4,000.0	3,948.9	4,000.3	3,975.0	3,975.0	15.6	14.9	-169.65	75.9	261.3	155.2	126.8	28.34	5.475	
4,100.0	4,045.5	4,099.9	4,073.1	4,073.1	16.1	15.3	-169.77	80.2	278.1	164.0	134.9	29.09	5.638	
4,200.0	4,142.1	4,199.5	4,171.2	4,171.2	16.6	15.7	-169.87	84.6	294.8	172.9	143.0	29.84	5.793	
4,300.0	4,238.6	4,299.1	4,269.2	4,269.2	17.1	16.2	-169.96	88.9	311.6	181.7	151.1	30.60	5.939	
4,400.0	4,335.2	4,398.7	4,367.3	4,367.3	17.7	16.6	-170.05	93.2	328.3	190.5	159.2	31.35	6.078	
4,500.0	4,431.8	4,498.3	4,465.4	4,465.4	18.2	17.0	-170.13	97.6	345.1	199.4	167.3	32.11	6.210	
4,600.0	4,528.4	4,597.9	4,563.5	4,563.5	18.7	17.5	-170.20	101.9	361.8	208.2	175.4	32.86	6.336	
4,700.0	4,625.0	4,697.5	4,661.6	4,661.6	19.2	17.9	-170.26	106.2	378.6	217.1	183.5	33.62	6.456	
4,800.0	4,721.6	4,797.2	4,759.7	4,759.7	19.7	18.3	-170.32	110.6	395.3	225.9	191.6	34.38	6.571	
4,900.0	4,818.2	4,896.8	4,857.8	4,857.8	20.3	18.7	-170.38	114.9	412.0	234.8	199.6	35.15	6.680	
5,000.0	4,914.8	4,996.4	4,955.9	4,955.9	20.8	19.2	-170.43	119.2	428.8	243.6	207.7	35.91	6.785	

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

Permian Resources

Anticollision Report

Company:	NEW MEXICO	Local Co-ordinate Reference:	Well LOS VAQUEROS FED 304H
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 304H	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
Measured Depth (usft)	Vertical Depth (usft)	Offset Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre		Distance Between Centres (usft)		Minimum Separation (usft)	Separation Factor	Warning	
							+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Ellipses (usft)				
5,100.0	5,011.4	5,096.0	5,054.0	21.3	19.6	-170.48	123.6	445.5	252.5	215.8	36.67	6.885		
5,200.0	5,108.0	5,195.6	5,152.1	21.8	20.1	-170.52	127.9	462.3	261.3	223.9	37.44	6.981		
5,300.0	5,204.6	5,295.2	5,250.2	22.4	20.5	-170.56	132.2	479.0	270.2	232.0	38.20	7.073		
5,400.0	5,301.2	5,394.8	5,348.3	22.9	20.9	-170.60	136.6	495.8	279.0	240.1	38.97	7.161		
5,500.0	5,397.8	5,494.4	5,446.4	23.4	21.4	-170.64	140.9	512.5	287.9	248.1	39.73	7.245		
5,600.0	5,494.4	5,594.0	5,544.5	24.0	21.8	-170.67	145.3	529.3	296.7	256.2	40.50	7.327		
5,700.0	5,590.9	5,693.6	5,642.6	24.5	22.2	-170.71	149.6	546.0	305.6	264.3	41.27	7.405		
5,800.0	5,687.5	5,793.2	5,740.7	25.0	22.7	-170.74	153.9	562.8	314.4	272.4	42.04	7.480		
5,900.0	5,784.1	5,892.8	5,838.8	25.6	23.1	-170.77	158.3	579.5	323.3	280.5	42.80	7.552		
6,000.0	5,880.7	5,992.4	5,936.9	26.1	23.6	-170.79	162.6	596.2	332.1	288.5	43.57	7.622		
6,100.0	5,977.3	6,092.1	6,034.9	26.6	24.0	-170.82	166.9	613.0	341.0	296.6	44.34	7.689		
6,200.0	6,073.9	6,191.7	6,133.0	27.2	24.4	-170.84	171.3	629.7	349.8	304.7	45.12	7.754		
6,300.0	6,170.5	6,291.3	6,231.1	27.7	24.9	-170.87	175.6	646.5	358.7	312.8	45.89	7.817		
6,400.0	6,267.1	6,390.9	6,329.2	28.3	25.3	-170.89	179.9	663.2	367.5	320.9	46.66	7.877		
6,500.0	6,363.7	6,490.5	6,427.3	28.8	25.8	-170.91	184.3	680.0	376.4	328.9	47.43	7.935		
6,600.0	6,460.3	6,590.1	6,525.4	29.3	26.2	-170.93	188.6	696.7	385.2	337.0	48.20	7.992		
6,700.0	6,556.9	6,689.7	6,623.5	29.9	26.6	-170.95	192.9	713.5	394.1	345.1	48.97	8.046		
6,712.2	6,568.7	6,701.9	6,635.5	29.9	26.7	-170.95	193.5	715.5	395.2	346.1	49.07	8.053		
6,800.0	6,653.8	6,789.4	6,721.7	30.4	27.1	-170.96	197.3	730.2	401.6	351.9	49.75	8.073		
6,900.0	6,751.5	6,889.3	6,820.1	30.9	27.5	-170.88	201.6	747.0	405.7	355.2	50.52	8.031		
7,000.0	6,849.9	6,989.3	6,918.6	31.3	28.0	-170.72	206.0	763.8	406.4	355.1	51.28	7.924		
7,100.0	6,948.9	7,089.2	7,017.0	31.8	28.4	-170.46	210.3	780.6	403.6	351.6	52.04	7.755		
7,200.0	7,048.3	7,189.0	7,115.2	32.1	28.9	-170.11	214.7	797.4	397.4	344.6	52.80	7.527		
7,300.0	7,148.0	7,288.5	7,213.2	32.5	29.3	-169.64	219.0	814.1	387.8	334.2	53.55	7.242		
7,400.0	7,247.9	7,387.6	7,310.8	32.8	29.7	-169.03	223.3	830.8	374.8	320.5	54.30	6.903		
7,462.2	7,310.2	7,449.0	7,371.3	33.0	30.0	-88.91	226.0	841.1	365.0	310.3	54.76	6.666		
7,500.0	7,347.9	7,486.2	7,407.9	33.1	30.2	-88.62	227.6	847.3	358.7	303.7	55.04	6.517		
7,600.0	7,447.9	7,584.7	7,504.9	33.4	30.6	-87.83	231.9	863.9	342.0	286.2	55.79	6.131		
7,700.0	7,547.9	7,683.1	7,601.9	33.7	31.1	-86.95	236.2	880.5	325.4	268.9	56.54	5.755		
7,800.0	7,647.9	7,781.6	7,698.8	33.9	31.5	-85.98	240.4	897.0	308.9	251.6	57.31	5.390		
7,900.0	7,747.9	7,880.1	7,795.8	34.2	31.9	-84.90	244.7	913.6	292.4	234.3	58.09	5.034		
8,000.0	7,847.9	7,978.6	7,892.8	34.5	32.4	-83.70	249.0	930.1	276.1	217.2	58.89	4.689		
8,100.0	7,947.9	8,077.1	7,989.8	34.8	32.8	-82.34	253.3	946.7	259.9	200.2	59.71	4.353		
8,200.0	8,047.9	8,175.5	8,086.8	35.1	33.3	-80.80	257.6	963.2	243.9	183.3	60.56	4.027		
8,300.0	8,147.9	8,274.0	8,183.8	35.4	33.7	-79.05	261.9	979.8	228.1	166.6	61.45	3.711		
8,400.0	8,247.9	8,372.5	8,280.8	35.7	34.1	-77.04	266.2	996.3	212.5	150.1	62.37	3.406		
8,500.0	8,347.9	8,471.0	8,377.7	36.0	34.6	-74.73	270.4	1,012.9	197.2	133.8	63.36	3.112		
8,600.0	8,447.9	8,569.5	8,474.7	36.3	35.0	-72.02	274.7	1,029.5	182.2	117.8	64.41	2.829		
8,700.0	8,547.9	8,667.9	8,571.7	36.5	35.5	-68.85	279.0	1,046.0	167.8	102.2	65.56	2.559		
8,800.0	8,647.9	8,766.4	8,668.7	36.8	35.9	-65.11	283.3	1,062.6	153.9	87.1	66.82	2.304		
8,900.0	8,747.9	8,864.9	8,765.7	37.1	36.3	-60.65	287.6	1,079.1	140.8	72.6	68.22	2.065		
9,000.0	8,847.9	8,963.4	8,862.7	37.4	36.8	-55.34	291.9	1,095.7	128.8	59.0	69.77	1.846		
9,100.0	8,947.9	9,061.9	8,959.6	37.7	37.2	-49.01	296.2	1,112.2	118.1	46.6	71.49	1.651		
9,200.0	9,047.9	9,160.4	9,056.6	38.0	37.7	-41.56	300.4	1,128.8	109.1	35.7	73.31	1.488 Level 3		
9,300.0	9,147.9	9,258.8	9,153.6	38.3	38.1	-32.98	304.7	1,145.3	102.2	27.1	75.13	1.361 Level 3		
9,400.0	9,247.9	9,357.2	9,250.5	38.6	38.5	-23.50	309.0	1,161.8	98.1	21.3	76.72	1.278 Level 3		
9,500.0	9,347.9	9,455.8	9,348.0	38.9	39.0	-14.80	312.7	1,176.2	96.8	19.0	77.85	1.244 Level 3		
9,504.4	9,352.4	9,460.2	9,352.4	39.0	39.0	-14.46	312.9	1,176.7	96.8	18.9	77.89	1.243 Level 3		
9,600.0	9,447.9	9,555.3	9,446.8	39.2	39.4	-8.00	315.6	1,187.3	97.5	18.9	78.59	1.240 Level 3		
9,700.0	9,547.9	9,655.5	9,546.7	39.6	39.7	-3.29	317.6	1,195.2	98.7	19.6	79.14	1.247 Level 3		
9,800.0	9,647.9	9,756.2	9,647.2	39.9	40.1	-0.66	318.8	1,199.8	99.7	20.1	79.67	1.252 Level 3		
9,900.0	9,747.9	9,856.9	9,747.9	40.2	40.4	0.00	319.1	1,200.9	100.0	19.8	80.25	1.246 Level 3		

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

Permian Resources

Anticollision Report

Company:	NEW MEXICO	Local Co-ordinate Reference:	Well LOS VAQUEROS FED 304H
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 304H	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
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre		Distance Between Centres (usft)		Rule Assigned: Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
10,000.0	9,847.9	9,956.9	9,847.9	40.5	40.7	0.00	319.1	1,200.9	100.0	19.1	80.87	1.237	Level 3	
10,100.0	9,947.9	10,056.9	9,947.9	40.8	41.0	0.00	319.1	1,200.9	100.0	18.5	81.48	1.227	Level 3	
10,200.0	10,047.9	10,156.9	10,047.9	41.1	41.3	0.00	319.1	1,200.9	100.0	17.9	82.10	1.218	Level 3	
10,300.0	10,147.9	10,256.9	10,147.9	41.4	41.6	0.00	319.1	1,200.9	100.0	17.3	82.71	1.209	Level 3	
10,400.0	10,247.9	10,356.9	10,247.9	41.7	41.9	0.00	319.1	1,200.9	100.0	16.7	83.33	1.200	Level 3	
10,500.0	10,347.9	10,456.9	10,347.9	42.0	42.2	0.00	319.1	1,200.9	100.0	16.1	83.95	1.191	Level 3	
10,600.0	10,447.9	10,556.9	10,447.9	42.3	42.5	0.00	319.1	1,200.9	100.0	15.4	84.58	1.182	Level 3	
10,700.0	10,547.9	10,656.9	10,547.9	42.6	42.8	0.00	319.1	1,200.9	100.0	14.8	85.20	1.174	Level 3	
10,800.0	10,647.9	10,756.9	10,647.9	43.0	43.2	0.00	319.1	1,200.9	100.0	14.2	85.83	1.165	Level 3	
10,900.0	10,747.9	10,856.9	10,747.9	43.3	43.5	0.00	319.1	1,200.9	100.0	13.6	86.45	1.157	Level 3	
11,000.0	10,847.9	10,956.9	10,847.9	43.6	43.8	0.00	319.1	1,200.9	100.0	12.9	87.08	1.148	Level 3	
11,100.0	10,947.9	11,056.9	10,947.9	43.9	44.1	0.00	319.1	1,200.9	100.0	12.3	87.71	1.140	Level 3	
11,200.0	11,047.9	11,156.9	11,047.9	44.2	44.4	0.00	319.1	1,200.9	100.0	11.7	88.34	1.132	Level 3	
11,300.0	11,147.9	11,256.9	11,147.9	44.5	44.7	0.00	319.1	1,200.9	100.0	11.0	88.97	1.124	Level 3	
11,400.0	11,247.9	11,356.9	11,247.9	44.9	45.0	0.00	319.1	1,200.9	100.0	10.4	89.61	1.116	Level 3	
11,500.0	11,347.9	11,456.9	11,347.9	45.2	45.3	0.00	319.1	1,200.9	100.0	9.8	90.24	1.108	Level 3	
11,600.0	11,447.9	11,556.9	11,447.9	45.5	45.7	0.00	319.1	1,200.9	100.0	9.1	90.88	1.101	Level 3	
11,695.6	11,543.5	11,652.5	11,543.5	45.8	46.0	0.00	319.1	1,200.9	100.0	8.5	91.49	1.093	Level 3	
11,700.0	11,547.9	11,656.9	11,547.9	45.8	46.0	-179.42	319.1	1,200.9	100.0	8.5	91.51	1.093	Level 3, ES, SF	
11,725.0	11,572.9	11,681.9	11,572.9	45.9	46.1	-179.43	319.1	1,200.9	100.9	9.3	91.67	1.101	Level 3	
11,750.0	11,597.8	11,706.8	11,597.8	46.0	46.1	-179.44	319.1	1,200.9	103.1	11.3	91.82	1.123	Level 3	
11,775.0	11,622.5	11,731.5	11,622.5	46.0	46.2	-179.45	319.1	1,200.9	106.6	14.6	91.97	1.159	Level 3	
11,800.0	11,647.1	11,756.0	11,647.1	46.1	46.3	-179.47	319.1	1,200.9	111.4	19.3	92.12	1.209	Level 3	
11,825.0	11,671.3	11,780.3	11,671.3	46.2	46.4	-179.49	319.1	1,200.9	117.4	25.2	92.27	1.273	Level 3	
11,850.0	11,695.2	11,804.2	11,695.2	46.2	46.4	-179.51	319.1	1,200.9	124.8	32.3	92.41	1.350	Level 3	
11,875.0	11,718.7	11,827.7	11,718.7	46.3	46.5	-179.53	319.1	1,200.9	133.3	40.8	92.55	1.441	Level 3	
11,900.0	11,741.7	11,850.7	11,741.7	46.3	46.6	-179.56	319.1	1,200.9	143.1	50.4	92.69	1.544		
11,925.0	11,764.2	11,873.2	11,764.2	46.4	46.7	-179.58	319.1	1,200.9	154.1	61.2	92.82	1.660		
11,950.0	11,786.0	11,895.0	11,786.0	46.4	46.7	-179.60	319.1	1,200.9	166.2	73.3	92.95	1.788		
11,975.0	11,807.2	11,916.2	11,807.2	46.5	46.8	-179.61	319.1	1,200.9	179.5	86.4	93.07	1.928		
12,000.0	11,827.7	11,936.7	11,827.7	46.5	46.9	-179.63	319.1	1,200.9	193.8	100.6	93.19	2.080		
12,025.0	11,847.4	11,956.4	11,847.4	46.6	46.9	-179.64	319.1	1,200.9	209.2	115.9	93.30	2.242		
12,050.0	11,866.3	11,975.2	11,866.3	46.6	47.0	-179.65	319.1	1,200.9	225.6	132.2	93.41	2.415		
12,075.0	11,884.2	11,993.2	11,884.2	46.6	47.0	-179.66	319.1	1,200.9	243.0	149.5	93.50	2.599		
12,100.0	11,901.3	12,010.2	11,901.3	46.7	47.1	-179.67	319.1	1,200.9	261.3	167.7	93.60	2.792		
12,125.0	11,917.3	12,026.3	11,917.3	46.7	47.1	-179.67	319.1	1,200.9	280.4	186.8	93.68	2.994		
12,150.0	11,932.4	12,041.3	11,932.4	46.7	47.2	-179.67	319.1	1,200.9	300.4	206.6	93.76	3.204		
12,175.0	11,946.3	12,055.3	11,946.3	46.8	47.2	-179.66	319.1	1,200.9	321.1	227.3	93.83	3.423		
12,200.0	11,959.2	12,068.2	11,959.2	46.8	47.3	-179.66	319.1	1,200.9	342.6	248.7	93.89	3.649		
12,225.0	11,970.9	12,079.9	11,970.9	46.8	47.3	-179.64	319.1	1,200.9	364.6	270.7	93.95	3.881		
12,250.0	11,981.5	12,090.4	11,981.5	46.8	47.4	-179.63	319.1	1,200.9	387.3	293.3	94.00	4.120		
12,275.0	11,990.8	12,099.8	11,990.8	46.8	47.4	-179.60	319.1	1,200.9	410.5	316.4	94.04	4.365		
12,300.0	11,998.9	12,107.9	11,998.9	46.8	47.4	-179.56	319.1	1,200.9	434.1	340.0	94.08	4.614		
12,325.0	12,005.8	12,114.8	12,005.8	46.9	47.4	-179.49	319.1	1,200.9	458.2	364.0	94.11	4.868		
12,350.0	12,011.4	12,120.4	12,011.4	46.9	47.4	-179.40	319.1	1,200.9	482.5	388.4	94.14	5.126		
12,375.0	12,015.8	12,124.7	12,015.8	46.9	47.5	-179.23	319.1	1,200.9	507.1	413.0	94.16	5.386		
12,400.0	12,018.8	12,127.8	12,018.8	46.9	47.5	-178.86	319.1	1,200.9	532.0	437.8	94.17	5.649		
12,425.0	12,020.5	12,129.5	12,020.5	46.9	47.5	-177.59	319.1	1,200.9	556.9	462.7	94.18	5.913		
12,445.6	12,021.0	12,129.9	12,021.0	47.0	47.5	-90.16	319.1	1,200.9	577.5	483.3	94.18	6.131		
12,500.0	12,021.0	12,129.9	12,021.0	47.0	47.5	-90.18	319.1	1,200.9	631.9	537.7	94.18	6.709		
12,600.0	12,021.0	13,379.9	12,744.0	47.2	49.6	-179.93	-412.7	1,208.2	723.0	666.6	56.37	12.826		
12,700.0	12,021.0	13,479.9	12,744.0	47.4	49.8	-179.93	-512.7	1,209.2	723.0	666.2	56.76	12.738		

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

Permian Resources

Anticollision Report

Company:	NEW MEXICO	Local Co-ordinate Reference:	Well LOS VAQUEROS FED 304H
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 304H	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
Measured Depth (usft)	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		Distance Between Centres (usft)		Minimum Separation (usft)	Separation Factor	Warning	
							+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)				
12,800.0	12,021.0	13,579.9	12,744.0	47.6	50.1	-179.93	-612.7	1,210.2	723.0	665.8	57.18	12.643		
12,900.0	12,021.0	13,679.9	12,744.0	48.0	50.5	-179.93	-712.7	1,211.2	723.0	665.3	57.65	12.541		
13,000.0	12,021.0	13,779.9	12,744.0	48.3	50.8	-179.93	-812.7	1,212.2	723.0	664.8	58.16	12.432		
13,100.0	12,021.0	13,879.9	12,744.0	48.8	51.3	-179.93	-912.7	1,213.2	723.0	664.3	58.70	12.317		
13,200.0	12,021.0	13,979.9	12,744.0	49.3	51.8	-179.93	-1,012.7	1,214.2	723.0	663.7	59.28	12.196		
13,300.0	12,021.0	14,079.9	12,744.0	49.8	52.4	-179.93	-1,112.7	1,215.2	723.0	663.1	59.90	12.071		
13,400.0	12,021.0	14,179.9	12,744.0	50.4	53.0	-179.94	-1,212.7	1,216.2	723.0	662.5	60.55	11.941		
13,500.0	12,021.0	14,279.9	12,744.0	51.1	53.6	-179.94	-1,312.7	1,217.2	723.0	661.8	61.23	11.808		
13,600.0	12,021.0	14,379.9	12,744.0	51.8	54.3	-179.94	-1,412.7	1,218.2	723.0	661.1	61.95	11.672		
13,700.0	12,021.0	14,479.9	12,744.0	52.6	55.1	-179.94	-1,512.7	1,219.2	723.0	660.3	62.69	11.533		
13,800.0	12,021.0	14,579.9	12,744.0	53.3	55.9	-179.94	-1,612.7	1,220.2	723.0	659.5	63.47	11.391		
13,900.0	12,021.0	14,679.9	12,744.0	54.2	56.7	-179.94	-1,712.7	1,221.2	723.0	658.7	64.28	11.249		
14,000.0	12,021.0	14,779.9	12,744.0	55.1	57.5	-179.94	-1,812.7	1,222.2	723.0	657.9	65.11	11.104		
14,100.0	12,021.0	14,879.9	12,744.0	56.0	58.4	-179.94	-1,912.7	1,223.1	723.0	657.0	65.97	10.960		
14,200.0	12,021.0	14,979.9	12,744.0	56.9	59.4	-179.94	-2,012.7	1,224.1	723.0	656.1	66.86	10.814		
14,300.0	12,021.0	15,079.9	12,744.0	57.9	60.3	-179.94	-2,112.6	1,225.1	723.0	655.2	67.77	10.669		
14,400.0	12,021.0	15,179.9	12,744.0	58.9	61.3	-179.95	-2,212.6	1,226.1	723.0	654.3	68.70	10.524		
14,500.0	12,021.0	15,279.9	12,744.0	60.0	62.3	-179.95	-2,312.6	1,227.1	723.0	653.3	69.66	10.379		
14,600.0	12,021.0	15,379.9	12,744.0	61.0	63.4	-179.95	-2,412.6	1,228.1	723.0	652.4	70.64	10.235		
14,700.0	12,021.0	15,479.9	12,744.0	62.1	64.4	-179.95	-2,512.6	1,229.1	723.0	651.4	71.64	10.092		
14,800.0	12,021.0	15,579.9	12,744.0	63.2	65.5	-179.95	-2,612.6	1,230.1	723.0	650.3	72.66	9.950		
14,900.0	12,021.0	15,679.9	12,744.0	64.4	66.6	-179.95	-2,712.6	1,231.1	723.0	649.3	73.70	9.810		
15,000.0	12,021.0	15,779.9	12,744.0	65.6	67.8	-179.95	-2,812.6	1,232.1	723.0	648.2	74.76	9.671		
15,100.0	12,021.0	15,879.9	12,744.0	66.7	68.9	-179.95	-2,912.6	1,233.1	723.0	647.2	75.84	9.534		
15,200.0	12,021.0	15,979.9	12,744.0	67.9	70.1	-179.95	-3,012.6	1,234.1	723.0	646.1	76.93	9.398		
15,300.0	12,021.0	16,079.9	12,744.0	69.2	71.3	-179.95	-3,112.6	1,235.1	723.0	645.0	78.04	9.265		
15,400.0	12,021.0	16,179.9	12,744.0	70.4	72.5	-179.96	-3,212.6	1,236.1	723.0	643.8	79.16	9.133		
15,500.0	12,021.0	16,279.9	12,744.0	71.7	73.8	-179.96	-3,312.6	1,237.1	723.0	642.7	80.30	9.003		
15,600.0	12,021.0	16,379.9	12,744.0	72.9	75.0	-179.96	-3,412.6	1,238.1	723.0	641.5	81.46	8.876		
15,700.0	12,021.0	16,479.9	12,744.0	74.2	76.3	-179.96	-3,512.6	1,239.1	723.0	640.4	82.63	8.750		
15,800.0	12,021.0	16,579.9	12,744.0	75.5	77.6	-179.96	-3,612.6	1,240.1	723.0	639.2	83.81	8.627		
15,900.0	12,021.0	16,679.9	12,744.0	76.8	78.9	-179.96	-3,712.6	1,241.1	723.0	638.0	85.00	8.506		
16,000.0	12,021.0	16,779.9	12,744.0	78.2	80.2	-179.96	-3,812.6	1,242.1	723.0	636.8	86.21	8.387		
16,100.0	12,021.0	16,879.9	12,744.0	79.5	81.5	-179.96	-3,912.6	1,243.1	723.0	635.6	87.42	8.270		
16,200.0	12,021.0	16,979.9	12,744.0	80.9	82.8	-179.96	-4,012.6	1,244.1	723.0	634.3	88.65	8.155		
16,300.0	12,021.0	17,079.9	12,744.0	82.2	84.2	-179.96	-4,112.6	1,245.1	723.0	633.1	89.89	8.043		
16,400.0	12,021.0	17,179.9	12,744.0	83.6	85.5	-179.97	-4,212.5	1,246.1	723.0	631.9	91.14	7.933		
16,500.0	12,021.0	17,279.9	12,744.0	85.0	86.9	-179.97	-4,312.5	1,247.1	723.0	630.6	92.40	7.825		
16,600.0	12,021.0	17,379.9	12,744.0	86.4	88.2	-179.97	-4,412.5	1,248.1	723.0	629.3	93.67	7.719		
16,700.0	12,021.0	17,479.9	12,744.0	87.8	89.6	-179.97	-4,512.5	1,249.1	723.0	628.1	94.94	7.615		
16,800.0	12,021.0	17,579.9	12,744.0	89.2	91.0	-179.97	-4,612.5	1,250.1	723.0	626.8	96.23	7.513		
16,900.0	12,021.0	17,679.9	12,744.0	90.6	92.4	-179.97	-4,712.5	1,251.1	723.0	625.5	97.52	7.414		
17,000.0	12,021.0	17,779.9	12,744.0	92.0	93.8	-179.97	-4,812.5	1,252.0	723.0	624.2	98.83	7.316		
17,100.0	12,021.0	17,879.9	12,744.0	93.5	95.2	-179.97	-4,912.5	1,253.0	723.0	622.9	100.14	7.220		
17,200.0	12,021.0	17,979.9	12,744.0	94.9	96.6	-179.97	-5,012.5	1,254.0	723.0	621.5	101.45	7.126		
17,300.0	12,021.0	18,079.9	12,744.0	96.3	98.1	-179.97	-5,112.5	1,255.0	723.0	620.2	102.78	7.035		
17,400.0	12,021.0	18,179.9	12,744.0	97.8	99.5	-179.98	-5,212.5	1,256.0	723.0	618.9	104.11	6.945		
17,500.0	12,021.0	18,279.9	12,744.0	99.3	101.0	-179.98	-5,312.5	1,257.0	723.0	617.6	105.45	6.857		
17,600.0	12,021.0	18,379.9	12,744.0	100.7	102.4	-179.98	-5,412.5	1,258.0	723.0	616.2	106.79	6.770		
17,700.0	12,021.0	18,479.9	12,744.0	102.2	103.9	-179.98	-5,512.5	1,259.0	723.0	614.9	108.14	6.686		
17,800.0	12,021.0	18,579.9	12,744.0	103.7	105.3	-179.98	-5,612.5	1,260.0	723.0	613.5	109.50	6.603		
17,900.0	12,021.0	18,679.9	12,744.0	105.1	106.8	-179.98	-5,712.5	1,261.0	723.0	612.1	110.86	6.522		

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

Permian Resources

Anticollision Report

Company:	NEW MEXICO	Local Co-ordinate Reference:	Well LOS VAQUEROS FED 304H
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 304H	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
Measured Depth	Vertical	Offset	Semi Major Axis	Highside	Offset Wellbore Centre		Rule Assigned:						Warning	
Depth (usft)	Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
18,000.0	12,021.0	18,779.9	12,744.0	106.6	108.3	-179.98	-5,812.5	1,262.0	723.0	610.8	112.23	6.442		
18,100.0	12,021.0	18,879.9	12,744.0	108.1	109.7	-179.98	-5,912.5	1,263.0	723.0	609.4	113.60	6.365		
18,200.0	12,021.0	18,979.9	12,744.0	109.6	111.2	-179.98	-6,012.5	1,264.0	723.0	608.0	114.98	6.288		
18,300.0	12,021.0	19,079.9	12,744.0	111.1	112.7	-179.98	-6,112.5	1,265.0	723.0	606.6	116.36	6.214		
18,400.0	12,021.0	19,179.9	12,744.0	112.6	114.2	-179.99	-6,212.4	1,266.0	723.0	605.3	117.74	6.140		
18,500.0	12,021.0	19,279.9	12,744.0	114.1	115.7	-179.99	-6,312.4	1,267.0	723.0	603.9	119.14	6.069		
18,600.0	12,021.0	19,379.9	12,744.0	115.6	117.2	-179.99	-6,412.4	1,268.0	723.0	602.5	120.53	5.998		
18,700.0	12,021.0	19,479.9	12,744.0	117.2	118.7	-179.99	-6,512.4	1,269.0	723.0	601.1	121.93	5.930		
18,800.0	12,021.0	19,579.9	12,744.0	118.7	120.2	-179.99	-6,612.4	1,270.0	723.0	599.7	123.34	5.862		
18,900.0	12,021.0	19,679.9	12,744.0	120.2	121.7	-179.99	-6,712.4	1,271.0	723.0	598.3	124.74	5.796		
19,000.0	12,021.0	19,779.9	12,744.0	121.7	123.2	-179.99	-6,812.4	1,272.0	723.0	596.8	126.16	5.731		
19,100.0	12,021.0	19,879.9	12,744.0	123.2	124.7	-179.99	-6,912.4	1,273.0	723.0	595.4	127.57	5.667		
19,200.0	12,021.0	19,979.9	12,744.0	124.8	126.2	-179.99	-7,012.4	1,274.0	723.0	594.0	128.99	5.605		
19,300.0	12,021.0	20,079.9	12,744.0	126.3	127.8	-180.00	-7,112.4	1,275.0	723.0	592.6	130.41	5.544		
19,400.0	12,021.0	20,179.9	12,744.0	127.9	129.3	-180.00	-7,212.4	1,276.0	723.0	591.2	131.84	5.484		
19,500.0	12,021.0	20,279.9	12,744.0	129.4	130.8	-180.00	-7,312.4	1,277.0	723.0	589.7	133.27	5.425		
19,557.4	12,021.0	20,337.3	12,744.0	130.3	131.7	-180.00	-7,369.8	1,277.5	723.0	588.9	134.09	5.392		
19,600.0	12,021.0	20,379.9	12,744.0	130.9	132.3	-180.00	-7,412.4	1,278.0	723.0	588.3	134.70	5.367		
19,700.0	12,021.0	20,479.9	12,744.0	132.5	133.9	-180.00	-7,512.4	1,279.0	723.0	586.9	136.14	5.311		
19,800.0	12,021.0	20,579.9	12,744.0	134.0	135.4	-180.00	-7,612.4	1,280.0	723.0	585.4	137.57	5.255		
19,900.0	12,021.0	20,679.9	12,744.0	135.6	137.0	-180.00	-7,712.4	1,281.0	723.0	584.0	139.01	5.201		
20,000.0	12,021.0	20,779.9	12,744.0	137.1	138.5	-180.00	-7,812.4	1,282.0	723.0	582.5	140.46	5.147		
20,100.0	12,021.0	20,879.9	12,744.0	138.7	140.0	-180.00	-7,912.4	1,283.0	723.0	581.1	141.90	5.095		
20,200.0	12,021.0	20,979.9	12,744.0	140.2	141.6	-180.00	-8,012.4	1,284.0	723.0	579.6	143.35	5.043		
20,300.0	12,021.0	21,079.9	12,744.0	141.8	143.1	-180.00	-8,112.4	1,285.0	723.0	578.2	144.80	4.993		
20,400.0	12,021.0	21,179.9	12,744.0	143.4	144.7	-180.00	-8,212.3	1,286.0	723.0	576.7	146.26	4.943		
20,500.0	12,021.0	21,279.9	12,744.0	144.9	146.2	-180.00	-8,312.3	1,287.0	723.0	575.3	147.71	4.895		
20,600.0	12,021.0	21,379.9	12,744.0	146.5	147.8	-180.00	-8,412.3	1,288.0	723.0	573.8	149.17	4.847		
20,700.0	12,021.0	21,479.9	12,744.0	148.1	149.4	-180.00	-8,512.3	1,289.0	723.0	572.4	150.63	4.800		
20,800.0	12,021.0	21,579.9	12,744.0	149.6	150.9	-180.00	-8,612.3	1,290.0	723.0	570.9	152.10	4.754		
20,900.0	12,021.0	21,679.9	12,744.0	151.2	152.5	-180.00	-8,712.3	1,291.1	723.0	569.4	153.56	4.708		
21,000.0	12,021.0	21,779.9	12,744.0	152.8	154.0	-180.00	-8,812.3	1,292.1	723.0	568.0	155.03	4.664		
21,100.0	12,021.0	21,879.9	12,744.0	154.3	155.6	-180.00	-8,912.3	1,293.1	723.0	566.5	156.50	4.620		
21,200.0	12,021.0	21,979.9	12,744.0	155.9	157.2	-180.00	-9,012.3	1,294.1	723.0	565.0	157.97	4.577		
21,300.0	12,021.0	22,079.9	12,744.0	157.5	158.7	-180.00	-9,112.3	1,295.1	723.0	563.5	159.44	4.535		
21,400.0	12,021.0	22,179.9	12,744.0	159.1	160.3	180.00	-9,212.3	1,296.1	723.0	562.1	160.92	4.493		
21,500.0	12,021.0	22,279.9	12,744.0	160.6	161.9	180.00	-9,312.3	1,297.1	723.0	560.6	162.39	4.452		
21,600.0	12,021.0	22,379.9	12,744.0	162.2	163.5	180.00	-9,412.3	1,298.1	723.0	559.1	163.87	4.412		
21,700.0	12,021.0	22,479.9	12,744.0	163.8	165.0	180.00	-9,512.3	1,299.1	723.0	557.6	165.35	4.372		
21,800.0	12,021.0	22,579.9	12,744.0	165.4	166.6	180.00	-9,612.3	1,300.1	723.0	556.2	166.83	4.334		
21,900.0	12,021.0	22,679.9	12,744.0	167.0	168.2	180.00	-9,712.3	1,301.1	723.0	554.7	168.32	4.295		
22,000.0	12,021.0	22,779.9	12,744.0	168.6	169.8	180.00	-9,812.3	1,302.1	723.0	553.2	169.80	4.258		
22,100.0	12,021.0	22,879.9	12,744.0	170.1	171.3	180.00	-9,912.3	1,303.1	723.0	551.7	171.29	4.221		
22,200.0	12,021.0	22,979.9	12,744.0	171.7	172.9	180.00	-10,012.3	1,304.2	723.0	550.2	172.77	4.185		
22,300.0	12,021.0	23,079.9	12,744.0	173.3	174.5	180.00	-10,112.3	1,305.2	723.0	548.7	174.26	4.149		
22,400.0	12,021.0	23,179.9	12,744.0	174.9	176.1	180.00	-10,212.2	1,306.2	723.0	547.2	175.75	4.114		
22,500.0	12,021.0	23,279.9	12,744.0	176.5	177.7	180.00	-10,312.2	1,307.2	723.0	545.7	177.24	4.079		
22,600.0	12,021.0	23,379.9	12,744.0	178.1	179.3	180.00	-10,412.2	1,308.2	723.0	544.2	178.74	4.045		
22,700.0	12,021.0	23,479.9	12,744.0	179.7	180.9	180.00	-10,512.2	1,309.2	723.0	542.8	180.23	4.011		
22,713.9	12,021.0	23,493.8	12,744.0	179.9	181.1	180.00	-10,526.1	1,309.3	723.0	542.5	180.44	4.007		
22,716.7	12,021.0	23,496.6	12,744.0	179.9	181.1	180.00	-10,528.9	1,309.4	723.0	542.5	180.48	4.006		

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

Permian Resources

Anticollision Report

Company:	NEW MEXICO	Local Co-ordinate Reference:	Well LOS VAQUEROS FED 304H
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 304H	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 524H - OWB - PWP0														Offset Site Error:	0.0 usft
Survey Program:		0-MWD								Rule Assigned:				Offset Well Error:	0.0 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning		
0.0	0.0	0.0	0.0	0.0	0.0	-90.50	-0.6	-66.0	66.0						
100.0	100.0	100.0	100.0	0.3	0.3	-90.50	-0.6	-66.0	66.0	65.5	0.50	131.516			
200.0	200.0	200.0	200.0	0.6	0.6	-90.50	-0.6	-66.0	66.0	64.8	1.22	54.154			
300.0	300.0	300.0	300.0	1.0	1.0	-90.50	-0.6	-66.0	66.0	64.1	1.94	34.097			
400.0	400.0	400.0	400.0	1.3	1.3	-90.50	-0.6	-66.0	66.0	63.3	2.65	24.881			
500.0	500.0	500.0	500.0	1.7	1.7	-90.50	-0.6	-66.0	66.0	62.6	3.37	19.587			
600.0	600.0	600.0	600.0	2.0	2.0	-90.50	-0.6	-66.0	66.0	61.9	4.09	16.151			
700.0	700.0	700.0	700.0	2.4	2.4	-90.50	-0.6	-66.0	66.0	61.2	4.80	13.740			
800.0	800.0	800.0	800.0	2.8	2.8	-90.50	-0.6	-66.0	66.0	60.5	5.52	11.956			
900.0	900.0	900.0	900.0	3.1	3.1	-90.50	-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	-90.50	-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	-90.50	-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	-90.50	-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	-90.50	-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	-90.50	-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	-90.50	-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	-90.50	-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	-90.50	-0.6	-66.0	66.0	54.0	11.97	5.513			
1,800.0	1,800.0	1,800.0	1,800.0	6.3	6.3	-90.50	-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	-90.50	-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	-90.50	-0.6	-66.0	66.0	51.9	14.12	4.673 CC			
2,100.0	2,100.0	2,102.2	2,102.1	7.4	7.4	-169.80	0.2	-64.3	66.1	51.3	14.83	4.457			
2,200.0	2,199.8	2,204.3	2,204.1	7.8	7.8	-168.72	2.4	-59.3	66.4	50.8	15.51	4.279			
2,300.0	2,299.5	2,306.4	2,305.8	8.1	8.1	-166.95	6.0	-51.0	66.8	50.7	16.18	4.132 ES			
2,400.0	2,398.7	2,408.5	2,407.1	8.5	8.5	-164.51	11.2	-39.4	67.6	50.8	16.84	4.018			
2,500.0	2,497.5	2,510.5	2,507.8	8.8	8.9	-161.48	17.8	-24.5	68.8	51.3	17.49	3.935			
2,600.0	2,595.6	2,612.2	2,607.6	9.2	9.3	-157.95	25.7	-6.4	70.5	52.4	18.17	3.884 SF			
2,700.0	2,693.1	2,712.1	2,705.3	9.6	9.6	-155.13	34.1	12.6	74.6	55.7	18.90	3.946			
2,750.0	2,741.5	2,762.0	2,754.1	9.8	9.8	-154.24	38.3	22.1	77.9	58.6	19.27	4.040			
2,800.0	2,789.8	2,811.8	2,802.8	10.0	10.0	-153.59	42.5	31.5	81.5	61.9	19.65	4.150			
2,900.0	2,886.4	2,911.5	2,900.4	10.4	10.4	-152.45	50.9	50.5	88.9	68.5	20.40	4.358			
3,000.0	2,982.9	3,011.3	2,997.9	10.9	10.9	-151.48	59.3	69.5	96.3	75.1	21.16	4.550			
3,100.0	3,079.5	3,111.0	3,095.4	11.3	11.3	-150.66	67.6	88.4	103.7	81.8	21.93	4.727			
3,200.0	3,176.1	3,210.7	3,193.0	11.8	11.7	-149.94	76.0	107.4	111.1	88.4	22.72	4.891			
3,300.0	3,272.7	3,310.4	3,290.5	12.2	12.1	-149.31	84.4	126.4	118.6	95.1	23.51	5.043			
3,400.0	3,369.3	3,410.1	3,388.0	12.7	12.6	-148.76	92.8	145.3	126.0	101.7	24.31	5.184			
3,500.0	3,465.9	3,509.8	3,485.6	13.2	13.0	-148.26	101.2	164.3	133.5	108.4	25.12	5.315			
3,600.0	3,562.5	3,609.5	3,583.1	13.6	13.4	-147.82	109.5	183.3	141.0	115.0	25.93	5.436			
3,700.0	3,659.1	3,709.3	3,680.6	14.1	13.9	-147.43	117.9	202.2	148.5	121.7	26.75	5.549			
3,800.0	3,755.7	3,809.0	3,778.2	14.6	14.3	-147.07	126.3	221.2	156.0	128.4	27.58	5.654			
3,900.0	3,852.3	3,908.7	3,875.7	15.1	14.8	-146.75	134.7	240.2	163.5	135.0	28.41	5.753			
4,000.0	3,948.9	4,008.4	3,973.2	15.6	15.2	-146.45	143.0	259.1	171.0	141.7	29.25	5.845			
4,100.0	4,045.5	4,108.1	4,070.8	16.1	15.7	-146.18	151.4	278.1	178.5	148.4	30.09	5.931			
4,200.0	4,142.1	4,207.8	4,168.3	16.6	16.1	-145.93	159.8	297.0	186.0	155.0	30.94	6.011			
4,300.0	4,238.6	4,307.5	4,265.9	17.1	16.6	-145.70	168.2	316.0	193.5	161.7	31.79	6.087			
4,400.0	4,335.2	4,407.3	4,363.4	17.7	17.0	-145.49	176.6	335.0	201.0	168.4	32.64	6.158			
4,500.0	4,431.8	4,507.0	4,460.9	18.2	17.5	-145.29	184.9	353.9	208.5	175.0	33.50	6.225			
4,600.0	4,528.4	4,606.7	4,558.5	18.7	17.9	-145.11	193.3	372.9	216.0	181.7	34.36	6.288			
4,700.0	4,625.0	4,706.4	4,656.0	19.2	18.4	-144.94	201.7	391.9	223.6	188.4	35.22	6.348			
4,800.0	4,721.6	4,806.1	4,753.5	19.7	18.9	-144.78	210.1	410.8	231.1	195.0	36.09	6.404			
4,900.0	4,818.2	4,905.8	4,851.1	20.3	19.3	-144.63	218.4	429.8	238.6	201.7	36.95	6.458			
5,000.0	4,914.8	5,005.5	4,948.6	20.8	19.8	-144.49	226.8	448.8	246.2	208.3	37.82	6.508			

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

Permian Resources

Anticollision Report

Company:	NEW MEXICO	Local Co-ordinate Reference:	Well LOS VAQUEROS FED 304H
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 304H	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 524H - OWB - PWP0													Offset Site Error: 0.0 usft	
Survey Program: Reference		0-MWD		Semi Major Axis		Offset Wellbore Centre		Rule Assigned:				Offset Well Error: 0.0 usft		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
5,100.0	5,011.4	5,105.3	5,046.1	21.3	20.3	-144.35	235.2	467.7	253.7	215.0	38.69	6.556		
5,200.0	5,108.0	5,205.0	5,143.7	21.8	20.7	-144.23	243.6	486.7	261.2	221.6	39.57	6.602		
5,300.0	5,204.6	5,304.7	5,241.2	22.4	21.2	-144.11	251.9	505.6	268.8	228.3	40.44	6.645		
5,400.0	5,301.2	5,404.4	5,338.7	22.9	21.7	-144.00	260.3	524.6	276.3	235.0	41.32	6.686		
5,500.0	5,397.8	5,504.1	5,436.3	23.4	22.1	-143.89	268.7	543.6	283.8	241.6	42.20	6.725		
5,600.0	5,494.4	5,603.8	5,533.8	24.0	22.6	-143.79	277.1	562.5	291.4	248.3	43.08	6.763		
5,700.0	5,590.9	5,703.5	5,631.3	24.5	23.1	-143.70	285.5	581.5	298.9	254.9	43.96	6.798		
5,800.0	5,687.5	5,800.0	5,725.7	25.0	23.5	-143.64	293.5	599.7	306.6	261.7	44.84	6.837		
5,900.0	5,784.1	5,893.9	5,818.1	25.6	24.0	-143.92	300.3	615.2	315.9	270.3	45.64	6.922		
6,000.0	5,880.7	5,986.3	5,909.5	26.1	24.3	-144.58	305.9	627.8	327.4	281.0	46.36	7.062		
6,100.0	5,977.3	6,078.0	6,000.6	26.6	24.7	-145.56	310.2	637.6	341.1	294.1	47.00	7.257		
6,200.0	6,073.9	6,168.9	6,091.0	27.2	25.0	-146.81	313.3	644.6	357.0	309.5	47.56	7.506		
6,300.0	6,170.5	6,258.6	6,180.7	27.7	25.4	-148.25	315.3	649.0	375.3	327.3	48.05	7.811		
6,400.0	6,267.1	6,347.1	6,269.1	28.3	25.7	-149.84	316.1	650.8	396.1	347.7	48.48	8.171		
6,500.0	6,363.7	6,441.7	6,363.7	28.8	25.9	-151.56	316.1	650.9	418.8	369.9	48.97	8.553		
6,600.0	6,460.3	6,538.2	6,460.3	29.3	26.2	-153.15	316.1	650.9	441.9	392.4	49.51	8.926		
6,700.0	6,556.9	6,634.8	6,556.9	29.9	26.5	-154.58	316.1	650.9	465.3	415.2	50.07	9.294		
6,712.2	6,568.7	6,646.7	6,568.7	29.9	26.6	-154.74	316.1	650.9	468.2	418.1	50.14	9.338		
6,800.0	6,653.8	6,731.8	6,653.8	30.4	26.8	-155.97	316.1	650.9	487.8	437.1	50.65	9.630		
6,900.0	6,751.5	6,829.5	6,751.5	30.9	27.2	-157.10	316.1	650.9	507.3	456.0	51.26	9.897		
7,000.0	6,849.9	6,927.9	6,849.9	31.3	27.5	-157.98	316.1	650.9	523.8	471.9	51.88	10.096		
7,100.0	6,948.9	7,026.8	6,948.9	31.8	27.8	-158.65	316.1	650.9	537.1	484.6	52.52	10.227		
7,200.0	7,048.3	7,126.2	7,048.3	32.1	28.1	-159.14	316.1	650.9	547.3	494.1	53.17	10.294		
7,300.0	7,148.0	7,226.0	7,148.0	32.5	28.4	-159.46	316.1	650.9	554.2	500.4	53.82	10.297		
7,400.0	7,247.9	7,325.9	7,247.9	32.8	28.7	-159.63	316.1	650.9	557.9	503.4	54.48	10.240		
7,462.2	7,310.2	7,388.1	7,310.2	33.0	28.9	-80.00	316.1	650.9	558.5	503.6	54.89	10.175		
7,500.0	7,347.9	7,425.9	7,347.9	33.1	29.0	-80.00	316.1	650.9	558.5	503.4	55.13	10.130		
7,600.0	7,447.9	7,525.9	7,447.9	33.4	29.4	-80.00	316.1	650.9	558.5	502.7	55.79	10.010		
7,700.0	7,547.9	7,625.9	7,547.9	33.7	29.7	-80.00	316.1	650.9	558.5	502.0	56.45	9.893		
7,800.0	7,647.9	7,725.9	7,647.9	33.9	30.0	-80.00	316.1	650.9	558.5	501.4	57.11	9.779		
7,900.0	7,747.9	7,825.9	7,747.9	34.2	30.3	-80.00	316.1	650.9	558.5	500.7	57.77	9.667		
8,000.0	7,847.9	7,925.9	7,847.9	34.5	30.7	-80.00	316.1	650.9	558.5	500.1	58.44	9.557		
8,100.0	7,947.9	8,025.9	7,947.9	34.8	31.0	-80.00	316.1	650.9	558.5	499.4	59.10	9.450		
8,200.0	8,047.9	8,125.9	8,047.9	35.1	31.3	-80.00	316.1	650.9	558.5	498.7	59.77	9.344		
8,300.0	8,147.9	8,225.9	8,147.9	35.4	31.6	-80.00	316.1	650.9	558.5	498.1	60.44	9.241		
8,400.0	8,247.9	8,325.9	8,247.9	35.7	32.0	-80.00	316.1	650.9	558.5	497.4	61.10	9.140		
8,500.0	8,347.9	8,425.9	8,347.9	36.0	32.3	-80.00	316.1	650.9	558.5	496.7	61.77	9.041		
8,600.0	8,447.9	8,525.9	8,447.9	36.3	32.6	-80.00	316.1	650.9	558.5	496.0	62.44	8.944		
8,700.0	8,547.9	8,625.9	8,547.9	36.5	32.9	-80.00	316.1	650.9	558.5	495.4	63.11	8.849		
8,800.0	8,647.9	8,725.9	8,647.9	36.8	33.3	-80.00	316.1	650.9	558.5	494.7	63.79	8.756		
8,900.0	8,747.9	8,825.9	8,747.9	37.1	33.6	-80.00	316.1	650.9	558.5	494.0	64.46	8.664		
9,000.0	8,847.9	8,925.9	8,847.9	37.4	33.9	-80.00	316.1	650.9	558.5	493.4	65.13	8.575		
9,100.0	8,947.9	9,025.9	8,947.9	37.7	34.3	-80.00	316.1	650.9	558.5	492.7	65.81	8.487		
9,200.0	9,047.9	9,125.9	9,047.9	38.0	34.6	-80.00	316.1	650.9	558.5	492.0	66.48	8.400		
9,300.0	9,147.9	9,225.9	9,147.9	38.3	34.9	-80.00	316.1	650.9	558.5	491.3	67.16	8.316		
9,400.0	9,247.9	9,325.9	9,247.9	38.6	35.3	-80.00	316.1	650.9	558.5	490.7	67.84	8.233		
9,500.0	9,347.9	9,425.9	9,347.9	38.9	35.6	-80.00	316.1	650.9	558.5	490.0	68.52	8.151		
9,600.0	9,447.9	9,525.9	9,447.9	39.2	35.9	-80.00	316.1	650.9	558.5	489.3	69.20	8.071		
9,700.0	9,547.9	9,625.9	9,547.9	39.6	36.3	-80.00	316.1	650.9	558.5	488.6	69.88	7.993		
9,800.0	9,647.9	9,725.9	9,647.9	39.9	36.6	-80.00	316.1	650.9	558.5	487.9	70.56	7.916		
9,900.0	9,747.9	9,825.9	9,747.9	40.2	36.9	-80.00	316.1	650.9	558.5	487.3	71.24	7.840		
10,000.0	9,847.9	9,925.9	9,847.9	40.5	37.3	-80.00	316.1	650.9	558.5	486.6	71.92	7.765		

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

Permian Resources

Anticollision Report

Company:	NEW MEXICO	Local Co-ordinate Reference:	Well LOS VAQUEROS FED 304H
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 304H	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 524H - OWB - PWP0													Offset Site Error:	0.0 usft	
Survey Program:		0-MWD								Rule Assigned:				Offset Well Error:	0.0 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning		
10,100.0	9,947.9	10,025.9	9,947.9	40.8	37.6	-80.00	316.1	650.9	558.5	485.9	72.60	7.692			
10,200.0	10,047.9	10,125.9	10,047.9	41.1	37.9	-80.00	316.1	650.9	558.5	485.2	73.29	7.621			
10,300.0	10,147.9	10,225.9	10,147.9	41.4	38.3	-80.00	316.1	650.9	558.5	484.5	73.97	7.550			
10,400.0	10,247.9	10,325.9	10,247.9	41.7	38.6	-80.00	316.1	650.9	558.5	483.8	74.65	7.481			
10,500.0	10,347.9	10,425.9	10,347.9	42.0	38.9	-80.00	316.1	650.9	558.5	483.2	75.34	7.413			
10,600.0	10,447.9	10,525.9	10,447.9	42.3	39.3	-80.00	316.1	650.9	558.5	482.5	76.03	7.346			
10,700.0	10,547.9	10,625.9	10,547.9	42.6	39.6	-80.00	316.1	650.9	558.5	481.8	76.71	7.280			
10,800.0	10,647.9	10,725.9	10,647.9	43.0	40.0	-80.00	316.1	650.9	558.5	481.1	77.40	7.216			
10,900.0	10,747.9	10,825.9	10,747.9	43.3	40.3	-80.00	316.1	650.9	558.5	480.4	78.09	7.152			
11,000.0	10,847.9	10,925.9	10,847.9	43.6	40.6	-80.00	316.1	650.9	558.5	479.7	78.77	7.090			
11,100.0	10,947.9	11,025.9	10,947.9	43.9	41.0	-80.00	316.1	650.9	558.5	479.0	79.46	7.028			
11,200.0	11,047.9	11,125.9	11,047.9	44.2	41.3	-80.00	316.1	650.9	558.5	478.3	80.15	6.968			
11,300.0	11,147.9	11,225.9	11,147.9	44.5	41.7	-80.00	316.1	650.9	558.5	477.7	80.84	6.909			
11,400.0	11,247.9	11,325.9	11,247.9	44.9	42.0	-80.00	316.1	650.9	558.5	477.0	81.53	6.850			
11,500.0	11,347.9	11,425.9	11,347.9	45.2	42.3	-80.00	316.1	650.9	558.5	476.3	82.22	6.793			
11,600.0	11,447.9	11,525.9	11,447.9	45.5	42.7	-80.00	316.1	650.9	558.5	475.6	82.91	6.736			
11,695.6	11,543.5	11,621.5	11,543.5	45.8	43.0	-80.00	316.1	650.9	558.5	474.9	83.57	6.683			
11,700.0	11,547.9	11,625.9	11,547.9	45.8	43.0	100.58	316.1	650.9	558.5	474.9	83.60	6.680			
11,725.0	11,572.9	11,650.9	11,572.9	45.9	43.1	100.65	316.1	650.9	558.7	474.9	83.77	6.669			
11,750.0	11,597.8	11,675.8	11,597.8	46.0	43.2	100.83	316.1	650.9	559.1	475.1	83.95	6.659			
11,775.0	11,622.5	11,700.5	11,622.5	46.0	43.3	101.09	316.1	650.9	559.7	475.6	84.14	6.653			
11,800.0	11,647.1	11,725.1	11,647.1	46.1	43.4	101.45	316.1	650.9	560.7	476.4	84.33	6.649			
11,825.0	11,671.3	11,749.3	11,671.3	46.2	43.4	101.89	316.1	650.9	562.0	477.4	84.53	6.648			
11,850.0	11,695.2	11,773.2	11,695.2	46.2	43.5	102.40	316.1	650.9	563.6	478.8	84.73	6.651			
11,875.0	11,718.7	11,796.7	11,718.7	46.3	43.6	102.97	316.1	650.9	565.6	480.6	84.94	6.658			
11,900.0	11,741.7	11,819.7	11,741.7	46.3	43.7	103.57	316.1	650.9	568.0	482.8	85.15	6.670			
11,925.0	11,764.2	11,842.2	11,764.2	46.4	43.8	104.20	316.1	650.9	570.9	485.5	85.37	6.688			
11,950.0	11,786.0	11,864.0	11,786.0	46.4	43.8	104.83	316.1	650.9	574.3	488.8	85.59	6.711			
11,975.0	11,807.2	11,885.2	11,807.2	46.5	43.9	105.45	316.1	650.9	578.4	492.6	85.81	6.740			
12,000.0	11,827.7	11,905.7	11,827.7	46.5	44.0	106.04	316.1	650.9	583.1	497.0	86.03	6.777			
12,025.0	11,847.4	11,925.4	11,847.4	46.6	44.0	106.57	316.1	650.9	588.4	502.2	86.26	6.822			
12,050.0	11,866.3	11,944.2	11,866.3	46.6	44.1	107.03	316.1	650.9	594.5	508.0	86.48	6.875			
12,075.0	11,884.2	11,962.2	11,884.2	46.6	44.2	107.40	316.1	650.9	601.4	514.7	86.70	6.936			
12,100.0	11,901.3	11,979.2	11,901.3	46.7	44.2	107.65	316.1	650.9	609.1	522.2	86.92	7.008			
12,125.0	11,917.3	11,995.3	11,917.3	46.7	44.3	107.78	316.1	650.9	617.6	530.5	87.13	7.088			
12,150.0	11,932.4	12,010.3	11,932.4	46.7	44.3	107.76	316.1	650.9	627.0	539.7	87.34	7.179			
12,175.0	11,946.3	12,024.3	11,946.3	46.8	44.4	107.56	316.1	650.9	637.3	549.8	87.54	7.280			
12,200.0	11,959.2	12,037.2	11,959.2	46.8	44.4	107.19	316.1	650.9	648.5	560.7	87.73	7.392			
12,225.0	11,970.9	12,048.9	11,970.9	46.8	44.5	106.60	316.1	650.9	660.5	572.6	87.91	7.513			
12,250.0	11,981.5	12,059.4	11,981.5	46.8	44.5	105.79	316.1	650.9	673.3	585.3	88.07	7.645			
12,275.0	11,990.8	12,068.8	11,990.8	46.8	44.5	104.74	316.1	650.9	687.0	598.8	88.23	7.787			
12,300.0	11,998.9	12,076.9	11,998.9	46.8	44.6	103.43	316.1	650.9	701.5	613.1	88.37	7.938			
12,325.0	12,005.8	12,083.8	12,005.8	46.9	44.6	101.84	316.1	650.9	716.7	628.2	88.50	8.099			
12,350.0	12,011.4	12,089.4	12,011.4	46.9	44.6	99.97	316.1	650.9	732.6	644.0	88.61	8.268			
12,375.0	12,015.8	12,093.7	12,015.8	46.9	44.6	97.79	316.1	650.9	749.1	660.4	88.71	8.445			
12,400.0	12,018.8	12,096.8	12,018.8	46.9	44.6	95.30	316.1	650.9	766.2	677.4	88.79	8.629			
12,425.0	12,020.5	12,098.5	12,020.5	46.9	44.6	92.51	316.1	650.9	783.8	695.0	88.87	8.820			
12,445.6	12,021.0	12,098.9	12,021.0	47.0	44.6	90.00	316.1	650.9	798.6	709.7	88.92	8.982			

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

Permian Resources

Anticollision Report

Company:	NEW MEXICO	Local Co-ordinate Reference:	Well LOS VAQUEROS FED 304H
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 304H	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

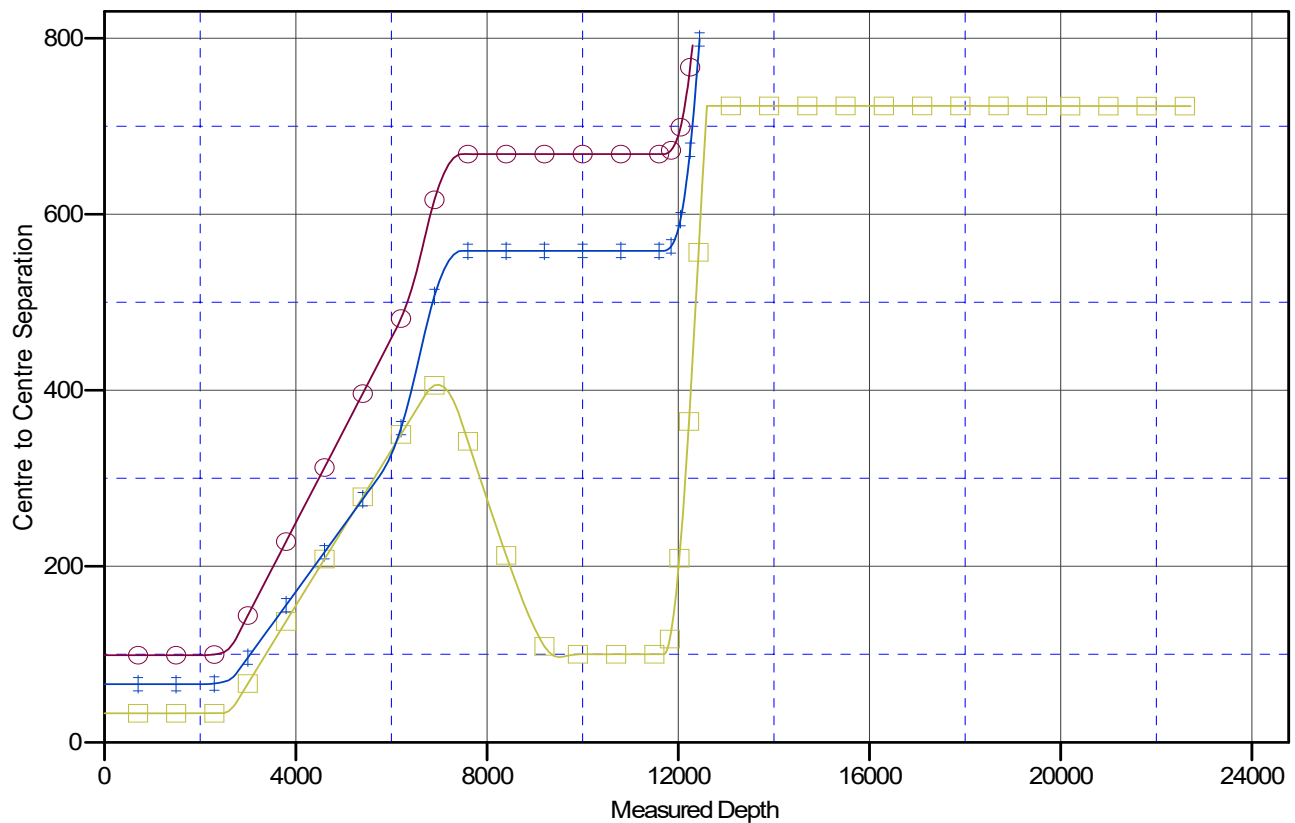
Central Meridian is 104° 20' 0.000 W

Coordinates are relative to: LOS VAQUEROS FED 304H

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

Grid Convergence at Surface is: 0.49°

Ladder Plot



LEGEND

■ LOSVAQUEROSFED 464H, OWB, PWP0 V0
 ■ LOSVAQUEROSFED 524H, OWB, PWP0 V0
 ● LOSVAQUEROSFED 444H, OWB, PWP0 V0

Permian Resources

Anticollision Report

Company:	NEW MEXICO	Local Co-ordinate Reference:	Well LOS VAQUEROS FED 304H
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 304H	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

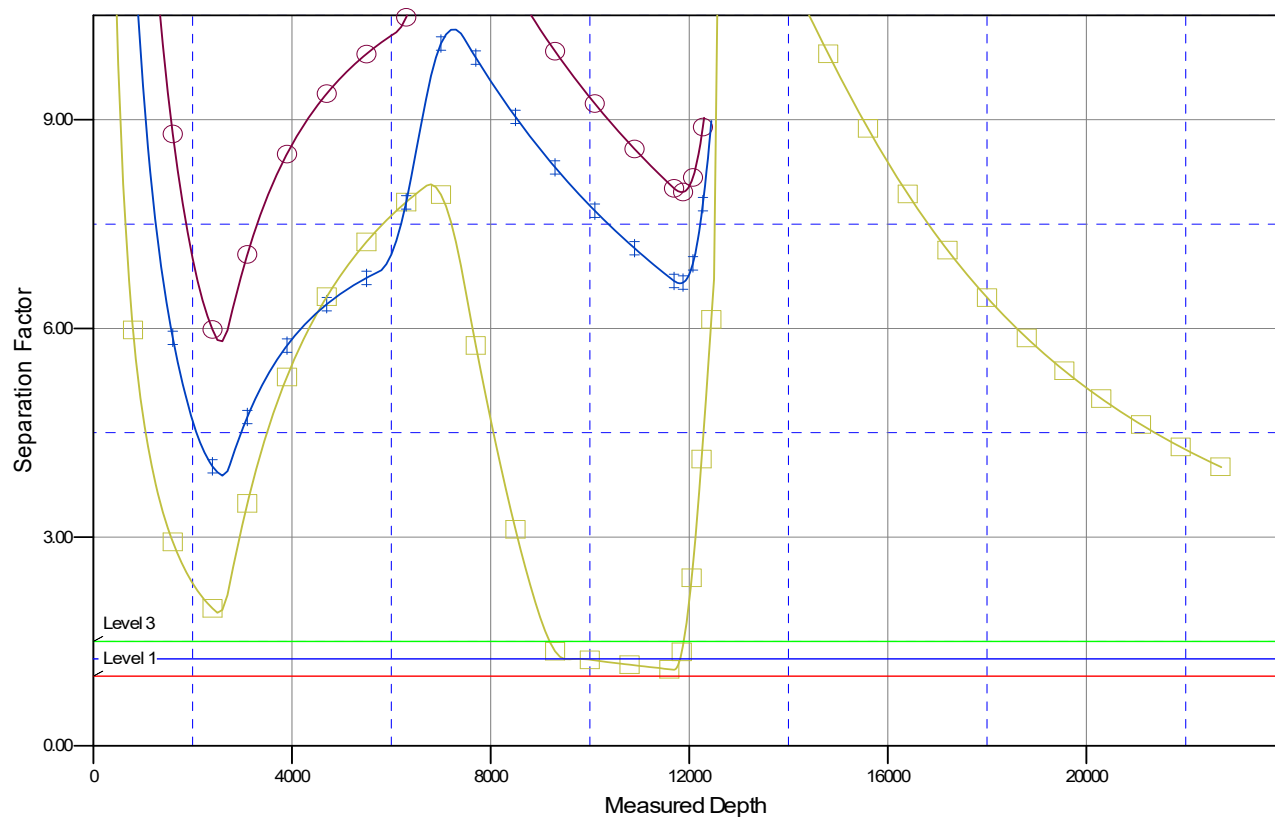
Central Meridian is 104° 20' 0.000 W

Coordinates are relative to: LOS VAQUEROS FED 304H

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

Grid Convergence at Surface is: 0.49°

Separation Factor Plot



LEGEND

■ LOSVAQUEROSFED 464H,OWB,PWP0V0
 ● LOSVAQUEROSFED 524H,OWB,PWP0V0
 ● LOSVAQUEROSFED 444H,OWB,PWP0V0

NEW MEXICO

(SP) LEA

LOS VAQUEROS FED PROJECT

LOS VAQUEROS FED 304H

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 304H
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 304H	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 304H					
Well Position	+N/-S	0.0 usft	Northing:	372,466.94 usft	Latitude:	32° 1' 14.083 N
	+E/-W	0.0 usft	Easting:	829,705.79 usft	Longitude:	103° 24' 10.395 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	48,690.77170102

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	172.91

Plan Survey Tool Program	Date	12/13/2023		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.0	22,716.7 PWP0 (OWB)	MWD	
			OWSG_Rev2_ MWD - Star	

Planning Report - Geographic

Database:	Compass	Local Co-ordinate Reference:	Well LOS VAQUEROS FED 304H
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 304H	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	
2,750.0	15.00	79.66	2,741.5	17.5	96.0	2.00	2.00	0.00	79.66	
6,712.2	15.00	79.66	6,568.7	201.6	1,104.9	0.00	0.00	0.00	0.00	
7,462.2	0.00	0.00	7,310.2	219.1	1,200.9	2.00	-2.00	0.00	180.00	
11,695.6	0.00	0.00	11,543.5	219.1	1,200.9	0.00	0.00	0.00	0.00	
12,445.6	90.00	179.42	12,021.0	-258.3	1,205.7	12.00	12.00	23.92	179.42	
19,557.4	90.00	179.42	12,021.0	-7,369.8	1,277.5	0.00	0.00	0.00	0.00	SLC-LOS VAQUER
22,716.7	90.00	179.42	12,021.0	-10,529.0	1,309.4	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 304H
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 304H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PWPO		

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	372,466.94	829,705.79	32° 1' 14.083 N	103° 24' 10.395 W	
100.0	0.00	0.00	100.0	0.0	0.0	372,466.94	829,705.79	32° 1' 14.083 N	103° 24' 10.395 W	
200.0	0.00	0.00	200.0	0.0	0.0	372,466.94	829,705.79	32° 1' 14.083 N	103° 24' 10.395 W	
300.0	0.00	0.00	300.0	0.0	0.0	372,466.94	829,705.79	32° 1' 14.083 N	103° 24' 10.395 W	
400.0	0.00	0.00	400.0	0.0	0.0	372,466.94	829,705.79	32° 1' 14.083 N	103° 24' 10.395 W	
500.0	0.00	0.00	500.0	0.0	0.0	372,466.94	829,705.79	32° 1' 14.083 N	103° 24' 10.395 W	
600.0	0.00	0.00	600.0	0.0	0.0	372,466.94	829,705.79	32° 1' 14.083 N	103° 24' 10.395 W	
700.0	0.00	0.00	700.0	0.0	0.0	372,466.94	829,705.79	32° 1' 14.083 N	103° 24' 10.395 W	
800.0	0.00	0.00	800.0	0.0	0.0	372,466.94	829,705.79	32° 1' 14.083 N	103° 24' 10.395 W	
900.0	0.00	0.00	900.0	0.0	0.0	372,466.94	829,705.79	32° 1' 14.083 N	103° 24' 10.395 W	
1,000.0	0.00	0.00	1,000.0	0.0	0.0	372,466.94	829,705.79	32° 1' 14.083 N	103° 24' 10.395 W	
1,100.0	0.00	0.00	1,100.0	0.0	0.0	372,466.94	829,705.79	32° 1' 14.083 N	103° 24' 10.395 W	
1,200.0	0.00	0.00	1,200.0	0.0	0.0	372,466.94	829,705.79	32° 1' 14.083 N	103° 24' 10.395 W	
1,300.0	0.00	0.00	1,300.0	0.0	0.0	372,466.94	829,705.79	32° 1' 14.083 N	103° 24' 10.395 W	
1,400.0	0.00	0.00	1,400.0	0.0	0.0	372,466.94	829,705.79	32° 1' 14.083 N	103° 24' 10.395 W	
1,500.0	0.00	0.00	1,500.0	0.0	0.0	372,466.94	829,705.79	32° 1' 14.083 N	103° 24' 10.395 W	
1,600.0	0.00	0.00	1,600.0	0.0	0.0	372,466.94	829,705.79	32° 1' 14.083 N	103° 24' 10.395 W	
1,700.0	0.00	0.00	1,700.0	0.0	0.0	372,466.94	829,705.79	32° 1' 14.083 N	103° 24' 10.395 W	
1,800.0	0.00	0.00	1,800.0	0.0	0.0	372,466.94	829,705.79	32° 1' 14.083 N	103° 24' 10.395 W	
1,900.0	0.00	0.00	1,900.0	0.0	0.0	372,466.94	829,705.79	32° 1' 14.083 N	103° 24' 10.395 W	
2,000.0	0.00	0.00	2,000.0	0.0	0.0	372,466.94	829,705.79	32° 1' 14.083 N	103° 24' 10.395 W	
Start Build 2.00										
2,100.0	2.00	79.66	2,100.0	0.3	1.7	372,467.25	829,707.51	32° 1' 14.086 N	103° 24' 10.375 W	
2,200.0	4.00	79.66	2,199.8	1.3	6.9	372,468.19	829,712.65	32° 1' 14.095 N	103° 24' 10.315 W	
2,300.0	6.00	79.66	2,299.5	2.8	15.4	372,469.76	829,721.23	32° 1' 14.109 N	103° 24' 10.215 W	
2,400.0	8.00	79.66	2,398.7	5.0	27.4	372,471.94	829,733.22	32° 1' 14.130 N	103° 24' 10.076 W	
2,500.0	10.00	79.66	2,497.5	7.8	42.8	372,474.75	829,748.60	32° 1' 14.157 N	103° 24' 9.897 W	
2,600.0	12.00	79.66	2,595.6	11.2	61.6	372,478.17	829,767.37	32° 1' 14.189 N	103° 24' 9.678 W	
2,700.0	14.00	79.66	2,693.1	15.3	83.7	372,482.21	829,789.50	32° 1' 14.227 N	103° 24' 9.421 W	
2,750.0	15.00	79.66	2,741.5	17.5	96.0	372,484.46	829,801.82	32° 1' 14.248 N	103° 24' 9.278 W	
Start 3962.2 hold at 2750.0 MD										
2,800.0	15.00	79.66	2,789.8	19.8	108.8	372,486.78	829,814.55	32° 1' 14.270 N	103° 24' 9.129 W	
2,900.0	15.00	79.66	2,886.4	24.5	134.2	372,491.43	829,840.01	32° 1' 14.314 N	103° 24' 8.833 W	
3,000.0	15.00	79.66	2,982.9	29.1	159.7	372,496.07	829,865.47	32° 1' 14.358 N	103° 24' 8.537 W	
3,100.0	15.00	79.66	3,079.5	33.8	185.1	372,500.72	829,890.93	32° 1' 14.401 N	103° 24' 8.241 W	
3,200.0	15.00	79.66	3,176.1	38.4	210.6	372,505.36	829,916.40	32° 1' 14.445 N	103° 24' 7.945 W	
3,300.0	15.00	79.66	3,272.7	43.1	236.1	372,510.01	829,941.86	32° 1' 14.489 N	103° 24' 7.649 W	
3,400.0	15.00	79.66	3,369.3	47.7	261.5	372,514.65	829,967.32	32° 1' 14.533 N	103° 24' 7.352 W	
3,500.0	15.00	79.66	3,465.9	52.4	287.0	372,519.30	829,992.78	32° 1' 14.577 N	103° 24' 7.056 W	
3,600.0	15.00	79.66	3,562.5	57.0	312.5	372,523.94	830,018.24	32° 1' 14.620 N	103° 24' 6.760 W	
3,700.0	15.00	79.66	3,659.1	61.7	337.9	372,528.59	830,043.70	32° 1' 14.664 N	103° 24' 6.464 W	
3,800.0	15.00	79.66	3,755.7	66.3	363.4	372,533.23	830,069.17	32° 1' 14.708 N	103° 24' 6.168 W	
3,900.0	15.00	79.66	3,852.3	70.9	388.8	372,537.88	830,094.63	32° 1' 14.752 N	103° 24' 5.871 W	
4,000.0	15.00	79.66	3,948.9	75.6	414.3	372,542.53	830,120.09	32° 1' 14.796 N	103° 24' 5.575 W	
4,100.0	15.00	79.66	4,045.5	80.2	439.8	372,547.17	830,145.55	32° 1' 14.839 N	103° 24' 5.279 W	
4,200.0	15.00	79.66	4,142.1	84.9	465.2	372,551.82	830,171.01	32° 1' 14.883 N	103° 24' 4.983 W	
4,300.0	15.00	79.66	4,238.6	89.5	490.7	372,556.46	830,196.47	32° 1' 14.927 N	103° 24' 4.687 W	
4,400.0	15.00	79.66	4,335.2	94.2	516.1	372,561.11	830,221.94	32° 1' 14.971 N	103° 24' 4.390 W	
4,500.0	15.00	79.66	4,431.8	98.8	541.6	372,565.75	830,247.40	32° 1' 15.014 N	103° 24' 4.094 W	
4,600.0	15.00	79.66	4,528.4	103.5	567.1	372,570.40	830,272.86	32° 1' 15.058 N	103° 24' 3.798 W	
4,700.0	15.00	79.66	4,625.0	108.1	592.5	372,575.04	830,298.32	32° 1' 15.102 N	103° 24' 3.502 W	
4,800.0	15.00	79.66	4,721.6	112.7	618.0	372,579.69	830,323.78	32° 1' 15.146 N	103° 24' 3.206 W	
4,900.0	15.00	79.66	4,818.2	117.4	643.5	372,584.33	830,349.24	32° 1' 15.190 N	103° 24' 2.910 W	
5,000.0	15.00	79.66	4,914.8	122.0	668.9	372,588.98	830,374.71	32° 1' 15.233 N	103° 24' 2.613 W	

Permian Resources

Planning Report - Geographic

Database:	Compass	Local Co-ordinate Reference:	Well LOS VAQUEROS FED 304H
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 304H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PWPO		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
5,100.0	15.00	79.66	5,011.4	126.7	694.4	372,593.62	830,400.17	32° 1' 15.277 N	103° 24' 2.317 W	
5,200.0	15.00	79.66	5,108.0	131.3	719.8	372,598.27	830,425.63	32° 1' 15.321 N	103° 24' 2.021 W	
5,300.0	15.00	79.66	5,204.6	136.0	745.3	372,602.91	830,451.09	32° 1' 15.365 N	103° 24' 1.725 W	
5,400.0	15.00	79.66	5,301.2	140.6	770.8	372,607.56	830,476.55	32° 1' 15.409 N	103° 24' 1.429 W	
5,500.0	15.00	79.66	5,397.8	145.3	796.2	372,612.21	830,502.01	32° 1' 15.452 N	103° 24' 1.132 W	
5,600.0	15.00	79.66	5,494.4	149.9	821.7	372,616.85	830,527.47	32° 1' 15.496 N	103° 24' 0.836 W	
5,700.0	15.00	79.66	5,590.9	154.6	847.1	372,621.50	830,552.94	32° 1' 15.540 N	103° 24' 0.540 W	
5,800.0	15.00	79.66	5,687.5	159.2	872.6	372,626.14	830,578.40	32° 1' 15.584 N	103° 24' 0.244 W	
5,900.0	15.00	79.66	5,784.1	163.8	898.1	372,630.79	830,603.86	32° 1' 15.628 N	103° 23' 59.948 W	
6,000.0	15.00	79.66	5,880.7	168.5	923.5	372,635.43	830,629.32	32° 1' 15.671 N	103° 23' 59.651 W	
6,100.0	15.00	79.66	5,977.3	173.1	949.0	372,640.08	830,654.78	32° 1' 15.715 N	103° 23' 59.355 W	
6,200.0	15.00	79.66	6,073.9	177.8	974.5	372,644.72	830,680.24	32° 1' 15.759 N	103° 23' 59.059 W	
6,300.0	15.00	79.66	6,170.5	182.4	999.9	372,649.37	830,705.71	32° 1' 15.803 N	103° 23' 58.763 W	
6,400.0	15.00	79.66	6,267.1	187.1	1,025.4	372,654.01	830,731.17	32° 1' 15.847 N	103° 23' 58.467 W	
6,500.0	15.00	79.66	6,363.7	191.7	1,050.8	372,658.66	830,756.63	32° 1' 15.890 N	103° 23' 58.170 W	
6,600.0	15.00	79.66	6,460.3	196.4	1,076.3	372,663.30	830,782.09	32° 1' 15.934 N	103° 23' 57.874 W	
6,700.0	15.00	79.66	6,556.9	201.0	1,101.8	372,667.95	830,807.55	32° 1' 15.978 N	103° 23' 57.578 W	
6,712.2	15.00	79.66	6,568.7	201.6	1,104.9	372,668.52	830,810.67	32° 1' 15.983 N	103° 23' 57.542 W	
Start Drop -2.00										
6,800.0	13.24	79.66	6,653.8	205.4	1,125.9	372,672.36	830,831.73	32° 1' 16.019 N	103° 23' 57.297 W	
6,900.0	11.24	79.66	6,751.5	209.2	1,146.8	372,676.17	830,852.60	32° 1' 16.055 N	103° 23' 57.054 W	
7,000.0	9.24	79.66	6,849.9	212.4	1,164.3	372,679.36	830,870.09	32° 1' 16.085 N	103° 23' 56.851 W	
7,100.0	7.24	79.66	6,948.9	215.0	1,178.4	372,681.93	830,884.20	32° 1' 16.110 N	103° 23' 56.687 W	
7,200.0	5.24	79.66	7,048.3	216.9	1,189.1	372,683.89	830,894.90	32° 1' 16.128 N	103° 23' 56.562 W	
7,300.0	3.24	79.66	7,148.0	218.3	1,196.4	372,685.21	830,902.18	32° 1' 16.141 N	103° 23' 56.477 W	
7,400.0	1.24	79.66	7,247.9	219.0	1,200.2	372,685.92	830,906.03	32° 1' 16.147 N	103° 23' 56.433 W	
7,462.2	0.00	0.00	7,310.2	219.1	1,200.9	372,686.04	830,906.70	32° 1' 16.148 N	103° 23' 56.425 W	
Start 4233.3 hold at 7462.2 MD										
7,500.0	0.00	0.00	7,347.9	219.1	1,200.9	372,686.04	830,906.70	32° 1' 16.148 N	103° 23' 56.425 W	
7,600.0	0.00	0.00	7,447.9	219.1	1,200.9	372,686.04	830,906.70	32° 1' 16.148 N	103° 23' 56.425 W	
7,700.0	0.00	0.00	7,547.9	219.1	1,200.9	372,686.04	830,906.70	32° 1' 16.148 N	103° 23' 56.425 W	
7,800.0	0.00	0.00	7,647.9	219.1	1,200.9	372,686.04	830,906.70	32° 1' 16.148 N	103° 23' 56.425 W	
7,900.0	0.00	0.00	7,747.9	219.1	1,200.9	372,686.04	830,906.70	32° 1' 16.148 N	103° 23' 56.425 W	
8,000.0	0.00	0.00	7,847.9	219.1	1,200.9	372,686.04	830,906.70	32° 1' 16.148 N	103° 23' 56.425 W	
8,100.0	0.00	0.00	7,947.9	219.1	1,200.9	372,686.04	830,906.70	32° 1' 16.148 N	103° 23' 56.425 W	
8,200.0	0.00	0.00	8,047.9	219.1	1,200.9	372,686.04	830,906.70	32° 1' 16.148 N	103° 23' 56.425 W	
8,300.0	0.00	0.00	8,147.9	219.1	1,200.9	372,686.04	830,906.70	32° 1' 16.148 N	103° 23' 56.425 W	
8,400.0	0.00	0.00	8,247.9	219.1	1,200.9	372,686.04	830,906.70	32° 1' 16.148 N	103° 23' 56.425 W	
8,500.0	0.00	0.00	8,347.9	219.1	1,200.9	372,686.04	830,906.70	32° 1' 16.148 N	103° 23' 56.425 W	
8,600.0	0.00	0.00	8,447.9	219.1	1,200.9	372,686.04	830,906.70	32° 1' 16.148 N	103° 23' 56.425 W	
8,700.0	0.00	0.00	8,547.9	219.1	1,200.9	372,686.04	830,906.70	32° 1' 16.148 N	103° 23' 56.425 W	
8,800.0	0.00	0.00	8,647.9	219.1	1,200.9	372,686.04	830,906.70	32° 1' 16.148 N	103° 23' 56.425 W	
8,900.0	0.00	0.00	8,747.9	219.1	1,200.9	372,686.04	830,906.70	32° 1' 16.148 N	103° 23' 56.425 W	
9,000.0	0.00	0.00	8,847.9	219.1	1,200.9	372,686.04	830,906.70	32° 1' 16.148 N	103° 23' 56.425 W	
9,100.0	0.00	0.00	8,947.9	219.1	1,200.9	372,686.04	830,906.70	32° 1' 16.148 N	103° 23' 56.425 W	
9,200.0	0.00	0.00	9,047.9	219.1	1,200.9	372,686.04	830,906.70	32° 1' 16.148 N	103° 23' 56.425 W	
9,300.0	0.00	0.00	9,147.9	219.1	1,200.9	372,686.04	830,906.70	32° 1' 16.148 N	103° 23' 56.425 W	
9,400.0	0.00	0.00	9,247.9	219.1	1,200.9	372,686.04	830,906.70	32° 1' 16.148 N	103° 23' 56.425 W	
9,500.0	0.00	0.00	9,347.9	219.1	1,200.9	372,686.04	830,906.70	32° 1' 16.148 N	103° 23' 56.425 W	
9,600.0	0.00	0.00	9,447.9	219.1	1,200.9	372,686.04	830,906.70	32° 1' 16.148 N	103° 23' 56.425 W	
9,700.0	0.00	0.00	9,547.9	219.1	1,200.9	372,686.04	830,906.70	32° 1' 16.148 N	103° 23' 56.425 W	
9,800.0	0.00	0.00	9,647.9	219.1	1,200.9	372,686.04	830,906.70	32° 1' 16.148 N	103° 23' 56.425 W	
9,900.0	0.00	0.00	9,747.9	219.1	1,200.9	372,686.04	830,906.70	32° 1' 16.148 N	103° 23' 56.425 W	
10,000.0	0.00	0.00	9,847.9	219.1	1,200.9	372,686.04	830,906.70	32° 1' 16.148 N	103° 23' 56.425 W	

Permian Resources

Planning Report - Geographic

Database:	Compass	Local Co-ordinate Reference:	Well LOS VAQUEROS FED 304H
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 304H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PWPO		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
10,100.0	0.00	0.00	9,947.9	219.1	1,200.9	372,686.04	830,906.70	32° 1' 16.148 N	103° 23' 56.425 W	
10,200.0	0.00	0.00	10,047.9	219.1	1,200.9	372,686.04	830,906.70	32° 1' 16.148 N	103° 23' 56.425 W	
10,300.0	0.00	0.00	10,147.9	219.1	1,200.9	372,686.04	830,906.70	32° 1' 16.148 N	103° 23' 56.425 W	
10,400.0	0.00	0.00	10,247.9	219.1	1,200.9	372,686.04	830,906.70	32° 1' 16.148 N	103° 23' 56.425 W	
10,500.0	0.00	0.00	10,347.9	219.1	1,200.9	372,686.04	830,906.70	32° 1' 16.148 N	103° 23' 56.425 W	
10,600.0	0.00	0.00	10,447.9	219.1	1,200.9	372,686.04	830,906.70	32° 1' 16.148 N	103° 23' 56.425 W	
10,700.0	0.00	0.00	10,547.9	219.1	1,200.9	372,686.04	830,906.70	32° 1' 16.148 N	103° 23' 56.425 W	
10,800.0	0.00	0.00	10,647.9	219.1	1,200.9	372,686.04	830,906.70	32° 1' 16.148 N	103° 23' 56.425 W	
10,900.0	0.00	0.00	10,747.9	219.1	1,200.9	372,686.04	830,906.70	32° 1' 16.148 N	103° 23' 56.425 W	
11,000.0	0.00	0.00	10,847.9	219.1	1,200.9	372,686.04	830,906.70	32° 1' 16.148 N	103° 23' 56.425 W	
11,100.0	0.00	0.00	10,947.9	219.1	1,200.9	372,686.04	830,906.70	32° 1' 16.148 N	103° 23' 56.425 W	
11,200.0	0.00	0.00	11,047.9	219.1	1,200.9	372,686.04	830,906.70	32° 1' 16.148 N	103° 23' 56.425 W	
11,300.0	0.00	0.00	11,147.9	219.1	1,200.9	372,686.04	830,906.70	32° 1' 16.148 N	103° 23' 56.425 W	
11,400.0	0.00	0.00	11,247.9	219.1	1,200.9	372,686.04	830,906.70	32° 1' 16.148 N	103° 23' 56.425 W	
11,500.0	0.00	0.00	11,347.9	219.1	1,200.9	372,686.04	830,906.70	32° 1' 16.148 N	103° 23' 56.425 W	
11,600.0	0.00	0.00	11,447.9	219.1	1,200.9	372,686.04	830,906.70	32° 1' 16.148 N	103° 23' 56.425 W	
11,695.6	0.00	0.00	11,543.5	219.1	1,200.9	372,686.04	830,906.70	32° 1' 16.148 N	103° 23' 56.425 W	
Start DLS 12.00 TFO 179.42										
11,700.0	0.53	179.42	11,547.9	219.1	1,200.9	372,686.02	830,906.70	32° 1' 16.148 N	103° 23' 56.425 W	
11,725.0	3.53	179.42	11,572.9	218.2	1,200.9	372,685.13	830,906.71	32° 1' 16.139 N	103° 23' 56.425 W	
11,750.0	6.53	179.42	11,597.8	216.0	1,200.9	372,682.94	830,906.73	32° 1' 16.118 N	103° 23' 56.425 W	
11,775.0	9.53	179.42	11,622.5	212.5	1,201.0	372,679.45	830,906.77	32° 1' 16.083 N	103° 23' 56.425 W	
11,800.0	12.53	179.42	11,647.1	207.7	1,201.0	372,674.67	830,906.81	32° 1' 16.036 N	103° 23' 56.425 W	
11,825.0	15.53	179.42	11,671.3	201.7	1,201.1	372,668.61	830,906.87	32° 1' 15.976 N	103° 23' 56.424 W	
11,850.0	18.53	179.42	11,695.2	194.3	1,201.2	372,661.29	830,906.95	32° 1' 15.903 N	103° 23' 56.424 W	
11,875.0	21.53	179.42	11,718.7	185.8	1,201.2	372,652.73	830,907.03	32° 1' 15.819 N	103° 23' 56.424 W	
11,900.0	24.53	179.42	11,741.7	176.0	1,201.3	372,642.95	830,907.13	32° 1' 15.722 N	103° 23' 56.424 W	
11,925.0	27.53	179.42	11,764.2	165.0	1,201.5	372,631.98	830,907.24	32° 1' 15.613 N	103° 23' 56.424 W	
11,950.0	30.53	179.42	11,786.0	152.9	1,201.6	372,619.85	830,907.37	32° 1' 15.493 N	103° 23' 56.424 W	
11,975.0	33.53	179.42	11,807.2	139.7	1,201.7	372,606.59	830,907.50	32° 1' 15.362 N	103° 23' 56.423 W	
12,000.0	36.53	179.42	11,827.7	125.3	1,201.9	372,592.24	830,907.65	32° 1' 15.220 N	103° 23' 56.423 W	
12,025.0	39.53	179.42	11,847.4	109.9	1,202.0	372,576.85	830,907.80	32° 1' 15.068 N	103° 23' 56.423 W	
12,050.0	42.53	179.42	11,866.3	93.5	1,202.2	372,560.44	830,907.97	32° 1' 14.905 N	103° 23' 56.423 W	
12,075.0	45.53	179.42	11,884.2	76.1	1,202.4	372,543.06	830,908.14	32° 1' 14.734 N	103° 23' 56.422 W	
12,100.0	48.53	179.42	11,901.3	57.8	1,202.5	372,524.77	830,908.33	32° 1' 14.553 N	103° 23' 56.422 W	
12,125.0	51.53	179.42	11,917.3	38.7	1,202.7	372,505.62	830,908.52	32° 1' 14.363 N	103° 23' 56.422 W	
12,150.0	54.53	179.42	11,932.4	18.7	1,202.9	372,485.65	830,908.72	32° 1' 14.165 N	103° 23' 56.421 W	
12,175.0	57.53	179.42	11,946.3	-2.0	1,203.1	372,464.92	830,908.93	32° 1' 13.960 N	103° 23' 56.421 W	
12,200.0	60.53	179.42	11,959.2	-23.5	1,203.4	372,443.49	830,909.15	32° 1' 13.748 N	103° 23' 56.421 W	
12,225.0	63.53	179.42	11,970.9	-45.5	1,203.6	372,421.41	830,909.37	32° 1' 13.530 N	103° 23' 56.420 W	
12,250.0	66.53	179.42	11,981.5	-68.2	1,203.8	372,398.75	830,909.60	32° 1' 13.305 N	103° 23' 56.420 W	
12,275.0	69.53	179.42	11,990.8	-91.4	1,204.0	372,375.57	830,909.83	32° 1' 13.076 N	103° 23' 56.420 W	
12,300.0	72.53	179.42	11,998.9	-115.0	1,204.3	372,351.93	830,910.07	32° 1' 12.842 N	103° 23' 56.419 W	
12,325.0	75.53	179.42	12,005.8	-139.0	1,204.5	372,327.90	830,910.31	32° 1' 12.604 N	103° 23' 56.419 W	
12,350.0	78.53	179.42	12,011.4	-163.4	1,204.8	372,303.54	830,910.56	32° 1' 12.363 N	103° 23' 56.418 W	
12,375.0	81.53	179.42	12,015.8	-188.0	1,205.0	372,278.92	830,910.81	32° 1' 12.120 N	103° 23' 56.418 W	
12,400.0	84.53	179.42	12,018.8	-212.8	1,205.3	372,254.11	830,911.06	32° 1' 11.874 N	103° 23' 56.418 W	
12,425.0	87.53	179.42	12,020.5	-237.8	1,205.5	372,229.18	830,911.31	32° 1' 11.627 N	103° 23' 56.417 W	
12,445.6	90.00	179.42	12,021.0	-258.3	1,205.7	372,208.60	830,911.52	32° 1' 11.424 N	103° 23' 56.417 W	
Start 7111.8 hold at 12445.6 MD										
12,500.0	90.00	179.42	12,021.0	-312.8	1,206.3	372,154.19	830,912.07	32° 1' 10.885 N	103° 23' 56.416 W	
12,600.0	90.00	179.42	12,021.0	-412.7	1,207.3	372,054.19	830,913.08	32° 1' 9.896 N	103° 23' 56.414 W	
12,700.0	90.00	179.42	12,021.0	-512.7	1,208.3	371,954.20	830,914.08	32° 1' 8.906 N	103° 23' 56.412 W	
12,800.0	90.00	179.42	12,021.0	-612.7	1,209.3	371,854.20	830,915.09	32° 1' 7.917 N	103° 23' 56.411 W	

Permian Resources

Planning Report - Geographic

Database:	Compass	Local Co-ordinate Reference:	Well LOS VAQUEROS FED 304H
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 304H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PWPO		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
12,900.0	90.00	179.42	12,021.0	-712.7	1,210.3	371,754.21	830,916.10	32° 1' 6.927 N	103° 23' 56.409 W	
13,000.0	90.00	179.42	12,021.0	-812.7	1,211.3	371,654.21	830,917.11	32° 1' 5.938 N	103° 23' 56.407 W	
13,100.0	90.00	179.42	12,021.0	-912.7	1,212.3	371,554.22	830,918.12	32° 1' 4.948 N	103° 23' 56.406 W	
13,200.0	90.00	179.42	12,021.0	-1,012.7	1,213.3	371,454.22	830,919.13	32° 1' 3.958 N	103° 23' 56.404 W	
13,300.0	90.00	179.42	12,021.0	-1,112.7	1,214.4	371,354.23	830,920.14	32° 1' 2.969 N	103° 23' 56.402 W	
13,400.0	90.00	179.42	12,021.0	-1,212.7	1,215.4	371,254.23	830,921.15	32° 1' 1.979 N	103° 23' 56.401 W	
13,500.0	90.00	179.42	12,021.0	-1,312.7	1,216.4	371,154.24	830,922.16	32° 1' 0.990 N	103° 23' 56.399 W	
13,600.0	90.00	179.42	12,021.0	-1,412.7	1,217.4	371,054.24	830,923.17	32° 1' 0.000 N	103° 23' 56.397 W	
13,700.0	90.00	179.42	12,021.0	-1,512.7	1,218.4	370,954.25	830,924.18	32° 0' 59.011 N	103° 23' 56.396 W	
13,800.0	90.00	179.42	12,021.0	-1,612.7	1,219.4	370,854.25	830,925.19	32° 0' 58.021 N	103° 23' 56.394 W	
13,900.0	90.00	179.42	12,021.0	-1,712.7	1,220.4	370,754.26	830,926.19	32° 0' 57.032 N	103° 23' 56.392 W	
14,000.0	90.00	179.42	12,021.0	-1,812.7	1,221.4	370,654.26	830,927.20	32° 0' 56.042 N	103° 23' 56.391 W	
14,100.0	90.00	179.42	12,021.0	-1,912.7	1,222.4	370,554.27	830,928.21	32° 0' 55.053 N	103° 23' 56.389 W	
14,200.0	90.00	179.42	12,021.0	-2,012.7	1,223.4	370,454.27	830,929.22	32° 0' 54.063 N	103° 23' 56.387 W	
14,300.0	90.00	179.42	12,021.0	-2,112.7	1,224.4	370,354.28	830,930.23	32° 0' 53.073 N	103° 23' 56.386 W	
14,400.0	90.00	179.42	12,021.0	-2,212.7	1,225.5	370,254.28	830,931.24	32° 0' 52.084 N	103° 23' 56.384 W	
14,500.0	90.00	179.42	12,021.0	-2,312.6	1,226.5	370,154.29	830,932.25	32° 0' 51.094 N	103° 23' 56.382 W	
14,600.0	90.00	179.42	12,021.0	-2,412.6	1,227.5	370,054.29	830,933.26	32° 0' 50.105 N	103° 23' 56.381 W	
14,700.0	90.00	179.42	12,021.0	-2,512.6	1,228.5	369,954.30	830,934.27	32° 0' 49.115 N	103° 23' 56.379 W	
14,800.0	90.00	179.42	12,021.0	-2,612.6	1,229.5	369,854.30	830,935.28	32° 0' 48.126 N	103° 23' 56.377 W	
14,900.0	90.00	179.42	12,021.0	-2,712.6	1,230.5	369,754.31	830,936.29	32° 0' 47.136 N	103° 23' 56.376 W	
15,000.0	90.00	179.42	12,021.0	-2,812.6	1,231.5	369,654.31	830,937.30	32° 0' 46.147 N	103° 23' 56.374 W	
15,100.0	90.00	179.42	12,021.0	-2,912.6	1,232.5	369,554.32	830,938.31	32° 0' 45.157 N	103° 23' 56.372 W	
15,200.0	90.00	179.42	12,021.0	-3,012.6	1,233.5	369,454.32	830,939.31	32° 0' 44.168 N	103° 23' 56.370 W	
15,300.0	90.00	179.42	12,021.0	-3,112.6	1,234.5	369,354.33	830,940.32	32° 0' 43.178 N	103° 23' 56.369 W	
15,400.0	90.00	179.42	12,021.0	-3,212.6	1,235.5	369,254.33	830,941.33	32° 0' 42.188 N	103° 23' 56.367 W	
15,500.0	90.00	179.42	12,021.0	-3,312.6	1,236.6	369,154.34	830,942.34	32° 0' 41.199 N	103° 23' 56.365 W	
15,600.0	90.00	179.42	12,021.0	-3,412.6	1,237.6	369,054.34	830,943.35	32° 0' 40.209 N	103° 23' 56.364 W	
15,700.0	90.00	179.42	12,021.0	-3,512.6	1,238.6	368,954.35	830,944.36	32° 0' 39.220 N	103° 23' 56.362 W	
15,800.0	90.00	179.42	12,021.0	-3,612.6	1,239.6	368,854.35	830,945.37	32° 0' 38.230 N	103° 23' 56.360 W	
15,900.0	90.00	179.42	12,021.0	-3,712.6	1,240.6	368,754.36	830,946.38	32° 0' 37.241 N	103° 23' 56.359 W	
16,000.0	90.00	179.42	12,021.0	-3,812.6	1,241.6	368,654.36	830,947.39	32° 0' 36.251 N	103° 23' 56.357 W	
16,100.0	90.00	179.42	12,021.0	-3,912.6	1,242.6	368,554.37	830,948.40	32° 0' 35.262 N	103° 23' 56.355 W	
16,200.0	90.00	179.42	12,021.0	-4,012.6	1,243.6	368,454.37	830,949.41	32° 0' 34.272 N	103° 23' 56.354 W	
16,300.0	90.00	179.42	12,021.0	-4,112.6	1,244.6	368,354.38	830,950.42	32° 0' 33.283 N	103° 23' 56.352 W	
16,400.0	90.00	179.42	12,021.0	-4,212.6	1,245.6	368,254.39	830,951.42	32° 0' 32.293 N	103° 23' 56.350 W	
16,500.0	90.00	179.42	12,021.0	-4,312.5	1,246.6	368,154.39	830,952.43	32° 0' 31.303 N	103° 23' 56.349 W	
16,600.0	90.00	179.42	12,021.0	-4,412.5	1,247.7	368,054.40	830,953.44	32° 0' 30.314 N	103° 23' 56.347 W	
16,700.0	90.00	179.42	12,021.0	-4,512.5	1,248.7	367,954.40	830,954.45	32° 0' 29.324 N	103° 23' 56.345 W	
16,800.0	90.00	179.42	12,021.0	-4,612.5	1,249.7	367,854.41	830,955.46	32° 0' 28.335 N	103° 23' 56.344 W	
16,900.0	90.00	179.42	12,021.0	-4,712.5	1,250.7	367,754.41	830,956.47	32° 0' 27.345 N	103° 23' 56.342 W	
17,000.0	90.00	179.42	12,021.0	-4,812.5	1,251.7	367,654.42	830,957.48	32° 0' 26.356 N	103° 23' 56.340 W	
17,100.0	90.00	179.42	12,021.0	-4,912.5	1,252.7	367,554.42	830,958.49	32° 0' 25.366 N	103° 23' 56.339 W	
17,200.0	90.00	179.42	12,021.0	-5,012.5	1,253.7	367,454.43	830,959.50	32° 0' 24.377 N	103° 23' 56.337 W	
17,300.0	90.00	179.42	12,021.0	-5,112.5	1,254.7	367,354.43	830,960.51	32° 0' 23.387 N	103° 23' 56.335 W	
17,400.0	90.00	179.42	12,021.0	-5,212.5	1,255.7	367,254.44	830,961.52	32° 0' 22.398 N	103° 23' 56.334 W	
17,500.0	90.00	179.42	12,021.0	-5,312.5	1,256.7	367,154.44	830,962.53	32° 0' 21.408 N	103° 23' 56.332 W	
17,600.0	90.00	179.42	12,021.0	-5,412.5	1,257.7	367,054.45	830,963.53	32° 0' 20.419 N	103° 23' 56.330 W	
17,700.0	90.00	179.42	12,021.0	-5,512.5	1,258.8	366,954.45	830,964.54	32° 0' 19.429 N	103° 23' 56.328 W	
17,800.0	90.00	179.42	12,021.0	-5,612.5	1,259.8	366,854.46	830,965.55	32° 0' 18.439 N	103° 23' 56.327 W	
17,900.0	90.00	179.42	12,021.0	-5,712.5	1,260.8	366,754.46	830,966.56	32° 0' 17.450 N	103° 23' 56.325 W	
18,000.0	90.00	179.42	12,021.0	-5,812.5	1,261.8	366,654.47	830,967.57	32° 0' 16.460 N	103° 23' 56.323 W	
18,100.0	90.00	179.42	12,021.0	-5,912.5	1,262.8	366,554.47	830,968.58	32° 0' 15.471 N	103° 23' 56.322 W	
18,200.0	90.00	179.42	12,021.0	-6,012.5	1,263.8	366,454.48	830,969.59	32° 0' 14.481 N	103° 23' 56.320 W	
18,300.0	90.00	179.42	12,021.0	-6,112.5	1,264.8	366,354.48	830,970.60	32° 0' 13.492 N	103° 23' 56.318 W	

Permian Resources

Planning Report - Geographic

Database:	Compass	Local Co-ordinate Reference:	Well LOS VAQUEROS FED 304H
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 304H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PWPO		

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	179.42	12,021.0	-6,212.5	1,265.8	366,254.49	830,971.61	32° 0' 12.502 N	103° 23' 56.317 W	
18,500.0	90.00	179.42	12,021.0	-6,312.4	1,266.8	366,154.49	830,972.62	32° 0' 11.513 N	103° 23' 56.315 W	
18,600.0	90.00	179.42	12,021.0	-6,412.4	1,267.8	366,054.50	830,973.63	32° 0' 10.523 N	103° 23' 56.313 W	
18,700.0	90.00	179.42	12,021.0	-6,512.4	1,268.8	365,954.50	830,974.64	32° 0' 9.534 N	103° 23' 56.312 W	
18,800.0	90.00	179.42	12,021.0	-6,612.4	1,269.9	365,854.51	830,975.65	32° 0' 8.544 N	103° 23' 56.310 W	
18,900.0	90.00	179.42	12,021.0	-6,712.4	1,270.9	365,754.51	830,976.65	32° 0' 7.554 N	103° 23' 56.308 W	
19,000.0	90.00	179.42	12,021.0	-6,812.4	1,271.9	365,654.52	830,977.66	32° 0' 6.565 N	103° 23' 56.307 W	
19,100.0	90.00	179.42	12,021.0	-6,912.4	1,272.9	365,554.52	830,978.67	32° 0' 5.575 N	103° 23' 56.305 W	
19,200.0	90.00	179.42	12,021.0	-7,012.4	1,273.9	365,454.53	830,979.68	32° 0' 4.586 N	103° 23' 56.303 W	
19,300.0	90.00	179.42	12,021.0	-7,112.4	1,274.9	365,354.53	830,980.69	32° 0' 3.596 N	103° 23' 56.302 W	
19,400.0	90.00	179.42	12,021.0	-7,212.4	1,275.9	365,254.54	830,981.70	32° 0' 2.607 N	103° 23' 56.300 W	
19,500.0	90.00	179.42	12,021.0	-7,312.4	1,276.9	365,154.54	830,982.71	32° 0' 1.617 N	103° 23' 56.298 W	
19,557.4	90.00	179.42	12,021.0	-7,369.8	1,277.5	365,097.17	830,983.29	32° 0' 1.049 N	103° 23' 56.297 W	
Start 3159.3 hold at 19557.4 MD										
19,600.0	90.00	179.42	12,021.0	-7,412.4	1,277.9	365,054.55	830,983.72	32° 0' 0.628 N	103° 23' 56.296 W	
19,700.0	90.00	179.42	12,021.0	-7,512.4	1,278.9	364,954.55	830,984.73	31° 59' 59.638 N	103° 23' 56.295 W	
19,800.0	90.00	179.42	12,021.0	-7,612.4	1,279.9	364,854.56	830,985.74	31° 59' 58.649 N	103° 23' 56.293 W	
19,900.0	90.00	179.42	12,021.0	-7,712.4	1,281.0	364,754.56	830,986.75	31° 59' 57.659 N	103° 23' 56.291 W	
20,000.0	90.00	179.42	12,021.0	-7,812.4	1,282.0	364,654.57	830,987.76	31° 59' 56.669 N	103° 23' 56.290 W	
20,100.0	90.00	179.42	12,021.0	-7,912.4	1,283.0	364,554.57	830,988.76	31° 59' 55.680 N	103° 23' 56.288 W	
20,200.0	90.00	179.42	12,021.0	-8,012.4	1,284.0	364,454.58	830,989.77	31° 59' 54.690 N	103° 23' 56.286 W	
20,300.0	90.00	179.42	12,021.0	-8,112.4	1,285.0	364,354.58	830,990.78	31° 59' 53.701 N	103° 23' 56.285 W	
20,400.0	90.00	179.42	12,021.0	-8,212.3	1,286.0	364,254.59	830,991.79	31° 59' 52.711 N	103° 23' 56.283 W	
20,500.0	90.00	179.42	12,021.0	-8,312.3	1,287.0	364,154.59	830,992.80	31° 59' 51.722 N	103° 23' 56.281 W	
20,600.0	90.00	179.42	12,021.0	-8,412.3	1,288.0	364,054.60	830,993.81	31° 59' 50.732 N	103° 23' 56.280 W	
20,700.0	90.00	179.42	12,021.0	-8,512.3	1,289.0	363,954.60	830,994.82	31° 59' 49.743 N	103° 23' 56.278 W	
20,800.0	90.00	179.42	12,021.0	-8,612.3	1,290.0	363,854.61	830,995.83	31° 59' 48.753 N	103° 23' 56.276 W	
20,900.0	90.00	179.42	12,021.0	-8,712.3	1,291.0	363,754.61	830,996.84	31° 59' 47.764 N	103° 23' 56.275 W	
21,000.0	90.00	179.42	12,021.0	-8,812.3	1,292.1	363,654.62	830,997.85	31° 59' 46.774 N	103° 23' 56.273 W	
21,100.0	90.00	179.42	12,021.0	-8,912.3	1,293.1	363,554.62	830,998.86	31° 59' 45.784 N	103° 23' 56.271 W	
21,200.0	90.00	179.42	12,021.0	-9,012.3	1,294.1	363,454.63	830,999.87	31° 59' 44.795 N	103° 23' 56.270 W	
21,300.0	90.00	179.42	12,021.0	-9,112.3	1,295.1	363,354.63	831,000.87	31° 59' 43.805 N	103° 23' 56.268 W	
21,400.0	90.00	179.42	12,021.0	-9,212.3	1,296.1	363,254.64	831,001.88	31° 59' 42.816 N	103° 23' 56.266 W	
21,500.0	90.00	179.42	12,021.0	-9,312.3	1,297.1	363,154.64	831,002.89	31° 59' 41.826 N	103° 23' 56.264 W	
21,600.0	90.00	179.42	12,021.0	-9,412.3	1,298.1	363,054.65	831,003.90	31° 59' 40.837 N	103° 23' 56.263 W	
21,700.0	90.00	179.42	12,021.0	-9,512.3	1,299.1	362,954.65	831,004.91	31° 59' 39.847 N	103° 23' 56.261 W	
21,800.0	90.00	179.42	12,021.0	-9,612.3	1,300.1	362,854.66	831,005.92	31° 59' 38.858 N	103° 23' 56.259 W	
21,900.0	90.00	179.42	12,021.0	-9,712.3	1,301.1	362,754.67	831,006.93	31° 59' 37.868 N	103° 23' 56.258 W	
22,000.0	90.00	179.42	12,021.0	-9,812.3	1,302.2	362,654.67	831,007.94	31° 59' 36.878 N	103° 23' 56.256 W	
22,100.0	90.00	179.42	12,021.0	-9,912.3	1,303.2	362,554.68	831,008.95	31° 59' 35.889 N	103° 23' 56.254 W	
22,200.0	90.00	179.42	12,021.0	-10,012.3	1,304.2	362,454.68	831,009.96	31° 59' 34.899 N	103° 23' 56.253 W	
22,300.0	90.00	179.42	12,021.0	-10,112.3	1,305.2	362,354.69	831,010.97	31° 59' 33.910 N	103° 23' 56.251 W	
22,400.0	90.00	179.42	12,021.0	-10,212.2	1,306.2	362,254.69	831,011.98	31° 59' 32.920 N	103° 23' 56.249 W	
22,500.0	90.00	179.42	12,021.0	-10,312.2	1,307.2	362,154.70	831,012.99	31° 59' 31.931 N	103° 23' 56.248 W	
22,600.0	90.00	179.42	12,021.0	-10,412.2	1,308.2	362,054.70	831,013.99	31° 59' 30.941 N	103° 23' 56.246 W	
22,700.0	90.00	179.42	12,021.0	-10,512.2	1,309.2	361,954.71	831,015.00	31° 59' 29.952 N	103° 23' 56.244 W	
22,716.7	90.00	179.42	12,021.0	-10,528.9	1,309.4	361,937.99	831,015.17	31° 59' 29.786 N	103° 23' 56.244 W	
TD at 22716.7										

Permian Resources

Planning Report - Geographic

Database:	Compass	Local Co-ordinate Reference:	Well LOS VAQUEROS FED 304H
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 304H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PWP0		

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
BHL-LOS VAQUERO: - plan misses target center by 0.1usft at 22716.7usft MD (12021.0 TVD, -10528.9 N, 1309.4 E) - Point	0.00	0.00	12,021.0	-10,529.0	1,309.3	361,937.97	831,015.05	31° 59' 29.786 N	103° 23' 56.245 W
FTP-LOS VAQUERO: - plan misses target center by 226.6usft at 12050.0usft MD (11866.3 TVD, 93.5 N, 1202.2 E) - Point	0.00	0.00	12,021.0	259.1	1,200.9	372,726.02	830,906.70	32° 1' 16.544 N	103° 23' 56.421 W
SLC-LOS VAQUERO: - plan hits target center - Point	0.00	0.00	12,021.0	-7,369.8	1,277.5	365,097.17	830,983.29	32° 0' 1.049 N	103° 23' 56.297 W
LTPL-LOS VAQUERC - plan misses target center by 0.1usft at 22663.7usft MD (12021.0 TVD, -10476.0 N, 1308.8 E) - Point	0.00	0.00	12,021.0	-10,476.0	1,308.7	361,990.98	831,014.52	31° 59' 30.311 N	103° 23' 56.246 W

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
2,000.0	2,000.0	0.0	0.0	Start Build 2.00
2,750.0	2,741.5	17.5	96.0	Start 3962.2 hold at 2750.0 MD
6,712.2	6,568.7	201.6	1,104.9	Start Drop -2.00
7,462.2	7,310.2	219.1	1,200.9	Start 4233.3 hold at 7462.2 MD
11,695.6	11,543.5	219.1	1,200.9	Start DLS 12.00 TFO 179.42
12,445.6	12,021.0	-258.3	1,205.7	Start 7111.8 hold at 12445.6 MD
19,557.4	12,021.0	-7,369.8	1,277.5	Start 3159.3 hold at 19557.4 MD
22,716.7	12,021.0	-10,528.9	1,309.4	TD at 22716.7

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 304H
SURFACE HOLE FOOTAGE:	353'N & 1534'E
BOTTOM HOLE FOOTAGE:	0'S & 330'E

Previously known as **Los Vaqueros Fed 114H**. Changes approved through engineering via **Sundry 2769700** on 1-29-2024. Any previous COAs not addressed within the updated COAs still apply.

COA

H₂S	☐ 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 integrity test can be done (prior to the cement setting up) immediately after bumping the plug.
3. Wait on cement (WOC) for Water Basin: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements. The casing integrity test can be done (prior to the cement setting up) immediately after bumping the plug.

4. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. Have well specific cement details onsite prior to pumping the cement for each casing string.
5. No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.
6. On that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Formation at the shoe shall be tested to a minimum of the mud weight equivalent anticipated to control the formation pressure to the next casing depth or at total depth of the well. This test shall be performed before drilling more than 20 feet of new hole.
7. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.
8. Whenever a casing string is cemented in the R-111-P potash area, the NMOCD requirements shall be followed.

B. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in **43 CFR part 3170 Subpart 3172** and **API STD 53 Sec. 5.3**.
2. If a variance is approved for a flexible hose to be installed from the BOP to the choke manifold, the following requirements apply: The flex line must meet the requirements of API 16C. Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.
3. 5M or higher system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.
4. If the operator has proposed a multi-bowl wellhead assembly in the APD. The following requirements must be met:

- a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
 - b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
 - c. Manufacturer representative shall install the test plug for the initial BOP test.
 - d. Whenever any seal subject to test pressure is broken, all the tests in **43 CFR 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 1/29/2024

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

CONDITIONS

Action 310146

CONDITIONS

Operator: Earthstone Operating, LLC 300 N. Marienfeld St Ste 1000 Midland, TX 79701	OGRID: 331165
	Action Number: 310146
	Action Type: [C-103] NOI Change of Plans (C-103A)

CONDITIONS

Created By	Condition	Condition Date
pkautz	None	3/13/2024