Form 3160-3
(June 2015)

FORM APPROVED
OMB No. 1004-0137
Expires: January 31, 2018

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.

6. If Indian, Allotee or Tribe Name

1a. Type of work: ☐ DRILL ☐ REENTER

1b. Type of Well: ☐ Oil Well ☐ Gas Well ☐ Other

1c. Type of Completion: ☐ Hydraulic Fracturing ☐ Single Zone ☐ Multiple Zone

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

8. Lease Name and Well No.

2. Name of Operator

9. API Well No.
30-015-49973

3a. Address	3b. Phone No. *(include area code)*	10. Field and Pool, or Exploratory

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*

At surface

At proposed prod. zone

11. Sec., T. R. M. or Blk. and Survey or Area

14. Distance in miles and direction from nearest town or post office*	12. County or Parish	13. State

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)	16. No of acres in lease	17. Spacing Unit dedicated to this well

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.	19. Proposed Depth	20. BLM/BIA Bond No. in file

21. Elevations (Show whether DF, KDB, RT, GL, etc.)	22. Approximate date work will start*	23. Estimated duration

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, and the Hydraulic Fracturing rule per 43 CFR 3162.3-3 (as applicable)

1. Well plat certified by a registered surveyor.
2. A Drilling Plan.
3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO must be filed with the appropriate Forest Service Office).
4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
5. Operator certification.
6. Such other site specific information and/or plans as may be requested by the BLM.

25. Signature	Name *(Printed/Typed)*	Date

Title

Approved by *(Signature)*	Name *(Printed/Typed)*	Date

Title	Office

Application approval 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.
Conditions of approval, if any, are attached.

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.

APPROVED WITH CONDITIONS

(Continued on page 2)

*(Instructions on page 2)

Approval Date: 08/12/2022

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

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

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

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code	Pool Name
30-015-49973	98220	PURPLE SAGE WOLFCAMP GAS POOL

Property Code	Property Name	Well Number
333166	HORN 22-27-34 FED COM	411H

OGRID No.	Operator Name	Elevation
246289	WPX ENERGY PERMIAN, LLC	2926.3'

Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
P	15	26-S	29-E		978	SOUTH	1193	EAST	EDDY

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
11	34	26-S	29-E		50	SOUTH	2330	EAST	EDDY

Dedicated Acres	Joint or Infill	Consolidated Code	Order No.
761.71			

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.

SHL: 978' FSL, 1193' FEL, SECTION 15
NAD 83, NMSP-E, N.(Y): = 377570.2', E.(X): = 654865.9'
LAT.: = 32.0374891° N, LON.: = 103.9669547° W
NAD 27, NMSP-E, N.(Y): = 377512.6', E.(X): = 613680.2'
LAT.: = 32.0373662° N, LON.: = 103.9664689° W

POP: 50' FNL, 2370' FEL, SECTION 22
NAD 83, NMSP-E, N.(Y): = 376592.3', E.(X): = 653689.7'
LAT.: = 32.0348119° N, LON.: = 103.9707612° W
NAD 27, NMSP-E, N.(Y): = 376534.8', E.(X): = 612504.0'
LAT.: = 32.0346889° N, LON.: = 103.9702752° W

FTP: 100' FNL, 2370' FEL, SECTION 22
NAD 83, NMSP-E, N.(Y): = 376542.3', E.(X): = 653689.9'
LAT.: = 32.0346743° N, LON.: = 103.9707612° W
NAD 27, NMSP-E, N.(Y): = 376484.7', E.(X): = 612504.2'
LAT.: = 32.0345513° N, LON.: = 103.9702753° W

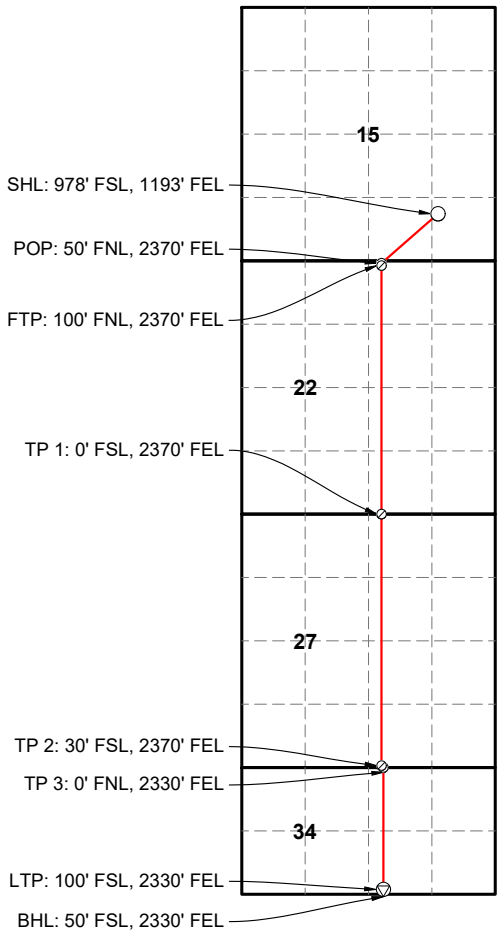
TP 1: 0' FSL, 2370' FEL, SECTION 22
NAD 83, NMSP-E, N.(Y): = 371339.3', E.(X): = 653709.4'
LAT.: = 32.0203716° N, LON.: = 103.9707546° W
NAD 27, NMSP-E, N.(Y): = 371281.9', E.(X): = 612523.5'
LAT.: = 32.0202484° N, LON.: = 103.9702692° W

TP 2: 30' FSL, 2370' FEL, SECTION 27
NAD 83, NMSP-E, N.(Y): = 366088.4', E.(X): = 653474.7'
LAT.: = 32.0059391° N, LON.: = 103.9715684° W
NAD 27, NMSP-E, N.(Y): = 366031.0', E.(X): = 612288.8'
LAT.: = 32.0058158° N, LON.: = 103.9710835° W

TP 3: 0' FNL, 2330' FEL, SECTION 34
NAD 83, NMSP-E, N.(Y): = 366055.2', E.(X): = 653504.9'
LAT.: = 32.0058477° N, LON.: = 103.9714713° W
NAD 27, NMSP-E, N.(Y): = 365997.9', E.(X): = 612319.0'
LAT.: = 32.0057244° N, LON.: = 103.9709864° W

LTP: 100' FSL, 2330' FEL, SECTION 34
NAD 83, NMSP-E, N.(Y): = 364063.6', E.(X): = 653510.6'
LAT.: = 32.0003728° N, LON.: = 103.9714744° W
NAD 27, NMSP-E, N.(Y): = 364006.3', E.(X): = 612324.6'
LAT.: = 32.0002494° N, LON.: = 103.9709897° W

BHL: 50' FSL, 2330' FEL, SECTION 34
NAD 83, NMSP-E, N.(Y): = 364013.6', E.(X): = 653510.8'
LAT.: = 32.0002353° N, LON.: = 103.9714745° W
NAD 27, NMSP-E, N.(Y): = 363956.3', E.(X): = 612324.8'
LAT.: = 32.0001119° N, LON.: = 103.9709898° W



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 voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Signature 10/21/20 Date

Larry E. Rader
Print Name

larry.rader@wpxenergy.com
E-mail Address

SURVEYORS 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.

AUGUST 26, 2020
Date of Survey

Signature and Seal of Professional Surveyor:

JAMES E. TOMPKINS NEW MEXICO 14729 REGISTERED PROFESSIONAL LAND SURVEYOR

Job No.: WTC54265 Draft: FH!

JAMES E. TOMPKINS 14729
Certificate Number

PLAT: C:\USERS\FHERNANDEZ\DESKTOP\FH\WTC DWG\54265-WPX HORN 421 412 411 422 413 LAYOUT TAB: C10210/20/2020 5:45 PM

State of New Mexico
Energy, Minerals and Natural Resources Department

Submit Electronically
Via E-permitting

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

NATURAL GAS MANAGEMENT PLAN

This Natural Gas Management Plan must be submitted with each Application for Permit to Drill (APD) for a new or recompleted well.

Section 1 – Plan Description
Effective May 25, 2021

I. Operator: WPX Energy Permian, LLC **OGRID:** 246289 **Date:** 06 / 10 / 2022

II. Type: ☒ Original ☐ Amendment due to ☐ 19.15.27.9.D(6)(a) NMAC ☐ 19.15.27.9.D(6)(b) NMAC ☐ Other.

If Other, please describe: _____

III. Well(s): Provide the following information for each new or recompleted well or set of wells proposed to be drilled or proposed to be recompleted from a single well pad or connected to a central delivery point.

Well Name	API	ULSTR	Footages	Anticipated Oil BBL/D	Anticipated Gas MCF/D	Anticipated Produced Water BBL/D
See attachment						

IV. Central Delivery Point Name: See attachment [See 19.15.27.9(D)(1) NMAC]

V. Anticipated Schedule: Provide the following information for each new or recompleted well or set of wells proposed to be drilled or proposed to be recompleted from a single well pad or connected to a central delivery point.

Well Name	API	Spud Date	TD Reached Date	Completion Commencement Date	Initial Flow Back Date	First Production Date
See attachment						

VI. Separation Equipment: ☒ Attach a complete description of how Operator will size separation equipment to optimize gas capture.

VII. Operational Practices: ☒ Attach a complete description of the actions Operator will take to comply with the requirements of Subsection A through F of 19.15.27.8 NMAC.

VIII. Best Management Practices: ☒ Attach a complete description of Operator's best management practices to minimize venting during active and planned maintenance.

Section 2 – Enhanced Plan

EFFECTIVE APRIL 1, 2022

Beginning April 1, 2022, an operator that is not in compliance with its statewide natural gas capture requirement for the applicable reporting area must complete this section.

☒ Operator certifies that it is not required to complete this section because Operator is in compliance with its statewide natural gas capture requirement for the applicable reporting area.

IX. Anticipated Natural Gas Production:

Well	API	Anticipated Average Natural Gas Rate MCF/D	Anticipated Volume of Natural Gas for the First Year MCF

X. Natural Gas Gathering System (NGGS):

Operator	System	ULSTR of Tie-in	Anticipated Gathering Start Date	Available Maximum Daily Capacity of System Segment Tie-in

XI. Map. ☐ Attach an accurate and legible map depicting the location of the well(s), the anticipated pipeline route(s) connecting the production operations to the existing or planned interconnect of the natural gas gathering system(s), and the maximum daily capacity of the segment or portion of the natural gas gathering system(s) to which the well(s) will be connected.

XII. Line Capacity. The natural gas gathering system ☐ will ☐ will not have capacity to gather 100% of the anticipated natural gas production volume from the well prior to the date of first production.

XIII. Line Pressure. Operator ☐ does ☐ does not anticipate that its existing well(s) connected to the same segment, or portion, of the natural gas gathering system(s) described above will continue to meet anticipated increases in line pressure caused by the new well(s).

☐ Attach Operator's plan to manage production in response to the increased line pressure.

XIV. Confidentiality: ☐ Operator asserts confidentiality pursuant to Section 71-2-8 NMSA 1978 for the information provided in Section 2 as provided in Paragraph (2) of Subsection D of 19.15.27.9 NMAC, and attaches a full description of the specific information for which confidentiality is asserted and the basis for such assertion.

NATURAL GAS MANAGEMENT PLAN
Section 1 - Plan Description

III. Well(s): Provide the following information for each new or recompleted well or set of wells proposed to be drilled or proposed to be recompleted from a single well pad or connected to a central delivery point.

Well Name	Central Delivery Point Name:	API	ULSTR	SHL FOOTAGES					Anticipated Oil BBL/D	Anticipated Gas MCF/D	Anticipated Produced Water BBL/D
HORN 22-27-34 FED COM 333HH	HORN 22-27-34 FED COM FACILITY SITE(4.4766 AC)		15-26S-29E	948 FSL	1193 FEL			CORRAL CANYON; BONE SPRING, SOUTH	(+/-) 8464 mcfd/(+/-) 1840 bopd/(+/-) 10120 bwpd		
HORN 22-27-34 FED COM 332H	HORN 22-27-34 FED COM FACILITY SITE(4.4766 AC)		15-26S-29E	918 FSL	1193 FEL			CORRAL CANYON; BONE SPRING, SOUTH	(+/-) 8464 mcfd/(+/-) 1840 bopd/(+/-) 10120 bwpd		
HORN 22-27-34 FED COM 331H	HORN 22-27-34 FED COM FACILITY SITE(4.4766 AC)		15-26S-29E	888 FSL	1193 FEL			CORRAL CANYON; BONE SPRING, SOUTH	(+/-) 8464 mcfd/(+/-) 1840 bopd/(+/-) 10120 bwpd		
HORN 22-27-34 FED COM 411H	HORN 22-27-34 FED COM FACILITY SITE(4.4766 AC)		15-26S-29E	978 FSL	1193 FEL			CORRAL CANYON; BONE SPRING, SOUTH	(+/-) 8464 mcfd/(+/-) 1840 bopd/(+/-) 10120 bwpd		

V. Anticipated Schedule: Provide the following information for each new or recompleted well or set of wells proposed to be drilled or proposed to be recompleted from a single well pad or connected to a central delivery point.

Well Name		API	Spud Date	TD Reached Date	Completion Commencement Date	Initial Flow back Date	First Production Date
HORN 22-27-34 FED COM 333H			9/1/2023	10/1/2023	1/29/2024	1/29/2024	1/29/2024
HORN 22-27-34 FED COM 332H			9/1/2023	10/1/2023	1/29/2024	1/29/2024	1/29/2024
HORN 22-27-34 FED COM 331H			9/1/2023	10/1/2023	1/29/2024	1/29/2024	1/29/2024
HORN 22-27-34 FED COM 411H			9/1/2023	10/1/2023	1/29/2024	1/29/2024	1/29/2024

Dates above are subject to change

Section 3 - Certifications

Effective May 25, 2021

Operator certifies that, after reasonable inquiry and based on the available information at the time of submittal:

☒ Operator will be able to connect the well(s) to a natural gas gathering system in the general area with sufficient capacity to transport one hundred percent of the anticipated volume of natural gas produced from the well(s) commencing on the date of first production, taking into account the current and anticipated volumes of produced natural gas from other wells connected to the pipeline gathering system; or

D Operator will not be able to connect to a natural gas gathering system in the general area with sufficient capacity to transport one hundred percent of the anticipated volume of natural gas produced from the well(s) commencing on the date of first production, taking into account the current and anticipated volumes of produced natural gas from other wells connected to the pipeline gathering system. ***If Operator checks this box, Operator will select one of the following:***

Well Shut-In. ☐ Operator will shut-in and not produce the well until it submits the certification required by Paragraph (4) of Subsection D of 19.15.27.9 NMAC; or

Venting and Flaring Plan. ☐ Operator has attached a venting and flaring plan that evaluates and selects one or more of the potential alternative beneficial uses for the natural gas until a natural gas gathering system is available, including:

- **(a)** power generation on lease;
- **(b)** power generation for grid;
- **(c)** compression on lease;
- **(d)** liquids removal on lease;
- **(e)** reinjection for underground storage;
- **(t)** reinjection for temporary storage;
- **(g)** reinjection for enhanced oil recovery;
- **(h)** fuel cell production; and
- (i) other alternative beneficial uses approved by the division.

Section 4 - Notices

1. If, at any time after Operator submits this Natural Gas Management Plan and before the well is spud:

(a) Operator becomes aware that the natural gas gathering system it planned to connect the well(s) to has become unavailable or will not have capacity to transport one hundred percent of the production from the well(s), no later than 20 days after becoming aware of such information, Operator shall submit for OCD's approval a new or revised venting and flaring plan containing the information specified in Paragraph (5) of Subsection D of 19.15.27.9 NMAC; or

(b) Operator becomes aware that it has, cumulatively for the year, become out of compliance with its baseline natural gas capture rate or natural gas capture requirement, no later than 20 days after becoming aware of such information, Operator shall submit for OCD's approval a new or revised Natural Gas Management Plan for each well it plans to spud during the next 90 days containing the information specified in Paragraph (2) of Subsection D of 19.15.27.9 NMAC, and shall file an update for each Natural Gas Management Plan until Operator is back in compliance with its baseline natural gas capture rate or natural gas capture requirement.

2. OCD may deny or conditionally approve an APD if Operator does not make a certification, fails to submit an adequate venting and flaring plan which includes alternative beneficial uses for the anticipated volume of natural gas produced, or if OCD determines that Operator will not have adequate natural gas takeaway capacity at the time a well will be spud.

I certify that, after reasonable inquiry, the statements in and attached to this Natural Gas Management Plan are true and correct to the best of my knowledge and acknowledge that a false statement may be subject to civil and criminal penalties under the Oil and Gas Act.

Signature:	
Printed Name:	Jeff Walla
Title:	Surface Land and Regulatory Manager
E-mail Address:	
Date:	
Phone:	

OIL CONSERVATION DIVISION **(Only applicable when submitted as a standalone form)**
Approved By:
Title:
Approval Date:
Conditions of Approval:

VI. Separation Equipment

WPX Energy Permian, LLC (WPX) utilizes a "stage separation" process in which oil and gas separation is carried out through a series of separators operating at successively reduced pressures. Hydrocarbon liquids are produced into a high-pressure inlet separator, then carried through one or more lower pressure separation vessels before entering the storage tanks. The purpose of this separation process is to attain maximum recovery of liquid hydrocarbons from the fluids and allow maximum capture of produced gas into the sales pipeline. WPX utilizes a series of Low-Pressure Compression units to capture gas off the staged separation and send it to the sales pipeline. This process minimizes the amount of flash gas that enters the end-stage storage tanks that is subsequently vented or flared.

VII. Operational Practices

WPX Energy Permian, LLC will employ best management practices and control technologies to maximize the recovery and minimize waste of natural gas through venting and flaring.

- During drilling operations, WPX will utilize flares and/or combustors to capture and control natural gas, where technically feasible. If flaring is deemed technically in-feasible, WPX will employ best management practices to minimize or reduce venting to the extent possible.
- During completions operations, WPX will utilize Green Completion methods to capture gas produced during well completions that is otherwise vented or flared. If capture is technically in-feasible, flares and/or combustors will be used to capture and control flow back fluids entering into frac tanks during initial flowback. Upon indication of first measurable hydrocarbon volumes, WPX will turn operations to onsite separation vessels and flow to the gathering pipeline.
- During production operations, WPX will take every practical effort to minimize waste of natural gas through venting and flaring by:
    - Designing and constructing facilities in a manner consistent to achieve maximum capture and control of hydrocarbon liquids & produced gas
    - Utilizing a closed-loop capture system to collect and route produced gas to sales line via low pressure compression, or to a flare/combustor
    - Flaring in lieu of venting, where technically feasible
    - Utilizing auto-ignitors or continuous pilots, with thermocouples connected to Scada, to quickly detect and resolve issues related to malfunctioning flares/combustors
    - Employ the use of automatic tank gauging to minimize storage tank venting during loading events
    - Installing air-driven or electric-driven pneumatics & combustion engines, where technically feasible to minimize venting to the atmosphere
    - Confirm equipment is properly maintained and repaired through a preventative maintenance and repair program to ensure equipment meets all manufacturer specifications
    - Conduct and document AVO inspections on the frequency set forth in Part 27 to detect and repair any onsite leaks as quickly and efficiently as is feasible

VIII. Best Management Practices during Maintenance

WPX Energy Permian, LLC will utilize best management practices to minimize venting during active and planned maintenance activities. WPX is operating under guidance that production facilities permitted under NOI permits have no provisions to allow high pressure flaring and high pressure flaring is only allowed in disruption scenarios so long as the duration is less than eight hours. When technically feasible, flaring during maintenance activities will be utilized in lieu of venting to the atmosphere. WPX will work with third-party operators during scheduled maintenance of downstream pipeline or processing plants to address those events ahead of time to minimize venting. Actions considered include identifying alternative capture approaches or planning to temporarily reduce production or shut in the well to address these circumstances.

WPX Energy Permian, LLC

Drilling Plan

Well Horn 22-27-34 Fed Com 411H
Location **Surface:** 978'FSL, 1193'FEL (S15) T26S R29E Sec 15
Bottom Hole: 50' FSL 2330' FEL (S34) T26S R29E Sec 34
County/State Eddy, NM

The elevation of the unprepared ground is 2,926 feet above sea level.

The geologic name of the surface formation is Quaternary

A rotary rig will be utilized to drill the well to 22611' MD, then will be cased and cemented. This equipment will then be rigged down and the well will be completed with a workover rig.

Proposed depth is 22,611 feet MD.

1) Estimated Tops:

Formation Name	MD	TVD	Bearing	BHP (psi)	MASP (psi)
Quaternary	0	0	Water		
Bell Canyon	2987	2976	Oil/Gas		
Cherry Canyon	4062	4016	Oil/Gas		
Brushy Canyon	5186	5105	Oil/Gas		
Bone Spring 1st	7801	7636	Oil/Gas		
Bone Spring 2nd	8444	8259	Oil/Gas		
Bone Spring 3rd	9723	9536	Oil/Gas		
KOP	9700	9513	Oil/Gas		
Wolfcamp	10090	9874	Oil/Gas		
Landing Point (Wolfcamp)	10600	10086	Oil/Gas		
TD	22611	10086	Oil/Gas	6818	4599

2) Notable Formations:

Any usable fresh water zones encountered will be adequately protected and reported. All usable water zones, potential hydrocarbon zones, and valuable mineral zones will be isolated.

Useable water will be protected by surface casing set and cemented to surface.

3) Pressure Control Equipment:

The blowout preventer equipment (BOPE) will consist of 3 rams (10,000 psi WP) with 2 pipe rams (one of which may be variable), 1 blind ram and 1 annular preventer (5,000 psi WP) will be installed. The BOPE will be used below surface casing to TD. See attachments for BOP and choke manifold diagrams. A rotating head will be installed as needed. Units will be hydraulically operated.

An accumulator that meets the requirements of Onshore Order 2 for the pressure rating of the BOP stack will be present.

BOPE will be inspected and operated as recommended in Onshore Order 2. A third party company will test the BOPE. After surface casing is set and the BOPE is nippled up, pressure tests will be conducted to 250 psi low and 5000 psi high (50% of WP) with the annular tested to 250 psi low and 2500 psi high (50% of WP).

A 20" x 13-3/8" x 9-5/8" x 7" 10M multi-bowl wellhead w/ 9-5/8" and 7" mandrel hangers will be install after setting surface casing and utilized until total depth is reached. The 9-5/8" and 7" casings will be set using a mandrel in the casing head and the stack will not be retested at these casing points.

The following BOPE will be installed, tested and operational:
- Drilling spool or blowout preventer with two (2) side outlets;
  - Choke line side shall be 3" minimum diameter;
    - Two (2) adjustable chokes with one (1) remotely controlled from the rig floor and pressure gauge.
  - Kill side shall be at least 2" diameter;
    - Two (2) manual valves and one (1) check valve.

Auxiliary equipment is as follows:
- Upper kelly cock valve with a handle available;
- Lower kelly cock valve with a handle available;
- A float valve will be used in the drill string, either in a float sub or in the mud motor;

- Safety valves and subs with a full opening sized to fit all drill strings and collars will be available on the rig floor in the open position.

WPX Energy Permian, LLC requests a variance to drill this well using a co-flex line between the BOP and the choke manifold. Certification for proposed co-flex hose is attached. The hose is required by the manufacturer to be anchored. In the event the specific hose is not available, one of equal or higher rating will be used.

4) Casing Program:

Section	Hole Size	Top (MD)	Bottom (MD)	Bottom (TVD)	Casing OD	Weight (ppf)	Grade	Threads
Surf	17-1/2"	0	375	375	13-3/8"	54.5	J-55	BT&C
Int_1	12-1/4"	0	3,300	3,278	9-5/8"	40.0	J-55	BT&C
Int_2	8-3/4"	0	10,600	10,086	7"	29.0	VAXP P-110	BT&C
Liner	6-1/8"	9,700	22,611	10,086	4-1/2"	13.5	VA-EP-P110	VARN

Safety Factors	
Collapse	1.125
Burst	1.000
Tension	1.600

Design Factors			
Section	Collapse	Burst	Tension
Surf	6.85	33.09	25.15
Int_1	1.78	5.48	3.94
Int_2	2.54	6.24	3.43
Liner	2.40	5.59	2.54

Centralizers will be run as follows:
- One (1) centralizer on each of the bottom three jts of casing beginning with the shoe jt;
- One (1) centralizer every third jt from above bottom three jts to planned top of cement (TOC).

5) Cement Program:

Section	Hole Size	Casing OD	Cap_{Ann} (cuft/ft)
Surf	17.50	13.375	0.6946

Type	Cmt Btm	Cmt Top	Cubic Feet	Yield	Excess	Sacks	Weight	Blend & Additives
Lead	122	0	85	2.38	50%	53	12	Class C + 0.50 BWOB Accelerator + 2.00 BWOB Sodium Metasilicate
Tail	375	122	132	1.32	50%	200	14.8	Class C

Section	Hole Size	Casing OD	Cap_{Ann} (cuft/ft)	Prev Csg ID	$Cap_{Csg-Csg}$ (cuft/ft)
Int_1	12.25	9.625	0.3132	12.615	0.3627

Type	Cmt Btm	Cmt Top	Cubic Feet	Yield	Excess	Sacks	Weight	Blend & Additives
Lead	375	0	136	1.98	30%	569	12.5	Class C/Poz 35/65 + 3.00 BWOW Salt + 6.00 BWOB Bentonite
	2710	375	731		30%			
Tail	3300	2710	185	1.32	30%	200	14.8	Class C + 0.15 BWOB Retarder

Section	Hole Size	Casing OD	Cap_{Ann} (cuft/ft)	Prev Csg ID	$Cap_{Csg-Csg}$ (cuft/ft)
Int_2	8.75	7.00	0.1503	8.835	0.1585

Type	Cmt Btm	Cmt Top	Cubic Feet	Yield	Excess	Sacks	Weight	Blend & Additives
Lead	3300	2800	79	3.01	30%	450	11	Class C + 50% Poz + 2.75 lb/sk LCM + 0.10 BWOB Sodium Metasilicate + 0.25 BWOB Retarder + 10.0 BWOB Bentonite
	9700	3300	962		30%			
Tail	10600	9700	135	1.26	30%	140	14.2	Class H + 50% Poz + 0.15 BWOB Sodium Metasilicate + 0.15 BWOB Retarder + 0.30 BWOB Dispersant + 0.40 BWOB Fluid Loss + 2.0 BWOB Bentonite

Section	Hole Size	Casing OD	Cap_{Ann} (cuft/ft)	Prev Csg ID	$Cap_{Csg-Csg}$ (cuft/ft)
Liner	6.125	4.50	0.0942	6.184	0.0981

Type	Cmt Btm	Cmt Top	Cubic Feet	Yield	Excess	Sacks	Weight	Blend & Additives
Tail	10600	9700	88	1.25	20%	1171	14.2	Class H + 50% Poz + 0.15 BWOB Sodium Metasilicate + 0.15 BWOB Retarder + 0.30 BWOB Retarder + 0.40 BWOB Fluid Loss + 2.0 BWOB Bentonite
	22611	10600	1131		20%			

6) Drilling Fluids Program:

An electronic mud monitoring system satisfying the requirements of Onshore Order 1 will be used. All necessary mud products for weight addition and fluid loss control will be on location at all times. Mud program is subject to change due to hole conditions.

Section	Hole Size	TMD	Mud Wt.	Vis	PV	YP	Fluid Loss	Type
Surf	17-1/2"	375	8.5 to 8.9	32 to 36	1 - 6	1 - 6	NC	Fresh Wtr
Int_1	12-1/4"	3,300	9.8 to 10.0	28 to 30	1 - 3	1 - 3	NC	Brine
Int_2	8-3/4"	10,600	8.9 to 9.4	28 to 36	1 - 3	1 - 3	NC	Cut Brine
Liner	6-1/8"	22,611	11.5 to 12.5	50 to 55	20-22	8 - 10	8 - 10	OBM

Mud checks will be performed every 24 hours.

The following mud system monitoring equipment will be in place during drilling:
- Visual pit markers
- Pit volume totalizer (PVT)
- Stroke counter
- Gas detection
- Mud-gas separator (gas buster)
- Flow sensor

A closed-loop system will be in place during all phases of drilling. Cuttings disposal will be at an off-site disposal facility.

7) Formation Evaluation Program:

No core or drill stem test is planned.

A 2-person mud-logging program will be used from Int_1 9-5/8" casing point to TD.

No electronic logs are planned.

8) Abnormal Conditions:

No abnormal pressure or temperature is expected.

Maximum expected bottom hole pressure is 6818 psi at 10086' TVD. Expected bottom hole temperature is <200°F.

In accordance with Onshore Order 6, WPX Energy Permian, LLC does not anticipate that there will be enough H2S to meet the BLM's minimum requirements for the submission of an "H2S Drilling Operation Plan" or "Public Protection Plan" for the drilling and completion of this well. However, since WPX Energy Permian, LLC has an H2S safety package on all wells, an "H2S Drilling Operations Plan" is attached.

Adequate flare lines will be installed off the mud/gas separator where gas may be flared safely.

All personnel will be familiar with all aspects of safe operation of equipment being used.

9) Other Information

The anticipated spud date is upon approval. Expected duration is 30 days to drill the well.

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

Drilling Plan Data Report
09/01/2022

APD ID: 10400064362
Submission Date: 10/29/2020
Operator Name: WPX ENERGY PERMIAN LLC
Well Name: HORN 22-27-34 FED COM
Well Number: 411H
Well Type: OIL WELL
Well Work Type: Drill

Highlighted data reflects the most recent changes

Show Final Text

Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical	Measured Depth	Lithologies	Mineral Resources	Producing Formatio
1111483	QUATERNARY	0	0	0	ALLUVIUM	USEABLE WATER	N
1111484	BELL CANYON	-2976	2976	2987	SANDSTONE, SHALE	NATURAL GAS, OIL	N
1111485	CHERRY CANYON	-4016	4016	4062	SANDSTONE, SHALE	NATURAL GAS, OIL	N
1111486	BRUSHY CANYON	-5105	5105	5186	SANDSTONE, SHALE	NATURAL GAS, OIL	N
1111487	BONE SPRING 1ST	-7636	7636	7801	LIMESTONE, SANDSTONE, SHALE	NATURAL GAS, OIL	N
1111488	BONE SPRING 2ND	-8259	8259	8444	LIMESTONE, SANDSTONE, SHALE	NATURAL GAS, OIL	N
1111489	BONE SPRING 3RD	-9527	9527	9656	LIMESTONE, SANDSTONE, SHALE	NATURAL GAS, OIL	N
1111490	WOLFCAMP	-10086	10086	22611	LIMESTONE, SANDSTONE, SHALE	NATURAL GAS, OIL	Y

Section 2 - Blowout Prevention

Pressure Rating (PSI): 10M
Rating Depth: 10086

Equipment: 10M - BOP/BOPE will be installed per Onshore Oil & Gas Order #2 requirements prior to drilling below intermediate casing, a BOP/BOPE system with the above minimum rating will be installed on the wellhead system. BOP/BOPE will be tested by an independent service company per Onshore Oil & Gas Order #2 requirements and MASP (Maximum Anticipated Surface Pressure) calculations. If the system is upgraded, all the components installed will be functional and tested. 5M - BOP/BOPE will be installed per Onshore Oil & Gas Order #2 requirements prior to drilling below surface casing, a BOP/BOPE system with the above minimum rating will be installed on the wellhead system. BOP/BOPE will be tested by an independent service company per Onshore Oil & Gas Order #2 requirements and MASP (Maximum Anticipated Surface Pressure) calculations. If the system is upgraded, all the components installed will be functional and tested.
Requesting Variance? YES

Variance request: A variance is requested for the use of a flexible choke line from the BOP stack to the choke manifold. See attached for specs for hydrostatic test chart. Devon requests a variance to run a 5M annular on a 10M BOP system. See separately attached variance request and support documents in AFMSS.
Testing Procedure: 10M - A multibowl wellhead may be used. The BOP will be tested per Onshore Order #2 after installation on the surface casing which will cover testing requirements for a maximum of 30 days. If any seal subject to test pressure is broken the system must be tested. 5M annular on 10M system will be tested to 100% of rated working pressure. 5M - A multibowl wellhead may be used. The BOP will be tested per Onshore

WPX Energy Permian, LLC Annular Preventer Summary

1. Component and Preventer Compatibility Table

The table below, which covers the drilling and casing of the 10M MASP portion of the well, outlines the tubulars and the compatible preventers in use. This table, combined with the mud program, documents that two barriers to flow can be maintained at all times, independent of the rating of the annular preventer.

6-1/8" Production hole section, 10M requirement

Component	OD	Preventer	RWP
Drillpipe	4.5"	Fixed lower 4.5" Upper 4.5-7" VBR	10M
HWDP	4.5"	Fixed lower 4.5" Upper 4.5-7" VBR	10M
Drill collars and MWD tools	4.5"	Upper 4.5-7" VBR	10M
Mud Motor	4.5"	Upper 4.5-7" VBR	10M
Production casing	4.5"	Upper 4.5-7" VBR	10M
ALL	0-13-3/8"	Annular	5M
Open-hole	-	Blind Rams	10M

VBR = Variable Bore Ram. Compatible range listed in chart.

2. Well Control Procedures

Well control procedures are specific to the rig equipment and the operation at the time the kick occurs. Below are the minimal high-level tasks prescribed to assure a proper shut-in while drilling, tripping, running casing, pipe out of the hole (open hole), and moving the BHA through the BOPs. The pressure at which control is swapped from the annular to another compatible ram is variable, but the operator will document in the submission their operating pressure limit. The operator may chose an operating pressure less than or equal to RWP, but in no case will it exceed the RWP of the annular preventer.

General Procedure While Drilling

1. Sound alarm (alert crew)
2. Space out drill string
3. Shut down pumps (stop pumps and rotary)
4. Shut-in Well (uppermost applicable BOP, typically annular preventer first. HCR and choke will already be in the closed position.)
5. Confirm shut-in
6. Notify toolpusher/company representative
7. Read and record the following:
    a. SIDPP and SICP
    b. Pit gain
    c. Time
8. Regroup and identify forward plan
9. If pressure has built or is anticipated during the kill to reach the RWP of the annular preventer, confirm spacing and swap to the upper pipe ram.

WPX Energy Annular Preventer Summary

General Procedure While Tripping

1. Sound alarm (alert crew)
2. Stab full opening safety valve and close
3. Space out drill string
4. Shut-in (uppermost applicable BOP, typically annular preventer first. HCR and choke will already be in the closed position.)
5. Confirm shut-in
6. Notify toolpusher/company representative
7. Read and record the following:
    a. SIDPP and SICP
    b. Pit gain
    c. Time
8. Regroup and identify forward plan
9. If pressure has built or is anticipated during the kill to reach the RWP of the annular preventer, confirm spacing and swap to the upper pipe ram.

General Procedure While Running Casing

1. Sound alarm (alert crew)
2. Stab crossover and full opening safety valve and close
3. Space out string
4. Shut-in (uppermost applicable BOP, typically annular preventer first. HCR and choke will already be in the closed position.)
5. Confirm shut-in
6. Notify toolpusher/company representative
7. Read and record the following:
    a. SIDPP and SICP
    b. Pit gain
    c. Time
8. Regroup and identify forward plan
9. If pressure has built or is anticipated during the kill to reach the RWP of the annular preventer, confirm spacing and swap to compatible pipe ram.

General Procedure With No Pipe In Hole (Open Hole)

1. Sound alarm (alert crew)
2. Shut-in with blind rams or BSR. (HCR and choke will already be in the closed position.)
3. Confirm shut-in
4. Notify toolpusher/company representative
5. Read and record the following:
    a. SICP
    b. Pit gain
    c. Time
6. Regroup and identify forward plan

WPX Energy Annular Preventer Summary

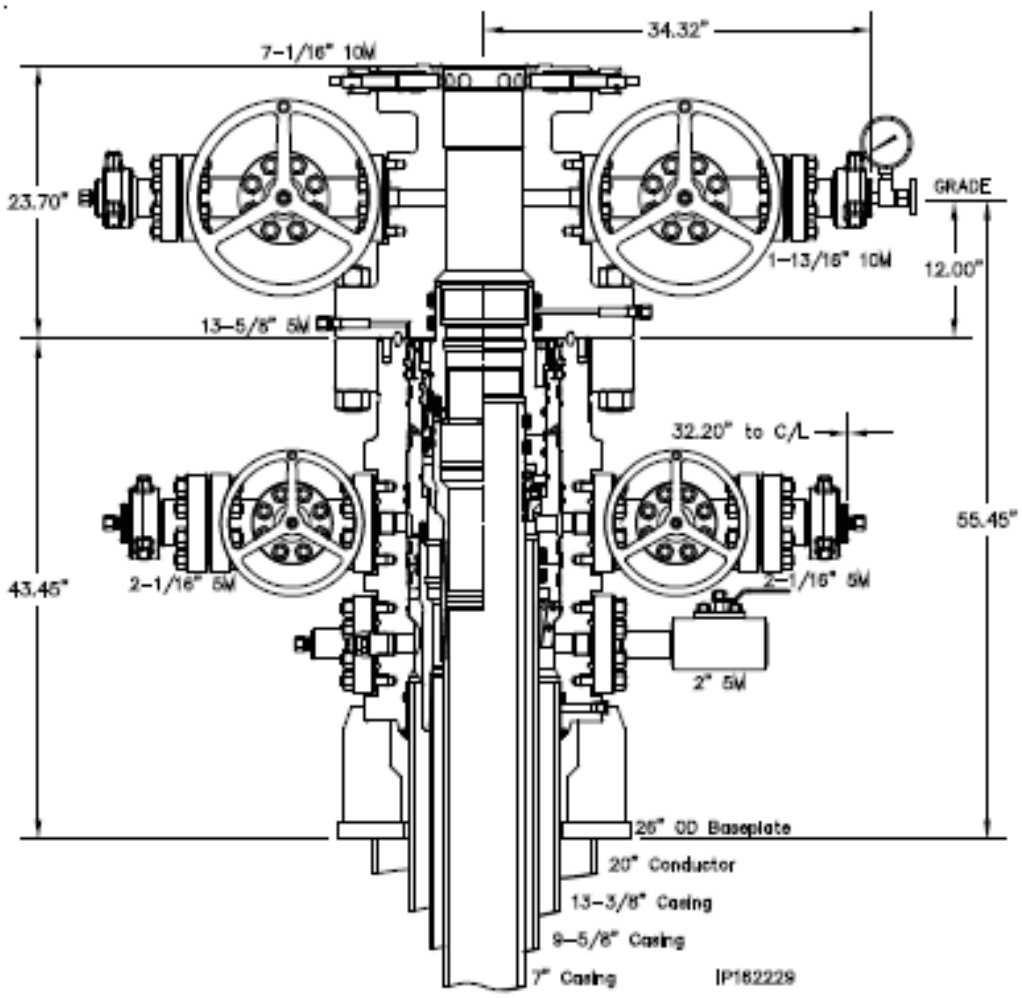
General Procedures While Pulling BHA thru Stack

1. PRIOR to pulling last joint of drillpipe thru the stack.
    a. Perform flowcheck, if flowing:
    b. Sound alarm (alert crew)
    c. Stab full opening safety valve and close
    d. Space out drill string with tool joint just beneath the upper pipe ram.
    e. Shut-in using upper pipe ram. (HCR and choke will already be in the closed position.)
    f. Confirm shut-in
    g. Notify toolpusher/company representative
    h. Read and record the following:
        i. SIDPP and SICP
        ii. Pit gain
        iii. Time
    i. Regroup and identify forward plan

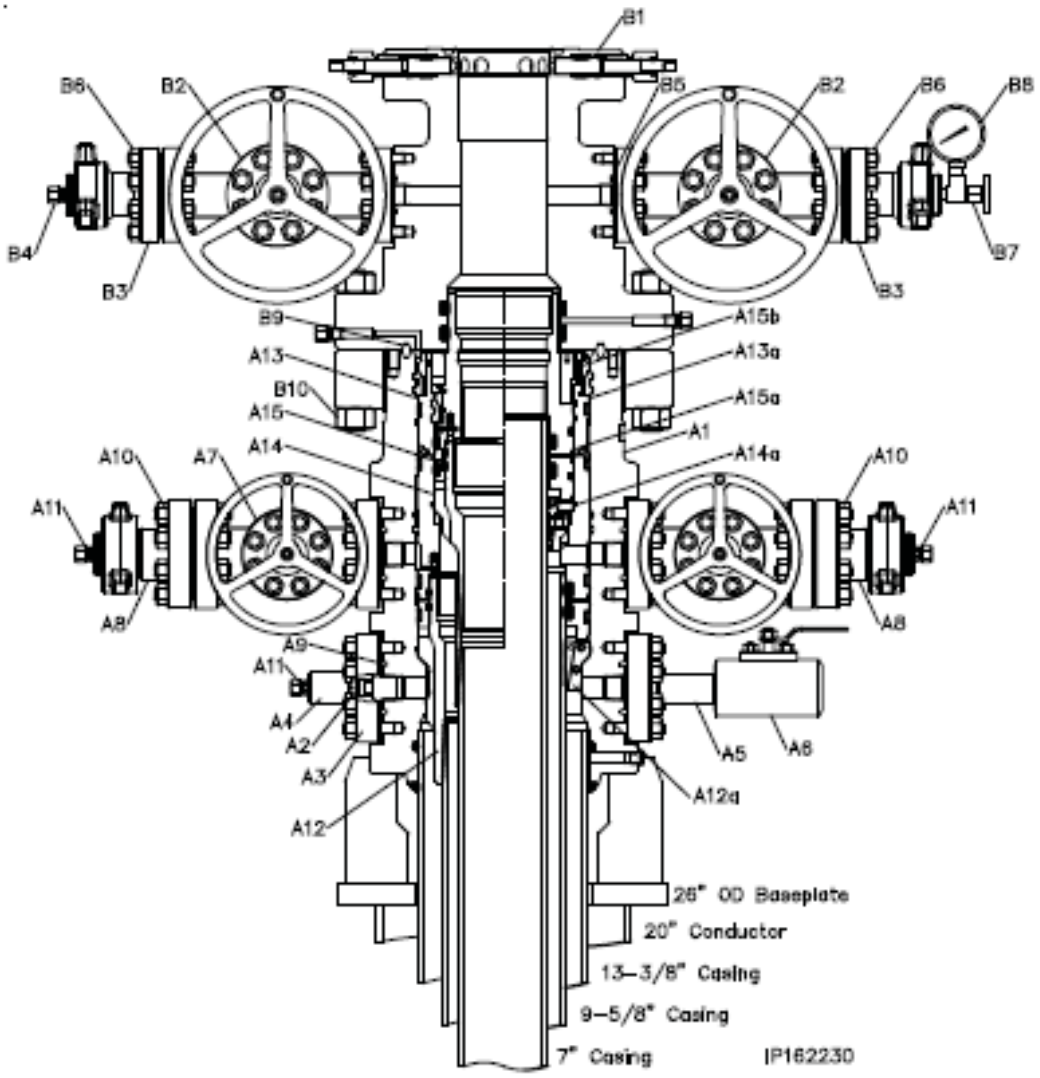
2. With BHA in the stack and compatible ram preventer and pipe combo immediately available.
    a. Sound alarm (alert crew)
    b. Stab crossover and full opening safety valve and close
    c. Space out drill string with upset just beneath the compatible pipe ram.
    d. Shut-in using compatible pipe ram. (HCR and choke will already be in the closed position.)
    e. Confirm shut-in
    f. Notify toolpusher/company representative
    g. Read and record the following:
        i. SIDPP and SICP
        ii. Pit gain
        iii. Time
    h. Regroup and identify forward plan

3. With BHA in the stack and NO compatible ram preventer and pipe combo immediately available.
    a. Sound alarm (alert crew)
    b. If possible to pick up high enough, pull string clear of the stack and follow “Open Hole” scenario.
    c. If impossible to pick up high enough to pull the string clear of the stack:
    d. Stab crossover, make up one joint/stand of drillpipe, and full opening safety valve and close
    e. Space out drill string with tooljoint just beneath the upper pipe ram.
    f. Shut-in using upper pipe ram. (HCR and choke will already be in the closed position.)
    g. Confirm shut-in
    h. Notify toolpusher/company representative
    i. Read and record the following:
        i. SIDPP and SICP
        ii. Pit gain
        iii. Time
    j. Regroup and identify forward plan

System Drawing



Bill of Materials



MBU-3T HOUSING ASSEMBLY

Item	Qty	Description
A1	1	Housing, CW, MBU-3T, 13.5/8" 5M x 13-3/8" SOW, with two 2-1/16" 5M studded upper and lower outlets with o-ring, 6A-PU-AA-1-2 Part # 117620
A2	1	VR Plug, 1-1/2" (1.900) sharp VEE x 1-1/4" hex Part # VR2
A3	2	Companion Flange, 2-1/16" 5M x 2" line pipe, 4130 CMS-102, CMS-002 Part # 200002
A4	1	Bull Plug, 2" line pipe x 1/2" line pipe, 4130 60K Part # BP2T
A5	1	Nipple, 2" line pipe x 6" long Part # NPBA
A6	1	Ball Valve, Valveworks heavy duty, 2" RP, 5M x 2" LP, 4130 cast steel plated ball, Delrin seat and nitril o-ring seat/body/stem seals Part # 108177
A7	2	Gate valve, CWI, 2-1/16" 3/5M, flanged end, handwheel operated, AA/DD-0,5 trim, (6A-LU-AA/DD-NL-1-2) Part # 610003
A8	2	Adapter, TS, FH, 2-1/16" 5M x 2" figure 1502 x 1/2" NPT, nace service Part # 101882
A9	6	Ring Gasket, R-24, 2-1/16" 3/5M Part # R24
A10	16	Studs, all thread with two nuts, black, 7/8" x 6-1/2" long, B7/2H Part # 780087
A11	3	Fitting, grease, vented cap, 1/2" NPT, alloy non-nace FTG1

MBU-3T HOUSING ASSEMBLY

Item	Qty	Description
A12	1	Casing Hanger, CW, MBU-LR, fluted, 13-5/8" 10M x 9-5/8" BC box bottom x 10.250" 4 Stub Acme 2G LH box top, mandrel, 6A-U-AA-1-1 Part # 107786
A13	1	Packoff, CW, MBU-3T, Mandrel, 13-5/8" nested x 11" with 11.250" 4 Stub Acme 2G LH box top, 1/8" NPT test ports, 6A-U-AA-1-1 Part # 117152
A14	1	Casing Hanger, CW, CTF-TP, fluted, 11" 7" (26#) DWC/C pin bottom x 7.750" 4 Stub Acme 2G right hand box top, with 6.270 minimum bore, spec for rotating casing string, 6A-U-AA-1-2 Part # 118422
A15	1	Packoff, CW, MBU-3T-SN, 8-5/8" nested, 11" x 9.00" with 7.500" 4 Stub Acme LH box top, with 6-3/4" LR BPV prep & 6.270" minimum bore, 10000 psi max WP, 6A-U-AA-1-2 Part # 117179

TUBING HEAD ASSEMBLY

Item	Qty	Description
B1	1	Tubing Head, CW, CTH-DBLHPS, 8-5/8, 13-5/8" 5M x 7-1/16" 10M, with two 1-13/16" 10M studded outlets, 6.765" minimum bore, frg, 17-4PH lockscrews, 6A-PU-EE-0,5-1-2 Part #
B2	2	Gate Valve, SB100, 1-13/16" 10M, flanged end, HWO, BB/EE-0,5 trim, (6A-PU-BB/EE-0,5-3-2) Part # 107412
B3	2	Adapter, CFH, 1-13/16" 10M x 2" figure 1502 x 1/2" NPT, nace service Part # 105943
B4	1	Fitting, grease, vented cap, 1/2" NPT, alloy non-nace Part # FTG1
B5	4	Ring Gasket, 151, 1-13/16" 10M Part # BX151
B6	16	Studs, all thread with two nuts, black, 3/4" x 5-1/2" long, B7/2H Part # 780080
B7	1	Needle Valve, MFA, 1/2" NPT 10M service Part # N/A
B8	1	Pressure Gauge, 10M, 4-1/2" face, liquid filled, 1/2" NPT Part # PG10M
B9	1	Ring Gasket, BX-160, 13-5/8" 5M Part # BX-160
B10	16	Studs, all thread with two nuts, black, 1-5/8" x 12-3/4" long, B7/2H Part # 780087

DRILLING HOUSING ASSEMBLY

Item	Qty	Description
1	1	Drilling Adapter, CW, MBU-3T-R, 13-5/8" 5M quick connect bottom x 13-5/8" 10M studded top, with two 1-13/16" 10M studded outlets Part # 119601
2	1	VR Plug, 1-1/4" (1.660) line pipe x 1-1/4" hex Part # VR1
3	2	Companion Flange, 1-13/16" 10M x 2" line pipe, 5000 psi max wp, 6A-PU-EE-NL-1 Part # 200010
4	1	Gate Valve, DSG-22, 1-13/16" 10M, flanged end, HWO, EE-0,5 trim, (6A-PU-EE-0,5-3-1) Part # 102284
5	1	Bull Plug, 2" line pipe x 1/2" line pipe, 4130 60K Part # BP2T
6	1	Fitting, grease, vented cap, 1/2" NPT, alloy non-nace Part # FTG1
7	3	Ring Gasket, 151, 1-13/16" 10M Part # BX151
8	8	Studs, all thread with two nuts, black, 3/4" x 5-1/2" long, B7/2H Part # 780080
9	1	Ring Gasket, BX-160, 13-5/8" 5M Part # BX160
10	1	Hub, CW, Threaded, MBU-3T, 13-5/8" 5M with 19.000 2 Stub Acme 2G LH box thread Part # 117288

RECOMMENDED SERVICE TOOLS

Item	Qty	Description
ST1	1	Running Tool, CW, Housing, MBU-3T, 13-5/8" 5M, 19.000" 2 Stub Acme 2G LH box thread x 13-3/8" buttress box top Part # 117274
ST2	1	Test Plug/Retrieving Tool, CW, 13-5/8" x 4-1/2" IF (NC50), 1-1/4" LP bypass and spring loaded lift dogs Part # 800002
ST3	1	Wear Bushing, MBU-2LR, MBS2-UPR & MBU-3T-R 2 stage lower, 13-5/8" x 12.35" ID x 44.6" long with o-ring & anti-rotation Part # 114120
ST4	1	Casing Hanger Running Tool, CW, MBU, 13-5/8" x 9-5/8" BC top x 10.250" 4 Stub Acme 2G LH pin bottom Part # 107796
ST5	1	Torque Collar, CW, casing hanger, for use with 10.75" OD tool neck & 3.25" to 5.50" long box hanger neck Part # 103374
ST6	1	Wash Tool, CW, Casing Hanger, MBU-LR/MBS2, fluted, 13-5/8" x 4-1/2" IF (NC50) box top threads, with brushes Part # 106277
ST7	1	Packoff Running Tool, CW, MBU-3T UPR, 13-5/8" nested, with 11.250" 4 Stub Acme 2G LH pin bottom x 4-1/2" IF (NC50) box top with seal sleeve Part # 117310
ST8	1	Test Plug, CW, MBU-2LR Inner, 11" x 4-1/2" IF, 1-1/4" LP bypass Part # 108848
ST9	1	Wear Bushing, MBU-3T-UPR, nested, 13-5/8" x 11" x 9.00" I.D. x 37.0" long, arranged for 13-5/8" tool Part # 118432
ST10	1	Casing Hanger Running Tool, CW, MB-TP6, 7.750" 4 Stub Acme RH pin bottom x 7" (29#) DWC/C box top, with 6.261" min bore and max torque 27000 ft lbs, spec for rotating casing string Part # 117717

RECOMMENDED SERVICE TOOLS

Item	Qty	Description
ST11	1	Wash Tool, CW, casing hanger, MBU-2LR/MBS2-R fluted, 11" x 4-1/2" IF (NC50) box top threads, fabricated Part # 103164
ST12	1	Packoff Running Tool, MBU-3T, 13-5/8" x 11' x 7.500" 4 Stub Acme 2G LH pin bottom x 4-1/2" IF (NC50) box top with ball bearings Part # 117177
ST13	1	Packoff, CW, MBU-3T-R, 13-5/8" x 11" x 8-5/8" with 11.250" 4 Stub Acme 2G LH box top, 6A-U-AA-1-1 Part # 118438
ST14	1	Packoff Running Tool, CW, MBU-3T-UPR, 13-5/8" stack with 11.250" 4 Stub Acme-2G LH pin bottom x 4-1/2" IF (NC50) box bottom and top, with ball bearings Part # 116996
ST15	1	Test Plug/Retrieving Tool, CW, 11" x 3-1/2" IF (NC38), 1-1/4" LP bypass and spring loaded lift dogs Part # 102388
ST16	1	Wear Bushing, CW, MBU-3T-R, UPR, 13-5/8" x 8.25" I.D. x 16.5" long arranged for 13-5/8" retrieving tool Part # 118434
ST17	1	BPV, CW, LR, 6-3/4" One Way, DD, 10,000 psi max WP Part # 113216
ST18	1	Run Tool, CW, HBPV, slide, 2"thru 5". Part # 105730 DO NOT USE CM VERSION
ST19	1	Running Tool, BPV, 2-3/8" EU box top x BPV running tool tip, 1.250" ID Part # 103755

EMERGENCY EQUIPMENT

Item	Qty	Description
A12a	1	Casing Hanger, CW, MBU-3T, 13-5/8" x 9-5/8" 6A-PU-DD-3-1 Part # 116998
A13a	1	Packoff, CW, MBU-3T, Emergency, 13-5/8" nested x 11" with 11.250" 4 Stub Acme 2G LH box top, 1/8" NPT test ports, 6A-U-AA-1-1 Part # 117184
A14b	1	Casing Hanger, MBU-LR, 11" x 7", 6A-LU-DO-NL-3-2 Part # 112193
A15a	1	Packoff, CW, MBU-3T-SN, 8-5/8" Emergency nested, 11" x 7" with 8-5/8" seal neck, 7.500" 4 Stub Acme LH box top, with 6-3/4" LR BPV prep & 6.270" minimum bore, arranged for hold down ring, 6A-U-AA-1-2 Part # 118436
A15b	1	Hold down Ring for C9 casing hanger, 11" x 7" through 4-1/2", arranged MBU-3T emergency packoff, 11.250 4 Stub Acme 2G LH thread x 9.06" ID x 4.12" long with 2.25" thread length Part # 117942

WPX Energy

Planning Report - Geographic

Database:	Compass	**Local Co-ordinate Reference:**	Well Horn 22-27-34 Fed Com No. 411H
Company:	WPX Energy Permian, LLC	**TVD Reference:**	GL:2926+28ft @ 2954.00usft (Pat 803)
Project:	Eddy NM	**MD Reference:**	GL:2926+28ft @ 2954.00usft (Pat 803)
Site:	Horn 22-27-34 Fed Com Pad	**North Reference:**	Grid
Well:	Horn 22-27-34 Fed Com No. 411H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan 1 (2370'FEL) WC A Upper		

Project Eddy NM

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

Site Horn 22-27-34 Fed Com Pad

Site Position:		**Northing:**	377,630.20 usft	**Latitude:**	32.037656
From:	Map	**Easting:**	654,865.50 usft	**Longitude:**	-103.966951
Position Uncertainty:	0.00 usft	**Slot Radius:**	13.200 in	**Grid Convergence:**	0.19 °

Well Horn 22-27-34 Fed Com No. 411H

Well Position	**+N/-S**	0.00 usft	**Northing:**	377,570.20 usft	**Latitude:**	32.037491
	+E/-W	0.00 usft	**Easting:**	654,865.90 usft	**Longitude:**	-103.966951
Position Uncertainty		0.00 usft	**Wellhead Elevation:**		**Ground Level:**	2,926.00 usft

Wellbore Wellbore #1

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF200510	12/31/2009	7.91	60.00	48,638.66646524

Design Plan 1 (2370'FEL) WC A Upper

Audit Notes:

Version:		**Phase:**	PLAN	**Tie On Depth:**	0.00

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (bearing)
	0.00	0.00	0.00	180.82

Plan Sections

Measured Depth (usft)	Inclination (°)	Azimuth (bearing)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,150.00	0.00	0.00	2,150.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,874.80	14.50	230.26	2,867.09	-58.31	-70.13	2.00	2.00	0.00	230.26	
8,256.96	14.50	230.26	8,077.91	-919.59	-1,106.07	0.00	0.00	0.00	0.00	
8,981.76	0.00	0.00	8,795.00	-977.90	-1,176.20	2.00	-2.00	0.00	180.00	
9,699.80	0.00	0.00	9,513.04	-977.90	-1,176.20	0.00	0.00	0.00	0.00	
10,599.80	90.00	179.79	10,086.00	-1,550.85	-1,174.05	10.00	10.00	0.00	179.79	
15,279.88	90.00	179.79	10,086.00	-6,230.90	-1,156.50	0.00	0.00	0.00	0.00	TP 1 (411H)
15,420.46	90.00	182.60	10,086.00	-6,371.44	-1,159.42	2.00	0.00	2.00	90.00	
20,536.08	90.00	182.60	10,086.00	-11,481.80	-1,391.20	0.00	0.00	0.00	0.00	TP 2 (411H)
20,725.57	90.00	178.81	10,086.00	-11,671.24	-1,393.52	2.00	0.00	-2.00	-90.00	
22,561.32	90.00	178.81	10,086.00	-13,506.60	-1,355.30	0.00	0.00	0.00	0.00	LTP (411H) 100'FSL,
22,611.32	90.00	178.81	10,086.00	-13,556.59	-1,354.26	0.00	0.00	0.00	0.00	

WPX Energy

Planning Report - Geographic

Database:	Compass	**Local Co-ordinate Reference:**	Well Horn 22-27-34 Fed Com No. 411H
Company:	WPX Energy Permian, LLC	**TVD Reference:**	GL:2926+28ft @ 2954.00usft (Pat 803)
Project:	Eddy NM	**MD Reference:**	GL:2926+28ft @ 2954.00usft (Pat 803)
Site:	Horn 22-27-34 Fed Com Pad	**North Reference:**	Grid
Well:	Horn 22-27-34 Fed Com No. 411H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan 1 (2370'FEL) WC A Upper		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (bearing)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
0.00	0.00	0.00	0.00	0.00	0.00	377,570.20	654,865.90	32.037491	-103.966951
100.00	0.00	0.00	100.00	0.00	0.00	377,570.20	654,865.90	32.037491	-103.966951
200.00	0.00	0.00	200.00	0.00	0.00	377,570.20	654,865.90	32.037491	-103.966951
300.00	0.00	0.00	300.00	0.00	0.00	377,570.20	654,865.90	32.037491	-103.966951
400.00	0.00	0.00	400.00	0.00	0.00	377,570.20	654,865.90	32.037491	-103.966951
427.00	0.00	0.00	427.00	0.00	0.00	377,570.20	654,865.90	32.037491	-103.966951
Rustler									
500.00	0.00	0.00	500.00	0.00	0.00	377,570.20	654,865.90	32.037491	-103.966951
600.00	0.00	0.00	600.00	0.00	0.00	377,570.20	654,865.90	32.037491	-103.966951
700.00	0.00	0.00	700.00	0.00	0.00	377,570.20	654,865.90	32.037491	-103.966951
800.00	0.00	0.00	800.00	0.00	0.00	377,570.20	654,865.90	32.037491	-103.966951
827.00	0.00	0.00	827.00	0.00	0.00	377,570.20	654,865.90	32.037491	-103.966951
Salado									
900.00	0.00	0.00	900.00	0.00	0.00	377,570.20	654,865.90	32.037491	-103.966951
1,000.00	0.00	0.00	1,000.00	0.00	0.00	377,570.20	654,865.90	32.037491	-103.966951
1,100.00	0.00	0.00	1,100.00	0.00	0.00	377,570.20	654,865.90	32.037491	-103.966951
1,186.00	0.00	0.00	1,186.00	0.00	0.00	377,570.20	654,865.90	32.037491	-103.966951
Castile (Top of Salt) (Est.)									
1,200.00	0.00	0.00	1,200.00	0.00	0.00	377,570.20	654,865.90	32.037491	-103.966951
1,300.00	0.00	0.00	1,300.00	0.00	0.00	377,570.20	654,865.90	32.037491	-103.966951
1,400.00	0.00	0.00	1,400.00	0.00	0.00	377,570.20	654,865.90	32.037491	-103.966951
1,500.00	0.00	0.00	1,500.00	0.00	0.00	377,570.20	654,865.90	32.037491	-103.966951
1,600.00	0.00	0.00	1,600.00	0.00	0.00	377,570.20	654,865.90	32.037491	-103.966951
1,700.00	0.00	0.00	1,700.00	0.00	0.00	377,570.20	654,865.90	32.037491	-103.966951
1,800.00	0.00	0.00	1,800.00	0.00	0.00	377,570.20	654,865.90	32.037491	-103.966951
1,900.00	0.00	0.00	1,900.00	0.00	0.00	377,570.20	654,865.90	32.037491	-103.966951
2,000.00	0.00	0.00	2,000.00	0.00	0.00	377,570.20	654,865.90	32.037491	-103.966951
2,100.00	0.00	0.00	2,100.00	0.00	0.00	377,570.20	654,865.90	32.037491	-103.966951
2,150.00	0.00	0.00	2,150.00	0.00	0.00	377,570.20	654,865.90	32.037491	-103.966951
Start Nudge									
2,200.00	1.00	230.26	2,200.00	-0.28	-0.34	377,569.92	654,865.57	32.037490	-103.966952
2,300.00	3.00	230.26	2,299.93	-2.51	-3.02	377,567.69	654,862.89	32.037484	-103.966961
2,400.00	5.00	230.26	2,399.68	-6.97	-8.38	377,563.23	654,857.52	32.037472	-103.966978
2,500.00	7.00	230.26	2,499.13	-13.65	-16.42	377,556.55	654,849.48	32.037454	-103.967004
2,600.00	9.00	230.26	2,598.15	-22.55	-27.12	377,547.65	654,838.78	32.037429	-103.967039
2,700.00	11.00	230.26	2,696.63	-33.65	-40.47	377,536.55	654,825.43	32.037399	-103.967082
2,800.00	13.00	230.26	2,794.44	-46.94	-56.46	377,523.26	654,809.45	32.037363	-103.967134
2,874.80	14.50	230.26	2,867.09	-58.31	-70.13	377,511.89	654,795.78	32.037332	-103.967178
2,875.17	14.50	230.26	2,867.46	-58.37	-70.20	377,511.83	654,795.70	32.037331	-103.967178
Hold 14.50°									
2,900.00	14.50	230.26	2,891.49	-62.34	-74.98	377,507.86	654,790.93	32.037321	-103.967193
2,987.29	14.50	230.26	2,976.00	-76.31	-91.78	377,493.89	654,774.12	32.037282	-103.967248
Bell Canyon (Base of Salt)									
3,000.00	14.50	230.26	2,988.31	-78.34	-94.23	377,491.86	654,771.68	32.037277	-103.967256
3,100.00	14.50	230.26	3,085.12	-94.34	-113.47	377,475.86	654,752.43	32.037233	-103.967318
3,200.00	14.50	230.26	3,181.94	-110.35	-132.72	377,459.85	654,733.18	32.037189	-103.967380
3,300.00	14.50	230.26	3,278.76	-126.35	-151.97	377,443.85	654,713.93	32.037145	-103.967443
3,400.00	14.50	230.26	3,375.57	-142.35	-171.22	377,427.85	654,694.69	32.037101	-103.967505
3,500.00	14.50	230.26	3,472.39	-158.35	-190.47	377,411.84	654,675.44	32.037058	-103.967567
3,600.00	14.50	230.26	3,569.21	-174.36	-209.71	377,395.84	654,656.19	32.037014	-103.967629
3,700.00	14.50	230.26	3,666.02	-190.36	-228.96	377,379.84	654,636.94	32.036970	-103.967692
3,800.00	14.50	230.26	3,762.84	-206.36	-248.21	377,363.84	654,617.70	32.036926	-103.967754
3,900.00	14.50	230.26	3,859.66	-222.36	-267.46	377,347.83	654,598.45	32.036882	-103.967816
4,000.00	14.50	230.26	3,956.47	-238.37	-286.70	377,331.83	654,579.20	32.036839	-103.967879

WPX Energy

Planning Report - Geographic

Database:	Compass	**Local Co-ordinate Reference:**	Well Horn 22-27-34 Fed Com No. 411H
Company:	WPX Energy Permian, LLC	**TVD Reference:**	GL:2926+28ft @ 2954.00usft (Pat 803)
Project:	Eddy NM	**MD Reference:**	GL:2926+28ft @ 2954.00usft (Pat 803)
Site:	Horn 22-27-34 Fed Com Pad	**North Reference:**	Grid
Well:	Horn 22-27-34 Fed Com No. 411H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan 1 (2370'FEL) WC A Upper		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (bearing)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
4,061.49	14.50	230.26	4,016.00	-248.21	-298.54	377,321.99	654,567.37	32.036812	-103.967917
Cherry Canyon									
4,100.00	14.50	230.26	4,053.29	-254.37	-305.95	377,315.83	654,559.95	32.036795	-103.967941
4,200.00	14.50	230.26	4,150.10	-270.37	-325.20	377,299.83	654,540.71	32.036751	-103.968003
4,300.00	14.50	230.26	4,246.92	-286.38	-344.45	377,283.82	654,521.46	32.036707	-103.968066
4,400.00	14.50	230.26	4,343.74	-302.38	-363.69	377,267.82	654,502.21	32.036663	-103.968128
4,500.00	14.50	230.26	4,440.55	-318.38	-382.94	377,251.82	654,482.96	32.036620	-103.968190
4,600.00	14.50	230.26	4,537.37	-334.38	-402.19	377,235.81	654,463.71	32.036576	-103.968252
4,700.00	14.50	230.26	4,634.19	-350.39	-421.44	377,219.81	654,444.47	32.036532	-103.968315
4,800.00	14.50	230.26	4,731.00	-366.39	-440.69	377,203.81	654,425.22	32.036488	-103.968377
4,900.00	14.50	230.26	4,827.82	-382.39	-459.93	377,187.81	654,405.97	32.036444	-103.968439
5,000.00	14.50	230.26	4,924.64	-398.39	-479.18	377,171.80	654,386.72	32.036401	-103.968502
5,100.00	14.50	230.26	5,021.45	-414.40	-498.43	377,155.80	654,367.48	32.036357	-103.968564
5,186.29	14.50	230.26	5,105.00	-428.21	-515.04	377,141.99	654,350.87	32.036319	-103.968618
Brushy Canyon									
5,200.00	14.50	230.26	5,118.27	-430.40	-517.68	377,139.80	654,348.23	32.036313	-103.968626
5,300.00	14.50	230.26	5,215.09	-446.40	-536.92	377,123.80	654,328.98	32.036269	-103.968688
5,400.00	14.50	230.26	5,311.90	-462.41	-556.17	377,107.79	654,309.73	32.036225	-103.968751
5,500.00	14.50	230.26	5,408.72	-478.41	-575.42	377,091.79	654,290.48	32.036181	-103.968813
5,600.00	14.50	230.26	5,505.54	-494.41	-594.67	377,075.79	654,271.24	32.036138	-103.968875
5,700.00	14.50	230.26	5,602.35	-510.41	-613.92	377,059.79	654,251.99	32.036094	-103.968938
5,800.00	14.50	230.26	5,699.17	-526.42	-633.16	377,043.78	654,232.74	32.036050	-103.969000
5,900.00	14.50	230.26	5,795.99	-542.42	-652.41	377,027.78	654,213.49	32.036006	-103.969062
6,000.00	14.50	230.26	5,892.80	-558.42	-671.66	377,011.78	654,194.25	32.035962	-103.969124
6,100.00	14.50	230.26	5,989.62	-574.42	-690.91	376,995.77	654,175.00	32.035919	-103.969187
6,200.00	14.50	230.26	6,086.44	-590.43	-710.15	376,979.77	654,155.75	32.035875	-103.969249
6,300.00	14.50	230.26	6,183.25	-606.43	-729.40	376,963.77	654,136.50	32.035831	-103.969311
6,400.00	14.50	230.26	6,280.07	-622.43	-748.65	376,947.77	654,117.25	32.035787	-103.969374
6,500.00	14.50	230.26	6,376.88	-638.43	-767.90	376,931.76	654,098.01	32.035743	-103.969436
6,600.00	14.50	230.26	6,473.70	-654.44	-787.15	376,915.76	654,078.76	32.035700	-103.969498
6,700.00	14.50	230.26	6,570.52	-670.44	-806.39	376,899.76	654,059.51	32.035656	-103.969560
6,800.00	14.50	230.26	6,667.33	-686.44	-825.64	376,883.76	654,040.26	32.035612	-103.969623
6,844.07	14.50	230.26	6,710.00	-693.49	-834.12	376,876.70	654,031.78	32.035593	-103.969650
Bone Spring									
6,900.00	14.50	230.26	6,764.15	-702.45	-844.89	376,867.75	654,021.02	32.035568	-103.969685
6,943.23	14.50	230.26	6,806.00	-709.36	-853.21	376,860.84	654,012.70	32.035549	-103.969712
Avalon Upper									
7,000.00	14.50	230.26	6,860.97	-718.45	-864.14	376,851.75	654,001.77	32.035524	-103.969747
7,100.00	14.50	230.26	6,957.78	-734.45	-883.38	376,835.75	653,982.52	32.035480	-103.969810
7,200.00	14.50	230.26	7,054.60	-750.45	-902.63	376,819.74	653,963.27	32.035437	-103.969872
7,300.00	14.50	230.26	7,151.42	-766.46	-921.88	376,803.74	653,944.03	32.035393	-103.969934
7,400.00	14.50	230.26	7,248.23	-782.46	-941.13	376,787.74	653,924.78	32.035349	-103.969996
7,449.34	14.50	230.26	7,296.00	-790.35	-950.62	376,779.84	653,915.28	32.035327	-103.970027
Avalon Lower									
7,500.00	14.50	230.26	7,345.05	-798.46	-960.37	376,771.74	653,905.53	32.035305	-103.970059
7,600.00	14.50	230.26	7,441.87	-814.46	-979.62	376,755.73	653,886.28	32.035261	-103.970121
7,700.00	14.50	230.26	7,538.68	-830.47	-998.87	376,739.73	653,867.03	32.035218	-103.970183
7,800.00	14.50	230.26	7,635.50	-846.47	-1,018.12	376,723.73	653,847.79	32.035174	-103.970246
7,800.52	14.50	230.26	7,636.00	-846.55	-1,018.22	376,723.65	653,847.69	32.035174	-103.970246
1st Bone Spring Sand									
7,900.00	14.50	230.26	7,732.32	-862.47	-1,037.37	376,707.73	653,828.54	32.035130	-103.970308
8,000.00	14.50	230.26	7,829.13	-878.48	-1,056.61	376,691.72	653,809.29	32.035086	-103.970370
8,100.00	14.50	230.26	7,925.95	-894.48	-1,075.86	376,675.72	653,790.04	32.035042	-103.970432

WPX Energy

Planning Report - Geographic

Database:	Compass	**Local Co-ordinate Reference:**	Well Horn 22-27-34 Fed Com No. 411H
Company:	WPX Energy Permian, LLC	**TVD Reference:**	GL:2926+28ft @ 2954.00usft (Pat 803)
Project:	Eddy NM	**MD Reference:**	GL:2926+28ft @ 2954.00usft (Pat 803)
Site:	Horn 22-27-34 Fed Com Pad	**North Reference:**	Grid
Well:	Horn 22-27-34 Fed Com No. 411H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan 1 (2370'FEL) WC A Upper		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (bearing)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
8,116.58	14.50	230.26	7,942.00	-897.13	-1,079.05	376,673.07	653,786.85	32.035035	-103.970443
2nd Bone Spring Lime									
8,200.00	14.50	230.26	8,022.77	-910.48	-1,095.11	376,659.72	653,770.80	32.034999	-103.970495
8,256.96	14.50	230.26	8,077.91	-919.59	-1,106.07	376,650.60	653,759.83	32.034974	-103.970530
8,300.00	13.64	230.26	8,119.66	-926.28	-1,114.12	376,643.92	653,751.79	32.034955	-103.970556
8,382.78	11.98	230.26	8,200.38	-938.01	-1,128.23	376,632.18	653,737.68	32.034923	-103.970602
EOH									
8,400.00	11.64	230.26	8,217.23	-940.27	-1,130.93	376,629.93	653,734.97	32.034917	-103.970611
8,442.58	10.78	230.26	8,259.00	-945.56	-1,137.30	376,624.64	653,728.61	32.034902	-103.970631
2nd Bone Spring Sand									
8,500.00	9.64	230.26	8,315.51	-952.06	-1,145.13	376,618.13	653,720.78	32.034885	-103.970657
8,600.00	7.64	230.26	8,414.37	-961.66	-1,156.67	376,608.54	653,709.23	32.034858	-103.970694
8,700.00	5.64	230.26	8,513.70	-969.05	-1,165.55	376,601.15	653,700.35	32.034838	-103.970723
8,800.00	3.64	230.26	8,613.37	-974.22	-1,171.77	376,595.98	653,694.14	32.034824	-103.970743
8,900.00	1.64	230.26	8,713.26	-977.15	-1,175.30	376,593.04	653,690.60	32.034816	-103.970754
8,908.75	1.46	230.26	8,722.00	-977.31	-1,175.48	376,592.89	653,690.42	32.034816	-103.970755
3rd Bone Spring Lime									
8,981.76	0.00	0.00	8,795.00	-977.90	-1,176.20	376,592.30	653,689.70	32.034814	-103.970757
9,000.00	0.00	0.00	8,813.24	-977.90	-1,176.20	376,592.30	653,689.70	32.034814	-103.970757
9,100.00	0.00	0.00	8,913.24	-977.90	-1,176.20	376,592.30	653,689.70	32.034814	-103.970757
9,107.95	0.00	0.00	8,921.20	-977.90	-1,176.20	376,592.30	653,689.70	32.034814	-103.970757
Vertical									
9,200.00	0.00	0.00	9,013.24	-977.90	-1,176.20	376,592.30	653,689.70	32.034814	-103.970757
9,254.76	0.00	0.00	9,068.00	-977.90	-1,176.20	376,592.30	653,689.70	32.034814	-103.970757
Harkey Sandstone									
9,300.00	0.00	0.00	9,113.24	-977.90	-1,176.20	376,592.30	653,689.70	32.034814	-103.970757
9,400.00	0.00	0.00	9,213.24	-977.90	-1,176.20	376,592.30	653,689.70	32.034814	-103.970757
9,500.00	0.00	0.00	9,313.24	-977.90	-1,176.20	376,592.30	653,689.70	32.034814	-103.970757
9,600.00	0.00	0.00	9,413.24	-977.90	-1,176.20	376,592.30	653,689.70	32.034814	-103.970757
9,699.80	0.00	0.00	9,513.04	-977.90	-1,176.20	376,592.30	653,689.70	32.034814	-103.970757
9,704.00	0.42	179.79	9,517.24	-977.92	-1,176.20	376,592.28	653,689.70	32.034814	-103.970757
KOP @9704.00'MD									
9,722.76	2.30	179.79	9,536.00	-978.36	-1,176.20	376,591.84	653,689.71	32.034813	-103.970757
3rd Bone Spring Sand									
9,750.00	5.02	179.79	9,563.18	-980.10	-1,176.19	376,590.10	653,689.71	32.034808	-103.970757
9,800.00	10.02	179.79	9,612.73	-986.64	-1,176.17	376,583.56	653,689.74	32.034790	-103.970757
9,850.00	15.02	179.79	9,661.53	-997.48	-1,176.13	376,572.72	653,689.78	32.034760	-103.970757
9,900.00	20.02	179.79	9,709.20	-1,012.52	-1,176.07	376,557.68	653,689.83	32.034719	-103.970757
9,950.00	25.02	179.79	9,755.37	-1,031.67	-1,176.00	376,538.53	653,689.91	32.034666	-103.970757
10,000.00	30.02	179.79	9,799.70	-1,054.76	-1,175.91	376,515.44	653,689.99	32.034603	-103.970757
10,050.00	35.02	179.79	9,841.84	-1,081.63	-1,175.81	376,488.56	653,690.09	32.034529	-103.970757
10,090.29	39.05	179.79	9,874.00	-1,105.90	-1,175.72	376,464.30	653,690.18	32.034462	-103.970757
Wolfcamp Top									
10,100.00	40.02	179.79	9,881.49	-1,112.08	-1,175.70	376,458.12	653,690.21	32.034445	-103.970757
10,124.63	42.48	179.79	9,900.00	-1,128.31	-1,175.64	376,441.89	653,690.27	32.034400	-103.970757
Wolfcamp X									
10,150.00	45.02	179.79	9,918.33	-1,145.86	-1,175.57	376,424.34	653,690.33	32.034352	-103.970757
10,200.00	50.02	179.79	9,952.08	-1,182.72	-1,175.43	376,387.48	653,690.47	32.034251	-103.970757
10,242.23	54.24	179.79	9,978.00	-1,216.05	-1,175.31	376,354.15	653,690.60	32.034159	-103.970757
Wolfcamp Y									
10,250.00	55.02	179.79	9,982.50	-1,222.39	-1,175.28	376,347.81	653,690.62	32.034142	-103.970757
10,293.38	59.36	179.79	10,006.00	-1,258.84	-1,175.15	376,311.36	653,690.76	32.034042	-103.970757
Wolfcamp A									

WPX Energy

Planning Report - Geographic

Database:	Compass	**Local Co-ordinate Reference:**	Well Horn 22-27-34 Fed Com No. 411H
Company:	WPX Energy Permian, LLC	**TVD Reference:**	GL:2926+28ft @ 2954.00usft (Pat 803)
Project:	Eddy NM	**MD Reference:**	GL:2926+28ft @ 2954.00usft (Pat 803)
Site:	Horn 22-27-34 Fed Com Pad	**North Reference:**	Grid
Well:	Horn 22-27-34 Fed Com No. 411H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan 1 (2370'FEL) WC A Upper		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (bearing)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
10,300.00	60.02	179.79	10,009.34	-1,264.55	-1,175.13	376,305.65	653,690.78	32.034026	-103.970757
10,350.00	65.02	179.79	10,032.40	-1,308.90	-1,174.96	376,261.30	653,690.95	32.033904	-103.970757
10,400.00	70.02	179.79	10,051.52	-1,355.08	-1,174.79	376,215.12	653,691.12	32.033777	-103.970757
10,450.00	75.02	179.79	10,066.53	-1,402.76	-1,174.61	376,167.44	653,691.30	32.033646	-103.970757
10,472.88	77.31	179.79	10,072.00	-1,424.97	-1,174.52	376,145.23	653,691.38	32.033585	-103.970757
Top Target									
10,500.00	80.02	179.79	10,077.33	-1,451.56	-1,174.42	376,118.64	653,691.48	32.033512	-103.970757
10,550.00	85.02	179.79	10,083.84	-1,501.12	-1,174.24	376,069.08	653,691.67	32.033376	-103.970757
10,599.80	90.00	179.79	10,086.00	-1,550.85	-1,174.05	376,019.34	653,691.85	32.033239	-103.970756
Landing Point									
10,604.00	90.00	179.79	10,086.00	-1,555.05	-1,174.04	376,015.15	653,691.87	32.033227	-103.970756
Landing Point @10604.00'MD									
10,700.00	90.00	179.79	10,086.00	-1,651.06	-1,173.68	375,919.14	653,692.23	32.032963	-103.970756
10,800.00	90.00	179.79	10,086.00	-1,751.05	-1,173.30	375,819.14	653,692.60	32.032689	-103.970756
10,900.00	90.00	179.79	10,086.00	-1,851.05	-1,172.93	375,719.14	653,692.98	32.032414	-103.970756
11,000.00	90.00	179.79	10,086.00	-1,951.05	-1,172.55	375,619.15	653,693.35	32.032139	-103.970756
11,100.00	90.00	179.79	10,086.00	-2,051.05	-1,172.18	375,519.15	653,693.73	32.031864	-103.970756
11,200.00	90.00	179.79	10,086.00	-2,151.05	-1,171.80	375,419.15	653,694.10	32.031589	-103.970756
11,300.00	90.00	179.79	10,086.00	-2,251.05	-1,171.43	375,319.15	653,694.48	32.031314	-103.970756
11,400.00	90.00	179.79	10,086.00	-2,351.05	-1,171.05	375,219.15	653,694.85	32.031039	-103.970755
11,500.00	90.00	179.79	10,086.00	-2,451.05	-1,170.68	375,119.15	653,695.23	32.030764	-103.970755
11,600.00	90.00	179.79	10,086.00	-2,551.05	-1,170.30	375,019.15	653,695.60	32.030489	-103.970755
11,700.00	90.00	179.79	10,086.00	-2,651.05	-1,169.93	374,919.15	653,695.98	32.030214	-103.970755
11,800.00	90.00	179.79	10,086.00	-2,751.05	-1,169.55	374,819.15	653,696.35	32.029940	-103.970755
11,900.00	90.00	179.79	10,086.00	-2,851.05	-1,169.18	374,719.15	653,696.73	32.029665	-103.970755
12,000.00	90.00	179.79	10,086.00	-2,951.05	-1,168.80	374,619.15	653,697.10	32.029390	-103.970755
12,100.00	90.00	179.79	10,086.00	-3,051.05	-1,168.43	374,519.15	653,697.48	32.029115	-103.970755
12,200.00	90.00	179.79	10,086.00	-3,151.04	-1,168.05	374,419.15	653,697.85	32.028840	-103.970754
12,300.00	90.00	179.79	10,086.00	-3,251.04	-1,167.68	374,319.15	653,698.23	32.028565	-103.970754
12,400.00	90.00	179.79	10,086.00	-3,351.04	-1,167.30	374,219.15	653,698.60	32.028290	-103.970754
12,500.00	90.00	179.79	10,086.00	-3,451.04	-1,166.93	374,119.16	653,698.98	32.028015	-103.970754
12,600.00	90.00	179.79	10,086.00	-3,551.04	-1,166.55	374,019.16	653,699.35	32.027740	-103.970754
12,700.00	90.00	179.79	10,086.00	-3,651.04	-1,166.18	373,919.16	653,699.73	32.027466	-103.970754
12,800.00	90.00	179.79	10,086.00	-3,751.04	-1,165.80	373,819.16	653,700.10	32.027191	-103.970754
12,900.00	90.00	179.79	10,086.00	-3,851.04	-1,165.43	373,719.16	653,700.48	32.026916	-103.970754
13,000.00	90.00	179.79	10,086.00	-3,951.04	-1,165.05	373,619.16	653,700.85	32.026641	-103.970753
13,100.00	90.00	179.79	10,086.00	-4,051.04	-1,164.68	373,519.16	653,701.23	32.026366	-103.970753
13,200.00	90.00	179.79	10,086.00	-4,151.04	-1,164.30	373,419.16	653,701.60	32.026091	-103.970753
13,300.00	90.00	179.79	10,086.00	-4,251.04	-1,163.92	373,319.16	653,701.98	32.025816	-103.970753
13,400.00	90.00	179.79	10,086.00	-4,351.04	-1,163.55	373,219.16	653,702.35	32.025541	-103.970753
13,500.00	90.00	179.79	10,086.00	-4,451.04	-1,163.17	373,119.16	653,702.73	32.025266	-103.970753
13,600.00	90.00	179.79	10,086.00	-4,551.04	-1,162.80	373,019.16	653,703.10	32.024991	-103.970753
13,700.00	90.00	179.79	10,086.00	-4,651.03	-1,162.42	372,919.16	653,703.48	32.024717	-103.970753
13,800.00	90.00	179.79	10,086.00	-4,751.03	-1,162.05	372,819.16	653,703.85	32.024442	-103.970752
13,900.00	90.00	179.79	10,086.00	-4,851.03	-1,161.67	372,719.17	653,704.23	32.024167	-103.970752
14,000.00	90.00	179.79	10,086.00	-4,951.03	-1,161.30	372,619.17	653,704.60	32.023892	-103.970752
14,100.00	90.00	179.79	10,086.00	-5,051.03	-1,160.92	372,519.17	653,704.98	32.023617	-103.970752
14,200.00	90.00	179.79	10,086.00	-5,151.03	-1,160.55	372,419.17	653,705.35	32.023342	-103.970752
14,300.00	90.00	179.79	10,086.00	-5,251.03	-1,160.17	372,319.17	653,705.73	32.023067	-103.970752
14,400.00	90.00	179.79	10,086.00	-5,351.03	-1,159.80	372,219.17	653,706.10	32.022792	-103.970752
14,500.00	90.00	179.79	10,086.00	-5,451.03	-1,159.42	372,119.17	653,706.48	32.022517	-103.970752
14,600.00	90.00	179.79	10,086.00	-5,551.03	-1,159.05	372,019.17	653,706.85	32.022243	-103.970751
14,700.00	90.00	179.79	10,086.00	-5,651.03	-1,158.67	371,919.17	653,707.23	32.021968	-103.970751
14,800.00	90.00	179.79	10,086.00	-5,751.03	-1,158.30	371,819.17	653,707.60	32.021693	-103.970751

WPX Energy

Planning Report - Geographic

Database:	Compass	**Local Co-ordinate Reference:**	Well Horn 22-27-34 Fed Com No. 411H
Company:	WPX Energy Permian, LLC	**TVD Reference:**	GL:2926+28ft @ 2954.00usft (Pat 803)
Project:	Eddy NM	**MD Reference:**	GL:2926+28ft @ 2954.00usft (Pat 803)
Site:	Horn 22-27-34 Fed Com Pad	**North Reference:**	Grid
Well:	Horn 22-27-34 Fed Com No. 411H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan 1 (2370'FEL) WC A Upper		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (bearing)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
14,900.00	90.00	179.79	10,086.00	-5,851.03	-1,157.92	371,719.17	653,707.98	32.021418	-103.970751
15,000.00	90.00	179.79	10,086.00	-5,951.03	-1,157.55	371,619.17	653,708.36	32.021143	-103.970751
15,100.00	90.00	179.79	10,086.00	-6,051.02	-1,157.17	371,519.17	653,708.73	32.020868	-103.970751
15,200.00	90.00	179.79	10,086.00	-6,151.02	-1,156.80	371,419.17	653,709.11	32.020593	-103.970751
15,279.88	90.00	179.79	10,086.00	-6,230.90	-1,156.50	371,339.30	653,709.40	32.020374	-103.970751
15,300.00	90.00	180.19	10,086.00	-6,251.02	-1,156.50	371,319.18	653,709.41	32.020318	-103.970751
15,400.00	90.00	182.19	10,086.00	-6,351.00	-1,158.57	371,219.20	653,707.34	32.020043	-103.970758
15,420.46	90.00	182.60	10,086.00	-6,371.44	-1,159.42	371,198.76	653,706.48	32.019987	-103.970761
15,500.00	90.00	182.60	10,086.00	-6,450.90	-1,163.03	371,119.30	653,702.88	32.019769	-103.970774
15,600.00	90.00	182.60	10,086.00	-6,550.79	-1,167.56	371,019.40	653,698.35	32.019494	-103.970790
15,700.00	90.00	182.60	10,086.00	-6,650.69	-1,172.09	370,919.51	653,693.82	32.019220	-103.970805
15,800.00	90.00	182.60	10,086.00	-6,750.59	-1,176.62	370,819.61	653,689.29	32.018945	-103.970821
15,900.00	90.00	182.60	10,086.00	-6,850.49	-1,181.15	370,719.71	653,684.76	32.018671	-103.970837
16,000.00	90.00	182.60	10,086.00	-6,950.38	-1,185.68	370,619.81	653,680.23	32.018396	-103.970852
16,100.00	90.00	182.60	10,086.00	-7,050.28	-1,190.21	370,519.92	653,675.69	32.018121	-103.970868
16,200.00	90.00	182.60	10,086.00	-7,150.18	-1,194.74	370,420.02	653,671.16	32.017847	-103.970884
16,300.00	90.00	182.60	10,086.00	-7,250.08	-1,199.27	370,320.12	653,666.63	32.017572	-103.970900
16,400.00	90.00	182.60	10,086.00	-7,349.97	-1,203.80	370,220.23	653,662.10	32.017298	-103.970915
16,500.00	90.00	182.60	10,086.00	-7,449.87	-1,208.33	370,120.33	653,657.57	32.017023	-103.970931
16,600.00	90.00	182.60	10,086.00	-7,549.77	-1,212.86	370,020.43	653,653.04	32.016749	-103.970947
16,700.00	90.00	182.60	10,086.00	-7,649.66	-1,217.40	369,920.53	653,648.51	32.016474	-103.970962
16,800.00	90.00	182.60	10,086.00	-7,749.56	-1,221.93	369,820.64	653,643.98	32.016199	-103.970978
16,900.00	90.00	182.60	10,086.00	-7,849.46	-1,226.46	369,720.74	653,639.45	32.015925	-103.970994
17,000.00	90.00	182.60	10,086.00	-7,949.36	-1,230.99	369,620.84	653,634.92	32.015650	-103.971009
17,100.00	90.00	182.60	10,086.00	-8,049.25	-1,235.52	369,520.94	653,630.39	32.015376	-103.971025
17,200.00	90.00	182.60	10,086.00	-8,149.15	-1,240.05	369,421.05	653,625.86	32.015101	-103.971041
17,300.00	90.00	182.60	10,086.00	-8,249.05	-1,244.58	369,321.15	653,621.32	32.014827	-103.971057
17,400.00	90.00	182.60	10,086.00	-8,348.95	-1,249.11	369,221.25	653,616.79	32.014552	-103.971072
17,500.00	90.00	182.60	10,086.00	-8,448.84	-1,253.64	369,121.36	653,612.26	32.014277	-103.971088
17,600.00	90.00	182.60	10,086.00	-8,548.74	-1,258.17	369,021.46	653,607.73	32.014003	-103.971104
17,700.00	90.00	182.60	10,086.00	-8,648.64	-1,262.70	368,921.56	653,603.20	32.013728	-103.971119
17,800.00	90.00	182.60	10,086.00	-8,748.54	-1,267.23	368,821.66	653,598.67	32.013454	-103.971135
17,900.00	90.00	182.60	10,086.00	-8,848.43	-1,271.76	368,721.77	653,594.14	32.013179	-103.971151
18,000.00	90.00	182.60	10,086.00	-8,948.33	-1,276.30	368,621.87	653,589.61	32.012905	-103.971166
18,100.00	90.00	182.60	10,086.00	-9,048.23	-1,280.83	368,521.97	653,585.08	32.012630	-103.971182
18,200.00	90.00	182.60	10,086.00	-9,148.12	-1,285.36	368,422.07	653,580.55	32.012355	-103.971198
18,300.00	90.00	182.60	10,086.00	-9,248.02	-1,289.89	368,322.18	653,576.02	32.012081	-103.971214
18,400.00	90.00	182.60	10,086.00	-9,347.92	-1,294.42	368,222.28	653,571.49	32.011806	-103.971229
18,500.00	90.00	182.60	10,086.00	-9,447.82	-1,298.95	368,122.38	653,566.96	32.011532	-103.971245
18,600.00	90.00	182.60	10,086.00	-9,547.71	-1,303.48	368,022.48	653,562.42	32.011257	-103.971261
18,700.00	90.00	182.60	10,086.00	-9,647.61	-1,308.01	367,922.59	653,557.89	32.010983	-103.971276
18,800.00	90.00	182.60	10,086.00	-9,747.51	-1,312.54	367,822.69	653,553.36	32.010708	-103.971292
18,900.00	90.00	182.60	10,086.00	-9,847.41	-1,317.07	367,722.79	653,548.83	32.010433	-103.971308
19,000.00	90.00	182.60	10,086.00	-9,947.30	-1,321.60	367,622.90	653,544.30	32.010159	-103.971323
19,100.00	90.00	182.60	10,086.00	-10,047.20	-1,326.13	367,523.00	653,539.77	32.009884	-103.971339
19,200.00	90.00	182.60	10,086.00	-10,147.10	-1,330.67	367,423.10	653,535.24	32.009610	-103.971355
19,300.00	90.00	182.60	10,086.00	-10,246.99	-1,335.20	367,323.20	653,530.71	32.009335	-103.971370
19,400.00	90.00	182.60	10,086.00	-10,346.89	-1,339.73	367,223.31	653,526.18	32.009061	-103.971386
19,500.00	90.00	182.60	10,086.00	-10,446.79	-1,344.26	367,123.41	653,521.65	32.008786	-103.971402
19,600.00	90.00	182.60	10,086.00	-10,546.69	-1,348.79	367,023.51	653,517.12	32.008512	-103.971418
19,700.00	90.00	182.60	10,086.00	-10,646.58	-1,353.32	366,923.61	653,512.59	32.008237	-103.971433
19,800.00	90.00	182.60	10,086.00	-10,746.48	-1,357.85	366,823.72	653,508.05	32.007962	-103.971449
19,900.00	90.00	182.60	10,086.00	-10,846.38	-1,362.38	366,723.82	653,503.52	32.007688	-103.971465
20,000.00	90.00	182.60	10,086.00	-10,946.28	-1,366.91	366,623.92	653,498.99	32.007413	-103.971480
20,100.00	90.00	182.60	10,086.00	-11,046.17	-1,371.44	366,524.03	653,494.46	32.007139	-103.971496

WPX Energy

Planning Report - Geographic

Database:	Compass	**Local Co-ordinate Reference:**	Well Horn 22-27-34 Fed Com No. 411H
Company:	WPX Energy Permian, LLC	**TVD Reference:**	GL:2926+28ft @ 2954.00usft (Pat 803)
Project:	Eddy NM	**MD Reference:**	GL:2926+28ft @ 2954.00usft (Pat 803)
Site:	Horn 22-27-34 Fed Com Pad	**North Reference:**	Grid
Well:	Horn 22-27-34 Fed Com No. 411H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan 1 (2370'FEL) WC A Upper		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (bearing)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
20,200.00	90.00	182.60	10,086.00	-11,146.07	-1,375.97	366,424.13	653,489.93	32.006864	-103.971512
20,300.00	90.00	182.60	10,086.00	-11,245.97	-1,380.50	366,324.23	653,485.40	32.006590	-103.971527
20,400.00	90.00	182.60	10,086.00	-11,345.87	-1,385.03	366,224.33	653,480.87	32.006315	-103.971543
20,500.00	90.00	182.60	10,086.00	-11,445.76	-1,389.57	366,124.44	653,476.34	32.006040	-103.971559
20,536.08	90.00	182.60	10,086.00	-11,481.80	-1,391.20	366,088.40	653,474.70	32.005941	-103.971564
20,600.00	90.00	181.32	10,086.00	-11,545.69	-1,393.38	366,024.51	653,472.52	32.005766	-103.971572
20,700.00	90.00	179.32	10,086.00	-11,645.68	-1,393.94	365,924.52	653,471.97	32.005491	-103.971575
20,725.57	90.00	178.81	10,086.00	-11,671.24	-1,393.52	365,898.95	653,472.38	32.005421	-103.971574
20,800.00	90.00	178.81	10,086.00	-11,745.66	-1,391.97	365,824.54	653,473.93	32.005216	-103.971570
20,900.00	90.00	178.81	10,086.00	-11,845.64	-1,389.89	365,724.56	653,476.02	32.004941	-103.971564
21,000.00	90.00	178.81	10,086.00	-11,945.62	-1,387.81	365,624.58	653,478.10	32.004666	-103.971559
21,100.00	90.00	178.81	10,086.00	-12,045.60	-1,385.73	365,524.60	653,480.18	32.004391	-103.971553
21,200.00	90.00	178.81	10,086.00	-12,145.57	-1,383.64	365,424.62	653,482.26	32.004117	-103.971547
21,300.00	90.00	178.81	10,086.00	-12,245.55	-1,381.56	365,324.65	653,484.34	32.003842	-103.971542
21,400.00	90.00	178.81	10,086.00	-12,345.53	-1,379.48	365,224.67	653,486.43	32.003567	-103.971536
21,500.00	90.00	178.81	10,086.00	-12,445.51	-1,377.40	365,124.69	653,488.51	32.003292	-103.971530
21,600.00	90.00	178.81	10,086.00	-12,545.49	-1,375.32	365,024.71	653,490.59	32.003017	-103.971525
21,700.00	90.00	178.81	10,086.00	-12,645.47	-1,373.23	364,924.73	653,492.67	32.002742	-103.971519
21,800.00	90.00	178.81	10,086.00	-12,745.44	-1,371.15	364,824.75	653,494.75	32.002467	-103.971513
21,900.00	90.00	178.81	10,086.00	-12,845.42	-1,369.07	364,724.78	653,496.84	32.002193	-103.971508
22,000.00	90.00	178.81	10,086.00	-12,945.40	-1,366.99	364,624.80	653,498.92	32.001918	-103.971502
22,100.00	90.00	178.81	10,086.00	-13,045.38	-1,364.90	364,524.82	653,501.00	32.001643	-103.971497
22,200.00	90.00	178.81	10,086.00	-13,145.36	-1,362.82	364,424.84	653,503.08	32.001368	-103.971491
22,300.00	90.00	178.81	10,086.00	-13,245.34	-1,360.74	364,324.86	653,505.16	32.001093	-103.971485
22,400.00	90.00	178.81	10,086.00	-13,345.31	-1,358.66	364,224.88	653,507.25	32.000818	-103.971480
22,500.00	90.00	178.81	10,086.00	-13,445.29	-1,356.58	364,124.91	653,509.33	32.000543	-103.971474
22,515.52	90.00	178.81	10,086.00	-13,460.81	-1,356.25	364,109.39	653,509.65	32.000501	-103.971473
LTP (100'FSL) @22515.52'MD									
22,561.32	90.00	178.81	10,086.00	-13,506.60	-1,355.30	364,063.60	653,510.60	32.000375	-103.971471
22,565.52	90.00	178.81	10,086.00	-13,510.80	-1,355.21	364,059.40	653,510.69	32.000363	-103.971470
BHL @22565.52'MD									
22,600.00	90.00	178.81	10,086.00	-13,545.27	-1,354.49	364,024.93	653,511.41	32.000269	-103.971468
22,611.32	90.00	178.81	10,086.00	-13,556.59	-1,354.26	364,013.61	653,511.65	32.000237	-103.971468

WPX Energy

Planning Report - Geographic

Database:	Compass	**Local Co-ordinate Reference:**	Well Horn 22-27-34 Fed Com No. 411H
Company:	WPX Energy Permian, LLC	**TVD Reference:**	GL:2926+28ft @ 2954.00usft (Pat 803)
Project:	Eddy NM	**MD Reference:**	GL:2926+28ft @ 2954.00usft (Pat 803)
Site:	Horn 22-27-34 Fed Com Pad	**North Reference:**	Grid
Well:	Horn 22-27-34 Fed Com No. 411H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan 1 (2370'FEL) WC A Upper		

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (bearing	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
FTP (411H) 100'FNL, 23 - plan misses target center by 1561.91usft at 0.00usft MD (0.00 TVD, 0.00 N, 0.00 E) - Point	0.00	0.00	0.00	-1,027.90	-1,176.00	376,542.30	653,689.90	32.034676	-103.970757
POP (411H) 50'FNL, 237 - plan misses target center by 1529.62usft at 0.00usft MD (0.00 TVD, 0.00 N, 0.00 E) - Point	0.00	0.00	0.00	-977.90	-1,176.20	376,592.30	653,689.70	32.034814	-103.970757
LTP (411H) 100'FSL, 23 - plan hits target center - Point	0.00	0.00	10,086.00	-13,506.60	-1,355.30	364,063.60	653,510.60	32.000375	-103.971471
TP 3 (411H) - plan misses target center by 31.49usft at 20568.22usft MD (10086.00 TVD, -11513.92 N, -1392.48 E) - Point	0.00	0.00	10,086.00	-11,515.00	-1,361.00	366,055.20	653,504.90	32.005850	-103.971467
BHL (411H) 50'FSL, 233 - plan misses target center by 0.84usft at 22611.31usft MD (10086.00 TVD, -13556.58 N, -1354.26 E) - Point	0.00	0.00	10,086.00	-13,556.60	-1,355.10	364,013.60	653,510.80	32.000237	-103.971470
TP 2 (411H) - plan hits target center - Point	0.00	0.00	10,086.00	-11,481.80	-1,391.20	366,088.40	653,474.70	32.005941	-103.971564
TP 1 (411H) - plan hits target center - Point	0.00	0.00	10,086.00	-6,230.90	-1,156.50	371,339.30	653,709.40	32.020374	-103.970751

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (bearing)
427.00	427.00	Rustler			
827.00	827.00	Salado			
1,186.00	1,186.00	Castile (Top of Salt) (Est.)			
2,987.29	2,976.00	Bell Canyon (Base of Salt)			
4,061.49	4,016.00	Cherry Canyon			
5,186.29	5,105.00	Brushy Canyon			
6,844.07	6,710.00	Bone Spring			
6,943.23	6,806.00	Avalon Upper			
7,449.34	7,296.00	Avalon Lower			
7,800.52	7,636.00	1st Bone Spring Sand			
8,116.58	7,942.00	2nd Bone Spring Lime			
8,442.58	8,259.00	2nd Bone Spring Sand			
8,908.75	8,722.00	3rd Bone Spring Lime			
9,254.76	9,068.00	Harkey Sandstone			
9,722.76	9,536.00	3rd Bone Spring Sand			
10,090.29	9,874.00	Wolfcamp Top			
10,124.63	9,900.00	Wolfcamp X			
10,242.23	9,978.00	Wolfcamp Y			
10,293.38	10,006.00	Wolfcamp A			
10,472.88	10,072.00	Top Target			
10,599.80	10,086.00	Landing Point			

WPX Energy

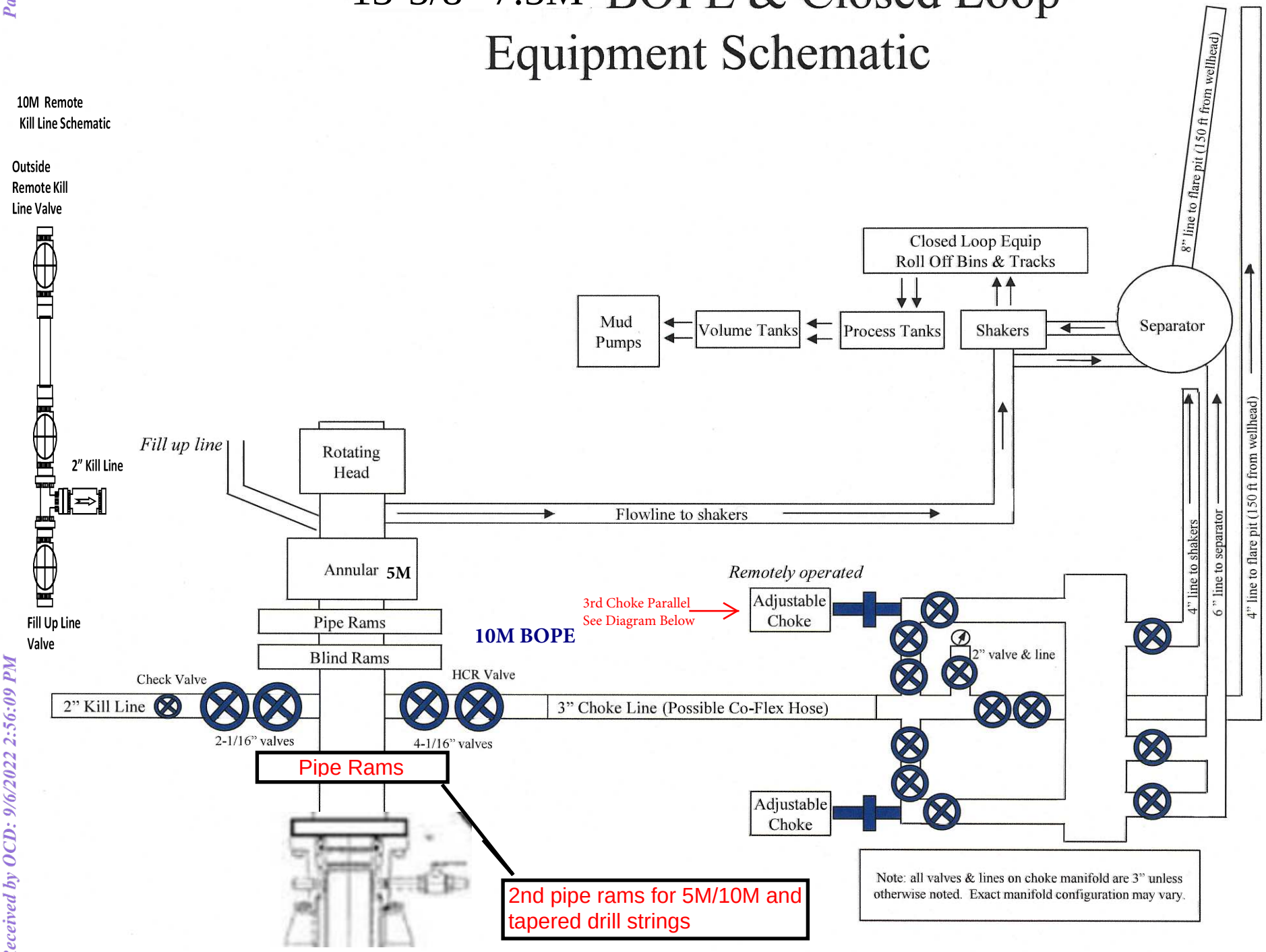
Planning Report - Geographic

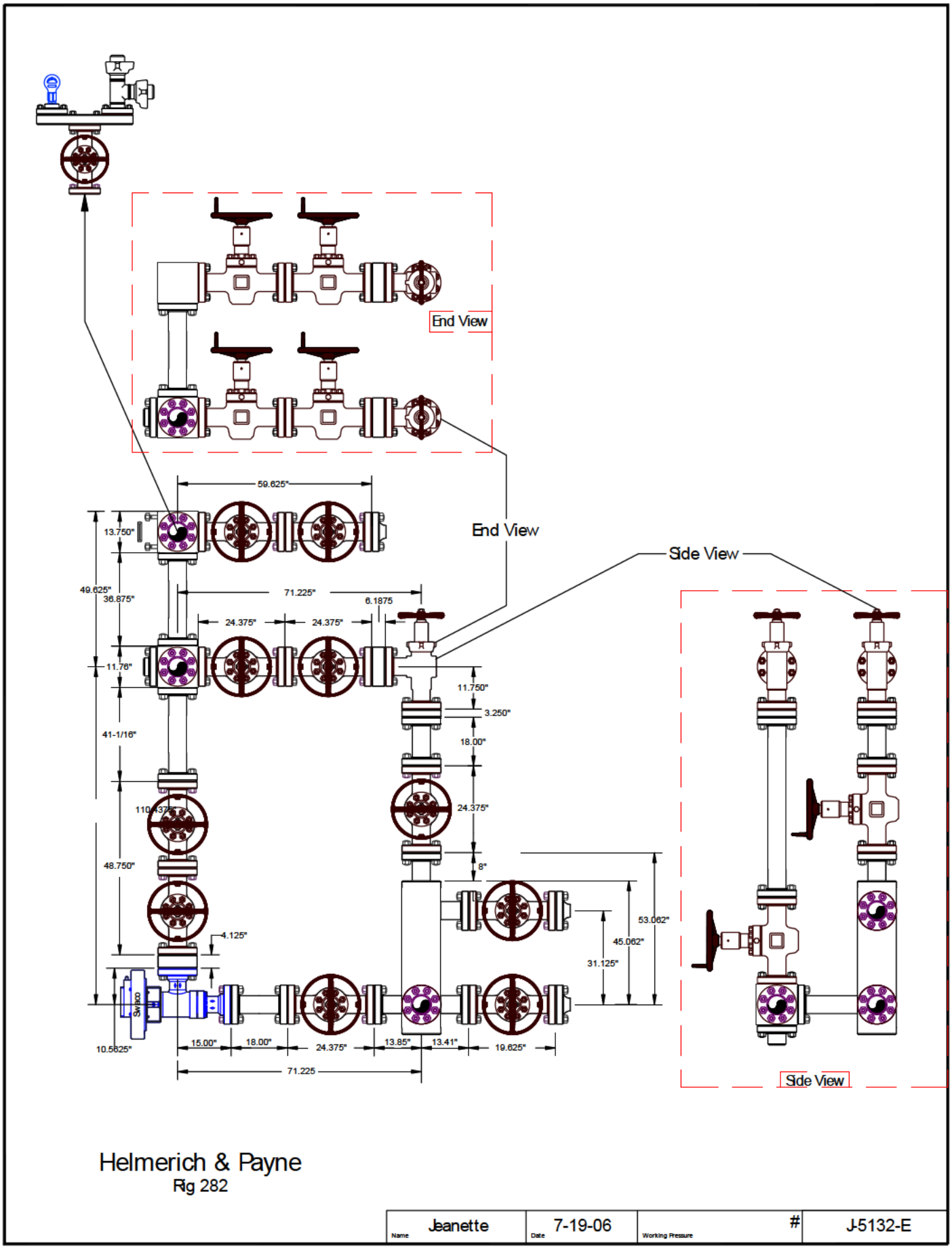
Database:	Compass	**Local Co-ordinate Reference:**	Well Horn 22-27-34 Fed Com No. 411H
Company:	WPX Energy Permian, LLC	**TVD Reference:**	GL:2926+28ft @ 2954.00usft (Pat 803)
Project:	Eddy NM	**MD Reference:**	GL:2926+28ft @ 2954.00usft (Pat 803)
Site:	Horn 22-27-34 Fed Com Pad	**North Reference:**	Grid
Well:	Horn 22-27-34 Fed Com No. 411H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Plan 1 (2370'FEL) WC A Upper		

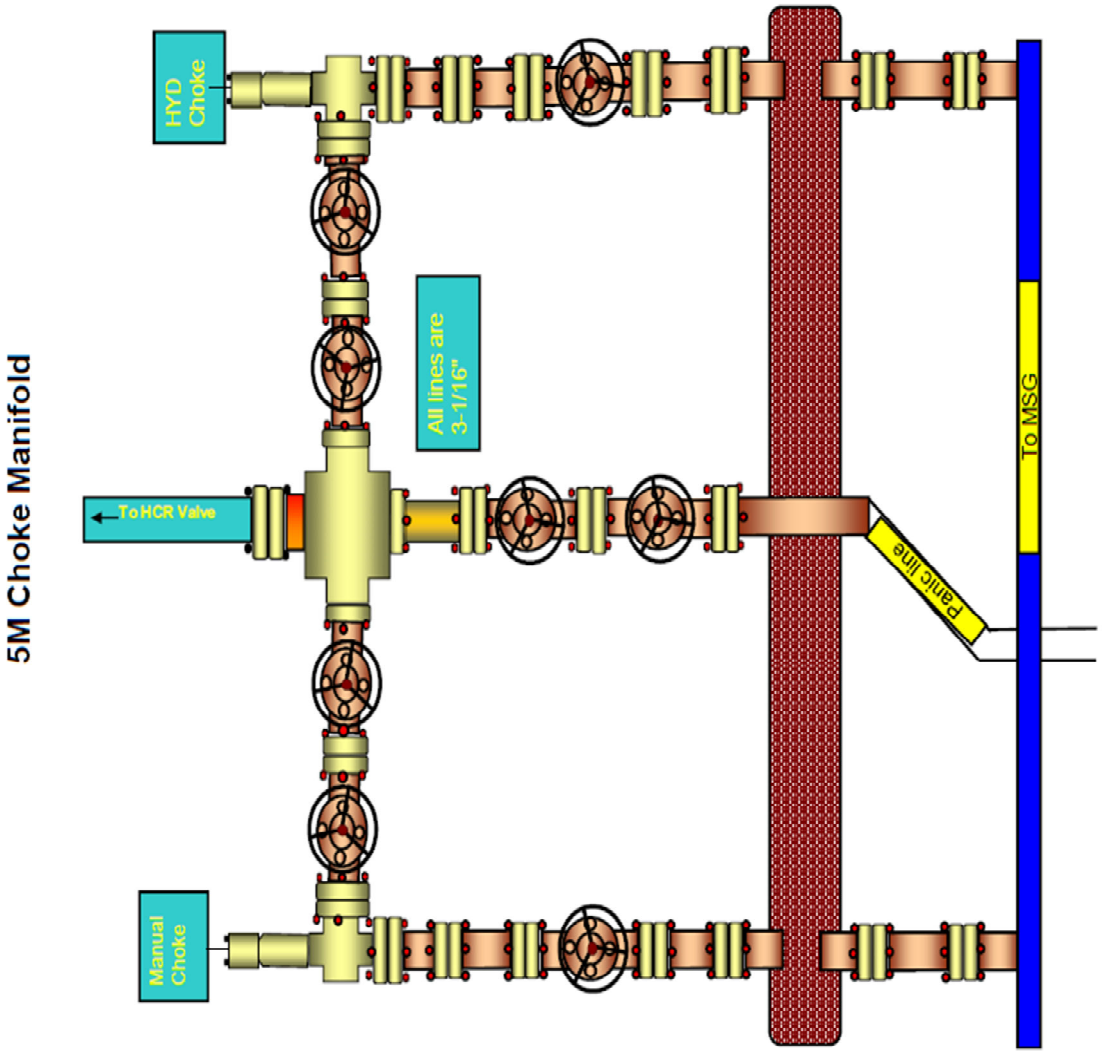
Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
2,150.00	2,150.00	0.00	0.00	Start Nudge
2,875.17	2,867.46	-60.08	-68.74	Hold 14.50°
8,382.78	8,199.55	-967.82	-1,107.26	EOH
9,107.95	8,917.00	-1,027.90	-1,176.00	Vertical
9,704.00	9,513.04	-1,027.90	-1,176.00	KOP @9704.00'MD
10,604.00	10,086.00	-1,600.85	-1,173.85	Landing Point @10604.00'MD
22,515.52	10,086.00	-13,506.60	-1,355.30	LTP (100'FSL) @22515.52'MD
22,565.52	10,086.00	-13,556.59	-1,354.26	BHL @22565.52'MD

13-5/8" 7.5M BOPE & Closed Loop Equipment Schematic




End View
End View
Side View
Side View
59.625"
13.750"
49.625"
36.875"
71.225"
6.1875
24.375"
24.375"
11.76"
41-1/16"
48.750"
4.125"
11.750"
3.250"
18.00"
24.375"
8"
53.062"
45.062"
31.125"
10.5625"
15.00"
18.00"
24.375"
13.85"
13.41"
19.625"
71.225"
Helmerich & Payne
Rig 282
Name
Jeanette
Date
7-19-06
Working Pressure
#
J-5132-E


5M Choke Manifold
HYD Choke
All lines are 3-1/16"
To HCR Valve
Manual Choke
Panic line
To MSG

WPX Energy Permian, LLC

3500 One Williams Center
Tulsa, Oklahoma 74172

Hydrogen Sulfide (H_2S) Contingency Plan

For

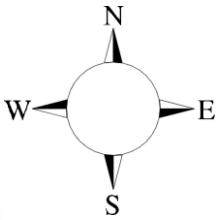
Horn 22-27-34 Fed Com 411H

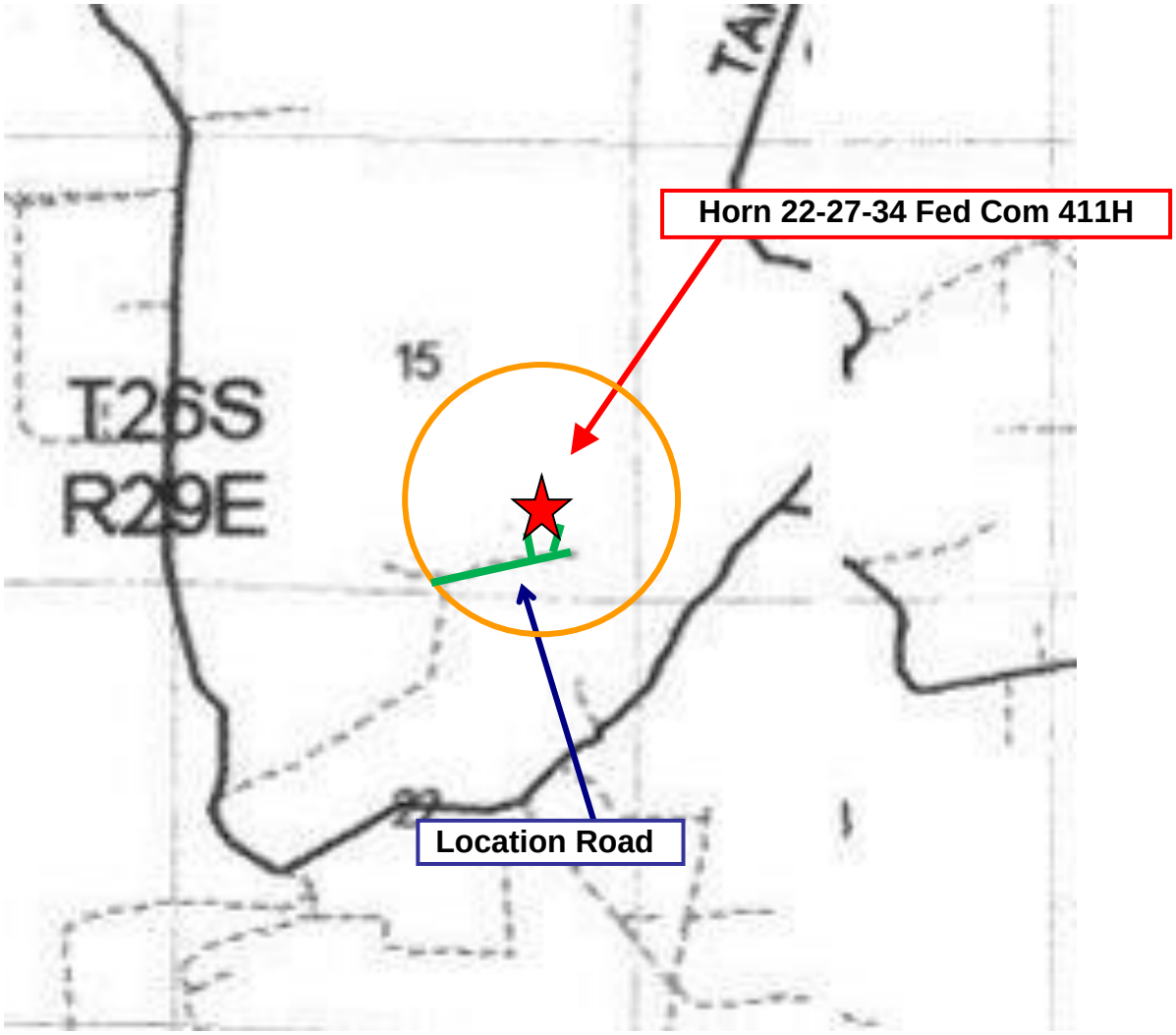
Sec-15 T-26S R-29E
978’ FSL & 1193’ FEL
LAT. = 32.0374891’ N (NAD83)
LONG = 103.9669547’ W

Eddy County NM

Horn 22-27-34 Fed Com 411H

This is an open drilling site. H_2S monitoring equipment and emergency response equipment will be used within 500' of zones known to contain H_2S, including warning signs, wind indicators and H_2S monitor.





Assumed 100 ppm ROE = 3000' (Radius of Exposure)
100 ppm H2S concentration shall trigger activation of this plan.

Escape

Crews shall escape upwind of escaping gas in the event of an emergency release of gas. Escape can be facilitated from the location entrance road. Crews should then block the entrance to the location from the lease road so as not to allow anyone traversing into a hazardous area. The blockade should be at a safe distance outside of the ROE. There are no homes or buildings in or near the ROE.

Assumed 100 ppm ROE = 3000'

100 ppm H_2S concentration shall trigger activation of this plan.

Emergency Procedures

In the event of a release of gas containing H_2S, the first responder(s) must

- **Isolate the area and prevent entry by other persons into the 100 ppm ROE.**
- **Evacuate any public places encompassed by the 100 ppm ROE.**
- **Be equipped with H_2S monitors and air packs in order to control the release.**
- **Use the "buddy system" to ensure no injuries occur during the response**
- **Take precautions to avoid personal injury during this operation.**
- **Contact operator and/or local officials to aid in operation. See list of phone numbers attached.**
- **Have received training in the**
  - **Detection of H_2S, and**
  - **Measures for protection against the gas,**
  - **Equipment used for protection and emergency response.**

Ignition of Gas Source

Should control of the well be considered lost and ignition considered, take care to protect against exposure to Sulfur Dioxide (SO_2). Intentional ignition must be coordinated with the NMOCD and local officials. Additionally the NM State Police may become involved. NM State Police shall be the Incident Command on scene of any major release. Take care to protect downwind whenever there is an ignition of the gas

Characteristics of H_2S and SO_2

Common Name	Chemical Formula	Specific Gravity	Threshold Limit	Hazardous Limit	Lethal Concentration
Hydrogen Sulfide	H_2S	1.189 Air = 1	10 ppm	100 ppm/hr	600 ppm
Sulfur Dioxide	SO_2	2.21 Air = 1	2 ppm	N/A	1000 ppm

Contacting Authorities

WPX Energy Permian personnel must liaison with local and state agencies to ensure a proper response to a major release. Additionally, the OCD must be notified of the release as soon as possible but no later than 4 hours. Agencies will ask for information such as type and volume of release, wind direction, location of release, etc. Be prepared with all information available. The following call list of essential and potential responders has been prepared for use during a release. WPX Energy Permian Company response must be in coordination with

the State of New Mexico's 'Hazardous Materials Emergency Response Plan' (HMER)

Hydrogen Sulfide Drilling Operation Plan

I. HYDROGEN SULFIDE (H_2S) TRAINING

All personnel, whether regularly assigned, contracted, or employed on an unscheduled basis, will receive training from a qualified instructor in the following areas prior to commencing drilling operations on this well:

1. The hazards and characteristics of hydrogen sulfide (H_2S)
2. The proper use and maintenance of personal protective equipment and life support systems.
3. The proper use of H_2S detectors, alarms, warning systems, briefing areas, evacuation procedures, and prevailing winds.
4. The proper techniques for first aid and rescue procedures.

In addition, supervisory personnel will be trained in the following areas:

1. The effects of H_2S metal components. If high tensile tubulars are to be used, personnel will be trained in their special maintenance requirements.
2. Corrective action and shut-in procedures when drilling or reworking a well and blowout prevention and well control procedures.
3. The contents and requirements of the H_2S Drilling Operations Plan and Public Protection Plan.

There will be an initial training session just prior to encountering a known or probable H_2S zone (within 3 days or 500 feet) and weekly H_2S and well control drills for all personnel in each crew. The initial training session shall include a review of the site specific H_2S Drilling Operations Plan and the Public Protection Plan.

II. HYDROGEN SULFIDE TRAINING

Note: All H_2S safety equipment and systems will be installed, tested, and operational when drilling reaches a depth of 500 feet above, or three days prior to penetrating the first zone containing or reasonably expected to contain H_2S.

1. **Well Control Equipment**

   A. Flare line

   B. Choke manifold – Remotely Operated

   C. Blind rams and pipe rams to accommodate all pipe sizes with properly sized closing unit

   D. Auxiliary equipment may include if applicable: annular preventer and rotating head.

   E. Mud/Gas Separator

2. **Protective equipment for essential personnel:**

   30-minute SCBA units located at briefing areas, as indicated on well site diagram, with escape units available in the top doghouse. As it may be difficult to communicate audibly while wearing these units, hand signals shall be utilized.

3. **H_2S detection and monitoring equipment:**

   Portable H_2S monitors positioned on location for best coverage and response. These units have warning lights which activate when H_2S levels reach 10 ppm and audible sirens which activate at 15 ppm. Sensor locations:

   - **Bell nipple**
   - **Rig floor**
   - **Cellar**
   - **Possum Belly/Shale shaker**
   - **Choke manifold**

   Visual warning systems:

   A. Wind direction indicators as shown on well site diagram

   B. Caution/ Danger signs shall be posted on roads providing direct access to locations. Signs will be painted a high visibility yellow with black lettering of sufficient size to be reasonable distance from the immediate location. Bilingual signs will be used when appropriate.

4. **Mud program:**

   The mud program has been designed to minimize the volume of H_2S circulated to surface. Proper mud weight, safe drilling practices and the use of H_2S scavengers will minimize hazards when penetrating H_2S bearing zones.

5. **Metallurgy:**

   A. All drill strings, casings, tubing, wellhead, blowout preventer, drilling spool, kill lines, choke manifold lines, and valves shall be H_2S trim.

   B. All elastomers used for packing and seals shall be H_2S trim.

6. **Communication:**

   A. Company personnel have/use cellular telephones in the field.

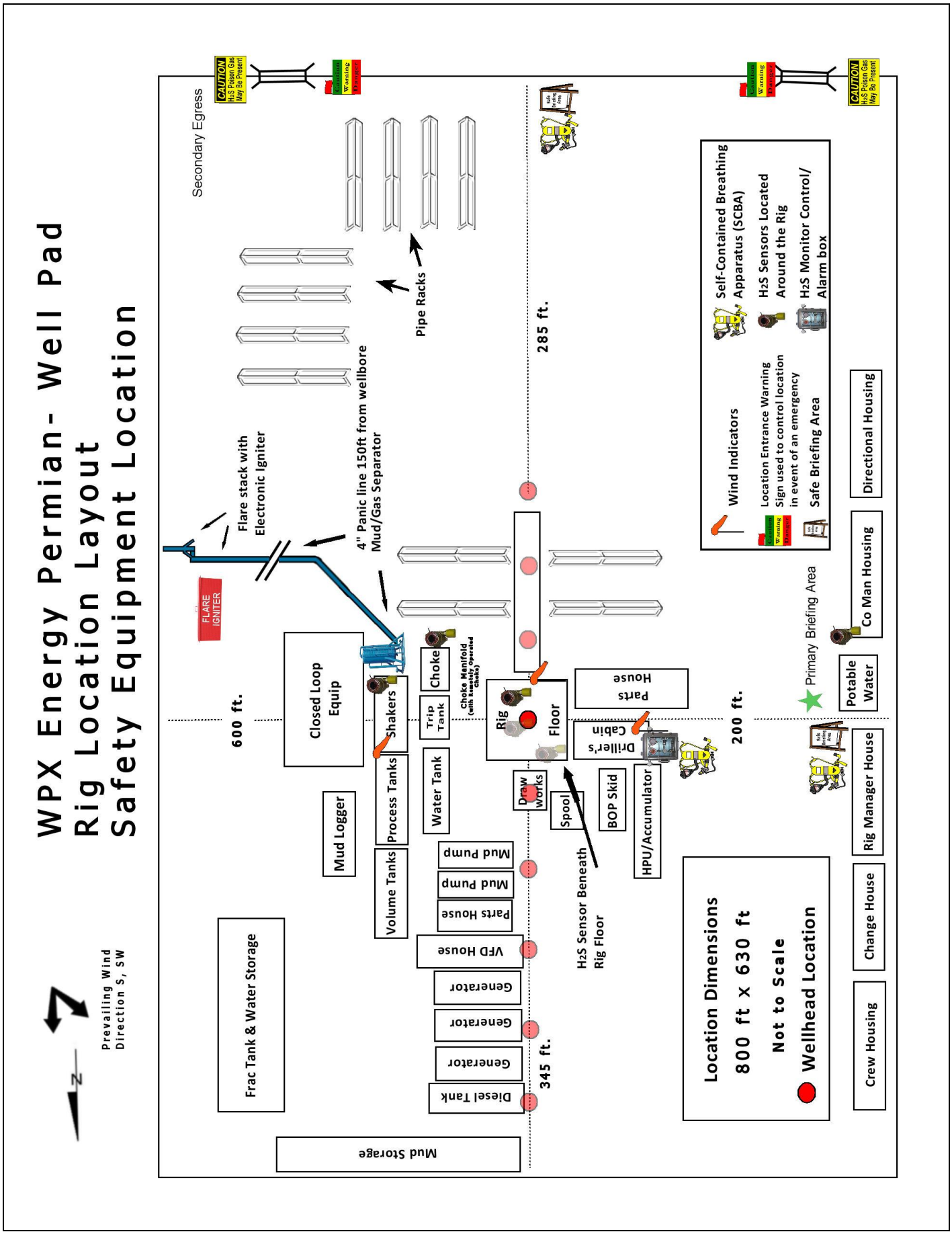
   B. Land line (telephone) communications at Office

7. **Well testing:**

   A. Drill stem testing will be performed with a minimum number of personnel in the immediate vicinity, which are necessary to safety and adequately conduct the test. The drill stem testing will be conducted during daylight hours and formation fluids will not be flowed to the surface. All drill-stem-testing operations conducted in an H_2S environment will use the closed chamber method of testing.

   B. There will be no drill stem testing.

WPX Energy Permian. Company Call List		
Drilling Supervisor – Keith Jordan		601-431-3739
	Ian Ensell	719-761-2440
EHS Professional – Laura Wright		405-439-8129
Agency Call List		
Lea County (575)	**Hobbs**	
	Lea County Communication Authority	393-3981
	State Police	392-5588
	City Police	397-9265
	Sheriff's Office	393-2515
	Ambulance	**911**
	Fire Department	397-9308
	LEPC (Local Emergency Planning Committee)	393-2870
	NMOCD	393-6161
	BLM – PET Petroleum Engineering Tech. ON CALL – Cement Notifications or Emergency issues.	**(575) 689-5981**
Eddy County (575)	**Carlsbad**	
	State Police	885-3137
	City Police	885-2111
	Sheriff's Office	887-7551
	Ambulance	**911**
	Fire Department	885-3125
	LEPC (Local Emergency Planning Committee)	887-3798
	US Bureau of Land Management (Carlsbad) BLM – CFO **BLM – PET Petroleum Engineering Tech. ON CALL – Cement Notifications or Emergency issues.**	(575) 234-5972 **(575) 361-2822**
	NM Emergency Response Commission (Santa Fe)	(505) 476-9600
	24 HR	(505) 827-9126
	National Emergency Response Center	(800) 424-8802
	National Pollution Control Center: Direct	(703) 872-6000
	For Oil Spills	(800) 280-7118
	Emergency Services	
	Wild Well Control	(281) 784-4700
	Cudd Pressure Control (915) 699-0139	(915) 563-3356
	Halliburton	(575) 746-2757
	B. J. Services	(575) 746-3569
Give GPS position:	Native Air – Emergency Helicopter – Hobbs (TX & NM)	(800) 642-7828
	Flight For Life - Lubbock, TX	(806) 743-9911
	Aerocare - Lubbock, TX	(806) 747-8923
	Med Flight Air Amb - Albuquerque, NM	(575) 842-4433
	Lifeguard Air Med Svc. Albuquerque, NM	(800) 222-1222
	Poison Control (24/7)	(575) 272-3115
	Oil & Gas Pipeline 24 Hour Service	(800) 364-4366
	NOAA – Website - www.nhc.noaa.gov	


WPX Energy Permian- Well Pad
Rig Location Layout
Safety Equipment Location
Secondary Egress
CAUTION H2S Poison Gas May Be Present
Pipe Racks
285 ft.
Flare stack with Electronic Igniter
4" Panic line 150ft from wellbore Mud/Gas Separator
FLARE IGNITER
600 ft.
Closed Loop Equip
Shakers
Choke
Trip Tank
Choke Manifold (with Remotely Operated Choke)
Rig Floor
Parts House
Driller's Cabin
200 ft.
Primary Briefing Area
Potable Water
Co Man Housing
Directional Housing
Self-Contained Breathing Apparatus (SCBA)
H2S Sensors Located Around the Rig
H2S Monitor Control/ Alarm box
Wind Indicators
Location Entrance Warning Sign used to control location in event of an emergency
Safe Briefing Area
Mud Logger
Process Tanks
Water Tank
Volume Tanks
Mud Pump
Mud Pump
Parts House
VFD House
Generator
Generator
Generator
Diesel Tank
Draw Works
Spool
BOP Skid
HPU/Accumulator
H2S Sensor Beneath Rig Floor
345 ft.
Frac Tank & Water Storage
Mud Storage
Prevailing Wind Direction S, SW
N
Location Dimensions
800 ft x 630 ft
Not to Scale
Wellhead Location
Crew Housing
Change House
Rig Manager House

PECOS DISTRICT
DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	**WPX Energy Permian LLC**
LEASE NO.:	**NMNM0021767**
LOCATION:	Section 15, T.26 S., R.29 E., NMPM
COUNTY:	Eddy County, New Mexico

WELL NAME & NO.:	**Horn 22-27-34 Fed Com 411H**
SURFACE HOLE FOOTAGE:	978'/S & 1193'/E
BOTTOM HOLE FOOTAGE	50'/S & 2330'/E
ATS/API ID:	**ATS-21-562**
Sundry ID:	**N/A**

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	☐ 4 String	☐ Capitan Reef	☐ WIPP
Other	☐ Fluid Filled	☐ Pilot Hole	☐ Open Annulus
Cementing	☐ Cement Squeeze	☐ EchoMeter	
Special Requirements	☐ Water Disposal	☑ COM	☐ Unit
Special Requirements Variance	☐ Break Testing	☐ Offline Cementing	

A. HYDROGEN SULFIDE

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

Approval Date: 08/12/2022

B. CASING

1. The **13-3/8** inch surface casing shall be set at approximately **375 feet** (a minimum of **70 feet (Eddy County)** into the Rustler Anhydrite, above the salt, and below usable fresh water) and cemented to the surface.

    a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
    b. Wait on cement (WOC) time for a primary cement job will be a minimum of **8 hours** or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement)
    c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
    d. If cement falls back, remedial cementing will be done prior to drilling out that string.

2. The minimum required fill of cement behind the **9-5/8** inch intermediate casing shall be set at approximately **3285 feet** 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 or potash.**

    ❖ In Medium Cave/Karst Areas if cement does not circulate to surface on the first two casing strings, the cement on the 3rd casing string must come to surface.

3. The minimum required fill of cement behind the **7** inch production casing is:

    - Cement should tie-back at least **200 feet** into previous casing string. Operator shall provide method of verification. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst or potash.**

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

    - Cement should tie-back **100 feet** into the previous casing. Operator shall provide method of verification.

Approval Date: 08/12/2022

C. PRESSURE CONTROL

1. Variance approved to use flex line from BOP to choke manifold. Manufacturer's specification to be readily available. No external damage to flex line. Flex line to be installed as straight as possible (no hard bends).'

2.

Option 1:

a. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **3000 (3M)** psi.

b. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the **9-5/8** inch intermediate casing shoe shall be **5000 (5M)** psi.

c. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the **7** inch production casing shoe shall be **5000 (5M)** psi.

Option 2:

Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the **13-3/8** inch surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **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.

Approval Date: 08/12/2022

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.
- If the operator does not comply with this condition of approval, the BLM may take enforcement actions that include, but are not limited to, those specified in 43 CFR 3163.1.
- In addition, the well sign shall include the surface and bottom hole lease numbers. When the Communitization Agreement number is known, it shall also be on the sign.

GENERAL REQUIREMENTS

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

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

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

☒ Lea County
Call the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240, (575) 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 Onshore Oil and Gas Order No. 2 as soon as 2nd Rig is rigged up on well.

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

3. The record of the drilling rate along with the GR/N well log 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.

Approval Date: 08/12/2022

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

 Approval Date: 08/12/2022

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.

2. If a variance is approved for a flexible hose to be installed from the BOP to the choke manifold, the following requirements apply: The flex line must meet the requirements of API 16C. Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.

3. 5M or higher system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.

4. If the operator has proposed a multi-bowl wellhead assembly in the APD. The following requirements must be met:

    a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
    b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
    c. Manufacturer representative shall install the test plug for the initial BOP test.
    d. 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 when specified), whichever is greater. However, if the float does not

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hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).

b. In potash areas, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. For all casing strings, casing cut-off and BOP installation can be initiated at twelve hours after bumping the plug. However, **no tests** shall commence until the cement has had a minimum of 24 hours setup time, except the casing pressure test can be initiated immediately after bumping the plug (only applies to single stage cement jobs).

c. The tests shall be done by an independent service company utilizing a test plug not a cup or J-packer. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to Onshore Order 2 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 Onshore Order No. 2.

C. DRILLING MUD

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

D. WASTE MATERIAL AND FLUIDS

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

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

LVO 8/9/2022

Approval Date: 08/12/2022

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

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

CONDITIONS

Action 140919

CONDITIONS

Operator: DEVON ENERGY PRODUCTION COMPANY, LP 333 West Sheridan Ave. Oklahoma City, OK 73102	OGRID: 6137
	Action Number: 140919
	Action Type: [C-101] BLM - Federal/Indian Land Lease (Form 3160-3)

CONDITIONS

Created By	Condition	Condition Date
kpickford	Will require a administrative order for non-standard location prior to placing the well on production	9/9/2022
kpickford	Notify OCD 24 hours prior to casing & cement	9/9/2022
kpickford	Will require a File As Drilled C-102 and a Directional Survey with the C-104	9/9/2022
kpickford	Once the well is spud, to prevent ground water contamination through whole or partial conduits from the surface, the operator shall drill without interruption through the fresh water zone or zones and shall immediately set in cement the water protection string	9/9/2022
kpickford	Cement is required to circulate on both surface and intermediate1 strings of casing	9/9/2022
kpickford	Oil base muds are not to be used until fresh water zones are cased and cemented providing isolation from the oil or diesel. This includes synthetic oils. Oil based mud, drilling fluids and solids must be contained in a steel closed loop system	9/9/2022