Form 3160-5
(June 2019)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

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

SUNDRY NOTICES AND REPORTS ON WELLS

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

SUBMIT IN TRIPLICATE *- Other instructions on page 2*

5. Lease Serial No. NMNM113413

6. If Indian, Allottee or Tribe Name

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

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

8. Well Name and No. MORAN 9 FED COM/501H

2. Name of Operator CENTENNIAL RESOURCE PRODUCTION LLC

9. API Well No.

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

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

10. Field and Pool or Exploratory Area 2nd BONE SPRING/BILBREY BASIN; BONE SPRING

4. Location of Well *(Footage, Sec., T.,R.,M., or Survey Description)* SEC 9/T21S/R32E/NMP

11. Country or Parish, State LEA/NM

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

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

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

API: 30-025-52794
NO SHL Change; Sundry to REVISE Target depth; Well Name/ #; Drilling Plan
NO ADDITIONAL SURFACE DISTURBANCE
Well Name Change
From: MORAN 9 FED COM 501H
To: MORAN 9 FED COM 601H

Target Depth Change
From: 2BS Depth @ 10593' TVD
To: 3BS Depth @ 11625' TVD

*CHANGES TO DRILLING PLAN ATTACHED

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

Title Senior Regulatory Analyst

Signature (Electronic Submission)

Date 04/21/2024

THE SPACE FOR FEDERAL OR STATE OFICE USE

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

Title Petroleum Engineer

Date 04/29/2024

Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Office CARLSBAD

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

(Instructions on page 2)

GENERAL INSTRUCTIONS

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

SPECIFIC INSTRUCTIONS

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

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

NOTICES

The privacy Act of 1974 and the regulation in 43 CFR 2.48(d) provide that you be furnished the following information in connection with information required by this application.
AUTHORITY: 30 U.S.C. 181 et seq., 351 et seq., 25 U.S.C. 396; 43 CFR 3160.
PRINCIPAL PURPOSE: The information is used to: (1) Evaluate, when appropriate, approve applications, and report completion of subsequent well operations, on a Federal or Indian lease; and (2) document for administrative use, information for the management, disposal and use of National Resource lands and resources, such as: (a) evaluating the equipment and procedures to be used during a proposed subsequent well operation and reviewing the completed well operations for compliance with the approved plan; (b) requesting and granting approval to perform those actions covered by 43 CFR 3162.3-2, 3162.3-3, and 3162.3-4; (c) reporting the beginning or resumption of production, as required by 43 CFR 3162.4-1(c)and (d) analyzing future applications to drill or modify operations in light of data obtained and methods used.
ROUTINE USES: Information from the record and/or the record will be transferred to appropriate Federal, State, local or foreign agencies, when relevant to civil, criminal or regulatory investigations or prosecutions in connection with congressional inquiries or to consumer reporting agencies to facilitate collection of debts owed the Government.
EFFECT OF NOT PROVIDING THE INFORMATION: Filing of this notice and report and disclosure of the information is mandatory for those subsequent well operations specified in 43 CFR 3162.3-2, 3162.3-3, 3162.3-4.

The Paperwork Reduction Act of 1995 requires us to inform you that:
The BLM collects this information to evaluate proposed and/or completed subsequent well operations on Federal or Indian oil and gas leases.
Response to this request is mandatory.
The BLM would like you to know that you do not have to respond to this or any other Federal agency-sponsored information collection unless it displays a currently valid OMB control number.

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

Additional Information

Location of Well

0. SHL: SESW / 284 FSL / 1319 FWL / TWSP: 21S / RANGE: 32E / SECTION: 9 / LAT: 32.486788 / LONG: -103.683987 (TVD: 0 feet, MD: 0 feet)

PPP: NWNW / 100 FNL / 330 FWL / TWSP: 21S / RANGE: 32E / SECTION: 16 / LAT: 32.485728 / LONG: -103.687196 (TVD: 11834 feet, MD: 12258 feet)

BHL: SWSW / 100 FSL / 330 FWL / TWSP: 21S / RANGE: 32E / SECTION: 21 / LAT: 32.457219 / LONG: -103.687211 (TVD: 11834 feet, MD: 22058 feet)

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

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

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

[X] AMENDED REPORT
WELL#

WELL LOCATION AND ACREAGE DEDICATION PLAT

[1] API Number	[2] Pool Code	[3] Pool Name
30-025-52794	5695	BILBREY BASIN; BONE SPRING

[4] Property Code	[5] Property Name	[6] Well Number
335722	MORAN 9 FED COM	601H

[7] OGRID No.	[8] Operator Name	[9] Elevation
372165	PERMIAN RESOURCES OPERATING, LLC	3725.7'

[10] Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
N	9	21S	32E		284	SOUTH	1319	WEST	LEA

[11] Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	21	21S	32E		100	SOUTH	330	WEST	LEA

[12] Dedicated Acres	[13] Joint or Infill	[14] Consolidation Code	[15] Order No.
1280			

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

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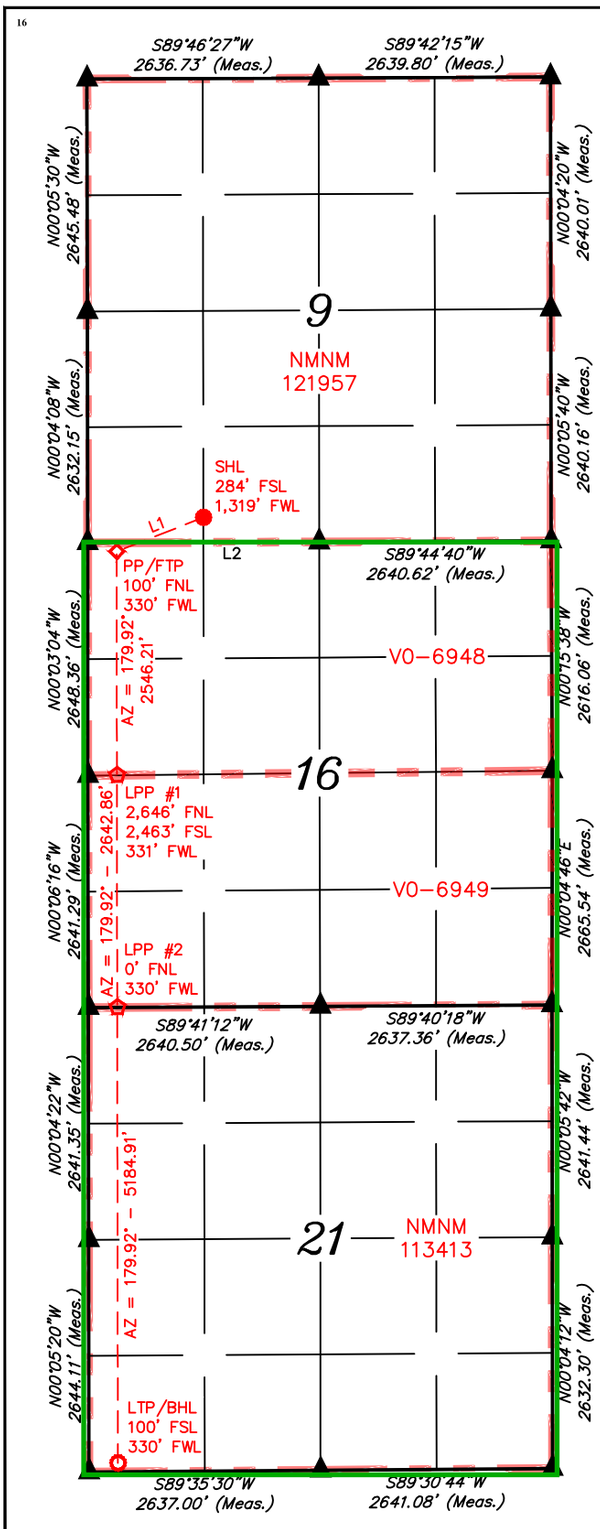


= SURFACE HOLE LOCATION
= PENETRATION POINT/ FIRST TAKE POINT
= LEASE PENETRATION POINT
= LAST TAKE POINT/ BOTTOM HOLE LOCATION
= SECTION CORNER LOCATED
= LEASE LINE

WELLBORE – LINE TABLE		
LINE	DIRECTION	LENGTH
L1	AZ=248.61°	1062.00'

LINE TABLE		
LINE	DIRECTION	LENGTH
L2	S89°47'20"W	2636.19'

NAD 83 (SURFACE HOLE LOCATION)
LATITUDE = 32°29'12.44" (32.486788°)
LONGITUDE = -103°41'02.35" (-103.683987°)
NAD 27 (SURFACE HOLE LOCATION)
LATITUDE = 32°29'11.99" (32.486665°)
LONGITUDE = -103°41'00.59" (-103.683496°)
STATE PLANE NAD 83 (N.M. EAST)
N: 541433.55' E: 741558.07'
STATE PLANE NAD 27 (N.M. EAST)
N: 541372.10' E: 700376.65'

NAD 83 (PP/FTP)
LATITUDE = 32°29'08.62" (32.485728°)
LONGITUDE = -103°41'13.91" (-103.687196°)
NAD 27 (PP/FTP)
LATITUDE = 32°29'08.18" (32.485606°)
LONGITUDE = -103°41'12.14" (-103.686705°)
STATE PLANE NAD 83 (N.M. EAST)
N: 541042.13' E: 740571.05'
STATE PLANE NAD 27 (N.M. EAST)
N: 540980.69' E: 699389.62'

NAD 83 (LPP #1)
LATITUDE = 32°28'43.43" (32.478731°)
LONGITUDE = -103°41'13.92" (-103.687200°)
NAD 27 (LPP #1)
LATITUDE = 32°28'42.99" (32.478608°)
LONGITUDE = -103°41'12.15" (-103.686709°)
STATE PLANE NAD 83 (N.M. EAST)
N: 538496.43' E: 740585.31'
STATE PLANE NAD 27 (N.M. EAST)
N: 538435.05' E: 699403.82'

NAD 83 (LPP #2)
LATITUDE = 32°28'17.28" (32.471468°)
LONGITUDE = -103°41'13.93" (-103.687204°)
NAD 27 (LPP #2)
LATITUDE = 32°28'16.84" (32.471345°)
LONGITUDE = -103°41'12.17" (-103.686713°)
STATE PLANE NAD 83 (N.M. EAST)
N: 535854.09' E: 740600.12'
STATE PLANE NAD 27 (N.M. EAST)
N: 535792.79' E: 699418.55'

NAD 83 (LTP/BHL)
LATITUDE = 32°27'25.99" (32.457219°)
LONGITUDE = -103°41'13.96" (-103.687211°)
NAD 27 (LTP/BHL)
LATITUDE = 32°27'25.55" (32.457096°)
LONGITUDE = -103°41'12.20" (-103.686721°)
STATE PLANE NAD 83 (N.M. EAST)
N: 530670.20' E: 740629.17'
STATE PLANE NAD 27 (N.M. EAST)
N: 530609.04' E: 699447.45'

[17] OPERATOR CERTIFICATION

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

Signature 4/19/2024 Date

JENNIFER ELROD
Printed Name

jelrd@permres.com
E-mail Address

[18] SURVEYOR CERTIFICATION

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

April 04, 2024
Date of Survey
Signature and Seal of Professional Surveyor:

Certificate Number:

NOTE:
- Distances referenced on plat to section lines are perpendicular.
- Basis of Bearings is a Transverse Mercator Projection with a Central Meridian of W103°53'00" (NAD 83)

2000' 1000' 0' 2000'
SCALE

DRAWN BY: D.J.S. 12-03-20
REV: 5 D.M.C. 04-19-24
(UPDATE SURVEY DATE)

U.S. Department of the Interior
BUREAU OF LAND MANAGEMENT

Sundry Print Report

04/29/2024

Well Name: MORAN 9 FED COM

Well Location: T21S / R32E / SEC 9 / SESW / 32.486788 / -103.683987

County or Parish/State: LEA / NM

Well Number: 501H

Type of Well: OIL WELL

Allottee or Tribe Name:

Lease Number: NMNM113413

Unit or CA Name:

Unit or CA Number:

US Well Number:

Operator: CENTENNIAL RESOURCE PRODUCTION LLC

Notice of Intent

Sundry ID: 2786038

Type of Submission: Notice of Intent

Type of Action: APD Change

Date Sundry Submitted: 04/21/2024

Time Sundry Submitted: 01:00

Date proposed operation will begin: 04/21/2024

Procedure Description: API: 30-025-52794 NO SHL Change; Sundry to REVISE Target depth; Well Name/ #; Drilling Plan NO ADDITIONAL SURFACE DISTURBANCE Well Name Change From: MORAN 9 FED COM 501H To: MORAN 9 FED COM 601H Target Depth Change From: 2BS Depth @ 10593' TVD To: 3BS Depth @ 11625' TVD *CHANGES TO DRILLING PLAN ATTACHED

NOI Attachments

Procedure Description

MORAN_9_FED_COM_601H_BLM_ATTACHMENTS_20240421125839.pdf

Conditions of Approval

Additional

MORAN_9_FED_COM_601H_COAs_20240429093623.pdf

Well Name: MORAN 9 FED COM

Well Location: T21S / R32E / SEC 9 / SESW / 32.486788 / -103.683987

County or Parish/State: LEA / NM

Well Number: 501H

Type of Well: OIL WELL

Allottee or Tribe Name:

Lease Number: NMNM113413

Unit or CA Name:

Unit or CA Number:

US Well Number:

Operator: CENTENNIAL RESOURCE PRODUCTION LLC

Operator

I certify that the foregoing is true and correct. Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction. Electronic submission of Sundry Notices through this system satisfies regulations requiring a

Operator Electronic Signature: JENNIFER ELROD

Signed on: APR 21, 2024 12:58 PM

Name: CENTENNIAL RESOURCE PRODUCTION LLC

Title: Senior Regulatory Analyst

Street Address: 300 N MARIENFIELD STREET SUITE 1000

City: MIDLAND **State:** TX

Phone: (940) 452-6214

Email address: JENNIFER.ELROD@PERMIANRES.COM

Field

Representative Name:

Street Address:

City: **State:** **Zip:**

Phone:

Email address:

BLM Point of Contact

BLM POC Name: CHRISTOPHER WALLS

BLM POC Title: Petroleum Engineer

BLM POC Phone: 5752342234

BLM POC Email Address: cwalls@blm.gov

Disposition: Approved

Disposition Date: 04/29/2024

Signature: Chris Walls

Permian Resources - Moran 9 Fed Com 601H

1. Geologic Formations

Formation	Lithology	Elevation	TVD	Target
Rustler	Sandstone	2544	1211	No
Top of Salt	Salt	1943	1812	No
Yates	Anhydrite/Shale	595	3160	No
Capitan	Limestone	382	3373	No
Cherry Canyon	Sandstone	-1833	5588	No
Brushy Canyon	Sandstone	-3083	6838	No
Bone Spring Lime	Limestone/Shale	-4883	8638	No
1st Bone Spring Sand	Sandstone/Limestone/Shale	-6032	9787	No
2nd Bone Spring Sand	Sandstone/Limestone/Shale	-6560	10315	No
3rd Bone Spring Carb	Sandstone/Limestone/Shale	-6955	10710	No
3rd Bone Spring Sand	Sandstone/Limestone/Shale	-7574	11329	Yes
Wolfcamp	Shale	-7901	11656	No

2. Blowout Prevention

BOP installed and tested before drilling which hole?	Size?	Min. Required WP	Type	x	Tested to:
12.25	13-5/8”	5M	Annular	x	2500 psi
			Blind Ram	x	5000 psi
			Pipe Ram	x	
			Double Ram		
			Other*		
9.875	13-5/8”	5M	Annular	x	2500 psi
			Blind Ram	x	5000 psi
			Pipe Ram	x	
			Double Ram		
			Other*		
7.875	13-5/8”	5M	Annular	x	2500 psi
			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: Diverter to drill surface hole, break testing, flex hose, and offline cement variances, see attachments in section 8.

Testing Procedure: BOP/BOPE will be tested by an independent service company to 250 psi low and the high pressure indicated above per Onshore Order II requirements. 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.

Pipe rams will be operationally checked each 24-hour period. Blind rams will be operationally checked on each trip out of the hole. These checked will be noted on the daily tour sheets. Other accessories to the BOP equipment will include a Kelly cock and floor safety valve (inside BOP), choke lines, and choke manifold. See attached schematics.

Choke Diagram Attachment: 5M Choke Manifold
BOP Diagram Attachment: BOP Schematics

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	17.5	13.375	0	1236	0	1236	1236	J55	54.5	BTC	1.85	2.11	Dry	5.43	Dry	5.10
Intermediate 1	12.25	10.75	0	3085	0	3085	3085	J55	45.5	BTC	6.79	3.64	Dry	4.42	Dry	4.33
Intermediate 2	9.875	8.625	0	5538	0	5538	5538	P110 HS	32	MO-FXL	4.40	2.23	Dry	2.85	Dry	4.13
Production	7.875	5.5	0	11996	0	11625	11996	P110RY	20	GeoConn	1.84	1.92	Dry	1.93	Dry	1.93
Production	7.875	5.5	11996	22282	11625	11625	10286	P110RY	20	GeoConn	1.84	1.92	Dry	1.93	Dry	1.93
								BLM Min Safety Factor			1.125	1		1.6		1.6

Non API casing spec sheets and casing design assumptions attached.

4. Cement

String	Lead/Tail	Top MD	Bottom MD	Quanity (sx)	Yield	Density	Cu Ft	Excess %	Cement Type	Additives
Surface	Tail	0	1236	970	1.34	14.8	1290	50%	Class C	Accelerator
Intermediate 1	Lead	0	2460	350	1.88	12.9	640	50%	Class C	EconoCem-HLC + 5% Salt + 5% Kol-Seal
Intermediate 1	Tail	2460	3085	140	1.34	14.8	180	50%	Class C	Retarder
Intermediate 2	Lead	0	4430	360	1.88	12.9	670	50%	Class C	EconoCem-HLC + 5% Salt + 5% Kol-Seal
Intermediate 2	Tail	4430	5538	140	1.33	14.8	180	25%	Class C	Salt
Production	Lead	5038	11246	620	2.41	11.5	1480	40%	Class H	POZ, Extender, Fluid Loss, Dispersant, Retarder
Production	Tail	11246	22282	1390	1.73	12.5	2400	25%	Class H	POZ, Extender, Fluid Loss, Dispersant, Retarder

If losses are encountered while drilling Intermediate 2, Permian Resources requests to pump a bradenhead squeeze to the top of where the first losses were encountered. The cement volume will be adjusted according to the top of the first losses and will consist of a 14.8 ppg Class C cement (1.4 yield) and appropriate excess. The cement top after the squeeze jon will be verified by Echo-meter. Permian Resources will report the Echo-meter verified fluid top and column of fluid (limited to 5 bbls) used to flush intermediate casing valves following backside cementing procedures. The two-stage cement job will be conducted offline as per the approved APD. If the bradehead cement top is 1000' of less we will top out with Class C cement.

5. Circulating Medium

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

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

Cuttings Volume: 10550 Cu Ft

Circulating Medium Table

Top Depth	Bottom Depth	Mud Type	Min Weight	Max Weight
0	1236	Spud Mud	8.6	9.5
1236	3085	Salt Saturated	10	10
3085	11996	Brine	9	10
11996	22282	OBM	9	10

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	6050	psi
Anticipated Surface Pressure	3488	psi
Anticipated Bottom Hole Temperature	170	°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:	10550 Cu Ft
Waste disposal frequency:	Per well
Safe containment description:	Steel tanks
Waste disposal type:	Haul to commercial facility
Disposal location ownership:	Commercial
Waste Type:	**Drilling**
Waste content description:	Brine water based drilling fluid
Amount of waste:	1500 bbls
Waste disposal frequency:	Monthly
Safe containment description:	Steel tanks with plastic-lined containment berms
Waste disposal type:	Haul to commercial facility
Disposal location ownership:	Commercial

9. Other Information

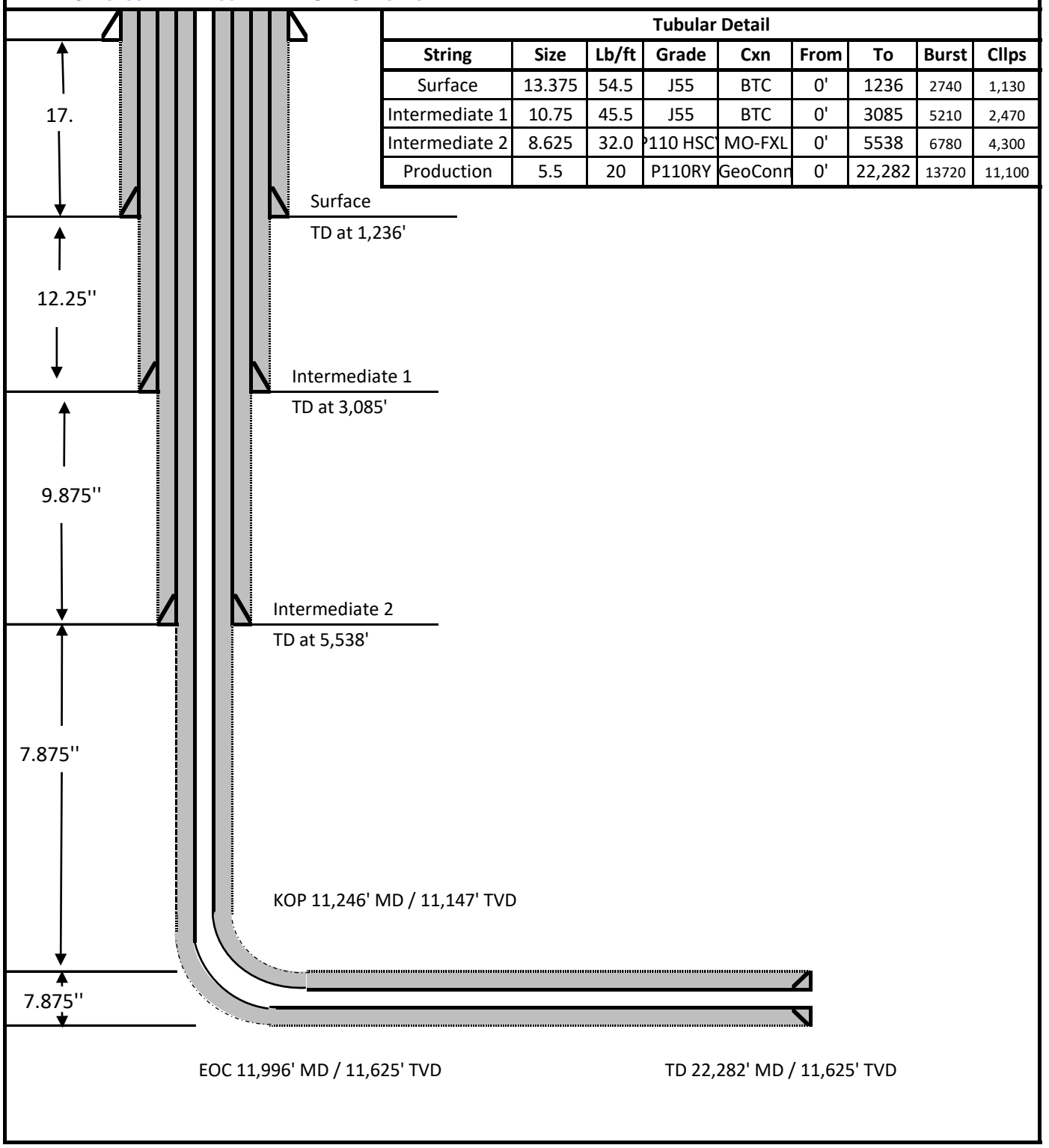
Well Plan and AC Report: attached
Batching Drilling Procedure: attached
WBD: attached
Flex Hose Specs: attached
Offline Cementing Procedure Attached:

Permian Resources

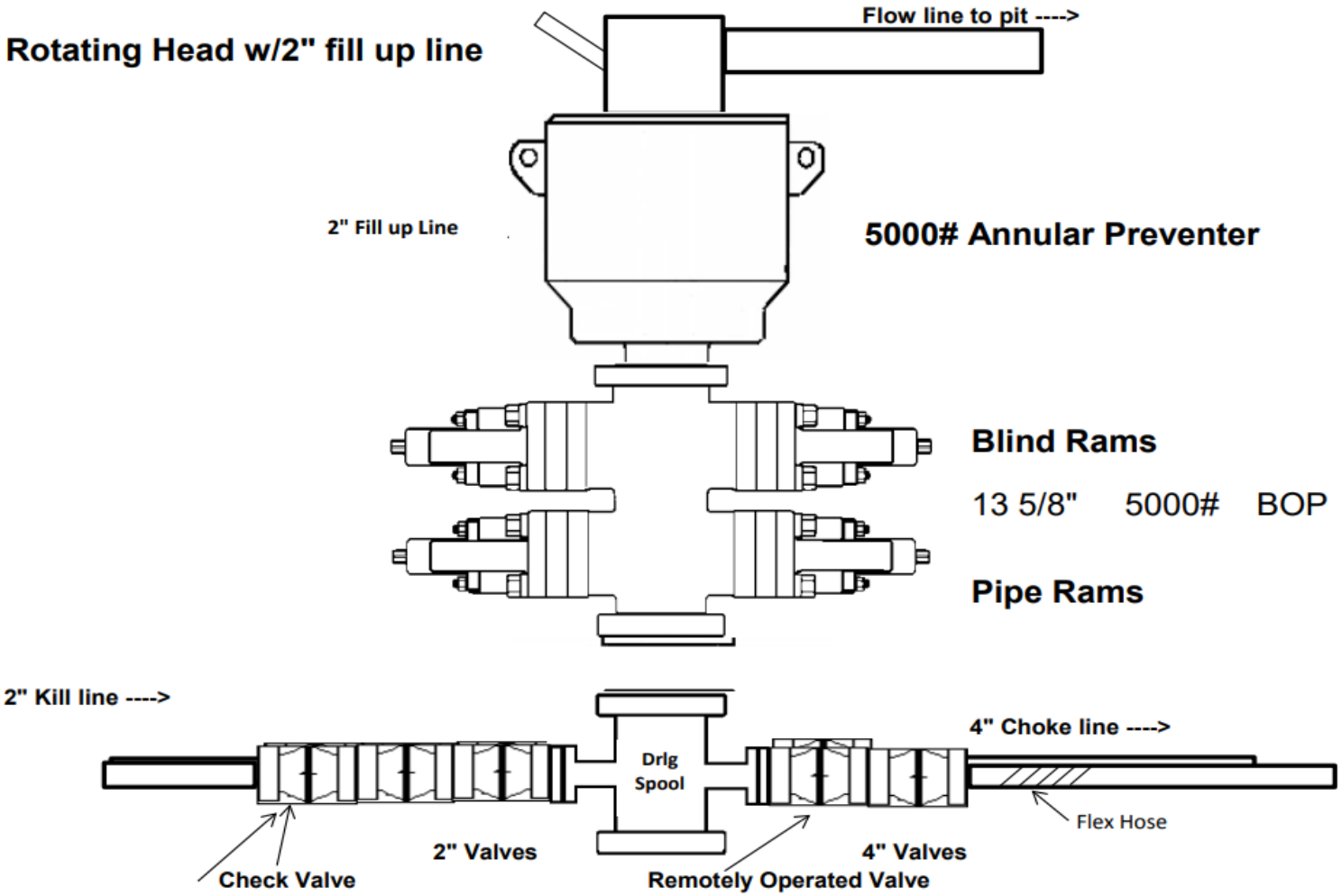
Well: Moran 9 Fed Com 601H
State New Mexico **County:** Lea
FM Target: 3rd Bone Spring Sand
Location: Lot N, Section 9, T21S, R32E, 284' FSL, 1319' FWL
BHL: Lot M, Section 21, T21S, R32E, 100' FSL, 330' FWL
KB Elev: 3755 **KB:** 30 **GL Elev:** 3725

Tubular Detail

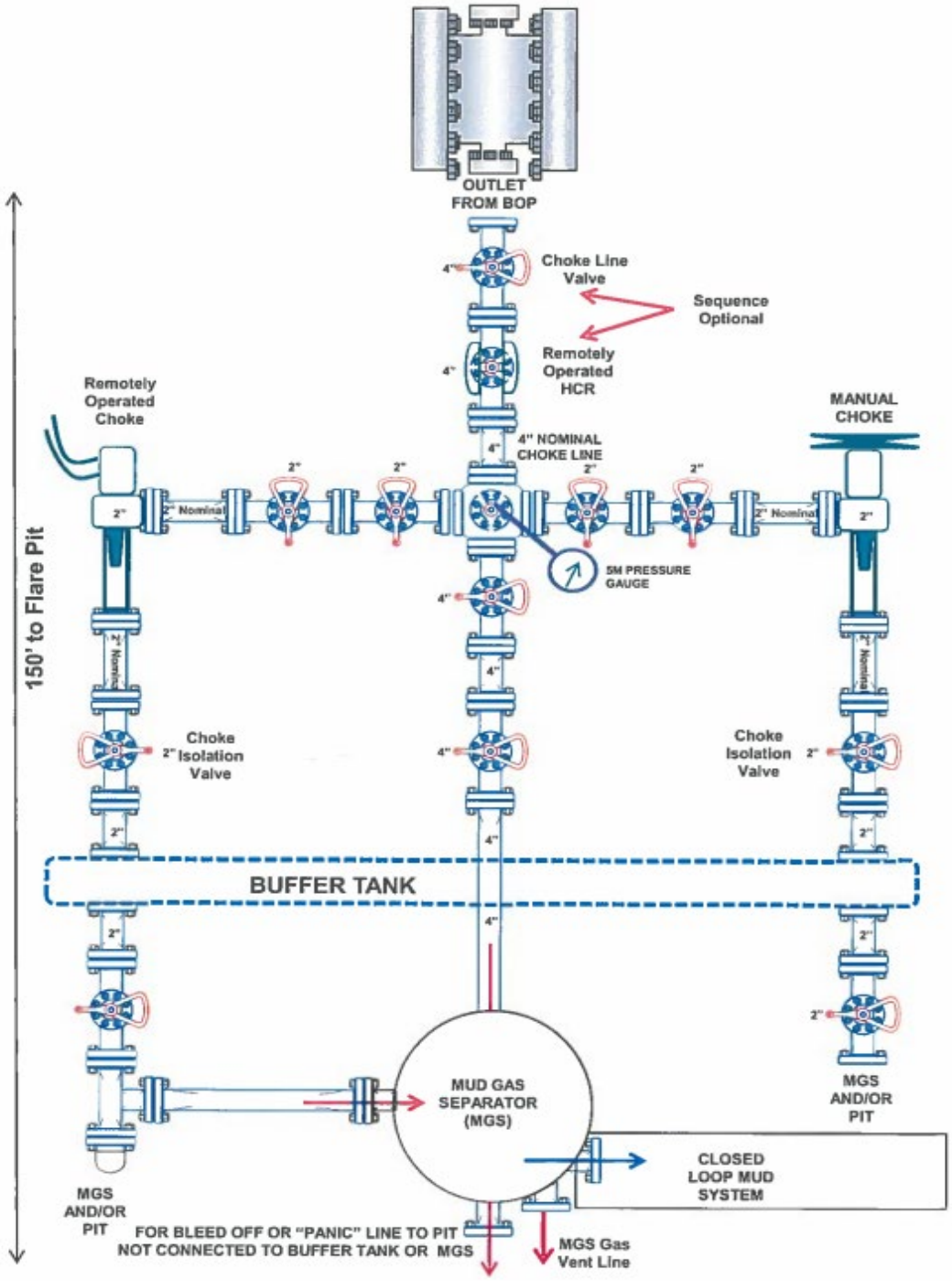
String	Size	Lb/ft	Grade	Cxn	From	To	Burst	Cllps
Surface	13.375	54.5	J55	BTC	0'	1236	2740	1,130
Intermediate 1	10.75	45.5	J55	BTC	0'	3085	5210	2,470
Intermediate 2	8.625	32.0	P110 HSC	MO-FXL	0'	5538	6780	4,300
Production	5.5	20	P110RY	GeoConn	0'	22,282	13720	11,100



5,000 psi BOP Schematic



5M Choke Manifold Equipment (WITH MGS + CLOSED LOOP)



Continental
ContiTech

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

QUALITY CONTROL INSPECTION AND TEST CERTIFICATE					CERT. N°:	504	
PURCHASER:	ContiTech Oil & Marine Corp.				P.O. N°:	4500409659	
CONTITECH RUBBER order N°:	538236	HOSE TYPE:	3"	ID	Choke and Kill Hose		
HOSE SERIAL N°:	67255	NOMINAL / ACTUAL LENGTH:			10,67 m / 10,77 m		
W.P. 68,9 MPa	10000 psi	T.P. 103,4 MPa	15000 psi		Duration:	60	min.

Pressure test with water at
ambient temperature

See attachment. (1 page)

↑ 10 mm = 10 Min.
→ 10 mm = 20 MPa

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

Not Designed For Well Testing **API Spec 16 C**

Temperature rate:"B"

All metal parts are flawless

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

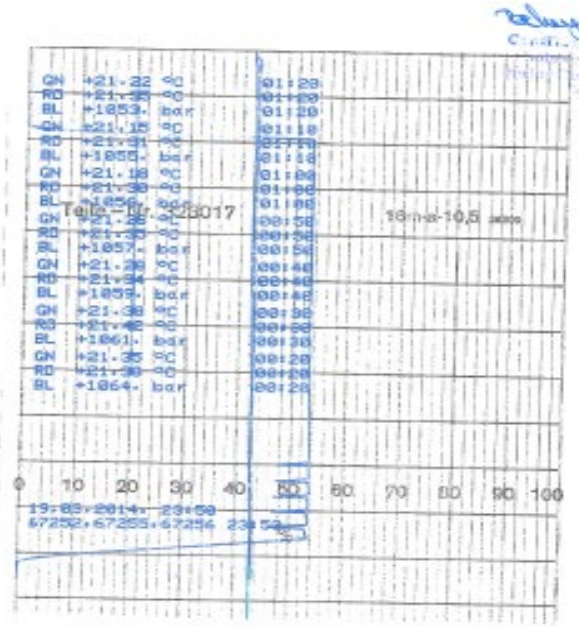
STATEMENT OF CONFORMITY: We hereby certify that the above items/equipment supplied by us are in conformity with the terms, conditions and specifications of the above Purchaser Order and that these items/equipment were fabricated inspected and tested in accordance with the referenced standards, codes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

COUNTRY OF ORIGIN HUNGARY/EU

Date:	Inspector	Quality Control
20. March 2014.		ContiTech Rubber Industrial Kft. Quality Control Dept.

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

Page: 1 / 1



Hose Data Sheet

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

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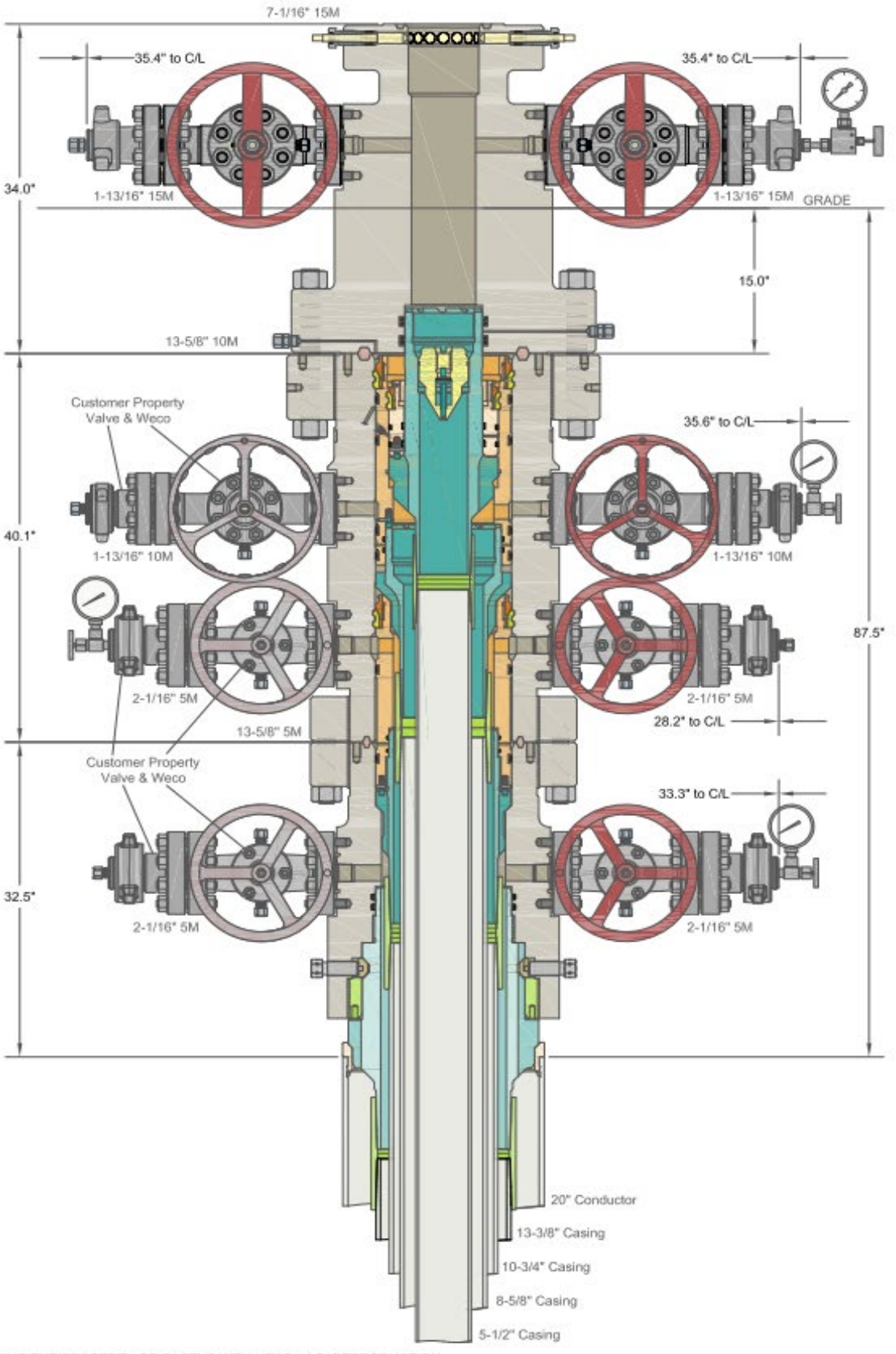


ALL DIMENSIONS APPROXIMATE

CACTUS WELLHEAD LLC	PERMIAN RESOURCES NEW MEXICO		
20" x 13-3/8" x 10-3/4" x 8-5/8" x 5-1/2" MBU-4T-CFL-R-DBLO Sys. With 13-5/8" 10M x 7-1/16" 15M CTH-DBLHPS Tubing Head And 10-3/4" & 7-5/8" & 5-1/2" Fluted Mandrel Casing Hangers	DRAWN	DLE	26OCT23
	APPRV		
	DRAWING NO.	HBE0001038	

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 On Shore Order II. Casing will be tested as specified in On Shore Order II.

Casing Design Assumptions:

Surface

1) Burst Design Loads
   a) Displacement to Gas
      (1) 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.
      (2) External: Mud weight to TOC and cement mix water gradient (8.4 ppg) below TOC.
   b) Casing Pressure Test
      (1) Internal: Displacement fluid plus surface pressure required to comply with regulatory casing test pressure requirements of Onshore Oil and Gas Order No. 2 and NM NMAC 19.15.16 of NMOCD regulations.
      (2) External: Mud weight to TOC and cement mix water gradient (8.4 ppg) below TOC.
2) Collapse Loads
   a) Cementing
      (1) Internal: Displacement fluid density.
      (2) External: Mud weight from TOC to surface and cement slurry weight from TOC to shoe.
   b) Lost Returns with Mud Drop
      (1) 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.
      (2) External: Mud weight to TOC and cement slurry(s) density below TOC.
3) Tension Loads
   a) Overpull Force
      1. Axial: Buoyant weight of the string plus planned 100,000 lbs applied in stuck pipe situation.
   b) Green Cement Casing Test
      1. Axial: Buoyant weight of the string plus cement plug bump pressure load.

Intermediate I

1) Burst Design Loads
   a) Displacement to Gas
      (1) 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.
      (2) External: Mud weight to TOC and cement mix water gradient (8.4 ppg) below TOC.
   b) Casing Pressure Test
      (1) Internal: Displacement fluid plus surface pressure required to comply with regulatory casing test pressure requirements of Onshore Oil and Gas Order No. 2 and NM NMAC 19.15.16 of NMOCD regulations.

(2) External: Mud weight to TOC and cement mix water gradient (8.4 ppg) below TOC.

2) Collapse Loads
   a) Cementing
      (1) Internal: Displacement fluid density.
      (2) External: Mud weight from TOC to surface and cement slurry weight from TOC to shoe.
   b) Lost Returns with Mud Drop
      (1) 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.
      (2) External: Mud weight to TOC and cement slurry(s) density below TOC.
3) Tension Loads
   a) Overpull Force
      1. Axial: Buoyant weight of the string plus planned 100,000 lbs applied in stuck pipe situation.
   b) Green Cement Casing Test
      1. Axial: Buoyant weight of the string plus cement plug bump pressure load.

<u>Intermediate or Intermediate II</u>

1) Burst Design Loads
   a) Gas Kick Profile
      (1) Internal: Load profile based on influx encountered in lateral portion of wellbore with a maximum influx volume of 150 bbl and a kick intensity of 1.5 ppg using maximum anticipated MW of 9.9 ppg.
      (2) External: Mud weight to TOC and cement mix water gradient (8.4 ppg) below TOC.
   b) Casing Pressure Test
      (1) Internal: Displacement fluid plus surface pressure required to comply with regulatory casing test pressure requirements of Onshore Oil and Gas Order No. 2 and NM NMAC 19.15.16 of NMOCD regulations.
      (2) External: Mud weight to TOC and cement mix water gradient (8.4 ppg) below TOC.
2) Collapse Loads
   a) Cementing
      (1) Internal: Displacement fluid density.
      (2) External: Mud weight from TOC to surface and cement slurry weight from TOC to shoe.
   b) Lost Returns with Mud Drop
      (1) 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.
      (2) External: Mud weight to TOC and cement slurry(s) density below TOC.
3) Tension Loads
   a) Overpull Force
      1. Axial: Buoyant weight of the string plus planned 100,000 lbs applied in stuck pipe situation.
   b) Green Cement Casing Test
      1. Axial: Buoyant weight of the string plus cement plug bump pressure load.

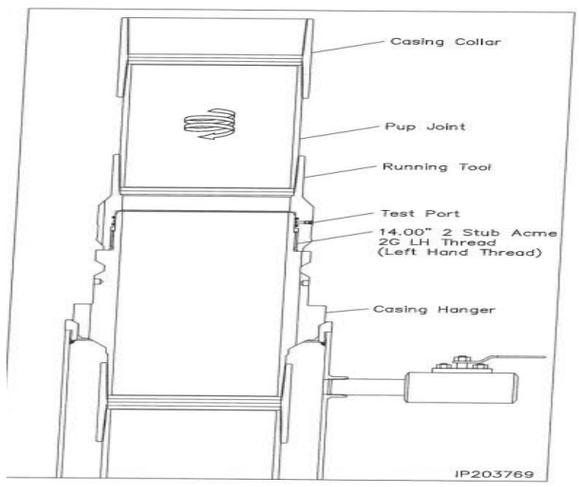
Production

1) Burst Design Loads
   a) Injection Down Casing
      (1) Internal: Surface pressure plus injection fluid gradient.
      (2) External: Mud base-fluid density to top of cement and cement mix water gradient (8.4 ppg) below TOC.
   b) Casing Pressure Test (Drilling)
      (1) Internal: Displacement fluid plus surface pressure required to comply with regulatory casing test pressure requirements of Onshore Oil and Gas Order No. 2 and NM NMAC 19.15.16 of NMOCD regulations.
      (2) External: Mud weight to TOC and cement mix water gradient (8.4 ppg) below TOC.
   c) Casing Pressure Test (Production)
      (1) Internal: The design pressure test should be the greater of the planned test pressure prior to simulation 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.
      (2) External: Mud base-fluid density to top of cement and cement mix water gradient (8.4 ppg) below TOC.
   d) Tubing Leak
      (1) Internal: SITP plus a packer fluid gradient to the top of packer.
      (2) External: Mud base-fluid density to top of cement and cement mix water gradient (8.4 ppg) below TOC.
2) Collapse Loads
   a) Cementing
      (1) Internal: Displacement fluid density.
      (2) External: Mud weight to TOC and cement slurry(s) density below TOC.
   b) Full Evacuation
      (1) Internal: Full void pipe.
      (2) External: Mud weight to TOC and cement slurry(s) density below TOC.
3) Tension Loads
   a) Overpull Force
      1. Axial: Buoyant weight of the string plus planned 100,000 lbs applied in stuck pipe situation.
   b) Green Cement Casing Test
      1. Axial: Buoyant weight of the string plus cement plug bump pressure load.

Permian Resources
Multi-Well Pad Batch Drilling & Off Line Cement Procedure

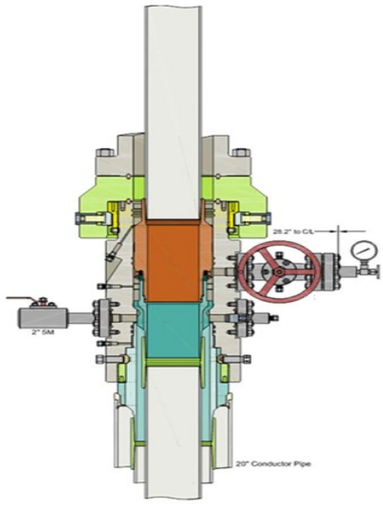
Surface Casing - PR intends to Batch set and offline cement all surface casing to a depth approved in the APD. Surface Holes will be batch drilled by a big rig. Appropriate notifications will be made prior to spudding the well, running, and cementing casing and prior to skidding to the rig to the next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

1. Drill Surface hole to Approved Depth with Surface Preset Rig and perform wellbore cleanup cycles. Trip out and rack back drilling BHA.
2. Run casing with Cactus Multibowl system, with baseplate supported by Conductor.
3. Circulate 1.5 csg capacity.
4. Flow test – Confirm well is static.
5. Install cap flange.
6. Skid rig to next well on pad
7. 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
8. Install offline cement tool.
9. Rig up cementers.
10. Circulate bottoms up with cement truck
11. Commence planned cement job, take returns through the annulus wellhead valve
12. After plug is bumped confirm floats hold and well is static
13. Perform green cement casing test.
    a) Test Surface casing (.22 psi/ft or 1500 psi whichever is greater) - not to exceed 70% casing burst.
14. Rig down cementers and equipment
15. Install night cap with pressure gauge to monitor.

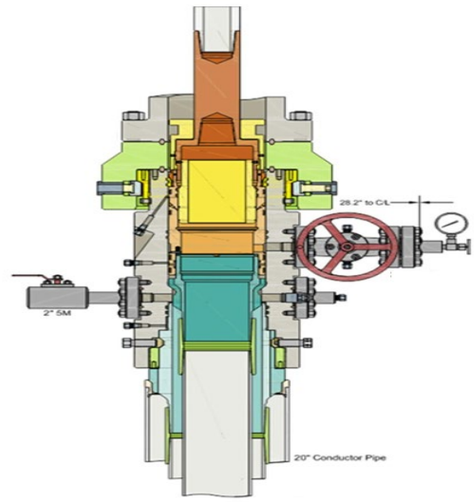


Intermediate 1 Casing – PR intends to Batch set all intermediate 1 casing strings to a depth approved in the APD, typically set into end of salts. Appropriate notifications will be made prior Testing BOPE, and prior to running/cementing all casing strings.
Rig will remove the nightcap and install and test BOPE (testing will be performed on the first Intermediate 1 as per requested break testing variance).
Install wear bushing then drill out 20" shoe-track.

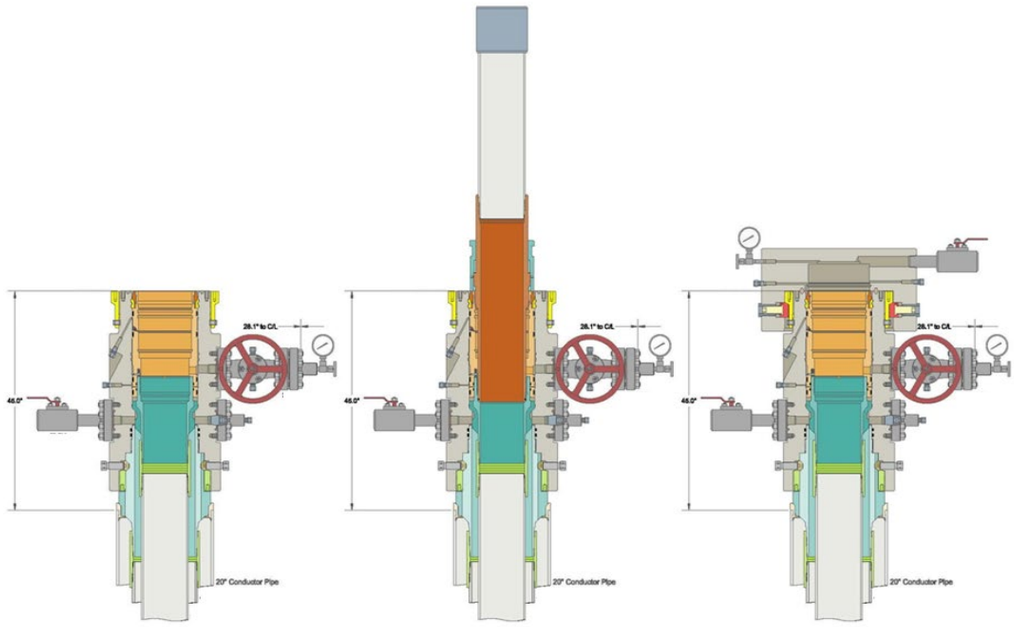
1. Drill Intermediate 1 hole to approved casing point. Trip out of hole with BHA to run Casing.
2. Remove wear bushing then run and land Intermediate 1 casing with mandrel hanger in wellhead.
3. Flow test – Confirm well is static.
4. Set Annular packoff and pressure test. Test to 5k.
5. Install BPV, Nipple down BOP and install cap flange.
6. Skid rig to next well on pad
7. 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
8. Install offline cement tool.
9. Rig up cementers.
10. Circulate bottoms up with cement truck
11. Commence planned cement job, take returns through the annulus wellhead valve
12. After plug is bumped confirm floats hold and well is static
13. Perform green cement casing test.
    a) Test casing (.22 psi/ft or 1500 psi whichever is greater) - not to exceed 70% casing burst.
14. Rig down cementers and equipment



Run Intermediate Casing
Land Intermediate Casing on Mandrel Hanger
Cement Intermediate Casing
Retrieve Running Tool



Run Packoff
Test Upper and Lower Seals
Engage Lockring
Retrieve Running Tool



Intermediate 2 Casing – PR intends to Batch set all Intermediate 2 casing strings to a depth approved in the APD, typically set into Captain past losses. Appropriate notifications will be made prior Testing BOPE, and prior to running/cementing all casing strings.

1. Rig will remove the nightcap and install and test BOPE (testing will be performed on the first Intermediate 2 as per requested break testing variance).
2. Install wear bushing then drill out Intermediate 1 shoe-track.
3. Drill Intermediate 2 hole to approved casing point. Trip out of hole with BHA to run Casing.
4. Remove wear bushing then run and land Intermediate 2 casing with mandrel hanger in wellhead.
5. Flow test – Confirm well is static.
6. Set Annular packoff and pressure test. Test to 5k.
7. Install BPV, 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. Perform green cement casing test.
    a) Test casing (.22 psi/ft or 1500 psi whichever is greater) - not to exceed 70% casing burst.
16. Rig down cementers and equipment
17. Install night cap with pressure gauge to monitor.

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

1. Rig will remove the nightcap and install and test BOPE.
2. Install wear bushing then drill Intermediate shoe-track.
3. 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 to surface with floats holding.

Permian Resources
BOP Break Testing Variance Procedure

Subject: Request for a Variance Allowing break Testing of the Blowout Preventer Equipment (BOPE). Permian Resources requests a variance to ONLY test broken pressure seals on the BOPE and function test BOP when skidding a drilling rig between multiple wells on a pad.

Background

Title 43 CFR 3172, Drilling Operations, Sections 6.b.9.iv states that the BOP test must be performed whenever any seal subject to test pressure is broken. The current interpretation of the Bureau of Land Management (BLM) requires a complete BOP test and not just a test of the
affected component. 43 CFR 3172.13, Variances from minimum standards states, "An operator may request the authorized officer to approve a variance from any of the minimum standards prescribed in §§ 3172.6 through 3172.12. All such requests shall be submitted in writing to the appropriate authorized officer and provide information as to the circumstances which warrant approval of the variance(s) requested and the proposed alternative methods by which the related minimum standard(s) are to be satisfied. The authorized officer, after considering all relevant factors, if appropriate, may approve the requested variance(s) if it is determined that the proposed alternative(s) meet or exceed the objectives of the applicable minimum standard(s).". Permian Resources feels the break testing the BOPE is such a situation. Therefore, as per 43 CFR 3172.13, Permian Resources submits this request for the variance.

Supporting Documentation

The language used in 43 CFR 3172 became effective on December 19, 1988 and has remained the standard for regulating BLM onshore drilling operations for over 30 years. During this time, there have been significant changes in drilling technology. The BLM continues to use the variance request process to allow for the use of modern technology and acceptable engineering practices that have arisen since 43 CFR 3172 was originally released. The Permian Resources drilling rig fleet has many modern upgrades that allow the intact BOP stack to be moved between well slots on a multi-well pad, as well as, wellhead designs that incorporate quick connects facilitating release of the BOP from the wellhead without breaking any BOP stack components apart. These technologies have been used extensively offshore, and other regulators, API, and many operators around the world have endorsed break testing as safe and reliable.

Figure 1: Winch System attached to BOP Stack

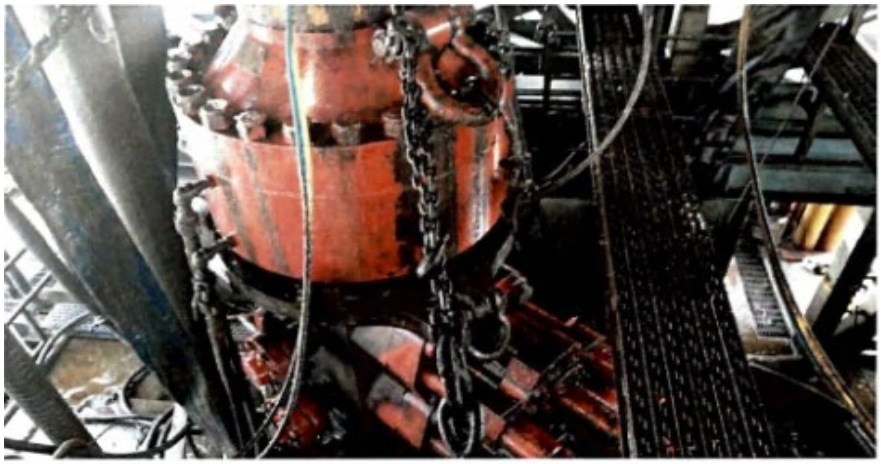


Figure 2: BOP Winch System

American Petroleum Institute (API) standards, specification and recommended practices are considered the industry standard and are consistently utilized and referenced by the industry. 43 CFR 3172 recognizes API recommended Practices (RP) 53 in its original development. API Standard 53, Well Control Equipment Systems for Drilling Wells (Fifth Edition, December 2018, Annex C, Table C.4) recognizes break testing as an acceptable practice. Specifically, API Standard 53, Section 5.3.7.1 states "A pressure test of the pressure containing component shall be performed following the disconnection or repair, limited to the affected component." See Table C.4 below for reference.

62 API STANDARD 53

Table C.4—Initial Pressure Testing, Surface BOP Stacks

Component to be Pressure Tested	Pressure Test—Low Pressure[a,c] psig (MPa)	Pressure Test—High Pressure[a,c]	
		Change Out of Component, Elastomer, or Ring Gasket	No Change Out of Component, Elastomer, or Ring Gasket
Annular preventer[b]	250 to 350 (1.72 to 2.41)	RWP of annular preventer	MASP or 70% annular RWP, whichever is lower.
Fixed pipe, variable bore, blind, and BSR preventers[a,c]	250 to 350 (1.72 to 2.41)	RWP of ram preventer or wellhead system, whichever is lower	ITP
Choke and kill line and BOP side outlet valves below ram preventers (both sides)	250 to 350 (1.72 to 2.41)	RWP of side outlet valve or wellhead system, whichever is lower	ITP
Choke manifold—upstream of chokes[d]	250 to 350 (1.72 to 2.41)	RWP of ram preventers or wellhead system, whichever is lower	ITP
Choke manifold—downstream of chokes[d]	250 to 350 (1.72 to 2.41)	RWP of valve(s), line(s), or MASP for the well program, whichever is lower	
Kelly, kelly valves, drill pipe safety valves, IBOPs	250 to 350 (1.72 to 2.41)	MASP for the well program	

[a] Pressure test evaluation periods shall be a minimum of five minutes.
No visible leaks.
The pressure shall remain stable during the evaluation period. The pressure shall not decrease below the intended test pressure.

[b] Annular(s) and VBR(s) shall be pressure tested on the largest and smallest OD drill pipe to be used in well program.

[c] For pad drilling operations, moving from one wellhead to another within the 21 days, pressure testing is required for pressure-containing and pressure-controlling connections when the integrity of a pressure seal is broken.

[d] For surface offshore operations, the ram BOPs shall be pressure tested with the ram locks engaged and the closing and locking pressure vented during the initial test. For land operations, the ram BOPs shall be pressure tested with the ram locks engaged and the closing and locking pressure vented at commissioning and annually.

[e] Adjustable chokes are not required to be full sealing devices. Pressure testing against a closed choke is not required.

The Bureau of Safety and Environmental Enforcement (BSEE), Department of Interior, has also utilized the API standards, specification and best practices in the development of its offshore oil and gas regulations and incorporates them by reference within its regulations.

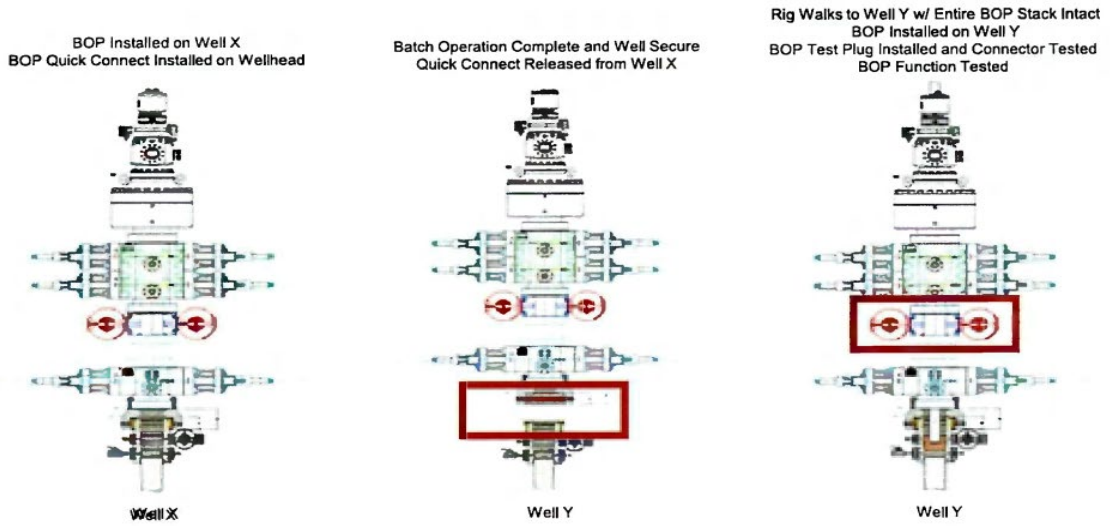
Break testing has been approved by the BLM in the past with other operators based on the detailed information provided in this document.

Permian Resources feels break testing and our current procedures meet the intent of 43 CFR 3172 and often exceed it. There has been no evidence that break testing results in more components failing than seen on full BOP tests. Permian Resources internal standards require complete BOPE tests more often than that of 43 CFR 3172 (every 21 days). In addition to function testing the annular, pipe rams and blind rams after each BOP nipple up, Permian Resources performs a choke drill with the rig crew prior to drilling out every casing shoe. This is additional training for the rig crew that exceeds the requirements of 43 CFR 3172.

Procedures

1) Permian Resources will use this document for our break testing plan for New Mexico Delaware Basin. The summary below will be referenced in the APD or Sundry Notice and receive approval prior to implementing this variance.
2) Permian Resources will perform BOP break testing on multi-wells pads where multiple intermediate sections can be drilled and cased within the 21-day BOP test window.
    a)A full BOP test will be conducted on the first well on the pad.
    b)The first intermediate hole section drilled on the pad will be the deepest. All the remaining hole sections will be the same formation depth or shallower.
    c) A full BOP test will be required if the intermediate hole section being drilled has a MASP over 5M.
    d) A full BOP test will be required prior to drilling any production hole.
3) After performing a complete BOP test on the first well, the intermediate hole section will be drilled and cased, two breaks would be made on the BOP equipment.
    a) Between the HCV valve and choke line connection
    b)Between the BOP quick connect and the wellhead
4) The BOP is then lifted and removed from the wellhead by a hydraulic system.
5) After skidding to the next well, the BOP is moved to the wellhead by the same hydraulic system and installed.
6) The connections mentioned in 3a and 3b will then be reconnected.
7) Install test plug into the wellhead using test joint or drill pipe.
8) A shell test is performed against the upper pipe rams testing the two breaks.
9) The shell test will consist of a 250 psi low test and a high test to the value submitted in the APD or Sundry (e.g. 5,000 psi or 10,000psi).
10) Function tests will be performed on the following components: lower pipe rams, blind rams, and annular.
11) For a multi-well pad the same two breaks on the BOP would be made and on the next wells and steps 4 through 10 would be repeated.
12) A second break test would only be done if the intermediate hole section being drilled could not be completed within the 21 day BOP test window.

Note: Picture below highlights BOP components that will be tested during batch operations



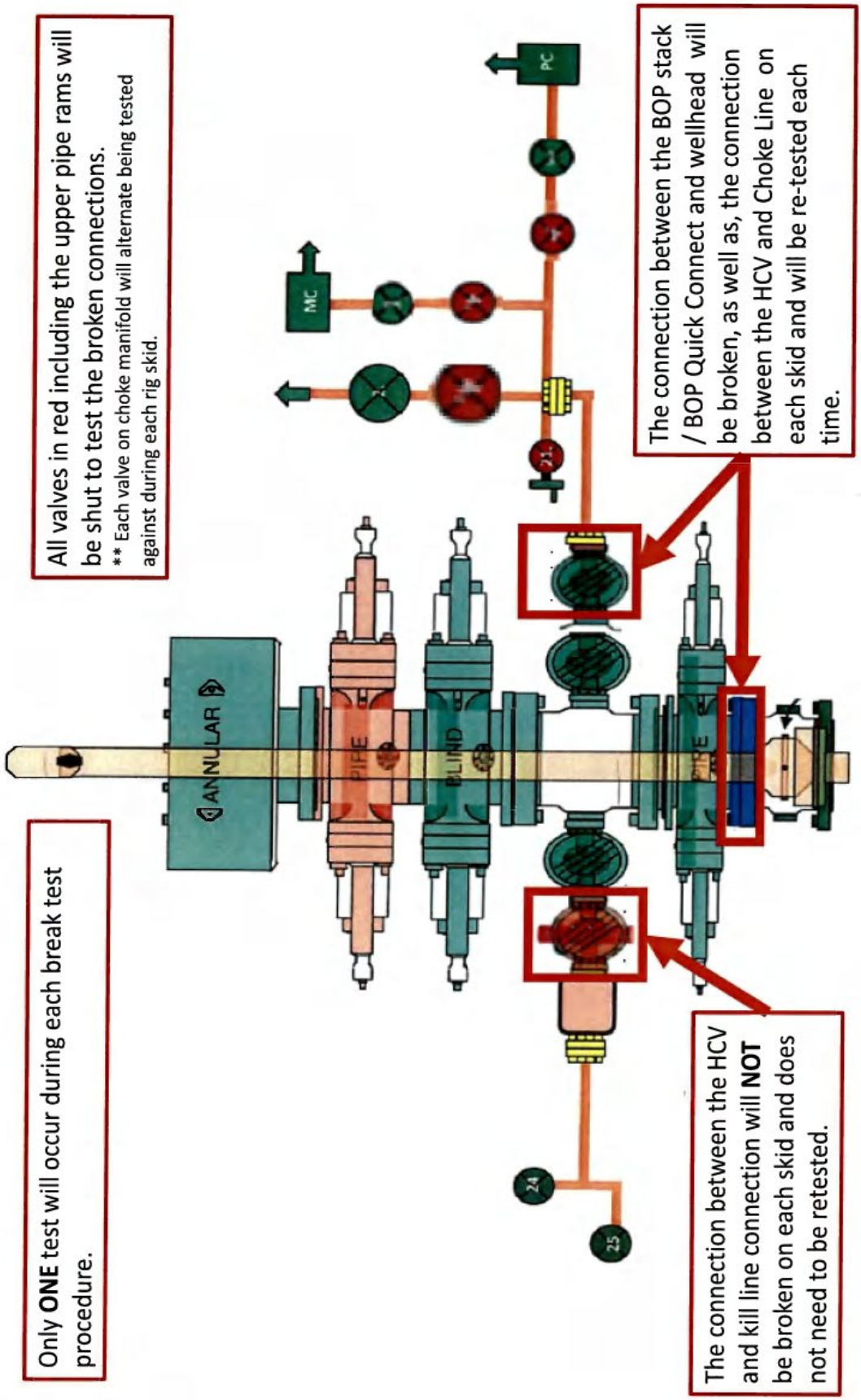
Summary

A variance is requested to ONLY test broken pressure seals on the BOP equipment when moving from wellhead to wellhead which is in compliance with API Standard 53. API Standard 53 states, that for pad drilling operations, moving from one wellhead to another within 21 days, pressure testing is required for pressure-containing and pressure-controlling connections when the integrity of a pressure seal is broken.

The BOP will be secured by a hydraulic carrier or cradle. The BLM will be contacted if a Well Control
event occurs prior to the commencement of a BOPE Break Testing operation.

Based on public data and the supporting documentation submitted herein to the BLM, we will request permission to ONLY retest broken pressure seals if the following conditions are met:

1) After a full BOP test is conducted on the first well on the pad.
2) The first intermediate hole section drilled on the pad will be the deepest. All the remaining hole sections will be the same depth or shallower.
3) A full BOP test will be required if the intermediate hole section being drilled has a MASP over 5M.
4) A full BOP test will be required prior to drilling the production hole.


All valves in red including the upper pipe rams will be shut to test the broken connections.
** Each valve on choke manifold will alternate being tested against during each rig skid.
The connection between the BOP stack / BOP Quick Connect and wellhead will be broken, as well as, the connection between the HCV and Choke Line on each skid and will be re-tested each time.
Only ONE test will occur during each break test procedure.
The connection between the HCV and kill line connection will NOT be broken on each skid and does not need to be retested.
ANNULAR
PIPE
BLIND
PIPE
MC
PC
21
24
25

SeAH

10-3/4" 45.50# 0.400" J-55

Dimensions (Nominal)

Outside Diameter	10.750	in.
Wall	0.400	in.
Inside Diameter	9.950	in.
Drift	9.875	in.
Weight, T&C	45.500	lbs/ft
Weight, PE	44.260	lbs/ft

Performance Properties

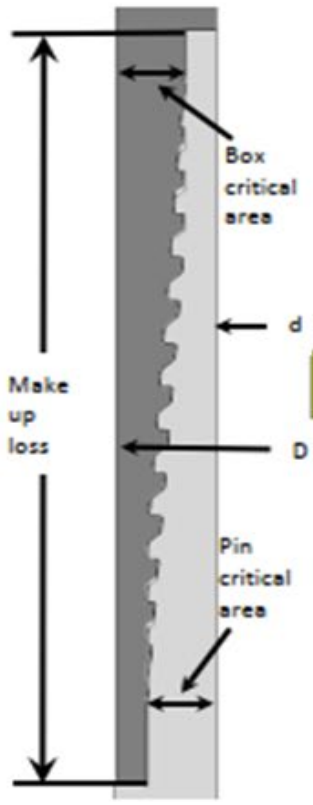
Collapse	2090	psi
Internal Yield Pressure at Minimum Yield		
PE	3580	psi
STC	3580	psi
BTC	3580	psi
Yield Strength, Pipe Body	715	1000 lbs
Joint Strength		
STC	493	1000 lbs
BTC	796	1000 lbs
BTC Special Clearance (11.25" OD Cplg)	506	1000 lbs

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.

Metal One Corp.	MO-FXL	CDS#	MO-FXL 8-5/8 32.0
Metal One	*1 Pipe Body: BMP P110HSCY MinYS125ksi Min95%WT		P110HSCY
			MinYS125ksi
			Min95%WT
	Connection Data Sheet	Date	8-Sep-21

Geometry

MO-FXL



Pipe Body

			Imperial		S.I.
Grade *1	P110HSCY		P110HSCY	
MinYS *1	125	ksi	125	ksi
Pipe OD (D)	8 5/8	in	219.08	mm
Weight	32.00	lb/ft	47.68	kg/m
Actual weight	31.10		46.34	kg/m
Wall Thickness (t)	0.352	in	8.94	mm
Pipe ID (d)	7.921	in	201.19	mm
Pipe body cross section	9.149	in^2	5,902	mm^2
Drift Dia.	7.796	in	198.02	mm
-	-	-	-	-

Connection

Box OD (W)	8.625	in	219.08	mm
PIN ID	7.921	in	201.19	mm
Make up Loss	3.847	in	97.71	mm
Box Critical Area	5.853	in^2	3686	mm^2
Joint load efficiency	69	%	69	%
Thread Taper	1 / 10 (1.2" per ft)			
Number of Threads	5 TPI			

Performance

Performance Properties for Pipe Body

S.M.Y.S. *1	1,144	kips	5,087	kN
M.I.Y.P. *1	9,690	psi	66.83	MPa
Collapse Strength *1	4,300	psi	29.66	MPa

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

*1: BMP P110HSCY: MinYS125ksi, Min95%WT, Collapse Strength 4,300psi

Performance Properties for Connection

Tensile Yield load	789 kips (69% of S.M.Y.S.)
Min. Compression Yield	789 kips (69% of S.M.Y.S.)
Internal Pressure	6,780 psi (70% of M.I.Y.P.)
External Pressure	100% of Collapse Strength
Max. DLS (deg. /100ft)	29

Recommended Torque

Min.	13,600	ft-lb	18,400	N-m
Opti.	14,900	ft-lb	20,200	N-m
Max.	16,200	ft-lb	21,900	N-m
Operational Max.	28,400	ft-lb	38,500	N-m

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

Metal One Corp.

Metal One

GEOCONN-SC

Pipe Body: SeAH P110RY(SMYS110ksi) & 95%RBW *1

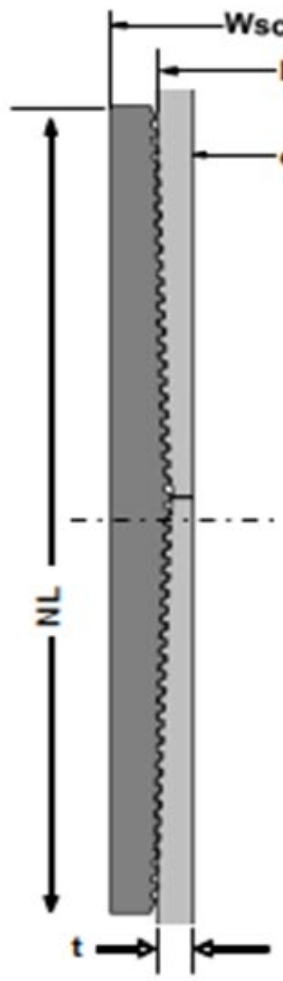
Coupling: P110CY (SMYS110ksi)

Connection Data Sheet

Page	MAI GC 5.5 20 SeAH PRY 95%RW
	SC-CplgOD 6.050 P110CY
Date	29-Sep-21
Rev.	0

Geometry

GEOCONN-SC



Pipe Body

	Imperial		S.I.	
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

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

Performance

Performance Properties for Pipe Body

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

Note S.M.Y.S.= Specified Minimum YIELD Strength of Pipe body

M.I.Y.P. = Minimum Internal Yield Pressure of Pipe body

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

Performance Properties for Connection

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

Recommended Torque

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

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

NEW MEXICO

(SP) LEA
MORAN PROJECT
MORAN 9 FED COM 601H

OWB
PWP0

Anticollision Report

18 April, 2024

Permian Resources

Anticollision Report

Company:	NEW MEXICO	**Local Co-ordinate Reference:**	Well MORAN 9 FED COM 601H
Project:	(SP) LEA	**TVD Reference:**	KB @ 3756.0usft
Reference Site:	MORAN PROJECT	**MD Reference:**	KB @ 3756.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	MORAN 9 FED COM 601H	**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** 4/18/2024

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.0	22,282.9	PWP0 (OWB)	MWD	OWSG_Rev2_ MWD - Standard

Summary

Site Name Offset Well - Wellbore - Design	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
MORAN PROJECT						
MORAN 9 FED COM 171H - OWB - PWP0	2,000.0	2,000.0	35.0	20.9	2.478	CC
MORAN 9 FED COM 171H - OWB - PWP0	2,500.0	2,505.4	36.5	19.1	2.094	ES, SF
MORAN 9 FED COM 172H - OWB - PWP0						Out of range
MORAN 9 FED COM 174H - OWB - PWP0						Out of range
MORAN 9 FED COM 602H - OWB - PWP0	2,000.0	1,999.0	105.0	90.9	7.435	CC, ES
MORAN 9 FED COM 602H - OWB - PWP0	2,100.0	2,095.6	108.2	93.4	7.308	SF
MORAN 9 FED COM 603H - OWB - PWP0						Out of range
MORAN 9 FED COM 604H - OWB - PWP0						Out of range
MORAN 9 FED COM 701H - owb - PWP0	2,000.0	2,000.0	70.0	55.9	4.955	CC, ES
MORAN 9 FED COM 701H - owb - PWP0	22,282.9	22,374.2	776.3	413.7	2.141	SF
MORAN 9 FED COM 702H - OWB - PWP0						Out of range
MORAN 9 FED COM 704H - OWB - PWP0						Out of range

Offset Design: MORAN PROJECT - MORAN 9 FED COM 171H - OWB - PWP0 **Offset Site Error:** 0.0 usft

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

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	110.67	-12.3	32.7	35.0				
100.0	100.0	100.0	100.0	0.3	0.3	110.67	-12.3	32.7	35.0	34.5	0.50	69.724	
200.0	200.0	200.0	200.0	0.6	0.6	110.67	-12.3	32.7	35.0	33.8	1.22	28.710	
300.0	300.0	300.0	300.0	1.0	1.0	110.67	-12.3	32.7	35.0	33.1	1.94	18.077	
400.0	400.0	400.0	400.0	1.3	1.3	110.67	-12.3	32.7	35.0	32.3	2.65	13.191	
500.0	500.0	500.0	500.0	1.7	1.7	110.67	-12.3	32.7	35.0	31.6	3.37	10.384	
600.0	600.0	600.0	600.0	2.0	2.0	110.67	-12.3	32.7	35.0	30.9	4.09	8.563	
700.0	700.0	700.0	700.0	2.4	2.4	110.67	-12.3	32.7	35.0	30.2	4.80	7.285	
800.0	800.0	800.0	800.0	2.8	2.8	110.67	-12.3	32.7	35.0	29.5	5.52	6.339	
900.0	900.0	900.0	900.0	3.1	3.1	110.67	-12.3	32.7	35.0	28.8	6.24	5.610	
1,000.0	1,000.0	1,000.0	1,000.0	3.5	3.5	110.67	-12.3	32.7	35.0	28.0	6.95	5.032	
1,100.0	1,100.0	1,100.0	1,100.0	3.8	3.8	110.67	-12.3	32.7	35.0	27.3	7.67	4.561	
1,200.0	1,200.0	1,200.0	1,200.0	4.2	4.2	110.67	-12.3	32.7	35.0	26.6	8.39	4.172	
1,300.0	1,300.0	1,300.0	1,300.0	4.6	4.6	110.67	-12.3	32.7	35.0	25.9	9.11	3.843	
1,400.0	1,400.0	1,400.0	1,400.0	4.9	4.9	110.67	-12.3	32.7	35.0	25.2	9.82	3.563	

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 MORAN 9 FED COM 601H
Project:	(SP) LEA	**TVD Reference:**	KB @ 3756.0usft
Reference Site:	MORAN PROJECT	**MD Reference:**	KB @ 3756.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	MORAN 9 FED COM 601H	**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: MORAN PROJECT - MORAN 9 FED COM 171H - OWB - PWP0 — **Offset Site Error:** 0.0 usft

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

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Rule Assigned: Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
1,500.0	1,500.0	1,500.0	1,500.0	5.3	5.3	110.67	-12.3	32.7	35.0	24.5	10.54	3.320	
1,600.0	1,600.0	1,600.0	1,600.0	5.6	5.6	110.67	-12.3	32.7	35.0	23.7	11.26	3.109	
1,700.0	1,700.0	1,700.0	1,700.0	6.0	6.0	110.67	-12.3	32.7	35.0	23.0	11.97	2.923	
1,800.0	1,800.0	1,800.0	1,800.0	6.3	6.3	110.67	-12.3	32.7	35.0	22.3	12.69	2.757	
1,900.0	1,900.0	1,900.0	1,900.0	6.7	6.7	110.67	-12.3	32.7	35.0	21.6	13.41	2.610	
2,000.0	2,000.0	2,000.0	2,000.0	7.1	7.1	110.67	-12.3	32.7	35.0	20.9	14.12	2.478 CC	
2,100.0	2,100.0	2,101.1	2,101.1	7.4	7.4	-159.05	-12.5	31.0	35.0	20.2	14.82	2.365	
2,200.0	2,199.8	2,202.2	2,202.0	7.8	7.8	-158.23	-13.1	25.6	35.2	19.7	15.49	2.273	
2,300.0	2,299.5	2,303.3	2,302.7	8.1	8.1	-156.86	-13.9	16.8	35.5	19.3	16.14	2.198	
2,400.0	2,398.7	2,404.4	2,403.0	8.5	8.5	-154.99	-15.2	4.4	35.9	19.1	16.80	2.139	
2,500.0	2,497.5	2,505.4	2,502.8	8.8	8.8	-152.67	-16.8	-11.5	36.5	19.1	17.45	2.094 ES, SF	
2,600.0	2,595.6	2,605.4	2,601.2	9.2	9.2	-151.63	-18.5	-28.8	39.0	20.8	18.17	2.145	
2,700.0	2,693.4	2,705.3	2,699.6	9.6	9.6	-151.86	-20.2	-46.0	42.9	24.1	18.88	2.274	
2,800.0	2,791.3	2,805.2	2,798.0	10.0	10.0	-152.06	-22.0	-63.3	46.9	27.3	19.60	2.392	
2,900.0	2,889.1	2,905.1	2,896.4	10.4	10.4	-152.23	-23.7	-80.6	50.9	30.5	20.33	2.502	
3,000.0	2,986.9	3,005.1	2,994.8	10.8	10.7	-152.37	-25.4	-97.8	54.8	33.8	21.07	2.603	
3,100.0	3,084.7	3,105.0	3,093.2	11.2	11.1	-152.49	-27.1	-115.1	58.8	37.0	21.81	2.696	
3,200.0	3,182.5	3,204.9	3,191.7	11.6	11.6	-152.60	-28.9	-132.4	62.8	40.2	22.56	2.783	
3,300.0	3,280.3	3,304.8	3,290.1	12.1	12.0	-152.69	-30.6	-149.6	66.7	43.4	23.31	2.863	
3,400.0	3,378.1	3,404.7	3,388.5	12.5	12.4	-152.78	-32.3	-166.9	70.7	46.6	24.07	2.938	
3,500.0	3,476.0	3,503.4	3,485.7	12.9	12.8	-153.10	-34.0	-183.4	75.2	50.3	24.84	3.027	
3,600.0	3,573.8	3,600.0	3,581.4	13.4	13.2	-154.50	-35.3	-196.5	82.3	56.7	25.60	3.216	
3,700.0	3,671.6	3,697.7	3,678.6	13.8	13.5	-156.72	-36.3	-206.6	92.5	66.2	26.31	3.515	
3,800.0	3,769.4	3,793.8	3,774.4	14.3	13.9	-159.30	-37.0	-213.2	105.7	78.7	26.98	3.918	
3,900.0	3,867.2	3,888.8	3,869.4	14.7	14.2	-161.91	-37.3	-216.6	122.1	94.5	27.61	4.422	
4,000.0	3,965.0	3,984.5	3,965.0	15.2	14.6	-164.37	-37.3	-217.2	141.5	113.3	28.25	5.010	
4,100.0	4,062.8	4,082.3	4,062.8	15.6	14.9	-166.35	-37.3	-217.2	161.7	132.7	28.93	5.588	
4,200.0	4,160.7	4,180.1	4,160.7	16.1	15.2	-167.90	-37.3	-217.2	182.0	152.3	29.62	6.144	
4,300.0	4,258.5	4,277.9	4,258.5	16.6	15.6	-169.13	-37.3	-217.2	202.3	172.0	30.31	6.676	
4,400.0	4,356.3	4,375.7	4,356.3	17.0	15.9	-170.14	-37.3	-217.2	222.8	191.8	31.01	7.186	
4,500.0	4,454.1	4,473.5	4,454.1	17.5	16.2	-170.98	-37.3	-217.2	243.3	211.6	31.71	7.674	
4,600.0	4,551.9	4,571.3	4,551.9	17.9	16.6	-171.68	-37.3	-217.2	263.9	231.5	32.42	8.141	
4,700.0	4,649.7	4,669.2	4,649.7	18.4	16.9	-172.29	-37.3	-217.2	284.5	251.4	33.12	8.589	
4,800.0	4,747.5	4,767.0	4,747.5	18.9	17.2	-172.81	-37.3	-217.2	305.1	271.3	33.83	9.019	
4,900.0	4,845.4	4,864.8	4,845.4	19.4	17.6	-173.27	-37.3	-217.2	325.8	291.2	34.54	9.431	
5,000.0	4,943.2	4,962.6	4,943.2	19.8	17.9	-173.67	-37.3	-217.2	346.4	311.2	35.25	9.827	
5,100.0	5,041.0	5,060.4	5,041.0	20.3	18.3	-174.03	-37.3	-217.2	367.1	331.1	35.97	10.207	
5,200.0	5,138.8	5,158.2	5,138.8	20.8	18.6	-174.35	-37.3	-217.2	387.8	351.1	36.68	10.572	
5,300.0	5,236.6	5,256.0	5,236.6	21.2	18.9	-174.64	-37.3	-217.2	408.5	371.1	37.40	10.923	
5,400.0	5,334.4	5,353.9	5,334.4	21.7	19.3	-174.90	-37.3	-217.2	429.2	391.1	38.11	11.262	
5,500.0	5,432.3	5,451.7	5,432.3	22.2	19.6	-175.13	-37.3	-217.2	449.9	411.1	38.83	11.587	
5,600.0	5,530.1	5,549.5	5,530.1	22.7	20.0	-175.35	-37.3	-217.2	470.6	431.1	39.55	11.901	
5,700.0	5,627.9	5,647.3	5,627.9	23.2	20.3	-175.54	-37.3	-217.2	491.4	451.1	40.26	12.204	
5,800.0	5,725.7	5,745.1	5,725.7	23.6	20.6	-175.72	-37.3	-217.2	512.1	471.1	40.98	12.496	
5,900.0	5,823.5	5,842.9	5,823.5	24.1	21.0	-175.89	-37.3	-217.2	532.8	491.1	41.70	12.777	
6,000.0	5,921.3	5,940.8	5,921.3	24.6	21.3	-176.05	-37.3	-217.2	553.6	511.2	42.42	13.049	
6,100.0	6,019.1	6,038.6	6,019.1	25.1	21.7	-176.19	-37.3	-217.2	574.3	531.2	43.14	13.312	
6,200.0	6,117.0	6,136.4	6,117.0	25.5	22.0	-176.32	-37.3	-217.2	595.1	551.2	43.86	13.567	
6,300.0	6,214.8	6,234.2	6,214.8	26.0	22.4	-176.45	-37.3	-217.2	615.8	571.2	44.58	13.813	
6,400.0	6,312.6	6,332.0	6,312.6	26.5	22.7	-176.56	-37.3	-217.2	636.6	591.3	45.31	14.051	
6,500.0	6,410.4	6,429.8	6,410.4	27.0	23.0	-176.67	-37.3	-217.2	657.3	611.3	46.03	14.281	
6,600.0	6,508.2	6,527.6	6,508.2	27.5	23.4	-176.77	-37.3	-217.2	678.1	631.3	46.75	14.504	

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 MORAN 9 FED COM 601H
Project:	(SP) LEA	**TVD Reference:**	KB @ 3756.0usft
Reference Site:	MORAN PROJECT	**MD Reference:**	KB @ 3756.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	MORAN 9 FED COM 601H	**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: MORAN PROJECT - MORAN 9 FED COM 171H - OWB - PWP0 — **Offset Site Error:** 0.0 usft

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

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
6,700.0	6,606.0	6,625.5	6,606.0	28.0	23.7	-176.87	-37.3	-217.2	698.9	651.4	47.47	14.721	
6,745.1	6,650.1	6,669.6	6,650.1	28.2	23.9	-176.91	-37.3	-217.2	708.2	660.4	47.80	14.816	
6,800.0	6,703.9	6,723.4	6,703.9	28.4	24.1	-176.97	-37.3	-217.2	719.1	670.9	48.20	14.920	
6,900.0	6,802.5	6,821.9	6,802.5	28.9	24.4	-177.06	-37.3	-217.2	736.3	687.4	48.92	15.051	
7,000.0	6,901.5	6,920.9	6,901.5	29.3	24.8	-177.12	-37.3	-217.2	750.0	700.4	49.64	15.110	
7,100.0	7,001.0	7,020.4	7,001.0	29.7	25.1	-177.17	-37.3	-217.2	760.3	709.9	50.35	15.100	
7,200.0	7,100.7	7,120.2	7,100.7	30.0	25.5	-177.21	-37.3	-217.2	767.1	716.0	51.06	15.023	
7,300.0	7,200.7	7,220.1	7,200.7	30.4	25.8	-177.22	-37.3	-217.2	770.4	718.6	51.76	14.883	
7,345.1	7,245.8	7,265.2	7,245.8	30.5	26.0	92.78	-37.3	-217.2	770.7	718.7	52.08	14.800	
7,400.0	7,300.7	7,320.1	7,300.7	30.7	26.2	92.78	-37.3	-217.2	770.7	718.3	52.46	14.693	
7,500.0	7,400.7	7,420.1	7,400.7	31.0	26.5	92.78	-37.3	-217.2	770.7	717.6	53.14	14.503	
7,600.0	7,500.7	7,520.1	7,500.7	31.3	26.9	92.78	-37.3	-217.2	770.7	716.9	53.83	14.317	
7,700.0	7,600.7	7,620.1	7,600.7	31.6	27.2	92.78	-37.3	-217.2	770.7	716.2	54.53	14.135	
7,800.0	7,700.7	7,720.1	7,700.7	31.9	27.6	92.78	-37.3	-217.2	770.7	715.5	55.22	13.958	
7,900.0	7,800.7	7,820.1	7,800.7	32.2	27.9	92.78	-37.3	-217.2	770.7	714.8	55.91	13.786	
8,000.0	7,900.7	7,920.1	7,900.7	32.5	28.3	92.78	-37.3	-217.2	770.7	714.1	56.60	13.617	
8,100.0	8,000.7	8,020.1	8,000.7	32.8	28.6	92.78	-37.3	-217.2	770.7	713.5	57.30	13.452	
8,200.0	8,100.7	8,120.1	8,100.7	33.1	29.0	92.78	-37.3	-217.2	770.7	712.8	57.99	13.291	
8,300.0	8,200.7	8,220.1	8,200.7	33.4	29.4	92.78	-37.3	-217.2	770.7	712.1	58.68	13.134	
8,400.0	8,300.7	8,320.1	8,300.7	33.7	29.7	92.78	-37.3	-217.2	770.7	711.4	59.38	12.980	
8,500.0	8,400.7	8,420.1	8,400.7	34.0	30.1	92.78	-37.3	-217.2	770.7	710.7	60.07	12.830	
8,600.0	8,500.7	8,520.1	8,500.7	34.3	30.4	92.78	-37.3	-217.2	770.7	710.0	60.77	12.683	
8,700.0	8,600.7	8,620.1	8,600.7	34.6	30.8	92.78	-37.3	-217.2	770.7	709.3	61.47	12.539	
8,800.0	8,700.7	8,720.1	8,700.7	34.9	31.1	92.78	-37.3	-217.2	770.7	708.6	62.16	12.399	
8,900.0	8,800.7	8,820.1	8,800.7	35.3	31.5	92.78	-37.3	-217.2	770.7	707.9	62.86	12.261	
9,000.0	8,900.7	8,920.1	8,900.7	35.6	31.8	92.78	-37.3	-217.2	770.7	707.2	63.56	12.127	
9,100.0	9,000.7	9,020.1	9,000.7	35.9	32.2	92.78	-37.3	-217.2	770.7	706.5	64.26	11.995	
9,200.0	9,100.7	9,120.1	9,100.7	36.2	32.5	92.78	-37.3	-217.2	770.7	705.8	64.95	11.866	
9,300.0	9,200.7	9,220.1	9,200.7	36.5	32.9	92.78	-37.3	-217.2	770.7	705.1	65.65	11.740	
9,400.0	9,300.7	9,320.1	9,300.7	36.8	33.3	92.78	-37.3	-217.2	770.7	704.4	66.35	11.616	
9,500.0	9,400.7	9,420.1	9,400.7	37.2	33.6	92.78	-37.3	-217.2	770.7	703.7	67.05	11.495	
9,600.0	9,500.7	9,520.1	9,500.7	37.5	34.0	92.78	-37.3	-217.2	770.7	703.0	67.75	11.376	
9,700.0	9,600.7	9,620.1	9,600.7	37.8	34.3	92.78	-37.3	-217.2	770.7	702.3	68.45	11.260	
9,800.0	9,700.7	9,720.1	9,700.7	38.1	34.7	92.78	-37.3	-217.2	770.7	701.6	69.15	11.145	
9,900.0	9,800.7	9,820.1	9,800.7	38.4	35.0	92.78	-37.3	-217.2	770.7	700.9	69.85	11.034	
10,000.0	9,900.7	9,920.1	9,900.7	38.8	35.4	92.78	-37.3	-217.2	770.7	700.2	70.56	10.924	
10,100.0	10,000.7	10,020.1	10,000.7	39.1	35.7	92.78	-37.3	-217.2	770.7	699.5	71.26	10.816	
10,200.0	10,100.7	10,120.1	10,100.7	39.4	36.1	92.78	-37.3	-217.2	770.7	698.8	71.96	10.711	
10,300.0	10,200.7	10,220.1	10,200.7	39.7	36.5	92.78	-37.3	-217.2	770.7	698.1	72.66	10.607	
10,400.0	10,300.7	10,320.1	10,300.7	40.0	36.8	92.78	-37.3	-217.2	770.7	697.4	73.36	10.506	
10,500.0	10,400.7	10,420.1	10,400.7	40.4	37.2	92.78	-37.3	-217.2	770.7	696.7	74.07	10.406	
10,600.0	10,500.7	10,520.1	10,500.7	40.7	37.5	92.78	-37.3	-217.2	770.7	696.0	74.77	10.308	
10,700.0	10,600.7	10,620.1	10,600.7	41.0	37.9	92.78	-37.3	-217.2	770.7	695.3	75.47	10.212	
10,800.0	10,700.7	10,720.1	10,700.7	41.3	38.2	92.78	-37.3	-217.2	770.7	694.6	76.18	10.118	
10,810.0	10,710.7	10,730.1	10,710.7	41.4	38.3	92.78	-37.3	-217.2	770.7	694.5	76.25	10.108	
10,900.0	10,800.7	10,816.5	10,797.1	41.7	38.6	92.90	-39.0	-217.2	770.8	694.0	76.84	10.031	
11,000.0	10,900.7	10,905.4	10,884.5	42.0	38.8	94.05	-54.5	-217.1	772.0	694.6	77.42	9.971	
11,100.0	11,000.7	10,986.1	10,960.1	42.3	39.1	96.11	-82.5	-216.9	775.5	697.7	77.89	9.957	
11,200.0	11,100.7	11,055.9	11,020.8	42.7	39.3	98.60	-116.5	-216.8	783.1	705.0	78.13	10.023	
11,246.8	11,147.5	11,084.6	11,044.3	42.8	39.4	99.80	-133.1	-216.7	788.6	710.4	78.14	10.092	
11,250.0	11,150.7	11,086.5	11,045.8	42.8	39.4	-79.76	-134.2	-216.7	789.0	710.8	78.14	10.097	
11,275.0	11,175.6	11,100.0	11,056.5	42.9	39.4	-78.78	-142.5	-216.6	792.3	714.3	78.08	10.147	

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 MORAN 9 FED COM 601H
Project:	(SP) LEA	**TVD Reference:**	KB @ 3756.0usft
Reference Site:	MORAN PROJECT	**MD Reference:**	KB @ 3756.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	MORAN 9 FED COM 601H	**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: MORAN PROJECT - MORAN 9 FED COM 171H - OWB - PWP0 — **Offset Site Error:** 0.0 usft

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

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
11,300.0	11,200.6	11,115.7	11,068.5	43.0	39.4	-77.72	-152.6	-216.6	795.9	717.8	78.05	10.197	
11,325.0	11,225.3	11,130.1	11,079.4	43.0	39.5	-76.73	-162.1	-216.5	799.5	721.5	77.98	10.253	

Permian Resources

Anticollision Report

Company:	NEW MEXICO	**Local Co-ordinate Reference:**	Well MORAN 9 FED COM 601H
Project:	(SP) LEA	**TVD Reference:**	KB @ 3756.0usft
Reference Site:	MORAN PROJECT	**MD Reference:**	KB @ 3756.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	MORAN 9 FED COM 601H	**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: MORAN PROJECT - MORAN 9 FED COM 602H - OWB - PWP0 — **Offset Site Error:** 0.0 usft

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

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	110.67	-37.0	98.2	105.0				
100.0	100.0	99.0	99.0	0.3	0.2	110.67	-37.0	98.2	105.0	104.5	0.50	210.243	
200.0	200.0	199.0	199.0	0.6	0.6	110.67	-37.0	98.2	105.0	103.8	1.22	86.392	
300.0	300.0	299.0	299.0	1.0	1.0	110.67	-37.0	98.2	105.0	103.1	1.93	54.335	
400.0	400.0	399.0	399.0	1.3	1.3	110.67	-37.0	98.2	105.0	102.3	2.65	39.630	
500.0	500.0	499.0	499.0	1.7	1.7	110.67	-37.0	98.2	105.0	101.6	3.37	31.189	
600.0	600.0	599.0	599.0	2.0	2.0	110.67	-37.0	98.2	105.0	100.9	4.08	25.713	
700.0	700.0	699.0	699.0	2.4	2.4	110.67	-37.0	98.2	105.0	100.2	4.80	21.872	
800.0	800.0	799.0	799.0	2.8	2.8	110.67	-37.0	98.2	105.0	99.5	5.52	19.030	
900.0	900.0	899.0	899.0	3.1	3.1	110.67	-37.0	98.2	105.0	98.8	6.23	16.841	
1,000.0	1,000.0	999.0	999.0	3.5	3.5	110.67	-37.0	98.2	105.0	98.0	6.95	15.104	
1,100.0	1,100.0	1,099.0	1,099.0	3.8	3.8	110.67	-37.0	98.2	105.0	97.3	7.67	13.692	
1,200.0	1,200.0	1,199.0	1,199.0	4.2	4.2	110.67	-37.0	98.2	105.0	96.6	8.38	12.521	
1,300.0	1,300.0	1,299.0	1,299.0	4.6	4.5	110.67	-37.0	98.2	105.0	95.9	9.10	11.535	
1,400.0	1,400.0	1,399.0	1,399.0	4.9	4.9	110.67	-37.0	98.2	105.0	95.2	9.82	10.693	
1,500.0	1,500.0	1,499.0	1,499.0	5.3	5.3	110.67	-37.0	98.2	105.0	94.4	10.54	9.965	
1,600.0	1,600.0	1,599.0	1,599.0	5.6	5.6	110.67	-37.0	98.2	105.0	93.7	11.25	9.330	
1,700.0	1,700.0	1,699.0	1,699.0	6.0	6.0	110.67	-37.0	98.2	105.0	93.0	11.97	8.771	
1,800.0	1,800.0	1,799.0	1,799.0	6.3	6.3	110.67	-37.0	98.2	105.0	92.3	12.69	8.275	
1,900.0	1,900.0	1,899.0	1,899.0	6.7	6.7	110.67	-37.0	98.2	105.0	91.6	13.40	7.833	
2,000.0	2,000.0	1,999.0	1,999.0	7.1	7.1	110.67	-37.0	98.2	105.0	90.9	14.12	7.435	CC, ES
2,100.0	2,100.0	2,095.6	2,095.6	7.4	7.4	-159.93	-37.0	99.8	108.2	93.4	14.80	7.308	SF
2,200.0	2,199.8	2,191.5	2,191.4	7.8	7.7	-161.51	-37.0	104.6	117.8	102.4	15.45	7.625	
2,300.0	2,299.5	2,286.1	2,285.6	8.1	8.1	-163.63	-37.0	112.5	134.1	118.0	16.09	8.334	
2,400.0	2,398.7	2,378.7	2,377.6	8.5	8.4	-165.84	-37.0	123.2	156.9	140.2	16.69	9.397	
2,500.0	2,497.5	2,468.8	2,466.7	8.8	8.7	-167.85	-37.0	136.5	186.2	168.9	17.28	10.777	
2,600.0	2,595.6	2,560.2	2,556.7	9.2	9.0	-169.62	-37.0	152.2	221.2	203.3	17.90	12.362	
2,700.0	2,693.4	2,652.9	2,648.1	9.6	9.4	-171.11	-37.0	168.3	258.3	239.7	18.55	13.924	
2,800.0	2,791.3	2,745.6	2,739.4	10.0	9.7	-172.23	-37.0	184.4	295.4	276.2	19.20	15.384	
2,900.0	2,889.1	2,838.4	2,830.7	10.4	10.1	-173.11	-37.0	200.5	332.6	312.7	19.86	16.749	
3,000.0	2,986.9	2,931.1	2,922.0	10.8	10.5	-173.80	-37.0	216.6	369.8	349.3	20.52	18.026	
3,100.0	3,084.7	3,023.8	3,013.3	11.2	10.8	-174.37	-37.0	232.7	407.1	385.9	21.18	19.221	
3,200.0	3,182.5	3,116.5	3,104.6	11.6	11.2	-174.84	-37.0	248.8	444.4	422.6	21.85	20.343	
3,300.0	3,280.3	3,209.2	3,195.9	12.1	11.6	-175.24	-37.0	264.9	481.8	459.3	22.52	21.395	
3,400.0	3,378.1	3,301.9	3,287.2	12.5	12.0	-175.59	-37.0	281.0	519.1	495.9	23.19	22.385	
3,500.0	3,476.0	3,394.7	3,378.5	12.9	12.3	-175.88	-37.0	297.1	556.5	532.6	23.87	23.318	
3,600.0	3,573.8	3,487.4	3,469.8	13.4	12.7	-176.14	-37.0	313.2	593.9	569.3	24.54	24.197	
3,700.0	3,671.6	3,580.1	3,561.2	13.8	13.1	-176.37	-37.0	329.3	631.3	606.1	25.22	25.027	
3,800.0	3,769.4	3,672.8	3,652.5	14.3	13.5	-176.57	-37.0	345.4	668.7	642.8	25.91	25.812	
3,900.0	3,867.2	3,765.5	3,743.8	14.7	13.9	-176.76	-37.0	361.5	706.1	679.5	26.59	26.555	
4,000.0	3,965.0	3,858.3	3,835.1	15.2	14.3	-176.92	-37.0	377.6	743.5	716.2	27.28	27.259	
4,100.0	4,062.8	3,951.0	3,926.4	15.6	14.7	-177.07	-37.0	393.7	780.9	752.9	27.96	27.927	

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 MORAN 9 FED COM 601H
Project:	(SP) LEA	**TVD Reference:**	KB @ 3756.0usft
Reference Site:	MORAN PROJECT	**MD Reference:**	KB @ 3756.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	MORAN 9 FED COM 601H	**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: MORAN PROJECT - MORAN 9 FED COM 701H - owb - PWP0 — **Offset Site Error:** 0.0 usft

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

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	0.0	0.0	110.67	-24.7	65.5	70.0				
100.0	100.0	100.0	100.0	0.3	0.3	110.67	-24.7	65.5	70.0	69.5	0.50	139.448	
200.0	200.0	200.0	200.0	0.6	0.6	110.67	-24.7	65.5	70.0	68.8	1.22	57.420	
300.0	300.0	300.0	300.0	1.0	1.0	110.67	-24.7	65.5	70.0	68.0	1.94	36.153	
400.0	400.0	400.0	400.0	1.3	1.3	110.67	-24.7	65.5	70.0	67.3	2.65	26.382	
500.0	500.0	500.0	500.0	1.7	1.7	110.67	-24.7	65.5	70.0	66.6	3.37	20.769	
600.0	600.0	600.0	600.0	2.0	2.0	110.67	-24.7	65.5	70.0	65.9	4.09	17.125	
700.0	700.0	700.0	700.0	2.4	2.4	110.67	-24.7	65.5	70.0	65.2	4.80	14.569	
800.0	800.0	800.0	800.0	2.8	2.8	110.67	-24.7	65.5	70.0	64.5	5.52	12.677	
900.0	900.0	900.0	900.0	3.1	3.1	110.67	-24.7	65.5	70.0	63.7	6.24	11.220	
1,000.0	1,000.0	1,000.0	1,000.0	3.5	3.5	110.67	-24.7	65.5	70.0	63.0	6.95	10.063	
1,100.0	1,100.0	1,100.0	1,100.0	3.8	3.8	110.67	-24.7	65.5	70.0	62.3	7.67	9.123	
1,200.0	1,200.0	1,200.0	1,200.0	4.2	4.2	110.67	-24.7	65.5	70.0	61.6	8.39	8.343	
1,300.0	1,300.0	1,300.0	1,300.0	4.6	4.6	110.67	-24.7	65.5	70.0	60.9	9.11	7.686	
1,400.0	1,400.0	1,400.0	1,400.0	4.9	4.9	110.67	-24.7	65.5	70.0	60.2	9.82	7.125	
1,500.0	1,500.0	1,500.0	1,500.0	5.3	5.3	110.67	-24.7	65.5	70.0	59.4	10.54	6.640	
1,600.0	1,600.0	1,600.0	1,600.0	5.6	5.6	110.67	-24.7	65.5	70.0	58.7	11.26	6.217	
1,700.0	1,700.0	1,700.0	1,700.0	6.0	6.0	110.67	-24.7	65.5	70.0	58.0	11.97	5.845	
1,800.0	1,800.0	1,800.0	1,800.0	6.3	6.3	110.67	-24.7	65.5	70.0	57.3	12.69	5.515	
1,900.0	1,900.0	1,900.0	1,900.0	6.7	6.7	110.67	-24.7	65.5	70.0	56.6	13.41	5.220	
2,000.0	2,000.0	2,000.0	2,000.0	7.1	7.1	110.67	-24.7	65.5	70.0	55.9	14.12	4.955	CC, ES
2,100.0	2,100.0	2,100.0	2,100.0	7.4	7.4	-159.81	-24.7	65.5	71.6	56.8	14.83	4.829	
2,200.0	2,199.8	2,199.8	2,199.8	7.8	7.8	-161.13	-24.7	65.5	76.6	61.0	15.53	4.929	
2,300.0	2,299.5	2,299.5	2,299.5	8.1	8.1	-162.99	-24.7	65.5	84.8	68.6	16.23	5.227	
2,400.0	2,398.7	2,398.7	2,398.7	8.5	8.5	-165.04	-24.7	65.5	96.6	79.6	16.93	5.704	
2,500.0	2,497.5	2,497.5	2,497.5	8.8	8.8	-167.04	-24.7	65.5	111.8	94.1	17.63	6.339	
2,600.0	2,595.6	2,595.6	2,595.6	9.2	9.2	-168.85	-24.7	65.5	130.4	112.1	18.33	7.117	
2,700.0	2,693.4	2,693.4	2,693.4	9.6	9.5	-170.37	-24.7	65.5	150.9	131.9	19.02	7.933	
2,800.0	2,791.3	2,791.3	2,791.3	10.0	9.9	-171.53	-24.7	65.5	171.5	151.7	19.72	8.695	
2,900.0	2,889.1	2,889.1	2,889.1	10.4	10.2	-172.45	-24.7	65.5	192.1	171.6	20.42	9.407	
3,000.0	2,986.9	2,986.9	2,986.9	10.8	10.6	-173.18	-24.7	65.5	212.7	191.6	21.12	10.072	
3,100.0	3,084.7	3,084.7	3,084.7	11.2	11.0	-173.79	-24.7	65.5	233.3	211.5	21.82	10.695	
3,200.0	3,182.5	3,182.5	3,182.5	11.6	11.3	-174.30	-24.7	65.5	254.0	231.5	22.52	11.279	
3,300.0	3,280.3	3,280.3	3,280.3	12.1	11.7	-174.73	-24.7	65.5	274.7	251.5	23.23	11.828	
3,400.0	3,378.1	3,378.1	3,378.1	12.5	12.0	-175.10	-24.7	65.5	295.4	271.5	23.94	12.344	
3,500.0	3,476.0	3,476.0	3,476.0	12.9	12.4	-175.42	-24.7	65.5	316.2	291.5	24.64	12.830	
3,600.0	3,573.8	3,573.8	3,573.8	13.4	12.7	-175.70	-24.7	65.5	336.9	311.5	25.35	13.288	
3,700.0	3,671.6	3,671.6	3,671.6	13.8	13.1	-175.95	-24.7	65.5	357.6	331.6	26.07	13.721	
3,800.0	3,769.4	3,769.4	3,769.4	14.3	13.4	-176.17	-24.7	65.5	378.4	351.6	26.78	14.131	
3,900.0	3,867.2	3,867.2	3,867.2	14.7	13.8	-176.37	-24.7	65.5	399.1	371.6	27.49	14.519	
4,000.0	3,965.0	3,965.0	3,965.0	15.2	14.1	-176.55	-24.7	65.5	419.9	391.7	28.21	14.887	
4,100.0	4,062.8	4,062.8	4,062.8	15.6	14.5	-176.72	-24.7	65.5	440.6	411.7	28.92	15.236	
4,200.0	4,160.7	4,160.7	4,160.7	16.1	14.8	-176.86	-24.7	65.5	461.4	431.8	29.64	15.569	
4,300.0	4,258.5	4,258.5	4,258.5	16.6	15.2	-177.00	-24.7	65.5	482.2	451.8	30.35	15.885	
4,400.0	4,356.3	4,356.3	4,356.3	17.0	15.5	-177.12	-24.7	65.5	502.9	471.9	31.07	16.187	
4,500.0	4,454.1	4,454.1	4,454.1	17.5	15.9	-177.24	-24.7	65.5	523.7	491.9	31.79	16.474	
4,600.0	4,551.9	4,551.9	4,551.9	17.9	16.2	-177.34	-24.7	65.5	544.5	512.0	32.51	16.749	
4,700.0	4,649.7	4,649.7	4,649.7	18.4	16.6	-177.44	-24.7	65.5	565.2	532.0	33.23	17.011	
4,800.0	4,747.5	4,747.5	4,747.5	18.9	16.9	-177.53	-24.7	65.5	586.0	552.1	33.95	17.262	
4,900.0	4,845.4	4,845.4	4,845.4	19.4	17.3	-177.61	-24.7	65.5	606.8	572.1	34.67	17.503	
5,000.0	4,943.2	4,943.2	4,943.2	19.8	17.6	-177.69	-24.7	65.5	627.6	592.2	35.39	17.733	
5,100.0	5,041.0	5,051.9	5,051.9	20.3	18.0	-177.79	-24.5	65.0	648.0	611.8	36.17	17.914	

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 MORAN 9 FED COM 601H
Project:	(SP) LEA	**TVD Reference:**	KB @ 3756.0usft
Reference Site:	MORAN PROJECT	**MD Reference:**	KB @ 3756.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	MORAN 9 FED COM 601H	**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: MORAN PROJECT - MORAN 9 FED COM 701H - owb - PWP0 — **Offset Site Error:** 0.0 usft

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

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
5,200.0	5,138.8	5,167.8	5,167.7	20.8	18.4	-178.01	-22.8	61.2	665.4	628.4	36.97	17.995	
5,300.0	5,236.6	5,266.4	5,266.2	21.2	18.8	-178.22	-20.9	56.9	681.9	644.2	37.69	18.092	
5,400.0	5,334.4	5,365.0	5,364.7	21.7	19.1	-178.41	-19.1	52.7	698.4	660.0	38.41	18.184	
5,500.0	5,432.3	5,463.6	5,463.2	22.2	19.4	-178.60	-17.2	48.5	714.9	675.8	39.13	18.273	
5,600.0	5,530.1	5,562.2	5,561.7	22.7	19.8	-178.78	-15.3	44.3	731.5	691.6	39.84	18.358	
5,700.0	5,627.9	5,660.8	5,660.2	23.2	20.1	-178.95	-13.5	40.1	748.0	707.4	40.56	18.440	
5,800.0	5,725.7	5,759.4	5,758.7	23.6	20.5	-179.12	-11.6	35.8	764.6	723.3	41.28	18.520	
5,900.0	5,823.5	5,858.0	5,857.1	24.1	20.8	-179.28	-9.7	31.6	781.1	739.1	42.00	18.596	
6,000.0	5,921.3	5,956.6	5,955.6	24.6	21.2	-179.43	-7.9	27.4	797.7	754.9	42.73	18.670	
11,200.0	11,100.7	11,139.6	11,132.9	42.7	39.8	83.51	90.1	-194.5	798.3	719.0	79.30	10.066	
11,246.8	11,147.5	11,186.3	11,179.7	42.8	40.0	83.43	91.0	-196.5	796.4	716.7	79.63	10.001	
11,250.0	11,150.7	11,189.5	11,182.8	42.8	40.0	-96.28	91.1	-196.7	796.2	716.6	79.65	9.996	
11,275.0	11,175.6	11,214.4	11,207.7	42.9	40.1	-96.49	91.6	-197.7	795.3	715.5	79.82	9.963	
11,300.0	11,200.6	11,239.3	11,232.5	43.0	40.1	-96.78	92.0	-198.8	794.6	714.6	80.00	9.933	
11,325.0	11,225.3	11,268.5	11,261.7	43.0	40.3	-97.15	92.0	-200.0	793.9	713.7	80.18	9.901	
11,350.0	11,249.9	11,299.4	11,292.6	43.1	40.4	-97.53	90.1	-201.4	793.3	712.9	80.37	9.870	
11,375.0	11,274.1	11,330.7	11,323.6	43.2	40.5	-97.88	86.2	-202.7	792.6	712.0	80.55	9.840	
11,400.0	11,298.1	11,362.3	11,354.5	43.3	40.6	-98.20	80.1	-203.9	791.9	711.2	80.72	9.811	
11,425.0	11,321.6	11,394.1	11,385.2	43.3	40.7	-98.50	72.0	-205.2	791.2	710.3	80.88	9.782	
11,450.0	11,344.6	11,426.1	11,415.5	43.4	40.8	-98.77	61.8	-206.5	790.5	709.4	81.03	9.755	
11,475.0	11,367.1	11,458.3	11,445.2	43.5	40.8	-99.01	49.5	-207.7	789.7	708.6	81.17	9.729	
11,500.0	11,389.0	11,490.6	11,474.2	43.5	40.9	-99.22	35.1	-208.8	789.0	707.6	81.31	9.704	
11,525.0	11,410.2	11,523.0	11,502.1	43.6	41.0	-99.39	18.8	-209.9	788.2	706.7	81.43	9.679	
11,550.0	11,430.7	11,555.5	11,529.0	43.7	41.1	-99.53	0.5	-211.0	787.3	705.8	81.55	9.654	
11,575.0	11,450.4	11,588.0	11,554.6	43.7	41.2	-99.63	-19.5	-211.9	786.5	704.8	81.67	9.630	
11,600.0	11,469.3	11,620.5	11,578.7	43.8	41.2	-99.70	-41.2	-212.9	785.6	703.9	81.79	9.606	
11,625.0	11,487.3	11,652.9	11,601.2	43.8	41.3	-99.74	-64.5	-213.7	784.8	702.9	81.91	9.581	
11,650.0	11,504.4	11,685.2	11,622.1	43.9	41.3	-99.74	-89.1	-214.4	783.9	701.8	82.03	9.556	
11,675.0	11,520.5	11,717.3	11,641.2	43.9	41.4	-99.70	-115.0	-215.1	783.0	700.8	82.15	9.531	
11,700.0	11,535.6	11,749.3	11,658.4	44.0	41.5	-99.63	-141.9	-215.7	782.1	699.8	82.28	9.505	
11,725.0	11,549.7	11,781.0	11,673.6	44.0	41.5	-99.53	-169.7	-216.2	781.2	698.8	82.42	9.478	
11,750.0	11,562.6	11,812.5	11,686.9	44.1	41.6	-99.40	-198.3	-216.6	780.3	697.7	82.57	9.450	
11,775.0	11,574.4	11,843.7	11,698.1	44.1	41.7	-99.23	-227.4	-216.9	779.4	696.7	82.72	9.422	
11,800.0	11,585.0	11,874.6	11,707.4	44.1	41.7	-99.04	-256.8	-217.1	778.6	695.7	82.89	9.393	
11,825.0	11,594.4	11,905.2	11,714.7	44.2	41.8	-98.82	-286.5	-217.3	777.8	694.7	83.06	9.364	
11,850.0	11,602.6	11,935.4	11,720.0	44.2	41.9	-98.57	-316.3	-217.4	777.0	693.7	83.23	9.335	
11,875.0	11,609.5	11,965.3	11,723.4	44.3	42.0	-98.29	-345.9	-217.3	776.2	692.8	83.41	9.306	
11,900.0	11,615.2	11,994.8	11,724.9	44.3	42.0	-97.99	-375.4	-217.2	775.6	692.0	83.59	9.278	
11,925.0	11,619.6	12,021.0	11,725.0	44.4	42.1	-97.73	-401.6	-217.1	775.0	691.2	83.76	9.252	
11,950.0	11,622.7	12,045.8	11,725.0	44.4	42.2	-97.56	-426.4	-216.9	774.5	690.6	83.92	9.230	
11,975.0	11,624.5	12,070.7	11,725.0	44.5	42.2	-97.45	-451.3	-216.8	774.3	690.2	84.07	9.210	
11,996.1	11,625.0	12,091.8	11,725.0	44.5	42.3	-97.42	-472.4	-216.7	774.3	690.1	84.19	9.196	
11,996.8	11,625.0	12,092.5	11,725.0	44.5	42.3	-97.42	-473.2	-216.7	774.3	690.1	84.20	9.196	
12,000.0	11,625.0	12,095.7	11,725.0	44.5	42.3	-97.42	-476.3	-216.7	774.3	690.0	84.21	9.194	
12,100.0	11,625.0	12,195.7	11,725.0	44.8	42.6	-97.42	-576.3	-216.1	774.3	689.4	84.88	9.122	
12,200.0	11,625.0	12,295.7	11,725.0	45.1	43.0	-97.42	-676.3	-215.5	774.3	688.6	85.67	9.039	
12,300.0	11,625.0	12,395.7	11,725.0	45.4	43.5	-97.42	-776.3	-215.0	774.3	687.7	86.57	8.944	
12,400.0	11,625.0	12,495.7	11,725.0	45.9	44.0	-97.42	-876.3	-214.4	774.3	686.7	87.59	8.841	
12,500.0	11,625.0	12,595.7	11,725.0	46.4	44.5	-97.42	-976.3	-213.9	774.4	685.6	88.72	8.729	
12,600.0	11,625.0	12,695.7	11,725.0	46.9	45.1	-97.42	-1,076.3	-213.3	774.4	684.4	89.95	8.609	
12,700.0	11,625.0	12,795.7	11,725.0	47.5	45.8	-97.42	-1,176.3	-212.7	774.4	683.1	91.28	8.483	
12,800.0	11,625.0	12,895.7	11,725.0	48.2	46.5	-97.42	-1,276.3	-212.2	774.4	681.7	92.72	8.353	

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 MORAN 9 FED COM 601H
Project:	(SP) LEA	**TVD Reference:**	KB @ 3756.0usft
Reference Site:	MORAN PROJECT	**MD Reference:**	KB @ 3756.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	MORAN 9 FED COM 601H	**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: MORAN PROJECT - MORAN 9 FED COM 701H - owb - PWP0 — **Offset Site Error:** 0.0 usft

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

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
12,900.0	11,625.0	12,995.7	11,725.0	48.9	47.3	-97.42	-1,376.3	-211.6	774.4	680.2	94.24	8.218	
13,000.0	11,625.0	13,095.7	11,725.0	49.7	48.1	-97.42	-1,476.3	-211.1	774.5	678.6	95.85	8.080	
13,100.0	11,625.0	13,195.7	11,725.0	50.5	48.9	-97.42	-1,576.3	-210.5	774.5	676.9	97.55	7.939	
13,200.0	11,625.0	13,295.7	11,725.0	51.3	49.8	-97.42	-1,676.3	-209.9	774.5	675.2	99.33	7.797	
13,300.0	11,625.0	13,395.7	11,725.0	52.2	50.7	-97.42	-1,776.3	-209.4	774.5	673.3	101.18	7.655	
13,400.0	11,625.0	13,495.7	11,725.0	53.2	51.7	-97.42	-1,876.3	-208.8	774.5	671.4	103.10	7.512	
13,500.0	11,625.0	13,595.7	11,725.0	54.1	52.7	-97.42	-1,976.3	-208.3	774.6	669.5	105.09	7.370	
13,600.0	11,625.0	13,695.7	11,725.0	55.1	53.7	-97.42	-2,076.3	-207.7	774.6	667.4	107.15	7.229	
13,700.0	11,625.0	13,795.7	11,725.0	56.1	54.8	-97.42	-2,176.3	-207.1	774.6	665.3	109.26	7.089	
13,800.0	11,625.0	13,895.7	11,725.0	57.2	55.9	-97.42	-2,276.3	-206.6	774.6	663.2	111.44	6.951	
13,900.0	11,625.0	13,995.7	11,725.0	58.3	57.0	-97.42	-2,376.3	-206.0	774.6	661.0	113.66	6.815	
14,000.0	11,625.0	14,095.7	11,725.0	59.4	58.1	-97.42	-2,476.3	-205.5	774.7	658.7	115.94	6.682	
14,100.0	11,625.0	14,195.7	11,725.0	60.5	59.3	-97.42	-2,576.3	-204.9	774.7	656.4	118.26	6.551	
14,200.0	11,625.0	14,295.7	11,725.0	61.7	60.5	-97.42	-2,676.3	-204.3	774.7	654.1	120.63	6.422	
14,300.0	11,625.0	14,395.7	11,725.0	62.9	61.7	-97.42	-2,776.3	-203.8	774.7	651.7	123.04	6.297	
14,400.0	11,625.0	14,495.7	11,725.0	64.1	62.9	-97.42	-2,876.3	-203.2	774.7	649.3	125.48	6.174	
14,500.0	11,625.0	14,595.7	11,725.0	65.3	64.2	-97.42	-2,976.3	-202.7	774.8	646.8	127.97	6.054	
14,600.0	11,625.0	14,695.7	11,725.0	66.6	65.4	-97.42	-3,076.3	-202.1	774.8	644.3	130.49	5.937	
14,700.0	11,625.0	14,795.7	11,725.0	67.8	66.7	-97.42	-3,176.3	-201.5	774.8	641.8	133.05	5.823	
14,800.0	11,625.0	14,895.7	11,725.0	69.1	68.0	-97.42	-3,276.3	-201.0	774.8	639.2	135.64	5.713	
14,900.0	11,625.0	14,995.7	11,725.0	70.4	69.3	-97.42	-3,376.3	-200.4	774.8	636.6	138.25	5.605	
15,000.0	11,625.0	15,095.7	11,725.0	71.7	70.6	-97.42	-3,476.3	-199.9	774.9	634.0	140.90	5.500	
15,100.0	11,625.0	15,195.7	11,725.0	73.0	72.0	-97.42	-3,576.3	-199.3	774.9	631.3	143.57	5.397	
15,200.0	11,625.0	15,295.7	11,725.0	74.4	73.3	-97.42	-3,676.3	-198.7	774.9	628.6	146.26	5.298	
15,300.0	11,625.0	15,395.7	11,725.0	75.7	74.7	-97.42	-3,776.3	-198.2	774.9	625.9	148.98	5.201	
15,400.0	11,625.0	15,495.7	11,725.0	77.1	76.1	-97.42	-3,876.3	-197.6	774.9	623.2	151.72	5.108	
15,500.0	11,625.0	15,595.7	11,725.0	78.4	77.5	-97.42	-3,976.3	-197.1	775.0	620.5	154.49	5.016	
15,600.0	11,625.0	15,695.7	11,725.0	79.8	78.9	-97.42	-4,076.3	-196.5	775.0	617.7	157.27	4.928	
15,700.0	11,625.0	15,795.7	11,725.0	81.2	80.3	-97.42	-4,176.3	-195.9	775.0	614.9	160.07	4.842	
15,800.0	11,625.0	15,895.7	11,725.0	82.6	81.7	-97.42	-4,276.3	-195.4	775.0	612.1	162.89	4.758	
15,900.0	11,625.0	15,995.7	11,725.0	84.0	83.1	-97.41	-4,376.3	-194.8	775.0	609.3	165.73	4.677	
16,000.0	11,625.0	16,095.7	11,725.0	85.5	84.6	-97.41	-4,476.3	-194.3	775.1	606.5	168.58	4.598	
16,100.0	11,625.0	16,195.7	11,725.0	86.9	86.0	-97.41	-4,576.3	-193.7	775.1	603.6	171.45	4.521	
16,200.0	11,625.0	16,295.7	11,725.0	88.3	87.4	-97.41	-4,676.3	-193.1	775.1	600.8	174.33	4.446	
16,300.0	11,625.0	16,395.7	11,725.0	89.8	88.9	-97.41	-4,776.3	-192.6	775.1	597.9	177.23	4.374	
16,400.0	11,625.0	16,495.7	11,725.0	91.2	90.4	-97.41	-4,876.3	-192.0	775.1	595.0	180.14	4.303	
16,500.0	11,625.0	16,595.7	11,725.0	92.7	91.8	-97.41	-4,976.3	-191.5	775.2	592.1	183.06	4.234	
16,600.0	11,625.0	16,695.7	11,725.0	94.1	93.3	-97.41	-5,076.2	-190.9	775.2	589.2	186.00	4.168	
16,700.0	11,625.0	16,795.7	11,725.0	95.6	94.8	-97.41	-5,176.2	-190.3	775.2	586.3	188.95	4.103	
16,800.0	11,625.0	16,895.7	11,725.0	97.1	96.3	-97.41	-5,276.2	-189.8	775.2	583.3	191.90	4.040	
16,900.0	11,625.0	16,995.7	11,725.0	98.6	97.8	-97.41	-5,376.2	-189.2	775.2	580.4	194.87	3.978	
17,000.0	11,625.0	17,095.7	11,725.0	100.1	99.3	-97.41	-5,476.2	-188.7	775.3	577.4	197.85	3.918	
17,100.0	11,625.0	17,195.7	11,725.0	101.5	100.8	-97.41	-5,576.2	-188.1	775.3	574.4	200.84	3.860	
17,200.0	11,625.0	17,295.7	11,725.0	103.0	102.3	-97.41	-5,676.2	-187.5	775.3	571.5	203.83	3.804	
17,300.0	11,625.0	17,395.7	11,725.0	104.5	103.8	-97.41	-5,776.2	-187.0	775.3	568.5	206.84	3.748	
17,400.0	11,625.0	17,495.7	11,725.0	106.1	105.3	-97.41	-5,876.2	-186.4	775.3	565.5	209.85	3.695	
17,500.0	11,625.0	17,595.7	11,725.0	107.6	106.8	-97.41	-5,976.2	-185.9	775.4	562.5	212.88	3.642	
17,600.0	11,625.0	17,695.7	11,725.0	109.1	108.4	-97.41	-6,076.2	-185.3	775.4	559.5	215.91	3.591	
17,700.0	11,625.0	17,795.7	11,725.0	110.6	109.9	-97.41	-6,176.2	-184.7	775.4	556.5	218.94	3.542	
17,800.0	11,625.0	17,895.7	11,725.0	112.1	111.4	-97.41	-6,276.2	-184.2	775.4	553.4	221.99	3.493	
17,900.0	11,625.0	17,995.7	11,725.0	113.6	112.9	-97.41	-6,376.2	-183.6	775.4	550.4	225.04	3.446	
18,000.0	11,625.0	18,095.7	11,725.0	115.2	114.5	-97.41	-6,476.2	-183.1	775.5	547.4	228.10	3.400	

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 MORAN 9 FED COM 601H
Project:	(SP) LEA	**TVD Reference:**	KB @ 3756.0usft
Reference Site:	MORAN PROJECT	**MD Reference:**	KB @ 3756.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	MORAN 9 FED COM 601H	**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: MORAN PROJECT - MORAN 9 FED COM 701H - owb - PWP0 — **Offset Site Error:** 0.0 usft

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

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Rule Assigned: Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
18,100.0	11,625.0	18,195.7	11,725.0	116.7	116.0	-97.41	-6,576.2	-182.5	775.5	544.3	231.16	3.355	
18,200.0	11,625.0	18,295.7	11,725.0	118.2	117.6	-97.41	-6,676.2	-181.9	775.5	541.3	234.23	3.311	
18,300.0	11,625.0	18,395.7	11,725.0	119.8	119.1	-97.41	-6,776.2	-181.4	775.5	538.2	237.30	3.268	
18,400.0	11,625.0	18,495.7	11,725.0	121.3	120.7	-97.41	-6,876.2	-180.8	775.5	535.2	240.38	3.226	
18,500.0	11,625.0	18,595.7	11,725.0	122.9	122.2	-97.41	-6,976.2	-180.3	775.6	532.1	243.47	3.185	
18,600.0	11,625.0	18,695.7	11,725.0	124.4	123.8	-97.41	-7,076.2	-179.7	775.6	529.0	246.56	3.146	
18,700.0	11,625.0	18,795.7	11,725.0	126.0	125.3	-97.41	-7,176.2	-179.1	775.6	525.9	249.66	3.107	
18,800.0	11,625.0	18,895.7	11,725.0	127.5	126.9	-97.41	-7,276.2	-178.6	775.6	522.9	252.76	3.069	
18,900.0	11,625.0	18,995.7	11,725.0	129.1	128.5	-97.41	-7,376.2	-178.0	775.6	519.8	255.86	3.031	
19,000.0	11,625.0	19,095.7	11,725.0	130.6	130.0	-97.41	-7,476.2	-177.4	775.7	516.7	258.97	2.995	
19,100.0	11,625.0	19,195.7	11,725.0	132.2	131.6	-97.41	-7,576.2	-176.9	775.7	513.6	262.09	2.960	
19,200.0	11,625.0	19,295.7	11,725.0	133.8	133.2	-97.41	-7,676.2	-176.3	775.7	510.5	265.21	2.925	
19,300.0	11,625.0	19,395.7	11,725.0	135.3	134.7	-97.41	-7,776.2	-175.8	775.7	507.4	268.33	2.891	
19,400.0	11,625.0	19,495.7	11,725.0	136.9	136.3	-97.41	-7,876.2	-175.2	775.7	504.3	271.45	2.858	
19,500.0	11,625.0	19,595.7	11,725.0	138.5	137.9	-97.41	-7,976.2	-174.6	775.8	501.2	274.58	2.825	
19,600.0	11,625.0	19,695.7	11,725.0	140.0	139.4	-97.41	-8,076.2	-174.1	775.8	498.1	277.72	2.793	
19,700.0	11,625.0	19,795.7	11,725.0	141.6	141.0	-97.41	-8,176.2	-173.5	775.8	494.9	280.85	2.762	
19,800.0	11,625.0	19,895.7	11,725.0	143.2	142.6	-97.41	-8,276.2	-173.0	775.8	491.8	284.00	2.732	
19,900.0	11,625.0	19,995.7	11,725.0	144.8	144.2	-97.41	-8,376.2	-172.4	775.8	488.7	287.14	2.702	
20,000.0	11,625.0	20,095.7	11,725.0	146.3	145.8	-97.41	-8,476.2	-171.8	775.9	485.6	290.28	2.673	
20,100.0	11,625.0	20,195.7	11,725.0	147.9	147.4	-97.41	-8,576.2	-171.3	775.9	482.5	293.43	2.644	
20,200.0	11,625.0	20,295.7	11,725.0	149.5	148.9	-97.41	-8,676.2	-170.7	775.9	479.3	296.59	2.616	
20,300.0	11,625.0	20,395.7	11,725.0	151.1	150.5	-97.41	-8,776.2	-170.2	775.9	476.2	299.74	2.589	
20,400.0	11,625.0	20,495.7	11,725.0	152.7	152.1	-97.41	-8,876.2	-169.6	775.9	473.0	302.90	2.562	
20,500.0	11,625.0	20,595.7	11,725.0	154.2	153.7	-97.40	-8,976.2	-169.0	776.0	469.9	306.06	2.535	
20,600.0	11,625.0	20,695.7	11,725.0	155.8	155.3	-97.40	-9,076.2	-168.5	776.0	466.8	309.22	2.509	
20,700.0	11,625.0	20,795.7	11,725.0	157.4	156.9	-97.40	-9,176.2	-167.9	776.0	463.6	312.39	2.484	
20,800.0	11,625.0	20,895.7	11,725.0	159.0	158.5	-97.40	-9,276.2	-167.4	776.0	460.5	315.56	2.459	
20,900.0	11,625.0	20,995.7	11,725.0	160.6	160.1	-97.40	-9,376.2	-166.8	776.0	457.3	318.73	2.435	
21,000.0	11,625.0	21,095.7	11,725.0	162.2	161.7	-97.40	-9,476.2	-166.2	776.1	454.2	321.90	2.411	
21,100.0	11,625.0	21,195.7	11,725.0	163.8	163.3	-97.40	-9,576.2	-165.7	776.1	451.0	325.08	2.387	
21,200.0	11,625.0	21,295.7	11,725.0	165.4	164.9	-97.40	-9,676.2	-165.1	776.1	447.9	328.25	2.364	
21,300.0	11,625.0	21,395.7	11,725.0	167.0	166.5	-97.40	-9,776.2	-164.6	776.1	444.7	331.43	2.342	
21,400.0	11,625.0	21,495.7	11,725.0	168.6	168.1	-97.40	-9,876.2	-164.0	776.1	441.5	334.61	2.320	
21,500.0	11,625.0	21,595.7	11,725.0	170.2	169.7	-97.40	-9,976.2	-163.4	776.2	438.4	337.80	2.298	
21,600.0	11,625.0	21,695.7	11,725.0	171.8	171.3	-97.40	-10,076.2	-162.9	776.2	435.2	340.98	2.276	
21,700.0	11,625.0	21,795.7	11,725.0	173.4	172.9	-97.40	-10,176.2	-162.3	776.2	432.0	344.17	2.255	
21,800.0	11,625.0	21,895.7	11,725.0	175.0	174.5	-97.40	-10,276.2	-161.8	776.2	428.9	347.36	2.235	
21,900.0	11,625.0	21,995.7	11,725.0	176.6	176.1	-97.40	-10,376.2	-161.2	776.2	425.7	350.55	2.214	
22,000.0	11,625.0	22,095.7	11,725.0	178.2	177.7	-97.40	-10,476.2	-160.6	776.3	422.5	353.74	2.194	
22,100.0	11,625.0	22,195.7	11,725.0	179.8	179.3	-97.40	-10,576.2	-160.1	776.3	419.4	356.94	2.175	
22,200.0	11,625.0	22,295.7	11,725.0	181.4	180.9	-97.40	-10,676.2	-159.5	776.3	416.2	360.13	2.156	
22,206.1	11,625.0	22,301.8	11,725.0	181.5	181.0	-97.40	-10,682.2	-159.5	776.3	416.0	360.33	2.154	
22,282.9	11,625.0	22,374.2	11,725.0	182.7	182.2	-97.40	-10,754.6	-159.1	776.3	413.7	362.61	2.141	SF

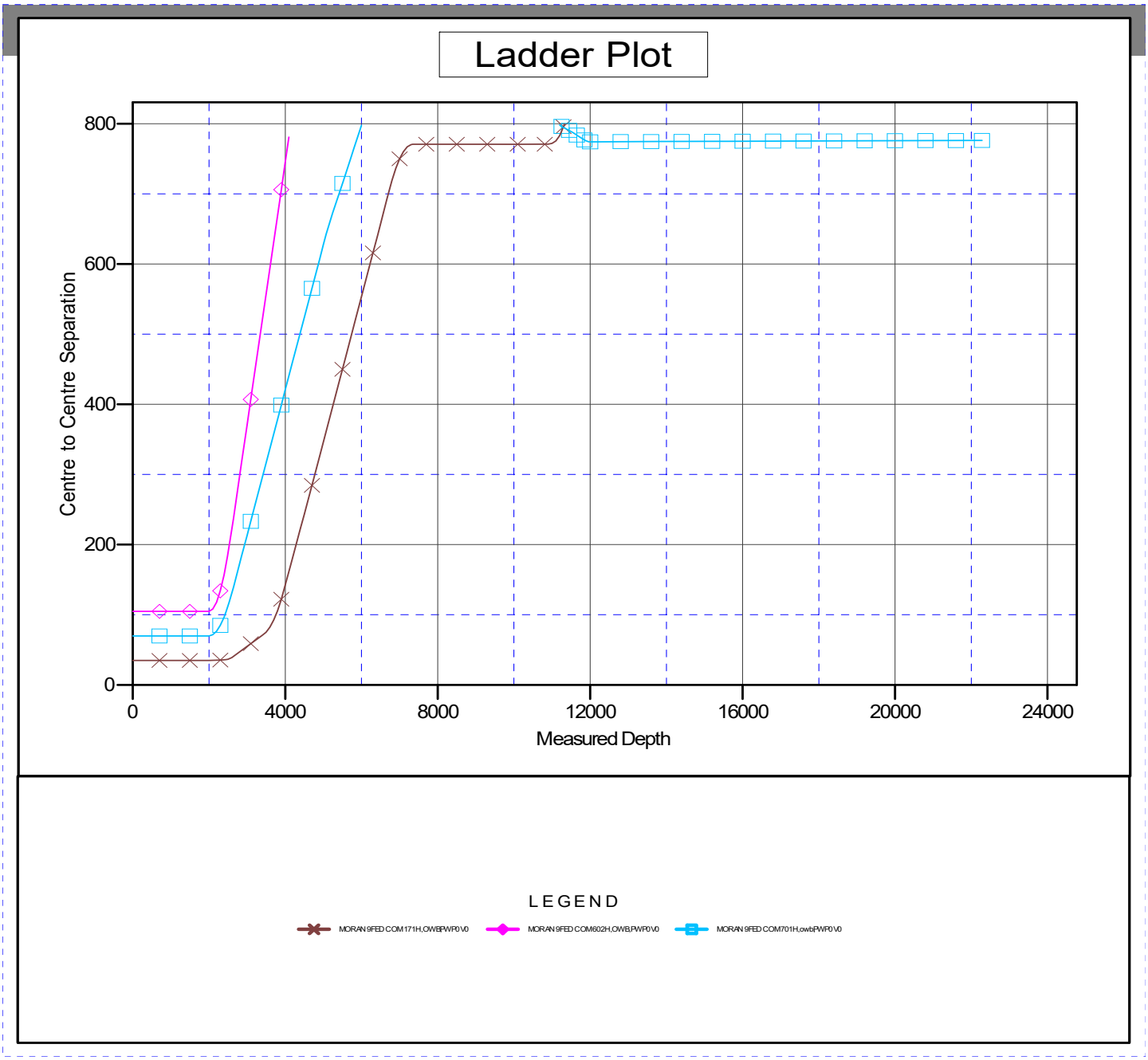
Permian Resources

Anticollision Report

Company:	NEW MEXICO	**Local Co-ordinate Reference:**	Well MORAN 9 FED COM 601H
Project:	(SP) LEA	**TVD Reference:**	KB @ 3756.0usft
Reference Site:	MORAN PROJECT	**MD Reference:**	KB @ 3756.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	MORAN 9 FED COM 601H	**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 @ 3756.0usft
Offset Depths are relative to Offset Datum
Central Meridian is 104° 20' 0.000 W

Coordinates are relative to: MORAN 9 FED COM 601H
Coordinate System is US State Plane 1983, New Mexico Eastern Zone
Grid Convergence at Surface is: 0.35°



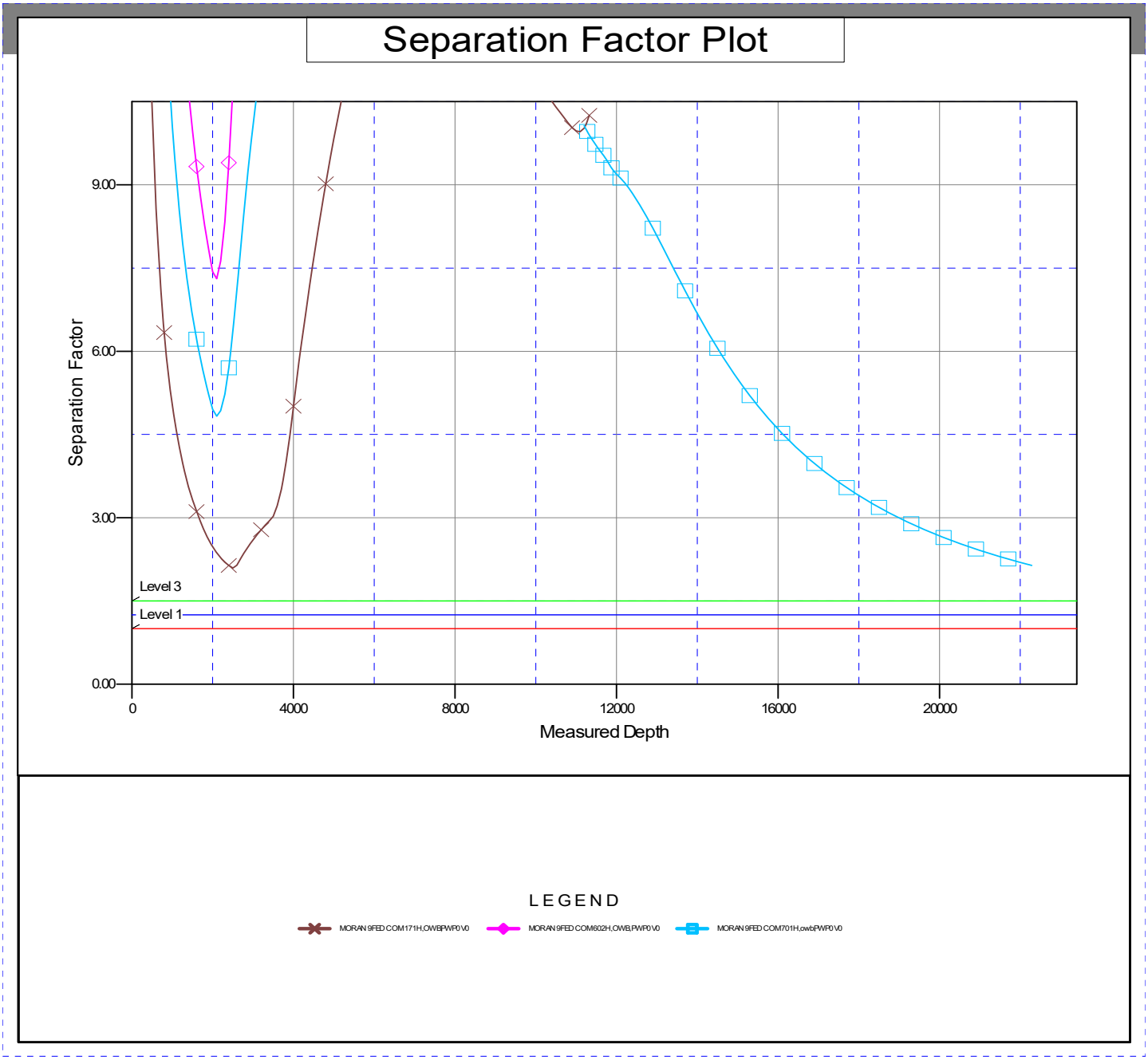
Permian Resources

Anticollision Report

Company:	NEW MEXICO	**Local Co-ordinate Reference:**	Well MORAN 9 FED COM 601H
Project:	(SP) LEA	**TVD Reference:**	KB @ 3756.0usft
Reference Site:	MORAN PROJECT	**MD Reference:**	KB @ 3756.0usft
Site Error:	0.0 usft	**North Reference:**	Grid
Reference Well:	MORAN 9 FED COM 601H	**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 @ 3756.0usft
Offset Depths are relative to Offset Datum
Central Meridian is 104° 20' 0.000 W

Coordinates are relative to: MORAN 9 FED COM 601H
Coordinate System is US State Plane 1983, New Mexico Eastern Zone
Grid Convergence at Surface is: 0.35°



NEW MEXICO

(SP) LEA
MORAN PROJECT
MORAN 9 FED COM 601H

OWB

Plan: PWP0

Standard Planning Report - Geographic

18 April, 2024

Permian Resources

Planning Report - Geographic

Database:	Compass	**Local Co-ordinate Reference:**	Well MORAN 9 FED COM 601H
Company:	NEW MEXICO	**TVD Reference:**	KB @ 3756.0usft
Project:	(SP) LEA	**MD Reference:**	KB @ 3756.0usft
Site:	MORAN PROJECT	**North Reference:**	Grid
Well:	MORAN 9 FED COM 601H	**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 MORAN PROJECT

Site Position:		**Northing:**	541,421.20 usft	**Latitude:**	32° 29' 12.311 N
From:	Map	**Easting:**	741,590.81 usft	**Longitude:**	103° 41' 1.973 W
Position Uncertainty:	0.0 usft	**Slot Radius:**	13-3/16 "		

Well MORAN 9 FED COM 601H

Well Position	**+N/-S**	0.0 usft	**Northing:**	541,433.55 usft	**Latitude:**	32° 29' 12.435 N
	+E/-W	0.0 usft	**Easting:**	741,558.07 usft	**Longitude:**	103° 41' 2.355 W
Position Uncertainty		0.0 usft	**Wellhead Elevation:**	usft	**Ground Level:**	3,726.0 usft
Grid Convergence:		0.35 °				

Wellbore OWB

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	12/31/2009	7.82	60.47	48,937.26743499

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	184.93

Plan Survey Tool Program **Date** 4/18/2024

	Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.0	22,282.9	PWP0 (OWB)	MWD OWSG_Rev2_ MWD - Star	

Plan Sections

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,600.0	12.00	270.00	2,595.6	0.0	-62.6	2.00	2.00	0.00	270.00	
6,745.1	12.00	270.00	6,650.1	0.0	-924.4	0.00	0.00	0.00	0.00	
7,345.1	0.00	0.00	7,245.8	0.0	-987.0	2.00	-2.00	0.00	180.00	
11,246.8	0.00	0.00	11,147.5	0.0	-987.0	0.00	0.00	0.00	0.00	
11,996.8	90.00	179.69	11,625.0	-477.5	-984.4	12.00	12.00	23.96	179.69	
22,282.9	90.00	179.69	11,625.0	-10,763.3	-928.9	0.00	0.00	0.00	0.00	LTP/BHL-MORAN (

Permian Resources

Planning Report - Geographic

Database:	Compass	**Local Co-ordinate Reference:**	Well MORAN 9 FED COM 601H
Company:	NEW MEXICO	**TVD Reference:**	KB @ 3756.0usft
Project:	(SP) LEA	**MD Reference:**	KB @ 3756.0usft
Site:	MORAN PROJECT	**North Reference:**	Grid
Well:	MORAN 9 FED COM 601H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OWB		
Design:	PWP0		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
0.0	0.00	0.00	0.0	0.0	0.0	541,433.55	741,558.07	32° 29' 12.435 N	103° 41' 2.355 W
100.0	0.00	0.00	100.0	0.0	0.0	541,433.55	741,558.07	32° 29' 12.435 N	103° 41' 2.355 W
200.0	0.00	0.00	200.0	0.0	0.0	541,433.55	741,558.07	32° 29' 12.435 N	103° 41' 2.355 W
300.0	0.00	0.00	300.0	0.0	0.0	541,433.55	741,558.07	32° 29' 12.435 N	103° 41' 2.355 W
400.0	0.00	0.00	400.0	0.0	0.0	541,433.55	741,558.07	32° 29' 12.435 N	103° 41' 2.355 W
500.0	0.00	0.00	500.0	0.0	0.0	541,433.55	741,558.07	32° 29' 12.435 N	103° 41' 2.355 W
600.0	0.00	0.00	600.0	0.0	0.0	541,433.55	741,558.07	32° 29' 12.435 N	103° 41' 2.355 W
700.0	0.00	0.00	700.0	0.0	0.0	541,433.55	741,558.07	32° 29' 12.435 N	103° 41' 2.355 W
800.0	0.00	0.00	800.0	0.0	0.0	541,433.55	741,558.07	32° 29' 12.435 N	103° 41' 2.355 W
900.0	0.00	0.00	900.0	0.0	0.0	541,433.55	741,558.07	32° 29' 12.435 N	103° 41' 2.355 W
1,000.0	0.00	0.00	1,000.0	0.0	0.0	541,433.55	741,558.07	32° 29' 12.435 N	103° 41' 2.355 W
1,100.0	0.00	0.00	1,100.0	0.0	0.0	541,433.55	741,558.07	32° 29' 12.435 N	103° 41' 2.355 W
1,200.0	0.00	0.00	1,200.0	0.0	0.0	541,433.55	741,558.07	32° 29' 12.435 N	103° 41' 2.355 W
1,300.0	0.00	0.00	1,300.0	0.0	0.0	541,433.55	741,558.07	32° 29' 12.435 N	103° 41' 2.355 W
1,400.0	0.00	0.00	1,400.0	0.0	0.0	541,433.55	741,558.07	32° 29' 12.435 N	103° 41' 2.355 W
1,500.0	0.00	0.00	1,500.0	0.0	0.0	541,433.55	741,558.07	32° 29' 12.435 N	103° 41' 2.355 W
1,600.0	0.00	0.00	1,600.0	0.0	0.0	541,433.55	741,558.07	32° 29' 12.435 N	103° 41' 2.355 W
1,700.0	0.00	0.00	1,700.0	0.0	0.0	541,433.55	741,558.07	32° 29' 12.435 N	103° 41' 2.355 W
1,800.0	0.00	0.00	1,800.0	0.0	0.0	541,433.55	741,558.07	32° 29' 12.435 N	103° 41' 2.355 W
1,900.0	0.00	0.00	1,900.0	0.0	0.0	541,433.55	741,558.07	32° 29' 12.435 N	103° 41' 2.355 W
2,000.0	0.00	0.00	2,000.0	0.0	0.0	541,433.55	741,558.07	32° 29' 12.435 N	103° 41' 2.355 W
Start Build 2.00									
2,100.0	2.00	270.00	2,100.0	0.0	-1.7	541,433.55	741,556.32	32° 29' 12.436 N	103° 41' 2.375 W
2,200.0	4.00	270.00	2,199.8	0.0	-7.0	541,433.55	741,551.09	32° 29' 12.436 N	103° 41' 2.436 W
2,300.0	6.00	270.00	2,299.5	0.0	-15.7	541,433.55	741,542.37	32° 29' 12.436 N	103° 41' 2.538 W
2,400.0	8.00	270.00	2,398.7	0.0	-27.9	541,433.55	741,530.19	32° 29' 12.437 N	103° 41' 2.680 W
2,500.0	10.00	270.00	2,497.5	0.0	-43.5	541,433.55	741,514.54	32° 29' 12.438 N	103° 41' 2.863 W
2,600.0	12.00	270.00	2,595.6	0.0	-62.6	541,433.55	741,495.46	32° 29' 12.439 N	103° 41' 3.086 W
Start 4145.1 hold at 2600.0 MD									
2,700.0	12.00	270.00	2,693.4	0.0	-83.4	541,433.55	741,474.67	32° 29' 12.441 N	103° 41' 3.328 W
2,800.0	12.00	270.00	2,791.3	0.0	-104.2	541,433.55	741,453.88	32° 29' 12.442 N	103° 41' 3.571 W
2,900.0	12.00	270.00	2,889.1	0.0	-125.0	541,433.55	741,433.09	32° 29' 12.443 N	103° 41' 3.814 W
3,000.0	12.00	270.00	2,986.9	0.0	-145.8	541,433.55	741,412.30	32° 29' 12.444 N	103° 41' 4.057 W
3,100.0	12.00	270.00	3,084.7	0.0	-166.6	541,433.55	741,391.51	32° 29' 12.446 N	103° 41' 4.299 W
3,200.0	12.00	270.00	3,182.5	0.0	-187.3	541,433.55	741,370.72	32° 29' 12.447 N	103° 41' 4.542 W
3,300.0	12.00	270.00	3,280.3	0.0	-208.1	541,433.55	741,349.93	32° 29' 12.448 N	103° 41' 4.785 W
3,400.0	12.00	270.00	3,378.1	0.0	-228.9	541,433.55	741,329.13	32° 29' 12.449 N	103° 41' 5.028 W
3,500.0	12.00	270.00	3,476.0	0.0	-249.7	541,433.55	741,308.34	32° 29' 12.451 N	103° 41' 5.270 W
3,600.0	12.00	270.00	3,573.8	0.0	-270.5	541,433.55	741,287.55	32° 29' 12.452 N	103° 41' 5.513 W
3,700.0	12.00	270.00	3,671.6	0.0	-291.3	541,433.55	741,266.76	32° 29' 12.453 N	103° 41' 5.756 W
3,800.0	12.00	270.00	3,769.4	0.0	-312.1	541,433.55	741,245.97	32° 29' 12.454 N	103° 41' 5.998 W
3,900.0	12.00	270.00	3,867.2	0.0	-332.9	541,433.55	741,225.18	32° 29' 12.456 N	103° 41' 6.241 W
4,000.0	12.00	270.00	3,965.0	0.0	-353.7	541,433.55	741,204.39	32° 29' 12.457 N	103° 41' 6.484 W
4,100.0	12.00	270.00	4,062.8	0.0	-374.5	541,433.55	741,183.60	32° 29' 12.458 N	103° 41' 6.727 W
4,200.0	12.00	270.00	4,160.7	0.0	-395.3	541,433.55	741,162.81	32° 29' 12.459 N	103° 41' 6.969 W
4,300.0	12.00	270.00	4,258.5	0.0	-416.1	541,433.55	741,142.01	32° 29' 12.461 N	103° 41' 7.212 W
4,400.0	12.00	270.00	4,356.3	0.0	-436.8	541,433.55	741,121.22	32° 29' 12.462 N	103° 41' 7.455 W
4,500.0	12.00	270.00	4,454.1	0.0	-457.6	541,433.55	741,100.43	32° 29' 12.463 N	103° 41' 7.698 W
4,600.0	12.00	270.00	4,551.9	0.0	-478.4	541,433.55	741,079.64	32° 29' 12.464 N	103° 41' 7.940 W
4,700.0	12.00	270.00	4,649.7	0.0	-499.2	541,433.55	741,058.85	32° 29' 12.466 N	103° 41' 8.183 W
4,800.0	12.00	270.00	4,747.5	0.0	-520.0	541,433.55	741,038.06	32° 29' 12.467 N	103° 41' 8.426 W
4,900.0	12.00	270.00	4,845.4	0.0	-540.8	541,433.55	741,017.27	32° 29' 12.468 N	103° 41' 8.668 W
5,000.0	12.00	270.00	4,943.2	0.0	-561.6	541,433.55	740,996.48	32° 29' 12.469 N	103° 41' 8.911 W
5,100.0	12.00	270.00	5,041.0	0.0	-582.4	541,433.55	740,975.68	32° 29' 12.471 N	103° 41' 9.154 W

Permian Resources

Planning Report - Geographic

Database:	Compass	**Local Co-ordinate Reference:**	Well MORAN 9 FED COM 601H
Company:	NEW MEXICO	**TVD Reference:**	KB @ 3756.0usft
Project:	(SP) LEA	**MD Reference:**	KB @ 3756.0usft
Site:	MORAN PROJECT	**North Reference:**	Grid
Well:	MORAN 9 FED COM 601H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OWB		
Design:	PWP0		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
5,200.0	12.00	270.00	5,138.8	0.0	-603.2	541,433.55	740,954.89	32° 29' 12.472 N	103° 41' 9.397 W
5,300.0	12.00	270.00	5,236.6	0.0	-624.0	541,433.55	740,934.10	32° 29' 12.473 N	103° 41' 9.639 W
5,400.0	12.00	270.00	5,334.4	0.0	-644.8	541,433.55	740,913.31	32° 29' 12.474 N	103° 41' 9.882 W
5,500.0	12.00	270.00	5,432.3	0.0	-665.5	541,433.55	740,892.52	32° 29' 12.476 N	103° 41' 10.125 W
5,600.0	12.00	270.00	5,530.1	0.0	-686.3	541,433.55	740,871.73	32° 29' 12.477 N	103° 41' 10.368 W
5,700.0	12.00	270.00	5,627.9	0.0	-707.1	541,433.55	740,850.94	32° 29' 12.478 N	103° 41' 10.610 W
5,800.0	12.00	270.00	5,725.7	0.0	-727.9	541,433.55	740,830.15	32° 29' 12.479 N	103° 41' 10.853 W
5,900.0	12.00	270.00	5,823.5	0.0	-748.7	541,433.55	740,809.36	32° 29' 12.480 N	103° 41' 11.096 W
6,000.0	12.00	270.00	5,921.3	0.0	-769.5	541,433.55	740,788.56	32° 29' 12.482 N	103° 41' 11.339 W
6,100.0	12.00	270.00	6,019.1	0.0	-790.3	541,433.55	740,767.77	32° 29' 12.483 N	103° 41' 11.581 W
6,200.0	12.00	270.00	6,117.0	0.0	-811.1	541,433.55	740,746.98	32° 29' 12.484 N	103° 41' 11.824 W
6,300.0	12.00	270.00	6,214.8	0.0	-831.9	541,433.55	740,726.19	32° 29' 12.485 N	103° 41' 12.067 W
6,400.0	12.00	270.00	6,312.6	0.0	-852.7	541,433.55	740,705.40	32° 29' 12.487 N	103° 41' 12.309 W
6,500.0	12.00	270.00	6,410.4	0.0	-873.5	541,433.55	740,684.61	32° 29' 12.488 N	103° 41' 12.552 W
6,600.0	12.00	270.00	6,508.2	0.0	-894.2	541,433.55	740,663.82	32° 29' 12.489 N	103° 41' 12.795 W
6,700.0	12.00	270.00	6,606.0	0.0	-915.0	541,433.55	740,643.03	32° 29' 12.490 N	103° 41' 13.038 W
6,745.1	12.00	270.00	6,650.1	0.0	-924.4	541,433.55	740,633.65	32° 29' 12.491 N	103° 41' 13.147 W
Start Drop -2.00									
6,800.0	10.90	270.00	6,703.9	0.0	-935.3	541,433.55	740,622.75	32° 29' 12.492 N	103° 41' 13.274 W
6,900.0	8.90	270.00	6,802.5	0.0	-952.5	541,433.55	740,605.55	32° 29' 12.493 N	103° 41' 13.475 W
7,000.0	6.90	270.00	6,901.5	0.0	-966.3	541,433.55	740,591.81	32° 29' 12.494 N	103° 41' 13.636 W
7,100.0	4.90	270.00	7,001.0	0.0	-976.5	541,433.55	740,581.53	32° 29' 12.494 N	103° 41' 13.756 W
7,200.0	2.90	270.00	7,100.7	0.0	-983.3	541,433.55	740,574.72	32° 29' 12.495 N	103° 41' 13.835 W
7,300.0	0.90	270.00	7,200.7	0.0	-986.7	541,433.55	740,571.40	32° 29' 12.495 N	103° 41' 13.874 W
7,345.1	0.00	0.00	7,245.8	0.0	-987.0	541,433.55	740,571.05	32° 29' 12.495 N	103° 41' 13.878 W
Start 3901.7 hold at 7345.1 MD									
7,400.0	0.00	0.00	7,300.7	0.0	-987.0	541,433.55	740,571.05	32° 29' 12.495 N	103° 41' 13.878 W
7,500.0	0.00	0.00	7,400.7	0.0	-987.0	541,433.55	740,571.05	32° 29' 12.495 N	103° 41' 13.878 W
7,600.0	0.00	0.00	7,500.7	0.0	-987.0	541,433.55	740,571.05	32° 29' 12.495 N	103° 41' 13.878 W
7,700.0	0.00	0.00	7,600.7	0.0	-987.0	541,433.55	740,571.05	32° 29' 12.495 N	103° 41' 13.878 W
7,800.0	0.00	0.00	7,700.7	0.0	-987.0	541,433.55	740,571.05	32° 29' 12.495 N	103° 41' 13.878 W
7,900.0	0.00	0.00	7,800.7	0.0	-987.0	541,433.55	740,571.05	32° 29' 12.495 N	103° 41' 13.878 W
8,000.0	0.00	0.00	7,900.7	0.0	-987.0	541,433.55	740,571.05	32° 29' 12.495 N	103° 41' 13.878 W
8,100.0	0.00	0.00	8,000.7	0.0	-987.0	541,433.55	740,571.05	32° 29' 12.495 N	103° 41' 13.878 W
8,200.0	0.00	0.00	8,100.7	0.0	-987.0	541,433.55	740,571.05	32° 29' 12.495 N	103° 41' 13.878 W
8,300.0	0.00	0.00	8,200.7	0.0	-987.0	541,433.55	740,571.05	32° 29' 12.495 N	103° 41' 13.878 W
8,400.0	0.00	0.00	8,300.7	0.0	-987.0	541,433.55	740,571.05	32° 29' 12.495 N	103° 41' 13.878 W
8,500.0	0.00	0.00	8,400.7	0.0	-987.0	541,433.55	740,571.05	32° 29' 12.495 N	103° 41' 13.878 W
8,600.0	0.00	0.00	8,500.7	0.0	-987.0	541,433.55	740,571.05	32° 29' 12.495 N	103° 41' 13.878 W
8,700.0	0.00	0.00	8,600.7	0.0	-987.0	541,433.55	740,571.05	32° 29' 12.495 N	103° 41' 13.878 W
8,800.0	0.00	0.00	8,700.7	0.0	-987.0	541,433.55	740,571.05	32° 29' 12.495 N	103° 41' 13.878 W
8,900.0	0.00	0.00	8,800.7	0.0	-987.0	541,433.55	740,571.05	32° 29' 12.495 N	103° 41' 13.878 W
9,000.0	0.00	0.00	8,900.7	0.0	-987.0	541,433.55	740,571.05	32° 29' 12.495 N	103° 41' 13.878 W
9,100.0	0.00	0.00	9,000.7	0.0	-987.0	541,433.55	740,571.05	32° 29' 12.495 N	103° 41' 13.878 W
9,200.0	0.00	0.00	9,100.7	0.0	-987.0	541,433.55	740,571.05	32° 29' 12.495 N	103° 41' 13.878 W
9,300.0	0.00	0.00	9,200.7	0.0	-987.0	541,433.55	740,571.05	32° 29' 12.495 N	103° 41' 13.878 W
9,400.0	0.00	0.00	9,300.7	0.0	-987.0	541,433.55	740,571.05	32° 29' 12.495 N	103° 41' 13.878 W
9,500.0	0.00	0.00	9,400.7	0.0	-987.0	541,433.55	740,571.05	32° 29' 12.495 N	103° 41' 13.878 W
9,600.0	0.00	0.00	9,500.7	0.0	-987.0	541,433.55	740,571.05	32° 29' 12.495 N	103° 41' 13.878 W
9,700.0	0.00	0.00	9,600.7	0.0	-987.0	541,433.55	740,571.05	32° 29' 12.495 N	103° 41' 13.878 W
9,800.0	0.00	0.00	9,700.7	0.0	-987.0	541,433.55	740,571.05	32° 29' 12.495 N	103° 41' 13.878 W
9,900.0	0.00	0.00	9,800.7	0.0	-987.0	541,433.55	740,571.05	32° 29' 12.495 N	103° 41' 13.878 W
10,000.0	0.00	0.00	9,900.7	0.0	-987.0	541,433.55	740,571.05	32° 29' 12.495 N	103° 41' 13.878 W
10,100.0	0.00	0.00	10,000.7	0.0	-987.0	541,433.55	740,571.05	32° 29' 12.495 N	103° 41' 13.878 W

Permian Resources

Planning Report - Geographic

Database:	Compass	**Local Co-ordinate Reference:**	Well MORAN 9 FED COM 601H
Company:	NEW MEXICO	**TVD Reference:**	KB @ 3756.0usft
Project:	(SP) LEA	**MD Reference:**	KB @ 3756.0usft
Site:	MORAN PROJECT	**North Reference:**	Grid
Well:	MORAN 9 FED COM 601H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OWB		
Design:	PWP0		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
10,200.0	0.00	0.00	10,100.7	0.0	-987.0	541,433.55	740,571.05	32° 29' 12.495 N	103° 41' 13.878 W
10,300.0	0.00	0.00	10,200.7	0.0	-987.0	541,433.55	740,571.05	32° 29' 12.495 N	103° 41' 13.878 W
10,400.0	0.00	0.00	10,300.7	0.0	-987.0	541,433.55	740,571.05	32° 29' 12.495 N	103° 41' 13.878 W
10,500.0	0.00	0.00	10,400.7	0.0	-987.0	541,433.55	740,571.05	32° 29' 12.495 N	103° 41' 13.878 W
10,600.0	0.00	0.00	10,500.7	0.0	-987.0	541,433.55	740,571.05	32° 29' 12.495 N	103° 41' 13.878 W
10,700.0	0.00	0.00	10,600.7	0.0	-987.0	541,433.55	740,571.05	32° 29' 12.495 N	103° 41' 13.878 W
10,800.0	0.00	0.00	10,700.7	0.0	-987.0	541,433.55	740,571.05	32° 29' 12.495 N	103° 41' 13.878 W
10,900.0	0.00	0.00	10,800.7	0.0	-987.0	541,433.55	740,571.05	32° 29' 12.495 N	103° 41' 13.878 W
11,000.0	0.00	0.00	10,900.7	0.0	-987.0	541,433.55	740,571.05	32° 29' 12.495 N	103° 41' 13.878 W
11,100.0	0.00	0.00	11,000.7	0.0	-987.0	541,433.55	740,571.05	32° 29' 12.495 N	103° 41' 13.878 W
11,200.0	0.00	0.00	11,100.7	0.0	-987.0	541,433.55	740,571.05	32° 29' 12.495 N	103° 41' 13.878 W
11,246.8	0.00	0.00	11,147.5	0.0	-987.0	541,433.55	740,571.05	32° 29' 12.495 N	103° 41' 13.878 W
Start DLS 12.00 TFO 179.69									
11,250.0	0.38	179.69	11,150.7	0.0	-987.0	541,433.54	740,571.05	32° 29' 12.495 N	103° 41' 13.878 W
11,275.0	3.38	179.69	11,175.6	-0.8	-987.0	541,432.72	740,571.05	32° 29' 12.487 N	103° 41' 13.878 W
11,300.0	6.38	179.69	11,200.6	-3.0	-987.0	541,430.60	740,571.06	32° 29' 12.466 N	103° 41' 13.878 W
11,325.0	9.38	179.69	11,225.3	-6.4	-987.0	541,427.17	740,571.08	32° 29' 12.432 N	103° 41' 13.878 W
11,350.0	12.38	179.69	11,249.9	-11.1	-987.0	541,422.45	740,571.11	32° 29' 12.385 N	103° 41' 13.878 W
11,375.0	15.38	179.69	11,274.1	-17.1	-986.9	541,416.45	740,571.14	32° 29' 12.326 N	103° 41' 13.878 W
11,400.0	18.38	179.69	11,298.1	-24.4	-986.9	541,409.20	740,571.18	32° 29' 12.254 N	103° 41' 13.878 W
11,425.0	21.38	179.69	11,321.6	-32.9	-986.8	541,400.70	740,571.22	32° 29' 12.170 N	103° 41' 13.878 W
11,450.0	24.38	179.69	11,344.6	-42.6	-986.8	541,390.98	740,571.28	32° 29' 12.073 N	103° 41' 13.878 W
11,475.0	27.38	179.69	11,367.1	-53.5	-986.7	541,380.07	740,571.34	32° 29' 11.966 N	103° 41' 13.878 W
11,500.0	30.38	179.69	11,389.0	-65.6	-986.7	541,367.99	740,571.40	32° 29' 11.846 N	103° 41' 13.878 W
11,525.0	33.38	179.69	11,410.2	-78.8	-986.6	541,354.79	740,571.47	32° 29' 11.715 N	103° 41' 13.879 W
11,550.0	36.38	179.69	11,430.7	-93.1	-986.5	541,340.50	740,571.55	32° 29' 11.574 N	103° 41' 13.879 W
11,575.0	39.38	179.69	11,450.4	-108.4	-986.4	541,325.15	740,571.63	32° 29' 11.422 N	103° 41' 13.879 W
11,600.0	42.38	179.69	11,469.3	-124.8	-986.3	541,308.79	740,571.72	32° 29' 11.260 N	103° 41' 13.879 W
11,625.0	45.38	179.69	11,487.3	-142.1	-986.3	541,291.46	740,571.81	32° 29' 11.089 N	103° 41' 13.879 W
11,650.0	48.38	179.69	11,504.4	-160.3	-986.2	541,273.22	740,571.91	32° 29' 10.908 N	103° 41' 13.879 W
11,675.0	51.38	179.69	11,520.5	-179.5	-986.1	541,254.10	740,572.02	32° 29' 10.719 N	103° 41' 13.879 W
11,700.0	54.38	179.69	11,535.6	-199.4	-985.9	541,234.17	740,572.12	32° 29' 10.522 N	103° 41' 13.880 W
11,725.0	57.38	179.69	11,549.7	-220.1	-985.8	541,213.48	740,572.23	32° 29' 10.317 N	103° 41' 13.880 W
11,750.0	60.38	179.69	11,562.6	-241.5	-985.7	541,192.08	740,572.35	32° 29' 10.105 N	103° 41' 13.880 W
11,775.0	63.38	179.69	11,574.4	-263.5	-985.6	541,170.03	740,572.47	32° 29' 9.887 N	103° 41' 13.880 W
11,800.0	66.38	179.69	11,585.0	-286.2	-985.5	541,147.40	740,572.59	32° 29' 9.663 N	103° 41' 13.880 W
11,806.0	67.10	179.69	11,587.3	-291.6	-985.4	541,141.91	740,572.62	32° 29' 9.609 N	103° 41' 13.880 W
NMNM 121957 Exit at 11806.0 MD									
11,825.0	69.38	179.69	11,594.4	-309.3	-985.3	541,124.24	740,572.72	32° 29' 9.434 N	103° 41' 13.880 W
11,850.0	72.38	179.69	11,602.6	-332.9	-985.2	541,100.62	740,572.84	32° 29' 9.200 N	103° 41' 13.881 W
11,875.0	75.38	179.69	11,609.5	-356.9	-985.1	541,076.61	740,572.97	32° 29' 8.963 N	103° 41' 13.881 W
11,900.0	78.38	179.69	11,615.2	-381.3	-985.0	541,052.26	740,573.11	32° 29' 8.722 N	103° 41' 13.881 W
11,925.0	81.38	179.69	11,619.6	-405.9	-984.8	541,027.66	740,573.24	32° 29' 8.478 N	103° 41' 13.881 W
11,950.0	84.38	179.69	11,622.7	-430.7	-984.7	541,002.85	740,573.37	32° 29' 8.233 N	103° 41' 13.881 W
11,975.0	87.38	179.69	11,624.5	-455.6	-984.6	540,977.92	740,573.51	32° 29' 7.986 N	103° 41' 13.881 W
11,996.8	90.00	179.69	11,625.0	-477.5	-984.4	540,956.10	740,573.62	32° 29' 7.770 N	103° 41' 13.882 W
Start 10286.0 hold at 11996.8 MD									
12,000.0	90.00	179.69	11,625.0	-480.6	-984.4	540,952.93	740,573.64	32° 29' 7.739 N	103° 41' 13.882 W
12,100.0	90.00	179.69	11,625.0	-580.6	-983.9	540,852.93	740,574.18	32° 29' 6.749 N	103° 41' 13.882 W
12,200.0	90.00	179.69	11,625.0	-680.6	-983.3	540,752.93	740,574.72	32° 29' 5.760 N	103° 41' 13.883 W
12,300.0	90.00	179.69	11,625.0	-780.6	-982.8	540,652.93	740,575.26	32° 29' 4.770 N	103° 41' 13.884 W
12,400.0	90.00	179.69	11,625.0	-880.6	-982.3	540,552.93	740,575.80	32° 29' 3.781 N	103° 41' 13.885 W
12,500.0	90.00	179.69	11,625.0	-980.6	-981.7	540,452.94	740,576.34	32° 29' 2.791 N	103° 41' 13.886 W
12,600.0	90.00	179.69	11,625.0	-1,080.6	-981.2	540,352.94	740,576.88	32° 29' 1.802 N	103° 41' 13.886 W

Permian Resources

Planning Report - Geographic

Database:	Compass	**Local Co-ordinate Reference:**	Well MORAN 9 FED COM 601H
Company:	NEW MEXICO	**TVD Reference:**	KB @ 3756.0usft
Project:	(SP) LEA	**MD Reference:**	KB @ 3756.0usft
Site:	MORAN PROJECT	**North Reference:**	Grid
Well:	MORAN 9 FED COM 601H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OWB		
Design:	PWP0		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
12,700.0	90.00	179.69	11,625.0	-1,180.6	-980.6	540,252.94	740,577.42	32° 29' 0.812 N	103° 41' 13.887 W
12,800.0	90.00	179.69	11,625.0	-1,280.6	-980.1	540,152.94	740,577.96	32° 28' 59.823 N	103° 41' 13.888 W
12,900.0	90.00	179.69	11,625.0	-1,380.6	-979.6	540,052.94	740,578.50	32° 28' 58.833 N	103° 41' 13.889 W
13,000.0	90.00	179.69	11,625.0	-1,480.6	-979.0	539,952.94	740,579.04	32° 28' 57.844 N	103° 41' 13.889 W
13,100.0	90.00	179.69	11,625.0	-1,580.6	-978.5	539,852.94	740,579.58	32° 28' 56.854 N	103° 41' 13.890 W
13,200.0	90.00	179.69	11,625.0	-1,680.6	-977.9	539,752.95	740,580.12	32° 28' 55.865 N	103° 41' 13.891 W
13,300.0	90.00	179.69	11,625.0	-1,780.6	-977.4	539,652.95	740,580.66	32° 28' 54.875 N	103° 41' 13.892 W
13,400.0	90.00	179.69	11,625.0	-1,880.6	-976.9	539,552.95	740,581.20	32° 28' 53.886 N	103° 41' 13.892 W
13,500.0	90.00	179.69	11,625.0	-1,980.6	-976.3	539,452.95	740,581.74	32° 28' 52.896 N	103° 41' 13.893 W
13,600.0	90.00	179.69	11,625.0	-2,080.6	-975.8	539,352.95	740,582.28	32° 28' 51.907 N	103° 41' 13.894 W
13,700.0	90.00	179.69	11,625.0	-2,180.6	-975.2	539,252.95	740,582.82	32° 28' 50.917 N	103° 41' 13.895 W
13,800.0	90.00	179.69	11,625.0	-2,280.6	-974.7	539,152.95	740,583.36	32° 28' 49.927 N	103° 41' 13.895 W
13,900.0	90.00	179.69	11,625.0	-2,380.6	-974.2	539,052.96	740,583.90	32° 28' 48.938 N	103° 41' 13.896 W
14,000.0	90.00	179.69	11,625.0	-2,480.6	-973.6	538,952.96	740,584.44	32° 28' 47.948 N	103° 41' 13.897 W
14,100.0	90.00	179.69	11,625.0	-2,580.6	-973.1	538,852.96	740,584.98	32° 28' 46.959 N	103° 41' 13.898 W
14,200.0	90.00	179.69	11,625.0	-2,680.6	-972.5	538,752.96	740,585.52	32° 28' 45.969 N	103° 41' 13.899 W
14,300.0	90.00	179.69	11,625.0	-2,780.6	-972.0	538,652.96	740,586.06	32° 28' 44.980 N	103° 41' 13.899 W
14,400.0	90.00	179.69	11,625.0	-2,880.6	-971.5	538,552.96	740,586.60	32° 28' 43.990 N	103° 41' 13.900 W
14,457.0	90.00	179.69	11,625.0	-2,937.6	-971.2	538,495.99	740,586.91	32° 28' 43.427 N	103° 41' 13.901 W
VO-6948 Exit at 14457.0 MD									
14,500.0	90.00	179.69	11,625.0	-2,980.6	-970.9	538,452.96	740,587.14	32° 28' 43.001 N	103° 41' 13.901 W
14,600.0	90.00	179.69	11,625.0	-3,080.6	-970.4	538,352.97	740,587.68	32° 28' 42.011 N	103° 41' 13.902 W
14,700.0	90.00	179.69	11,625.0	-3,180.6	-969.8	538,252.97	740,588.22	32° 28' 41.022 N	103° 41' 13.902 W
14,800.0	90.00	179.69	11,625.0	-3,280.6	-969.3	538,152.97	740,588.76	32° 28' 40.032 N	103° 41' 13.903 W
14,900.0	90.00	179.69	11,625.0	-3,380.6	-968.8	538,052.97	740,589.30	32° 28' 39.043 N	103° 41' 13.904 W
15,000.0	90.00	179.69	11,625.0	-3,480.6	-968.2	537,952.97	740,589.84	32° 28' 38.053 N	103° 41' 13.905 W
15,100.0	90.00	179.69	11,625.0	-3,580.6	-967.7	537,852.97	740,590.38	32° 28' 37.064 N	103° 41' 13.905 W
15,200.0	90.00	179.69	11,625.0	-3,680.6	-967.1	537,752.98	740,590.92	32° 28' 36.074 N	103° 41' 13.906 W
15,300.0	90.00	179.69	11,625.0	-3,780.6	-966.6	537,652.98	740,591.46	32° 28' 35.085 N	103° 41' 13.907 W
15,400.0	90.00	179.69	11,625.0	-3,880.6	-966.1	537,552.98	740,592.00	32° 28' 34.095 N	103° 41' 13.908 W
15,500.0	90.00	179.69	11,625.0	-3,980.6	-965.5	537,452.98	740,592.54	32° 28' 33.106 N	103° 41' 13.908 W
15,600.0	90.00	179.69	11,625.0	-4,080.6	-965.0	537,352.98	740,593.08	32° 28' 32.116 N	103° 41' 13.909 W
15,700.0	90.00	179.69	11,625.0	-4,180.6	-964.4	537,252.98	740,593.62	32° 28' 31.127 N	103° 41' 13.910 W
15,800.0	90.00	179.69	11,625.0	-4,280.6	-963.9	537,152.98	740,594.16	32° 28' 30.137 N	103° 41' 13.911 W
15,900.0	90.00	179.69	11,625.0	-4,380.6	-963.4	537,052.99	740,594.70	32° 28' 29.148 N	103° 41' 13.912 W
16,000.0	90.00	179.69	11,625.0	-4,480.6	-962.8	536,952.99	740,595.24	32° 28' 28.158 N	103° 41' 13.912 W
16,100.0	90.00	179.69	11,625.0	-4,580.6	-962.3	536,852.99	740,595.78	32° 28' 27.168 N	103° 41' 13.913 W
16,200.0	90.00	179.69	11,625.0	-4,680.6	-961.7	536,752.99	740,596.32	32° 28' 26.179 N	103° 41' 13.914 W
16,300.0	90.00	179.69	11,625.0	-4,780.6	-961.2	536,652.99	740,596.86	32° 28' 25.189 N	103° 41' 13.915 W
16,400.0	90.00	179.69	11,625.0	-4,880.6	-960.7	536,552.99	740,597.40	32° 28' 24.200 N	103° 41' 13.915 W
16,500.0	90.00	179.69	11,625.0	-4,980.6	-960.1	536,452.99	740,597.94	32° 28' 23.210 N	103° 41' 13.916 W
16,600.0	90.00	179.69	11,625.0	-5,080.6	-959.6	536,353.00	740,598.48	32° 28' 22.221 N	103° 41' 13.917 W
16,700.0	90.00	179.69	11,625.0	-5,180.6	-959.0	536,253.00	740,599.02	32° 28' 21.231 N	103° 41' 13.918 W
16,800.0	90.00	179.69	11,625.0	-5,280.6	-958.5	536,153.00	740,599.56	32° 28' 20.242 N	103° 41' 13.918 W
16,900.0	90.00	179.69	11,625.0	-5,380.6	-958.0	536,053.00	740,600.10	32° 28' 19.252 N	103° 41' 13.919 W
17,000.0	90.00	179.69	11,625.0	-5,480.6	-957.4	535,953.00	740,600.64	32° 28' 18.263 N	103° 41' 13.920 W
17,099.0	90.00	179.69	11,625.0	-5,579.5	-956.9	535,854.04	740,601.17	32° 28' 17.283 N	103° 41' 13.921 W
NMNM 113413 Entry at 17099.0 MD									
17,100.0	90.00	179.69	11,625.0	-5,580.5	-956.9	535,853.00	740,601.18	32° 28' 17.273 N	103° 41' 13.921 W
17,200.0	90.00	179.69	11,625.0	-5,680.5	-956.3	535,753.00	740,601.72	32° 28' 16.284 N	103° 41' 13.921 W
17,300.0	90.00	179.69	11,625.0	-5,780.5	-955.8	535,653.01	740,602.26	32° 28' 15.294 N	103° 41' 13.922 W
17,400.0	90.00	179.69	11,625.0	-5,880.5	-955.3	535,553.01	740,602.80	32° 28' 14.305 N	103° 41' 13.923 W
17,500.0	90.00	179.69	11,625.0	-5,980.5	-954.7	535,453.01	740,603.34	32° 28' 13.315 N	103° 41' 13.924 W
17,600.0	90.00	179.69	11,625.0	-6,080.5	-954.2	535,353.01	740,603.88	32° 28' 12.326 N	103° 41' 13.925 W

Permian Resources

Planning Report - Geographic

Database:	Compass	**Local Co-ordinate Reference:**	Well MORAN 9 FED COM 601H
Company:	NEW MEXICO	**TVD Reference:**	KB @ 3756.0usft
Project:	(SP) LEA	**MD Reference:**	KB @ 3756.0usft
Site:	MORAN PROJECT	**North Reference:**	Grid
Well:	MORAN 9 FED COM 601H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OWB		
Design:	PWP0		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
17,700.0	90.00	179.69	11,625.0	-6,180.5	-953.6	535,253.01	740,604.42	32° 28' 11.336 N	103° 41' 13.925 W
17,800.0	90.00	179.69	11,625.0	-6,280.5	-953.1	535,153.01	740,604.96	32° 28' 10.347 N	103° 41' 13.926 W
17,900.0	90.00	179.69	11,625.0	-6,380.5	-952.6	535,053.01	740,605.50	32° 28' 9.357 N	103° 41' 13.927 W
18,000.0	90.00	179.69	11,625.0	-6,480.5	-952.0	534,953.02	740,606.04	32° 28' 8.368 N	103° 41' 13.928 W
18,100.0	90.00	179.69	11,625.0	-6,580.5	-951.5	534,853.02	740,606.58	32° 28' 7.378 N	103° 41' 13.928 W
18,200.0	90.00	179.69	11,625.0	-6,680.5	-950.9	534,753.02	740,607.12	32° 28' 6.389 N	103° 41' 13.929 W
18,300.0	90.00	179.69	11,625.0	-6,780.5	-950.4	534,653.02	740,607.66	32° 28' 5.399 N	103° 41' 13.930 W
18,400.0	90.00	179.69	11,625.0	-6,880.5	-949.9	534,553.02	740,608.20	32° 28' 4.409 N	103° 41' 13.931 W
18,500.0	90.00	179.69	11,625.0	-6,980.5	-949.3	534,453.02	740,608.74	32° 28' 3.420 N	103° 41' 13.931 W
18,600.0	90.00	179.69	11,625.0	-7,080.5	-948.8	534,353.02	740,609.28	32° 28' 2.430 N	103° 41' 13.932 W
18,700.0	90.00	179.69	11,625.0	-7,180.5	-948.2	534,253.03	740,609.82	32° 28' 1.441 N	103° 41' 13.933 W
18,800.0	90.00	179.69	11,625.0	-7,280.5	-947.7	534,153.03	740,610.36	32° 28' 0.451 N	103° 41' 13.934 W
18,900.0	90.00	179.69	11,625.0	-7,380.5	-947.2	534,053.03	740,610.90	32° 27' 59.462 N	103° 41' 13.934 W
19,000.0	90.00	179.69	11,625.0	-7,480.5	-946.6	533,953.03	740,611.44	32° 27' 58.472 N	103° 41' 13.935 W
19,100.0	90.00	179.69	11,625.0	-7,580.5	-946.1	533,853.03	740,611.98	32° 27' 57.483 N	103° 41' 13.936 W
19,200.0	90.00	179.69	11,625.0	-7,680.5	-945.5	533,753.03	740,612.52	32° 27' 56.493 N	103° 41' 13.937 W
19,300.0	90.00	179.69	11,625.0	-7,780.5	-945.0	533,653.03	740,613.06	32° 27' 55.504 N	103° 41' 13.938 W
19,400.0	90.00	179.69	11,625.0	-7,880.5	-944.5	533,553.04	740,613.60	32° 27' 54.514 N	103° 41' 13.938 W
19,500.0	90.00	179.69	11,625.0	-7,980.5	-943.9	533,453.04	740,614.14	32° 27' 53.525 N	103° 41' 13.939 W
19,600.0	90.00	179.69	11,625.0	-8,080.5	-943.4	533,353.04	740,614.68	32° 27' 52.535 N	103° 41' 13.940 W
19,700.0	90.00	179.69	11,625.0	-8,180.5	-942.8	533,253.04	740,615.22	32° 27' 51.546 N	103° 41' 13.941 W
19,800.0	90.00	179.69	11,625.0	-8,280.5	-942.3	533,153.04	740,615.76	32° 27' 50.556 N	103° 41' 13.941 W
19,900.0	90.00	179.69	11,625.0	-8,380.5	-941.8	533,053.04	740,616.30	32° 27' 49.567 N	103° 41' 13.942 W
20,000.0	90.00	179.69	11,625.0	-8,480.5	-941.2	532,953.04	740,616.84	32° 27' 48.577 N	103° 41' 13.943 W
20,100.0	90.00	179.69	11,625.0	-8,580.5	-940.7	532,853.05	740,617.38	32° 27' 47.588 N	103° 41' 13.944 W
20,200.0	90.00	179.69	11,625.0	-8,680.5	-940.1	532,753.05	740,617.92	32° 27' 46.598 N	103° 41' 13.944 W
20,300.0	90.00	179.69	11,625.0	-8,780.5	-939.6	532,653.05	740,618.46	32° 27' 45.609 N	103° 41' 13.945 W
20,400.0	90.00	179.69	11,625.0	-8,880.5	-939.1	532,553.05	740,619.00	32° 27' 44.619 N	103° 41' 13.946 W
20,500.0	90.00	179.69	11,625.0	-8,980.5	-938.5	532,453.05	740,619.54	32° 27' 43.629 N	103° 41' 13.947 W
20,600.0	90.00	179.69	11,625.0	-9,080.5	-938.0	532,353.05	740,620.08	32° 27' 42.640 N	103° 41' 13.947 W
20,700.0	90.00	179.69	11,625.0	-9,180.5	-937.4	532,253.06	740,620.62	32° 27' 41.650 N	103° 41' 13.948 W
20,800.0	90.00	179.69	11,625.0	-9,280.5	-936.9	532,153.06	740,621.16	32° 27' 40.661 N	103° 41' 13.949 W
20,900.0	90.00	179.69	11,625.0	-9,380.5	-936.4	532,053.06	740,621.70	32° 27' 39.671 N	103° 41' 13.950 W
21,000.0	90.00	179.69	11,625.0	-9,480.5	-935.8	531,953.06	740,622.24	32° 27' 38.682 N	103° 41' 13.951 W
21,100.0	90.00	179.69	11,625.0	-9,580.5	-935.3	531,853.06	740,622.78	32° 27' 37.692 N	103° 41' 13.951 W
21,200.0	90.00	179.69	11,625.0	-9,680.5	-934.7	531,753.06	740,623.32	32° 27' 36.703 N	103° 41' 13.952 W
21,300.0	90.00	179.69	11,625.0	-9,780.5	-934.2	531,653.06	740,623.86	32° 27' 35.713 N	103° 41' 13.953 W
21,400.0	90.00	179.69	11,625.0	-9,880.5	-933.7	531,553.07	740,624.40	32° 27' 34.724 N	103° 41' 13.954 W
21,500.0	90.00	179.69	11,625.0	-9,980.5	-933.1	531,453.07	740,624.94	32° 27' 33.734 N	103° 41' 13.954 W
21,600.0	90.00	179.69	11,625.0	-10,080.5	-932.6	531,353.07	740,625.48	32° 27' 32.745 N	103° 41' 13.955 W
21,700.0	90.00	179.69	11,625.0	-10,180.5	-932.0	531,253.07	740,626.02	32° 27' 31.755 N	103° 41' 13.956 W
21,800.0	90.00	179.69	11,625.0	-10,280.5	-931.5	531,153.07	740,626.56	32° 27' 30.766 N	103° 41' 13.957 W
21,900.0	90.00	179.69	11,625.0	-10,380.5	-931.0	531,053.07	740,627.10	32° 27' 29.776 N	103° 41' 13.957 W
22,000.0	90.00	179.69	11,625.0	-10,480.5	-930.4	530,953.07	740,627.64	32° 27' 28.787 N	103° 41' 13.958 W
22,100.0	90.00	179.69	11,625.0	-10,580.5	-929.9	530,853.08	740,628.18	32° 27' 27.797 N	103° 41' 13.959 W
22,200.0	90.00	179.69	11,625.0	-10,680.5	-929.3	530,753.08	740,628.72	32° 27' 26.808 N	103° 41' 13.960 W
22,282.9	90.00	179.69	11,625.0	-10,763.3	-928.9	530,670.20	740,629.17	32° 27' 25.987 N	103° 41' 13.960 W
TD at 22282.9									

Permian Resources

Planning Report - Geographic

Database:	Compass	**Local Co-ordinate Reference:**	Well MORAN 9 FED COM 601H
Company:	NEW MEXICO	**TVD Reference:**	KB @ 3756.0usft
Project:	(SP) LEA	**MD Reference:**	KB @ 3756.0usft
Site:	MORAN PROJECT	**North Reference:**	Grid
Well:	MORAN 9 FED COM 601H	**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
FTP-MORAN 601H - plan misses target center by 8.0usft at 11911.7usft MD (11617.4 TVD, -392.8 N, -984.9 E) - Point	0.00	0.00	11,625.0	-391.4	-987.0	541,042.13	740,571.05	32° 29' 8.622 N	103° 41' 13.906 W
LTP/BHL-MORAN 60´ - plan hits target center - Point	0.00	0.00	11,625.0	-10,763.3	-928.9	530,670.20	740,629.17	32° 27' 25.987 N	103° 41' 13.960 W

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
2,000.0	2,000.0	0.0	0.0	Start Build 2.00
2,600.0	2,595.6	0.0	-62.6	Start 4145.1 hold at 2600.0 MD
6,745.1	6,650.1	0.0	-924.4	Start Drop -2.00
7,345.1	7,245.8	0.0	-987.0	Start 3901.7 hold at 7345.1 MD
11,246.8	11,147.5	0.0	-987.0	Start DLS 12.00 TFO 179.69
11,806.0	11,587.3	-291.6	-985.4	NMNM 121957 Exit at 11806.0 MD
11,996.8	11,625.0	-477.5	-984.4	Start 10286.0 hold at 11996.8 MD
14,457.0	11,625.0	-2,937.6	-971.2	VO-6948 Exit at 14457.0 MD
17,099.0	11,625.0	-5,579.5	-956.9	NMNM 113413 Entry at 17099.0 MD
22,282.9	11,625.0	-10,763.3	-928.9	TD at 22282.9

PECOS DISTRICT
DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	CENTENNIAL RESOURCE PRODUCTION LLC
WELL NAME & NO.:	MORAN 9 FEDERAL COM 601H
SURFACE HOLE FOOTAGE:	284'/S & 1319'/W
BOTTOM HOLE FOOTAGE	100'/S & 330'/W
LOCATION:	Section 9, T.21 S., R.32 E., NMP
COUNTY:	Lea County, New Mexico

COA

H2S	(•) Yes	( ) No	
Potash	( ) None	( ) Secretary	(•) R-111-P
Cave/Karst Potential	(•) Low	( ) Medium	( ) High
Cave/Karst Potential	( ) Critical		
Variance	( ) None	(•) Flex Hose	( ) Other
Wellhead	( ) Conventional	(•) Multibowl	( ) Both
Wellhead Variance	( ) Diverter		
Other	[x] 4 String	[x] Capitan Reef	[ ] WIPP
Other	[ ] Fluid Filled	[ ] Pilot Hole	[ ] Open Annulus
Cementing	[x] Contingency Cement Squeeze	[x] EchoMeter	[ ] Primary Cement Squeeze
Special Requirements	[ ] Water Disposal	[x] COM	[ ] Unit
Special Requirements	[ ] Batch Sundry		
Special Requirements Variance	[x] Break Testing	[x] Offline Cementing	[ ] Casing Clearance

A. HYDROGEN SULFIDE

A Hydrogen Sulfide (H2S) Drilling Plan shall be activated AT SPUD. As a result, the Hydrogen Sulfide area must meet 43 CFR part 3170 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, please provide measured values and formations to the BLM.

B. CASING

Primary Casing Design:

1. The **13-3/8** inch surface casing shall be set at approximately **1236 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. The surface hole shall be **17.5** inch in diameter.

a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
b. Wait on cement (WOC) time for a primary cement job will be a minimum of **24 hours in the Potash Area** 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 **10-3/4** 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, potash or capitan reef.**

❖ In R111 Potash Areas if cement does not circulate to surface on the first two salt protection casing strings, the cement on the 3rd casing salt string must come to surface.

❖ **Special Capitan Reef requirements.** Only fresh water must be utilized through the Capitan Reef section.

3. The minimum required fill of cement behind the **8-5/8** 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, potash or capitan reef. Cement excess is less than 25%, more cement is required if washout occurs. Adjust cement volume and excess based on a fluid caliper or similar method that reflects the as-drilled size of the wellbore.**

Contingency Squeeze if cement does not reach surface:

Operator has proposed to pump down 10-3/4" X 8-5/8" annulus after primary cementing stage. Operator must run Echo-meter to verify Cement Slurry/Fluid top in the annulus Or operator shall run a CBL from TD of the 10-3/4" casing to surface after the second stage BH to verify TOC.

Submit results to the BLM. No displacement fluid/wash out shall be utilized at the top of the cement slurry between second stage BH and top out. Operator must run one CBL per Well Pad.

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

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

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

    - Cement should tie-back at least **50 feet** on top of Capitan Reef top **or 500 feet** into the previous casing, whichever is greater. 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, potash or capitan reef.

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 **13-3/8** inch surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **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 OOGO2.III.A.2.i must be followed.

D. SPECIAL REQUIREMENT (S)

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.
- The operator will submit an as-drilled survey well plat of the well completion, but are not limited to, those specified in Onshore Order 1 and 2.
- 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.

(Note: For a minimum 5M BOPE or less (Utilizing a 10M BOPE system)
BOPE Break Testing Variance

- BOPE Break Testing is ONLY permitted for 5M BOPE or less. **(Annular preventer must be tested to a minimum of 70% of BOPE working pressure and shall be higher than the MASP)**
- BOPE Break Testing is NOT permitted to drilling the production hole section.
- Variance only pertains to the intermediate hole-sections and no deeper than the Bone Springs formation.
- While in transfer between wells, the BOPE shall be secured by the hydraulic carrier or cradle.
- Any well control event while drilling require notification to the BLM Petroleum Engineer **(575-706-2779)** prior to the commencement of any BOPE Break Testing operations.
- A full BOPE test is required prior to drilling the first deep intermediate hole section. If any subsequent hole interval is deeper than the first, a full BOPE test will be required. (200' TVD tolerance between intermediate shoes is allowable).
- The BLM is to be contacted (575-689-5981 Lea County) 4 hours prior to BOPE tests.
- As a minimum, a full BOPE test shall be performed at 21-day intervals.
- In the event any repairs or replacement of the BOPE is required, the BOPE shall test as per Onshore Oil and Gas Order No. 2.
- If in the event break testing is not utilized, then a full BOPE test would be conducted.

Offline Cementing

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

GENERAL REQUIREMENTS

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

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

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

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

1. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.

   a. In the event the operator has proposed to drill multiple wells utilizing a skid/walking rig. Operator shall secure the wellbore on the current well, after installing and testing the wellhead, by installing a blind flange of like pressure rating to the wellhead and a pressure gauge that can be monitored while drilling is performed on the other well(s).
   b. When the operator proposes to set surface casing with Spudder Rig
      - Notify the BLM when moving in and removing the Spudder Rig.
      - Notify the BLM when moving in the 2nd Rig. Rig to be moved in within 90 days of notification that Spudder Rig has left the location.
      - BOP/BOPE test to be conducted per **43 CFR part 3170 Subpart 3172** as soon as 2nd Rig is rigged up on well.

2. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works are located, this does not include the dog house or stairway area.

3. The record of the drilling rate along with the GR/N well log run from TD to surface (horizontal well – vertical portion of hole) shall be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a

digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.

A. CASING

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

2. Wait on cement (WOC) for Potash Areas: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi for all cement blends, 2) until cement has been in place at least 24 hours. WOC time will be recorded in the driller's log. The casing intergrity test can be done (prior to the cement setting up) immediately after bumping the plug.

3. Wait on cement (WOC) for Water Basin: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements. The casing intergrity 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 OOGO2.III.A.2.i must be followed.
    e. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.

5. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.

    a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after

installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead cement), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).

b. In potash areas, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. For all casing strings, casing cut-off and BOP installation can be initiated at twelve hours after bumping the cement plug. The BOPE test can be initiated after bumping the cement plug with the casing valve open. (only applies to single stage cement jobs, prior to the cement setting up.)

c. The tests shall be done by an independent service company utilizing a test plug not a cup or J-packer and can be initiated immediately with the casing valve open. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to **43 CFR part 3170 Subpart 3172** with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for 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.

JS 4/29/2024

Sante Fe Main Office
Phone: (505) 476-3441

General Information
Phone: (505) 629-6116

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

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

CONDITIONS

Operator:	OGRID:
Permian Resources Operating, LLC 300 N. Marienfeld St Ste 1000 Midland, TX 79701	372165
	Action Number: 339192
	Action Type: [C-103] NOI Change of Plans (C-103A)

CONDITIONS

Created By	Condition	Condition Date
pkautz	Administrative order required for non-standard spacing unit prior to production.	3/11/2025
pkautz	If cement is not circulated to surface during cementing operations, a Cement Bond Log (CBL) is required.	3/11/2025
pkautz	Cement is required to circulate on both surface and intermediate1 strings of casing.	3/11/2025