Form 3160-3 FORM APPROVED OMB No. 1004-0137 (June 2015) Expires: January 31, 2018 **UNITED STATES** DEPARTMENT OF THE INTERIOR 5. Lease Serial No. NMLC29388D **BUREAU OF LAND MANAGEMENT** APPLICATION FOR PERMIT TO DRILL OR REENTER 6. If Indian, Allotee or Tribe Name 7. If Unit or CA Agreement, Name and No. **✓** DRILL REENTER 1a. Type of work: Oil Well 1b. Type of Well: Gas Well Other 8. Lease Name and Well No. 1c. Type of Completion: Hydraulic Fracturing ✓ Single Zone Multiple Zone IRON ISLANDS 11/7 B2OP FED COM **1H** 2. Name of Operator 9. API Well No. MEWBOURNE OIL COMPANY 3a. Address 3b. Phone No. (include area code) 10. Field and Pool, or Exploratory TAMANO; BONE SPRING/BONE SPRING P O BOX 5270, HOBBS, NM 88241 (575) 393-5905 4. Location of Well (Report location clearly and in accordance with any State requirements.\*) 11. Sec., T. R. M. or Blk. and Survey or Area SEC 11/T18S/R31E/NMP At surface SWSE / 820 FSL / 2550 FEL / LAT 32.7570647 / LONG -103.8398927 At proposed prod. zone SESE / 660 FSL / 100 FEL / LAT 32.756667 / LONG -103.797471 14. Distance in miles and direction from nearest town or post office\* 12. County or Parish 13. State **EDDY** NM 10 miles 15. Distance from proposed\* 16. No of acres in lease 17. Spacing Unit dedicated to this well 210 feet location to nearest property or lease line, ft. 640.0 (Also to nearest drig. unit line, if any) 18. Distance from proposed location\* 19. Proposed Depth 20. BLM/BIA Bond No. in file to nearest well, drilling, completed, 330 feet 8891 feet / 21585 feet FED: NM 1693 applied for, on this lease, ft. 21. Elevations (Show whether DF, KDB, RT, GL, etc.) 22. Approximate date work will start\* 23. Estimated duration 3736 feet 04/23/2021 60 days 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. 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above). 2. A Drilling Plan. 3. A Surface Use Plan (if the location is on National Forest System Lands, the 5. Operator certification. SUPO must be filed with the appropriate Forest Service Office). 6. Such other site specific information and/or plans as may be requested by the Name (Printed/Typed) Date 25. Signature BRADLEY BISHOP / Ph: (575) 393-5905 02/25/2021 (Electronic Submission) Title Regulatory Approved by (Signature) Date Name (Printed/Typed) (Electronic Submission) CODY LAYTON / Ph: (575) 234-5959 06/01/2023 Title Office Assistant Field Manager Lands & Minerals Carlsbad Field 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



<u>District I</u>
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<u>District II</u>
811 S. First St., Artesia, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720
<u>District III</u>
1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170
<u>District IV</u>
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

UL or lot no.

0

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

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

☐ AMENDED REPORT

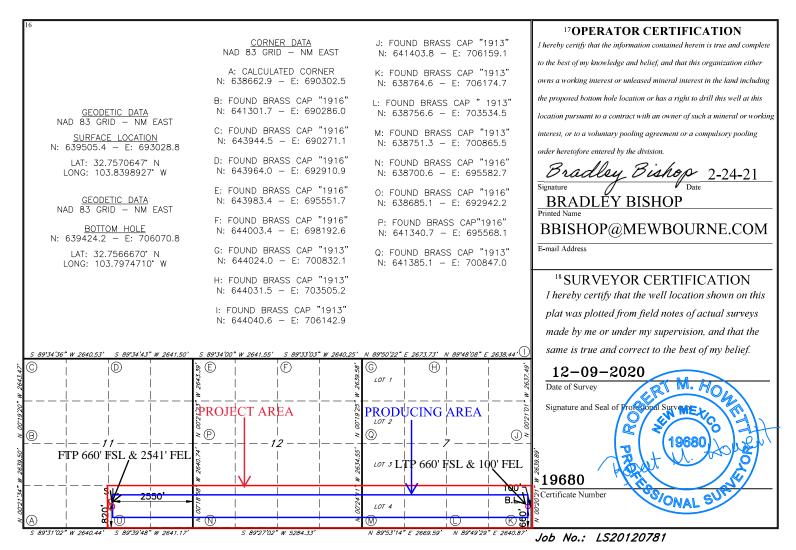
#### WELL LOCATION AND ACREAGE DEDICATION PLAT

<sup>1</sup> API Numbe	<sup>1</sup> API Number		<sup>3</sup> Pool Name	
		58040	TAMANO; BONE SP	RING
<sup>4</sup> Property Code			perty Name	6 Well Number
		IRON ISLANDS 1	1H	
7 OGRID NO.		8 Op	erator Name	9Elevation
14744		MEWBOURNE	E OIL COMPANY	3736'
		<sup>10</sup> Sur	face Location	

Lot Idn North/South line Feet From the East/West line Township Feet from the Section Range County **18S** 820 SOUTH 2550 **EDDY** 11 31E EAST <sup>11</sup> Bottom Hole Location If Different From Surface

UL or lot no.	Section	Lownship	p Kange	Lot Ian	Feet from the	North/South line	Feet from the	East/ West line	County
P	7	18S	32E		660	SOUTH	100	EAST	LEA
12 Dedicated Acres	13 Joint	or Infill	14 Consolidation	Code 15	Order No.				
400									

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



## 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

	bourne O	il Co.	OGRID:	14744	Date: _	5/2/22
. Type: 🏅 Original □	Amendment of	lue to □ 19.15.27	9.D(6)(a) NMAC	C □ 19.15.27.9.D(	6)(b) NMAC □ (	Other,
Other, please describe:						
I. Well(s): Provide the erecompleted from a single.	following info	ormation for each	new or recomplet central delivery p	ed well or set of voint.	wells proposed to	be drilled or proposed t
Well Name	API	ULSTR	Footages	Anticipated Oil BBL/D	Anticipated Gas MCF/D	Anticipated Produced Water BBL/D
n Islands 11/7 B2OP Fed Com 1H		O 18S 31E	820' FSL x 2550' FE	1500	2500	1500
V. Anticipated Schedule roposed to be recomple Well Name	e: Provide the ted from a sing	gle well pad or con Spud Date	TD Reached Date	Completion	ı Initial l	Flow First Productio
on Islands 11/7 B2OP Fed Com 1H		7/2/22	8/2/22	9/2/22	9/17/2	2 9/17/22
/I Separation Equipm	ent: 🛛 Attach	a complete descr	iption of how Op-	erator will size sep	paration equipmen	nt to optimize gas captui

	Section 2 EFFECT	- Enhanced Plan TIVE APRIL 1, 2022	
reporting area must complete this sec  M Operator certifies that it is not re capture requirement for the applicabl	quired to complete this e reporting area.		apture requirement for the applicable pliance with its statewide natural gas
IX. Anticipated Natural Gas Produ  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 Capacit 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) connection operations to the existing or planned interconnect of the natural gas gathering system(s), and the maximum daily continuous the segment or portion of the natural gas gathering system(s) to which the well(s) will be connected.	ecting the apacity of
XII. Line Capacity. The natural gas gathering system $\square$ will $\square$ will not have capacity to gather 100% of the anticipated n production volume from the well prior to the date of first production.	atural gas
XIII. Line Pressure. Operator \( \square\) does \( \square\) does not anticipate that its existing well(s) connected to the same segment, or port natural gas gathering system(s) described above will continue to meet anticipated increases in line pressure caused by the next	ion, of the w 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 processing of Section 2 as provided in Paragraph (2) of Subsection D of 19.15.27.9 NMAC, and attaches a full description of the specific inforwhich confidentiality is asserted and the basis for such assertion.	rovided in Iformation

# Section 3 - Certifications <u>Effective May 25, 2021</u>

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

# 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.
- 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.

Bradley Bishop	
BBISHOP@MEWBOURNE.COM	
5/2/22	
575-393-5905	
OIL CONSERVATION DIVISION (Only applicable when submitted as a standalone form)	
Approval:	
	BRADLEY BISHOP  REGULATORY MANAGER  BBISHOP@MEWBOURNE.COM  5/2/22  575-393-5905  OIL CONSERVATION DIVISION  (Only applicable when submitted as a standalone form)

#### Mewbourne Oil Company

# Natural Gas Management Plan - Attachment

- VI. Separation equipment will be sized by construction engineering staff based on stated manufacturer daily throughput capacities and anticipated daily production rates to ensure adequate capacity. Closed vent system piping, compression needs, and VRUs will be sized utilizing ProMax modelling software to ensure adequate capacity for anticipated production volumes and conditions.
- VII. Mewbourne Oil Company (MOC) will take following actions to comply with the regulations listed in 19.15.27.8:
  - A. MOC will maximize the recovery of natural gas by minimizing the waste, as defined by 19.15.2 NMAC, of natural gas through venting and flaring. MOC will ensure that well(s) will be connected to a natural gas gathering system with sufficient capacity to transport natural gas. If there is no adequate takeaway for the gas, well(s) will be shut in until the natural gas gathering system is available.
  - B. All drilling operations will be equipped with a rig flare located at least 100 ft from the nearest surface hole. Rig flare will be utilized to combust any natural gas that is brought to surface during normal drilling operations. In the case of emergency venting or flaring the volumes will be estimated and reported appropriately.
  - C. During completion operations any natural gas brought to surface will be flared. Immediately following the finish of completion operations, all well flow will be directed to permanent separation equipment. Produced natural gas from separation equipment will be sent to sales. It is not anticipated that gas will not meet pipeline standards. However, if natural gas does not meet gathering pipeline quality specifications, MOC will flare the natural gas for 60 days or until the natural gas meets the pipeline quality specifications, whichever is sooner. MOC will ensure that the flare is sized properly and is equipped with automatic igniter or continuous pilot. The gas sample will analyzed twice per week and the gas will be routed into a gathering system as soon as pipeline specifications are met.
  - D. Natural gas will not be flared with the exceptions and provisions listed in the 19.15.27.8 D.(1) through (4). If there is no adequate takeaway for the separator gas, well(s) will be shut in until the natural gas gathering system is available with exception of emergency or malfunction situations. Venting and/or flaring volumes will be estimated and reported appropriately.
  - E. MOC will comply with the performance standards requirements and provisions listed in 19.15.27.8 E.(1) through (8). All equipment will be designed and sized to handle maximum anticipated pressures and throughputs in order to minimize the waste. Production storage tanks constructed after May 25, 2021 will be equipped with automatic gauging system. Flares constructed after May 25, 2021 will be equipped with automatic igniter or continuous pilot. Flares will be located at least 100' from the well and storage tanks unless otherwise approved by the division. MOC will conduct AVO inspections as described in 19.15.27.8 E (5) (a) with frequencies specified in 19.15.27.8 E (5) (b) and (c). All emergencies will be resolved as quickly and safely as feasible to minimize waste.
  - F. The volume of natural gas that is vented or flared as the result of malfunction or emergency during drilling and completions operations will be estimated. The volume of natural gas that is vented, flared or beneficially used during production operations, will be measured or estimated. MOC will install equipment to measure

the volume of natural gas flared from existing process piping or a flowline piped from equipment such as high pressure separators, heater treaters, or vapor recovery units associated with a well or facility associated with a well authorized by an APD issued after May 25, 2021 that has an average daily production greater than 60 Mcf/day. If metering is not practicable due to circumstances such as low flow rate or low pressure venting and flaring, MOC will estimate the volume of vented or flared natural gas. Measuring equipment will conform to industry standards and will not be designed or equipped with a manifold that allows the diversion of natural gas around the metering element except for the sole purpose of inspecting and servicing the measurement equipment.

VIII. For maintenance activities involving production equipment and compression, venting will be limited to the depressurization of the subject equipment to ensure safe working conditions. For maintenance of production and compression equipment the associated producing wells will be shut in to eliminate venting. For maintenance of VRUs all gas normally routed to the VRU will be routed to flare to eliminate venting.

Form 3160-3 FORM APPROVED OMB No. 1004-0137 (June 2015) Expires: January 31, 2018 **UNITED STATES** DEPARTMENT OF THE INTERIOR 5. Lease Serial No. BUREAU OF LAND MANAGEMENT APPLICATION FOR PERMIT TO DRILL OR REENTER 6. If Indian, Allotee or Tribe Name 7. If Unit or CA Agreement, Name and No. DRILL REENTER 1a. Type of work: 1b. Type of Well: Oil Well Gas Well Other 8. Lease Name and Well No. 1c. Type of Completion: Hydraulic Fracturing Single Zone Multiple Zone 2. Name of Operator 9. API Well No. 30-015-53835 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.\*) 11. Sec., T. R. M. or Blk. and Survey or Area At surface At proposed prod. zone 14. Distance in miles and direction from nearest town or post office\* 12. County or Parish 13. State 15. Distance from proposed\* 16. No of acres in lease 17. Spacing Unit dedicated to this well location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 18. Distance from proposed location\* 19. Proposed Depth 20. BLM/BIA Bond No. in file to nearest well, drilling, completed, applied for, on this lease, ft. 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. 4. Bond to cover the operations unless covered by an existing bond on file (see 2. A Drilling Plan. Item 20 above). 3. A Surface Use Plan (if the location is on National Forest System Lands, the 5. Operator certification. 6. Such other site specific information and/or plans as may be requested by the SUPO must be filed with the appropriate Forest Service Office). 25. Signature Name (Printed/Typed) Date Title Approved by (Signature) Date Name (Printed/Typed) 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



\*(Instructions on page 2)

#### **Additional Operator Remarks**

#### **Location of Well**

0. SHL: NWNE / 1201 FNL / 2425 FEL / TWSP: 24S / RANGE: 30E / SECTION: 19 / LAT: 32.206975 / LONG: -103.920028 ( TVD: 0 feet, MD: 0 feet ) PPP: NENW / 330 FSL / 2530 FWL / TWSP: 24S / RANGE: 30E / SECTION: 6 / LAT: 32.25076 / LONG: -103.92153 ( TVD: 10774 feet, MD: 25800 feet ) PPP: SESW / 330 FSL / 2530 FWL / TWSP: 24S / RANGE: 30E / SECTION: 7 / LAT: 32.22532 / LONG: -103.92136 ( TVD: 10774 feet, MD: 16500 feet ) PPP: SESW / 100 FSL / 2530 FWL / TWSP: 24S / RANGE: 30E / SECTION: 18 / LAT: 32.210537 / LONG: -103.921333 ( TVD: 10774 feet, MD: 11200 feet ) BHL: NESW / 2590 FSL / 2530 FWL / TWSP: 23S / RANGE: 30E / SECTION: 31 / LAT: 32.261079 / LONG: -103.921384 ( TVD: 10774 feet, MD: 29528 feet )

#### **BLM Point of Contact**

Name: Priscilla Perez

Title: Legal Instruments Examiner

Phone: (575) 234-5934 Email: pperez@blm.gov District 1 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 <u>District IIII</u> 1000 Rio Brazos Road, Aztec, NM 87410

Phone: (505) 334-6178 Fax: (505) 334-6170 <u>District IV</u>
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.

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

☐ AMENDED REPORT

#### WELL LOCATION AND ACREAGE DEDICATION PLAT

Santa Fe, NM 87505

<sup>1</sup> API Numb 30-015-	er 53835	<sup>2</sup> Pool Code 98220	<sup>3</sup> Pool Name Purple Sage; Wolfcamp	
<sup>4</sup> Property Code 333976		<sup>5</sup> Property POKER LAKE		
<sup>7</sup> OGRID No. 373075		<sup>8</sup> Operato XTO PERMIAN O		

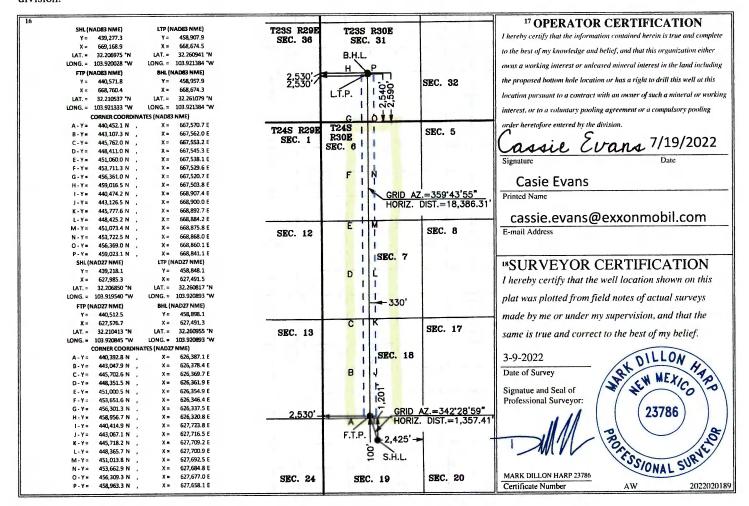
#### <sup>10</sup> Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
В	19	24 S	30 E		1,201	NORTH	2,425	EAST	EDDY

#### 11 Bottom Hole Location If Different From Surface

Bottom 11010 Botation in Philotom 110m Baxage											
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County		
К	31	23 S	30 E		2,590	SOUTH	2,530	WEST	EDDY		
12 Dedicated Acres	13 Joint o	r Infill 14 C	Consolidation	Code 15 Or	der No.						
1122.12											

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



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

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

☐ AMENDED REPORT

#### WELL LOCATION AND ACREAGE DEDICATION PLAT

<sup>1</sup> API Numb 30-015-	53835	<sup>2</sup> Pool Code 98241	1440 045 0 00000		
<sup>4</sup> Property Code		<sup>5</sup> Property		<sup>6</sup> Well Number	
333976		POKER LAKE		322H	
<sup>7</sup> OGRID No.		8 Operator	Name	<sup>9</sup> Elevation	
373075		XTO PERMIAN OPERATING, LLC			

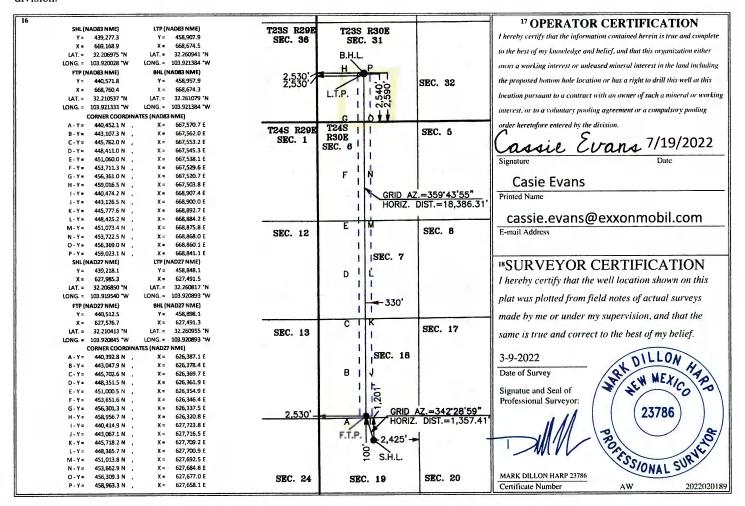
<sup>10</sup> Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
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11 Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
К	31	23 S	30 E		2,590	SOUTH	2,530	WEST	EDDY
12 Dedicated Acres	13 Joint or	r Infill 14 C	Consolidation	Code 15 Or	der No.				
1122.12	ļ								

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.



#### 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: _XTO Permian Operating, LLC	OGRID: _373075	<b>Date:</b> _5/1/2023
II. Type: ⊠ Original □ Amendment due to □ 19.15.27.9.D(6)(a) NMAC	□ 19.15.27.9.D(6)(b) NMAC	C □ 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	
Poker Lake Unit 19 DTD 109H		D-19-24S-30E	1230'FNL & 230'FWL	2000	3200	3500	
Poker Lake Unit 19 DTD 110H		D-19-24S-30E	1231'FNL & 339'FWL	2000	3200	3500	
Poker Lake Unit 19 DTD 111H		D-19-24S-30E	1231'FNL & 369'FWL	2000	3200	3500	
Poker Lake Unit 19 DTD 112H		D-19-24S-30E	1232'FNL & 399'FWL	2000	3200	3500	
Poker Lake Unit 19 DTD 121H		D-19-24S-30E	1309'FNL & 799'FWL	2000	3200	3500	
Poker Lake Unit 19 DTD 122H		D-19-24S-30E	1309'FNL & 829'FWL	2000	3200	3500	
Poker Lake Unit 19 DTD 123H		D-19-24S-30E	1309'FNL & 859'FWL	2000	3200	3500	
Poker Lake Unit 19 DTD 124H		D-19-24S-30E	1310'FNL & 889'FWL	2000	3200	3500	
Poker Lake Unit 19 DTD 217H		F-19-24S-30E	1329'FNL & 1363'FWL	2000	3200	3500	
Poker Lake Unit 19 DTD 218H		F-19-24S-30E	1329'FNL & 1393'FWL	2000	3200	3500	
Poker Lake Unit 19 DTD 219H		F-19-24S-30E	1330'FNL & 1453'FWL	2000	3200	3500	
Poker Lake Unit 19 DTD 220H		F-19-24S-30E	1330'FNL & 1363'FWL	2000	3200	3500	
Poker Lake Unit 19 DTD 221H		F-19-24S-30E	1332'FNL & 1853'FWL	2000	3200	3500	
Poker Lake Unit 19 DTD 222H		F-19-24S-30E	1332'FNL & 1883'FWL	2000	3200	3500	
Poker Lake Unit 19 DTD 223H		F-19-24S-30E	1332'FNL & 1913'FWL	2000	3200	3500	
Poker Lake Unit 19 DTD 224H		F-19-24S-30E	1333'FNL & 1943'FWL	2000	3200	3500	
Poker Lake Unit 19 DTD 309H		C-19-24S-30E	1123'FNL & 2411'FWL	2000	3200	3500	
Poker Lake Unit 19 DTD 310H		C-19-24S-30E	1123'FNL & 2441'FWL	2000	3200	3500	
Poker Lake Unit 19 DTD 311H		C-19-24S-30E	1123'FNL & 2471'FWL	2000	3200	3500	
Poker Lake Unit 19 DTD 312H		C-19-24S-30E	1123'FNL & 2501'FWL	2000	3200	3500	
Poker Lake Unit 19 DTD 321H		B-19-24S-30E	1201'FNL & 2455'FEL	2000	3200	3500	
Poker Lake Unit 19 DTD 322H		B-19-24S-30E	1201'FNL & 2425'FEL	2000	3200	3500	
Poker Lake Unit 19 DTD 323H		B-19-24S-30E	1201'FNL & 2395'FEL	2000	3200	3500	
Poker Lake Unit 19 DTD 324H		B-19-24S-30E	1201'FNL & 2365'FEL	2000	3200	3500	
Poker Lake Unit 19 DTD 409H		B-19-24S-30E	196'FNL & 1656'FEL	2000	3200	3500	
Poker Lake Unit 19 DTD 410H		B-19-24S-30E	197'FNL & 1626'FEL	2000	3200	3500	
Poker Lake Unit 19 DTD 411H		B-19-24S-30E	197'FNL & 1596'FWL	2000	3200	3500	
Poker Lake Unit 19 DTD 412H		B-19-24S-30E	1201'FNL & 2365'FEL	2000	3200	3500	
Poker Lake Unit 19 DTD 421H		A-19-24S-30E	274'FNL & 1166'FEL	2000	3200	3500	
Poker Lake Unit 19 DTD 422H		A-19-24S-30E	274'FNL & 1136'FEL	2000	3200	3500	
Poker Lake Unit 19 DTD 423H		A-19-24S-30E	275'FNL & 1106'FEL	2000	3200	3500	
Poker Lake Unit 19 DTD 424H		A-19-24S-30E	275'FNL & 1076'FEL	2000	3200	3500	

IV. Central Delivery Point Name: \_Poker Lake Unit 19 DTD CTB East & Poker Lake Unit 19 DTD CTB West\_\_\_\_\_ [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	Completion	Initial Flow	First Production
			Date	Commencement Date	Back Date	Date
Poker Lake Unit 19 DTD 109H		TBD	TBD	TBD	TBD	TBD
Poker Lake Unit 19 DTD 110H		TBD	TBD	TBD	TBD	TBD
Poker Lake Unit 19 DTD 111H		TBD	TBD	TBD	TBD	TBD
Poker Lake Unit 19 DTD 112H		TBD	TBD	TBD	TBD	TBD
Poker Lake Unit 19 DTD 121H		TBD	TBD	TBD	TBD	TBD
Poker Lake Unit 19 DTD 122H		TBD	TBD	TBD	TBD	TBD
Poker Lake Unit 19 DTD 123H		TBD	TBD	TBD	TBD	TBD
Poker Lake Unit 19 DTD 124H		TBD	TBD	TBD	TBD	TBD
Poker Lake Unit 19 DTD 217H		TBD	TBD	TBD	TBD	TBD
Poker Lake Unit 19 DTD 218H		TBD	TBD	TBD	TBD	TBD
Poker Lake Unit 19 DTD 219H		TBD	TBD	TBD	TBD	TBD
Poker Lake Unit 19 DTD 220H		TBD	TBD	TBD	TBD	TBD
Poker Lake Unit 19 DTD 221H		TBD	TBD	TBD	TBD	TBD
Poker Lake Unit 19 DTD 222H		TBD	TBD	TBD	TBD	TBD
Poker Lake Unit 19 DTD 223H		TBD	TBD	TBD	TBD	TBD
Poker Lake Unit 19 DTD 224H		TBD	TBD	TBD	TBD	TBD
Poker Lake Unit 19 DTD 309H		TBD	TBD	TBD	TBD	TBD
Poker Lake Unit 19 DTD 310H		TBD	TBD	TBD	TBD	TBD
Poker Lake Unit 19 DTD 311H		TBD	TBD	TBD	TBD	TBD
Poker Lake Unit 19 DTD 312H		TBD	TBD	TBD	TBD	TBD
Poker Lake Unit 19 DTD 321H		TBD	TBD	TBD	TBD	TBD
Poker Lake Unit 19 DTD 322H		TBD	TBD	TBD	TBD	TBD
Poker Lake Unit 19 DTD 323H		TBD	TBD	TBD	TBD	TBD
Poker Lake Unit 19 DTD 324H		TBD	TBD	TBD	TBD	TBD
Poker Lake Unit 19 DTD 409H		TBD	TBD	TBD	TBD	TBD
Poker Lake Unit 19 DTD 410H		TBD	TBD	TBD	TBD	TBD
Poker Lake Unit 19 DTD 411H		TBD	TBD	TBD	TBD	TBD
Poker Lake Unit 19 DTD 412H		TBD	TBD	TBD	TBD	TBD
Poker Lake Unit 19 DTD 421H		TBD	TBD	TBD	TBD	TBD
Poker Lake Unit 19 DTD 422H		TBD	TBD	TBD	TBD	TBD
Poker Lake Unit 19 DTD 423H		TBD	TBD	TBD	TBD	TBD
Poker Lake Unit 19 DTD 424H		TBD	TBD	TBD	TBD	TBD

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 $\square$ will $\square$ will not have capacity to gather 100% of the an	ticipated natural ga	as
production volume from the well prior to the date of first production.		

XIII. Line Pressure. Operator $\square$ does $\square$ does not anticipate that its $\alpha$	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	y the new wo	ell(s).

$\neg$	A 1 O	, ,	1 ,		1 4.	•		41		1.	
	Affach ()	nerator c	nlan to	manage	production	in rec	nonce to	\ the	increased	line	nrecellre
ш	Attach	perators	pian w	manage	production	111 103	ponse ic	, uic	mercasea	IIIIC	pressure

XIV. Confidentiality: $\sqcup$ Operator asserts confidentiality pursuant to Section 71-2-8 NMSA 1978 for the information provided i
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.

# Section 3 - Certifications <u>Effective May 25, 2021</u>

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

☑ 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;
- **(f)** 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: Jessica Dooling
Printed Name: Jessica Dooling
Title: Regulatory Coordinator
E-mail Address: <u>Jessica.dooling@exxonmobil.com</u>
Date: 5/1/2023
Phone: 970-769-6048
OIL CONSERVATION DIVISION
(Only applicable when submitted as a standalone form)
Approved By:
Title:
Approval Date:
Conditions of Approval:

#### **VI. Separation Equipment:**

XTO Permian Operating, LLC. production tank batteries include separation equipment designed to efficiently separate gas from liquid phases to optimize gas capture based on projected and estimated volumes from the targeted pool in conjunction with the total number of wells planned to or existing within the facility. Separation equipment is upgraded prior to well being drilled or completed, if determined to be undersized or needed. The separation equipment is designed and built according to the relevant industry specifications (API Specification 12J and ASME Sec VIII Div I). Other recognized industry publications such as the Gas Processors Suppliers Association (GPSA) are referenced when designing separation equipment to optimize gas capture.

#### **VII. Operational Practices:**

#### 1. Subsection B.

- During drilling, flare stacks will be located a minimum of 150 feet from the nearest surface hole location. All gas is captured or combusted. If an emergency or malfunction occurs, gas will be flared or vented for public health, safety and the environment and be properly reported to the NMOCD pursuant to 19.15.27.8.G.
- Measure or estimate the volume of natural gas that is vented, flared or beneficially used during drilling, completion and production operations, regardless of the reason or authorization for such venting or flaring.
- At any point in the well life (drilling, completion, production, inactive) an audio, visual and olfactory (AVO) inspection will be performed weekly (at minimum) to confirm that all production equipment is operating properly and there are no leaks or releases except as allowed in Subsection D of 19.15.27.8 NMAC.

#### 2. Subsection C.

During completion operations, operator does not produce oil or gas but maintains adequate well control through completion operations.

For emergencies, equipment malfunction, or if the operator decides to produce oil and gas during well completion:

- Flowlines will be routed for flowback fluids into a completion or storage tank and, if feasible under well conditions, flare rather than vent and commence operation of a separator as soon as it is technically feasible for a separator to function.
- Measure or estimate the volume of natural gas that is vented, flared or beneficially used during drilling, completion and production operations, regardless of the reason or authorization for such venting or flaring.
- At any point in the well life (drilling, completion, production, inactive) an audio, visual and olfactory (AVO) inspection will be performed weekly (at minimum) to confirm that all production equipment is operating properly and there are no leaks or releases except as allowed in Subsection D of 19.15.27.8 NMAC.

#### 3. Subsection D.

- At any point in the well life (drilling, completion, production, inactive) an audio, visual and olfactory (AVO) inspection will be performed weekly (at minimum) to confirm that all production equipment is operating properly and there are no leaks or releases except as allowed in Subsection D of 19.15.27.8 NMAC.
- Monitor manual liquid unloading for wells on-site or in close proximity (<30 minutes' drive time), take reasonable actions to achieve a stabilized rate and pressure at the earliest practical time, and take reasonable actions to minimize venting to the maximum extent practicable.

 Measure or estimate the volume of natural gas that is vented, flared or beneficially used during drilling, completion and production operations, regardless of the reason or authorization for such venting or flaring.

#### 4. Subsection E.

- All tanks and separation equipment are designed for maximum throughput and pressure to minimize waste.
- Flare stack was installed prior to May 25, 2021 but has been designed for proper size and combustion efficiency. Flare currently has a continuous pilot and is located more than 100 feet from any known well and storage tanks.
- At any point in the well life (drilling, completion, production, inactive) an audio, visual and olfactory (AVO) inspection will be performed weekly (at minimum) to confirm that all production equipment is operating properly and there are no leaks or releases except as allowed in Subsection D of 19.15.27.8 NMAC.

#### 5. Subsection F.

- Measurement equipment is installed to measure the volume of natural gas flared from process piping or a flowline piped from the equipment associated with a well and facility associated with the approved application for permit to drill that has an average daily production greater than 60 mcf of natural gas.
- Measurement equipment installed is not designed or equipped with a manifold to allow diversion of natural gas around the metering equipment, except for the sole purpose of inspecting and servicing the measurement equipment, as noted in NMAC 19.15.27.8 Subsection G.

#### **VIII. Best Management Practices:**

- 1. During completion operations, operator does not produce oil or gas but maintains adequate well control through completion operations.
- 2. Operator does not flow well (well shut in) during initial production until all flowlines, tank batteries, and oil/gas takeaway are installed, tested, and determined operational.
- 3. Operator equips storage tanks with an automatic gauging system to reduce venting of natural gas.
- 4. Operator reduces the number of blowdowns by looking for opportunities to coordinate repair and maintenance activities.
- 5. Operator combusts natural gas that would otherwise be vented or flared, when feasible.
- 6. Operator has a flare stack designed in accordance with need and to handle sufficient volume to ensure proper combustion efficiency. Flare stacks are equipped with continuous pilots and securely anchored at least 100 feet (at minimum) from storage tanks and wells.
- 7. Operator minimizes venting (when feasible) through pump downs of vessels and reducing time required to purge equipment before returning equipment to service.
- 8. Operator will shut in wells (when feasible) in the event of a takeaway disruption, emergency situation, or other operations where venting or flaring may occur due to equipment failures.



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

# Drilling Plan Data Report

04/29/2023

APD ID: 10400088786

Submission Date: 10/24/2022

Highlighted data reflects the most recent changes

**Operator Name: XTO PERMIAN OPERATING LLC** 

Well Number: 322H

Well Name: POKER LAKE UNIT 19 DTD

Well Type: CONVENTIONAL GAS WELL

Well Work Type: Drill

**Show Final Text** 

#### **Section 1 - Geologic Formations**

Formation ID	Formation Name	Elevation	True Vertical	Measured Depth	Lithologies	Mineral Resources	Producing Formatio
9404309	QUATERNARY	3190	0	Ö	ALLUVIUM	USEABLE WATER	N
9404310	RUSTLER	2902	288	288	ANHYDRITE, SANDSTONE	USEABLE WATER	N
9404311	TOP SALT	2640	550	550	POTASH, SALT	POTASH	N
9404312	BASE OF SALT	-33	3223	3223	POTASH, SALT	POTASH	N
9404313	DELAWARE	-251	3441	3441	LIMESTONE, SANDSTONE	NATURAL GAS, OIL, USEABLE WATER	N
9404314	BONE SPRING	-4001	7191	7191	LIMESTONE, SANDSTONE	NATURAL GAS, OIL, USEABLE WATER	N
9404315	WOLFCAMP	-7322	10512	10512	SANDSTONE, SHALE	NATURAL GAS, OIL, USEABLE WATER	Y

#### **Section 2 - Blowout Prevention**

Pressure Rating (PSI): 5M Rating Depth: 10774

Equipment: Once the permanent WH is installed on the 13.375 casing, the blow out preventer equipment (BOP) will consist of a 13-5/8 minimum 5M Hydril and a 13-5/8 minimum 5M Double Ram BOP. MASP should not exceed 4358 psi. In any instance where 10M BOP is required by BLM, XTO requests a variance to utilize 5M annular with 10M ram preventers (a common BOP configuration, which allows use of 10M rams in unlikely event that pressures exceed 5M).

#### Requesting Variance? YES

Variance request: A variance is requested to allow use of a flex hose as the choke line from the BOP to the Choke Manifold. If this hose is used, a copy of the manufacturer's certification and pressure test chart will be kept on the rig. Attached is an example of a certification and pressure test chart. The manufacturer does not require anchors. XTO requests a variance to be able to batch drill this well if necessary. In doing so, XTO will set casing and ensure that the well is cemented properly (unless approval is given for offline cementing) and the well is static. With floats holding, no pressure on the csg annulus, and the installation of a 10K TA cap as per Cactus recommendations, XTO will contact the BLM to skid the rig to drill the remaining wells on the pad. Once surface and both intermediate strings are all completed, XTO will begin drilling the production hole on each of the wells. A variance is requested to ONLY test broken pressure seals on the BOP equipment when moving from wellhead to wellhead which is in compliance with API Standard 53. API standard 53 states, that for pad drilling operation, moving from one wellhead to another within 21 days, pressure testing is required for pressure-containing and pressurecontrolling connections when the integrity of a pressure seal is broken. Based on discussions with the BLM on February 27th 2020, we will request permission to ONLY retest broken

Well Name: POKER LAKE UNIT 19 DTD Well Number: 322H

pressure seals if the following conditions are met: 1. After a full BOP test is conducted on the first well on the pad 2. When skidding to drill an intermediate section that does not penetrate into the Wolfcamp.

**Testing Procedure:** All BOP testing will be done by an independent service company. Annular pressure tests will be limited to 50% of the working pressure. When nippling up on the 13.375, 5M bradenhead and flange, the BOP test will be limited to 5000 psi. When nippling up on the 9.625, the BOP will be tested to a minimum of 5000 psi. All BOP tests will include a low pressure test as per BLM regulations. The 5M BOP diagrams are attached. Blind rams will be functioned tested each trip, pipe rams will be functioned tested each day.

#### **Choke Diagram Attachment:**

PLU\_19\_DTD\_5MCM\_20220804034725.pdf

#### **BOP Diagram Attachment:**

PLU\_19\_DTD\_5MBOP\_20220804034738.pdf

## **Section 3 - Casing**

Casing ID	String Type	Hole Size	Csg Size	Condition	Standard	Tapered String	Top Set MD	Bottom Set MD	Top Set TVD	Bottom Set TVD	Top Set MSL	Bottom Set MSL	Calculated casing length MD	Grade	Weight	Joint Type	Collapse SF	Burst SF	Joint SF Type	Joint SF	Body SF Type	Body SF
1	SURFACE	17.5	13.375	NEW	API	N	0	450	0	450	3190	2740	450	J-55	54.5	BUTT	5.55	21.4 1	DRY	34.7 8	DRY	34.7 8
	INTERMED IATE	12.2 5	9.625	NEW	API	Y	0	10100	0	10100	0	-6910	10100	HCL -80	40	BUTT	1.33	1.41	DRY	3.75	DRY	3.75
3	PRODUCTI ON	8.5	6.0	NEW	API	Y	0	29528	0	10774	0	-7584	29528	P- 110		OTHER - Semi- Premium	2.11	1.17	DRY	4.55	DRY	4.55

#### **Casing Attachments**

Casing ID: 1

String

**SURFACE** 

**Inspection Document:** 

**Spec Document:** 

**Tapered String Spec:** 

Casing Design Assumptions and Worksheet(s):

PLU\_19\_DTD\_322H\_Csg\_20221021055437.pdf

Well Name: POKER LAKE UNIT 19 DTD Well Number: 322H

#### **Casing Attachments**

Casing ID: 2

String

**INTERMEDIATE** 

**Inspection Document:** 

**Spec Document:** 

**Tapered String Spec:** 

PLU\_19\_DTD\_322H\_Csg\_20221021055539.pdf

Casing Design Assumptions and Worksheet(s):

PLU\_19\_DTD\_322H\_Csg\_20221021055553.pdf

Casing ID: 3

String

**PRODUCTION** 

**Inspection Document:** 

**Spec Document:** 

**Tapered String Spec:** 

PLU\_19\_DTD\_322H\_Csg\_20221021055754.pdf

Casing Design Assumptions and Worksheet(s):

PLU\_19\_DTD\_322H\_Csg\_20221021055809.pdf

#### **Section 4 - Cement**

String Type	Lead/Tail	Stage Tool Depth	Тор МD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
SURFACE	Lead		0	450	920	1.35	14.8	1242	100	Class C	2% CaCl
SURFACE	Tail		0	450	460	1.35	14.8	594	100	Class C	2% CaCl
INTERMEDIATE	Lead		0	1010 0	2210	1.35	14.8	2983. 5	100	Class C	None
INTERMEDIATE	Tail		0	1010 0	2090	1.33	14.8	2779. 7	100	Class C	None
PRODUCTION	Lead		0	2952 8	40	2.69	11.5	107.6	20	NeoCem	None

Well Name: POKER LAKE UNIT 19 DTD Well Number: 322H

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
PRODUCTION	Tail		0	2952 8	3270	1.51	13.2	4937. 7	20	VersaCem	None

# **Section 5 - Circulating Medium**

Mud System Type: Closed

Will an air or gas system be Used? NO

Description of the equipment for the circulating system in accordance with Onshore Order #2:

Diagram of the equipment for the circulating system in accordance with Onshore Order #2:

**Describe what will be on location to control well or mitigate other conditions:** The necessary mud products for weight addition and fluid loss control will be on location at all times.

**Describe the mud monitoring system utilized:** Spud with fresh water/native mud. Drill out from under 9-5/8" surface casing with brine solution. A 9.7 ppg -10.2 ppg cut brine mud will be used while drilling through the salt formation. Use fibrous materials as needed to control seepage and lost circulation. Pump viscous sweeps as needed for hole cleaning. Pump speed will be recorded on a daily drilling report after mudding up. A Pason or Totco will be used to detect changes in loss or gain of mud volume. A mud test will be performed every 24 hours to determine: density, viscosity, strength, filtration and pH as necessary. Use available solids controls equipment to help keep mud weight down after mud up. Rig up solids control equipment to operate as a closed loop system.

#### **Circulating Medium Table**

Top Depth	Bottom Depth	OIL-BASED	T1. Weight (lbs/gal)	T Max Weight (lbs/gal)	Density (lbs/cu ft)	Gel Strength (lbs/100 sqft)	Н	Viscosity (CP)	Salinity (ppm)	Filtration (cc)	Spud with fresh water/na
0	8	MUD									mud. Drill out from under 5/8" surface casing with b solution. A 9.7 ppg -10.2 cut brine mud will be used while drilling through the sformation. Use fibrous materials as needed to co seepage and lost circulati Pump viscous sweeps as needed for hole cleaning. Pump speed will be record on a daily drilling report a mudding up. A Pason or Totco will be used to

Well Name: POKER LAKE UNIT 19 DTD Well Number: 322H

of mud volume. A mud tex will be performed every 2. 2 hours to determine. densi viscosity, strength, filtratial and pH as necessary. Use available solids control equipment to help keep m veright down after mud up Rig up solids control equipment to operate as a closed loop system.    Tensh   Sput   Sput   Sput   Sput   Sput with fresh water/nat mud. Drill out from under 5/8" surface casing with b solution. A 9.7 ppg 1-0.2 cut brine mud will be used while inflight from the surface of the performed every 24 he to detect the performed every 24 he to detect and mudding up. A Pason or Totco will be used to detect and mudding up. A Pason or Totco will be used to detect and mudding up. A Pason or Totco will be used to detect the performed every 24 he to detect to the performed every 24 he to detect to help keep method will be performed every 24 he to detect to help keep method will be performed every 24 he to detect to help keep method will be used to detect to help keep method will be used to detect to be performed every 24 he to detect to help keep method will be used to detect to be performed every 24 he to detect to help keep method will be used to detect to be performed every 24 he to detect to help keep method will be used to detect the performed every 24 he to detect to help keep method will be used to detect the performed every 24 he to detect the performed every 25 he to detect the performed every 26 he to detect the performed every 27 he to detect the performed every 27 he to detect the performed every 27 he to detect the performed every 28 he to detect the performed every 28 he to det		
of mud volume. A mud text when the properties are possessive. Use a closed loop system.  450 1010 OTHER: 9.7 10.2 Spud with fresh water/nat mud. Drill out from under 5/8" surface assing with b solution. A 9.7 pgr -10.2 cut brine mud will be used while deligned in the properties as a closed loop system.  450 1010 OTHER: 9.7 10.2 Spud with fresh water/nat mud. Drill out from under 5/8" surface assing with b solution. A 9.7 pgr -10.2 cut brine mud will be used while drilling through the stomation. Use fibrous materials are needed too casepage and lost circulating through the stomation. Use fibrous materials are needed too casepage and lost circulating through the stomation. Use fibrous materials are needed too for the design of mud volume. A mud test the properties of the proper	Mud Type Min Weight (lbs/gal) Max Weight (lbs/gal) Density (lbs/cu ft) Gel Strength (lbs/100 sqft)	Viscosity (CP) Salinity (ppm) Filtration (cc) Additional Characteristics
0 FreshWater/Cut Brine/Direct Emulsion  mud. Drill out from under 5/8" surface casing with b solution. A 9.7 ppg -10.2 cut brine mud will be used while drilling through the stormation. Use fibrous materials as needed to consequence of the solution of the		equipment to help keep mud weight down after mud up. Rig up solids control equipment to operate as a
FreshWater/Nati ve mud. Drill out from under 5/8" surface casing with b solution. A 9.7 ppg -10.2 cut brine mud will be used while drilling through the statement of formation. Use fibrous materials as needed to conseepage and lost circulating the pump viscous sweeps as	FreshWater/Cut Brine/Direct	materials as needed to contr seepage and lost circulation. Pump viscous sweeps as needed for hole cleaning. Pump speed will be recorded on a daily drilling report after mudding up. A Pason or Totco will be used to detect changes in loss or gain of mud volume. A mud test will be performed every 24 hours to determine: density, viscosity, strength, filtration and pH as necessary. Use available solids controls equipment to help keep mud weight down after mud up. Rig up solids control equipment to operate as a
	FreshWater/Nati	materials as needed to contr seepage and lost circulation. Pump viscous sweeps as

Well Name: POKER LAKE UNIT 19 DTD Well Number: 322H

Top Depth
Bottom Depth
Mud Type
Min Weight (lbs/gal)
Max Weight (lbs/gal)
Density (lbs/cu ft)
Gel Strength (lbs/100 sqft)
HA
Viscosity (CP)
Salinity (ppm)
Filtration (cc)
Additional Characteristics

for hole cleaning. Pump speed will be recorded on a daily drilling report after mudding up. A Pason or Totco will be used to detect changes in loss or gain of mud volume. A mud test will be performed every 24 hours to determine: density, viscosity, strength, filtration and pH as necessary. Use available solids controls equipment to help keep mud weight down after mud up. Rig up solids control equipment to operate as a closed loop system.

# **Section 6 - Test, Logging, Coring**

List of production tests including testing procedures, equipment and safety measures:

Mud Logger: Mud Logging Unit (2 man) below intermediate casing.

Open hole logging will not be done on this well.

List of open and cased hole logs run in the well:

CEMENT BOND LOG, GAMMA RAY LOG, DIRECTIONAL SURVEY, MEASUREMENT WHILE DRILLING, MUD

LOG/GEOLOGICAL LITHOLOGY LOG,

Coring operation description for the well:

No coring is planned for the well.

#### **Section 7 - Pressure**

**Anticipated Bottom Hole Pressure:** 6443

**Anticipated Surface Pressure: 4072** 

Anticipated Bottom Hole Temperature(F): 190

Anticipated abnormal pressures, temperatures, or potential geologic hazards? NO

Describe:

Contingency Plans geoharzards description:

Contingency Plans geohazards

Well Name: POKER LAKE UNIT 19 DTD Well Number: 322H

#### Hydrogen Sulfide drilling operations plan required? YES

#### Hydrogen sulfide drilling operations

PLU\_19\_DTD\_H2S\_Plan\_20220726063918.pdf PLU\_19\_DTD\_H2S\_DiaC\_20221021060446.pdf

#### **Section 8 - Other Information**

#### Proposed horizontal/directional/multi-lateral plan submission:

PLU\_19\_DTD\_322H\_DD\_20221021060524.pdf

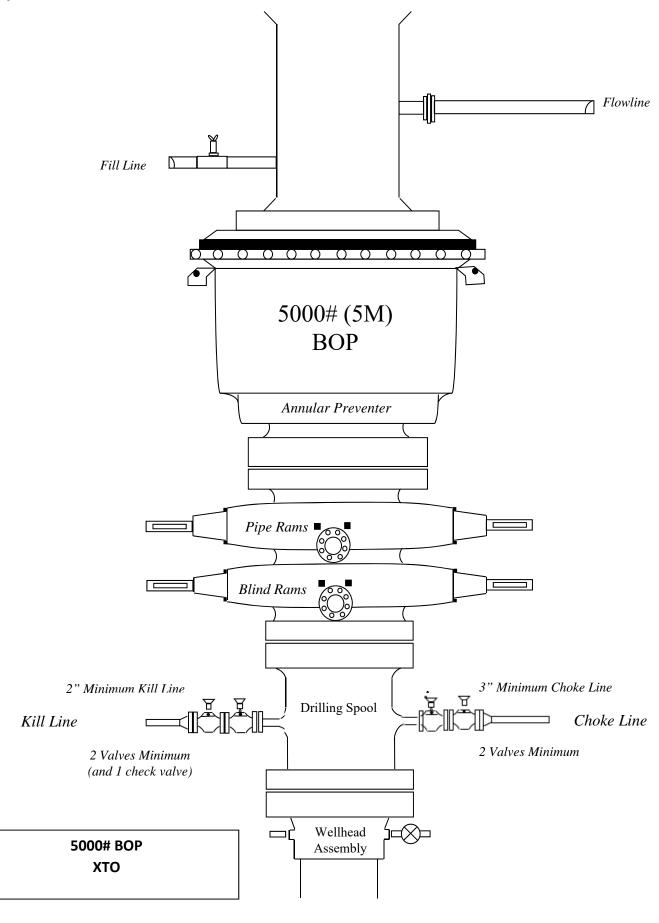
#### Other proposed operations facets description:

#### Other proposed operations facets attachment:

PLU\_19\_DTD\_322H\_Cmt\_20221021060535.pdf

#### Other Variance attachment:

PLU\_19\_DTD\_BOP\_BTV\_20220726064642.pdf
PLU\_19\_DTD\_FH\_20220726064641.pdf
PLU\_19\_DTD\_MBS\_20220726064642.pdf
PLU\_19\_DTD\_OLCV\_20220726064641.pdf
PLU\_19\_DTD\_Spud\_20220726064641.pdf



# **Casing Assumptions**

Casing	Design									
	Hole Size	Depth	OD Csg	Weight	Grade	Collar	New/Used	SF Burst	SF Collapse	SF Tension
	17.5	0' – 450'	13.375	54.5	J-55	BTC	New	21.41	5.55	34.78
	12.25	0' - 4000'	9.625	40	HC P-110	втс	New	1.94	2.10	3.12
	12.25	4000' – 10100'	9.625	40	HC L-80	втс	New	1.41	1.33	3.75
	8.5	0' – 10000'	6	26	RY P-110	Semi-Premium	New	1.17	2.27	1.83
	8.5	10000' - 10500'	6	26	RY P-110	Semi-Premium	New	1.17	2.16	4.25
	8.5	10500' - 29528'	6	26	RY P-110	Semi-Premium	New	1.17	2.11	4.55

#### **Cement Variance Request**

XTO requests to pump a two stage cement job on the 7-5/8" intermediate casing string with the first stage being pumped conventionally with the calculated top of cement at the Brushy Canyon (5918') and the second stage performed as a bradenhead squeeze with planned cement from the Brushy Canyon to surface. If cement is not visually confirmed to circulate to surface, the final cement top after the second stage job will be verified by Echo-meter. If necessary, a top out consisting of 1,500 sack of Class C cement + 3% Salt + 1% PreMag-M + 6% Bentonite Gel (2.30 yld, 12.91 ppg) will be executed as a contingency. If cement is still unable to circulate to surface, another Echo-meter run will be performed for cement top verification.

XTO will include the Echo-meter verified fluid top and the volume of displacement fluid above the cement slurry in the annulus in all post-drill sundries on wells utilizing this cement program.

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

XTO requests to pump an Optional Lead if well conditions dictate in an attempt to bring cement to surface on the first stage. If cement is brought to surface, the BLM will be notified and the second stage bradenhead squeeze and subsequent TOC verification will be negated.

In the event cement is not circulated to surface on the first stage, whether intentionally or unintentionally, XTO requests the option to conduct the bradenhead squeeze and TOC verification offline as per standard approval from BLM when unplanned remediation is needed and batch drilling is approved. In the event the bradenhead is conducted, we will ensure first stage cement job is cemented properly and the well is static with floats holding and no pressure on the csg annulus as with all other casing strings where batch drilling operations occur before moving off the rig. The TA cap will also be installed per GE procedure and pressure inside the casing will be monitored via the valve on the TA cap as per standard batch drilling ops.

**<u>Subject:</u>** Request for a Variance Allowing break Testing of the Blowout Preventer Equipment (BOPE)

XTO Energy requests a variance to ONLY test broken pressure seals on the BOPE and function test BOP when skidding a drilling rig between multiple wells on a pad.

#### **Background**

Onshore Oil and Gas Order (OOGO) No. 2, Drilling Operations, Sections III.A.2.i.iv.B states that the BOP test must be performed whenever any seal subject to test pressure is broken. The current interpretation of the Bureau of Land Management (BLM) requires a complete BOP test and not just a test of the affected component. OOGO No. 2, Section I.D.2 states, "Some situation may exist either on a well-by-well basis or field-wide basis whereby it is commonly accepted practice to vary a particular minimum standard(s) established in this order. This situation can be resolved by requesting a variance...". XTO Energy feels the break testing the BOPE is such a situation. Therefore, as per OOGO No. 2, Section IV., XTO Energy submits this request for the variance.

#### **Supporting Documentation**

OOGO No. 2 became effective on December 19, 1988 and has remained the standard for regulating BLM onshore drilling operations for over 30 years. During this time there have been significant changes in drilling technology. BLM continues to use the variance request process to allow for the use of modern technology and acceptable engineering practices that have arisen since OOGO No. 2 was originally released. The XTO Energy drilling rig fleet has many modern upgrades that allow the intact BOP stack to be moved between well slots on a multi-well pad, as well as, wellhead designs that incorporate quick connects facilitating release of the BOP from the wellhead without breaking any BOP stack components apart. These technologies have been used extensively offshore, and other regulators, API, and many operators around the world have endorsed break testing as safe and reliable.



Figure 1: Winch System attached to BOP Stack



Figure 2: BOP Winch System

American Petroleum Institute (API) standards, specification and recommended practices are considered the industry standard and are consistently utilized and referenced by the industry. OOGO No. 2 recognizes API recommended Practices (RP) 53 in its original development. API Standard 53, *Well Control Equipment Systems for Drilling Wells* (Fifth Edition, December 2018, Annex C, Table C.4) recognizes break testing as an acceptable practice. Specifically, API Standard 53, Section 5.3.7.1 states "A pressure test of the pressure containing component shall be performed following the disconnection or repair, limited to the affected component." See Table C.4 below for reference.

Pressure Test—High Pressure <sup>ac</sup>											
Component to be Pressure Tested	Pressure Test—Low Pressure <sup>ac</sup> psig (MPa)	Change Out of Component, Elastomer, or Ring Gasket	No Change Out of Component, Elastomer, or Ring Gasket								
Annular preventer <sup>b</sup>	250 to 350 (1.72 to 2.41)	RWP of annular preventer	MASP or 70% annular RWP, whichever is lower.								
Fixed pipe, variable bore, blind, and BSR preventers <sup>bd</sup>	250 to 350 (1.72 to 2.41)	RWP of ram preventer or wellhead system, whichever is lower	ITP								
Choke and kill line and BOP side outlet valves below ram preventers (both sides)	250 to 350 (1.72 to 2.41)	RWP of side outlet valve or wellhead system, whichever is lower	ITP								
Choke manifold—upstream of chokes <sup>e</sup>	250 to 350 (1.72 to 2.41)	RWP of ram preventers or wellhead system, whichever is lower	ITP								
Choke manifold—downstream of chokese	250 to 350 (1.72 to 2.41)	RWP of valve(s), line(s), or M whichever is lower	MASP for the well program,								
Kelly, kelly valves, drill pipe safety valves, IBOPs	250 to 350 (1.72 to 2.41)	MASP for the well program									
<ul> <li>Annular(s) and VBR(s) shall be pre</li> <li>For pad drilling operations, moving pressure-controlling connections</li> <li>For surface offshore operations, the</li> </ul>	during the evaluation period. The passure tested on the largest and sm from one wellhead to another within when the integrity of a pressure see ram BOPs shall be pressure testalland operations, the ram BOPs sh	pressure shall not decrease below the allest OD drill pipe to be used in well in the 21 days, pressure testing is req	program.  uired for pressure-containing and the closing and locking pressure								

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

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

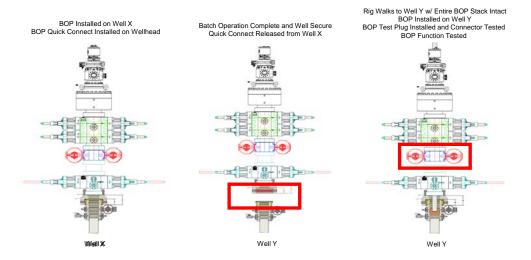
XTO Energy feels break testing and our current procedures meet the intent of OOGO No. 2 and often exceed it. There has been no evidence that break testing results in more components failing than seen on full BOP tests. XTO Energy's internal standards requires complete BOPE tests more often than that of OOGO No. 2 (Every 21 days). In addition to function testing the annular, pipe rams and blind rams after each BOP nipple up, XTO Energy performs a choke drill with the rig crew prior to drilling out every casing shoe. This is additional training for the rig crew that exceeds the requirements of the OOGO No. 2.

#### **Procedures**

- XTO Energy will use this document for our break testing plan for New Mexico Delaware basin.
   The summary below will be referenced in the APD or Sundry Notice and receive approval prior to implementing this variance.
- 2. XTO Energy will perform BOP break testing on multi-wells pads where multiple intermediate sections can be drilled and cased within the 21-day BOP test window.
  - a. A full BOP test will be conducted on the first well on the pad.
  - b. The first intermediate hole section drilled on the pad will be the deepest. All of the remaining hole sections will be the same depth or shallower.
    - i. Our Lower WC targets set the intermediate casing shoe no deeper than the Wolfcamp B.
    - ii. Our Upper WC targets set the intermediate casing shoe shallower than the Wolfcamp B.
  - c. A Full BOP test will be required if the intermediate hole section being drilled has a MASP over 5M.
  - d. A full BOP test will be required prior to drilling any production hole.
- 3. After performing a complete BOP test on the first well, the intermediate hole section will be drilled and cased, two breaks would be made on the BOP equipment.
  - a. Between the HCV valve and choke line connection
  - b. Between the BOP quick connect and the wellhead
- 4. The BOP is then lifted and removed from the wellhead by a hydraulic system.
- 5. After skidding to the next well, the BOP is moved to the wellhead by the same hydraulic system and installed.
- 6. The connections mentioned in 3a and 3b will then be reconnected.
- 7. Install test plug into the wellhead using test joint or drill pipe.
- 8. A shell test is performed against the upper pipe rams testing the two breaks.
- 9. The shell test will consist of a 250 psi low test and a high test to the value submitted in the APD or Sundry (e.g. 5,000 psi or 10,000psi).
- 10. Function test will be performed on the following components: lower pipe rams, blind rams, and annular.

- 11. For a multi-well pad the same two breaks on the BOP would be made and on the next wells and steps 4 through 10 would be repeated.
- 12. A second break test would only be done if the intermediate hole section being drilled could not be completed within the 21 day BOP test window.

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



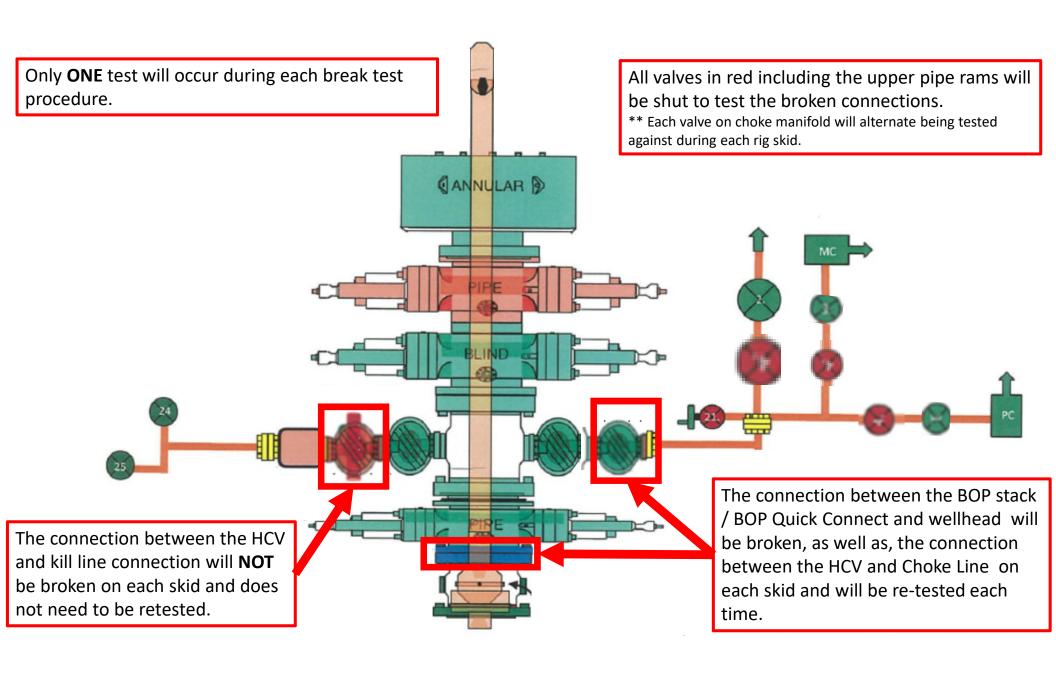
#### **Summary**

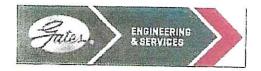
A variance is requested to **ONLY** test broken pressure seals on the BOP equipment when moving from wellhead to wellhead which is in compliance with API Standard 53. API Standard 53 states, that for pad drilling operation, moving from one wellhead to another within 21 days, pressure testing is required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

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

Based on discussions with the BLM on February 27th 2020 and the supporting documentation submitted to the BLM, we will request permission to ONLY retest broken pressure seals if the following conditions are met:

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





GATES E & S NORTH AMERICA, INC

**DU-TEX** 

134 44TH STREET

CORPUS CHRISTI, TEXAS 78405

PHONE: 361-887-9807

FAX: 361-887-0812

EMAIL: crpe&s@gates.com

WEB: www.gates.com

# GRADE D PRESSURE TEST CERTIFICATE

Customer:

Customer Ref. :

AUSTIN DISTRIBUTING

PENDING 201709

Invoice No. :

Test Date:

Hose Senal No.:

Created By:

6/8/2014

D-060814-1

NORMA

Product Description:

FD3.042.0R41/16.5KFLGE/E LE

End Filting 1:

Gates Part No. :

Working Pressure:

4 1/16 in.5K FLG 4774-6001

5,000 PSI

End Fitting 2:

Assembly Code:

Test Pressure :

4 1/16 in.5K FLG

L33090011513D-060814-1

7,500 PSI

Gates E & S North America, Inc. certifies that the following hose assembly has been tested to the Gates Oilfield Roughneck Agreement/Specification requirements and passed the 15 minute hydrostatic test per API Spec 7K/Q1, Fifth Edition, June 2010, Test pressure 9.6.7 and per Table 9 to 7,500 psi in accordance with this product number. Hose burst pressure 9.6.7.2 exceeds the minimum of 2.5 times the working pressure per Table 9.

Quality:

Date: Signature: QUALITY

6/8/2014

Technical Supervisor:

Date:

Signature:

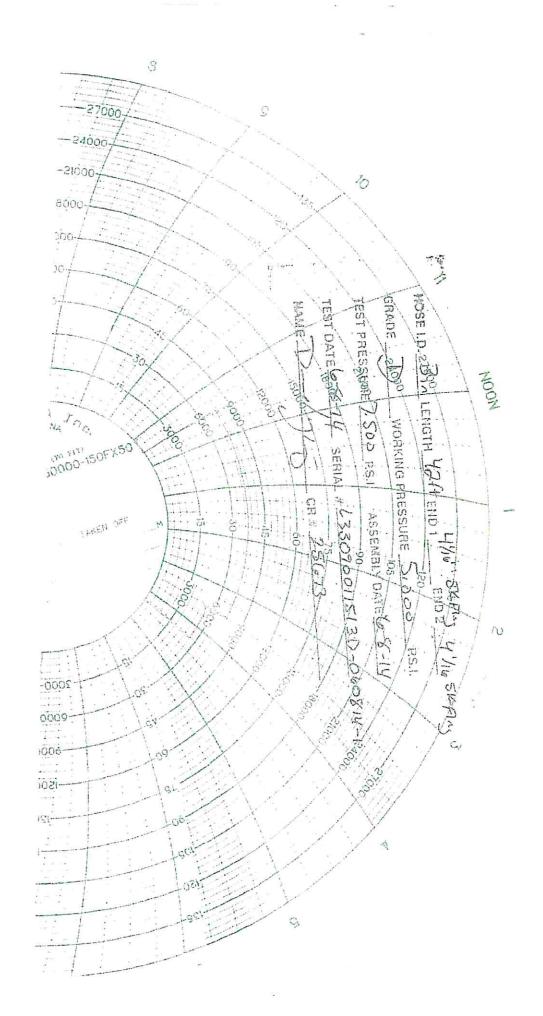
**PRODUCTION** 

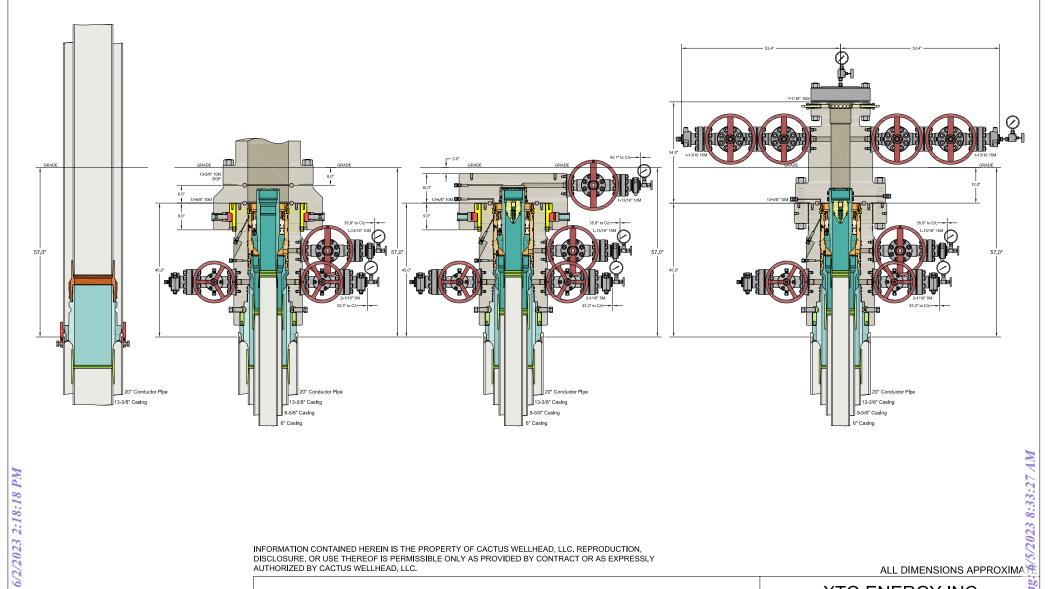
6/8/2014

Form PTC - 01 Rev.0 2

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Received by OCD: 6/2/2023 2:18:18 PM





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CACTUS WELLHEAD LLC	X	TO ENERGY   PLU 21 DTD	9,0
(20") x 13-3/8" x 9-5/8" x 6" MBU-3T-CFL-R-DBLO-SF Wellhead	DRAWN APPRV	VJK	16FEB22
With 13-5/8" 10M x 7-1/16" 15M CTH-DBLHPS-SB Tubing Head And Drilling & Skid Configurations	DRAWING N	o. <b>SDT-3</b>	Kelea 694

### **XTO Permian Operating, LLC Offline Cementing Variance Request**

XTO requests the option to cement the surface and intermediate casing strings offline as a prudent batch drilling efficiency of acreage development.

# 1. Cement Program

No changes to the cement program will take place for offline cementing.

# 2. Offline Cementing Procedure

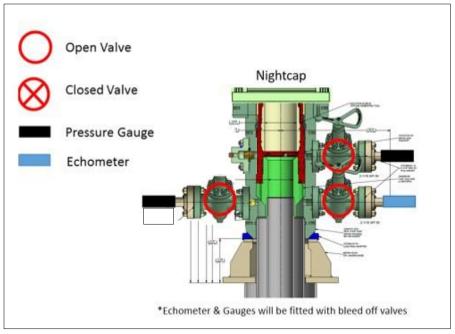
The operational sequence will be as follows. If a well control event occurs, the BLM will be contacted for approval prior to conducting offline cementing operations.

- 1. Run casing as per normal operations. While running casing, conduct negative pressure test and confirm integrity of the float equipment (float collar and shoe)
- 2. Land casing with mandrel
- 3. Fill pipe with kill weight fluid, do not circulate through floats and confirm well is static
- 4. Set annular packoff shown below and pressure test to confirm integrity of the seal. Pressure ratings of wellhead components and valves is 5,000 psi.
- 5. After confirmation of both annular barriers and internal barriers, nipple down BOP and install cap flange.
  - a. If any barrier fails to test, the BOP stack will not be nippled down until after the cement job is completed with cement 500ft above the highest formation capable of flow with kill weight mud above or after it has achieved 50-psi compressive strength if kill weight fluid cannot be verified.



Annular packoff with both external and internal seals

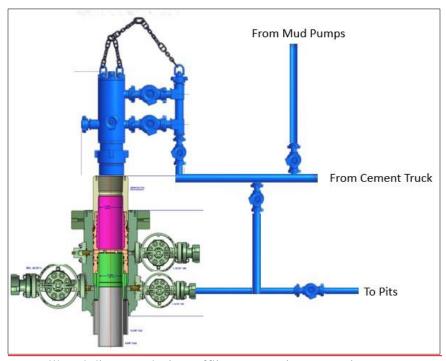
### **XTO Permian Operating, LLC Offline Cementing Variance Request**



Wellhead diagram during skidding operations

- 6. Skid rig to next well on pad.
- 7. Confirm well is static before removing cap flange, flange will not be removed and offline cementing operations will not commence until well is under control. If well is not static, casing outlet valves will provide access to both the casing ID and annulus. Rig or third party pump truck will kill well prior to cementing or nippling up for further remediation.
  - a. Well Control Plan
    - i. The Drillers Method will be the primary well control method to regain control of the wellbore prior to cementing, if wellbore conditions do not permit the drillers method other methods of well control may be used
    - ii. Rig pumps or a 3<sup>rd</sup> party pump will be tied into the upper casing valve to pump down the casing ID
    - iii. A high pressure return line will be rigged up to lower casing valve and run to choke manifold to control annular pressure
    - iv. Once influx is circulated out of the hole, kill weight mud will be circulated
    - v. Well will be confirmed static
    - vi. Once confirmed static, cap flange will be removed to allow for offline cementing operations to commence
- 8. Install offline cement tool
- 9. Rig up cement equipment

# **XTO Permian Operating, LLC Offline Cementing Variance Request**



Wellhead diagram during offline cementing operations

- 10. Circulate bottoms up with cement truck
  - a. If gas is present on bottoms up, well will be shut in and returns rerouted through gas buster to handle entrained gas
  - b. Max anticipated time before circulating with cement truck is 6 hrs
- 11. Perform cement job taking returns from the annulus wellhead valve
- 12. Confirm well is static and floats are holding after cement job
- 13. Remove cement equipment, offline cement tools and install night cap with pressure gauge for monitoring.

XTO respectfully requests approval to utilize a spudder rig to pre-set surface casing.

# Description of Operations:

- 1. Spudder rig will move in to drill the surface hole and pre-set surface casing on the well.
  - a. After drilling the surface hole section, the spudder rig will run casing and cement following all of the applicable rules and regulations (OnShore Order 2, all COAs and NMOCD regulations).
  - b. The spudder rig will utilize fresh water-based mud to drill the surface hole to TD. Solids control will be handled entirely on a closed loop basis. No earth pits will be used.
- 2. The wellhead will be installed and tested as soon as the surface casing is cut off and WOC time has been reached.
- 3. A blind flange at the same pressure rating as the wellhead will be installed to seal the wellbore. Pressure will be monitored with needle valves installed on two wing valves.
  - a. A means for intervention will be maintained while the drilling rig is not over the well.
- 4. Spudder rig operations are expected to take 2-3 days per well on the pad.
- 5. The BLM will be contacted and notified 24 hours prior to commencing spudder rig operations.
- 6. Drilling Operations will begin with a larger rig and a BOP stack equal to or greater than the pressure rating that was permitted will be nippled up and tested on the wellhead before drilling operations resume on each well.
  - a. The larger rig will move back onto the location within 180 days from the point at which the wells are secured and the spudder rig is moved off location.
  - b. The BLM will be notified 24 hours before the larger rig moves back on the pre-set locations
- 7. XTO will have supervision on the rig to ensure compliance with all BLM and NMOCD regulations and to oversee operations.
- 8. Once the rig is removed, XTO will secure the wellhead area by placing a guard rail around the cellar area.



# **XTO Energy**

Eddy County, NM (NAD-27) POKER LAKE UNIT 19 DTD 322H

Wellbore #1

**Plan: PERMIT** 

# **Standard Planning Report**

24 March, 2022

Geodetic System: US State Plane 1927 (Exact solution)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone: New Mexico East 3001
System Datum: Mean Sea Level

WELL DETAILS: 322H

Project: Eddy County, NM (NAD-27) Site: POKER LAKE UNIT 19 DTD Well: 322H Wellbore: Wellbore #1 Design: PERMIT

Rig Name:
GL @ 3190.00usft
Ground Level: 3190.00
Easting
627985.30 32

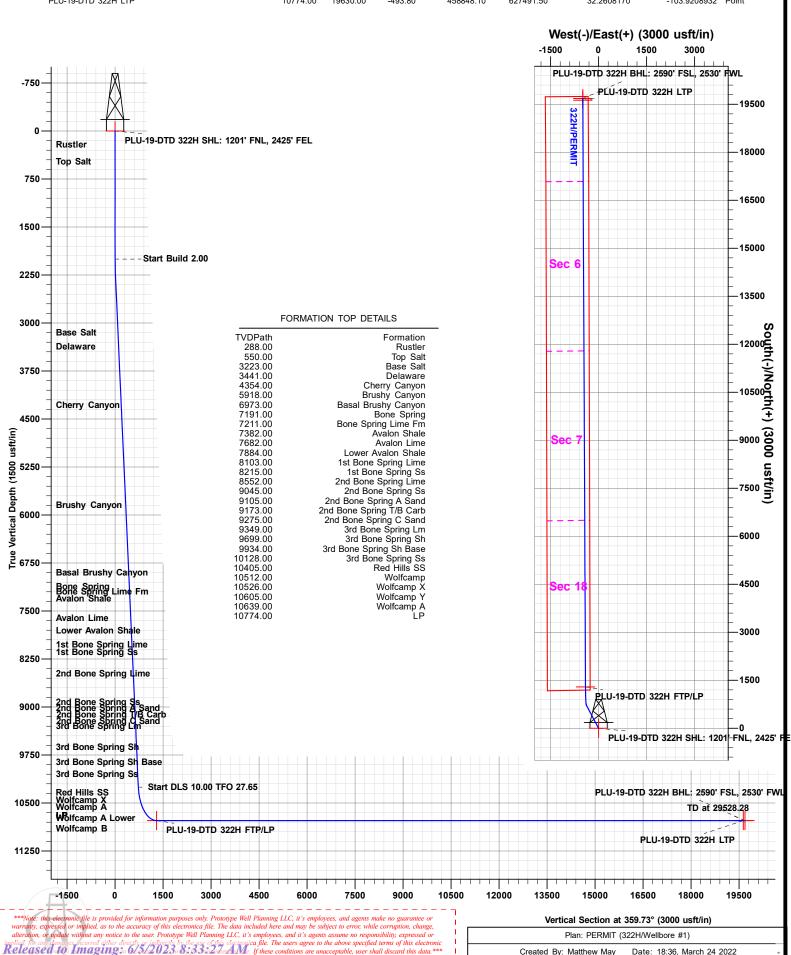
+N/-S 0.00 +E/-W 0.00 Northing 439218.10 Latittude 32.2068505 Longitude -103.9195404

## SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	·
2	2000.00	0.00	0.00	2000.00	0.00	0.00	0.00	0.00	0.00	
3	2288.13	5.76	332.20	2287.64	12.81	-6.75	2.00	332.20	12.84	
4	10293.56	5.76	332.20	10252.62	723.84	-381.63	0.00	0.00	725.63	
5	11142.48	90.00	359.73	10774.00	1294.40	-408.60	10.00	27.65	1296.31	PLU-19-DTD 322H FTP/LP
6	29478.28	90.00	359.73	10774.00	19630.00	-493.77	0.00	0.00	19632.11	PLU-19-DTD 322H LTP
7	29528.28	90.00	359.73	10774.00	19680.00	-494.00	0.00	0.00	19682.11	PLU-19-DTD 322H BHL: 2590' FSL, 2530' FWL

## DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
PLU-19-DTD 322H SHL: 1201' FNL, 2425' FEL	0.00	0.00	0.00	439218.10	627985.30	32.2068505	-103.9195404	Point
PLU-19-DTD 322H BHL: 2590' FSL, 2530' FWL	10774.00	19680.00	-494.00	458898.10	627491.30	32.2609545	-103.9208932	Point
PLU-19-DTD 322H FTP/LP	10774.00	1294.40	-408.60	440512.50	627576.70	32.2104130	-103.9208453	Point
PLU-19-DTD 322H LTP	10774.00	19630.00	-493.80	458848.10	627491.50	32.2608170	-103.9208932	Point



Created By: Matthew May

Date: 18:36, March 24 2022



Database: EDM 5000.1.13 Single User Db

Company: XTO Energy

Project: Eddy County, NM (NAD-27)
Site: POKER LAKE UNIT 19 DTD

Well: 322H
Wellbore: Wellbore #1
Design: PERMIT

Local Co-ordinate Reference:

TVD Reference: MD Reference: North Reference:

**Survey Calculation Method:** 

Well 322H

GL @ 3190.00usft GL @ 3190.00usft

Grid

Minimum Curvature

Project Eddy County, NM (NAD-27)

Map System: US State Plane 1927 (Exact solution)

Geo Datum: NAD 1927 (NADCON CONUS)

Map Zone: New Mexico East 3001

Mean Sea Level

Site POKER LAKE UNIT 19 DTD

Site Position: Northing: 439,144.90 usft Latitude: 32.2066765 From: Мар Easting: 625,393.70 usft Longitude: -103.9279200 **Position Uncertainty:** 0.00 usft Slot Radius: 13-3/16 " **Grid Convergence:** 0.22°

System Datum:

Well 322H

 Well Position
 +N/-S
 73.20 usft
 Northing:
 439,218.10 usft
 Latitude:
 32.2068505

 +E/-W
 2,591.60 usft
 Easting:
 627,985.30 usft
 Longitude:
 -103.9195404

Position Uncertainty 0.00 usft Wellhead Elevation: 0.00 usft Ground Level: 3,190.00 usft

Wellbore #1 Wellbore **Model Name** Field Strength **Magnetics** Sample Date Declination **Dip Angle** (°) (nT) (°) 59.81 IGRF2020 03/24/22 6.61 47,369

**Design** PERMIT

**Audit Notes:** 

Version: Phase: PLAN Tie On Depth: 0.00

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

 0.00
 0.00
 0.00
 359.73

Plan Section	s									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,288.13	5.76	332.20	2,287.64	12.81	-6.75	2.00	2.00	0.00	332.20	
10,293.56	5.76	332.20	10,252.62	723.84	-381.63	0.00	0.00	0.00	0.00	
11,142.48	90.00	359.73	10,774.00	1,294.40	-408.60	10.00	9.92	3.24	27.65	PLU-19-DTD 322H
29,478.28	90.00	359.73	10,774.00	19,630.00	-493.77	0.00	0.00	0.00	0.00	PLU-19-DTD 322H
29,528.28	90.00	359.73	10,774.00	19,680.00	-494.00	0.00	0.00	0.00	0.00	PLU-19-DTD 322H



EDM 5000.1.13 Single User Db Database: Company:

XTO Energy

Eddy County, NM (NAD-27) POKER LAKE UNIT 19 DTD Project: Site:

322H Well: Wellbore: Wellbore #1 PERMIT Design:

**Local Co-ordinate Reference:** 

TVD Reference: MD Reference: North Reference:

**Survey Calculation Method:** 

Well 322H

GL @ 3190.00usft GL @ 3190.00usft

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.00 100.00 200.00 288.00 <b>Rustler</b>	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 100.00 200.00 288.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
550.00	0.00	0.00	550.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Top Salt</b> 600.00 700.00	0.00 0.00	0.00 0.00	600.00 700.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
2,100.00	2.00	332.20	2,099.98	1.54	-0.81	1.55	2.00	2.00	0.00
2,200.00	4.00	332.20	2,199.84	6.17	-3.25	6.19	2.00	2.00	0.00
2,288.13	5.76	332.20	2,287.64	12.81	-6.75	12.84	2.00	2.00	0.00
2,300.00	5.76	332.20	2,299.45	13.86	-7.31	13.89	0.00	0.00	0.00
2,400.00	5.76	332.20	2,398.95	22.74	-11.99	22.80	0.00	0.00	0.00
2,500.00	5.76	332.20	2,498.44	31.62	-16.67	31.70	0.00	0.00	0.00
2,600.00	5.76	332.20	2,597.94	40.51	-21.36	40.61	0.00	0.00	0.00
2,700.00	5.76	332.20	2,697.43	49.39	-26.04	49.51	0.00	0.00	0.00
2,800.00	5.76	332.20	2,796.93	58.27	-30.72	58.41	0.00	0.00	0.00
2,900.00	5.76	332.20	2,896.42	67.15	-35.40	67.32	0.00	0.00	0.00
3,000.00	5.76	332.20	2,995.92	76.03	-40.09	76.22	0.00	0.00	0.00
3,100.00	5.76	332.20	3,095.41	84.92	-44.77	85.13	0.00	0.00	0.00
3,200.00	5.76	332.20	3,194.91	93.80	-49.45	94.03	0.00	0.00	0.00
3,228.24	5.76	332.20	3,223.00	96.31	-50.77	96.54	0.00	0.00	0.00
3,300.00 3,400.00 3,447.34 Delaware	5.76 5.76 5.76	332.20 332.20 332.20	3,294.40 3,393.90 3,441.00	102.68 111.56 115.77	-54.14 -58.82 -61.04	102.93 111.84 116.05	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00
3,500.00	5.76	332.20	3,493.39	120.44	-63.50	120.74	0.00	0.00	0.00
3,600.00	5.76	332.20	3,592.88	129.32	-68.18	129.64	0.00	0.00	0.00
3,700.00	5.76	332.20	3,692.38	138.21	-72.87	138.55	0.00	0.00	0.00
3,800.00	5.76	332.20	3,791.87	147.09	-77.55	147.45	0.00	0.00	0.00
3,900.00	5.76	332.20	3,891.37	155.97	-82.23	156.36	0.00	0.00	0.00
4,000.00	5.76	332.20	3,990.86	164.85	-86.91	165.26	0.00	0.00	0.00
4,100.00	5.76	332.20	4,090.36	173.73	-91.60	174.16	0.00	0.00	0.00
4,200.00	5.76	332.20	4,189.85	182.62	-96.28	183.07	0.00	0.00	0.00
4,300.00	5.76	332.20	4,289.35	191.50	-100.96	191.97	0.00	0.00	0.00
4,364.98	5.76	332.20	4,354.00	197.27	-104.01	197.76	0.00	0.00	0.00



Database: EDM 5000.1.13 Single User Db

Company: XTO Energy

Project: Eddy County, NM (NAD-27)
Site: POKER LAKE UNIT 19 DTD

Well: 322H
Wellbore: Wellbore #1
Design: PERMIT

Local Co-ordinate Reference:

TVD Reference: MD Reference: North Reference:

**Survey Calculation Method:** 

Well 322H

GL @ 3190.00usft GL @ 3190.00usft

Grid

lanned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
Cherry Ca	inyon								
4,400.00	5.76	332.20	4,388.84	200.38	-105.65	200.88	0.00	0.00	0.00
4,500.00	5.76	332.20	4,488.34	209.26	-110.33	209.78	0.00	0.00	0.00
4,600.00	5.76	332.20	4,587.83	218.14	-115.01	218.68	0.00	0.00	0.00
4,700.00	5.76	332.20	4,687.33	227.03	-119.69	227.59	0.00	0.00	0.00
4,800.00	5.76	332.20	4,786.82	235.91	-124.38	236.49	0.00	0.00	0.00
4,900.00	5.76	332.20	4,886.32	244.79	-129.06	245.39	0.00	0.00	0.00
5,000.00	5.76	332.20	4,985.81	253.67	-133.74	254.30	0.00	0.00	0.00
5,100.00	5.76	332.20	5,085.30	262.55	-138.43	263.20	0.00	0.00	0.00
5,200.00	5.76	332.20	5,184.80	271.43	-143.11	272.11	0.00	0.00	0.00
5,300.00	5.76	332.20	5,284.29	280.32	-147.79	281.01	0.00	0.00	0.00
5,400.00	5.76	332.20	5,383.79	289.20	-152.47	289.91	0.00	0.00	0.00
5,500.00	5.76	332.20	5,483.28	298.08	-157.16	298.82	0.00	0.00	0.00
5,600.00	5.76	332.20	5,582.78	306.96	-161.84	307.72	0.00	0.00	0.00
5,700.00	5.76	332.20	5,682.27	315.84	-166.52	316.62	0.00	0.00	0.00
5,800.00	5.76	332.20	5,781.77	324.73	-171.20	325.53	0.00	0.00	0.00
5,900.00	5.76	332.20	5,881.26	333.61	-175.89	334.43	0.00	0.00	0.00
5,936.92	5.76	332.20	5,918.00	336.89	-177.62	337.72	0.00	0.00	0.00
6,000.00	5.76	332.20	5,980.76	342.49	-180.57	343.34	0.00	0.00	0.00
6,100.00	5.76	332.20	6,080.25	351.37	-185.25	352.24	0.00	0.00	0.00
6,200.00	5.76	332.20	6,179.75	360.25	-189.94	361.14	0.00	0.00	0.00
6,300.00	5.76	332.20	6,279.24	369.13	-194.62	370.05	0.00	0.00	0.00
6,400.00	5.76	332.20	6,378.74	378.02	-199.30	378.95	0.00	0.00	0.00
6,500.00	5.76	332.20	6,478.23	386.90	-203.98	387.86	0.00	0.00	0.00
6,600.00	5.76	332.20	6,577.72	395.78	-208.67	396.76	0.00	0.00	0.00
6,700.00	5.76	332.20	6,677.22	404.66	-213.35	405.66	0.00	0.00	0.00
6,800.00	5.76	332.20	6,776.71	413.54	-218.03	414.57	0.00	0.00	0.00
6,900.00	5.76	332.20	6,876.21	422.43	-222.71	423.47	0.00	0.00	0.00
6,997.28	5.76	332.20	6,973.00	431.07	-227.27	432.13	0.00	0.00	0.00
	shy Canyon								
7,000.00	5.76	332.20	6,975.70	431.31	-227.40	432.37	0.00	0.00	0.00
7,100.00	5.76	332.20	7,075.20	440.19	-232.08	441.28	0.00	0.00	0.00
7,200.00	5.76	332.20	7,174.69	449.07	-236.76	450.18	0.00	0.00	0.00
7,216.39	5.76	332.20	7,191.00	450.53	-237.53	451.64	0.00	0.00	0.00
Bone Spri 7,236.49	i <b>ng</b> 5.76	332.20	7,211.00	452.31	-238.47	453.43	0.00	0.00	0.00
Bone Spri	ing Lime Fm								
7,300.00	5.76	332.20	7,274.19	457.95	-241.45	459.09	0.00	0.00	0.00
7,400.00	5.76	332.20	7,373.68	466.83	-246.13	467.99	0.00	0.00	0.00
7,408.36	5.76	332.20	7,382.00	467.58	-246.52	468.73	0.00	0.00	0.00
7,500.00 7,600.00 7,700.00 7,709.88 Avalon Li	5.76 5.76 5.76 5.76	332.20 332.20 332.20 332.20	7,473.18 7,572.67 7,672.17 7,682.00	475.72 484.60 493.48 494.36	-250.81 -255.49 -260.18 -260.64	476.89 485.80 494.70 495.58	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00
7,800.00	5.76	332.20	7,771.66	502.36	-264.86	503.60	0.00	0.00	0.00
7,900.00	5.76	332.20	7,871.15	511.24	-269.54	512.51	0.00	0.00	0.00
7,912.91	5.76	332.20	7,884.00	512.39	-270.15	513.66	0.00	0.00	0.00
	5.76	332.20	7,970.65	520.13	-274.23	521.41	0.00	0.00	0.00
	5.76	332.20	8,070.14	529.01	-278.91	530.32	0.00	0.00	0.00



EDM 5000.1.13 Single User Db Database: Company:

XTO Energy

Eddy County, NM (NAD-27) POKER LAKE UNIT 19 DTD Project: Site:

322H Well: Wellbore: Wellbore #1 PERMIT Design:

**Local Co-ordinate Reference:** 

TVD Reference: MD Reference: North Reference:

**Survey Calculation Method:** 

Well 322H

GL @ 3190.00usft GL @ 3190.00usft

ed Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
8,133.02	5.76	332.20	8,103.00	531.94	-280.45	533.26	0.00	0.00	0.00
1st Bone 8,200.00 8,245.59	<b>Spring Lime</b> 5.76 5.76	332.20 332.20	8,169.64 8,215.00	537.89 541.94	-283.59 -285.73	539.22 543.28	0.00 0.00	0.00 0.00	0.00 0.00
1st Bone 8,300.00	5.76	332.20	8,269.13	546.77	-288.27	548.12	0.00	0.00	0.00
8,400.00 8,500.00	5.76 5.76	332.20 332.20	8,368.63 8,468.12	555.65 564.54	-292.96 -297.64	557.03 565.93	0.00	0.00 0.00	0.00 0.00
8,584.30	5.76 Spring Lime	332.20	8,552.00	572.02	-301.59	573.44	0.00	0.00	0.00
8,600.00 8,700.00 8,800.00	5.76 5.76 5.76	332.20 332.20 332.20	8,567.62 8,667.11 8,766.61	573.42 582.30 591.18	-302.32 -307.00 -311.69	574.84 583.74 592.64	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00
8,900.00 9,000.00 9,079.81	5.76 5.76 5.76	332.20 332.20 332.20	8,866.10 8,965.60 9,045.00	600.06 608.94 616.03	-316.37 -321.05 -324.79	601.55 610.45 617.56	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00
<b>2nd Bone</b> 9,100.00 9,140.11	<b>Spring Ss</b> 5.76 5.76	332.20 332.20	9,065.09 9,105.00	617.83 621.39	-325.74 -327.61	619.35 622.93	0.00 0.00	0.00 0.00	0.00 0.00
2nd Bone 9.200.00	Spring A Sand		0.464.50	000.74	220.42	600.00	0.00	0.00	0.00
9,208.46	5.76 5.76 <b>Spring T/B Ca</b>	332.20 332.20 rb	9,164.59 9,173.00	626.71 627.46	-330.42 -330.81	628.26 629.01	0.00 0.00	0.00 0.00	0.00 0.00
9,300.00 9,310.98	5.76 5.76	332.20 332.20	9,264.08 9,275.00	635.59 636.56	-335.10 -335.61	637.16 638.14	0.00 0.00	0.00 0.00	0.00 0.00
9,385.35	Spring C Sand 5.76	332.20	9,349.00	643.17	-339.10	644.76	0.00	0.00	0.00
	Spring Lm	200.00	0.000.57	044.47	200 70	040.07	0.00	0.00	0.00
9,400.00 9,500.00 9,600.00 9,700.00 9,737.13	5.76 5.76 5.76 5.76 5.76	332.20 332.20 332.20 332.20 332.20	9,363.57 9,463.07 9,562.56 9,662.06 9,699.00	644.47 653.35 662.24 671.12 674.42	-339.78 -344.47 -349.15 -353.83 -355.57	646.07 654.97 663.87 672.78 676.08	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00
3rd Bone	Spring Sh								
9,800.00 9,900.00 9,973.32	5.76 5.76 5.76	332.20 332.20 332.20	9,761.55 9,861.05 9,934.00	680.00 688.88 695.39	-358.51 -363.20 -366.63	681.68 690.58 697.11	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00
	Spring Sh Bas								
10,000.00 10,100.00	5.76 5.76	332.20 332.20	9,960.54 10,060.04	697.76 706.64	-367.88 -372.56	699.49 708.39	0.00 0.00	0.00 0.00	0.00 0.00
10,168.31 3rd Bone	5.76 Spring Ss	332.20	10,128.00	712.71	-375.76	714.47	0.00	0.00	0.00
10,200.00 10,293.56 10,300.00 10,350.00	5.76 5.76 6.34 11.07	332.20 332.20 334.91 345.95	10,159.53 10,252.62 10,259.02 10,308.44	715.53 723.84 724.44 731.61	-377.25 -381.63 -381.93 -384.27	717.30 725.63 726.24 733.41	0.00 0.00 10.00 10.00	0.00 0.00 8.97 9.47	0.00 0.00 42.04 22.08
10,400.00 10,450.00 10,450.58	15.97 20.92 20.97	350.35 352.72 352.74	10,357.04 10,404.45 10,405.00	743.05 758.70 758.91	-386.59 -388.87 -388.90	744.87 760.52 760.73	10.00 10.00 10.00	9.79 9.89 9.91	8.81 4.74 3.65
Red Hills 10,500.00 10,550.00	25.88 30.86	354.22 355.26	10,450.33 10,494.31	778.42 802.07	-391.10 -393.27	780.26 803.92	10.00 10.00	9.93 9.95	2.98 2.08



Database: EDM Company: XTO

EDM 5000.1.13 Single User Db

XTO Energy

Project: Eddy County, NM (NAD-27)
Site: POKER LAKE UNIT 19 DTD

Well: 322H
Wellbore: Wellbore #1
Design: PERMIT

Local Co-ordinate Reference:

TVD Reference: MD Reference: North Reference:

**Survey Calculation Method:** 

Well 322H

GL @ 3190.00usft GL @ 3190.00usft

Grid

esign:		PERMIT								
Planned Sur	vey									
Measi Dep (us	ured oth	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
	70.84	32.93	355.60	10,512.00	813.04	-394.14	814.89	10.00	9.96	1.67
10,58	fcamp 87.68 fcamp )	34.61	355.86	10,526.00	822.38	-394.84	824.23	10.00	9.96	1.51
10,66 10,65 10,65	00.00 50.00 90.55	35.84 40.82 44.87	356.03 356.64 357.05	10,536.07 10,575.28 10,605.00	829.47 860.41 887.93	-395.34 -397.31 -398.83	831.32 862.27 889.80	10.00 10.00 10.00	9.97 9.97 9.98	1.40 1.22 1.01
	fcamp \									
10,74	00.00 40.77	45.81 49.88	357.13 357.48	10,611.64 10,639.00	894.65 924.84	-399.17 -400.59	896.52 926.71	10.00 10.00	9.98 9.98	0.92 0.85
10,75 10,80	fcamp <i>A</i> 50.00 00.00 50.00	50.80 55.79 60.79	357.55 357.92 358.24	10,644.89 10,674.76 10,701.03	931.93 971.98 1,014.47	-400.89 -402.47 -403.90	933.81 973.86 1,016.37	10.00 10.00 10.00	9.98 9.98 9.98	0.79 0.73 0.64
10,95 11,06 11,05	00.00 50.00 00.00 50.00 00.00	65.78 70.77 75.77 80.76 85.76	358.53 358.80 359.06 359.30 359.54	10,723.51 10,742.01 10,756.39 10,766.56 10,772.43	1,059.10 1,105.53 1,153.39 1,202.32 1,251.96	-405.15 -406.23 -407.12 -407.83 -408.33	1,061.00 1,107.43 1,155.29 1,204.23 1,253.87	10.00 10.00 10.00 10.00 10.00	9.99 9.99 9.99 9.99	0.58 0.54 0.51 0.49 0.47
	42.48	90.00	359.73	10,774.00	1,294.40	-408.60	1,296.31	10.00	9.99	0.47
11,30 11,40	00.00 00.00 00.00 00.00	90.00 90.00 90.00 90.00	359.73 359.73 359.73 359.73	10,774.00 10,774.00 10,774.00 10,774.00	1,351.92 1,451.92 1,551.91 1,651.91	-408.87 -409.33 -409.80 -410.26	1,353.83 1,453.83 1,553.83 1,653.83	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00
11,70 11,80 11,90	00.00 00.00 00.00 00.00 00.00	90.00 90.00 90.00 90.00 90.00	359.73 359.73 359.73 359.73 359.73	10,774.00 10,774.00 10,774.00 10,774.00 10,774.00	1,751.91 1,851.91 1,951.91 2,051.91 2,151.91	-410.73 -411.19 -411.65 -412.12 -412.58	1,753.83 1,853.83 1,953.83 2,053.83 2,153.83	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00
12,20 12,30 12,40	00.00 00.00 00.00 00.00 00.00	90.00 90.00 90.00 90.00 90.00	359.73 359.73 359.73 359.73 359.73	10,774.00 10,774.00 10,774.00 10,774.00 10,774.00	2,251.91 2,351.91 2,451.90 2,551.90 2,651.90	-413.05 -413.51 -413.98 -414.44 -414.91	2,253.83 2,353.83 2,453.83 2,553.83 2,653.83	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00
12,70 12,80 12,90	00.00 00.00 00.00 00.00 00.00	90.00 90.00 90.00 90.00 90.00	359.73 359.73 359.73 359.73 359.73	10,774.00 10,774.00 10,774.00 10,774.00 10,774.00	2,751.90 2,851.90 2,951.90 3,051.90 3,151.90	-415.37 -415.83 -416.30 -416.76 -417.23	2,753.83 2,853.83 2,953.83 3,053.83 3,153.83	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00
13,20 13,30 13,40	00.00 00.00 00.00 00.00 00.00	90.00 90.00 90.00 90.00 90.00	359.73 359.73 359.73 359.73 359.73	10,774.00 10,774.00 10,774.00 10,774.00 10,774.00	3,251.90 3,351.89 3,451.89 3,551.89 3,651.89	-417.69 -418.16 -418.62 -419.09 -419.55	3,253.83 3,353.83 3,453.83 3,553.83 3,653.83	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00
13,70 13,80 13,90	00.00 00.00 00.00 00.00 00.00	90.00 90.00 90.00 90.00 90.00	359.73 359.73 359.73 359.73 359.73	10,774.00 10,774.00 10,774.00 10,774.00 10,774.00	3,751.89 3,851.89 3,951.89 4,051.89 4,151.89	-420.01 -420.48 -420.94 -421.41 -421.87	3,753.83 3,853.83 3,953.83 4,053.83 4,153.83	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00
14,20 14,30	00.00 00.00 00.00 00.00	90.00 90.00 90.00 90.00	359.73 359.73 359.73 359.73	10,774.00 10,774.00 10,774.00 10,774.00	4,251.89 4,351.88 4,451.88 4,551.88	-422.34 -422.80 -423.27 -423.73	4,253.83 4,353.83 4,453.83 4,553.83	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00



EDM 5000.1.13 Single User Db Database: Company:

XTO Energy

Eddy County, NM (NAD-27) POKER LAKE UNIT 19 DTD Project: Site:

322H Well: Wellbore: Wellbore #1 PERMIT Design:

Local Co-ordinate Reference:

TVD Reference: MD Reference: North Reference:

**Survey Calculation Method:** 

Well 322H

GL @ 3190.00usft GL @ 3190.00usft

Design:	PERMIT								
Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
14,500.00	90.00	359.73	10,774.00	4,651.88	-424.20	4,653.83	0.00	0.00	0.00
14,600.00	90.00	359.73	10,774.00	4,751.88	-424.66	4,753.83	0.00	0.00	0.00
14,700.00	90.00	359.73	10,774.00	4,851.88	-425.12	4,853.83	0.00	0.00	0.00
14,800.00	90.00	359.73	10,774.00	4,951.88	-425.59	4,953.83	0.00	0.00	0.00
14,900.00	90.00	359.73	10,774.00	5,051.88	-426.05	5,053.83	0.00	0.00	0.00
15,000.00	90.00	359.73	10,774.00	5,151.88	-426.52	5,153.83	0.00	0.00	0.00
15,100.00	90.00	359.73	10,774.00	5,251.87	-426.98	5,253.83	0.00	0.00	0.00
15,200.00	90.00	359.73	10,774.00	5,351.87	-427.45	5,353.83	0.00	0.00	0.00
15,300.00	90.00	359.73	10,774.00	5,451.87	-427.91	5,453.83	0.00	0.00	0.00
15,400.00	90.00	359.73	10,774.00	5,551.87	-428.38	5,553.83	0.00	0.00	0.00
15,500.00	90.00	359.73	10,774.00	5,651.87	-428.84	5,653.83	0.00	0.00	0.00
15,600.00	90.00	359.73	10,774.00	5,751.87	-429.30	5,753.83	0.00	0.00	0.00
15,700.00	90.00	359.73	10,774.00	5,851.87	-429.77	5,853.83	0.00	0.00	0.00
15,800.00	90.00	359.73	10,774.00	5,951.87	-430.23	5,953.83	0.00	0.00	0.00
15,900.00	90.00	359.73	10,774.00	6,051.87	-430.70	6,053.83	0.00	0.00	0.00
16,000.00	90.00	359.73	10,774.00	6,151.86	-431.16	6,153.83	0.00	0.00	0.00
16,100.00	90.00	359.73	10,774.00	6,251.86	-431.63	6,253.83	0.00	0.00	0.00
16,200.00	90.00	359.73	10,774.00	6,351.86	-432.09	6,353.83	0.00	0.00	0.00
16,300.00	90.00	359.73	10,774.00	6,451.86	-432.56	6,453.83	0.00	0.00	0.00
16,400.00	90.00	359.73	10,774.00	6,551.86	-433.02	6,553.83	0.00	0.00	0.00
16,500.00	90.00	359.73	10,774.00	6,651.86	-433.49	6,653.83	0.00	0.00	0.00
16,600.00	90.00	359.73	10,774.00	6,751.86	-433.95	6,753.83	0.00	0.00	0.00
16,700.00	90.00	359.73	10,774.00	6,851.86	-434.41	6,853.83	0.00	0.00	0.00
16,800.00	90.00	359.73	10,774.00	6,951.86	-434.88	6,953.83	0.00	0.00	0.00
16,900.00	90.00	359.73	10,774.00	7,051.86	-435.34	7,053.83	0.00	0.00	0.00
17,000.00	90.00	359.73	10,774.00	7,151.85	-435.81	7,153.83	0.00	0.00	0.00
17,100.00	90.00	359.73	10,774.00	7,251.85	-436.27	7,253.83	0.00	0.00	0.00
17,200.00	90.00	359.73	10,774.00	7,351.85	-436.74	7,353.83	0.00	0.00	0.00
17,300.00	90.00	359.73	10,774.00	7,451.85	-437.20	7,453.83	0.00	0.00	0.00
17,400.00	90.00	359.73	10,774.00	7,551.85	-437.67	7,553.83	0.00	0.00	0.00
17,500.00	90.00	359.73	10,774.00	7,651.85	-438.13	7,653.83	0.00	0.00	0.00
17,600.00	90.00	359.73	10,774.00	7,751.85	-438.59	7,753.83	0.00	0.00	0.00
17,700.00	90.00	359.73	10,774.00	7,851.85	-439.06	7,853.83	0.00	0.00	0.00
17,800.00	90.00	359.73	10,774.00	7,951.85	-439.52	7,953.83	0.00	0.00	0.00
17,900.00	90.00	359.73	10,774.00	8,051.84	-439.99	8,053.83	0.00	0.00	0.00
18,000.00	90.00	359.73	10,774.00	8,151.84	-440.45	8,153.83	0.00	0.00	0.00
18,100.00	90.00	359.73	10,774.00	8,251.84	-440.92	8,253.83	0.00	0.00	0.00
18,200.00	90.00	359.73	10,774.00	8,351.84	-441.38	8,353.83	0.00	0.00	0.00
18,300.00	90.00	359.73	10,774.00	8,451.84	-441.85	8,453.83	0.00	0.00	0.00
18,400.00	90.00	359.73	10,774.00	8,551.84	-442.31	8,553.83	0.00	0.00	0.00
18,500.00	90.00	359.73	10,774.00	8,651.84	-442.77	8,653.83	0.00	0.00	0.00
18,600.00	90.00	359.73	10,774.00	8,751.84	-443.24	8,753.83	0.00	0.00	0.00
18,700.00	90.00	359.73	10,774.00	8,851.84	-443.70	8,853.83	0.00	0.00	0.00
18,800.00	90.00	359.73	10,774.00	8,951.83	-444.17	8,953.83	0.00	0.00	0.00
18,900.00	90.00	359.73	10,774.00	9,051.83	-444.63	9,053.83	0.00	0.00	0.00
19,000.00	90.00	359.73	10,774.00	9,151.83	-445.10	9,153.83	0.00	0.00	0.00
19,100.00	90.00	359.73	10,774.00	9,251.83	-445.56	9,253.83	0.00	0.00	0.00
19,200.00	90.00	359.73	10,774.00	9,351.83	-446.03	9,353.83	0.00	0.00	0.00
19,300.00	90.00	359.73	10,774.00	9,451.83	-446.49	9,453.83	0.00	0.00	0.00
19,400.00	90.00	359.73	10,774.00	9,551.83	-446.96	9,553.83	0.00	0.00	0.00
19,500.00	90.00	359.73	10,774.00	9,651.83	-447.42	9,653.83	0.00	0.00	0.00
19,600.00	90.00	359.73	10,774.00	9,751.83	-447.88	9,753.83	0.00	0.00	0.00
19,700.00	90.00	359.73	10,774.00	9,851.83	-448.35	9,853.83	0.00	0.00	0.00
19,800.00	90.00	359.73	10,774.00	9,951.82	-448.81	9,953.83	0.00	0.00	0.00



EDM 5000.1.13 Single User Db Database: Company:

XTO Energy

Eddy County, NM (NAD-27) POKER LAKE UNIT 19 DTD Project: Site:

322H Well: Wellbore: Wellbore #1 PERMIT Design:

**Local Co-ordinate Reference:** 

TVD Reference: MD Reference: North Reference:

**Survey Calculation Method:** 

Well 322H

GL @ 3190.00usft GL @ 3190.00usft

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
19,900.00	90.00	359.73	10,774.00	10,051.82	-449.28	10,053.83	0.00	0.00	0.00
20,000.00	90.00	359.73	10,774.00	10,151.82	-449.74	10,153.83	0.00	0.00	0.00
20,100.00	90.00	359.73	10,774.00	10,251.82	-450.21	10,253.83	0.00	0.00	0.00
20,200.00	90.00	359.73	10,774.00	10,351.82	-450.67	10,353.83	0.00	0.00	0.00
20,300.00	90.00	359.73	10,774.00	10,451.82	-451.14	10,453.83	0.00	0.00	0.00
20,400.00	90.00	359.73	10,774.00	10,551.82	-451.60	10,553.83	0.00	0.00	0.00
20,500.00	90.00	359.73	10,774.00	10,651.82	-452.06	10,653.83	0.00	0.00	0.00
20,600.00	90.00	359.73	10,774.00	10,751.82	-452.53	10,753.83	0.00	0.00	0.00
20,700.00	90.00	359.73	10,774.00	10,851.81	-452.99	10,853.83	0.00	0.00	0.00
20,800.00	90.00	359.73	10,774.00	10,951.81	-453.46	10,953.83	0.00	0.00	0.00
20,900.00	90.00	359.73	10,774.00	11,051.81	-453.92	11,053.83	0.00	0.00	0.00
21,000.00	90.00	359.73	10,774.00	11,151.81	-454.39	11,153.83	0.00	0.00	0.00
21,100.00	90.00	359.73	10,774.00	11,251.81	-454.85	11,253.83	0.00	0.00	0.00
21,200.00	90.00	359.73	10,774.00	11,351.81	-455.32	11,353.83	0.00	0.00	0.00
21,300.00	90.00	359.73	10,774.00	11,451.81	-455.78	11,453.83	0.00	0.00	0.00
21,400.00	90.00	359.73	10,774.00	11,551.81	-456.25	11,553.83	0.00	0.00	0.00
21,500.00	90.00	359.73	10,774.00	11,651.81	-456.71	11,653.83	0.00	0.00	0.00
21,600.00	90.00	359.73	10,774.00	11,751.80	-457.17	11,753.83	0.00	0.00	0.00
21,700.00	90.00	359.73	10,774.00	11,851.80	-457.64	11,853.83	0.00	0.00	0.00
21,800.00	90.00	359.73	10,774.00	11,951.80	-458.10	11,953.83	0.00	0.00	0.00
21,900.00	90.00	359.73	10,774.00	12,051.80	-458.57	12,053.83	0.00	0.00	0.00
22,000.00	90.00	359.73	10,774.00	12,151.80	-459.03	12,153.83	0.00	0.00	0.00
22,100.00	90.00	359.73	10,774.00	12,251.80	-459.50	12,253.83	0.00	0.00	0.00
22,200.00	90.00	359.73	10,774.00	12,351.80	-459.96	12,353.83	0.00	0.00	0.00
22,300.00	90.00	359.73	10,774.00	12,451.80	-460.43	12,453.83	0.00	0.00	0.00
22,400.00	90.00	359.73	10,774.00	12,551.80	-460.89	12,553.83	0.00	0.00	0.00
22,500.00	90.00	359.73	10,774.00	12,651.79	-461.35	12,653.83	0.00	0.00	0.00
22,600.00	90.00	359.73	10,774.00	12,751.79	-461.82	12,753.83	0.00	0.00	0.00
22,700.00	90.00	359.73	10,774.00	12,851.79	-462.28	12,853.83	0.00	0.00	0.00
22,800.00	90.00	359.73	10,774.00	12,951.79	-462.75	12,953.83	0.00	0.00	0.00
22,900.00	90.00	359.73	10,774.00	13,051.79	-463.21	13,053.83	0.00	0.00	0.00
23,000.00	90.00	359.73	10,774.00	13,151.79	-463.68	13,153.83	0.00	0.00	0.00
23,100.00	90.00	359.73	10,774.00	13,251.79	-464.14	13,253.83	0.00	0.00	0.00
23,200.00	90.00	359.73	10,774.00	13,351.79	-464.61	13,353.83	0.00	0.00	0.00
23,300.00	90.00	359.73	10,774.00	13,451.79	-465.07	13,453.83	0.00	0.00	0.00
23,400.00	90.00	359.73	10,774.00	13,551.79	-465.53	13,553.83	0.00	0.00	0.00
23,500.00	90.00	359.73	10,774.00	13,651.78	-466.00	13,653.83	0.00	0.00	0.00
23,600.00	90.00	359.73	10,774.00	13,751.78	-466.46	13,753.83	0.00	0.00	0.00
23,700.00	90.00	359.73	10,774.00	13,851.78	-466.93	13,853.83	0.00	0.00	0.00
23,800.00	90.00	359.73	10,774.00	13,951.78	-467.39	13,953.83	0.00	0.00	0.00
23,900.00	90.00	359.73	10,774.00	14,051.78	-467.86	14,053.83	0.00	0.00	0.00
24,000.00	90.00	359.73	10,774.00	14,151.78	-468.32	14,153.83	0.00	0.00	0.00
24,100.00	90.00	359.73	10,774.00	14,251.78	-468.79	14,253.83	0.00	0.00	0.00
24,200.00	90.00	359.73	10,774.00	14,351.78	-469.25	14,353.83	0.00	0.00	0.00
24,300.00	90.00	359.73	10,774.00	14,451.78	-469.72	14,453.83	0.00	0.00	0.00
24,400.00	90.00	359.73	10,774.00	14,551.77	-470.18	14,553.83	0.00	0.00	0.00
24,500.00	90.00	359.73	10,774.00	14,651.77	-470.64	14,653.83	0.00	0.00	0.00
24,600.00	90.00	359.73	10,774.00	14,751.77	-471.11	14,753.83	0.00	0.00	0.00
24,700.00	90.00	359.73	10,774.00	14,851.77	-471.57	14,853.83	0.00	0.00	0.00
24,800.00	90.00	359.73	10,774.00	14,951.77	-472.04	14,953.83	0.00	0.00	0.00
24,900.00	90.00	359.73	10,774.00	15,051.77	-472.50	15,053.83	0.00	0.00	0.00
25,000.00	90.00	359.73	10,774.00	15,151.77	-472.97	15,153.83	0.00	0.00	0.00
25,100.00	90.00	359.73	10,774.00	15,251.77	-473.43	15,253.83	0.00	0.00	0.00
25,200.00	90.00	359.73	10,774.00	15,351.77	-473.90	15,353.83	0.00	0.00	0.00



Database: Company:

EDM 5000.1.13 Single User Db

XTO Energy

Eddy County, NM (NAD-27) POKER LAKE UNIT 19 DTD Project: Site:

322H Well: Wellbore: Wellbore #1 PERMIT Design:

**Local Co-ordinate Reference:** 

TVD Reference: MD Reference: North Reference:

**Survey Calculation Method:** 

Well 322H

GL @ 3190.00usft GL @ 3190.00usft

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
25,300.00	90.00	359.73	10,774.00	15,451.76	-474.36	15,453.83	0.00	0.00	0.00
25,400.00	90.00	359.73	10,774.00	15,551.76	-474.82	15,553.83	0.00	0.00	0.00
25,500.00	90.00	359.73	10,774.00	15,651.76	-475.29	15,653.83	0.00	0.00	0.00
25,600.00	90.00	359.73	10,774.00	15,751.76	-475.75	15,753.83	0.00	0.00	0.00
25,700.00	90.00	359.73	10,774.00	15,851.76	-476.22	15,853.83	0.00	0.00	0.00
25,800.00	90.00	359.73	10,774.00	15,951.76	-476.68	15,953.83	0.00	0.00	0.00
25,900.00	90.00	359.73	10,774.00	16,051.76	-477.15	16,053.83	0.00	0.00	0.00
26,000.00	90.00	359.73	10,774.00	16,151.76	-477.61	16,153.83	0.00	0.00	0.00
26,100.00	90.00	359.73	10,774.00	16,251.76	-478.08	16,253.83	0.00	0.00	0.00
26,200.00	90.00	359.73	10,774.00	16,351.76	-478.54	16,353.83	0.00	0.00	0.00
26,300.00	90.00	359.73	10,774.00	16,451.75	-479.01	16,453.83	0.00	0.00	0.00
26,400.00	90.00	359.73	10,774.00	16,551.75	-479.47	16,553.83	0.00	0.00	0.00
26,500.00	90.00	359.73	10,774.00	16,651.75	-479.93	16,653.83	0.00	0.00	0.00
26,600.00	90.00	359.73	10,774.00	16,751.75	-480.40	16,753.83	0.00	0.00	0.00
26,700.00	90.00	359.73	10,774.00	16,851.75	-480.86	16,853.83	0.00	0.00	0.00
26,800.00	90.00	359.73	10,774.00	16,951.75	-481.33	16,953.83	0.00	0.00	0.00
26,900.00	90.00	359.73	10,774.00	17,051.75	-481.79	17,053.83	0.00	0.00	0.00
27,000.00	90.00	359.73	10,774.00	17,151.75	-482.26	17,153.83	0.00	0.00	0.00
27,100.00	90.00	359.73	10,774.00	17,251.75	-482.72	17,253.83	0.00	0.00	0.00
27,200.00	90.00	359.73	10,774.00	17,351.74	-483.19	17,353.83	0.00	0.00	0.00
27,300.00	90.00	359.73	10,774.00	17,451.74	-483.65	17,453.83	0.00	0.00	0.00
27,400.00	90.00	359.73	10,774.00	17,551.74	-484.11	17,553.83	0.00	0.00	0.00
27,500.00	90.00	359.73	10,774.00	17,651.74	-484.58	17,653.83	0.00	0.00	0.00
27,600.00	90.00	359.73	10,774.00	17,751.74	-485.04	17,753.83	0.00	0.00	0.00
27,700.00	90.00	359.73	10,774.00	17,851.74	-485.51	17,853.83	0.00	0.00	0.00
27,800.00	90.00	359.73	10,774.00	17,951.74	-485.97	17,953.83	0.00	0.00	0.00
27,900.00	90.00	359.73	10,774.00	18,051.74	-486.44	18,053.83	0.00	0.00	0.00
28,000.00	90.00	359.73	10,774.00	18,151.74	-486.90	18,153.83	0.00	0.00	0.00
28,100.00	90.00	359.73	10,774.00	18,251.73	-487.37	18,253.83	0.00	0.00	0.00
28,200.00	90.00	359.73	10,774.00	18,351.73	-487.83	18,353.83	0.00	0.00	0.00
28,300.00	90.00	359.73	10,774.00	18,451.73	-488.29	18,453.83	0.00	0.00	0.00
28,400.00	90.00	359.73	10,774.00	18,551.73	-488.76	18,553.83	0.00	0.00	0.00
28,500.00	90.00	359.73	10,774.00	18,651.73	-489.22	18,653.83	0.00	0.00	0.00
28,600.00	90.00	359.73	10,774.00	18,751.73	-489.69	18,753.83	0.00	0.00	0.00
28,700.00	90.00	359.73	10,774.00	18,851.73	-490.15	18,853.83	0.00	0.00	0.00
28,800.00	90.00	359.73	10,774.00	18,951.73	-490.62	18,953.83	0.00	0.00	0.00
28,900.00	90.00	359.73	10,774.00	19,051.73	-491.08	19,053.83	0.00	0.00	0.00
29,000.00	90.00	359.73	10,774.00	19,151.72	-491.55	19,153.83	0.00	0.00	0.00
29,100.00 29,200.00 29,300.00 29,400.00 29,478.28	90.00 90.00 90.00 90.00 90.00	359.73 359.73 359.73 359.73 359.73	10,774.00 10,774.00 10,774.00 10,774.00 10,774.00	19,251.72 19,351.72 19,451.72 19,551.72 19,630.00	-492.48 -492.94 -493.40 -493.77	19,253.83 19,353.83 19,453.83 19,553.83 19,632.11	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00
29,500.00	90.00	359.73	10,774.00	19,651.72	-493.87	19,653.83	0.00	0.00	0.00
29,528.28	90.00	359.73	10,774.00	19,680.00	-494.00	19,682.11	0.00	0.00	0.00



Formations

# **Planning Report**

Database: EDM 5000.1.13 Single User Db

Company: XTO Energy

Project: Eddy County, NM (NAD-27)
Site: POKER LAKE UNIT 19 DTD

Well: 322H
Wellbore: Wellbore #1
Design: PERMIT

Local Co-ordinate Reference:

TVD Reference: MD Reference: North Reference:

**Survey Calculation Method:** 

Well 322H

GL @ 3190.00usft GL @ 3190.00usft

Grid

Design Targets									
Target Name - hit/miss target D - Shape	ip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
PLU-19-DTD 322H SI - plan hits target cer - Point	0.00 iter	0.00	0.00	0.00	0.00	439,218.10	627,985.30	32.2068505	-103.9195404
PLU-19-DTD 322H F1 - plan hits target cer - Point	0.00 iter	0.01	10,774.00	1,294.40	-408.60	440,512.50	627,576.70	32.2104131	-103.9208453
PLU-19-DTD 322H LT - plan misses target - Point	0.00 center by		10,774.00 29478.28u	19,630.00 sft MD (1077	-493.80 4.00 TVD, 1	458,848.10 9630.00 N, -493.7	627,491.50 77 E)	32.2608170	-103.9208932
PLU-19-DTD 322H Bł - plan hits target cen - Point	0.00 iter	0.00	10,774.00	19,680.00	-494.00	458,898.10	627,491.30	32.2609545	-103.9208932

Measured	Vertical				Dip Direction
Depth (usft)	Depth (usft)	Name	Lithology	Dip (°)	(°)
288.00	288.00	Rustler			
550.00	550.00	Top Salt			
3,228.24	3,223.00	Base Salt			
3,447.34	3,441.00	Delaware			
4,364.98	4,354.00	Cherry Canyon			
5,936.92	5,918.00	Brushy Canyon			
6,997.28	6,973.00	Basal Brushy Canyon			
7,216.39	7,191.00	Bone Spring			
7,236.49	7,211.00	Bone Spring Lime Fm			
7,408.36	7,382.00	Avalon Shale			
7,709.88	7,682.00	Avalon Lime			
7,912.91	7,884.00	Lower Avalon Shale			
8,133.02	8,103.00	1st Bone Spring Lime			
8,245.59	8,215.00	1st Bone Spring Ss			
8,584.30	8,552.00	2nd Bone Spring Lime			
9,079.81	9,045.00	2nd Bone Spring Ss			
9,140.11	9,105.00	2nd Bone Spring A Sand			
9,208.46	9,173.00	2nd Bone Spring T/B Carb			
9,310.98	9,275.00	2nd Bone Spring C Sand			
9,385.35	9,349.00	3rd Bone Spring Lm			
9,737.13	9,699.00	3rd Bone Spring Sh			
9,973.32	9,934.00	3rd Bone Spring Sh Base			
10,168.31	10,128.00	3rd Bone Spring Ss			
10,450.58	10,405.00	Red Hills SS			
10,570.84	10,512.00	Wolfcamp			
10,587.68	10,526.00	Wolfcamp X			
10,690.55	10,605.00	Wolfcamp Y			
10,740.77	10,639.00	Wolfcamp A			
11,142.48	10,774.00	LP			



Database: EDM 5000.1.13 Single User Db

Company: XTO Energy

Project: Eddy County, NM (NAD-27)
Site: POKER LAKE UNIT 19 DTD

Well: 322H
Wellbore: Wellbore #1
Design: PERMIT

Local Co-ordinate Reference:

TVD Reference: MD Reference: North Reference:

**Survey Calculation Method:** 

Well 322H

GL @ 3190.00usft GL @ 3190.00usft

Grid

# PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME: XTO Permian Operating LLC
WELL NAME & NO.: Poker Lake Unit 19 DTD 322H
LOCATION: Sec 19-24S-30E-NMP
COUNTY: Eddy County, New Mexico

COA

H2S	© Yes	<b>⊙</b> No	
Potash	None	Secretary	© R-111-P
Cave/Karst Potential	C Low	• Medium	C High
Cave/Karst Potential	Critical		
Variance	O None	• Flex Hose	Other
Wellhead	Conventional	• Multibowl	O Both
Other	☐ 4 String Area	☐ Capitan Reef	□WIPP
Other	☐ Fluid Filled	▼ Cement Squeeze	☐ Pilot Hole
Special Requirements	☐ Water Disposal	□ СОМ	<b>✓</b> Unit
Break Testing	• Yes	O No	

# 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.

## **B. CASING**

- 1. The **13-3/8** inch surface casing shall be set at approximately 450 feet (a minimum of 70 feet (Eddy County) into the Rustler Anhydrite and above the salt) 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  $\underline{8}$

- **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.

# ALTERNATE PLAN: Operator has proposed to pump down 9-5/8" X 13-3/8" annulus. Operator must run a CBL from TD of the 9-5/8" casing to surface. Submit results to BLM.

- 2. The minimum required fill of cement behind the 9-5/8 inch intermediate casing is:
  - Cement to surface. If cement does not circulate see B.1.a, c-d above.
     Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst 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 6 inch production casing is:
  - Cement should tie-back at least **200 feet** into previous casing string. Operator shall provide method of verification.

# C. PRESSURE CONTROL

- 1. Variance approved to use flex line from BOP to choke manifold. Manufacturer's specification to be readily available. No external damage to flex line. Flex line to be installed as straight as possible (no hard bends).'
- 2. Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **5000** (**5M**) psi.
  - a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
  - b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
  - c. Manufacturer representative shall install the test plug for the initial BOP test.
  - d. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.

e. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.

# D. SPECIAL REQUIREMENT (S)

# **Unit Wells**

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

# **Commercial Well Determination**

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

# **BOPE Break Testing Variance (Note: For 5M BOPE or less)**

- BOPE Break Testing is ONLY permitted for 5M BOPE or less.
- BOPE Break Testing is NOT permitted to drilling the production hole section.
- While in transfer between wells, the BOPE shall be secured by the hydraulic carrier or cradle.
- Any well control event while drilling require notification to the BLM Petroleum Engineer prior to the commencement of any BOPE Break Testing operations.
- A full BOPE test is required prior to drilling the first deep intermediate hole section. If any subsequent hole interval is deeper than the first, a full BOPE test will be required.
- The BLM is to be contacted (575-361-2822 Eddy County) 4 hours prior to BOPE tests.
- As a minimum, a full BOPE test shall be performed at 21-day intervals.
- In the event any repairs or replacement of the BOPE is required, the BOPE shall test as per Onshore Oil and Gas Order No. 2.

# **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

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- ✓ Lea CountyCall 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 2<sup>nd</sup> 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.

# 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 <u>24 hours</u>. WOC time will be recorded in the driller's log. The casing intergrity test can be done (prior to the cement setting up) immediately after bumping the plug.
- 3. Wait on cement (WOC) for Water Basin: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements. The casing intergrity test can be done (prior to the cement setting up) immediately after bumping the plug.
- 4. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. Have well specific cement details onsite prior to pumping the cement for each casing string.
- 5. No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.
- 6. On that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Formation at the shoe shall be tested to a minimum of the mud weight equivalent anticipated to control the formation pressure to the next casing depth or at total depth of the well. This test shall be performed before drilling more than 20 feet of new hole.
- 7. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.
- 8. Whenever a casing string is cemented in the R-111-P potash area, the NMOCD requirements shall be followed.

# B. PRESSURE CONTROL

- 1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in 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 cement), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).
  - b. In potash areas, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. For all casing strings, casing cut-off and BOP installation can be initiated at twelve hours after bumping the cement plug. The BOPE test can be initiated after bumping the cement plug with the casing valve open. (only applies to single stage cement jobs, prior to the cement setting up.)

- c. The tests shall be done by an independent service company utilizing a test plug not a cup or J-packer and can be initiated immediately with the casing valve open. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to 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.



# **HYDROGEN SULFIDE (H2S) CONTINGENCY PLAN**

# **Assumed 100 ppm ROE = 3000'**

100 ppm H2S concentration shall trigger activation of this plan.

# **Emergency Procedures**

In the event of a release of gas containing H<sub>2</sub>S, 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<sub>2</sub>S 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
  - o Detection of H<sub>2</sub>S, and
  - o Measures for protection against the gas,
  - o 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<sub>2</sub>). 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 this is an ignition of the gas.

# Characteristics of H<sub>2</sub>S and SO<sub>2</sub>

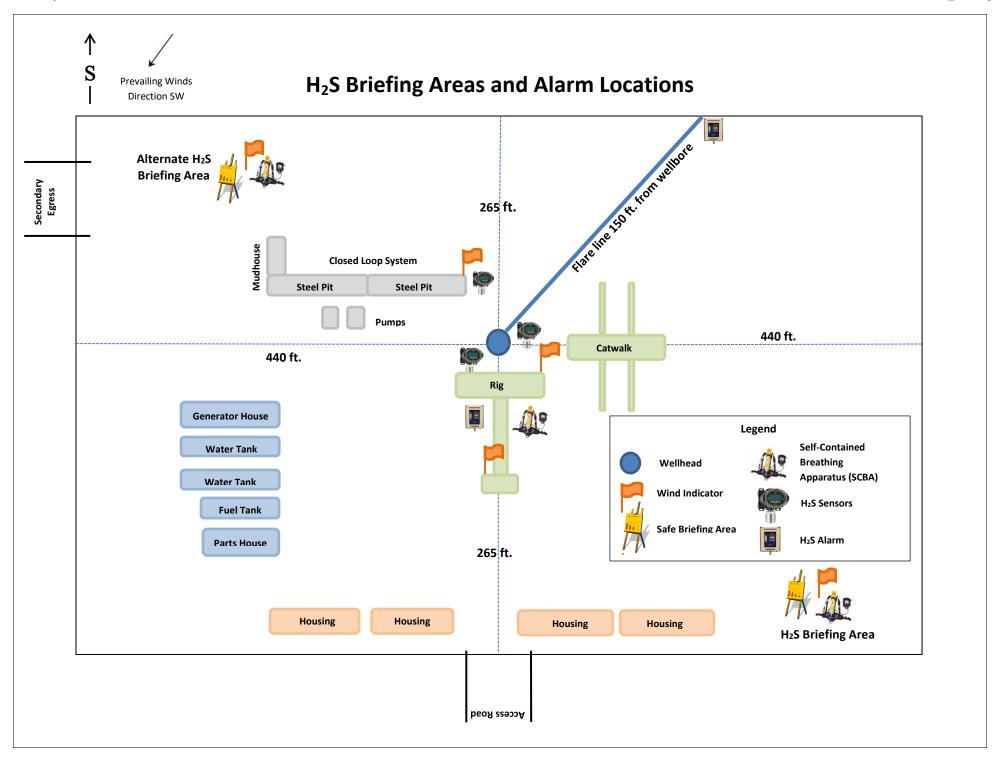
Common Name	Chemical Formula	Specific Gravity	Threshold Limit	Hazardous Limit	Lethal Concentration
Hydrogen Sulfide	H <sub>2</sub> S	1.189 Air = I	10 ppm	100 ppm/hr	600 ppm
Sulfur Dioxide	SO <sub>2</sub>	2.21 Air = I	2 ppm	N/A	1000 ppm

# **Contacting Authorities**

All XTO location 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 including directions to site. The following call list of essential and potential responders has been prepared for use during a release. (Operator Name)'s response must be in coordination with the State of New Mexico's "Hazardous Materials Emergency Response Plan" (HMER).

# **CARLSBAD OFFICE – EDDY & LEA COUNTIES**

3104 E. Greene St., Carlsbad, NM 88220 Carlsbad, NM	575-887-7329
XTO PERSONNEL: Kendall Decker, Drilling Manager Milton Turman, Drilling Superintendent Jeff Raines, Construction Foreman Toady Sanders, EH & S Manager Wes McSpadden, Production Foreman	903-521-6477 817-524-5107 432-557-3159 903-520-1601 575-441-1147
SHERIFF DEPARTMENTS: Eddy County Lea County	575-887-7551 575-396-3611
NEW MEXICO STATE POLICE:	575-392-5588
FIRE DEPARTMENTS: Carlsbad Eunice Hobbs Jal Lovington	911 575-885-2111 575-394-2111 575-397-9308 575-395-2221 575-396-2359
HOSPITALS: Carlsbad Medical Emergency Eunice Medical Emergency Hobbs Medical Emergency Jal Medical Emergency Lovington Medical Emergency	911 575-885-2111 575-394-2112 575-397-9308 575-395-2221 575-396-2359
AGENT NOTIFICATIONS: For Lea County: Bureau of Land Management – Hobbs New Mexico Oil Conservation Division – Hobbs	575-393-3612 575-393-6161
For Eddy County: Bureau of Land Management - Carlsbad New Mexico Oil Conservation Division - Artesia	575-234-5972 575-748-1283



**Operator Name: XTO PERMIAN OPERATING LLC** 

Well Name: POKER LAKE UNIT 19 DTD Well Number: 322H

and the contents thereof disposed of in an approved sewage disposal facility. All state and local laws and regulations pertaining to the disposal of human and solid waste will be complied with. This equipment will be properly maintained during the drilling and completion operations and will be removed when all operations are complete.

## Safe containmant attachment:

Waste disposal type: HAUL TO COMMERCIAL Disposal location ownership: COMMERCIAL

**FACILITY** 

Disposal type description:

Disposal location description: A licensed 3rd party contractor to haul and dispose of human waste.

Waste type: GARBAGE

**Waste content description:** All garbage, junk and non-flammable waste materials will be contained in a self-contained, portable dumpster or trash cage, to prevent scattering and will be removed and deposited in an approved sanitary landfill. Immediately after drilling all debris and other waste materials on and around the well location not contained in the trash cage will be cleaned up and removed from the location. No potentially adverse materials or substances will be left on the location.

Amount of waste: 250 pounds

Waste disposal frequency: Weekly

**Safe containment description:** All garbage, junk and non-flammable waste materials will be contained in a self-contained, portable dumpster or trash cage, to prevent scattering and will be removed and deposited in an approved sanitary landfill. Immediately after drilling all debris and other waste materials on and around the well location not contained in the trash cage will be cleaned up and removed from the location. No potentially adverse materials or substances will be left on the location.

# Safe containmant attachment:

Waste disposal type: HAUL TO COMMERCIAL Disposal location ownership: COMMERCIAL

**FACILITY** 

Disposal type description:

Disposal location description: A licensed 3rd party contractor will be used to haul and dispose of garbage.

# **Reserve Pit**

Reserve Pit being used? NO

Temporary disposal of produced water into reserve pit? NO

Reserve pit length (ft.) Reserve pit width (ft.)

Reserve pit depth (ft.)

Reserve pit volume (cu. yd.)

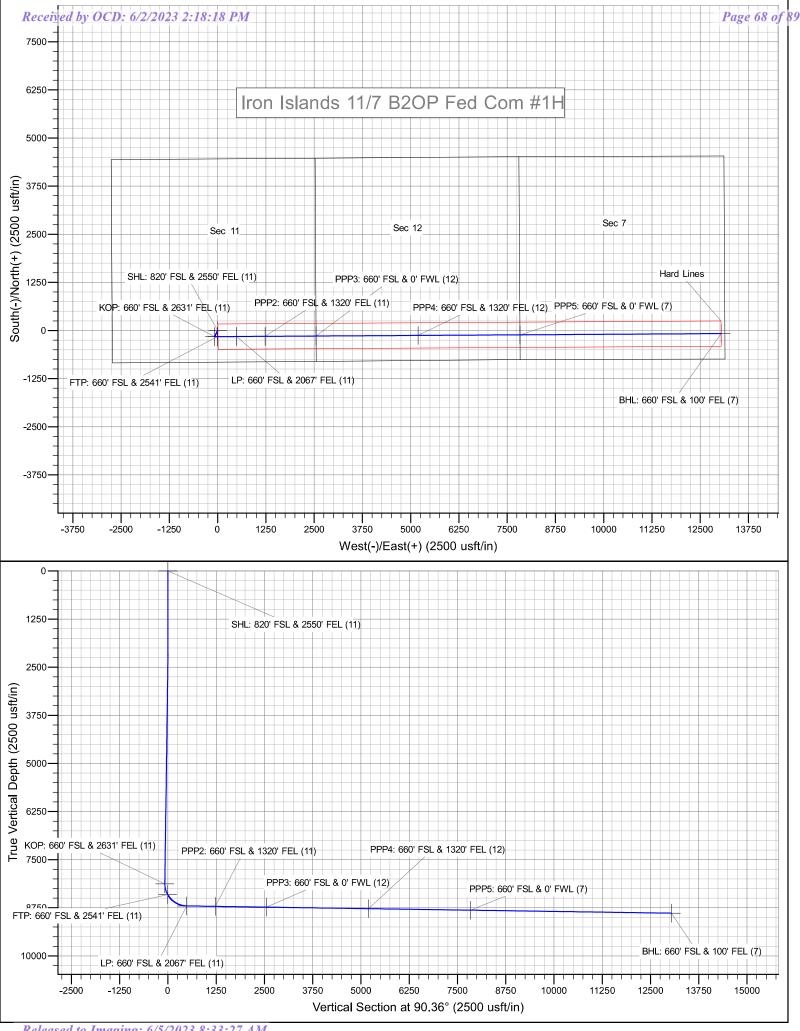
Is at least 50% of the reserve pit in cut?

Reserve pit liner

Reserve pit liner specifications and installation description

# **Cuttings Area**

Cuttings Area being used? NO



# **Mewbourne Oil Company**

Eddy County, New Mexico NAD 83 Iron Islands 11/7 B2OP Fed Com #1H

Sec 11, T18S, R31E

SHL: 820' FSL & 2550' FEL, Sec 11 BHL: 660' FSL & 100' FEL, Sec 7

Plan: Design #1

# **Standard Planning Report**

23 February, 2021

Hobbs Database:

Company: Mewbourne Oil Company

Project: Eddy County, New Mexico NAD 83

Site: Iron Islands 11/7 B2OP Fed Com #1H

Well: Sec 11, T18S, R31E

Wellbore: BHL: 660' FSL & 100' FEL, Sec 7

Design #1 Design:

Local Co-ordinate Reference:

TVD Reference: MD Reference: North Reference:

**Survey Calculation Method:** 

Site Iron Islands 11/7 B2OP Fed Com #1H WELL @ 3764.0usft (Original Well Elev) WELL @ 3764.0usft (Original Well Elev)

90.36

Minimum Curvature

Project Eddy County, New Mexico NAD 83

Map System: US State Plane 1983 Geo Datum: Map Zone:

North American Datum 1983

0.0

New Mexico Eastern Zone

System Datum:

Ground Level

Iron Islands 11/7 B2OP Fed Com #1H Site

Northing: 639,505.00 usft Site Position: 32.7570635 Latitude: From: Мар Easting: 693,029.00 usft Longitude: -103.8398921 Slot Radius: 13-3/16 " 0.27 **Position Uncertainty:** 0.0 usft

Grid Convergence:

Well Sec 11, T18S, R31E

**Well Position** +N/-S 0.0 usft 639,505.00 usft Latitude: 32.7570635 Northing: +E/-W 0.0 usft Easting: 693,029.00 usft Longitude: -103.8398921

0.0 usft Wellhead Elevation: 3,764.0 usft Ground Level: 3,736.0 usft **Position Uncertainty** 

BHL: 660' FSL & 100' FEL, Sec 7 Wellbore Magnetics **Model Name** Sample Date Declination Dip Angle Field Strength (nT) (°) (°) IGRF2010 12/31/2014 7.31 60.54 48,525

Design Design #1 Audit Notes: Version: **PROTOTYPE** Tie On Depth: 0.0 Phase: Vertical Section: Depth From (TVD) +N/-S +E/-W Direction (usft) (usft) (usft) (°)

0.0

0.0

an Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,170.0	0.00	0.00	2,170.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,257.5	1.75	206.85	2,257.4	-1.2	-0.6	2.00	2.00	0.00	206.85	
8,045.3	1.75	206.85	8,042.6	-158.8	-80.4	0.00	0.00	0.00	0.00	
8,132.7	0.00	0.01	8,130.0	-160.0	-81.0	2.00	<del>-</del> 2.00	0.00	180.00	KOP: 660' FSL & 263
9,024.3	89.14	89.66	8,703.0	-156.6	483.5	10.00	10.00	0.00	89.66	
21,584.5	89.14	89.66	8,891.0	-81.0	13,042.0	0.00	0.00	0.00	0.00	BHL: 660' FSL & 100

Database: Hobbs

Company: Mewbourne Oil Company

Project: Eddy County, New Mexico NAD 83
Site: Iron Islands 11/7 B2OP Fed Com #1H

Well: Sec 11, T18S, R31E

Wellbore: BHL: 660' FSL & 100' FEL, Sec 7

Design: Design #1

Local Co-ordinate Reference:

TVD Reference:
MD Reference:
North Reference:

Survey Calculation Method:

Site Iron Islands 11/7 B2OP Fed Com #1H WELL @ 3764.0usft (Original Well Elev) WELL @ 3764.0usft (Original Well Elev)

Grid

lē .	Design #1								
ed Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.0		0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
	FSL & 2550' FEL (		0.0	3.0	0.0	0.0	3.00	3.00	0.00
100.0		0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0		0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0		0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0		0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
					0.0	0.0		0.00	
500.0		0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0		0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
700.0		0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0		0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0		0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	0.00
1,200.0		0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	0.00
1,300.0		0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	0.00
1,400.0		0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	0.00
1,500.0		0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	0.00
1,600.0		0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	0.00
1,700.0		0.00	1,700.0	0.0	0.0	0.0	0.00	0.00	0.00
1,800.0		0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	0.00
1,900.0	0.00	0.00	1,900.0	0.0	0.0	0.0	0.00	0.00	0.00
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.0	0.00	0.00	0.00
2,000.0		0.00	2,000.0	0.0	0.0	0.0	0.00	0.00	0.00
2,100.0		0.00	2,100.0 2,170.0	0.0	0.0	0.0	0.00	0.00	0.00
2,170.0 2,200.0									
		206.85	2,200.0	-0.1	-0.1	-0.1	2.00	2.00	0.00
2,257.5		206.85	2,257.4	-1.2	-0.6	-0.6	2.00	2.00	0.00
2,300.0		206.85	2,300.0	-2.3	-1.2	-1.2	0.00	0.00	0.00
2,400.0	1.75	206.85	2,399.9	-5.1	-2.6	-2.5	0.00	0.00	0.00
2,500.0	1.75	206.85	2,499.9	-7.8	-3.9	-3.9	0.00	0.00	0.00
2,600.0		206.85	2,599.8	-10.5	-5.3	-5.3	0.00	0.00	0.00
2,700.0	1.75	206.85	2,699.8	-13.2	-6.7	-6.6	0.00	0.00	0.00
2,800.0	175	206.85			0.4	0.0	0.00	0.00	0.00
			2,799.7	-16.0	-8.1	-8.0			
2,900.0		206.85	2,899.7	-18.7	-9.5 10.8	-9.3	0.00	0.00	0.00
3,000.0		206.85	2,999.6	-21.4	-10.8	-10.7	0.00	0.00	0.00
3,100.0		206.85	3,099.6	-24.1	-12.2	-12.1	0.00	0.00	0.00
3,200.0	1.75	206.85	3,199.5	-26.9	-13.6	-13.4	0.00	0.00	0.00
3,300.0	1.75	206.85	3,299.5	-29.6	-15.0	-14.8	0.00	0.00	0.00
3,400.0		206.85	3,399.5	-32.3	-16.4	-16.2	0.00	0.00	0.00
3,500.0		206.85	3,499.4	-35.0	-17.7	-17.5	0.00	0.00	0.00
3,600.0		206.85	3,599.4	-37.8	-19.1	-18.9	0.00	0.00	0.00
3,700.0		206.85	3,699.3	-40.5	-20.5	-20.2	0.00	0.00	0.00
·									
3,800.0		206.85	3,799.3	-43.2	-21.9	-21.6	0.00	0.00	0.00
3,900.0		206.85	3,899.2	-45.9	-23.2	-23.0	0.00	0.00	0.00
4,000.0		206.85	3,999.2	-48.6	-24.6	-24.3	0.00	0.00	0.00
4,100.0		206.85	4,099.1	-51.4	-26.0	-25.7	0.00	0.00	0.00
4,200.0	1.75	206.85	4,199.1	-54.1	-27.4	-27.0	0.00	0.00	0.00
4,300.0	1.75	206.85	4,299.0	-56.8	-28.8	-28.4	0.00	0.00	0.00
4,400.0		206.85	4,399.0	-59.5	-30.1	-29.8	0.00	0.00	0.00
4,500.0		206.85	4,498.9	-62.3	-31.5	-23.0 -31.1	0.00	0.00	0.00
4,600.0		206.85	4,598.9	-65.0	-32.9	-32.5	0.00	0.00	0.00
4,600.0		206.85	4,598.9 4,698.8	-65.0 -67.7	-32.9 -34.3	-32.5 -33.9	0.00	0.00	0.00
		200.00						0.00	0.00
4,800.0		206.85	4,798.8	-70.4	-35.7	-35.2	0.00	0.00	0.00
4,900.0		206.85	4,898.8	-73.2	-37.0	-36.6	0.00	0.00	0.00
5,000.0	1.75	206.85	4,998.7	-75.9	-38.4	-37.9	0.00	0.00	0.00

Database: Company:

Hobbs

Mewbourne Oil Company

Eddy County, New Mexico NAD 83

 Site:
 Iron Islands 11/7 B2OP Fed Com #1H

 Well:
 Sec 11, T18S, R31E

Wellbore:

Project:

BHL: 660' FSL & 100' FEL, Sec 7

Design: Design #1

Local Co-ordinate Reference:

TVD Reference:
MD Reference:
North Reference:

Survey Calculation Method:

Site Iron Islands 11/7 B2OP Fed Com #1H WELL @ 3764.0usft (Original Well Elev) WELL @ 3764.0usft (Original Well Elev)

Grid

anned Survey										
Measure Depth (usft)	Inclina		Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
5,10	0.00	1.75	206.85	5,098.7	-78.6	-39.8	-39.3	0.00	0.00	0.00
5,20	0.00	1.75	206.85	5,198.6	-81.3	-41.2	-40.7	0.00	0.00	0.00
5,30	nn n	1.75	206.85	5,298.6	-84.0	-42.5	-42.0	0.00	0.00	0.00
5,40		1.75	206.85	5,398.5	-86.8	-42.5 -43.9	-42.0 -43.4	0.00	0.00	0.00
5,50		1.75	206.85	5,498.5	-89.5	-45.3	-43.4 -44.7	0.00	0.00	0.00
5,60		1.75	206.85	5,598.4	-92.2	-46.7	-46.1	0.00	0.00	0.00
5,70		1.75	206.85	5,698.4	-94.9	-48.1	-47.5	0.00	0.00	0.00
•										
5,80		1.75	206.85	5,798.3	-97.7	-49.4	-48.8 50.0	0.00	0.00	0.00
5,90		1.75	206.85	5,898.3	-100.4	-50.8	-50.2	0.00	0.00	0.00
6,00		1.75	206.85	5,998.2	-103.1	-52.2 53.6	-51.6	0.00	0.00	0.00
6,10 6,20		1.75 1.75	206.85 206.85	6,098.2 6,198.1	-105.8 -108.6	-53.6 -55.0	-52.9 -54.3	0.00 0.00	0.00 0.00	0.00 0.00
0,20	30.0	1.75	200.00	0, 190. 1	-100.6	-55.0	-54.5	0.00	0.00	0.00
6,30		1.75	206.85	6,298.1	-111.3	-56.3	-55.6	0.00	0.00	0.00
6,40		1.75	206.85	6,398.1	-114.0	-57.7	-57.0	0.00	0.00	0.00
6,50		1.75	206.85	6,498.0	-116.7	-59.1	-58.4	0.00	0.00	0.00
6,60		1.75	206.85	6,598.0	-119.5	-60.5	-59.7	0.00	0.00	0.00
6,70	0.00	1.75	206.85	6,697.9	-122.2	-61.9	-61.1	0.00	0.00	0.00
6,80	0.00	1.75	206.85	6,797.9	-124.9	-63.2	-62.5	0.00	0.00	0.00
6,90		1.75	206.85	6,897.8	-127.6	-64.6	-63.8	0.00	0.00	0.00
7,00	0.00	1.75	206.85	6,997.8	-130.3	-66.0	-65.2	0.00	0.00	0.00
7,10		1.75	206.85	7,097.7	-133.1	-67.4	-66.5	0.00	0.00	0.00
7,20	0.00	1.75	206.85	7,197.7	-135.8	-68.7	-67.9	0.00	0.00	0.00
7,30	20.0	1.75	206.85	7.297.6	-138.5	-70.1	-69.3	0.00	0.00	0.00
7,30		1.75	206.85	7,297.6	-136.5 -141.2	-70.1 -71.5	-09.3 -70.6	0.00	0.00	0.00
7,40		1.75	206.85	7,397.6 7,497.5	-141.2 -144.0	-71.5 -72.9	-70.0 -72.0	0.00	0.00	0.00
7,60		1.75	206.85	7,597.5	-144.0	-74.3	-72.0 -73.3	0.00	0.00	0.00
7,70		1.75	206.85	7,697.5	-149.4	-75.6	-74.7	0.00	0.00	0.00
7,80		1.75	206.85	7,797.4	-152.1	-77.0	-76.1	0.00	0.00	0.00
7,90		1.75	206.85	7,897.4	-154.9	-78.4	-77.4 -70.0	0.00	0.00	0.00
8,00		1.75	206.85	7,997.3	-157.6	-79.8	-78.8 -70.4	0.00	0.00	0.00
8,04 8,10		1.75 0.65	206.85 206.85	8,042.6 8,097.3	-158.8 -159.8	-80.4 -80.9	-79.4 -79.9	0.00	0.00	0.00
								2.00	-2.00	0.00
8,13	32.7 <b>60' FSL &amp; 263</b>	0.00	0.01	8,130.0	-160.0	-81.0	-80.0	2.00	-2.00	0.00
8,20		6.73	89.66	8,197.1	-160.0	-77.1	-76.1	10.00	10.00	0.00
8,30		16.72	89.66	8,294.9	-159.9	-56.8	-55.8	10.00	10.00	0.00
8,40		26.72	89.66	8,387.7	-159.6	-19.8	-18.8	10.00	10.00	0.00
8,42		29.03	89.66	8,408.1	-159.6	-9.0	-8.0	10.00	10.00	0.00
	60' FSL & 254	I' FEL (1								
8.50	0.00	36.72	89.66	8,472.6	-159.3	32.7	33.7	10.00	10.00	0.00
,		46.72	89.66	8,547.2	-158.9	99.2	100.2	10.00	10.00	0.00
8,70		56.72	89.66	8,609.1	-158.4	177.6	178.6	10.00	10.00	0.00
8,80		66.72	89.66	8,656.4	-157.9	265.5	266.5	10.00	10.00	0.00
8,90	0.00	76.71	89.66	8,687.7	-157.3	360.4	361.3	10.00	10.00	0.00
9,00	nn n	86.71	89.66	8.702.1	-156.7	459.2	460.1	10.00	10.00	0.00
9,00		89.14	89.66	8,702.1 8,703.0	-156.7 -156.6	459.2 483.5	484.5	9.99	9.99	0.00
	24.3 D' FSL & 2067'			0,703.0	-100.0	403.3	404.0	5.55	5.55	0.00
LP: 660 9,10		89.14		9 704 4	156 1	550.0	560.1	0.00	0.00	0.00
9,10		89.14 89.14	89.66 89.66	8,704.1 8,705.6	-156.1 -155.5	559.2 659.1	560.1 660.1	0.00 0.00	0.00	0.00
9,20 9,30		89.14	89.66	8,705.6 8,707.1	-155.5 -154.9	759.1	760.1	0.00	0.00	0.00
9,40		89.14	89.66	8,708.6	-154.3	859.1	860.1	0.00	0.00	0.00
9,50		89.14	89.66	8,710.1	-153.7	959.1	960.0	0.00	0.00	0.00
9,60	0.00	89.14	89.66	8,711.6	-153.1	1,059.1	1,060.0	0.00	0.00	0.00

Hobbs Database: Company:

Mewbourne Oil Company

Eddy County, New Mexico NAD 83 Iron Islands 11/7 B2OP Fed Com #1H

BHL: 660' FSL & 100' FEL, Sec 7

Well: Wellbore:

Project:

Site:

Sec 11, T18S, R31E

Design: Design #1

Local Co-ordinate Reference:

TVD Reference: MD Reference: North Reference:

**Survey Calculation Method:** 

Site Iron Islands 11/7 B2OP Fed Com #1H WELL @ 3764.0usft (Original Well Elev) WELL @ 3764.0usft (Original Well Elev)

ed Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
9,700.0	89.14	89.66	8,713.1	-152.5	1,159.1	1,160.0	0.00	0.00	0.00
9,770.9	89.14	89.66	8,714.2	-152.1	1,230.0	1,230.9	0.00	0.00	0.00
PPP2: 660'	FSL & 1320' FEL	(11)							
9,800.0	89.14	89.66	8,714.6	-151.9	1,259.1	1,260.0	0.00	0.00	0.00
9,900.0	89.14	89.66	8,716.1	-151.3	1,359.0	1,360.0	0.00	0.00	0.00
10,000.0	89.14	89.66	8,717.6	-150.7	1,459.0	1,459.9	0.00	0.00	0.00
10,100.0	89.14	89.66	8,719.1	-150.1	1,559.0	1,559.9	0.00	0.00	0.00
10,200.0	89.14	89.66	8,720.6	-149.5	1,659.0	1,659.9	0.00	0.00	0.00
10,300.0	89.14	89.66	8,722.1	-148.9	1,759.0	1,759.9	0.00	0.00	0.00
10,400.0	89.14	89.66	8,723.6	-148.3	1,859.0	1,859.9	0.00	0.00	0.00
10,500.0	89.14	89.66	8,725.1	-147.7	1,959.0	1,959.9	0.00	0.00	0.00
10,600.0 10,700.0	89.14 89.14	89.66 89.66	8,726.6	-147.1 146.5	2,059.0	2,059.8 2,159.8	0.00 0.00	0.00 0.00	0.00 0.00
			8,728.1	-146.5	2,158.9				
10,800.0	89.14	89.66	8,729.6	-145.9	2,258.9	2,259.8	0.00	0.00	0.00
10,900.0 11,000.0	89.14 89.14	89.66 89.66	8,731.1 8,732.6	-145.3 -144.7	2,358.9 2,458.9	2,359.8 2,459.8	0.00 0.00	0.00 0.00	0.00 0.00
11,000.0	89.14	89.66	8,732.0 8,733.9	-144.7 -144.2	2,456.9	2,459.8	0.00	0.00	0.00
	FSL & 0' FWL (12		0,100.0		2,000.0	2,000.0	0.00	0.00	0.00
11,100.0	89.14	89.66	8,734.1	-144.1	2,558.9	2,559.7	0.00	0.00	0.00
11,200.0	89.14	89.66	8,735.6	-143.5	2,658.9	2,659.7	0.00	0.00	0.00
11,300.0	89.14	89.66	8,737.1	-142.9	2,758.9	2,759.7	0.00	0.00	0.00
11,400.0	89.14	89.66	8,738.6	-142.3	2,858.9	2,859.7	0.00	0.00	0.00
11,500.0	89.14	89.66	8,740.1	-141.7	2,958.8	2,959.7	0.00	0.00	0.00
11,600.0	89.14	89.66	8,741.6	-141.1	3,058.8	3,059.6	0.00	0.00	0.00
11,700.0	89.14	89.66	8,743.0	-140.5	3,158.8	3,159.6	0.00	0.00	0.00
11,800.0	89.14	89.66	8,744.5	-139.9	3,258.8	3,259.6	0.00	0.00	0.00
11,900.0	89.14	89.66	8,746.0	-139.3	3,358.8	3,359.6	0.00	0.00	0.00
12,000.0	89.14	89.66	8,747.5	-138.7	3,458.8	3,459.6	0.00	0.00	0.00
12,100.0	89.14	89.66	8,749.0	-138.1	3,558.8	3,559.6	0.00	0.00	0.00
12,200.0	89.14	89.66	8,750.5	-137.5	3,658.7	3,659.5	0.00	0.00	0.00
12,300.0	89.14	89.66	8,752.0	-136.9	3,758.7	3,759.5	0.00	0.00	0.00
12,400.0 12,500.0	89.14 89.14	89.66 89.66	8,753.5 8,755.0	-136.3 -135.7	3,858.7 3,958.7	3,859.5 3,959.5	0.00 0.00	0.00 0.00	0.00 0.00
12,600.0	89.14	89.66	8,756.5	-135.7 -135.1	4,058.7	4,059.5	0.00	0.00	0.00
12,700.0	89.14	89.66	8,758.0			4,159.4	0.00	0.00	0.00
12,700.0	89 14 89 14	89.66	8,758.0 8,759.5	-134.5 -133.9	4,158.7 4,258.7	4,159.4	0.00	0.00	0.00
12,900.0	89.14	89.66	8,761.0	-133.3	4,358.7	4,359.4	0.00	0.00	0.00
13,000.0	89.14	89.66	8,762.5	-132.7	4,458.6	4,459.4	0.00	0.00	0.00
13,100.0	89.14	89.66	8,764.0	-132.1	4,558.6	4,559.4	0.00	0.00	0.00
13,200.0	89.14	89.66	8,765.5	-131.5	4,658.6	4,659.3	0.00	0.00	0.00
13,300.0	89.14	89.66	8,767.0	-130.9	4,758.6	4,759.3	0.00	0.00	0.00
13,400.0	89.14	89.66	8,768.5	-130.3	4,858.6	4,859.3	0.00	0.00	0.00
13,500.0	89.14	89.66	8,770.0	-129.7	4,958.6	4,959.3	0.00	0.00	0.00
13,600.0	89.14	89.66	8,771.5	-129.1	5,058.6	5,059.3	0.00	0.00	0.00
13,700.0	89.14	89.66	8,773.0	-128.5	5,158.6	5,159.3	0.00	0.00	0.00
13,732.4	89.14	89.66	8,773.5	-128.3	5,191.0	5,191.7	0.00	0.00	0.00
	FSL & 1320' FEL	. ,							
13,800.0	89.14	89.66	8,774.5	-127.9	5,258.5	5,259.2	0.00	0.00	0.00
13,900.0 14,000.0	89.14	89.66	8,776.0 9,777.5	-127.3	5,358.5	5,359.2	0.00	0.00	0.00
,	89.14	89.66	8,777.5	-126.7	5,458.5	5,459.2	0.00	0.00	0.00
14,100.0	89.14	89.66	8,779.0	-126.1	5,558.5	5,559.2	0.00	0.00	0.00
14,200.0 14,300.0	89.14 89.14	89.66 89.66	8,780.5 8,782.0	-125.4 -124.8	5,658.5 5,758.5	5,659.2 5,759.1	0.00 0.00	0.00 0.00	0.00 0.00

Database: Hompany: M

Hobbs

Mewbourne Oil Company

Eddy County, New Mexico NAD 83

Site: Iron Islands 11/7 B2OP Fed Com #1H

Well: Wellbore:

Project:

Sec 11, T18S, R31E

BHL: 660' FSL & 100' FEL, Sec 7

Design: Design #1

Local Co-ordinate Reference:

TVD Reference:
MD Reference:
North Reference:

Survey Calculation Method:

Site Iron Islands 11/7 B2OP Fed Com #1H WELL @ 3764.0usft (Original Well Elev) WELL @ 3764.0usft (Original Well Elev)

Grid

Planned Survey									
Measur Deptl		A - broadle	Vertical Depth	·N/ 0	-5/14/	Vertical Section	Dogleg Rate	Build Rate	Turn Rate
(usft)		on Azimuth (°)	(usft)	+N/-S (usft)	+E/-W (usft)	(usft)	(°/100usft)	(°/100usft)	(°/100usft)
14 4	00.0	9.14 89.66	8,783.5	-124.2	5,858.5	5,859.1	0.00	0.00	0.00
		9.14 89.66	8,785.0	-123.6	5,958.5	5,959.1	0.00	0.00	0.00
· ·			·		•	•			
		9.14 89.66 9.14 89.66	8,786.5	-123.0	6,058.4	6,059.1	0.00	0.00	0.00
		9.14 89.66 9.14 89.66	8,788.0 8,789.5	-122.4 -121.8	6,158.4 6,258.4	6,159.1 6,259.0	0.00 0.00	0.00 0.00	0.00 0.00
		9.14 89.66	8,789.5 8,790.9	-121.8 -121.2	6,358.4	6,259.0	0.00	0.00	0.00
		9.14 89.66	8,792.4	-120.6	6,458.4	6,459.0	0.00	0.00	0.00
•									
		9.14 89.66	8,793.9	-120.0	6,558.4	6,559.0	0.00	0.00	0.00
		9.14 89.66	8,795.4	-119.4	6,658.4	6,659.0	0.00	0.00	0.00
		9.14 89.66	8,796.9	-118.8	6,758.3	6,759.0	0.00	0.00	0.00
		9.14 89.66	8,798.4	-118.2	6,858.3	6,858.9	0.00	0.00	0.00
15,5	00.0	9.14 89.66	8,799.9	-117.6	6,958.3	6,958.9	0.00	0.00	0.00
15,6	00.0	9.14 89.66	8,801.4	-117.0	7,058.3	7,058.9	0.00	0.00	0.00
15,7	00.00	9.14 89.66	8,802.9	-116.4	7,158.3	7,158.9	0.00	0.00	0.00
15,8	0.00	9.14 89.66	8,804.4	-115.8	7,258.3	7,258.9	0.00	0.00	0.00
15,9	0.00	9.14 89.66	8,805.9	-115.2	7,358.3	7,358.8	0.00	0.00	0.00
16,0	00.0	9.14 89.66	8,807.4	-114.6	7,458.3	7,458.8	0.00	0.00	0.00
16.1	00.0	9.14 89.66	8,808.9	-114.0	7,558.2	7,558.8	0.00	0.00	0.00
		9.14 89.66	8,810.4	-113.4	7,658.2	7,658.8	0.00	0.00	0.00
,		9.14 89.66	8,811.9	-112.8	7,758.2	7,758.8	0.00	0.00	0.00
		9.14 89.66	8,813.0	-112.4	7,831.0	7,831.5	0.00	0.00	0.00
	660' FSL & 0' FV		3,013.0	-112.4	7,001.0	7,001.0	0.00	0.00	0.00
		9.14 89.66	8,813.4	-112.2	7,858.2	7,858.7	0.00	0.00	0.00
10,4				-112.2	7,000.2	7,000.7			0.00
		9.14 89.66	8,814.9	-111.6	7,958.2	7,958.7	0.00	0.00	0.00
		9.14 89.66	8,816.4	-111.0	8,058.2	8,058.7	0.00	0.00	0.00
		9.14 89.66	8,817.9	-110.4	8,158.2	8,158.7	0.00	0.00	0.00
		9.14 89.66	8,819.4	-109.8	8,258.2	8,258.7	0.00	0.00	0.00
16,9	00.0	9.14 89.66	8,820.9	-109.2	8,358.1	8,358.7	0.00	0.00	0.00
17.0	00.0	9.14 89.66	8,822.4	-108.6	8,458.1	8,458.6	0.00	0.00	0.00
		9.14 89.66	8,823.9	-108.0	8,558.1	8,558.6	0.00	0.00	0.00
		9.14 89.66	8,825.4	-107.4	8,658.1	8,658.6	0.00	0.00	0.00
17,3	00.0	9.14 89.66	8,826.9	-106.8	8,758.1	8,758.6	0.00	0.00	0.00
17,4	00.0	9.14 89.66	8,828.4	-106.2	8,858.1	8,858.6	0.00	0.00	0.00
17 5	00.0	9.14 89.66	8,829.9	-105.6	8,958.1	8,958.5	0.00	0.00	0.00
		9.14 89.66 9.14 89.66	8,829.9 8,831.4	-105.6 -105.0	9,058.0	8,958.5 9,058.5	0.00	0.00	0.00
		9.14 89.66	8,832.9	-103.0	9,058.0	9,058.5	0.00	0.00	0.00
		9.14 89.66	8,834.4	-103.8	9,258.0	9,258.5	0.00	0.00	0.00
		9.14 89.66	8,835.9	-103.8	9,358.0	9,358.5	0.00	0.00	0.00
		9.14 89.66	8,837.3	-102.6	9,458.0	9,458.4	0.00	0.00	0.00
		9.14 89.66	8,838.8	-102.0	9,558.0	9,558.4	0.00	0.00	0.00
		9.14 89.66	8,840.3	-101.4	9,658.0	9,658.4	0.00	0.00	0.00
18,3		9.14 89.66	8,841.8	-100.8	9,758.0	9,758.4	0.00	0.00	0.00
18,4	0.00	9.14 89.66	8,843.3	-100.2	9,857.9	9,858.4	0.00	0.00	0.00
		9.14 89.66	8,844.8	-99.6	9,957.9	9,958.4	0.00	0.00	0.00
18,6		9.14 89.66	8,846.3	-99.0	10,057.9	10,058.3	0.00	0.00	0.00
18,7		9.14 89.66	8,847.8	-98.4	10,157.9	10,158.3	0.00	0.00	0.00
18,8		9.14 89.66	8,849.3	-97.8	10,257.9	10,258.3	0.00	0.00	0.00
18,9	00.0	9.14 89.66	8,850.8	-97.2	10,357.9	10,358.3	0.00	0.00	0.00
19,0	00.0	9.14 89.66	8,852.3	-96.6	10,457.9	10,458.3	0.00	0.00	0.00
		9.14 89.66	8,853.8	-96.0	10,557.9	10,456.5	0.00	0.00	0.00
		9.14 89.66	8,855.3	-95.4	10,657.8	10,658.2	0.00	0.00	0.00
		9.14 89.66	8,856.8	-94.8	10,757.8	10,758.2	0.00	0.00	0.00
		9.14 89.66	8,858.3	-94.1	10,857.8	10,758.2	0.00	0.00	0.00
10,7	55.5	00.00	3,000.0	<del>от.</del> 1	10,007.0	10,000.2	0.00	0.00	0.00

Database: Company: Hobbs

Mewbourne Oil Company

Eddy County, New Mexico NAD 83

Iron Islands 11/7 B2OP Fed Com #1H

Well:

Project:

Site:

Sec 11, T18S, R31E

Wellbore: BHL: 660' FSL & 100' FEL, Sec 7 Design: Design #1

TVD Reference: MD Reference: North Reference:

Local Co-ordinate Reference:

**Survey Calculation Method:** 

Site Iron Islands 11/7 B2OP Fed Com #1H WELL @ 3764.0usft (Original Well Elev) WELL @ 3764.0usft (Original Well Elev)

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
19,500.0	89.14	89.66	8,859.8	-93.5	10,957.8	10,958.2	0.00	0.00	0.00
19,600.0	89.14	89.66	8,861.3	-92.9	11,057.8	11,058.2	0.00	0.00	0.00
19,700.0	89.14	89.66	8,862.8	-92.3	11,157.8	11,158.1	0.00	0.00	0.00
19,800.0	89.14	89.66	8,864.3	-91.7	11,257.8	11,258.1	0.00	0.00	0.00
19,900.0	89.14	89.66	8,865.8	-91.1	11,357.7	11,358.1	0.00	0.00	0.00
20,000.0	89.14	89.66	8,867.3	-90.5	11,457.7	11,458.1	0.00	0.00	0.00
20,100.0	89.14	89.66	8,868.8	-89.9	11,557.7	11,558.1	0.00	0.00	0.00
20,200.0	89.14	89.66	8,870.3	-89.3	11,657.7	11,658.0	0.00	0.00	0.00
20,300.0	89.14	89.66	8,871.8	-88.7	11,757.7	11,758.0	0.00	0.00	0.00
20,400.0	89.14	89.66	8,873.3	-88.1	11,857.7	11,858.0	0.00	0.00	0.00
20,500.0	89.14	89.66	8,874.8	-87.5	11,957.7	11,958.0	0.00	0.00	0.00
20,600.0	89.14	89.66	8,876.3	-86.9	12,057.7	12,058.0	0.00	0.00	0.00
20,700.0	89.14	89.66	8,877.8	-86.3	12,157.6	12,157.9	0.00	0.00	0.00
20,800.0	89.14	89.66	8,879.3	-85.7	12,257.6	12,257.9	0.00	0.00	0.00
20,900.0	89.14	89.66	8,880.8	-85.1	12,357.6	12,357.9	0.00	0.00	0.00
21,000.0	89.14	89.66	8,882.3	-84.5	12,457.6	12,457.9	0.00	0.00	0.00
21,100.0	89.14	89.66	8,883.7	-83.9	12,557.6	12,557.9	0.00	0.00	0.00
21,200.0	89.14	89.66	8,885.2	-83.3	12,657.6	12,657.9	0.00	0.00	0.00
21,300.0	89.14	89.66	8,886.7	-82.7	12,757.6	12,757.8	0.00	0.00	0.00
21,400.0	89.14	89.66	8,888.2	-82.1	12,857.6	12,857.8	0.00	0.00	0.00
21,500.0	89.14	89.66	8,889.7	-81.5	12,957.5	12,957.8	0.00	0.00	0.00
21,584.5	89.14	89.66	8,891.0	-81.0	13,042.0	13,042.3	0.00	0.00	0.00

Database: Hobbs

Company: Mewbourne Oil Company

Project: Eddy County, New Mexico NAD 83
Site: Iron Islands 11/7 B2OP Fed Com #1H

Well: Sec 11, T18S, R31E

Wellbore: BHL: 660' FSL & 100' FEL, Sec 7

Design: Design #1

Local Co-ordinate Reference:

TVD Reference:
MD Reference:
North Reference:

**Survey Calculation Method:** 

Site Iron Islands 11/7 B2OP Fed Com #1H WELL @ 3764.0usft (Original Well Elev) WELL @ 3764.0usft (Original Well Elev)

Grid

Design Targets									
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
SHL: 820' FSL & 2550' F - plan hits target cent - Point	0.00 er	0.01	0.0	0.0	0.0	639,505.00	693,029.00	32.7570635	-103.8398921
KOP: 660' FSL & 2631' F - plan hits target cent - Point	0.00 er	0.00	8,130.0	-160.0	-81.0	639,345.00	692,948.00	32.7566247	-103.8401580
FTP: 660' FSL & 2541' F - plan hits target cent - Point	0.00 er	0.00	8,408.1	-159.6	-9.0	639,345.44	693,020.00	32.7566250	-103.8399238
LP: 660' FSL & 2067' FE - plan hits target cent - Point	0.00 er	0.00	8,703.0	-156.6	483.5	639,348.40	693,512.50	32.7566268	-103.8383218
PPP2: 660' FSL & 1320' - plan hits target cent - Point	0.00 er	0.00	8,714.2	<b>-</b> 152.1	1,230.0	639,352.90	694,259.00	32.7566296	-103.8358935
PPP3: 660' FSL & 0' FW - plan hits target cent - Point	0.00 er	0.00	8,733.9	-144.2	2,550.0	639,360.84	695,579.00	32.7566343	-103.8315997
PPP4: 660' FSL & 1320' - plan hits target cent - Point	0.00 er	0.00	8,773.5	-128.3	5,191.0	639,376.74	698,220.00	32.7566433	-103.8230088
PPP5: 660' FSL & 0' FW - plan hits target cent - Point	0.00 er	0.00	8,813.0	-112.4	7,831.0	639,392.63	700,860.00	32.7566517	-103.8144211
BHL: 660' FSL & 100' FE - plan hits target cent - Point	0.00 er	0.00	8,891.0	-81.0	13,042.0	639,424.00	706,071.00	32.7566666	-103.7974703

Inten	t X	As Dril	led											
API#	:													
Operator Name: Mewbourne Oil Co.						1	perty N n Islan			320F	) Fed	d Cor	n	Well Number 1H
Kick (	Off Point	(KOP)												
UL O	Section 11	Township 18S	Range 31E	Lot	Feet 660		From N	I/S	Feet 263		From	n E/W	County Eddy	
Latitu 32.	<sup>ide</sup> 756624	7			Longitu -103		1580	1					NAD 83	
First <sup>-</sup>	Гаke Poin	it (FTP)												
UL O	Section 11	Township 18S	Range 31E	Lot	Feet 660		From N	I/S	Feet 254		From	n E/W	County Eddy	
Latitu <b>32.</b>	<sup>ide</sup> 756625	50		•	Longitu							NAD 83		
Last T	āke Poin	t (LTP)												
UL P	Section 7	Township 18S	Range 32E	Lot	Feet 660	Fro S	m N/S	Feet		From E	E/W	Count		
Latitu <b>32.</b>	ude 756667	<b>'</b> 0		•	Longitu -103	ude NAD 83.7974710								
					•									
s this	s well the	defining v	vell for th	e Hori:	zontal Sp	pacin	g Unit?		Y					
s this	s well an i	infill well?		N										
	ll is yes pl ng Unit.	ease prov	ide API if	availak	ole, Opei	rator	Name :	and v	vell n	umbei	r for l	Definii	ng well fo	r Horizontal
API#	<u> </u>													
Ope	rator Nar	ne:				Pro	perty N	lame	;					Well Number

KZ 06/29/2018

# PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

**OPERATOR'S NAME:** | Mewbourne Oil Company

LEASE NO.: | NMLC29388D

**WELL NAME & NO.:** IRON ISLANDS 11-7 B2OP FED COM 1H

**SURFACE HOLE FOOTAGE:** | 820'/S & 2550'/E **BOTTOM HOLE FOOTAGE** | 660'/S & 100'/E

**LOCATION:** | Section 11, T.18 S., R.31 E., NMP

**COUNTY:** | Eddy County, New Mexico

COA

H2S	Yes	○ No	
Potash	None	© Secretary	© R-111-P
Cave/Karst Potential	• Low	Medium	○ High
Cave/Karst Potential	Critical		
Variance	© None	Flex Hose	Other Other
Wellhead	Conventional	• Multibowl	○ Both
Other	4 String Area	Capitan Reef	□WIPP
Other	Fluid Filled	Cement Squeeze	Pilot Hole
Special Requirements	Water Disposal	☑ COM	Unit

#### A. HYDROGEN SULFIDE

A Hydrogen Sulfide (H2S) Drilling Plan shall be activated 500 feet prior to drilling into the **undesignated** formation. Gas stream measurements of up to 8,000 ppm was recorded in the Grayburg and Bone Springs pool SOIL; BD, Berino-Dune land complex, 0 to 3 percent slopes. As a result, the Hydrogen Sulfide area must meet Onshore Order 6 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, please provide measured values and formations to the BLM.

#### **B. CASING**

#### **Casing Design:**

- 1. The 13-3/8 inch surface casing shall be set at approximately 870 feet (a minimum of 70 feet (Eddy County) into the Rustler Anhydrite and above the salt) 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 9-5/8 inch intermediate casing shall be set at approximately 2,170 feet. The minimum required fill of cement behind the 9-5/8 inch intermediate casing is:
  - Cement to surface. If cement does not circulate see B.1.a, c-d above.
     Excess cement calculates to 14%, additional cement might be required.
- 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.
     Excess cement calculates to 24%, additional cement might be required.
- 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.

## C. PRESSURE CONTROL

- 1. Variance approved to use flex line from BOP to choke manifold. Manufacturer's specification to be readily available. No external damage to flex line. Flex line to be installed as straight as possible (no hard bends).'
- 2. Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **3000 (3M)** psi.
  - a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.

- b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
- c. Manufacturer representative shall install the test plug for the initial BOP test.
- d. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
- e. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.

# D. SPECIAL REQUIREMENT (S)

## **Communitization Agreement**

- The operator will submit a Communitization Agreement to the Carlsbad Field Office, 620 E Greene St. Carlsbad, New Mexico 88220, 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 CountyCall the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220, (575) 361-2822

- 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 2<sup>nd</sup> 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.

#### A. CASING

- 1. Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size or are Non-API. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.). The initial wellhead installed on the well will remain on the well with spools used as needed.
- 2. Wait on cement (WOC) for Potash Areas: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi for all cement blends, 2) until cement has been in place at least 24 hours. WOC time will be recorded in the driller's log. The casing intergrity test can be done (prior to the cement setting up) immediately after bumping the plug.

- 3. Wait on cement (WOC) for Water Basin: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements. The casing intergrity test can be done (prior to the cement setting up) immediately after bumping the plug.
- 4. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. Have well specific cement details onsite prior to pumping the cement for each casing string.
- 5. No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.
- 6. On that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Formation at the shoe shall be tested to a minimum of the mud weight equivalent anticipated to control the formation pressure to the next casing depth or at total depth of the well. This test shall be performed before drilling more than 20 feet of new hole.
- 7. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.
- 8. Whenever a casing string is cemented in the R-111-P potash area, the NMOCD requirements shall be followed.

#### B. PRESSURE CONTROL

- 1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in 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 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.

#### OTA10262022

# Hydrogen Sulfide Drilling Operations Plan Mewbourne Oil Company

#### 1. General Requirements

Rule 118 does not apply to this well because MOC has researched this area and no high concentrations of H2S were found. MOC will have on location and working all H2S safety equipment before the Delaware formation for purposes of safety and insurance requirements.

#### 2. Hydrogen Sulfide Training

All personnel, whether regularly assigned, contracted, or employed on an unscheduled basis, will have received training from a qualified instructor in the following areas prior to entering the drilling pad area of the well:

- 1. The hazards and characteristics of hydrogen sulfide gas.
- 2. The proper use of personal protective equipment and life support systems.
- 3. The proper use of hydrogen sulfide detectors, alarms, warning systems, briefing areas, evacuation procedures.
- 4. The proper techniques for first aid and rescue operations.

Additionally, supervisory personnel will be trained in the following areas:

- The effects of hydrogen sulfide on metal components. If high tensile tubular systems are utilized, supervisory personnel will be trained in their special maintenance requirements.
- 2 Corrective action and shut in procedures, blowout prevention, and well control procedures while drilling a well.
- The contents of the Hydrogen Sulfide Drilling Operations Plan.

There will be an initial training session prior to encountering a know hydrogen sulfide source. The initial training session shall include a review of the site specific Hydrogen Sulfide Drilling Operations Plan.

#### 3. Hydrogen Sulfide Safety Equipment and Systems

All hydrogen sulfide safety equipment and systems will be installed, tested, and operational prior to drilling below the 9 5/8" intermediate casing.

#### 1. Well Control Equipment

- A. Choke manifold with minimum of one adjustable choke/remote choke.
- B. Blowout preventers equipped with blind rams and pipe rams to accommodate all pipe sizes with properly sized closing unit
- C. Auxiliary equipment including annular type blowout preventer.
- 2. <u>Protective Equipment for Essential Personnel</u>

Thirty minute self contained work unit located in the dog house and at briefing areas.

Additionally: If H2S is encountered in concentrations less than 10 ppm, fans will be placed in work areas to prevent the accumulation of hazardous amounts of poisonous gas. If higher concentrations of H2S are detected the well will be shut in and a rotating head, mud/gas separator, remote choke and flare line with igniter will be installed.

#### 3. <u>Hydrogen Sulfide Protection and Monitoring Equipment</u>

Two portable hydrogen sulfide monitors positioned on location for optimum coverage and detection. The units shall have audible sirens to notify personnel when hydrogen sulfide levels exceed 20 PPM.

#### 4. Visual Warning Systems

- A. Wind direction indicators as indicated on the wellsite diagram.
- B. Caution signs shall be posted on roads providing access to location. Signs shall be painted a high visibility color with lettering of sufficient size to be readable at reasonable distances from potentially contaminated areas.

# 4. Mud Program

The mud program has been designed to minimize the amount of hydrogen sulfide entrained in the mud system. Proper mud weight, safe drilling practices, and the use of hydrogen sulfide scavengers will minimize hazards while drilling the well.

# 5. Metallurgy

All tubular systems, wellheads, blowout preventers, drilling spools, kill lines, choke manifolds, and valves shall be suitable for service in a hydrogen sulfide environment when chemically treated.

#### 6. Communications

State & County Officials phone numbers are posted on rig floor and supervisors trailer. Communications in company vehicles and toolpushers are either two way radios or cellular phones.

# 7. Well Testing

Drill stem testing is not an anticipated requirement for evaluation of this well. If a drill stem test is required, it will be conducted with a minimum number of personnel in the immediate vicinity. The test will be conducted during daylight hours only.

#### 8. Emergency Phone Numbers

Eddy County Sheriff's Office	911 or 575-887-7551
Ambulance Service	911 or 575-885-2111
Carlsbad Fire Dept	911 or 575-885-2111
Loco Hills Volunteer Fire Dept.	911 or 575-677-3266
Closest Medical Facility - Columbia Medical Cer	nter of Carlsbad 575-492-5000

Mewbourne Oil Company	Hobbs District Office Fax 2 <sup>nd</sup> Fax	575-393-5905 575-397-6252 575-393-7259
District Manager	Robin Terrell	575-390-4816
<b>Drilling Superintendent</b>	Frosty Lathan	575-390-4103
	<b>Bradley Bishop</b>	575-390-6838
<b>Drilling Foreman</b>	Wesley Noseff	575-441-0729

**Operator Name: MEWBOURNE OIL COMPANY** 

Well Name: IRON ISLANDS 11/7 B2OP FED COM Well Number: 1H

**Disposal location description:** City of Carlsbad Water Treatment facility

Waste type: GARBAGE

Waste content description: Garbage & Trash

Amount of waste: 1500 pounds

Waste disposal frequency: One Time Only

Safe containment description: Enclosed trash trailer

Safe containment attachment:

Waste disposal type: HAUL TO COMMERCIAL Disposal location ownership: PRIVATE

**FACILITY** 

Disposal type description:

Disposal location description: Waste Management facility in Carlsbad.

#### **Reserve Pit**

Reserve Pit being used? NO

Temporary disposal of produced water into reserve pit? NO

Reserve pit length (ft.) Reserve pit width (ft.)

Reserve pit depth (ft.) Reserve pit volume (cu. yd.)

Is at least 50% of the reserve pit in cut?

Reserve pit liner

Reserve pit liner specifications and installation description

# **Cuttings Area**

Cuttings Area being used? NO

Are you storing cuttings on location? N

**Description of cuttings location** 

Cuttings area length (ft.) Cuttings area width (ft.)

Cuttings area depth (ft.) Cuttings area volume (cu. yd.)

Is at least 50% of the cuttings area in cut?

**WCuttings** area liner

Cuttings area liner specifications and installation description

**Operator Name: MEWBOURNE OIL COMPANY** 

Well Name: IRON ISLANDS 11/7 B2OP FED COM Well Number: 1H

# **Section 8 - Ancillary**

Are you requesting any Ancillary Facilities?: N

**Ancillary Facilities** 

Comments:

Section 9 - Well Site

Well Site Layout Diagram:

IronIslands11 7B2OPFedCom1H wellsitelayout 20210223142720.pdf

Comments:

Section 10 - Plans for Surface

Type of disturbance: New Surface Disturbance Multiple Well Pad Name: Iron Islands 11/7 B2JI and B2OPFed com

wells

Multiple Well Pad Number: 2

Recontouring

IronIslands11 7B2JIFedCom1H wellsitelayout 20210223142053.pdf

**Drainage/Erosion control construction:** NONE

**Drainage/Erosion control reclamation: NONE** 

Well pad proposed disturbance Well pad interim reclamation (acres): Well pad long term disturbance

(acres): 5.92 0.98 (acres): 4.94

Road proposed disturbance (acres): Road interim reclamation (acres): 0 Road long term disturbance (acres): 0

Powerline proposed disturbance Powerline interim reclamation (acres): Powerline long term disturbance

(acres): 0 (acres): 0 (acres): 0 Pipeline proposed disturbance Pipeline interim reclamation (acres): 0 Pipeline long term disturbance

(acres): 0

Other proposed disturbance (acres): 0 Other interim reclamation (acres): 0 Other long term disturbance (acres): 0

**Disturbance Comments:** In areas to be heavily disturbed, the top 6 inches of soil material, will be stripped and stockpiled on the perimeter of the well location to keep topsoil viable, and to make redistribution of topsoil more efficient during interim reclamation. Stockpiled topsoil should include vegetative material. Topsoil will be clearly segregated and stored separately from subsoils. Contaminated soil will not be stockpiled, but properly treated and handled prior to topsoil salvaging.

Reconstruction method: The areas planned for interim reclamation will then be recontoured to the original contour if feasible, or if not feasible, to an interim contour that blends with the surrounding topography as much as possible. Where applicable, the fill material of the well pad will be backfilled into the cut to bring the area back to the original contour. The interim cut and fill slopes prior to re-seeding will not be steeper than a 3:1 ration, unless the adjacent native topography is steeper. Note: Constructed slopes much steeper during drilling, but will be recontoured to the above ratios during interim reclamation.

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

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 223395

#### **CONDITIONS**

Operator:	OGRID:
MEWBOURNE OIL CO	14744
P.O. Box 5270	Action Number:
Hobbs, NM 88241	223395
	Action Type:
	[C-101] BLM - Federal/Indian Land Lease (Form 3160-3)

#### CONDITIONS

Created By	Condition	Condition Date
ward.rikala	Notify OCD 24 hours prior to casing & cement	6/5/2023
ward.rikala	Will require a File As Drilled C-102 and a Directional Survey with the C-104	6/5/2023
ward.rikala	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	6/5/2023
ward.rikala	Cement is required to circulate on both surface and intermediate1 strings of casing	6/5/2023
ward.rikala	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	6/5/2023