Form 3160-3
(June 2015)

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.
NMLC0064828A

6. If Indian, Allotee or Tribe Name

1a. Type of work: ☑ DRILL ☐ REENTER

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

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

7. If Unit or CA Agreement, Name and No.
NMNM 068294X

8. Lease Name and Well No.
BIG EDDY UNIT 38E STARK
105H 327326

2. Name of Operator
XTO PERMIAN OPERATING LLC

9. API Well No.
30-015-46890

3a. Address
6401 Holiday Hill Road, Bldg 5, Midland, TX 79707

3b. Phone No. *(include area code)*
(432) 682-8873

10. Field and Pool, or Exploratory
WILDCAT BONE SPRING/null 98340

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*
At surface NENE / 597 FNL / 727 FEL / LAT 32.36916 / LONG -103.983155
At proposed prod. zone NENE / 660 FNL / 50 FEL / LAT 32.368726 / LONG -103.929851

11. Sec., T. R. M. or Blk. and Survey or Area
SEC 28/T22S/R29E/NMP

14. Distance in miles and direction from nearest town or post office*

12. County or Parish
EDDY

13. State
NM

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)
50 feet

16. No of acres in lease
1760

17. Spacing Unit dedicated to this well
480.0

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.
30 feet

19. Proposed Depth
9133 feet / 14822 feet

20. BLM/BIA Bond No. in file
FED: COB000050

21. Elevations (Show whether DF, KDB, RT, GL, etc.)
3083 feet

22. Approximate date work will start*
05/01/2019

23. Estimated duration
90 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.
2. A Drilling Plan.
3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO must be filed with the appropriate Forest Service Office).
4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
5. Operator certification.
6. Such other site specific information and/or plans as may be requested by the BLM.

25. Signature	Name *(Printed/Typed)*	Date
(Electronic Submission)	Kelly Kardos / Ph: (432) 682-8873	10/28/2019

Title
Regulatory Coordinator

Approved by *(Signature)*	Name *(Printed/Typed)*	Date
(Electronic Submission)	Cody Layton / Ph: (575) 234-5959	02/28/2020

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 of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

APPROVED WITH CONDITIONS

RWP 3-20-20

(Continued on page 2)

*(Instructions on page 2)

Approval Date: 02/28/2020

APD ID: 10400050118 **Submission Date:** 10/28/2019

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: BIG EDDY UNIT 38E STARK **Well Number:** 105H

Well Type: OIL WELL **Well Work Type:** Drill

Highlighted data reflects the most recent changes

Show Final Text

Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical Depth	Measured Depth	Lithologies	Mineral Resources	Producing Formation
571907	PERMIAN	3083	0	0	OTHER : Alluvium	NONE	N
571898	RUSTLER	2963	120	120	SILTSTONE	USEABLE WATER	N
571899	TOP SALT	2842	241	241	SALT	POTASH	N
571900	BASE OF SALT	698	2385	2385	SALT	POTASH	N
571896	DELAWARE	26	3057	3057	SANDSTONE	NATURAL GAS, OIL, OTHER : Produced Water	N
571897	BONE SPRING	-3664	6747	6747	SANDSTONE	NATURAL GAS, OIL, OTHER : Produced Water	N
571912	BONE SPRING 1ST	-4727	7810	7810	SANDSTONE	NATURAL GAS, OIL, OTHER : Produced Water	N
571911	BONE SPRING 2ND	-4948	8031	8031	SANDSTONE	NATURAL GAS, OIL, OTHER : Produced Water	Y

Section 2 - Blowout Prevention

Pressure Rating (PSI): 3M **Rating Depth:** 9133

Equipment: The blow out preventer equipment (BOP) on surface casing temporary wellhead will consist of a 21-1/4 minimum 2M Hydril. MASP should not exceed 918 psi. Once the permanent WH is installed on the 13-3/8 casing, the blow out preventer equipment (BOP) will consist of a 13-5/8 minimum 3M Hydril and a 13-5/8 minimum 3M Double Ram BOP. MASP should not exceed 2629 psi.

Requesting Variance? YES

Variance request: XTO requests to not utilize centralizers in the curve and lateral. 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). 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.

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 13-3/8, 3M bradenhead and flange, the BOP test will be limited to 3000 psi. When nippling up on the 9-5/8, the BOP will be tested to a minimum of 3000 psi. All BOP tests will include a low pressure test as per BLM regulations. The 3M BOP diagrams are attached. Blind rams will be functioned tested each trip, pipe rams will be functioned tested each day.

Choke Diagram Attachment:

INSTRUCTIONS

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

ITEM I: If the proposal is to redrill to the same reservoir at a different subsurface location or to a new reservoir, use this form with appropriate notations. Consult applicable Federal regulations concerning subsequent work proposals or reports on the well.

ITEM 4: Locations on Federal or Indian land should be described in accordance with Federal requirements. Consult local Federal offices for specific instructions.

ITEM 14: Needed only when location of well cannot readily be found by road from the land or lease description. A plat, or plats, separate or on the reverse side, showing the roads to, and the surveyed location of, the wen, and any other required information, should be furnished when required by Federal agency offices.

ITEMS 15 AND 18: If well is to be, or has been directionany drilled, give distances for subsurface location of hole in any present or objective productive zone.

ITEM 22: Consult applicable Federal regulations, or appropriate officials, concerning approval of the proposal before operations are started.

ITEM 24: If the proposal will involve hydraulic fracturing operations, you must comply with 43 CFR 3162.3-3, including providing information about the protection of usable water. Operators should provide the best available information about all formations containing water and their depths. This information could include data and interpretation of resistivity logs run on nearby wells. Information may also be obtained from state or tribal regulatory agencies and from local BLM offices.

NOTICES

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

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

PRINCIPAL PURPOSES: The information will be used to: (1) process and evaluate your application for a permit to drill a new oil, gas, or service wen or to reenter a plugged and abandoned well; and (2) document, for administrative use, information for the management, disposal and use of National Resource Lands and resources including (a) analyzing your proposal to discover and extract the Federal or Indian resources encountered; (b) reviewing procedures and equipment and the projected impact on the land involved; and (c) evaluating the effects of the proposed operation on the surface and subsurface water and other environmental impacts.

ROUTINE USE: Information from the record and/or the record win be transferred to appropriate Federal, State, and local or foreign agencies, when relevant to civil, criminal or regulatory investigations or prosecution, in connection with congréssional inquiries and for regulatory responsibilities.

EFFECT OF NOT PROVIDING INFORMATION: Filing of this application and disclosure of the information is mandatory only if you elect to initiate a drilling or reentry operation on an oil and gas lease.

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

The BLM conects this information to anow evaluation of the technical, safety, and environmental factors involved with drilling for oil and/or gas on Federal and Indian oil and gas leases. This information will be used to analyze and approve applications. Response to this request is mandatory only if the operator elects to initiate drilling or reentry operations on an oil and gas lease. The BLM would like you to know that you do not have to respond to this or any other Federal agency-sponsored information collection unless it displays a currently valid OMB control number.

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

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Additional Operator Remarks

Location of Well

0. SHL: NENE / 597 FNL / 727 FEL / TWSP: 22S / RANGE: 29E / SECTION: 28 / LAT: 32.36916 / LONG: -103.983155 (TVD: 0 feet, MD: 0 feet)

PPP: NWNW / 660 FNL / 330 FWL / TWSP: 22S / RANGE: 29E / SECTION: 25 / LAT: 32.37025 / LONG: -103.94621 (TVD: 9022 feet, MD: 19400 feet)

PPP: NENW / 660 FNL / 1650 FWL / TWSP: 22S / RANGE: 29E / SECTION: 26 / LAT: 32.37025 / LONG: -103.95882 (TVD: 8940 feet, MD: 15440 feet)

PPP: NWNW / 660 FNL / 330 FWL / TWSP: 22S / RANGE: 29E / SECTION: 26 / LAT: 32.37025 / LONG: -103.96324 (TVD: 8914 feet, MD: 14120 feet)

PPP: NWNW / 660 FNL / 50 FWL / TWSP: 22S / RANGE: 29E / SECTION: 27 / LAT: 32.368976 / LONG: -103.98064 (TVD: 8414 feet, MD: 9200 feet)

BHL: NENE / 660 FNL / 50 FEL / TWSP: 22S / RANGE: 29E / SECTION: 25 / LAT: 32.368726 / LONG: -103.929851 (TVD: 9133 feet, MD: 14822 feet)

BLM Point of Contact

Name: Jordan Navarrette

Title: LIE

Phone: (575) 234-5972

Email: jnavarrette@blm.gov

Review and Appeal Rights

A person contesting a decision shall request a State Director review. This request must be filed within 20 working days of receipt of the Notice with the appropriate State Director (see 43 CFR 3165.3). The State Director review decision may be appealed to the Interior Board of Land Appeals, 801 North Quincy Street, Suite 300, Arlington, VA 22203 (see 43 CFR 3165.4). Contact the above listed Bureau of Land Management office for further information.

PECOS DISTRICT
SURFACE USE
CONDITIONS OF APPROVAL

XTO Permian Operating LLC
Big Eddy Unit DI 38 Drill Island MW
Lease Number NMLC0064828A

Big Eddy Unit 38E Baratheon #100H: Slot AA 1
Surface Hole Location: 924' FEL & 345' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: 50' FEL & 2,630' FSL, Section 24, T. 22 S. R. 29 E.

Big Eddy Unit 38E Baratheon #101H: Slot A 1
Surface Hole Location: 924' FEL & 372' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: 50' FEL & 1,980' FSL, Section 24, T. 22 S. R. 29 E.

Big Eddy Unit 38E Baratheon #102H: Slot B 1
Surface Hole Location: 937' FEL & 399' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: 50' FEL & 1,320' FSL, Section 24, T. 22 S. R. 29 E.

Big Eddy Unit 38E Baratheon #103H: Slot C 1
Surface Hole Location: 950' FEL & 426' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: 50' FEL & 660' FSL, Section 24, T. 22 S. R. 29 E.

Big Eddy Unit 38E Baratheon #104H: Slot DD 1
Surface Hole Location: 990' FEL & 513' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: 50' FEL & 50' FNL, Section 25, T. 22 S. R. 29 E.

Big Eddy Unit 38E Baratheon #105H: Slot D 1
Surface Hole Location: 1,003' FEL & 540' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: 50' FEL & 660' FNL, Section 25, T. 22 S. R. 29 E.

Big Eddy Unit 38E Baratheon #106H: Slot E 1
Surface Hole Location: 1,016' FEL & 567' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: 50' FEL & 1,320' FNL, Section 25, T. 22 S. R. 29 E.

Big Eddy Unit 38E Baratheon #107H: Slot F 1
Surface Hole Location: 1,029' FEL & 594' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: 50' FEL & 1,980' FNL, Section 25, T. 22 S. R. 29 E.

Big Eddy Unit 38E Baratheon #108H: Slot JJ 2
Surface Hole Location: 1,068' FEL & 851' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: 50' FEL & 2,630' FSL, Section 25, T. 22 S. R. 29 E.

Big Eddy Unit 38E Baratheon #109H: Slot J 2
Surface Hole Location: 1,080' FEL & 878' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: 50' FEL & 1,980' FSL, Section 25, T. 22 S. R. 29 E.

Big Eddy Unit 38E Baratheon #110H: Slot K 2
Surface Hole Location: 1,092' FEL & 905' FNL, Section 28, T. 22 S. R. 29 E.

Approval Date: 02/28/2020

Bottom Hole Location: 50' FEL & 1,320' FSL, Section 25, T. 22 S. R. 29 E.

Big Eddy Unit 38E Baratheon #111H: Slot L 2
Surface Hole Location: 1,105' FEL & 932' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: 50' FEL & 660' FSL, Section 25, T. 22 S. R. 29 E.

Big Eddy Unit 38E Greyjoy #100H: Slot B 2
Surface Hole Location: 856' FEL & 402' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: 50' FEL & 2,630' FSL, Section 24, T. 22 S. R. 29 E.

Big Eddy Unit 38E Greyjoy #101H: Slot C 2
Surface Hole Location: 868' FEL & 429' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: 50' FEL & 1,320' FSL, Section 24, T. 22 S. R. 29 E.

Big Eddy Unit 38E Greyjoy #102H: Slot D 2
Surface Hole Location: 922' FEL & 543' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: 50' FEL & 50' FNL, Section 25, T. 22 S. R. 29 E.

Big Eddy Unit 38E Greyjoy #103H: Slot E 2
Surface Hole Location: 934' FEL & 570' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: 50' FEL & 1,320' FNL, Section 25, T. 22 S. R. 29 E.

Big Eddy Unit 38E Greyjoy #104H: Slot G 1
Surface Hole Location: 1,082' FEL & 707' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: 50' FEL & 2,630' FSL, Section 25, T. 22 S. R. 29 E.

Big Eddy Unit 38E Greyjoy #105H: Slot H 1
Surface Hole Location: 1,095' FEL & 734' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: 50' FEL & 1,320' FSL, Section 25, T. 22 S. R. 29 E.

Big Eddy Unit 38E Lannister #100H: Slot B 3
Surface Hole Location: 718' FEL & 402' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: 50' FEL & 1,980' FSL, Section 24, T. 22 S. R. 29 E.

Big Eddy Unit 38E Lannister #101H: Slot C 3
Surface Hole Location: 730' FEL & 429' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: 50' FEL & 660' FSL, Section 24, T. 22 S. R. 29 E.

Big Eddy Unit 38E Lannister #102H: Slot D 3
Surface Hole Location: 784' FEL & 543' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: 50' FEL & 660' FNL, Section 25, T. 22 S. R. 29 E.

Big Eddy Unit 38E Lannister #103H: Slot E 3
Surface Hole Location: 797' FEL & 570' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: 50' FEL & 1,980' FNL, Section 25, T. 22 S. R. 29 E.

Big Eddy Unit 38E Lannister #104H: Slot J 3
Surface Hole Location: 942' FEL & 878' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: 50' FEL & 1,980' FSL, Section 25, T. 22 S. R. 29 E.

Big Eddy Unit 38E Lannister #105H: Slot K 3
Surface Hole Location: 954' FEL & 905' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: 50' FEL & 660' FSL, Section 25, T. 22 S. R. 29 E.

Big Eddy Unit 38E Stark #100H: Slot AA 5
Surface Hole Location: 471' FEL & 348' FNL, Section 28, T. 22 S. R. 29 E.

Bottom Hole Location: 50' FEL & 2,630' FSL, Section 24, T. 22 S. R. 29 E.

Big Eddy Unit 38E Stark #101H: Slot B 4
Surface Hole Location: 635' FEL & 402' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: 50' FEL & 1,980' FSL, Section 24, T. 22 S. R. 29 E.

Big Eddy Unit 38E Stark #102H: Slot A 5
Surface Hole Location: 484' FEL & 375' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: 50' FEL & 1,320' FSL, Section 24, T. 22 S. R. 29 E.

Big Eddy Unit 38E Stark #103H: Slot C 4
Surface Hole Location: 648' FEL & 429' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: 50' FEL & 660' FSL, Section 24, T. 22 S. R. 29 E.

Big Eddy Unit 38E Stark #104H: Slot D 5
Surface Hole Location: 563' FEL & 543' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: 50' FEL & 50' FNL, Section 25, T. 22 S. R. 29 E.

Big Eddy Unit 38E Stark #105H: Slot F 4
Surface Hole Location: 727' FEL & 597' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: 50' FEL & 660' FNL, Section 25, T. 22 S. R. 29 E.

Big Eddy Unit 38E Stark #106H: Slot E 5
Surface Hole Location: 576' FEL & 570' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: 50' FEL & 1,320' FNL, Section 25, T. 22 S. R. 29 E.

Big Eddy Unit 38E Stark #107H: Slot E 4
Surface Hole Location: 714' FEL & 570' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: 50' FEL & 1,980' FNL, Section 25, T. 22 S. R. 29 E.

Big Eddy Unit 38E Stark #108H: Slot J 5
Surface Hole Location: 721' FEL & 878' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: 50' FEL & 2,630' FSL, Section 25, T. 22 S. R. 29 E.

Big Eddy Unit 38E Stark #109H: Slot J 4
Surface Hole Location: 859' FEL & 878' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: 50' FEL & 1,980' FSL, Section 25, T. 22 S. R. 29 E.

Big Eddy Unit 38E Stark #110H: Slot K 5
Surface Hole Location: 734' FEL & 905' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: 50' FEL & 1,320' FSL, Section 25, T. 22 S. R. 29 E.

Big Eddy Unit 38E Stark #111H: Slot K 4
Surface Hole Location: 872' FEL & 905' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: 50' FEL & 660' FSL, Section 25, T. 22 S. R. 29 E.

Big Eddy Unit 38E Targaryen #100H: Slot B 5
Surface Hole Location: 497' FEL & 402' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: 50' FEL & 1,980' FSL, Section 24, T. 22 S. R. 29 E.

Big Eddy Unit 38E Targaryen #101H: Slot C 5
Surface Hole Location: 510' FEL & 429' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: 50' FEL & 660' FSL, Section 24, T. 22 S. R. 29 E.

Big Eddy Unit 38E Targaryen #102H: Slot D 6
Surface Hole Location: 480' FEL & 543' FNL, Section 28, T. 22 S. R. 29 E.

Bottom Hole Location: 50' FEL & 660' FNL, Section 25, T. 22 S. R. 29 E.

Big Eddy Unit 38E Targaryen #103H: Slot E 6
Surface Hole Location: 493' FEL & 570' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: 50' FEL & 1,980' FNL, Section 25, T. 22 S. R. 29 E.

Big Eddy Unit 38E Targaryen #104H: Slot J 7
Surface Hole Location: 500' FEL & 878' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: 50' FEL & 1,980' FSL, Section 25, T. 22 S. R. 29 E.

Big Eddy Unit 38E Targaryen #105H: Slot K 7
Surface Hole Location: 513' FEL & 905' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: 50' FEL & 660' FSL, Section 25, T. 22 S. R. 29 E.

Big Eddy Unit 38E Tyrell #100H: Slot AA 4
Surface Hole Location: 609' FEL & 348' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: 50' FEL & 2,630' FSL, Section 24, T. 22 S. R. 29 E.

Big Eddy Unit 38E Tyrell #101H: Slot A 4
Surface Hole Location: 622' FEL & 375' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: 50' FEL & 1,320' FSL, Section 24, T. 22 S. R. 29 E.

Big Eddy Unit 38E Tyrell #102H: Slot G 5
Surface Hole Location: 642' FEL & 710' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: 50' FEL & 50' FNL, Section 25, T. 22 S. R. 29 E.

Big Eddy Unit 38E Tyrell #103H: Slot H 5
Surface Hole Location: 656' FEL & 737' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: 50' FEL & 1,320' FNL, Section 25, T. 22 S. R. 29 E.

Big Eddy Unit 38E Tyrell #104H: Slot G 3
Surface Hole Location: 863' FEL & 710' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: 50' FEL & 2,630' FSL, Section 25, T. 22 S. R. 29 E.

Big Eddy Unit 38E Tyrell #105H: Slot H 3
Surface Hole Location: 875' FEL & 737' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: 50' FEL & 1,320' FSL, Section 25, T. 22 S. R. 29 E.

Future Well #1: Slot A 2
Surface Hole Location: 843' FEL & 375' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: To Be Determined

Future Well #2: Slot A 3
Surface Hole Location: 705' FEL & 375' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: To Be Determined

Future Well #3: Slot D 4
Surface Hole Location: 701' FEL & 543' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: To Be Determined

Future Well #4: Slot F 2
Surface Hole Location: 947' FEL & 597' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: To Be Determined

Future Well #5: Slot F 3
Surface Hole Location: 809' FEL & 597' FNL, Section 28, T. 22 S. R. 29 E.

Bottom Hole Location: To Be Determined

Future Well #6: Slot F 5
Surface Hole Location: 589' FEL & 597' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: To Be Determined

Future Well #7: Slot F 6
Surface Hole Location: 506' FEL & 597' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: To Be Determined

Future Well #8: Slot G 2
Surface Hole Location: 1,001' FEL & 710' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: To Be Determined

Future Well #9: Slot G 4
Surface Hole Location: 780' FEL & 710' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: To Be Determined

Future Well #10: Slot G 6
Surface Hole Location: 559' FEL & 710' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: To Be Determined

Future Well #11: Slot H 2
Surface Hole Location: 1,013' FEL & 737' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: To Be Determined

Future Well #12: Slot H 4
Surface Hole Location: 793' FEL & 737' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: To Be Determined

Future Well #13: Slot H 6
Surface Hole Location: 572' FEL & 737' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: To Be Determined

Future Well #14: Slot I 1
Surface Hole Location: 1,108' FEL & 762' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: To Be Determined

Future Well #15: Slot I 2
Surface Hole Location: 1,026' FEL & 765' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: To Be Determined

Future Well #16: Slot I 3
Surface Hole Location: 888' FEL & 765' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: To Be Determined

Future Well #17: Slot I 4
Surface Hole Location: 805' FEL & 765' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: To Be Determined

Future Well #18: Slot I 5
Surface Hole Location: 668' FEL & 765' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: To Be Determined

Future Well #19: Slot I 6
Surface Hole Location: 585' FEL & 765' FNL, Section 28, T. 22 S. R. 29 E.

Bottom Hole Location: To Be Determined

Future Well #20: Slot J 6
Surface Hole Location: 638' FEL & 878' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: To Be Determined

Future Well #21: Slot K 6
Surface Hole Location: 651' FEL & 905' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: To Be Determined

Future Well #22: Slot L 3
Surface Hole Location: 967' FEL & 932' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: To Be Determined

Future Well #23: Slot L 4
Surface Hole Location: 884' FEL & 932' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: To Be Determined

Future Well #24: Slot L 5
Surface Hole Location: 746' FEL & 932' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: To Be Determined

Future Well #25: Slot L 6
Surface Hole Location: 664' FEL & 932' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: To Be Determined

Future Well #26: Slot L 7
Surface Hole Location: 526' FEL & 932' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: To Be Determined

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Standard Conditions of Approval (COA) apply to this APD. If any deviations to these standards exist or special COAs are required, the section with the deviation or requirement will be checked below.

Well Pads
Roads

☐ **Road Section Diagram**

☐ **Production (Post Drilling)**

Well Structures & Facilities

☐ **Interim Reclamation**

☐ **Final Abandonment & Reclamation**

I. GENERAL PROVISIONS

The approval of the Application For Permit To Drill (APD) is in compliance with all applicable laws and regulations: 43 Code of Federal Regulations 3160, the lease terms, Onshore Oil and Gas Orders, Notices To Lessees, New Mexico Oil Conservation Division (NMOCD) Rules, National Historical Preservation Act As Amended, and instructions and orders of the Authorized Officer. Any request for a variance shall be submitted to the Authorized Officer on Form 3160-5, Sundry Notices and Report on Wells.

II. PERMIT EXPIRATION

If the permit terminates prior to drilling and drilling cannot be commenced within 60 days after expiration, an operator is required to submit Form 3160-5, Sundry Notices and Reports on Wells, requesting surface reclamation requirements for any surface disturbance. However, if the operator will be able to initiate drilling within 60 days after the expiration of the permit, the operator must have set the conductor pipe in order to allow for an extension of 60 days beyond the expiration date of the APD. (Filing of a Sundry Notice is required for this 60 day extension.)

III. ARCHAEOLOGICAL, PALEONTOLOGY & HISTORICAL SITES

Any cultural resource (historic or prehistoric site or object) discovered by the holder, or any person working on the holder's behalf, on public or Federal land shall be immediately reported to the Authorized Officer. The holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery will be made by the Authorized Officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to the proper mitigation measures will be made by the Authorized Officer after consulting with the holder.

OR

If the entire project is covered under the Permian Basin Programmatic Agreement (cultural resources only):

The proponent has contributed funds commensurate to the undertaking into an account for offsite mitigation. Participation in the PA serves as mitigation for the effects of this project on cultural resources. If any human skeletal remains, funerary objects, sacred objects, or objects of cultural patrimony are discovered at any time during construction, all construction activities shall halt and the BLM will be notified as soon as possible within 24 hours. Work shall not resume until a Notice to Proceed is issued by the BLM. See information below discussing NAGPRA.

If the proposed project is split between a Class III inventory and a Permian Basin Programmatic Agreement contribution, the portion of the project covered under Class III inventory should default to the first paragraph stipulations.

The holder is hereby obligated to comply with procedures established in the Native American Graves Protection and Repatriation Act (NAGPRA) to protect such cultural items as human remains, associated funerary objects, sacred objects, and objects of cultural patrimony discovered inadvertently during the course of project implementation. In the event that any of the cultural items listed above are discovered during the course of project work, the proponent shall immediately halt the disturbance and contact the BLM within 24 hours for instructions. The proponent or initiator of any project shall be held responsible for protecting, evaluating, reporting, excavating, treating, and disposing of these cultural items according to the procedures established by the BLM in consultation with Indian Tribes."

Any paleontological resource (historic or prehistoric site or object) discovered by the holder, or any person working on the holder's behalf, on public or Federal land shall be immediately reported to the Authorized Officer. The holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery will be made by the Authorized Officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to the proper mitigation measures will be made by the Authorized Officer after consulting with the holder.

IV. NOXIOUS WEEDS

The operator shall be held responsible if noxious weeds become established within the areas of operations. Weed control shall be required on the disturbed land where noxious weeds exist, which includes the roads, pads, associated pipeline corridor, and adjacent land affected by the establishment of weeds due to this action. The operator shall consult with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policies.

V. SPECIAL REQUIREMENT(S)

Special Status Plant Species (SSPS) Habitat Stipulations:

- Vehicles and equipment will be kept on existing roads and approved surfaces only, and will avoid travel across undisturbed surfaces; workers will be instructed not to park off the roads or ROW in undisturbed areas.
- Alterations to project design and additions of project components will require SSPS surveys and re-analysis of impacts if those project elements intersect SSPS suitable habitat.

Hydrology:

The entire well pad(s) will be bermed to prevent oil, salt, and other chemical contaminants from leaving the well pad. The compacted berm shall be constructed at a minimum of 12 inches with impermeable mineral material (e.g. caliche). Topsoil shall not be used to construct the berm. No water flow from the uphill side(s) of the pad shall be allowed to enter the well pad. The integrity of the berm shall be maintained around the surfaced pad throughout the life of the well and around the downsized pad after interim reclamation has been completed. Any water erosion that may occur due to the construction of the well pad during the life of the well will be quickly corrected and proper measures will be taken to prevent future erosion. Stockpiling of topsoil is required. The top soil shall be stockpiled in an appropriate location to prevent loss of soil due to water or wind erosion and not used for berming or erosion control. If fluid collects within the bermed area, the fluid must be vacuumed into a safe container and disposed of properly at a state approved facility.

Potash

Lessees must comply with the 2012Secretarial Potash Order. The Order is designed to manage the efficient development of oil, gas, and potash resources. Section 6 of the Order provides general provisions which must be followed to minimize conflict between the industries and ensure the safety of operations.

To minimize impacts to potash resources, the proposed well is confined within the boundaries of the established Big Eddy Unit Drill Island 38 (See Potash Memo and Map in attached file for Drill Island description).

Karst

Construction Mitigation

In order to mitigate the impacts from construction activities on cave and karst resources, the following Conditions of Approval will apply to this APD:

- In the event that any underground voids are encountered during construction activities, construction activities will be halted and the BLM will be notified immediately.
- No blasting to prevent geologic structure instabilities.
- Pad Berming to minimize effects of any spilled contaminates.

Drilling Mitigation

Federal regulations and standard Conditions of Approval applied to all APDs require that adequate measures are taken to prevent contamination to the environment. Due to the extreme sensitivity of the cave and karst resources in this project area, the following additional Conditions of Approval will be added to this APD.

To prevent cave and karst resource contamination the following will be required.

- Closed Mud System Using Steel Tanks with All Fluids and Cuttings Hauled Off.
- Rotary drilling with fresh water where cave or karst features are expected to prevent contamination of freshwater aquifers.
- Directional Drilling allowed after at least 100 feet below the cave occurrence zone to prevent additional impacts resulting from directional drilling.
- Lost Circulation zones logged and reported in the drilling report so BLM can assess the situation and work with the operator on corrective actions.
- Additional drilling, casing, and cementing procedures to protect cave zones and fresh water aquifers. See Drilling COAs.

Production Mitigation

In order to mitigate the impacts from production activities and due to the nature of karst terrain, the following Conditions of Approval will apply to this APD:

- Tank battery liners and berms to minimize the impact resulting from leaks.
- Leak detection system to provide an early alert to operators when a leak has occurred.
- Automatic shut off, check values, or similar systems will be installed for pipelines and tanks to minimize the effects of line failures used in production or drilling.

Residual and Cumulative Mitigation

- Annual pressure monitoring will be performed by the operator. If the test results indicate a casing failure has occurred, remedial action will be undertaken to correct the problem to the BLM's approval.

Plugging and Abandonment Mitigation

Abandonment Cementing: Upon well abandonment in high cave karst areas additional plugging conditions of approval may be required. The BLM will assess the situation and work with the operator to ensure proper plugging of the wellbore.

VI. CONSTRUCTION

A. NOTIFICATION

The BLM shall administer compliance and monitor construction of the access road and well pad. Notify the Carlsbad Field Office at (575) 234-5909 at least 3 working days prior to commencing construction of the access road and/or well pad.

When construction operations are being conducted on this well, the operator shall have the approved APD and Conditions of Approval (COA) on the well site and they shall be made available upon request by the Authorized Officer.

B. TOPSOIL

The operator shall strip the top portion of the soil (root zone) from the entire well pad area and stockpile the topsoil along the edge of the well pad as depicted in the APD. The root zone is typically six (6) inches in depth. All the stockpiled topsoil will be redistributed over the interim reclamation areas. Topsoil shall not be used for berming the pad or facilities. For final reclamation, the topsoil shall be spread over the entire pad area for seeding preparation.

Other subsoil (below six inches) stockpiles must be completely segregated from the topsoil stockpile. Large rocks or subsoil clods (not evident in the surrounding terrain) must be buried within the approved area for interim and final reclamation.

C. CLOSED LOOP SYSTEM

Tanks are required for drilling operations: No Pits.

The operator shall properly dispose of drilling contents at an authorized disposal site.

D. FEDERAL MINERAL MATERIALS PIT

Payment shall be made to the BLM prior to removal of any federal mineral materials. Call the Carlsbad Field Office at (575) 234-5972.

E. WELL PAD SURFACING

Surfacing of the well pad is not required.

If the operator elects to surface the well pad, the surfacing material may be required to be removed at the time of reclamation. The well pad shall be constructed in a manner which creates the smallest possible surface disturbance, consistent with safety and operational needs.

F. EXCLOSURE FENCING (CELLARS & PITS)

Exclosure Fencing
The operator will install and maintain exclosure fencing for all open well cellars to prevent access to public, livestock, and large forms of wildlife before and after drilling operations until the pit is free of fluids and the operator initiates backfilling. (For examples of exclosure fencing design, refer to BLM's Oil and Gas Gold Book, Exclosure Fence Illustrations, Figure 1, Page 18.)

G. ON LEASE ACCESS ROADS

Road Width
The access road shall have a driving surface that creates the smallest possible surface disturbance and does not exceed fourteen (14) feet in width. The maximum width of surface disturbance, when constructing the access road, shall not exceed twenty-five (25) feet.

Surfacing
Surfacing material is not required on the new access road driving surface. If the operator elects to surface the new access road or pad, the surfacing material may be required to be removed at the time of reclamation.

Where possible, no improvements should be made on the unsurfaced access road other than to remove vegetation as necessary, road irregularities, safety issues, or to fill low areas that may sustain standing water.

The Authorized Officer reserves the right to require surfacing of any portion of the access road at any time deemed necessary. Surfacing may be required in the event the road deteriorates, erodes, road traffic increases, or it is determined to be beneficial for future field development. The surfacing depth and type of material will be determined at the time of notification.

Crowning
Crowning shall be done on the access road driving surface. The road crown shall have a grade of approximately 2% (i.e., a 1" crown on a 14' wide road). The road shall conform to Figure 1; cross section and plans for typical road construction.

Ditching
Ditching shall be required on both sides of the road.

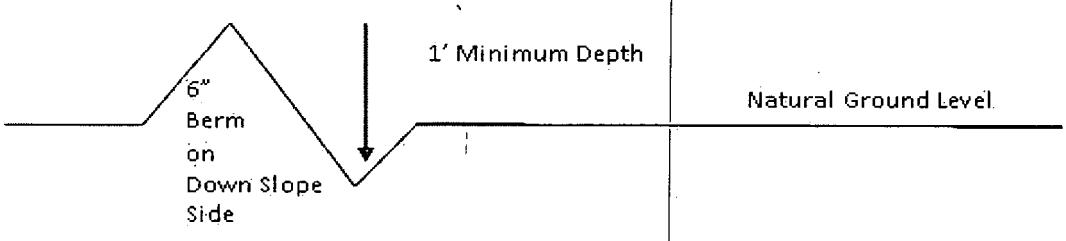
Turnouts
Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall conform to Figure 1; cross section and plans for typical road construction.

Drainage

Drainage control systems shall be constructed on the entire length of road (e.g. ditches, sidehill outsloping and insloping, lead-off ditches, culvert installation, and low water crossings).

A typical lead-off ditch has a minimum depth of 1 foot below and a berm of 6 inches above natural ground level. The berm shall be on the down-slope side of the lead-off ditch.

Cross Section of a Typical Lead-off Ditch



All lead-off ditches shall be graded to drain water with a 1 percent minimum to 3 percent maximum ditch slope. The spacing interval are variable for lead-off ditches and shall be determined according to the formula for spacing intervals of lead-off ditches, but may be amended depending upon existing soil types and centerline road slope (in %);

Formula for Spacing Interval of Lead-off Ditches

Example - On a 4% road slope that is 400 feet long, the water flow shall drain water into a lead-off ditch. Spacing interval shall be determined by the following formula:

400 foot road with 4% road slope: $\frac{400'}{4\%} + 100' = 200'$ lead-off ditch interval

Cattle guards

An appropriately sized cattle guard sufficient to carry out the project shall be installed and maintained at fence/road crossings. Any existing cattle guards on the access road route shall be repaired or replaced if they are damaged or have deteriorated beyond practical use. The operator shall be responsible for the condition of the existing cattle guards that are in place and are utilized during lease operations.

Fence Requirement

Where entry is granted across a fence line, the fence shall be braced and tied off on both sides of the passageway prior to cutting. The operator shall notify the private surface landowner or the grazing allotment holder prior to crossing any fences.

Public Access

Public access on this road shall not be restricted by the operator without specific written approval granted by the Authorized Officer.

Construction Steps

1. Salvage topsoil
2. Construct road
3. Redistribute topsoil
4. Revegetate slopes

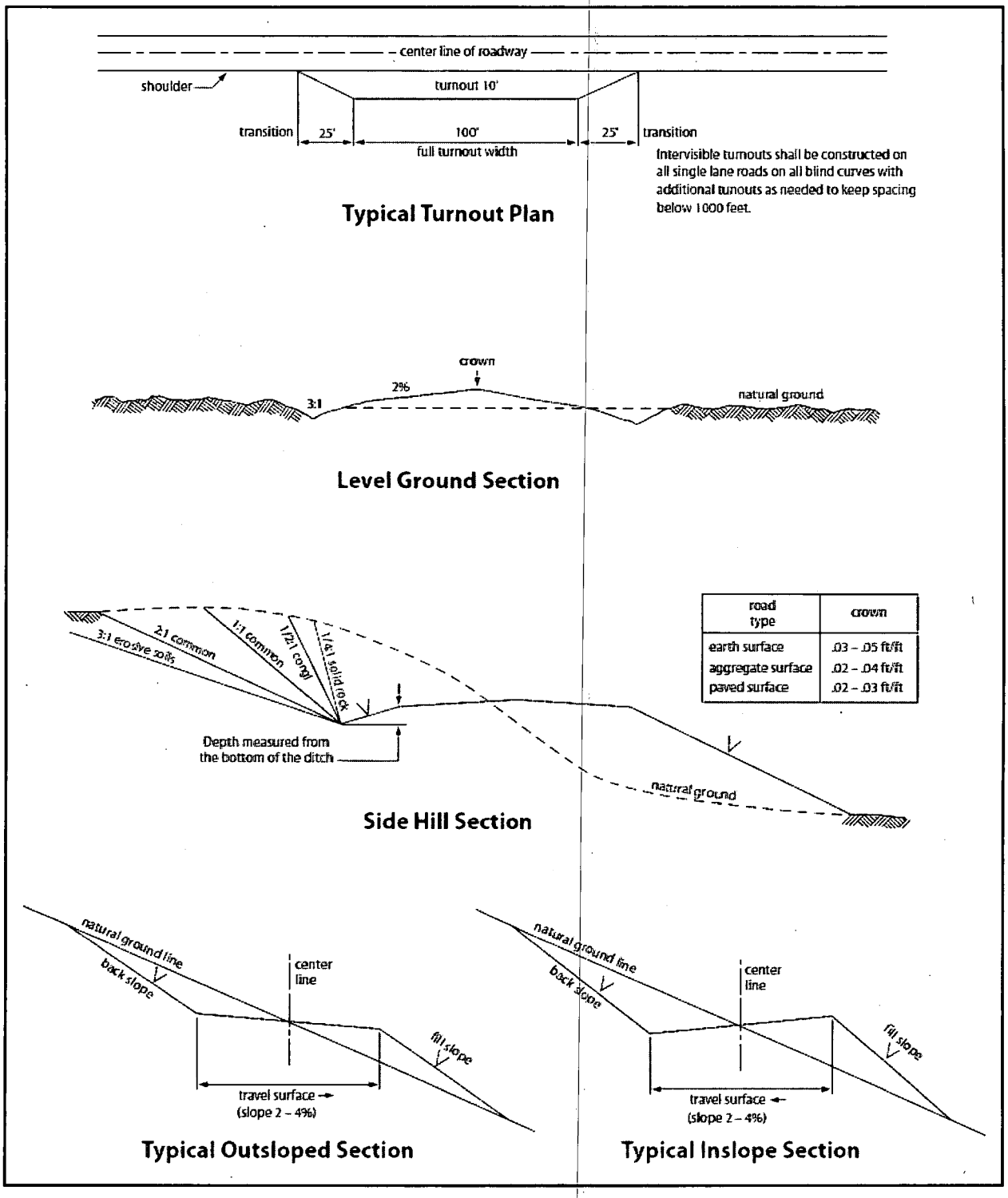


Figure 1. Cross-sections and plans for typical road sections representative of BLM resource or FS local and higher-class roads.

VII. PRODUCTION (POST DRILLING)

A. WELL STRUCTURES & FACILITIES

Placement of Production Facilities
Production facilities should be placed on the well pad to allow for maximum interim recontouring and revegetation of the well location.

Exclosure Netting (Open-top Tanks)
Immediately following active drilling or completion operations, the operator will take actions necessary to prevent wildlife and livestock access, including avian wildlife, to all open-topped tanks that contain or have the potential to contain salinity sufficient to cause harm to wildlife or livestock, hydrocarbons, or Resource Conservation and Recovery Act of 1976-exempt hazardous substances. At a minimum, the operator will net, screen, or cover open-topped tanks to exclude wildlife and livestock and prevent mortality. If the operator uses netting, the operator will cover and secure the open portion of the tank to prevent wildlife entry. The operator will net, screen, or cover the tanks until the operator removes the tanks from the location or the tanks no longer contain substances that could be harmful to wildlife or livestock. Use a maximum netting mesh size of 1 ½ inches. The netting must not be in contact with fluids and must not have holes or gaps.

Chemical and Fuel Secondary Containment and Exclosure Screening
The operator will prevent all hazardous, poisonous, flammable, and toxic substances from coming into contact with soil and water. At a minimum, the operator will install and maintain an impervious secondary containment system for any tank or barrel containing hazardous, poisonous, flammable, or toxic substances sufficient to contain the contents of the tank or barrel and any drips, leaks, and anticipated precipitation. The operator will dispose of fluids within the containment system that do not meet applicable state or U. S. Environmental Protection Agency livestock water standards in accordance with state law; the operator must not drain the fluids to the soil or ground. The operator will design, construct, and maintain all secondary containment systems to prevent wildlife and livestock exposure to harmful substances. At a minimum, the operator will install effective wildlife and livestock exclosure systems such as fencing, netting, expanded metal mesh, lids, and grate covers. Use a maximum netting mesh size of 1 ½ inches.

Open-Vent Exhaust Stack Exclosures
The operator will construct, modify, equip, and maintain all open-vent exhaust stacks on production equipment to prevent birds and bats from entering, and to discourage perching, roosting, and nesting. (*Recommended exclosure structures on open-vent exhaust stacks are in the shape of a cone.*) Production equipment includes, but may not be limited to, tanks, heater-treaters, separators, dehydrators, flare stacks, in-line units, and compressor mufflers.

Containment Structures

Proposed production facilities such as storage tanks and other vessels will have a secondary containment structure that is constructed to hold the capacity of 1.5 times the largest tank, plus freeboard to account for precipitation, unless more stringent protective requirements are deemed necessary.

Painting Requirement
All above-ground structures including meter housing that are not subject to safety requirements shall be painted a flat non-reflective paint color, **Shale Green** from the BLM Standard Environmental Color Chart (CC-001: June 2008).

VIII. INTERIM RECLAMATION

During the life of the development, all disturbed areas not needed for active support of production operations should undergo interim reclamation in order to minimize the environmental impacts of development on other resources and uses.

Within six (6) months of well completion, operators should work with BLM surface management specialists (Jim Amos: 575-234-5909) to devise the best strategies to reduce the size of the location. Interim reclamation should allow for remedial well operations, as well as safe and efficient removal of oil and gas.

During reclamation, the removal of caliche is important to increasing the success of revegetating the site. Removed caliche that is free of contaminants may be used for road repairs, fire walls or for building other roads and locations. In order to operate the well or complete workover operations, it may be necessary to drive, park and operate on restored interim vegetation within the previously disturbed area. Disturbing revegetated areas for production or workover operations will be allowed. If there is significant disturbance and loss of vegetation, the area will need to be revegetated. Communicate with the appropriate BLM office for any exceptions/exemptions if needed.

All disturbed areas after they have been satisfactorily prepared need to be reseeded with the seed mixture provided below.

Upon completion of interim reclamation, the operator shall submit a Sundry Notices and Reports on Wells, Subsequent Report of Reclamation (Form 3160-5).

IX. FINAL ABANDONMENT & RECLAMATION

At final abandonment, well locations, production facilities, and access roads must undergo "final" reclamation so that the character and productivity of the land are restored.

Earthwork for final reclamation must be completed within six (6) months of well plugging. All pads, pits, facility locations and roads must be reclaimed to a satisfactory revegetated, safe, and stable condition, unless an agreement is made with the landowner or BLM to keep the road and/or pad intact.

After all disturbed areas have been satisfactorily prepared, these areas need to be revegetated with the seed mixture provided below. Seeding should be accomplished by drilling on the contour whenever practical or by other approved methods. Seeding may need to be repeated until revegetation is successful, as determined by the BLM.

Operators shall contact a BLM surface protection specialist prior to surface abandonment operations for site specific objectives (Jim Amos: 575-234-5909).

Seed Mixture 2, for Sandy Sites

The holder shall seed all disturbed areas with the seed mixture listed below. The seed mixture shall be planted in the amounts specified in pounds of pure live seed (PLS)* per acre. There shall be no primary or secondary noxious weeds in the seed mixture. Seed will be tested and the viability testing of seed will be done in accordance with State law (s) and within nine (9) months prior to purchase. Commercial seed will be either certified or registered seed. The seed container will be tagged in accordance with State law(s) and available for inspection by the authorized officer.

Seed will be planted using a drill equipped with a depth regulator to ensure proper depth of planting where drilling is possible. The seed mixture will be evenly and uniformly planted over the disturbed area (smaller/heavier seeds have a tendency to drop the bottom of the drill and are planted first). The holder shall take appropriate measures to ensure this does not occur. Where drilling is not possible, seed will be broadcast and the area shall be raked or chained to cover the seed. When broadcasting the seed, the pounds per acre are to be doubled. The seeding will be repeated until a satisfactory stand is established as determined by the authorized officer. Evaluation of growth will not be made before completion of at least one full growing season after seeding.

Species to be planted in pounds of pure live seed* per acre:

Species	lb/acre
Sand dropseed (Sporobolus cryptandrus)	1.0
Sand love grass (Eragrostis trichodes)	1.0
Plains bristlegrass (Setaria macrostachya)	2.0

*Pounds of pure live seed:

Pounds of seed **x** percent purity **x** percent germination = pounds pure live seed

PECOS DISTRICT
DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	XTO Permian Operating LLC
WELL NAME & NO.:	Big Eddy Unit 38E Stark 105H
LOCATION:	Sec 28-22S-29E-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
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

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 **18 5/8** inch surface casing shall be set at approximately 216 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 **24 hours in the Potash Area** or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement)

Approval Date: 02/28/2020

c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
d. If cement falls back, remedial cementing will be done prior to drilling out that string.

2. The minimum required fill of cement behind the **13-3/8** 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.

❖ In Secretary Potash 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 **9-5/8** inch intermediate casing is:

Operator has proposed a DV tool, the depth may be adjusted as long as the cement is changed proportionally. The DV tool may be cancelled if cement circulates to surface on the first stage.

a. First stage to DV tool: Cement to circulate. If cement does not circulate off the DV tool, contact the appropriate BLM office before proceeding with second stage cement job.

b. Second stage above DV tool:

   - Cement to surface. If cement does not circulate, contact the appropriate BLM office.
     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.

❖ In Secretary Potash 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.

❖ **2nd intermediate shall be kept fluid filled to meet BLM's minimum collapse requirements.**

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

- Cement should tie-back at least **500 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 **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 Santa Fe Office, 301 Dinosaur Trail Santa Fe, New Mexico 87508, at least 90 days before the anticipated date of first production from a well subject to a spacing order issued by the New Mexico Oil Conservation Division. The Communitization Agreement will include the signatures of all working interest owners in all Federal and Indian leases subject to the Communitization Agreement (i.e., operating rights owners and lessees of record), or certification that the operator has obtained the written signatures of all such owners and will make those signatures available to the BLM immediately upon request.
- If the operator does not comply with this condition of approval, the BLM may take enforcement actions that include, but are not limited to, those specified in 43 CFR 3163.1.
- In addition, the well sign shall include the surface and bottom hole lease numbers. When the Communitization Agreement number is known, it shall also be on the sign.

GENERAL REQUIREMENTS

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

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

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

☒ Lea County
Call the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240, (575) 393-3612

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

   a. In the event the operator has proposed to drill multiple wells utilizing a skid/walking rig. Operator shall secure the wellbore on the current well, after installing and testing the wellhead, by installing a blind flange of like pressure rating to the wellhead and a pressure gauge that can be monitored while drilling is performed on the other well(s).
   b. When the operator proposes to set surface casing with Spudder Rig
      - Notify the BLM when moving in and removing the Spudder Rig.
      - Notify the BLM when moving in the 2nd Rig. Rig to be moved in within 90 days of notification that Spudder Rig has left the location.
      - BOP/BOPE test to be conducted per Onshore Oil and Gas Order No. 2 as soon as 2nd Rig is rigged up on well.

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

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

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.

AFMSS

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

Operator Certification Data Report

03/05/2020

Operator Certification

I hereby certify that I, or someone under my direct supervision, have inspected the drill site and access route proposed herein; that I am familiar with the conditions which currently exist; that I have full knowledge of state and Federal laws applicable to this operation; that the statements made in this APD package are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for the operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements.

NAME: Kelly Kardos **Signed on:** 10/28/2019

Title: Regulatory Coordinator

Street Address: 6401 Holiday Hill Road Bldg 5

City: Midland **State:** TX **Zip:** 79707

Phone: (432)620-4374

Email address: kelly_kardos@xtoenergy.com

Field Representative

Representative Name:

Street Address:

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

Phone: (432)620-4374

Email address: kelly_kardos@xtoenergy.com

AFMSS

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

Application Data Report

03/05/2020

APD ID: 10400050118 **Submission Date:** 10/28/2019

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: BIG EDDY UNIT 38E STARK **Well Number:** 105H

Well Type: OIL WELL **Well Work Type:** Drill

Highlighted data reflects the most recent changes

Show Final Text

Section 1 - General

APD ID: 10400050118 **Tie to previous NOS?** N **Submission Date:** 10/28/2019

BLM Office: CARLSBAD **User:** Kelly Kardos **Title:** Regulatory Coordinator

Federal/Indian APD: FED **Is the first lease penetrated for production Federal or Indian?** FED

Lease number: NMLC0064828A **Lease Acres:** 1760

Surface access agreement in place? **Allotted?** **Reservation:**

Agreement in place? YES **Federal or Indian agreement:** FEDERAL

Agreement number: NMNM068294X

Agreement name:

Keep application confidential? N

Permitting Agent? NO **APD Operator:** XTO PERMIAN OPERATING LLC

Operator letter of designation:

Operator Info

Operator Organization Name: XTO PERMIAN OPERATING LLC

Operator Address: 6401 Holiday Hill Road, Bldg 5

Zip: 79707

Operator PO Box:

Operator City: Midland **State:** TX

Operator Phone: (432)682-8873

Operator Internet Address:

Section 2 - Well Information

Well in Master Development Plan? NO **Master Development Plan name:**

Well in Master SUPO? NO **Master SUPO name:**

Well in Master Drilling Plan? NO **Master Drilling Plan name:**

Well Name: BIG EDDY UNIT 38E STARK **Well Number:** 105H **Well API Number:**

Field/Pool or Exploratory? Field and Pool **Field Name:** WILDCAT BONE SPRING **Pool Name:**

Is the proposed well in an area containing other mineral resources? USEABLE WATER,POTASH

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: BIG EDDY UNIT 38E STARK **Well Number:** 105H

Is the proposed well in an area containing other mineral resources? USEABLE WATER,POTASH

Is the proposed well in a Helium production area? N **Use Existing Well Pad?** N **New surface disturbance?**

Type of Well Pad: MULTIPLE WELL **Multiple Well Pad Name:** BEU DI **Number:** 38

Well Class: HORIZONTAL **Number of Legs:** 1

Well Work Type: Drill

Well Type: OIL WELL

Describe Well Type:

Well sub-Type: DELINEATION

Describe sub-type:

Distance to town: **Distance to nearest well:** 30 FT **Distance to lease line:** 50 FT

Reservoir well spacing assigned acres Measurement: 480 Acres

Well plat: BEU_38_Stark_105H_C102_20191025090423.pdf

Well work start Date: 05/01/2019 **Duration:** 90 DAYS

Section 3 - Well Location Table

Survey Type: RECTANGULAR

Describe Survey Type:

Datum: NAD83 **Vertical Datum:** NAVD88

Survey number: **Reference Datum:** GROUND LEVEL

Wellbore	NS-Foot	NS Indicator	EW-Foot	EW Indicator	Twsp	Range	Section	Aliquot/Lot/Tract	Latitude	Longitude	County	State	Meridian	Lease Type	Lease Number	Elevation	MD	TVD	Will this well produce from this lease?
SHL Leg #1	597	FNL	727	FEL	22S	29E	28	Aliquot NENE	32.36916	-103.983155	EDDY	NEW MEXICO	NEW MEXICO	F	NMLC0064829	3083	0	0	N
KOP Leg #1	597	FNL	727	FEL	22S	29E	28	Aliquot NENE	32.36916	-103.983155	EDDY	NEW MEXICO	NEW MEXICO	F	NMLC0064829	-2522	5605	5605	N
PPP Leg #1-1	660	FNL	50	FWL	22S	29E	27	Aliquot NWNW	32.368976	-103.98064	EDDY	NEW MEXICO	NEW MEXICO	F	NMLC0064828A	-5331	9200	8414	Y

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: BIG EDDY UNIT 38E STARK **Well Number:** 105H

Wellbore	NS-Foot	NS Indicator	EW-Foot	EW Indicator	Twsp	Range	Section	Aliquot/Lot/Tract	Latitude	Longitude	County	State	Meridian	Lease Type	Lease Number	Elevation	MD	TVD	Will this well produce from this lease?
PPP Leg #1-2	660	FNL	330	FWL	22S	29E	26	Aliquot NWNW	32.37025	-103.96324	EDDY	NEW MEXICO	NEW MEXICO	F	NMNM 003864 1	-5831	14120	8914	Y
PPP Leg #1-3	660	FNL	1650	FWL	22S	29E	26	Aliquot NENW	32.37025	-103.95882	EDDY	NEW MEXICO	NEW MEXICO	S	STATE	-5857	15440	8940	Y
PPP Leg #1-4	660	FNL	330	FWL	22S	29E	25	Aliquot NWNW	32.37025	-103.94621	EDDY	NEW MEXICO	NEW MEXICO	S	STATE	-5939	19400	9022	Y
EXIT Leg #1	660	FNL	100	FEL	22S	29E	25	Aliquot NENE	32.368727	-103.930013	EDDY	NEW MEXICO	NEW MEXICO	F	NMNM 008944	-6049	24800	9132	Y
BHL Leg #1	660	FNL	50	FEL	22S	29E	25	Aliquot NENE	32.368726	-103.929851	EDDY	NEW MEXICO	NEW MEXICO	F	NMNM 008944	-6050	14822	9133	Y

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: BIG EDDY UNIT 38E STARK **Well Number:** 105H

BEU_38_2M3MCM_20191024095356.pdf

BOP Diagram Attachment:

BEU_38_2MBOP_20191024095421.pdf

BEU_38_3MBOP_20191024095432.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	24	18.625	NEW	API	N	0	216	0	216	3083	2867	216	H-40	87.5	ST&C	6.45	1.78	DRY	29.58	DRY	29.58
2	INTERMEDIATE	17.5	13.375	NEW	API	N	0	3007	0	3007	3080	76	3007	J-55	68	ST&C	2.1	1.59	DRY	3.3	DRY	3.3
3	INTERMEDIATE	12.25	9.625	NEW	API	N	0	8372	0	8372	3080	-5289	8372	HCL-80	40	LT&C	2.42	2.19	DRY	2.17	DRY	2.17
4	PRODUCTION	8.75	5.5	NEW	API	N	0	24822	0	9133	3080	-6050	24822	P-110	17	BUTT	1.65	1.12	DRY	1.98	DRY	1.98

Casing Attachments

Casing ID: 1 **String Type:** SURFACE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

BEU_38_Stark_105H_Csg_20191028085248.pdf

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: BIG EDDY UNIT 38E STARK **Well Number:** 105H

Casing Attachments

Casing ID: 2 **String Type:** INTERMEDIATE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

BEU_38_Stark_105H_Csg_20191028085310.pdf

Casing ID: 3 **String Type:** INTERMEDIATE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

BEU_38_Stark_105H_Csg_20191028085334.pdf

Casing ID: 4 **String Type:** PRODUCTION

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

BEU_38_Stark_105H_Csg_20191028085422.pdf

Section 4 - Cement

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: BIG EDDY UNIT 38E STARK **Well Number:** 105H

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
SURFACE	Lead		0	216	390	1.35	14.8	5772	100	Halcem-C	2% CaCl
INTERMEDIATE	Lead		0	3007	2010	1.87	12.9	3758	100	EconoCem-HLTRRC	none
INTERMEDIATE	Tail				300	1.35	14.8	405	100	Halcem-C	2% CaCl
INTERMEDIATE	Lead	3057	0	8372	1600	1.88	12.9	3008	100	Halcem-C	2% CaCl
INTERMEDIATE	Tail				230	1.33	14.8	305.9	100	Halcem-C	2% CaCl
INTERMEDIATE	Lead		3057	8372	850	1.88	12.9	1598	100	Halcem-C	2% CaCl
INTERMEDIATE	Tail				230	1.33	14.8	305.9	100	Halcem-C	2% CaCl
PRODUCTION	Lead		0	24822	2900	1.61	13.2	4669	30	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: A Pason or Totco will be used to detect changes in loss or gain of mud volume.

Circulating Medium Table

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: BIG EDDY UNIT 38E STARK **Well Number:** 105H

Top Depth	Bottom Depth	Mud Type	Min Weight (lbs/gal)	Max Weight (lbs/gal)	Density (lbs/cu ft)	Gel Strength (lbs/100 sqft)	PH	Viscosity (CP)	Salinity (ppm)	Filtration (cc)	Additional Characteristics
3007	8372	OTHER : FW / Cut Brine	8.7	9.4							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
0	216	OTHER : FW/Native	8.4	8.8							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
8372	9133	OTHER : FW/Cut Brine/Polymer	9.8	10.1							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
216	3007	OTHER : Brine	9.8	10.2							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

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: BIG EDDY UNIT 38E STARK **Well Number:** 105H

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,COMPENSATED NEUTRON LOG,DIRECTIONAL SURVEY,GAMMA RAY LOG,

Coring operation description for the well:

No coring will take place on this well.

Section 7 - Pressure

Anticipated Bottom Hole Pressure: 4525 **Anticipated Surface Pressure:** 2515

Anticipated Bottom Hole Temperature(F): 185

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

Describe:

Contingency Plans geoharzards description:

Contingency Plans geohazards attachment:

Hydrogen Sulfide drilling operations plan required? YES

Hydrogen sulfide drilling operations plan:

BEU_38_H2S_Dia_20191024102056.pdf
BEU_38_H2S_Plan_20191024102044.pdf

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

BEU_38_Stark_105H_DD_20191028085614.pdf

Other proposed operations facets description:

Temporary Wellhead
18-5/8" SOW bottom x 21-1/4" 2M top flange.
Permanent Wellhead GE RSH Multibowl System
A. Starting Head: 13-5/8 5M top flange x 13-3/8 SOW bottom
B. Tubing Head: 13-5/8 5M bottom flange x 7-1/16 10M top flange.

18-5/8" Collapse analyzed using 75% evacuation. Casing to be filled while running.
13-3/8" Collapse analyzed using 50% evacuation based on regional experience.
9-5/8" Collapse analyzed using 33% evacuation based on regional experience.
5-1/2 Tension calculated using vertical hanging weight plus the lateral weight multiplied by a friction factor of 0.35
Test on 2M Annular & Casing will be limited to 70% burst of the casing or 1500 psi, whichever is less.

Other proposed operations facets attachment:

BEU_38_GCP_20191024102213.pdf

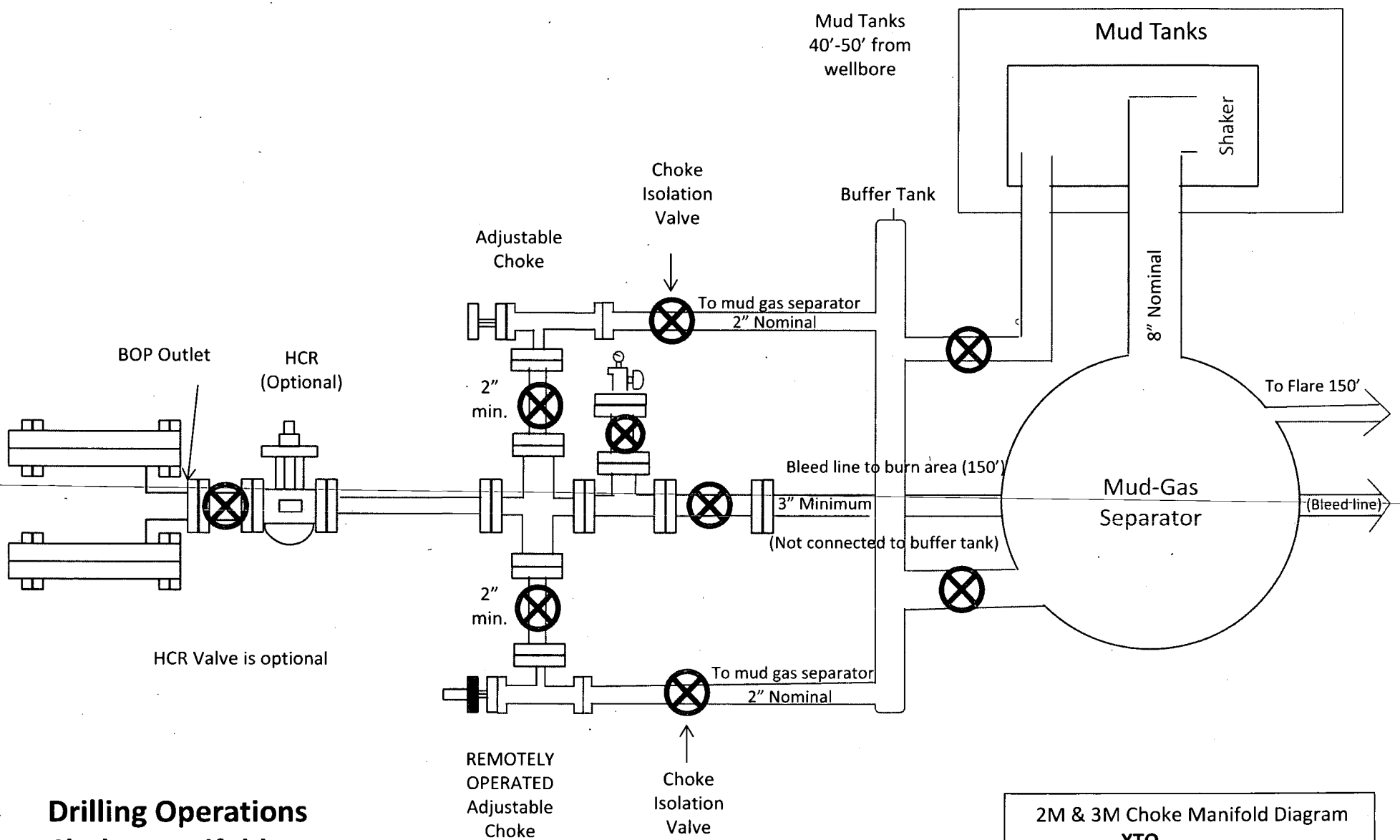
Operator Name: XTO PERMIAN OPERATING LLC

Well Name: BIG EDDY UNIT 38E STARK **Well Number:** 105H

Other Variance attachment:

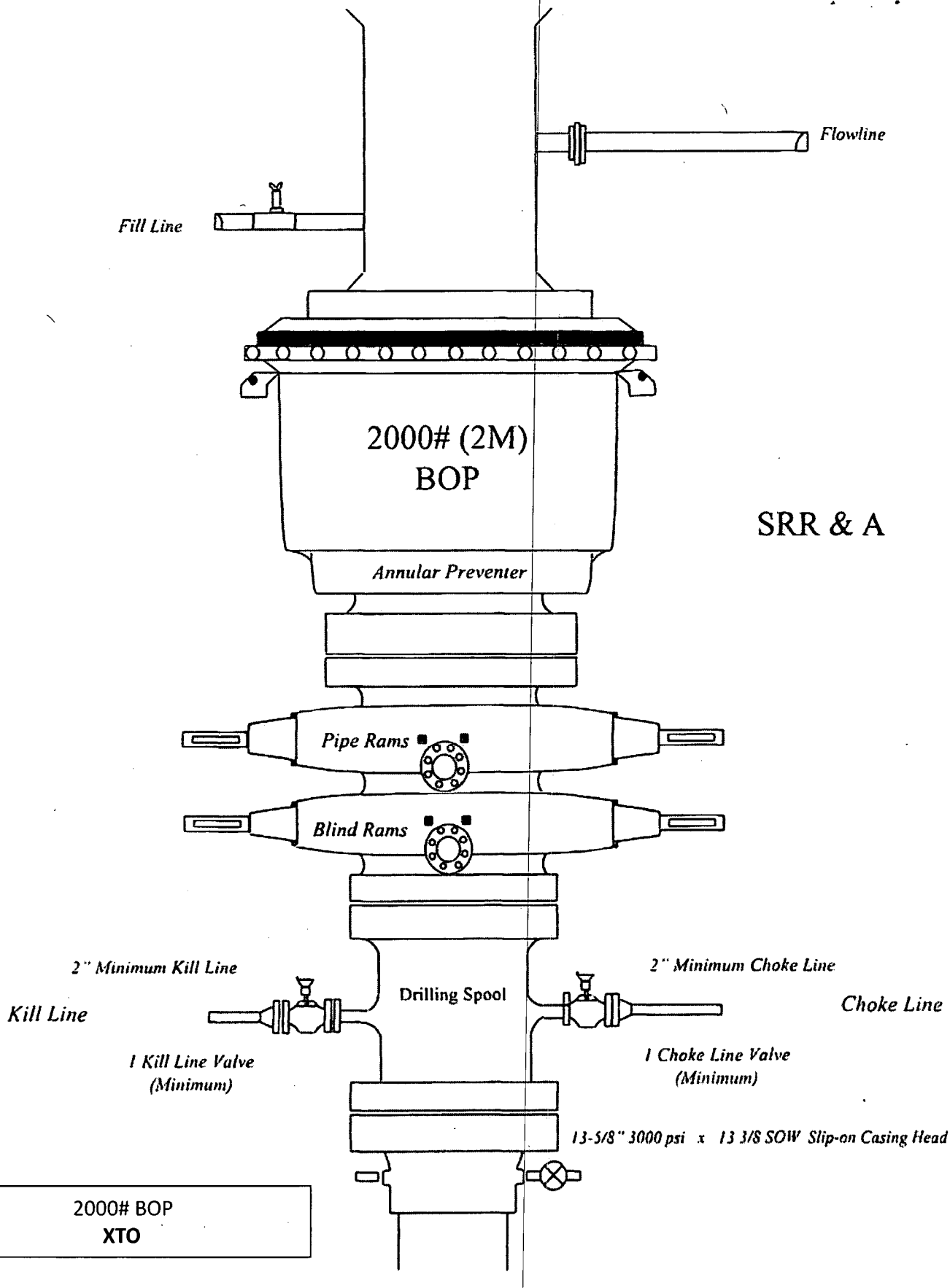
BEU_38_FH_20191024102229.pdf

BEU_38_MBS5.5_20191024102240.pdf

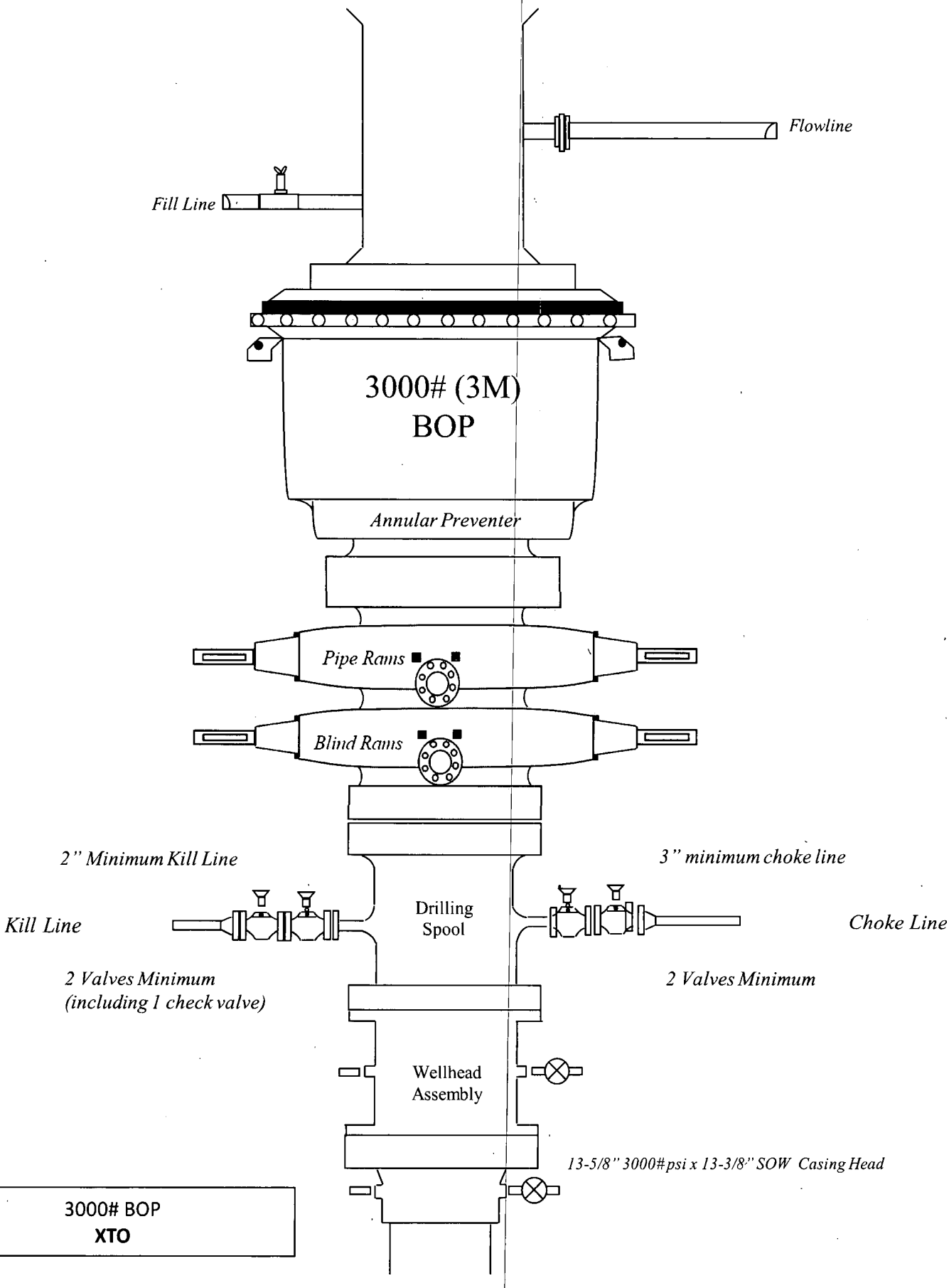


Drilling Operations
Choke Manifold
2M & 3M Service

2M & 3M Choke Manifold Diagram
XTO


Flowline
Fill Line
2000# (2M)
BOP
SRR & A
Annular Preventer
Pipe Rams
Blind Rams
2" Minimum Kill Line
Kill Line
Drilling Spool
2" Minimum Choke Line
Choke Line
1 Kill Line Valve
(Minimum)
1 Choke Line Valve
(Minimum)
13-5/8" 3000 psi x 13 3/8 SOW Slip-on Casing Head

2000# BOP
XTO


Flowline
Fill Line
3000# (3M)
BOP
Annular Preventer
Pipe Rams
Blind Rams
2" Minimum Kill Line
3" minimum choke line
Kill Line
Drilling
Spool
Choke Line
2 Valves Minimum
(including 1 check valve)
2 Valves Minimum
Wellhead
Assembly
13-5/8" 3000#psi x 13-3/8" SOW Casing Head

3000# BOP
XTO

Casing Design

Hole Size	Depth	OD Csg	Weight	Collar	Grade	New/Used	SF Burst	SF Collapse	SF Tension
24"	0' – 216'	18-5/8"	87.5	STC	H-40	New	1.78	6.45	29.58
17-1/2"	0' – 3007'	13-3/8"	68	STC	J-55	New	1.59	2.10	3.30
12-1/4"	0' – 8372'	9-5/8"	40	LTC	HCL-80	New	2.19	2.42	2.17
8-3/4"	0' – 24822'	5-1/2"	17	BTC	P-110	New	1.12	1.65	1.98

- XTO requests to not utilize centralizers in the curve and lateral
- 18-5/8" Collapse analyzed using 75% evacuation. Casing to be filled while running.
- 13-3/8" Collapse analyzed using 50% evacuation based on regional experience.
- 9-5/8" Collapse analyzed using 33% evacuation based on regional experience.
- 5-1/2" Tension calculated using vertical hanging weight plus the lateral weight multiplied by a friction factor of 0.35
- Test on 2M Annular & Casing will be limited to 70% burst of the casing or 1500 psi, whichever is less

Wellhead:

Temporary Wellhead

- 18-5/8" SOW bottom x 21-1/4" 2M top flange.
- Permanent Wellhead – GE RSH Multibowl System

A. Starting Head: 13-5/8" 5M top flange x 13-3/8" SOW bottom

B. Tubing Head: 13-5/8" 5M bottom flange x 7-1/16" 10M top flange

- Wellhead will be installed by manufacturer's representatives.
- Manufacturer will monitor welding process to ensure appropriate temperature of seal.
- Operator will test the 9-5/8" casing per BLM Onshore Order 2
- Wellhead Manufacturer representative will not be present for BOP test plug installation

Casing Design

Hole Size	Depth	OD Csg	Weight	Collar	Grade	New/Used	SF Burst	SF Collapse	SF Tension
24"	0' – 216'	18-5/8"	87.5	STC	H-40	New	1.78	6.45	29.58
17-1/2"	0' – 3007'	13-3/8"	68	STC	J-55	New	1.59	2.10	3.30
12-1/4"	0' – 8372'	9-5/8"	40	LTC	HCL-80	New	2.19	2.42	2.17
8-3/4"	0' – 24822'	5-1/2"	17	BTC	P-110	New	1.12	1.65	1.98

- XTO requests to not utilize centralizers in the curve and lateral
- 18-5/8" Collapse analyzed using 75% evacuation. Casing to be filled while running.
- 13-3/8" Collapse analyzed using 50% evacuation based on regional experience.
- 9-5/8" Collapse analyzed using 33% evacuation based on regional experience.
- 5-1/2" Tension calculated using vertical hanging weight plus the lateral weight multiplied by a friction factor of 0.35
- Test on 2M Annular & Casing will be limited to 70% burst of the casing or 1500 psi, whichever is less

Wellhead:

Temporary Wellhead

- 18-5/8" SOW bottom x 21-1/4" 2M top flange.
- Permanent Wellhead – GE RSH Multibowl System

A. Starting Head: 13-5/8" 5M top flange x 13-3/8" SOW bottom

B. Tubing Head: 13-5/8" 5M bottom flange x 7-1/16" 10M top flange

- Wellhead will be installed by manufacturer's representatives.
- Manufacturer will monitor welding process to ensure appropriate temperature of seal.
- Operator will test the 9-5/8" casing per BLM Onshore Order 2
- Wellhead Manufacturer representative will not be present for BOP test plug installation

Casing Design

Hole Size	Depth	OD Csg	Weight	Collar	Grade	New/Used	SF Burst	SF Collapse	SF Tension
24"	0' – 216'	18-5/8"	87.5	STC	H-40	New	1.78	6.45	29.58
17-1/2"	0' – 3007'	13-3/8"	68	STC	J-55	New	1.59	2.10	3.30
12-1/4"	0' – 8372'	9-5/8"	40	LTC	HCL-80	New	2.19	2.42	2.17
8-3/4"	0' – 24822'	5-1/2"	17	BTC	P-110	New	1.12	1.65	1.98

- XTO requests to not utilize centralizers in the curve and lateral
- 18-5/8" Collapse analyzed using 75% evacuation. Casing to be filled while running.
- 13-3/8" Collapse analyzed using 50% evacuation based on regional experience.
- 9-5/8" Collapse analyzed using 33% evacuation based on regional experience.
- 5-1/2" Tension calculated using vertical hanging weight plus the lateral weight multiplied by a friction factor of 0.35
- Test on 2M Annular & Casing will be limited to 70% burst of the casing or 1500 psi, whichever is less

Wellhead:

Temporary Wellhead

- 18-5/8" SOW bottom x 21-1/4" 2M top flange.
- Permanent Wellhead – GE RSH Multibowl System

A. Starting Head: 13-5/8" 5M top flange x 13-3/8" SOW bottom

B. Tubing Head: 13-5/8" 5M bottom flange x 7-1/16" 10M top flange

- Wellhead will be installed by manufacturer's representatives.
- Manufacturer will monitor welding process to ensure appropriate temperature of seal.
- Operator will test the 9-5/8" casing per BLM Onshore Order 2
- Wellhead Manufacturer representative will not be present for BOP test plug installation

Casing Design

Hole Size	Depth	OD Csg	Weight	Collar	Grade	New/Used	SF Burst	SF Collapse	SF Tension
24"	0' – 216'	18-5/8"	87.5	STC	H-40	New	1.78	6.45	29.58
17-1/2"	0' – 3007'	13-3/8"	68	STC	J-55	New	1.59	2.10	3.30
12-1/4"	0' – 8372'	9-5/8"	40	LTC	HCL-80	New	2.19	2.42	2.17
8-3/4"	0' – 24822'	5-1/2"	17	BTC	P-110	New	1.12	1.65	1.98

- XTO requests to not utilize centralizers in the curve and lateral
- 18-5/8" Collapse analyzed using 75% evacuation. Casing to be filled while running.
- 13-3/8" Collapse analyzed using 50% evacuation based on regional experience.
- 9-5/8" Collapse analyzed using 33% evacuation based on regional experience.
- 5-1/2" Tension calculated using vertical hanging weight plus the lateral weight multiplied by a friction factor of 0.35
- Test on 2M Annular & Casing will be limited to 70% burst of the casing or 1500 psi, whichever is less

Wellhead:

Temporary Wellhead

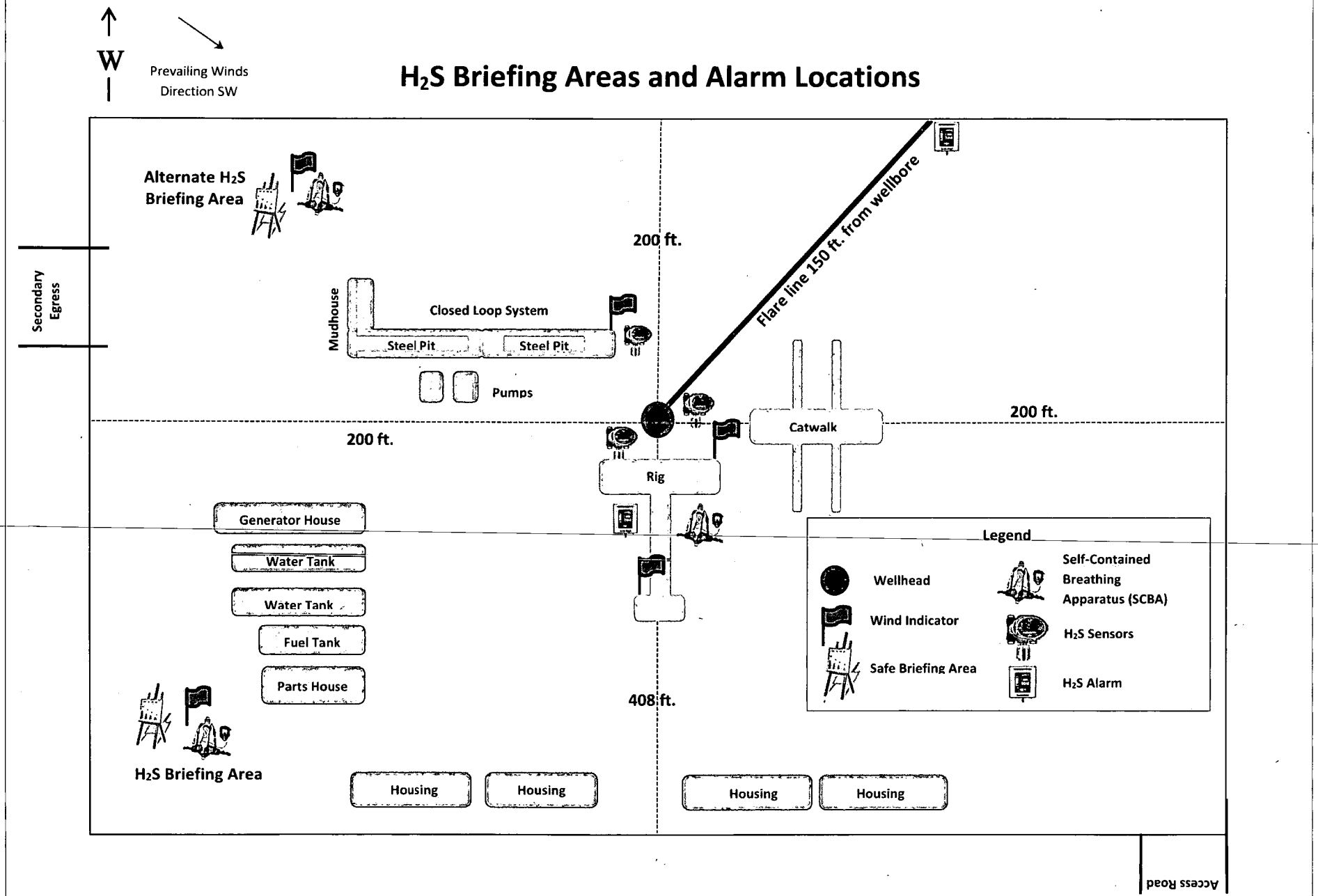
- 18-5/8" SOW bottom x 21-1/4" 2M top flange.
- Permanent Wellhead – GE RSH Multibowl System

A. Starting Head: 13-5/8" 5M top flange x 13-3/8" SOW bottom

B. Tubing Head: 13-5/8" 5M bottom flange x 7-1/16" 10M top flange

- Wellhead will be installed by manufacturer's representatives.
- Manufacturer will monitor welding process to ensure appropriate temperature of seal.
- Operator will test the 9-5/8" casing per BLM Onshore Order 2
- Wellhead Manufacturer representative will not be present for BOP test plug installation

H_2S Briefing Areas and Alarm Locations



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_2S, the first responder(s) must

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

Ignition of Gas source

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

Characteristics of H_2S and SO_2

Common Name	Chemical Formula	Specific Gravity	Threshold Limit	Hazardous Limit	Lethal Concentration
Hydrogen Sulfide	H_2S	1.189 Air = I	10 ppm	100 ppm/hr	600 ppm
Sulfur Dioxide	SO_2	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	903-521-6477
Milton Turman, Drilling Superintendent	817-524-5107
Jeff Raines, Construction Foreman	432-557-3159
Toady Sanders, EH & S Manager	903-520-1601
Wes McSpadden, Production Foreman	575-441-1147
SHERIFF DEPARTMENTS:	
Eddy County	575-887-7551
Lea County	575-396-3611
NEW MEXICO STATE POLICE:	575-392-5588
FIRE DEPARTMENTS:	911
Carlsbad	575-885-2111
Eunice	575-394-2111
Hobbs	575-397-9308
Jal	575-395-2221
Lovington	575-396-2359
HOSPITALS:	911
Carlsbad Medical Emergency	575-885-2111
Eunice Medical Emergency	575-394-2112
Hobbs Medical Emergency	575-397-9308
Jal Medical Emergency	575-395-2221
Lovington Medical Emergency	575-396-2359
AGENT NOTIFICATIONS:	
For Lea County:	
Bureau of Land Management – Hobbs	575-393-3612
New Mexico Oil Conservation Division – Hobbs	575-393-6161
For Eddy County:	
Bureau of Land Management - Carlsbad	575-234-5972
New Mexico Oil Conservation Division - Artesia	575-748-1283

XTO Energy

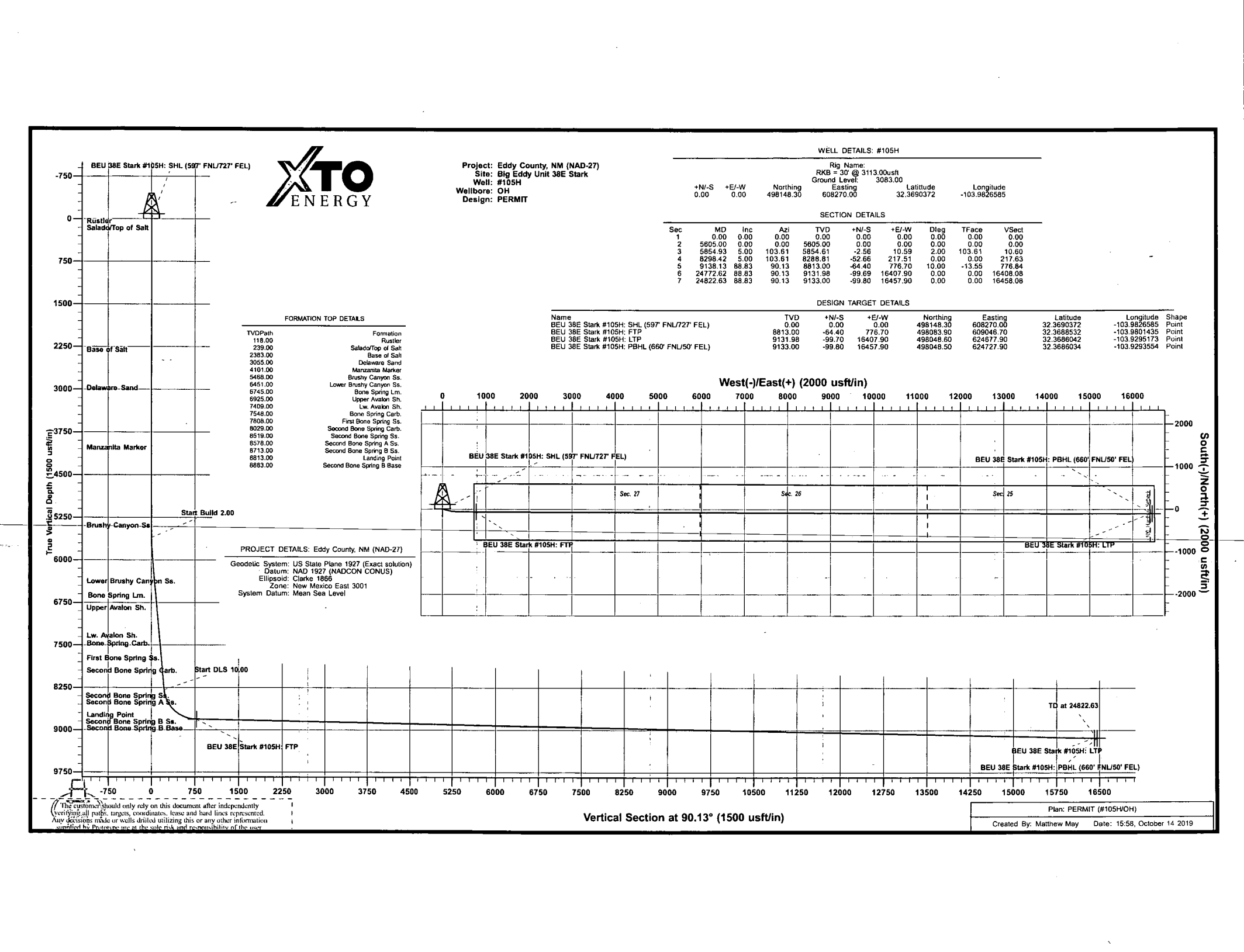
Eddy County, NM (NAD-27)
Big Eddy Unit 38E Stark
#105H

OH

Plan: PERMIT

Standard Planning Report

14 October, 2019


XTO ENERGY
Project: Eddy County, NM (NAD-27)
Site: Big Eddy Unit 38E Stark
Well: #105H
Wellbore: OH
Design: PERMIT
WELL DETAILS: #105H
Rig Name:
RKB = 30' @ 3113.00usft
Ground Level: 3083.00
+N/-S 0.00
+E/-W 0.00
Northing 498148.30
Easting 608270.00
Latitude 32.3690372
Longitude -103.9826585
SECTION DETAILS
Sec MD Inc Azi TVD +N/-S +E/-W Dleg TFace VSect
1 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00
2 5605.00 0.00 0.00 5605.00 0.00 0.00 0.00 0.00 0.00
3 5854.93 5.00 103.61 5854.61 -2.56 10.59 2.00 103.61 10.60
4 8298.42 5.00 103.61 8288.81 -52.66 217.51 0.00 0.00 217.63
5 9138.13 88.83 90.13 8813.00 -64.40 776.70 10.00 -13.55 776.84
6 24772.62 88.83 90.13 9131.98 -99.69 16407.90 0.00 0.00 16408.08
7 24822.63 88.83 90.13 9133.00 -99.80 16457.90 0.00 0.00 16458.08
DESIGN TARGET DETAILS
Name TVD +N/-S +E/-W Northing Easting Latitude Longitude Shape
BEU 38E Stark #105H: SHL (597' FNL/727' FEL) 0.00 0.00 0.00 498148.30 608270.00 32.3690372 -103.9826585 Point
BEU 38E Stark #105H: FTP 8813.00 -64.40 776.70 498083.90 609046.70 32.3688532 -103.9801435 Point
BEU 38E Stark #105H: LTP 9131.98 -99.70 16407.90 498048.60 624677.90 32.3686042 -103.9295173 Point
BEU 38E Stark #105H: PBHL (660' FNL/50' FEL) 9133.00 -99.80 16457.90 498048.50 624727.90 32.3686034 -103.9293554 Point
FORMATION TOP DETAILS
TVDPath Formation
118.00 Rustler
239.00 Salado/Top of Salt
2383.00 Base of Salt
3055.00 Delaware Sand
4101.00 Manzanita Marker
5468.00 Brushy Canyon Ss.
6451.00 Lower Brushy Canyon Ss.
6745.00 Bone Spring Lm.
6925.00 Upper Avalon Sh.
7409.00 Lw. Avalon Sh.
7548.00 Bone Spring Carb.
7808.00 First Bone Spring Ss.
8029.00 Second Bone Spring Carb.
8519.00 Second Bone Spring Ss.
8578.00 Second Bone Spring A Ss.
8713.00 Second Bone Spring B Ss.
8813.00 Landing Point
8883.00 Second Bone Spring B Base
PROJECT DETAILS: Eddy County, NM (NAD-27)
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
West(-)/East(+) (2000 usft/in)
South(-)/North(+) (2000 usft/in)
True Vertical Depth (1500 usft/in)
BEU 38E Stark #105H: SHL (597' FNL/727' FEL)
BEU 38E Stark #105H: PBHL (660' FNL/50' FEL)
BEU 38E Stark #105H: FTP
BEU 38E Stark #105H: LTP
Sec. 27
Sec. 26
Sec. 25
Rustler
Salado/Top of Salt
Base of Salt
Delaware Sand
Manzanita Marker
Start Build 2.00
Brushy Canyon Ss.
Lower Brushy Canyon Ss.
Bone Spring Lm.
Upper Avalon Sh.
Lw. Avalon Sh.
Bone Spring Carb.
First Bone Spring Ss.
Second Bone Spring Carb.
Start DLS 10.00
Second Bone Spring Ss.
Second Bone Spring A Ss.
Landing Point
Second Bone Spring B Ss.
Second Bone Spring B Base
TD at 24822.63
Vertical Section at 90.13° (1500 usft/in)
The customer should only rely on this document after independently verifying all paths, targets, coordinates, lease and hard lines represented. Any decisions made or wells drilled utilizing this or any other information supplied by Protexxe are at the sole risk and responsibility of the user.
Plan: PERMIT (#105H/OH)
Created By: Matthew May Date: 15:58, October 14 2019

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

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

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

[1] API Number	[2] Pool Code	[3] Pool Name
30-015-		

[4] Property Code	[5] Property Name	[6] Well Number
	BIG EDDY UNIT 38E STARK	105H

[7] OGRID No.	[8] Operator Name	[9] Elevation
373075	XTO PERMIAN OPERATING, LLC.	3,083'

[10] Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	28	22S	29E		597	NORTH	727	EAST	EDDY

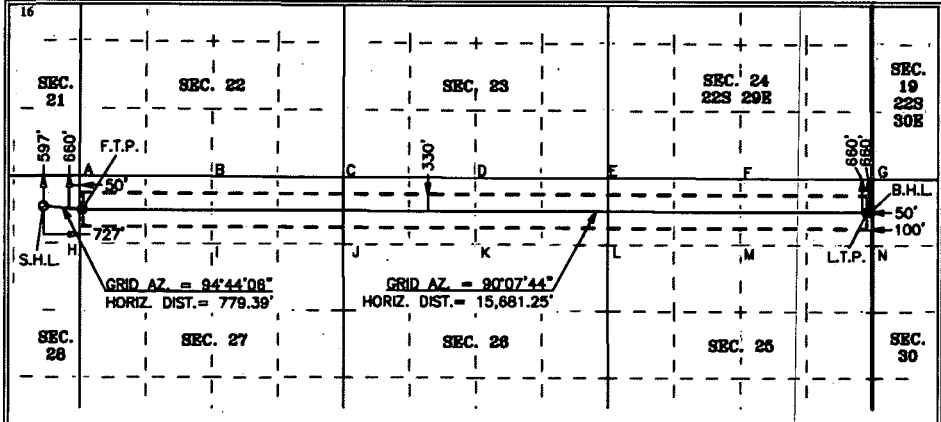
[11] Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	25	22S	29E		660	NORTH	50	EAST	EDDY

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

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.

16



SHL (NAD83 NME)	LTP (NAD83 NME)	SHL (NAD27 NME)	LTP (NAD27 NME)
Y = 498,208.8	Y = 498,109.3	Y = 498,148.3	Y = 498,048.6
X = 649,451.6	X = 665,859.6	X = 608,270.0	X = 624,677.9
LAT. = 32.369160 °N	LAT. = 32.368727 °N	LAT. = 32.369037 °N	LAT. = 32.368604 °N
LONG. = 103.983155 °W	LONG. = 103.930013 °W	LONG. = 103.982659 °W	LONG. = 103.929517 °W
FTP (NAD83 NME)	**BHL (NAD83 NME)**	**FTP (NAD27 NME)**	**BHL (NAD27 NME)**
Y = 498,144.4	Y = 498,109.2	Y = 498,083.9	Y = 498,048.5
X = 650,228.4	X = 665,909.6	X = 609,046.7	X = 624,727.9
LAT. = 32.368976 °N	LAT. = 32.368726 °N	LAT. = 32.368853 °N	LAT. = 32.368603 °N
LONG. = 103.980640 °W	LONG. = 103.929851 °W	LONG. = 103.980144 °W	LONG. = 103.929355 °W

CORNER COORDINATES (NAD83 NME)				CORNER COORDINATES (NAD27 NME)			
A - Y = 498,804.5 N,	X = 650,176.6 E	A - Y = 498,744.0 N,	X = 608,995.0 E
B - Y = 498,800.7 N,	X = 652,799.8 E	B - Y = 498,740.2 N,	X = 611,618.2 E
C - Y = 498,797.1 N,	X = 655,425.6 E	C - Y = 498,736.5 N,	X = 614,243.9 E
D - Y = 498,782.1 N,	X = 658,056.9 E	D - Y = 498,721.5 N,	X = 616,875.2 E
E - Y = 498,778.1 N,	X = 660,688.5 E	E - Y = 498,717.5 N,	X = 619,506.8 E
F - Y = 498,773.6 N,	X = 663,322.9 E	F - Y = 498,713.0 N,	X = 622,141.2 E
G - Y = 498,769.1 N,	X = 665,957.2 E	G - Y = 498,708.4 N,	X = 624,775.5 E
H - Y = 497,481.3 N,	X = 650,180.1 E	H - Y = 497,420.8 N,	X = 608,998.4 E
I - Y = 497,477.6 N,	X = 652,804.0 E	I - Y = 497,417.0 N,	X = 611,622.3 E
J - Y = 497,473.8 N,	X = 655,431.1 E	J - Y = 497,413.3 N,	X = 614,249.4 E
K - Y = 497,465.5 N,	X = 658,062.6 E	K - Y = 497,404.9 N,	X = 616,880.9 E
L - Y = 497,458.0 N,	X = 660,693.6 E	L - Y = 497,397.4 N,	X = 619,511.9 E
M - Y = 497,453.9 N,	X = 663,328.1 E	M - Y = 497,393.3 N,	X = 622,146.4 E
N - Y = 497,449.8 N	X = 665,962.0 E	N - Y = 497,389.2 N	X = 624,780.2 E

[17] OPERATOR CERTIFICATION

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

Signature Date

Printed Name

E-mail Address

[18] SURVEYOR CERTIFICATION

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

10-7-2019
Date of Survey

Signature and Seal of Professional Surveyor:

MARK DILLON HARP 23786
NEW MEXICO
23786
PROFESSIONAL SURVEYOR

MARK DILLON HARP 23786
Certificate Number AR 2019082959

P:\PROJECTS\2019\2019082959-XTO-BIG_EDDY_UNIT_38E_STARK_105H-EDDY\DWG\2019082959-XTO-BIG_EDDY_UNIT_38E_STARK_105H-EDDY_C102.dwg

Database:	EDM 5000.1.13 Single User Db	**Local Co-ordinate Reference:**	Well #105H
Company:	XTO Energy	**TVD Reference:**	RKB = 30' @ 3113.00usft
Project:	Eddy County, NM (NAD-27)	**MD Reference:**	RKB = 30' @ 3113.00usft
Site:	Big Eddy Unit 38E Stark	**North Reference:**	Grid
Well:	#105H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	PERMIT		

Project	Eddy County, NM (NAD-27)		
Map System:	US State Plane 1927 (Exact solution)	**System Datum:**	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site	Big Eddy Unit 38E Stark				
Site Position:		**Northing:**	498,396.70 usft	**Latitude:**	32.3697177
From:	Map	**Easting:**	608,524.80 usft	**Longitude:**	-103.9818305
Position Uncertainty:	0.00 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	0.19 °

Well	#105H					
Well Position	**+N/-S**	-248.40 usft	**Northing:**	498,148.30 usft	**Latitude:**	32.3690372
	+E/-W	-254.80 usft	**Easting:**	608,270.00 usft	**Longitude:**	-103.9826584
Position Uncertainty		0.00 usft	**Wellhead Elevation:**	0.00 usft	**Ground Level:**	3,083.00 usft

Wellbore	OH				
Magnetics	**Model Name**	**Sample Date**	**Declination (°)**	**Dip Angle (°)**	**Field Strength (nT)**
	IGRF2015	10/14/19	6.90	60.10	47,744

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	90.13	

Plan Sections

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
5,605.00	0.00	0.00	5,605.00	0.00	0.00	0.00	0.00	0.00	0.00	
5,854.93	5.00	103.61	5,854.61	-2.56	10.59	2.00	2.00	0.00	103.61	
8,298.42	5.00	103.61	8,288.81	-52.66	217.51	0.00	0.00	0.00	0.00	
9,138.13	88.83	90.13	8,813.00	-64.40	776.70	10.00	9.98	-1.61	-13.55	BEU 38E Stark #10
24,772.62	88.83	90.13	9,131.98	-99.69	16,407.90	0.00	0.00	0.00	0.00	BEU 38E Stark #10
24,822.63	88.83	90.13	9,133.00	-99.80	16,457.90	0.00	0.00	0.00	0.00	BEU 38E Stark #10

Database:	EDM 5000.1.13 Single User Db	**Local Co-ordinate Reference:**	Well #105H
Company:	XTO Energy	**TVD Reference:**	RKB = 30' @ 3113.00usft
Project:	Eddy County, NM (NAD-27)	**MD Reference:**	RKB = 30' @ 3113.00usft
Site:	Big Eddy Unit 38E Stark	**North Reference:**	Grid
Well:	#105H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
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)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
118.00	0.00	0.00	118.00	0.00	0.00	0.00	0.00	0.00	0.00
Rustler									
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
239.00	0.00	0.00	239.00	0.00	0.00	0.00	0.00	0.00	0.00
Salado/Top of Salt									
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
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	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	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00
2,300.00	0.00	0.00	2,300.00	0.00	0.00	0.00	0.00	0.00	0.00
2,383.00	0.00	0.00	2,383.00	0.00	0.00	0.00	0.00	0.00	0.00
Base of Salt									
2,400.00	0.00	0.00	2,400.00	0.00	0.00	0.00	0.00	0.00	0.00
2,500.00	0.00	0.00	2,500.00	0.00	0.00	0.00	0.00	0.00	0.00
2,600.00	0.00	0.00	2,600.00	0.00	0.00	0.00	0.00	0.00	0.00
2,700.00	0.00	0.00	2,700.00	0.00	0.00	0.00	0.00	0.00	0.00
2,800.00	0.00	0.00	2,800.00	0.00	0.00	0.00	0.00	0.00	0.00
2,900.00	0.00	0.00	2,900.00	0.00	0.00	0.00	0.00	0.00	0.00
3,000.00	0.00	0.00	3,000.00	0.00	0.00	0.00	0.00	0.00	0.00
3,055.00	0.00	0.00	3,055.00	0.00	0.00	0.00	0.00	0.00	0.00
Delaware Sand									
3,100.00	0.00	0.00	3,100.00	0.00	0.00	0.00	0.00	0.00	0.00
3,200.00	0.00	0.00	3,200.00	0.00	0.00	0.00	0.00	0.00	0.00
3,300.00	0.00	0.00	3,300.00	0.00	0.00	0.00	0.00	0.00	0.00
3,400.00	0.00	0.00	3,400.00	0.00	0.00	0.00	0.00	0.00	0.00
3,500.00	0.00	0.00	3,500.00	0.00	0.00	0.00	0.00	0.00	0.00
3,600.00	0.00	0.00	3,600.00	0.00	0.00	0.00	0.00	0.00	0.00
3,700.00	0.00	0.00	3,700.00	0.00	0.00	0.00	0.00	0.00	0.00
3,800.00	0.00	0.00	3,800.00	0.00	0.00	0.00	0.00	0.00	0.00
3,900.00	0.00	0.00	3,900.00	0.00	0.00	0.00	0.00	0.00	0.00
4,000.00	0.00	0.00	4,000.00	0.00	0.00	0.00	0.00	0.00	0.00
4,100.00	0.00	0.00	4,100.00	0.00	0.00	0.00	0.00	0.00	0.00
4,101.00	0.00	0.00	4,101.00	0.00	0.00	0.00	0.00	0.00	0.00
Manzanita Marker									
4,200.00	0.00	0.00	4,200.00	0.00	0.00	0.00	0.00	0.00	0.00
4,300.00	0.00	0.00	4,300.00	0.00	0.00	0.00	0.00	0.00	0.00

Database:	EDM 5000.1.13 Single User Db	**Local Co-ordinate Reference:**	Well #105H
Company:	XTO Energy	**TVD Reference:**	RKB = 30' @ 3113.00usft
Project:	Eddy County, NM (NAD-27)	**MD Reference:**	RKB = 30' @ 3113.00usft
Site:	Big Eddy Unit 38E Stark	**North Reference:**	Grid
Well:	#105H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
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)
4,400.00	0.00	0.00	4,400.00	0.00	0.00	0.00	0.00	0.00	0.00
4,500.00	0.00	0.00	4,500.00	0.00	0.00	0.00	0.00	0.00	0.00
4,600.00	0.00	0.00	4,600.00	0.00	0.00	0.00	0.00	0.00	0.00
4,700.00	0.00	0.00	4,700.00	0.00	0.00	0.00	0.00	0.00	0.00
4,800.00	0.00	0.00	4,800.00	0.00	0.00	0.00	0.00	0.00	0.00
4,900.00	0.00	0.00	4,900.00	0.00	0.00	0.00	0.00	0.00	0.00
5,000.00	0.00	0.00	5,000.00	0.00	0.00	0.00	0.00	0.00	0.00
5,100.00	0.00	0.00	5,100.00	0.00	0.00	0.00	0.00	0.00	0.00
5,200.00	0.00	0.00	5,200.00	0.00	0.00	0.00	0.00	0.00	0.00
5,300.00	0.00	0.00	5,300.00	0.00	0.00	0.00	0.00	0.00	0.00
5,400.00	0.00	0.00	5,400.00	0.00	0.00	0.00	0.00	0.00	0.00
5,468.00	0.00	0.00	5,468.00	0.00	0.00	0.00	0.00	0.00	0.00
Brushy Canyon Ss.									
5,500.00	0.00	0.00	5,500.00	0.00	0.00	0.00	0.00	0.00	0.00
5,605.00	0.00	0.00	5,605.00	0.00	0.00	0.00	0.00	0.00	0.00
5,700.00	1.90	103.61	5,699.98	-0.37	1.53	1.53	2.00	2.00	0.00
5,800.00	3.90	103.61	5,799.85	-1.56	6.45	6.45	2.00	2.00	0.00
5,854.93	5.00	103.61	5,854.61	-2.56	10.59	10.60	2.00	2.00	0.00
5,900.00	5.00	103.61	5,899.51	-3.49	14.41	14.41	0.00	0.00	0.00
6,000.00	5.00	103.61	5,999.13	-5.54	22.87	22.89	0.00	0.00	0.00
6,100.00	5.00	103.61	6,098.75	-7.59	31.34	31.36	0.00	0.00	0.00
6,200.00	5.00	103.61	6,198.37	-9.64	39.81	39.83	0.00	0.00	0.00
6,300.00	5.00	103.61	6,297.99	-11.69	48.28	48.31	0.00	0.00	0.00
6,400.00	5.00	103.61	6,397.61	-13.74	56.75	56.78	0.00	0.00	0.00
6,453.59	5.00	103.61	6,451.00	-14.84	61.29	61.32	0.00	0.00	0.00
Lower Brushy Canyon Ss.									
6,500.00	5.00	103.61	6,497.23	-15.79	65.22	65.25	0.00	0.00	0.00
6,600.00	5.00	103.61	6,596.85	-17.84	73.69	73.73	0.00	0.00	0.00
6,700.00	5.00	103.61	6,696.47	-19.89	82.15	82.20	0.00	0.00	0.00
6,748.72	5.00	103.61	6,745.00	-20.89	86.28	86.33	0.00	0.00	0.00
Bone Spring Lm.									
6,800.00	5.00	103.61	6,796.09	-21.94	90.62	90.67	0.00	0.00	0.00
6,900.00	5.00	103.61	6,895.71	-23.99	99.09	99.14	0.00	0.00	0.00
6,929.40	5.00	103.61	6,925.00	-24.59	101.58	101.64	0.00	0.00	0.00
Upper Avalon Sh.									
7,000.00	5.00	103.61	6,995.33	-26.04	107.56	107.62	0.00	0.00	0.00
7,100.00	5.00	103.61	7,094.95	-28.09	116.03	116.09	0.00	0.00	0.00
7,200.00	5.00	103.61	7,194.57	-30.14	124.50	124.56	0.00	0.00	0.00
7,300.00	5.00	103.61	7,294.19	-32.19	132.96	133.04	0.00	0.00	0.00
7,400.00	5.00	103.61	7,393.81	-34.24	141.43	141.51	0.00	0.00	0.00
7,415.25	5.00	103.61	7,409.00	-34.56	142.72	142.80	0.00	0.00	0.00
Lw. Avalon Sh.									
7,500.00	5.00	103.61	7,493.43	-36.29	149.90	149.98	0.00	0.00	0.00
7,554.78	5.00	103.61	7,548.00	-37.42	154.54	154.62	0.00	0.00	0.00
Bone Spring Carb.									
7,600.00	5.00	103.61	7,593.05	-38.34	158.37	158.46	0.00	0.00	0.00
7,700.00	5.00	103.61	7,692.67	-40.39	166.84	166.93	0.00	0.00	0.00
7,800.00	5.00	103.61	7,792.29	-42.44	175.31	175.40	0.00	0.00	0.00
7,815.77	5.00	103.61	7,808.00	-42.77	176.64	176.74	0.00	0.00	0.00
First Bone Spring Ss.									
7,900.00	5.00	103.61	7,891.91	-44.49	183.77	183.88	0.00	0.00	0.00
8,000.00	5.00	103.61	7,991.53	-46.55	192.24	192.35	0.00	0.00	0.00
8,037.62	5.00	103.61	8,029.00	-47.32	195.43	195.54	0.00	0.00	0.00

Database:	EDM 5000.1.13 Single User Db	**Local Co-ordinate Reference:**	Well #105H
Company:	XTO Energy	**TVD Reference:**	RKB = 30' @ 3113.00usft
Project:	Eddy County, NM (NAD-27)	**MD Reference:**	RKB = 30' @ 3113.00usft
Site:	Big Eddy Unit 38E Stark	**North Reference:**	Grid
Well:	#105H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
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)
Second Bone Spring Carb.									
8,100.00	5.00	103.61	8,091.14	-48.60	200.71	200.82	0.00	0.00	0.00
8,200.00	5.00	103.61	8,190.76	-50.65	209.18	209.29	0.00	0.00	0.00
8,298.42	5.00	103.61	8,288.81	-52.66	217.51	217.63	0.00	0.00	0.00
8,300.00	5.15	103.20	8,290.38	-52.70	217.65	217.77	10.00	9.73	-26.10
8,350.00	10.09	96.70	8,339.93	-53.72	224.19	224.31	10.00	9.87	-13.00
8,400.00	15.06	94.46	8,388.71	-54.74	235.02	235.14	10.00	9.95	-4.48
8,450.00	20.05	93.31	8,436.37	-55.74	250.06	250.19	10.00	9.98	-2.29
8,500.00	25.04	92.61	8,482.53	-56.72	269.20	269.33	10.00	9.99	-1.41
8,540.97	29.14	92.21	8,519.00	-57.50	287.84	287.97	10.00	9.99	-0.99
Second Bone Spring Ss.									
8,550.00	30.04	92.13	8,526.85	-57.66	292.30	292.43	10.00	9.99	-0.84
8,600.00	35.03	91.77	8,568.99	-58.57	319.16	319.30	10.00	9.99	-0.71
8,611.08	36.14	91.71	8,578.00	-58.77	325.61	325.74	10.00	9.99	-0.60
Second Bone Spring A Ss.									
8,650.00	40.03	91.50	8,608.63	-59.44	349.60	349.74	10.00	9.99	-0.54
8,700.00	45.03	91.27	8,645.46	-60.25	383.38	383.52	10.00	10.00	-0.45
8,750.00	50.03	91.09	8,679.21	-61.01	420.24	420.38	10.00	10.00	-0.38
8,800.00	55.03	90.92	8,709.62	-61.71	459.91	460.05	10.00	10.00	-0.32
8,805.93	55.62	90.91	8,713.00	-61.78	464.79	464.92	10.00	10.00	-0.30
Second Bone Spring B Ss.									
8,850.00	60.02	90.78	8,736.46	-62.33	502.07	502.21	10.00	10.00	-0.29
8,900.00	65.02	90.65	8,759.52	-62.88	546.41	546.55	10.00	10.00	-0.26
8,950.00	70.02	90.53	8,778.63	-63.36	592.60	592.74	10.00	10.00	-0.24
9,000.00	75.02	90.42	8,793.65	-63.75	640.27	640.42	10.00	10.00	-0.22
9,050.00	80.02	90.31	8,804.45	-64.06	689.07	689.22	10.00	10.00	-0.21
9,100.00	85.02	90.21	8,810.96	-64.29	738.63	738.78	10.00	10.00	-0.21
9,138.13	88.83	90.13	8,813.00	-64.40	776.70	776.84	10.00	10.00	-0.20
Landing Point									
9,200.00	88.83	90.13	8,814.26	-64.54	838.56	838.70	0.00	0.00	0.00
9,300.00	88.83	90.13	8,816.30	-64.77	938.54	938.68	0.00	0.00	0.00
9,400.00	88.83	90.13	8,818.34	-64.99	1,038.52	1,038.66	0.00	0.00	0.00
9,500.00	88.83	90.13	8,820.38	-65.22	1,138.49	1,138.64	0.00	0.00	0.00
9,600.00	88.83	90.13	8,822.42	-65.44	1,238.47	1,238.62	0.00	0.00	0.00
9,700.00	88.83	90.13	8,824.46	-65.67	1,338.45	1,338.60	0.00	0.00	0.00
9,800.00	88.83	90.13	8,826.50	-65.89	1,438.43	1,438.58	0.00	0.00	0.00
9,900.00	88.83	90.13	8,828.54	-66.12	1,538.41	1,538.56	0.00	0.00	0.00
10,000.00	88.83	90.13	8,830.58	-66.35	1,638.39	1,638.54	0.00	0.00	0.00
10,100.00	88.83	90.13	8,832.62	-66.57	1,738.37	1,738.51	0.00	0.00	0.00
10,200.00	88.83	90.13	8,834.66	-66.80	1,838.35	1,838.49	0.00	0.00	0.00
10,300.00	88.83	90.13	8,836.71	-67.02	1,938.33	1,938.47	0.00	0.00	0.00
10,400.00	88.83	90.13	8,838.75	-67.25	2,038.30	2,038.45	0.00	0.00	0.00
10,500.00	88.83	90.13	8,840.79	-67.47	2,138.28	2,138.43	0.00	0.00	0.00
10,600.00	88.83	90.13	8,842.83	-67.70	2,238.26	2,238.41	0.00	0.00	0.00
10,700.00	88.83	90.13	8,844.87	-67.93	2,338.24	2,338.39	0.00	0.00	0.00
10,800.00	88.83	90.13	8,846.91	-68.15	2,438.22	2,438.37	0.00	0.00	0.00
10,900.00	88.83	90.13	8,848.95	-68.38	2,538.20	2,538.35	0.00	0.00	0.00
11,000.00	88.83	90.13	8,850.99	-68.60	2,638.18	2,638.33	0.00	0.00	0.00
11,100.00	88.83	90.13	8,853.03	-68.83	2,738.16	2,738.31	0.00	0.00	0.00
11,200.00	88.83	90.13	8,855.07	-69.05	2,838.14	2,838.29	0.00	0.00	0.00
11,300.00	88.83	90.13	8,857.11	-69.28	2,938.12	2,938.26	0.00	0.00	0.00
11,400.00	88.83	90.13	8,859.15	-69.51	3,038.09	3,038.24	0.00	0.00	0.00
11,500.00	88.83	90.13	8,861.19	-69.73	3,138.07	3,138.22	0.00	0.00	0.00

Database:	EDM 5000.1.13 Single User Db	**Local Co-ordinate Reference:**	Well #105H
Company:	XTO Energy	**TVD Reference:**	RKB = 30' @ 3113.00usft
Project:	Eddy County, NM (NAD-27)	**MD Reference:**	RKB = 30' @ 3113.00usft
Site:	Big Eddy Unit 38E Stark	**North Reference:**	Grid
Well:	#105H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
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)
11,600.00	88.83	90.13	8,863.23	-69.96	3,238.05	3,238.20	0.00	0.00	0.00
11,700.00	88.83	90.13	8,865.27	-70.18	3,338.03	3,338.18	0.00	0.00	0.00
11,800.00	88.83	90.13	8,867.31	-70.41	3,438.01	3,438.16	0.00	0.00	0.00
11,900.00	88.83	90.13	8,869.35	-70.63	3,537.99	3,538.14	0.00	0.00	0.00
12,000.00	88.83	90.13	8,871.39	-70.86	3,637.97	3,638.12	0.00	0.00	0.00
12,100.00	88.83	90.13	8,873.43	-71.08	3,737.95	3,738.10	0.00	0.00	0.00
12,200.00	88.83	90.13	8,875.47	-71.31	3,837.93	3,838.08	0.00	0.00	0.00
12,300.00	88.83	90.13	8,877.51	-71.54	3,937.90	3,938.06	0.00	0.00	0.00
12,400.00	88.83	90.13	8,879.55	-71.76	4,037.88	4,038.04	0.00	0.00	0.00
12,500.00	88.83	90.13	8,881.59	-71.99	4,137.86	4,138.01	0.00	0.00	0.00
12,569.12	88.83	90.13	8,883.00	-72.14	4,206.96	4,207.12	0.00	0.00	0.00
Second Bone Spring B Base									
12,600.00	88.83	90.13	8,883.63	-72.21	4,237.84	4,237.99	0.00	0.00	0.00
12,700.00	88.83	90.13	8,885.67	-72.44	4,337.82	4,337.97	0.00	0.00	0.00
12,800.00	88.83	90.13	8,887.71	-72.66	4,437.80	4,437.95	0.00	0.00	0.00
12,900.00	88.83	90.13	8,889.75	-72.89	4,537.78	4,537.93	0.00	0.00	0.00
13,000.00	88.83	90.13	8,891.79	-73.12	4,637.76	4,637.91	0.00	0.00	0.00
13,100.00	88.83	90.13	8,893.83	-73.34	4,737.74	4,737.89	0.00	0.00	0.00
13,200.00	88.83	90.13	8,895.87	-73.57	4,837.71	4,837.87	0.00	0.00	0.00
13,300.00	88.83	90.13	8,897.91	-73.79	4,937.69	4,937.85	0.00	0.00	0.00
13,400.00	88.83	90.13	8,899.95	-74.02	5,037.67	5,037.83	0.00	0.00	0.00
13,500.00	88.83	90.13	8,901.99	-74.24	5,137.65	5,137.81	0.00	0.00	0.00
13,600.00	88.83	90.13	8,904.03	-74.47	5,237.63	5,237.79	0.00	0.00	0.00
13,700.00	88.83	90.13	8,906.07	-74.70	5,337.61	5,337.77	0.00	0.00	0.00
13,800.00	88.83	90.13	8,908.11	-74.92	5,437.59	5,437.74	0.00	0.00	0.00
13,900.00	88.83	90.13	8,910.15	-75.15	5,537.57	5,537.72	0.00	0.00	0.00
14,000.00	88.83	90.13	8,912.19	-75.37	5,637.55	5,637.70	0.00	0.00	0.00
14,100.00	88.83	90.13	8,914.23	-75.60	5,737.53	5,737.68	0.00	0.00	0.00
14,200.00	88.83	90.13	8,916.27	-75.82	5,837.50	5,837.66	0.00	0.00	0.00
14,300.00	88.83	90.13	8,918.31	-76.05	5,937.48	5,937.64	0.00	0.00	0.00
14,400.00	88.83	90.13	8,920.35	-76.28	6,037.46	6,037.62	0.00	0.00	0.00
14,500.00	88.83	90.13	8,922.39	-76.50	6,137.44	6,137.60	0.00	0.00	0.00
14,600.00	88.83	90.13	8,924.43	-76.73	6,237.42	6,237.58	0.00	0.00	0.00
14,700.00	88.83	90.13	8,926.48	-76.95	6,337.40	6,337.56	0.00	0.00	0.00
14,800.00	88.83	90.13	8,928.52	-77.18	6,437.38	6,437.54	0.00	0.00	0.00
14,900.00	88.83	90.13	8,930.56	-77.40	6,537.36	6,537.52	0.00	0.00	0.00
15,000.00	88.83	90.13	8,932.60	-77.63	6,637.34	6,637.49	0.00	0.00	0.00
15,100.00	88.83	90.13	8,934.64	-77.86	6,737.31	6,737.47	0.00	0.00	0.00
15,200.00	88.83	90.13	8,936.68	-78.08	6,837.29	6,837.45	0.00	0.00	0.00
15,300.00	88.83	90.13	8,938.72	-78.31	6,937.27	6,937.43	0.00	0.00	0.00
15,400.00	88.83	90.13	8,940.76	-78.53	7,037.25	7,037.41	0.00	0.00	0.00
15,500.00	88.83	90.13	8,942.80	-78.76	7,137.23	7,137.39	0.00	0.00	0.00
15,600.00	88.83	90.13	8,944.84	-78.98	7,237.21	7,237.37	0.00	0.00	0.00
15,700.00	88.83	90.13	8,946.88	-79.21	7,337.19	7,337.35	0.00	0.00	0.00
15,800.00	88.83	90.13	8,948.92	-79.44	7,437.17	7,437.33	0.00	0.00	0.00
15,900.00	88.83	90.13	8,950.96	-79.66	7,537.15	7,537.31	0.00	0.00	0.00
16,000.00	88.83	90.13	8,953.00	-79.89	7,637.12	7,637.29	0.00	0.00	0.00
16,100.00	88.83	90.13	8,955.04	-80.11	7,737.10	7,737.27	0.00	0.00	0.00
16,200.00	88.83	90.13	8,957.08	-80.34	7,837.08	7,837.24	0.00	0.00	0.00
16,300.00	88.83	90.13	8,959.12	-80.56	7,937.06	7,937.22	0.00	0.00	0.00
16,400.00	88.83	90.13	8,961.16	-80.79	8,037.04	8,037.20	0.00	0.00	0.00
16,500.00	88.83	90.13	8,963.20	-81.02	8,137.02	8,137.18	0.00	0.00	0.00
16,600.00	88.83	90.13	8,965.24	-81.24	8,237.00	8,237.16	0.00	0.00	0.00

Database:	EDM 5000.1.13 Single User Db	**Local Co-ordinate Reference:**	Well #105H
Company:	XTO Energy	**TVD Reference:**	RKB = 30' @ 3113.00usft
Project:	Eddy County, NM (NAD-27)	**MD Reference:**	RKB = 30' @ 3113.00usft
Site:	Big Eddy Unit 38E Stark	**North Reference:**	Grid
Well:	#105H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
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)
16,700.00	88.83	90.13	8,967.28	-81.47	8,336.98	8,337.14	0.00	0.00	0.00
16,800.00	88.83	90.13	8,969.32	-81.69	8,436.96	8,437.12	0.00	0.00	0.00
16,900.00	88.83	90.13	8,971.36	-81.92	8,536.94	8,537.10	0.00	0.00	0.00
17,000.00	88.83	90.13	8,973.40	-82.14	8,636.91	8,637.08	0.00	0.00	0.00
17,100.00	88.83	90.13	8,975.44	-82.37	8,736.89	8,737.06	0.00	0.00	0.00
17,200.00	88.83	90.13	8,977.48	-82.60	8,836.87	8,837.04	0.00	0.00	0.00
17,300.00	88.83	90.13	8,979.52	-82.82	8,936.85	8,937.02	0.00	0.00	0.00
17,400.00	88.83	90.13	8,981.56	-83.05	9,036.83	9,037.00	0.00	0.00	0.00
17,500.00	88.83	90.13	8,983.60	-83.27	9,136.81	9,136.97	0.00	0.00	0.00
17,600.00	88.83	90.13	8,985.64	-83.50	9,236.79	9,236.95	0.00	0.00	0.00
17,700.00	88.83	90.13	8,987.68	-83.72	9,336.77	9,336.93	0.00	0.00	0.00
17,800.00	88.83	90.13	8,989.72	-83.95	9,436.75	9,436.91	0.00	0.00	0.00
17,900.00	88.83	90.13	8,991.76	-84.18	9,536.72	9,536.89	0.00	0.00	0.00
18,000.00	88.83	90.13	8,993.80	-84.40	9,636.70	9,636.87	0.00	0.00	0.00
18,100.00	88.83	90.13	8,995.84	-84.63	9,736.68	9,736.85	0.00	0.00	0.00
18,200.00	88.83	90.13	8,997.88	-84.85	9,836.66	9,836.83	0.00	0.00	0.00
18,300.00	88.83	90.13	8,999.92	-85.08	9,936.64	9,936.81	0.00	0.00	0.00
18,400.00	88.83	90.13	9,001.96	-85.30	10,036.62	10,036.79	0.00	0.00	0.00
18,500.00	88.83	90.13	9,004.00	-85.53	10,136.60	10,136.77	0.00	0.00	0.00
18,600.00	88.83	90.13	9,006.04	-85.76	10,236.58	10,236.75	0.00	0.00	0.00
18,700.00	88.83	90.13	9,008.08	-85.98	10,336.56	10,336.72	0.00	0.00	0.00
18,800.00	88.83	90.13	9,010.12	-86.21	10,436.53	10,436.70	0.00	0.00	0.00
18,900.00	88.83	90.13	9,012.16	-86.43	10,536.51	10,536.68	0.00	0.00	0.00
19,000.00	88.83	90.13	9,014.21	-86.66	10,636.49	10,636.66	0.00	0.00	0.00
19,100.00	88.83	90.13	9,016.25	-86.88	10,736.47	10,736.64	0.00	0.00	0.00
19,200.00	88.83	90.13	9,018.29	-87.11	10,836.45	10,836.62	0.00	0.00	0.00
19,300.00	88.83	90.13	9,020.33	-87.34	10,936.43	10,936.60	0.00	0.00	0.00
19,400.00	88.83	90.13	9,022.37	-87.56	11,036.41	11,036.58	0.00	0.00	0.00
19,500.00	88.83	90.13	9,024.41	-87.79	11,136.39	11,136.56	0.00	0.00	0.00
19,600.00	88.83	90.13	9,026.45	-88.01	11,236.37	11,236.54	0.00	0.00	0.00
19,700.00	88.83	90.13	9,028.49	-88.24	11,336.35	11,336.52	0.00	0.00	0.00
19,800.00	88.83	90.13	9,030.53	-88.46	11,436.32	11,436.50	0.00	0.00	0.00
19,900.00	88.83	90.13	9,032.57	-88.69	11,536.30	11,536.47	0.00	0.00	0.00
20,000.00	88.83	90.13	9,034.61	-88.92	11,636.28	11,636.45	0.00	0.00	0.00
20,100.00	88.83	90.13	9,036.65	-89.14	11,736.26	11,736.43	0.00	0.00	0.00
20,200.00	88.83	90.13	9,038.69	-89.37	11,836.24	11,836.41	0.00	0.00	0.00
20,300.00	88.83	90.13	9,040.73	-89.59	11,936.22	11,936.39	0.00	0.00	0.00
20,400.00	88.83	90.13	9,042.77	-89.82	12,036.20	12,036.37	0.00	0.00	0.00
20,500.00	88.83	90.13	9,044.81	-90.04	12,136.18	12,136.35	0.00	0.00	0.00
20,600.00	88.83	90.13	9,046.85	-90.27	12,236.16	12,236.33	0.00	0.00	0.00
20,700.00	88.83	90.13	9,048.89	-90.50	12,336.13	12,336.31	0.00	0.00	0.00
20,800.00	88.83	90.13	9,050.93	-90.72	12,436.11	12,436.29	0.00	0.00	0.00
20,900.00	88.83	90.13	9,052.97	-90.95	12,536.09	12,536.27	0.00	0.00	0.00
21,000.00	88.83	90.13	9,055.01	-91.17	12,636.07	12,636.25	0.00	0.00	0.00
21,100.00	88.83	90.13	9,057.05	-91.40	12,736.05	12,736.23	0.00	0.00	0.00
21,200.00	88.83	90.13	9,059.09	-91.62	12,836.03	12,836.20	0.00	0.00	0.00
21,300.00	88.83	90.13	9,061.13	-91.85	12,936.01	12,936.18	0.00	0.00	0.00
21,400.00	88.83	90.13	9,063.17	-92.08	13,035.99	13,036.16	0.00	0.00	0.00
21,500.00	88.83	90.13	9,065.21	-92.30	13,135.97	13,136.14	0.00	0.00	0.00
21,600.00	88.83	90.13	9,067.25	-92.53	13,235.95	13,236.12	0.00	0.00	0.00
21,700.00	88.83	90.13	9,069.29	-92.75	13,335.92	13,336.10	0.00	0.00	0.00
21,800.00	88.83	90.13	9,071.33	-92.98	13,435.90	13,436.08	0.00	0.00	0.00
21,900.00	88.83	90.13	9,073.37	-93.20	13,535.88	13,536.06	0.00	0.00	0.00
22,000.00	88.83	90.13	9,075.41	-93.43	13,635.86	13,636.04	0.00	0.00	0.00

Database:	EDM 5000.1.13 Single User Db	**Local Co-ordinate Reference:**	Well #105H
Company:	XTO Energy	**TVD Reference:**	RKB = 30' @ 3113.00usft
Project:	Eddy County, NM (NAD-27)	**MD Reference:**	RKB = 30' @ 3113.00usft
Site:	Big Eddy Unit 38E Stark	**North Reference:**	Grid
Well:	#105H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
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)
22,100.00	88.83	90.13	9,077.45	-93.66	13,735.84	13,736.02	0.00	0.00	0.00
22,200.00	88.83	90.13	9,079.49	-93.88	13,835.82	13,836.00	0.00	0.00	0.00
22,300.00	88.83	90.13	9,081.53	-94.11	13,935.80	13,935.98	0.00	0.00	0.00
22,400.00	88.83	90.13	9,083.57	-94.33	14,035.78	14,035.95	0.00	0.00	0.00
22,500.00	88.83	90.13	9,085.61	-94.56	14,135.76	14,135.93	0.00	0.00	0.00
22,600.00	88.83	90.13	9,087.65	-94.78	14,235.73	14,235.91	0.00	0.00	0.00
22,700.00	88.83	90.13	9,089.69	-95.01	14,335.71	14,335.89	0.00	0.00	0.00
22,800.00	88.83	90.13	9,091.73	-95.23	14,435.69	14,435.87	0.00	0.00	0.00
22,900.00	88.83	90.13	9,093.77	-95.46	14,535.67	14,535.85	0.00	0.00	0.00
23,000.00	88.83	90.13	9,095.81	-95.69	14,635.65	14,635.83	0.00	0.00	0.00
23,100.00	88.83	90.13	9,097.85	-95.91	14,735.63	14,735.81	0.00	0.00	0.00
23,200.00	88.83	90.13	9,099.89	-96.14	14,835.61	14,835.79	0.00	0.00	0.00
23,300.00	88.83	90.13	9,101.93	-96.36	14,935.59	14,935.77	0.00	0.00	0.00
23,400.00	88.83	90.13	9,103.98	-96.59	15,035.57	15,035.75	0.00	0.00	0.00
23,500.00	88.83	90.13	9,106.02	-96.81	15,135.54	15,135.73	0.00	0.00	0.00
23,600.00	88.83	90.13	9,108.06	-97.04	15,235.52	15,235.70	0.00	0.00	0.00
23,700.00	88.83	90.13	9,110.10	-97.27	15,335.50	15,335.68	0.00	0.00	0.00
23,800.00	88.83	90.13	9,112.14	-97.49	15,435.48	15,435.66	0.00	0.00	0.00
23,900.00	88.83	90.13	9,114.18	-97.72	15,535.46	15,535.64	0.00	0.00	0.00
24,000.00	88.83	90.13	9,116.22	-97.94	15,635.44	15,635.62	0.00	0.00	0.00
24,100.00	88.83	90.13	9,118.26	-98.17	15,735.42	15,735.60	0.00	0.00	0.00
24,200.00	88.83	90.13	9,120.30	-98.39	15,835.40	15,835.58	0.00	0.00	0.00
24,300.00	88.83	90.13	9,122.34	-98.62	15,935.38	15,935.56	0.00	0.00	0.00
24,400.00	88.83	90.13	9,124.38	-98.85	16,035.36	16,035.54	0.00	0.00	0.00
24,500.00	88.83	90.13	9,126.42	-99.07	16,135.33	16,135.52	0.00	0.00	0.00
24,600.00	88.83	90.13	9,128.46	-99.30	16,235.31	16,235.50	0.00	0.00	0.00
24,700.00	88.83	90.13	9,130.50	-99.52	16,335.29	16,335.48	0.00	0.00	0.00
24,772.62	88.83	90.13	9,131.98	-99.69	16,407.90	16,408.08	0.00	0.00	0.00
24,800.00	88.83	90.13	9,132.54	-99.75	16,435.27	16,435.45	0.00	0.00	0.00
24,822.63	88.83	90.13	9,133.00	-99.80	16,457.90	16,458.08	0.00	0.00	0.00

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
BEU 38E Stark #105H - plan hits target center - Point	0.00	0.00	0.00	0.00	0.00	498,148.30	608,270.00	32.3690372	-103.9826584
BEU 38E Stark #105H - plan hits target center - Point	0.00	0.00	8,813.00	-64.40	776.70	498,083.90	609,046.70	32.3688532	-103.9801435
BEU 38E Stark #105H - plan misses target center by 0.01usft at 24772.62usft MD (9131.98 TVD, -99.69 N, 16407.90 E) - Point	0.00	0.00	9,131.98	-99.70	16,407.90	498,048.60	624,677.90	32.3686042	-103.9295173
BEU 38E Stark #105H - plan hits target center - Point	0.00	0.00	9,133.00	-99.80	16,457.90	498,048.50	624,727.90	32.3686034	-103.9293554

Database:	EDM 5000.1.13 Single User Db	**Local Co-ordinate Reference:**	Well #105H
Company:	XTO Energy	**TVD Reference:**	RKB = 30' @ 3113.00usft
Project:	Eddy County, NM (NAD-27)	**MD Reference:**	RKB = 30' @ 3113.00usft
Site:	Big Eddy Unit 38E Stark	**North Reference:**	Grid
Well:	#105H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	PERMIT		

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
118.00	118.00	Rustler			
239.00	239.00	Salado/Top of Salt			
2,383.00	2,383.00	Base of Salt			
3,055.00	3,055.00	Delaware Sand			
4,101.00	4,101.00	Manzanita Marker			
5,468.00	5,468.00	Brushy Canyon Ss.			
6,453.59	6,451.00	Lower Brushy Canyon Ss.			
6,748.72	6,745.00	Bone Spring Lm.			
6,929.40	6,925.00	Upper Avalon Sh.			
7,415.25	7,409.00	Lw. Avalon Sh.			
7,554.78	7,548.00	Bone Spring Carb.			
7,815.77	7,808.00	First Bone Spring Ss.			
8,037.62	8,029.00	Second Bone Spring Carb.			
8,540.97	8,519.00	Second Bone Spring Ss.			
8,611.08	8,578.00	Second Bone Spring A Ss.			
8,805.93	8,713.00	Second Bone Spring B Ss.			
9,138.13	8,813.00	Landing Point			
12,569.12	8,883.00	Second Bone Spring B Base			

After the fracture treatment/completion operations, well(s) will be produced to temporary production tanks and gas will be flared or vented. During flowback, the fluids and sand content will be monitored. When the produced fluids contain minimal sand, the wells will be turned to production facilities. Gas sales should start as soon as the wells start flowing through the production facilities, unless there are operational issues on DCP Midstream system at that time. Based on current information, it is XTO Permian Operating, LLC's belief the system can take this gas upon completion of the well(s).

Safety requirements during cleanout operations from the use of underbalanced air cleanout systems may necessitate that sand and non-pipeline quality gas be vented and/or flared rather than sold on a temporary basis.

Alternatives to Reduce Flaring

Below are alternatives considered from a conceptual standpoint to reduce the amount of gas flared.

- Power Generation – On lease
    - Only a portion of gas is consumed operating the generator, remainder of gas will be flared
- Compressed Natural Gas – On lease
    - Gas flared would be minimal, but might be uneconomical to operate when gas volume declines
- NGL Removal – On lease
    - Plants are expensive, residue gas is still flared, and uneconomical to operate when gas volume declines

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

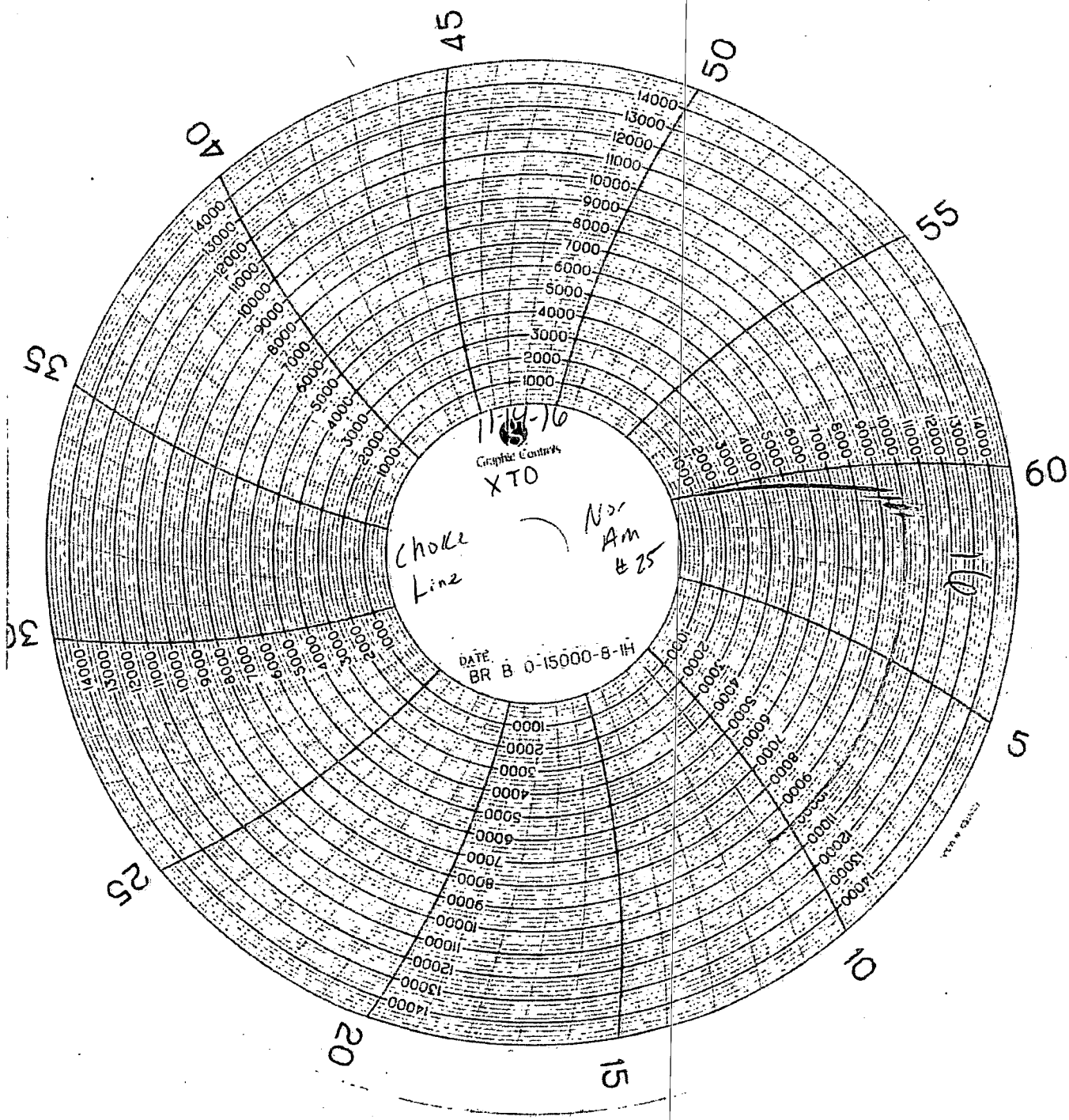
Customer :	AUSTIN DISTRIBUTING	Test Date:	6/8/2014
Customer Ref. :	PENDING	Hose Serial No.:	D-060814-1
Invoice No. :	201709	Created By:	NORMA

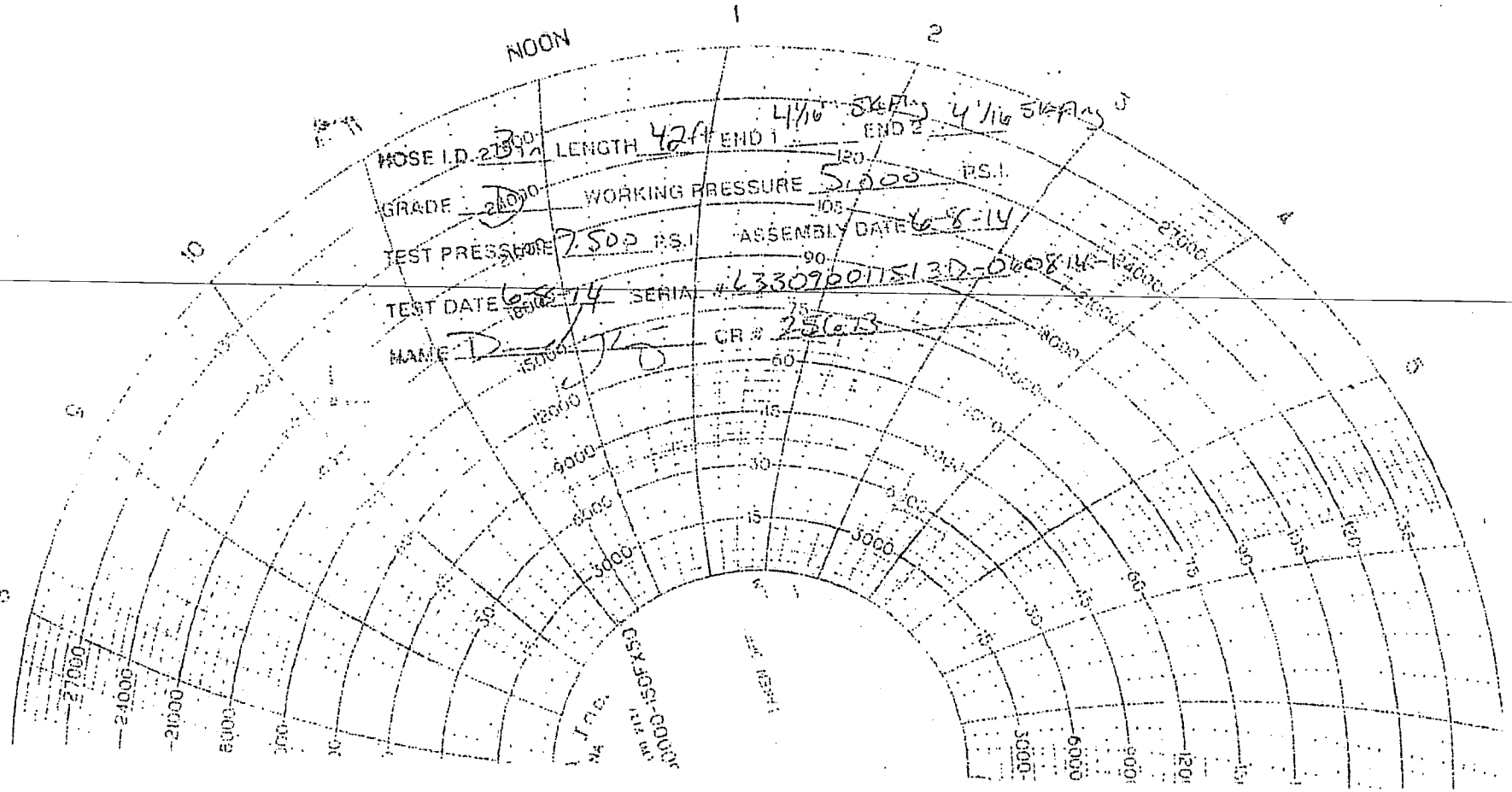
Product Description:	FD3.042.0R41/16.5KFLGE/E LE

End Fitting 1 :	4 1/16 in.5K FLG	End Fitting 2 :	4 1/16 in.5K FLG
Gates Part No. :	4774-6001	Assembly Code :	L33090011513D-060814-1
Working Pressure :	5,000 PSI	Test Pressure :	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:	QUALITY	Technical Supervisor :	PRODUCTION
Date :	6/8/2014	Date :	6/8/2014
Signature :		Signature :	


11-14-16
Graphic Controls
XTO
Choke Line
Nor Am #25
DATE
BR B 0-15000-8-IH


NOON
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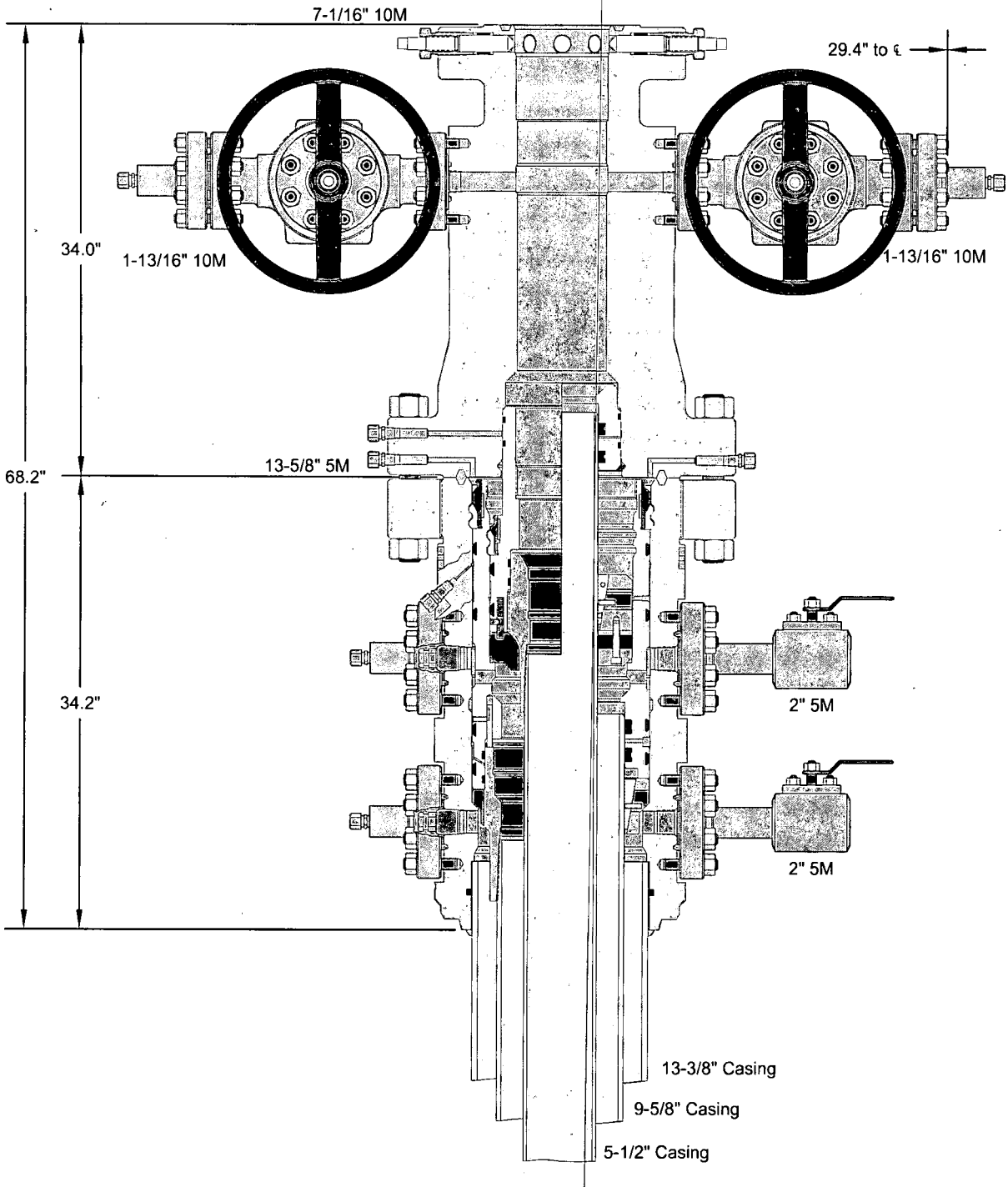
HOSE I.D. 2 1/2"
LENGTH 42ft
END 1 4 1/16 SAE 4
END 2 4 1/16 SAE 4
GRADE D
WORKING PRESSURE 5000 P.S.I.
TEST PRESSURE 7500 P.S.I.
ASSEMBLY DATE 6-8-14
TEST DATE 6-8-14
SERIAL # 433090011513D-0608-14-1
NAME D
CR # 25623

GE Oil & Gas



ALL DIMENSIONS ARE APPROXIMATE

XTO ENERGY, INC.

13-3/8" x 9-5/8" x 5-1/2" 10M RSH-2 Wellhead Assembly, With T-EBS-F Tubing Head

DRAWN	VJK	16FEB17
APPRV	KN	16FEB17

FOR REFERENCE ONLY
DRAWING NO. 10012842

APD ID: 10400050118 **Submission Date:** 10/28/2019

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: BIG EDDY UNIT 38E STARK **Well Number:** 105H

Well Type: OIL WELL **Well Work Type:** Drill

Highlighted data reflects the most recent changes

Show Final Text

Section 1 - Existing Roads

Will existing roads be used? YES

Existing Road Map:

BEU_38_Stark_105H_Road_20191028085816.pdf

Existing Road Purpose: ACCESS,FLUID TRANSPORT **Row(s) Exist?** YES

ROW ID(s)

ID:

Do the existing roads need to be improved? NO

Existing Road Improvement Description:

Existing Road Improvement Attachment:

Section 2 - New or Reconstructed Access Roads

Will new roads be needed? YES

New Road Map:

BEU_38_Road_20191024112838.pdf

New road type: RESOURCE

Length: 1875.58 Feet **Width (ft.):** 50

Max slope (%): 2 **Max grade (%):** 3

Army Corp of Engineers (ACOE) permit required? N

ACOE Permit Number(s):

New road travel width: 14

New road access erosion control: The access road will be constructed and maintained as necessary to prevent soil erosion and accommodate all-weather traffic. The road will be crowned and ditched with water turnouts installed as necessary to provide for proper drainage along with access road route.

New road access plan or profile prepared? N

New road access plan attachment:

Access road engineering design? N

Access road engineering design attachment:

Turnout? N

Access surfacing type: OTHER

Access topsoil source: ONSITE

Access surfacing type description: Surface material will be native caliche

Access onsite topsoil source depth: 6

Offsite topsoil source description:

Onsite topsoil removal process: Approximately 6 inches of topsoil (root zone) will be stripped from the proposed access road prior to any further construction activity. The topsoil that was stripped will be spread along the edge of the road and within the ditch. The topsoil will be seeded with the proper seed mix designated by the BLM.
Access other construction information: Construction, reclamation, and/or routine maintenance will not be conducted during periods when the soil conditions for construction could lead to impacts to the surrounding environment, or when watershed damage is likely to occur as a result of these activities.
Access miscellaneous information: The Big Eddy Unit DI 38 Development area is accessed from the intersection of Hwy 62-180 (Hobbs Hwy) and Potash Mines Road (State Rd 31). Go Southeast on Potash Mines Road (State Road 31) approximately 12.6 miles. Turn right (Northwest) onto proposed road. The location is straight ahead. Transportation Plan identifying existing roads that will be used to access the project area is included from FSC, Inc. marked as, Vicinity Map. There are existing access roads to the proposed Big Eddy Unit well locations. All equipment and vehicles will be confined to the routes shown on the Vicinity Map as provided by FSC, Inc. Maintenance of the access roads will continue until abandonment and reclamation of the well pads is completed.
Number of access turnouts: 0 **Access turnout map:**

Drainage Control

New road drainage crossing: OTHER

Drainage Control comments: The access road and associated drainage structures will be constructed and maintained in accordance with road guidelines contained in the joint BLM/USFS publication: Surface Operating Standards for Oil and Gas Exploration and Development, The Gold Book, Fourth Edition and/or BLM Manual Section 9113 concerning road construction standards on projects subject to federal jurisdiction.
Road Drainage Control Structures (DCS) description: No drainage control structures were identified at onsite. Drainage control structures will be applied for as-needed and be in accordance with road guidelines contained in the joint BLM/USFS publication: Surface Operating Standards for Oil and Gas Exploration and Development, The Gold Book, Fourth Edition and/or BLM Manual Section 9113 concerning road construction standards on projects subject to federal jurisdiction.
Road Drainage Control Structures (DCS) attachment:

Access Additional Attachments

Section 3 - Location of Existing Wells

Existing Wells Map? YES

Attach Well map:

BEU_38_1_Mile_20191024113135.pdf

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: BIG EDDY UNIT 38E STARK **Well Number:** 105H

Section 4 - Location of Existing and/or Proposed Production Facilities

Submit or defer a Proposed Production Facilities plan? DEFER

Estimated Production Facilities description: Production Facilities. No production facility is included with this request. Once a location is determined for the CTB and an onsite has been conducted, XTO will submit the CTB for application via a 3160-5 sundry notification of intent prior to construction. Flowlines. No flowlines are included with this request. Once a location is determined for the CTB and an onsite has been conducted, XTO will submit the flowline routes for application via a 3160-5 sundry notification of intent prior to construction. Oil & Gas Pipeline. No oil or gas pipelines are included with this request. Once a location is determined for the CTB and an onsite has been conducted, XTO will submit the oil and gas pipeline routes for application via a 3160-5 sundry notification of intent prior to construction. Disposal Facilities. Produced water will be hauled from location to a commercial disposal facility as needed. Once wells are drilled and completed, a 3160-5 sundry notification will be submitted to BLM in compliance with Onshore Order 7. Flare. No flare is required. No additional surface disturbance is needed. Aboveground Structures. All permanent (on site six months or longer) aboveground structures constructed or installed on location and not subject to safety requirements will be painted earth-tone colors such as shale green that reduce the visual impacts of the built environment. Containment Berms. Containment berms will be constructed completely around any production facilities designed to hold fluids. The containment berms will be constructed of compacted subsoil, be sufficiently impervious, hold 1 times the capacity of the largest tank and away from cut or fill areas. Electrical. No electrical is included with this request. Once a location is determined for the CTB and an onsite has been conducted, XTO will submit the electrical route for application via a 3160-5 sundry notification of intent prior to construction.

Section 5 - Location and Types of Water Supply

Water Source Table

Water source type: OTHER

Describe type: Fresh Water; Section 27-T25S-30E

Water source use type: SURFACE CASING
STIMULATION
INTERMEDIATE/PRODUCTION CASING

Source latitude:

Source longitude:

Source datum:

Water source permit type: PRIVATE CONTRACT

Water source transport method: TRUCKING

Source land ownership: FEDERAL

Source transportation land ownership: FEDERAL

Water source volume (barrels): 335000

Source volume (acre-feet): 43.179188

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: BIG EDDY UNIT 38E STARK **Well Number:** 105H

Source volume (gal): 14070000

Water source type: OTHER

Describe type: Fresh Water; in Section 6, T25S-R29E

Water source use type: SURFACE CASING

STIMULATION

INTERMEDIATE/PRODUCTION CASING

Source latitude: **Source longitude:**

Source datum:

Water source permit type: PRIVATE CONTRACT

Water source transport method: TRUCKING

Source land ownership: FEDERAL

Source transportation land ownership: FEDERAL

Water source volume (barrels): 335000 **Source volume (acre-feet):** 43.179188

Source volume (gal): 14070000

Water source and transportation map:

BEU_38_Stark_105H_Wtr_20191028085722.pdf

Water source comments: The well will be drilled using a combination of water mud systems as outlined in the Drilling Program. The water will be obtained from a 3rd party vendor and hauled to the anticipated pit in Section 13 by transport truck using the existing and proposed roads depicted in the attached exhibits. No water well will be drilled on the location. Water for drilling, completion and dust control will be supplied by Texas Pacific Water Resources for sale to XTO Permian Operating, LLC. from Section 27, T25S-R30E, Eddy County, New Mexico. In the event that Texas Pacific Water Resources does not have the appropriate water for XTO at time of drilling and completion, then XTO water will come from Intrepid Potash Company with the location of the water being in Section 6, T25S-R29E, Eddy County, New Mexico. Water for drilling, completion and dust control will be supplied by Select Energy Services for sale to XTO Energy, inc. from Section 21-23S-30E, Eddy County, New Mexico. In the event that Select Energy Services does not have the appropriate water for XTO at time of drilling and completion, then XTO water will come from Intrepid Potash Company with the location of the water being in Section 6, T25S-R29E, Eddy County, New Mexico. Anticipated water usage for drilling includes an estimated 35,000 barrels of water to drill a horizontal well in a combination of fresh water and brine as detailed in the mud program in the drilling plans. These volumes are calculated for ~1.5bbls per foot of hole drilled with excess to accommodate any lost circulation or wash out that may occur. Actual water volumes used during operations will depend on the depth of the well, length of horizontal sections, and the losses that may occur during the operation. Temporary water flowlines will be permitted via ROW approval letter and proper grants as-needed based on drilling and completion schedules as needed. Well completion is expected to require approximately 300,000 barrels of water per horizontal well. Actual water volumes used during operations will depend on the depth of the well and length of horizontal sections.

New water well? N

New Water Well Info

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: BIG EDDY UNIT 38E STARK **Well Number:** 105H

Well latitude: **Well Longitude:** **Well datum:**

Well target aquifer:

Est. depth to top of aquifer(ft): **Est thickness of aquifer:**

Aquifer comments:

Aquifer documentation:

Well depth (ft): **Well casing type:**

Well casing outside diameter (in.): **Well casing inside diameter (in.):**

New water well casing? **Used casing source:**

Drilling method: **Drill material:**

Grout material: **Grout depth:**

Casing length (ft.): **Casing top depth (ft.):**

Well Production type: **Completion Method:**

Water well additional information:

State appropriation permit:

Additional information attachment:

Section 6 - Construction Materials

Using any construction materials: YES

Construction Materials description: Construction, reclamation, and/or routine maintenance will not be conducted during periods when the soil conditions for construction could lead to impacts to the surrounding environment, or when watershed damage is likely to occur as a result of these activities. Any construction material that may be required for surfacing of the drill pad and access road will be from a contractor having a permitted source of materials within the general area. No construction materials will be removed from federal lands without prior approval from the appropriate surface management agency. All roads and well pads will be constructed of 6" rolled and compacted caliche. Anticipated Caliche Locations: Pit 1: Federal Caliche Pit, Section 27-T20S-R31E iPit 2: Federal Caliche Pit, Section 5-T21S-R30E

Construction Materials source location attachment:

Section 7 - Methods for Handling Waste

Waste type: GARBAGE

Waste content description: Garbage, junk and non-flammable waste materials

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 approve 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 FACILITY **Disposal location ownership:** COMMERCIAL

Disposal type description:

Disposal location description: A licensed 3rd party vendor will be contracted to haul and safely dispose of garbage, junk and non-flammable waste materials.

Waste type: SEWAGE

Waste content description: Human Waste

Amount of waste: 250 gallons

Waste disposal frequency : Weekly

Safe containment description: Portable, self-contained toilets will be provided for human waste disposal. Upon completion of drilling and completion activities, or as required, the toilet holding tanks will be pumped 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 FACILITY **Disposal location ownership:** COMMERCIAL
Disposal type description:

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

Waste type: DRILLING

Waste content description: Fluid

Amount of waste: 500 barrels

Waste disposal frequency : One Time Only

Safe containment description: Steel mud pits

Safe containmant attachment:

Waste disposal type: HAUL TO COMMERCIAL FACILITY **Disposal location ownership:** COMMERCIAL
Disposal type description:

Disposal location description: R360 Environmental Solutions 4507 W Carlsbad Hwy, Hobbs, NM 88240 (575) 393-1079

Waste type: DRILLING

Waste content description: Cuttings

Amount of waste: 2100 pounds

Waste disposal frequency : One Time Only

Safe containment description: The well will be drilled utilizing a closed-loop mud system. Drill cuttings will be held in roll-off style mud boxes.
Safe containmant attachment:

Waste disposal type: HAUL TO COMMERCIAL FACILITY **Disposal location ownership:** COMMERCIAL
Disposal type description:

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: BIG EDDY UNIT 38E STARK **Well Number:** 105H

Disposal location description: R360 Environmental Solutions 4507 W Carlsbad Hwy, Hobbs, NM 88240 (575) 393-1079

Reserve Pit

Reserve Pit being used? N

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? Y

Description of cuttings location Cuttings. The well will be drilled utilizing a closed-loop mud system. Drill cuttings will be held in roll-off style mud boxes and taken to a New Mexico Oil Conservation Division (NMOCD) approved disposal site. Drilling Fluids. These will be contained in steel mud pits and then taken to a NMOCD approved commercial disposal facility. Produced Fluids. Water produced from the well during completion will be held temporarily in steel tanks and then taken to a NMOCD approved commercial disposal facility. Oil produced during operations will be stored in tanks until sold.

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

Section 8 - Ancillary Facilities

Are you requesting any Ancillary Facilities?: N

Ancillary Facilities attachment:

Comments:

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: BIG EDDY UNIT 38E STARK **Well Number:** 105H

Section 9 - Well Site Layout

Well Site Layout Diagram:

BEU_38_Stark_105H_Well_20191028085754.pdf

Comments: Drill Island. The proposed drill island is requested as use for oil and gas operations inside of the Secretarys Order of Potash Area (SOPA). The island requested will be used for surface hole locations for wells productive of oil and gas with no surface hole planned outside of the boundary of the onsited and approved drill island. The total penetrable space of the drill island is: 660x660. Drill Island: 10acres [Centerpoint: 787FEL & 612FNL, Sec 28-22S-29E] The total size of the drill island with pad fall off is anticipated to be to: 895x1477 or 30.35 acres. A current detailed plat of the drill island is attached depicting shallow and deep designation areas, proposed well pads, pipelines, and existing well pads. Shallow and deep designation areas were determined post-onsite based on mile or mile from the edge of the drill island to existing mine workings as depicted in BLM shape files. Well Sites. One (1) 1895x1477 well pad has been staked on the drill island, known as Big Eddy Unit DI 38. Surveys of the drill island location have been completed by FSC, Inc., a registered professional land surveyor and are attached to this application. Center stake surveys with access roads have been completed on State lands with Jeffery Robertson, Bureau of Land Management Natural Resource Specialist, and the following individuals: Jim Rutley, Bureau of Land Management, in attendance. The wellbore paths will not leave the 660x660 (based on maximum footages of the two longest 2-sides) drill island until the salt zone is cased and protected pursuant to NMOCD Order R-111-P. A full list of XTO Permian Operating, LLC wells anticipated to be located on Big Eddy Unit DI 38 is attached. Approval of the drill island does not constitute approval to drill. An APD must be submitted and approved for each well located on the drill island prior to any drilling activity.

Section 10 - Plans for Surface Reclamation

Type of disturbance: New Surface Disturbance

Multiple Well Pad Name: BEU DI

Multiple Well Pad Number: 38

Recontouring attachment:

Drainage/Erosion control construction: All compacted areas to be seeded will be ripped to a minimum depth of 18 inches with a minimum furrow spacing of 2 feet, followed by recontouring the surface and then evenly spreading the stockpiled topsoil. Prior to seeding, the seedbed will be scarified to a depth of no less than 4-6 inches.

Drainage/Erosion control reclamation: Erosion features are equal to or less than surrounding area and erosion control is sufficient so that water naturally infiltrates into the soil and gullying, headcutting, slumping, and deep or excessive rills (greater than 3 inches) are not observed.

Well pad proposed disturbance (acres): 10	**Well pad interim reclamation (acres):** 0	**Well pad long term disturbance (acres):** 10
Road proposed disturbance (acres): 2.15	**Road interim reclamation (acres):** 0	**Road long term disturbance (acres):** 2.15
Powerline proposed disturbance (acres): 0	**Powerline interim reclamation (acres):** 0	**Powerline long term disturbance (acres):** 0
Pipeline proposed disturbance (acres): 0	**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
Total proposed disturbance: 12.15	**Total interim reclamation:** 0	**Total long term disturbance:** 12.15

Disturbance Comments: No surface reclamation is planned for this well. XTO Permian Operating, LLC. requests a variance to interim reclamation until all wells on the drill island have been drilled and completed, at which time, XTO Permian Operating, LLC. will contact the appropriate BLM personnel to discuss appropriate interim reclamation plans.

Reconstruction method: The original stock piled topsoil will be spread over the areas being reclaimed and the original landform will be restored for all disturbed areas including well pads, production facilities, roads, pipelines, and utility corridors

as close as possible to the original topography. The location will then be ripped and seeded.

Topsoil redistribution: The original stock piled topsoil will be spread over the areas being reclaimed and the original landform will be restored for all disturbed areas including well pads, production facilities, roads, pipelines, and utility corridors as close as possible to the original topography. The location will then be ripped and seeded.

Soil treatment: A self-sustaining, vigorous, diverse, native (or otherwise approved) plan community will be established on the site with a density sufficient to control erosion and invasion by non-native plants and to re-establish wildlife habitat or forage production. At a minimum, the established plant community will consist of species included in the seed mix and/or desirable species occurring in the surrounding natural vegetation.

Existing Vegetation at the well pad: According to the National Resources Conservation Service, a department of the United States Department of Agriculture, the soils in this project area are classified as Simona Bippus. Simona soils are associated with the Shallow sandy ecological site (R042CX002NM) which typically supports black grama grasslands with an even distribution of yucca, javelina bush, range ratany, prickly pear, and mesquite. The current vegetative community consists of mesquite, broom snakeweed, sunflower, and desert grasses and forbs.

Existing Vegetation at the well pad attachment:

Existing Vegetation Community at the road: According to the National Resources Conservation Service, a department of the United States Department of Agriculture, the soils in this project area are classified as Simona Bippus. Simona soils are associated with the Shallow sandy ecological site (R042CX002NM) which typically supports black grama grasslands with an even distribution of yucca, javelina bush, range ratany, prickly pear, and mesquite. The current vegetative community consists of mesquite, broom snakeweed, sunflower, and desert grasses and forbs.

Existing Vegetation Community at the road attachment:

Existing Vegetation Community at the pipeline: According to the National Resources Conservation Service, a department of the United States Department of Agriculture, the soils in this project area are classified as Simona Bippus. Simona soils are associated with the Shallow sandy ecological site (R042CX002NM) which typically supports black grama grasslands with an even distribution of yucca, javelina bush, range ratany, prickly pear, and mesquite. The current vegetative community consists of mesquite, broom snakeweed, sunflower, and desert grasses and forbs.

Existing Vegetation Community at the pipeline attachment:

Existing Vegetation Community at other disturbances: According to the National Resources Conservation Service, a department of the United States Department of Agriculture, the soils in this project area are classified as Simona Bippus. Simona soils are associated with the Shallow sandy ecological site (R042CX002NM) which typically supports black grama grasslands with an even distribution of yucca, javelina bush, range ratany, prickly pear, and mesquite. The current vegetative community consists of mesquite, broom snakeweed, sunflower, and desert grasses and forbs.

Existing Vegetation Community at other disturbances attachment:

Non native seed used? N

Non native seed description:

Seedling transplant description:

Will seedlings be transplanted for this project? N

Seedling transplant description attachment:

Will seed be harvested for use in site reclamation? N

Seed harvest description:

Seed harvest description attachment:

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: BIG EDDY UNIT 38E STARK **Well Number:** 105H

Seed Management

Seed Table

Seed Summary	
Seed Type	**Pounds/Acre**

Total pounds/Acre:

Seed reclamation attachment:

Operator Contact/Responsible Official Contact Info

First Name: **Last Name:**

Phone: **Email:**

Seedbed prep: Initial seedbed preparation will consist of recontouring to the appropriate interim or final reclamation standard. All compacted areas to be seeded will be ripped to a minimum depth of 18 inches with a minimum furrow spacing of 2 feet, followed by recontouring the surface and then evenly spreading the stockpiled topsoil. Prior to seeding, the seedbed will be scarified to a depth of no less than 4-6 inches. If the site is to be broadcast seeded, the surface will be left rough enough to trap seed and snow, control erosion, and increase water infiltration.
Seed BMP: If broadcast seeding is to be used and is delayed, final seedbed preparation will consist of contour cultivating to a depth of 4-6 inches within 24 hours prior to seeding, dozer tracking, or other imprinting in order to break the soil crust and create seed germination micro-sites.
Seed method: Seeding will be conducted no more than two weeks following completion of final seedbed preparation. A certified weed-free seed mix designed by the BLM to meet reclamation standards will be used. If the site is harrowed or dragged, seed will be covered by no more than 0.25 inch of soil.
Existing invasive species? N

Existing invasive species treatment description:

Existing invasive species treatment attachment:

Weed treatment plan description: Weed control for all phases will be through the use of approved pesticides and herbicides according to applicable State, Federal and local laws.
Weed treatment plan attachment:

Monitoring plan description: Monitoring of invasive and noxious weeds will be visual and as-needed. If it is determined additional methods are required to monitor invasive and noxious weeds, appropriate BLM authorities will be contacted with a plan of action for approval prior to implementation.
Monitoring plan attachment:

Success standards: 100% compliance with applicable regulations.

Pit closure description: There will be no reserve pit as each well will be drilled utilizing a closed loop mud system. The closed loop system will meet the NMOCD requirements 19.15.17.
Pit closure attachment:

Section 11 - Surface Ownership

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: BIG EDDY UNIT 38E STARK **Well Number:** 105H

Disturbance type: WELL PAD

Describe:

Surface Owner: BUREAU OF LAND MANAGEMENT

Other surface owner description:

BIA Local Office:

BOR Local Office:

COE Local Office:

DOD Local Office:

NPS Local Office:

State Local Office:

Military Local Office:

USFWS Local Office:

Other Local Office:

USFS Region:

USFS Forest/Grassland: **USFS Ranger District:**

Disturbance type: EXISTING ACCESS ROAD

Describe:

Surface Owner: BUREAU OF LAND MANAGEMENT

Other surface owner description:

BIA Local Office:

BOR Local Office:

COE Local Office:

DOD Local Office:

NPS Local Office:

State Local Office:

Military Local Office:

USFWS Local Office:

Other Local Office:

USFS Region:

USFS Forest/Grassland: **USFS Ranger District:**

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: BIG EDDY UNIT 38E STARK **Well Number:** 105H

Disturbance type: NEW ACCESS ROAD

Describe:

Surface Owner: BUREAU OF LAND MANAGEMENT

Other surface owner description:

BIA Local Office:

BOR Local Office:

COE Local Office:

DOD Local Office:

NPS Local Office:

State Local Office:

Military Local Office:

USFWS Local Office:

Other Local Office:

USFS Region:

USFS Forest/Grassland: **USFS Ranger District:**

Disturbance type: OTHER

Describe: Drill Island

Surface Owner: BUREAU OF LAND MANAGEMENT

Other surface owner description:

BIA Local Office:

BOR Local Office:

COE Local Office:

DOD Local Office:

NPS Local Office:

State Local Office:

Military Local Office:

USFWS Local Office:

Other Local Office:

USFS Region:

USFS Forest/Grassland: **USFS Ranger District:**

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: BIG EDDY UNIT 38E STARK **Well Number:** 105H

Section 12 - Other Information

Right of Way needed? Y **Use APD as ROW?** Y

ROW Type(s): 281001 ROW - ROADS,289001 ROW- O&G Well Pad,Other

ROW Applications

SUPO Additional Information: A 3rd party archaeological survey has been performed by Boone Archaeology. A copy of the report has been submitted to the Bureau of Land Management for review.
Use a previously conducted onsite? N

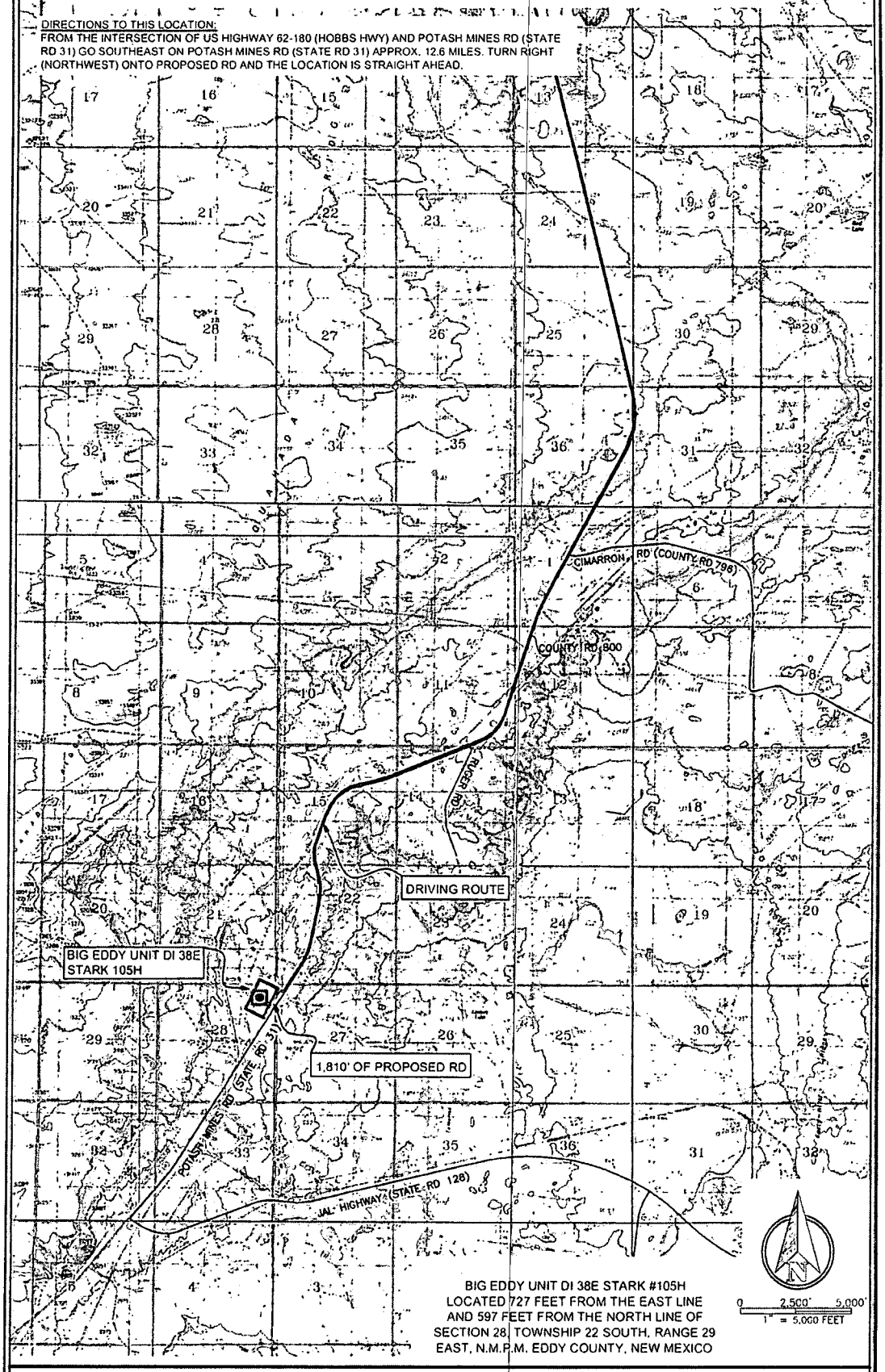
Previous Onsite information:

Other SUPO Attachment

BEU_38_List_20191024114915.pdf
BEU_38_OL_20191024114928.pdf
BEU_DI_38_SUPO_20191024114940.pdf

TOPOGRAPHICAL AND ACCESS ROAD MAP

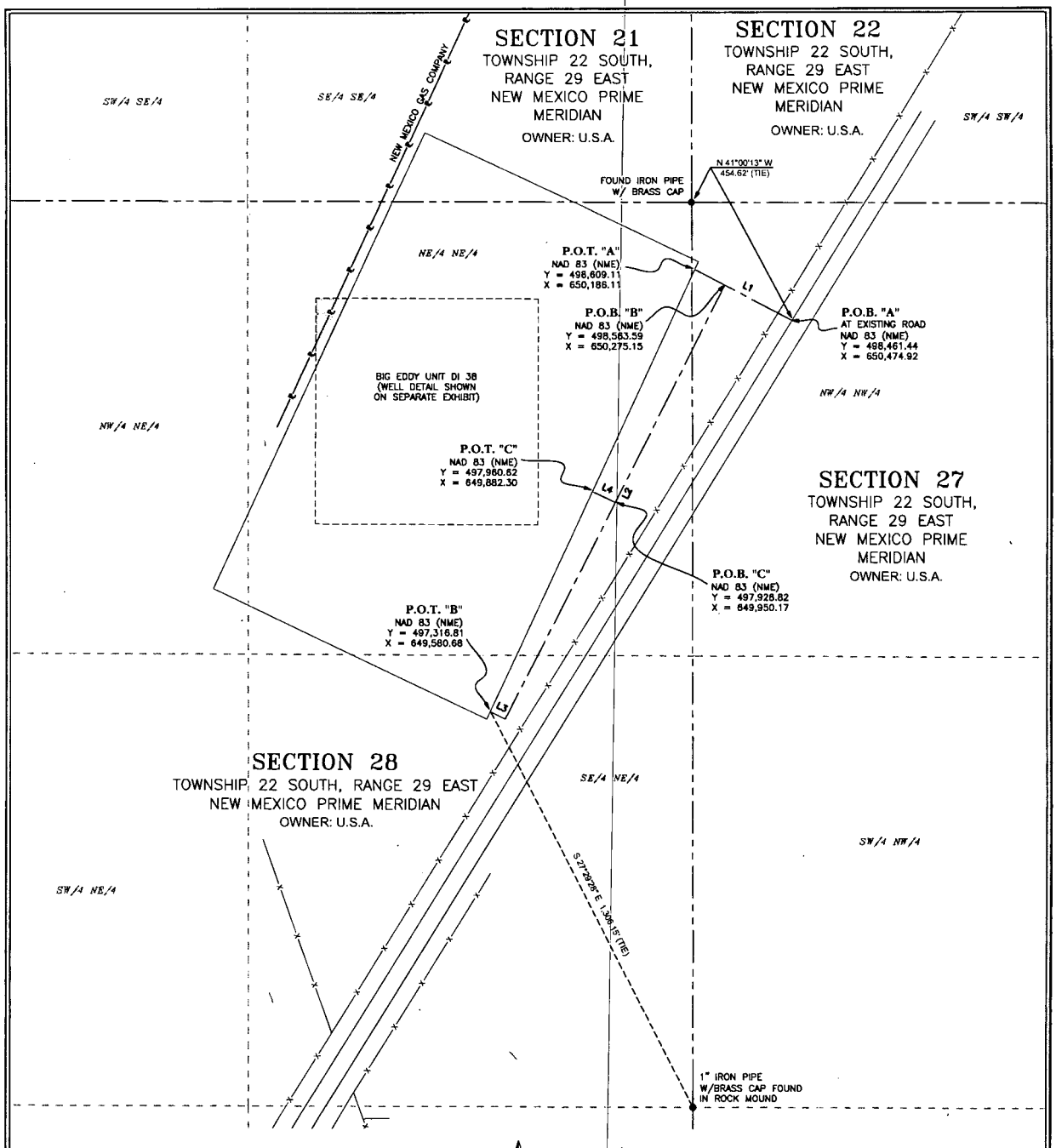
DIRECTIONS TO THIS LOCATION:
FROM THE INTERSECTION OF US HIGHWAY 62-180 (HOBBS HWY) AND POTASH MINES RD (STATE RD 31) GO SOUTHEAST ON POTASH MINES RD (STATE RD 31) APPROX. 12.6 MILES. TURN RIGHT (NORTHWEST) ONTO PROPOSED RD AND THE LOCATION IS STRAIGHT AHEAD.



BIG EDDY UNIT DI 38E STARK #105H
LOCATED 727 FEET FROM THE EAST LINE
AND 597 FEET FROM THE NORTH LINE OF
SECTION 28, TOWNSHIP 22 SOUTH, RANGE 29
EAST, N.M.P.M. EDDY COUNTY, NEW MEXICO

FSC INC
SURVEYORS+ENGINEERS
550 Bailey Ave., 205 · Fort Worth, TX 76107
Ph: 817.349.9800 · Fax: 979.732.5271
TBPE Firm 17957 | TBPLS Firm 10193887
www.fscinc.net

DATE:	09-03-2019	PROJECT NO:	2019082959
DRAWN BY:	LM	SCALE:	1" = 5,000'
CHECKED BY:	DH	SHEET:	3 OF 3
FIELD CREW:	RE/PH	REVISION:	1



LEGEND

- EXISTING OVERHEAD ELECTRIC
- SECTION LINE
- PROPOSED ROAD
- PROPOSED PAD
- DRILLING ISLAND
- PROPOSED PAD FALL OFF
- EXISTING ROAD
- EXISTING PIPELINE
- EXISTING FENCE

P.O.B. POINT OF BEGINNING
P.O.T. POINT OF TERMINATION
● FOUND MONUMENT AS NOTED

NO SURFACE DISTURBANCE ZONE

GENERAL NOTES

1. BEARINGS AND COORDINATES SHOWN HEREON ARE MERCATOR GRID AND CONFORM TO THE NEW MEXICO COORDINATE SYSTEM "NEW MEXICO EAST ZONE" NORTH AMERICAN DATUM 1983.
2. LATITUDE AND LONGITUDE VALUES SHOWN HEREON ARE RELATIVE TO THE NORTH AMERICAN DATUM (NAD83).

I, MARK DILLON HARP, NEW MEXICO PROFESSIONAL SURVEYOR NO. 23786, DO HEREBY CERTIFY THAT THIS SURVEY PLAT AND THE ACTUAL SURVEY ON THE GROUND UPON WHICH IT IS BASED WERE PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION; THAT I AM RESPONSIBLE FOR THIS SURVEY, THAT THIS SURVEY MEETS THE MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO, AND THAT IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

MARK DILLON HARP
REGISTERED PROFESSIONAL LAND SURVEYOR
STATE OF NEW MEXICO NO. 23786

MARK DILLON HARP
NEW MEXICO
23786
PROFESSIONAL SURVEYOR

FSC INC
SURVEYORS+ENGINEERS
550 Bailey Ave., 205 - Fort Worth, TX 76107
Ph: 817.349.9800 - Fax: 979.732.5271
TBPE Firm 17957 | TBPLS Firm 10193887
www.fscinc.net

PLAT OF:
PROPOSED CENTERLINE
OF ACCESS ROADS FOR:
XTO PERMIAN OPERATING, LLC.
BIG EDDY UNIT DI 38
STRING OF PEARLS
SITUATED IN SECTIONS 27 AND 28,
TOWNSHIP 22 SOUTH, RANGE 29 EAST,
NEW MEXICO PRIME MERIDIAN, EDDY
COUNTY, NEW MEXICO

DATE:	10-15-2019
DRAWN BY:	AI/AW
CHECKED BY:	DH
FIELD CREW:	RE
PROJECT NO:	2019082947
SCALE:	1" = 300'
SHEET:	1 OF 2
REVISION:	2

P:\PROJECTS\2019\2019082947-XTO-BIG_EDDY_UNIT_DI_38_LEASE-EDDY\DWG\EXHIBITS\2019082947-XTO-BIG_EDDY_UNIT_DI_38_ACCESS_ROAD.dwg

BIG EDDY UNIT DI 38 PROPOSED ACCESS ROADS DESCRIPTION:

SURVEY OF A STRIP OF LAND 50.0 FEET WIDE AND 1,875.58 FEET, 113.67 RODS, OR 0.36 MILES IN LENGTH CROSSING SECTIONS 27 AND 28, TOWNSHIP 22 SOUTH, RANGE 29 EAST, N.M.P.M. EDDY COUNTY, NEW MEXICO AND BEING 25.0 FEET RIGHT AND 25.0 FEET LEFT OF THE ABOVE PLATTED CENTERLINE SURVEY, COMPRISING OF 2.10 ACRES AND DIVIDED IN EACH QUARTER QUARTER SECTION AS FOLLOWS:

NW/4 NW/4 SECTION 27= 538.04 FEET = 32.61 RODS = 0.59 OF AN ACRE
NE/4 NE/4 SECTION 28 = 1,076.47 FEET = 65.24 RODS = 1.21 ACRES
SE/4 NE/4 SECTION 28 = 261.07 FEET = 15.82 RODS = 0.30 OF AN ACRE

LINE TABLE "A"

LINE	BEARING	DISTANCE
L1	N 62°55'06" W	324.38'

LINE TABLE "B"

L2	S 27°06'38" W	1,426.24'
L3	N 62°55'06" W	50.00'

LINE TABLE "C"

L4	N 64°53'50" W	74.96'

TOTAL LENGTH = 1,875.58 FEET
OR 113.67 RODS

I, MARK DILLON HARP, NEW MEXICO PROFESSIONAL SURVEYOR NO. 23786, DO HEREBY CERTIFY THAT THIS SURVEY PLAT AND THE ACTUAL SURVEY ON THE GROUND UPON WHICH IT IS BASED WERE PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION; THAT I AM RESPONSIBLE FOR THIS SURVEY, THAT THIS SURVEY MEETS THE MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO, AND THAT IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

MARK DILLON HARP
REGISTERED PROFESSIONAL LAND SURVEYOR
STATE OF NEW MEXICO NO. 23786

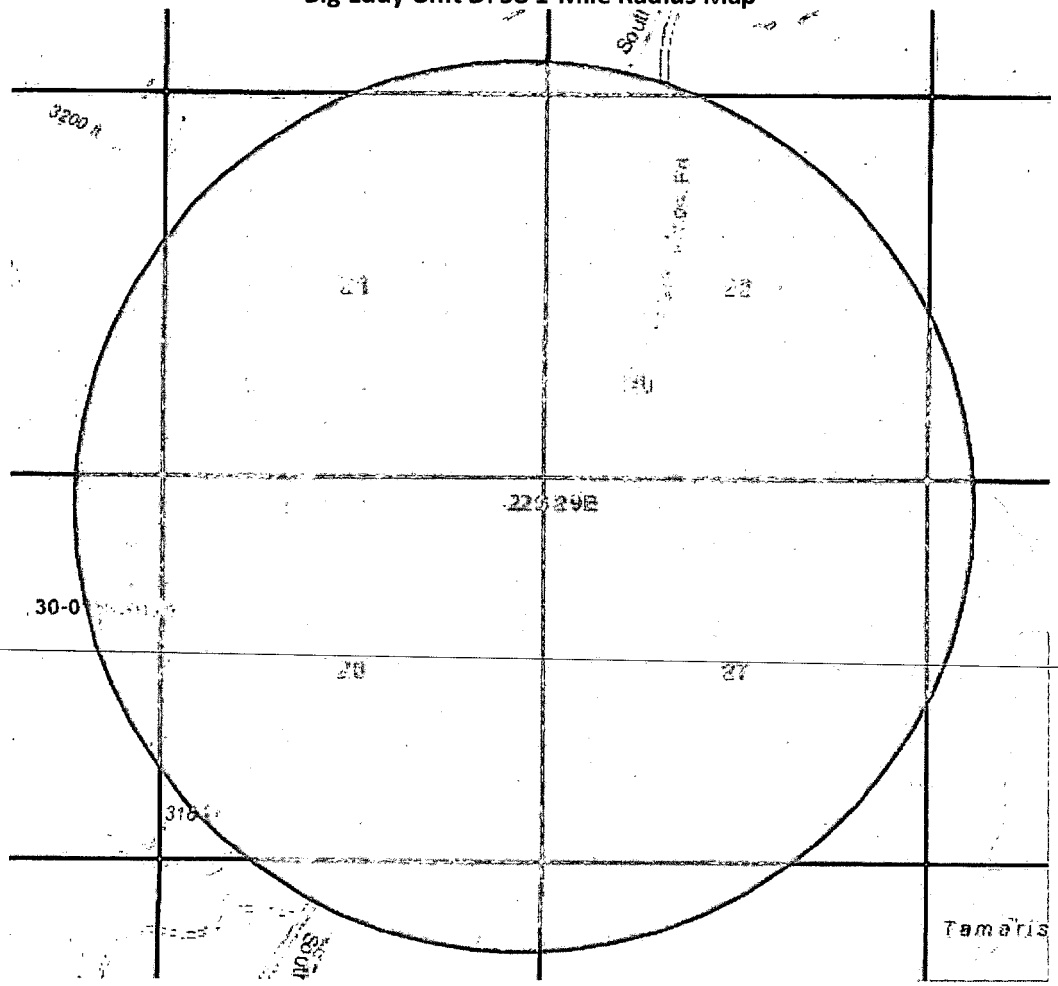
PLAT OF:
PROPOSED CENTERLINE
OF ACCESS ROADS FOR:
XTO PERMIAN OPERATING, LLC.
BIG EDDY UNIT DI 38
STRING OF PEARLS
SITUATED IN SECTIONS 27 AND 28, TOWNSHIP 22 SOUTH, RANGE 29 EAST, NEW MEXICO PRIME MERIDIAN, EDDY COUNTY, NEW MEXICO

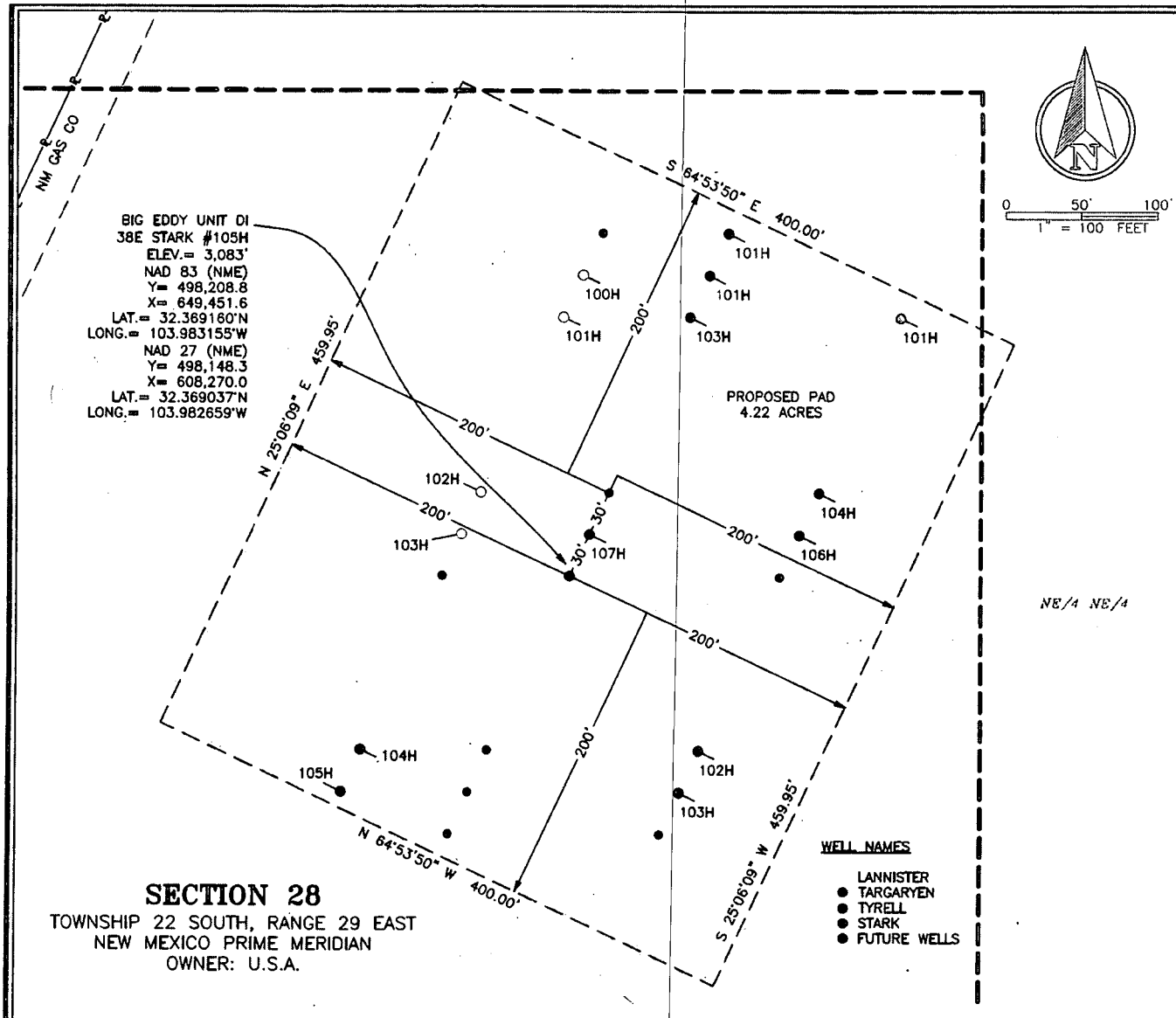
FSC INC
SURVEYORS+ENGINEERS
550 Bailey Ave., 205 - Fort Worth, TX 76107
Ph: 817.349.9800 - Fax: 979.732.5271
TBPE Firm 17957 | TBPLS Firm 10193887
www.fscinc.net

DATE:	10-15-2019	PROJECT NO:	2019082947
DRAWN BY:	AI/AW	SCALE:	
CHECKED BY:	OH	SHEET:	1 OF 1
FIELD CREW:	RE/KN	REVISION:	2

P:\PROJECTS\2019\2019082947-XTO-BIG_EDDY_UNIT_DI_38_LEASE-EDDY\DWG\EXHIBITS\2019082947-XTO-BIG_EDDY_UNIT_DI_38_ACCESS_ROAD.dwg

Big Eddy Unit DI 38 1-Mile Radius Map





SECTION 28

TOWNSHIP 22 SOUTH, RANGE 29 EAST
NEW MEXICO PRIME MERIDIAN
OWNER: U.S.A.

I, MARK DILLON HARP, NEW MEXICO PROFESSIONAL SURVEYOR NO. 23786, DO HEREBY CERTIFY THAT THIS SURVEY PLAT AND THE ACTUAL SURVEY ON THE GROUND UPON WHICH IT IS BASED WERE PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION; THAT I AM RESPONSIBLE FOR THIS SURVEY, THAT THIS SURVEY MEETS THE MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO, AND THAT IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

MARK DILLON HARP
REGISTERED PROFESSIONAL LAND SURVEYOR
STATE OF NEW MEXICO NO. 23786

MARK DILLON HARP
NEW MEXICO
23786
PROFESSIONAL SURVEYOR

NOTE:

1). SEE "TOPOGRAPHICAL AND ACCESS ROAD MAP" FOR PROPOSED ROAD LOCATION

DIRECTIONS TO THIS LOCATION:

FROM THE INTERSECTION OF US HIGHWAY 62-180 (HOBBS HWY) AND POTASH MINES RD (STATE RD 31) GO SOUTHEAST ON POTASH MINES RD (STATE RD 31) APPROX. 12.6 MILES. TURN RIGHT (NORTHWEST) ONTO PROPOSED RD AND THE LOCATION IS STRAIGHT AHEAD.

LEGEND

- PROPOSED PAD
- PROPOSED DRILLING ISLAND
- PROPOSED PAD FALL OFF
- EXISTING PIPELINE

XTO PERMIAN OPERATING, LLC.

WELL SITE PLAN

BIG EDDY UNIT DI 38E STARK #105H
LOCATED 727 FEET FROM THE EAST LINE
AND 597 FEET FROM THE NORTH LINE OF
SECTION 28, TOWNSHIP 22 SOUTH, RANGE 29
EAST, N.M.P.M. EDDY COUNTY, NEW MEXICO

DATE:	09-26-2019	PROJECT NO:	2019082959
DRAWN BY:	AR	SCALE:	1" = 100'
CHECKED BY:	AW	SHEET:	1 OF 1
FIELD CREW:	RE	REVISION:	

FSC INC
SURVEYORS+ENGINEERS
550 Bailey Ave., 205 - Fort Worth, TX 76107
Ph: 817.349.9800 - Fax: 979.732.5271
TBPE Firm 17957 | TBPLS Firm 10193887
www.fscinc.net

XTO Permian Operating, LLC
Big Eddy Unit DI 38 Associated Well List
10/01/2019

Slot Locations Correspond to BEU 38_OL.pdf
Exhibit Attached to APD

Big Eddy Unit 38E Baratheon #100H: Slot AA 1
Surface Hole Location: 924' FEL & 345' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: 50' FEL & 2,630' FSL, Section 24, T. 22 S. R. 29 E.

Big Eddy Unit 38E Baratheon #101H: Slot A 1
Surface Hole Location: 924' FEL & 372' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: 50' FEL & 1,980' FSL, Section 24, T. 22 S. R. 29 E.

Big Eddy Unit 38E Baratheon #102H: Slot B 1
Surface Hole Location: 937' FEL & 399' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: 50' FEL & 1,320' FSL, Section 24, T. 22 S. R. 29 E.

Big Eddy Unit 38E Baratheon #103H: Slot C 1
Surface Hole Location: 950' FEL & 426' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: 50' FEL & 660' FSL, Section 24, T. 22 S. R. 29 E.

Big Eddy Unit 38E Baratheon #104H: Slot DD 1
Surface Hole Location: 990' FEL & 513' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: 50' FEL & 50' FNL, Section 25, T. 22 S. R. 29 E.

Big Eddy Unit 38E Baratheon #105H: Slot D 1
Surface Hole Location: 1,003' FEL & 540' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: 50' FEL & 660' FNL, Section 25, T. 22 S. R. 29 E.

Big Eddy Unit 38E Baratheon #106H: Slot E 1
Surface Hole Location: 1,016' FEL & 567' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: 50' FEL & 1,320' FNL, Section 25, T. 22 S. R. 29 E.

Big Eddy Unit 38E Baratheon #107H: Slot F 1
Surface Hole Location: 1,029' FEL & 594' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: 50' FEL & 1,980' FNL, Section 25, T. 22 S. R. 29 E.

Big Eddy Unit 38E Baratheon #108H: Slot JJ 2
Surface Hole Location: 1,068' FEL & 851' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: 50' FEL & 2,630' FSL, Section 25, T. 22 S. R. 29 E.

Big Eddy Unit 38E Baratheon #109H: Slot J 2
Surface Hole Location: 1,080' FEL & 878' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: 50' FEL & 1,980' FSL, Section 25, T. 22 S. R. 29 E.

Big Eddy Unit 38E Baratheon #110H: Slot K 2
Surface Hole Location: 1,092' FEL & 905' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: 50' FEL & 1,320' FSL, Section 25, T. 22 S. R. 29 E.

Big Eddy Unit 38E Baratheon #111H: Slot L 2
Surface Hole Location: 1,105' FEL & 932' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: 50' FEL & 660' FSL, Section 25, T. 22 S. R. 29 E.

Big Eddy Unit 38E Greyjoy #100H: Slot B 2
Surface Hole Location: 856' FEL & 402' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: 50' FEL & 2,630' FSL, Section 24, T. 22 S. R. 29 E.

Big Eddy Unit 38E Greyjoy #101H: Slot C 2
Surface Hole Location: 868' FEL & 429' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: 50' FEL & 1,320' FSL, Section 24, T. 22 S. R. 29 E.

Big Eddy Unit 38E Greyjoy #102H: Slot D 2
Surface Hole Location: 922' FEL & 543' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: 50' FEL & 50' FNL, Section 25, T. 22 S. R. 29 E.

Big Eddy Unit 38E Greyjoy #103H: Slot E 2
Surface Hole Location: 934' FEL & 570' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: 50' FEL & 1,320' FNL, Section 25, T. 22 S. R. 29 E.

Big Eddy Unit 38E Greyjoy #104H: Slot G 1
Surface Hole Location: 1,082' FEL & 707' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: 50' FEL & 2,630' FSL, Section 25, T. 22 S. R. 29 E.

Big Eddy Unit 38E Greyjoy #105H: Slot H 1
Surface Hole Location: 1,095' FEL & 734' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: 50' FEL & 1,320' FSL, Section 25, T. 22 S. R. 29 E.

Big Eddy Unit 38E Lannister #100H: Slot B 3
Surface Hole Location: 718' FEL & 402' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: 50' FEL & 1,980' FSL, Section 24, T. 22 S. R. 29 E.

Big Eddy Unit 38E Lannister #101H: Slot C 3
Surface Hole Location: 730' FEL & 429' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: 50' FEL & 660' FSL, Section 24, T. 22 S. R. 29 E.

Big Eddy Unit 38E Lannister #102H: Slot D 3
Surface Hole Location: 784' FEL & 543' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: 50' FEL & 660' FNL, Section 25, T. 22 S. R. 29 E.

Big Eddy Unit 38E Lannister #103H: Slot E 3
Surface Hole Location: 797' FEL & 570' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: 50' FEL & 1,980' FNL, Section 25, T. 22 S. R. 29 E.

Big Eddy Unit 38E Lannister #104H: Slot J 3
Surface Hole Location: 942' FEL & 878' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: 50' FEL & 1,980' FSL, Section 25, T. 22 S. R. 29 E.

Big Eddy Unit 38E Lannister #105H: Slot K 3
Surface Hole Location: 954' FEL & 905' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: 50' FEL & 660' FSL, Section 25, T. 22 S. R. 29 E.

Big Eddy Unit 38E Stark #100H: Slot AA 5
Surface Hole Location: 471' FEL & 348' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: 50' FEL & 2,630' FSL, Section 24, T. 22 S. R. 29 E.

Big Eddy Unit 38E Stark #101H: Slot B 4
Surface Hole Location: 635' FEL & 402' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: 50' FEL & 1,980' FSL, Section 24, T. 22 S. R. 29 E.

Big Eddy Unit 38E Stark #102H: Slot A 5
Surface Hole Location: 484' FEL & 375' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: 50' FEL & 1,320' FSL, Section 24, T. 22 S. R. 29 E.

Big Eddy Unit 38E Stark #103H: Slot C 4
Surface Hole Location: 648' FEL & 429' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: 50' FEL & 660' FSL, Section 24, T. 22 S. R. 29 E.

Big Eddy Unit 38E Stark #104H: Slot D 5
Surface Hole Location: 563' FEL & 543' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: 50' FEL & 50' FNL, Section 25, T. 22 S. R. 29 E.

Big Eddy Unit 38E Stark #105H: Slot F 4
Surface Hole Location: 727' FEL & 597' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: 50' FEL & 660' FNL, Section 25, T. 22 S. R. 29 E.

Big Eddy Unit 38E Stark #106H: Slot E 5
Surface Hole Location: 576' FEL & 570' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: 50' FEL & 1,320' FNL, Section 25, T. 22 S. R. 29 E.

Big Eddy Unit 38E Stark #107H: Slot E 4
Surface Hole Location: 714' FEL & 570' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: 50' FEL & 1,980' FNL, Section 25, T. 22 S. R. 29 E.

Big Eddy Unit 38E Stark #108H: Slot J 5
Surface Hole Location: 721' FEL & 878' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: 50' FEL & 2,630' FSL, Section 25, T. 22 S. R. 29 E.

Big Eddy Unit 38E Stark #109H: Slot J 4
Surface Hole Location: 859' FEL & 878' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: 50' FEL & 1,980' FSL, Section 25, T. 22 S. R. 29 E.

Big Eddy Unit 38E Stark #110H: Slot K 5
Surface Hole Location: 734' FEL & 905' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: 50' FEL & 1,320' FSL, Section 25, T. 22 S. R. 29 E.

Big Eddy Unit 38E Stark #111H: Slot K 4
Surface Hole Location: 872' FEL & 905' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: 50' FEL & 660' FSL, Section 25, T. 22 S. R. 29 E.

Big Eddy Unit 38E Targaryen #100H: Slot B 5
Surface Hole Location: 497' FEL & 402' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: 50' FEL & 1,980' FSL, Section 24, T. 22 S. R. 29 E.

Big Eddy Unit 38E Targaryen #101H: Slot C 5
Surface Hole Location: 510' FEL & 429' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: 50' FEL & 660' FSL, Section 24, T. 22 S. R. 29 E.

Big Eddy Unit 38E Targaryen #102H: Slot D 6
Surface Hole Location: 480' FEL & 543' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: 50' FEL & 660' FNL, Section 25, T. 22 S. R. 29 E.

Big Eddy Unit 38E Targaryen #103H: Slot E 6
Surface Hole Location: 493' FEL & 570' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: 50' FEL & 1,980' FNL, Section 25, T. 22 S. R. 29 E.

Big Eddy Unit 38E Targaryen #104H: Slot J 7
Surface Hole Location: 500' FEL & 878' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: 50' FEL & 1,980' FSL, Section 25, T. 22 S. R. 29 E.

Big Eddy Unit 38E Targaryen #105H: Slot K 7
Surface Hole Location: 513' FEL & 905' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: 50' FEL & 660' FSL, Section 25, T. 22 S. R. 29 E.

Big Eddy Unit 38E Tyrell #100H: Slot AA 4
Surface Hole Location: 609' FEL & 348' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: 50' FEL & 2,630' FSL, Section 24, T. 22 S. R. 29 E.

Big Eddy Unit 38E Tyrell #101H: Slot A 4
Surface Hole Location: 622' FEL & 375' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: 50' FEL & 1,320' FSL, Section 24, T. 22 S. R. 29 E.
Big Eddy Unit 38E Tyrell #102H: Slot G 5
Surface Hole Location: 642' FEL & 710' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: 50' FEL & 50' FNL, Section 25, T. 22 S. R. 29 E.

Big Eddy Unit 38E Tyrell #103H: Slot H 5
Surface Hole Location: 656' FEL & 737' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: 50' FEL & 1,320' FNL, Section 25, T. 22 S. R. 29 E.

Big Eddy Unit 38E Tyrell #104H: Slot G 3
Surface Hole Location: 863' FEL & 710' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: 50' FEL & 2,630' FSL, Section 25, T. 22 S. R. 29 E.

Big Eddy Unit 38E Tyrell #105H: Slot H 3
Surface Hole Location: 875' FEL & 737' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: 50' FEL & 1,320' FSL, Section 25, T. 22 S. R. 29 E.

Future Well #1: Slot A 2
Surface Hole Location: 843' FEL & 375' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: To Be Determined

Future Well #2: Slot A 3
Surface Hole Location: 705' FEL & 375' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: To Be Determined

Future Well #3: Slot D 4
Surface Hole Location: 701' FEL & 543' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: To Be Determined

Future Well #4: Slot F 2
Surface Hole Location: 947' FEL & 597' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: To Be Determined

Future Well #5: Slot F 3
Surface Hole Location: 809' FEL & 597' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: To Be Determined

Future Well #6: Slot F 5
Surface Hole Location: 589' FEL & 597' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: To Be Determined

Future Well #7: Slot F 6
Surface Hole Location: 506' FEL & 597' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: To Be Determined

Future Well #8: Slot G 2
Surface Hole Location: 1,001' FEL & 710' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: To Be Determined

Future Well #9: Slot G 4
Surface Hole Location: 780' FEL & 710' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: To Be Determined

Future Well #10: Slot G 6
Surface Hole Location: 559' FEL & 710' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: To Be Determined

Future Well #11: Slot H 2
Surface Hole Location: 1,013' FEL & 737' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: To Be Determined

Future Well #12: Slot H 4
Surface Hole Location: 793' FEL & 737' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: To Be Determined

Future Well #13: Slot H 6
Surface Hole Location: 572' FEL & 737' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: To Be Determined

Future Well #14: Slot I 1
Surface Hole Location: 1,108' FEL & 762' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: To Be Determined

Future Well #15: Slot I 2
Surface Hole Location: 1,026' FEL & 765' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: To Be Determined

Future Well #16: Slot I 3
Surface Hole Location: 888' FEL & 765' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: To Be Determined

Future Well #17: Slot I 4
Surface Hole Location: 805' FEL & 765' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: To Be Determined

Future Well #18: Slot I 5
Surface Hole Location: 668' FEL & 765' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: To Be Determined

Future Well #19: Slot I 6
Surface Hole Location: 585' FEL & 765' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: To Be Determined

Future Well #20: Slot J 6
Surface Hole Location: 638' FEL & 878' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: To Be Determined

Future Well #21: Slot K 6
Surface Hole Location: 651' FEL & 905' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: To Be Determined

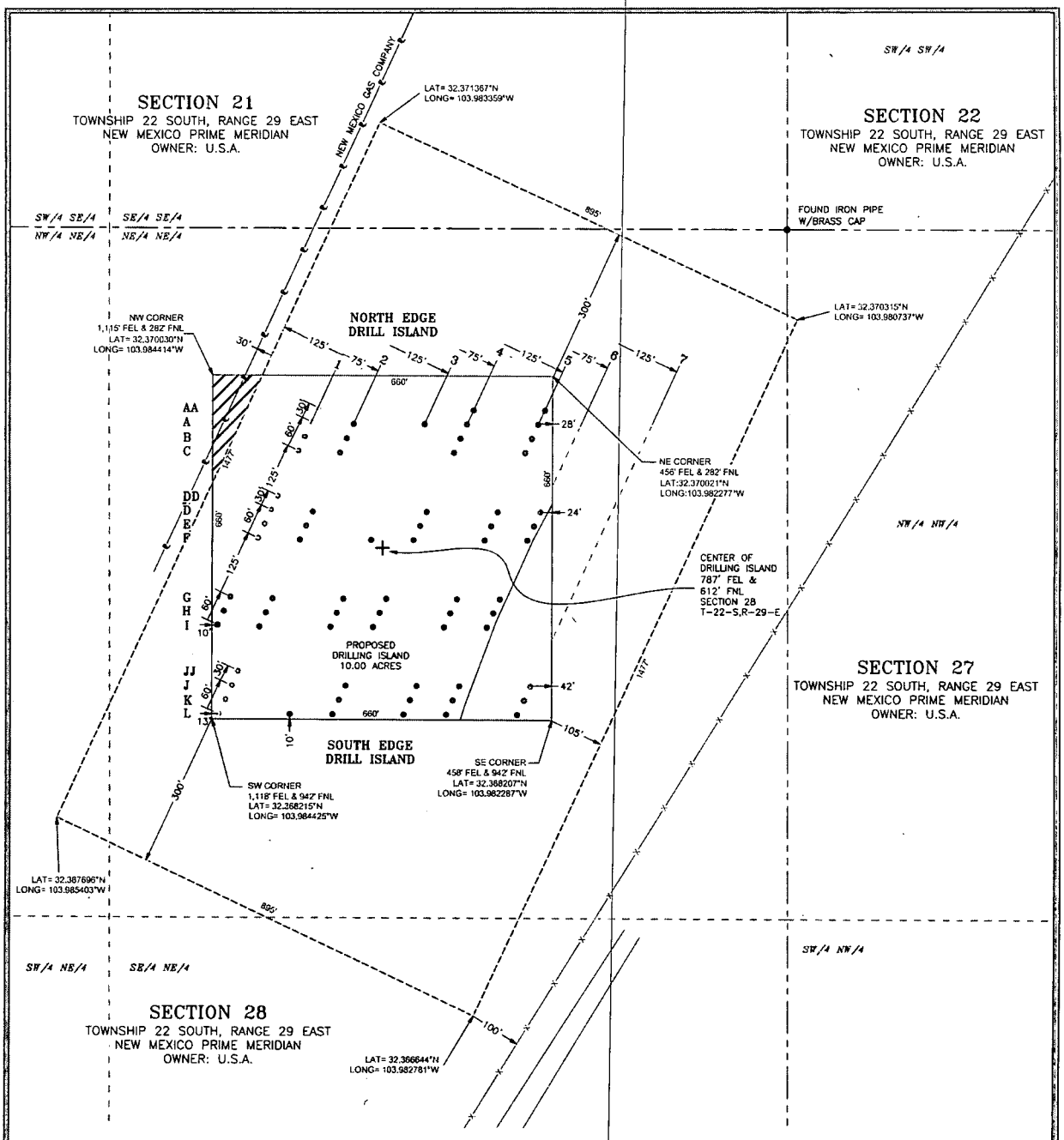
Future Well #22: Slot L 3
Surface Hole Location: 967' FEL & 932' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: To Be Determined

Future Well #23: Slot L 4
Surface Hole Location: 884' FEL & 932' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: To Be Determined

Future Well #24: Slot L 5
Surface Hole Location: 746' FEL & 932' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: To Be Determined

Future Well #25: Slot L 6
Surface Hole Location: 664' FEL & 932' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: To Be Determined

Future Well #26: Slot L 7
Surface Hole Location: 526' FEL & 932' FNL, Section 28, T. 22 S. R. 29 E.
Bottom Hole Location: To Be Determined



- TARGARYEN
- STARK
- TYRELL
- FUTURE WELL
  LANNISTER
- GREYJOY
- BARATHEON

LEGEND

- SECTION LINE
- EXISTING PIPELINE
- EXISTING ROAD
- EXISTING PAD
- EXISTING FENCE
- PROPOSED PAD EXTENSION
- PROPOSED DRILLING ISLAND
- FOUND MONUMENT AS NOTED
- DENOTES SHALLOW DESIGNATION DRILL AREA
- DENOTES DEEP DESIGNATION DRILL AREA
- NO SURFACE DISTURBANCE ZONE

GENERAL NOTES

1. BEARINGS AND COORDINATES SHOWN HEREON ARE MERCATOR GRID AND CONFORM TO THE NEW MEXICO COORDINATE SYSTEM "NEW MEXICO EAST ZONE" NORTH AMERICAN DATUM 1983.
2. LATITUDE AND LONGITUDE VALUES SHOWN HEREON ARE RELATIVE TO THE NORTH AMERICAN DATUM (NAD83).

I, MARK DILLON HARP, NEW MEXICO PROFESSIONAL SURVEYOR NO. 23786, DO HEREBY CERTIFY THAT THIS SURVEY PLAT AND THE ACTUAL SURVEY ON THE GROUND UPON WHICH IT IS BASED WERE PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION; THAT I AM RESPONSIBLE FOR THIS SURVEY, THAT THIS SURVEY MEETS THE MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO, AND THAT IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

MARK DILLON HARP
REGISTERED PROFESSIONAL LAND SURVEYOR
STATE OF NEW MEXICO NO. 23786

MARK DILLON HARP
NEW MEXICO
23786
PROFESSIONAL SURVEYOR

FSC INC
550 Bailey Ave., 205 · Fort Worth, TX 76107
Ph: 817.349.9800 · Fax: 979.732.5271
TBPE Firm 17957 | TBPLS Firm 10193887
www.fscinc.net

EXHIBIT OF:

DRILLING ISLAND FOR:

XTO PERMIAN OPERATING, LLC.

BIG EDDY UNIT DI 38
PAD LAYOUT

SITUATED IN SECTION 28, TOWNSHIP 22 SOUTH, RANGE 29 EAST, NEW MEXICO PRIME MERIDIAN, EDDY COUNTY, NEW MEXICO

DATE:	10-17-2019
DRAWN BY:	AI/AW/LM
CHECKED BY:	DH
FIELD CREW:	RE
PROJECT NO:	2019082947
SCALE:	1" = 200'
SHEET:	1 OF 2
REVISION:	2

P:\PROJECTS\2019\2019082947-XTO-BIG_EDDY_UNIT_DI_38_LEASE-EDDY\DWG\EXHIBITS\2019082947-XTO-BIG_EDDY_UNIT_DI_38_PAD_LAYOUT.dwg

WELL LOCATION INFORMATION

WELL	FOOTAGE CALLS
AA1	911' FEL & 345' FNL SEC. 28
AA4	609' FEL & 348' FNL SEC. 28
AA5	471' FEL & 348' FNL SEC. 28

WELL	FOOTAGE CALLS
DD1	990' FEL & 513' FNL SEC. 28

WELL	FOOTAGE CALLS
A1	924' FEL & 372' FNL SEC. 28
A2	843' FEL & 375' FNL SEC. 28
A3	705' FEL & 375' FNL SEC. 28
A4	622' FEL & 375' FNL SEC. 28
A5	484' FEL & 375' FNL SEC. 28

WELL	FOOTAGE CALLS
B1	937' FEL & 399' FNL SEC. 28
B2	856' FEL & 402' FNL SEC. 28
B3	718' FEL & 402' FNL SEC. 28
B4	635' FEL & 402' FNL SEC. 28
B5	497' FEL & 402' FNL SEC. 28

WELL	FOOTAGE CALLS
C1	950' FEL & 426' FNL SEC. 28
C2	868' FEL & 429' FNL SEC. 28
C3	730' FEL & 429' FNL SEC. 28
C4	648' FEL & 429' FNL SEC. 28
C5	510' FEL & 429' FNL SEC. 28

WELL	FOOTAGE CALLS
D1	1,003' FEL & 540' FNL SEC. 28
D2	922' FEL & 543' FNL SEC. 28
D3	784' FEL & 543' FNL SEC. 28
D4	701' FEL & 543' FNL SEC. 28
D5	563' FEL & 543' FNL SEC. 28
D6	480' FEL & 543' FNL SEC. 28

WELL	FOOTAGE CALLS
E1	1,016' FEL & 567' FNL SEC. 28
E2	934' FEL & 570' FNL SEC. 28
E3	797' FEL & 570' FNL SEC. 28
E4	714' FEL & 570' FNL SEC. 28
E5	576' FEL & 570' FNL SEC. 28
E6	493' FEL & 570' FNL SEC. 28

WELL	FOOTAGE CALLS
F1	1,029' FEL & 594' FNL SEC. 28
F2	947' FEL & 597' FNL SEC. 28
F3	809' FEL & 597' FNL SEC. 28
F4	727' FEL & 597' FNL SEC. 28
F5	589' FEL & 597' FNL SEC. 28
F6	506' FEL & 597' FNL SEC. 28

WELL	FOOTAGE CALLS
G1	1,082' FEL & 707' FNL SEC. 28
G2	1,001' FEL & 710' FNL SEC. 28
G3	863' FEL & 710' FNL SEC. 28
G4	780' FEL & 710' FNL SEC. 28
G5	642' FEL & 710' FNL SEC. 28
G6	559' FEL & 710' FNL SEC. 28

WELL	FOOTAGE CALLS
H1	1,095' FEL & 734' FNL SEC. 28
H2	1,013' FEL & 737' FNL SEC. 28
H3	875' FEL & 737' FNL SEC. 28
H4	793' FEL & 737' FNL SEC. 28
H5	656' FEL & 737' FNL SEC. 28
H6	572' FEL & 737' FNL SEC. 28

WELL	FOOTAGE CALLS
I1	1,108' FEL & 762' FNL SEC. 28
I2	1,026' FEL & 765' FNL SEC. 28
I3	888' FEL & 765' FNL SEC. 28
I4	805' FEL & 765' FNL SEC. 28
I5	668' FEL & 765' FNL SEC. 28
I6	585' FEL & 765' FNL SEC. 28

WELL	FOOTAGE CALLS
JJ2	1,068' FEL & 851' FNL SEC. 28

WELL	FOOTAGE CALLS
J2	1,080' FEL & 878' FNL SEC. 28
J3	942' FEL & 878' FNL SEC. 28
J4	859' FEL & 878' FNL SEC. 28
J5	721' FEL & 878' FNL SEC. 28
J6	638' FEL & 878' FNL SEC. 28
J7	500' FEL & 878' FNL SEC. 28

WELL	FOOTAGE CALLS
K2	1,092' FEL & 905' FNL SEC. 28
K3	954' FEL & 905' FNL SEC. 28
K4	872' FEL & 905' FNL SEC. 28
K5	734' FEL & 905' FNL SEC. 28
K6	651' FEL & 905' FNL SEC. 28
K7	513' FEL & 905' FNL SEC. 28

WELL	FOOTAGE CALLS
L2	1,105' FEL & 932' FNL SEC. 28
L3	967' FEL & 932' FNL SEC. 28
L4	884' FEL & 932' FNL SEC. 28
L5	746' FEL & 932' FNL SEC. 28
L6	664' FEL & 932' FNL SEC. 28
L7	526' FEL & 932' FNL SEC. 28

GENERAL NOTES

1. BEARINGS AND COORDINATES SHOWN HEREON ARE MERCATOR GRID AND CONFORM TO THE NEW MEXICO COORDINATE SYSTEM "NEW MEXICO EAST ZONE" NORTH AMERICAN DATUM 1983.
2. LATITUDE AND LONGITUDE VALUES SHOWN HEREON ARE RELATIVE TO THE NORTH AMERICAN DATUM (NAD83).

I, MARK DILLON HARP, NEW MEXICO PROFESSIONAL SURVEYOR NO. 23786, DO HEREBY CERTIFY THAT THIS SURVEY PLAT AND THE ACTUAL SURVEY ON THE GROUND UPON WHICH IT IS BASED WERE PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION; THAT I AM RESPONSIBLE FOR THIS SURVEY, THAT THIS SURVEY MEETS THE MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO, AND THAT IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

MARK DILLON HARP
REGISTERED PROFESSIONAL LAND SURVEYOR
STATE OF NEW MEXICO NO. 23786

MARK DILLON HARP NEW MEXICO 23786 PROFESSIONAL SURVEYOR

FSC INC
550 Bailey Ave., 205 - Fort Worth, TX 76107
Ph: 817.349.9800 - Fax: 979.732.5271
TBPE Firm 17957 | TBPLS Firm 10193887
www.fscinc.net

EXHIBIT OF:
DRILLING ISLAND FOR:
XTO PERMIAN OPERATING, LLC.
BIG EDDY UNIT DI 38
PAD LAYOUT
SITUATED IN SECTION 28, TOWNSHIP 22 SOUTH, RANGE 29 EAST, NEW MEXICO PRIME MERIDIAN, EDDY COUNTY, NEW MEXICO

DATE:	10-17-2019
DRAWN BY:	LM
CHECKED BY:	DH
FIELD CREW:	
PROJECT NO:	2019082947
SCALE:	
SHEET:	2 OF 2
REVISION:	NO

P:\PROJECTS\2019\2019082947-XTO-BIG_EDDY_UNIT_DI_38_LEASE-EDDY\DWG\EXHIBITS\2019082947-XTO-BIG_EDDY_UNIT_DI_38_PAD_LAYOUT.dwg

Well Site Locations

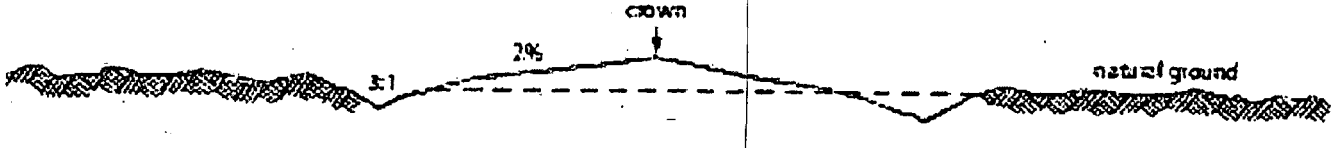
The results of Big Eddy Unit DI 38 Development Program will develop economic quantities of oil and gas in the Big Eddy Unit with multiple primary formations targeted. Well locations are determined based on cross-section variations and details. Locations will be selected to minimize the likelihood of encountering faults and/or drilling hazards while still targeting suitably productive zones.

If drilling results in an unproductive well, the well will be plugged and abandoned as soon as practical after the conclusion of production testing. Productive wells may be shut-in temporarily for BLM authorization for production activities and facilities.

Surface Use Plan

1. **Existing Roads**
   A. The Big Eddy Unit DI 38 Development area is accessed from the intersection of Hwy 62-180 (Hobbs Hwy) and Potash Mines Road (State Rd 31). Go Southeast on Potash Mines Road (State Road 31) approximately 12.6 miles. Turn right (Northwest) onto proposed road. The location is straight ahead. Transportation Plan identifying existing roads that will be used to access the project area is included from FSC, Inc. marked as, 'Vicinity Map.'
   B. There are existing access roads to the proposed Big Eddy Unit well locations. All equipment and vehicles will be confined to the routes shown on the Vicinity Map as provided by FSC, Inc. Maintenance of the access roads will continue until abandonment and reclamation of the well pads is completed.

2. **New or Upgraded Access Roads**
   A. **New Roads**. There is a total of 1875.58' or .36 miles of proposed and staked access roads in the Big Eddy Unit DI 38 lease area.
   B. **Well Pads**. The well pads selected for development will determine which existing roads will be upgraded and which new roads will be built. No new roads will need to be constructed to access the well pads.
   C. **Anticipated Traffic**. After well completion, travel to each well site will included one lease operator truck and two oil trucks per day until the Central Tank Battery is completed. Upon completion of the Central Tank Battery, one lease operator truck will continue to travel to each well site to monitor the working order of the wells and to check well equipment for proper operation. Two oil trucks will continue to travel to the Central Tank Battery only for oil hauling. Additional traffic will include one maintenance truck periodically throughout the year for pad upkeep and weed removal. Well service trips will include only the traffic necessary to work on the wells or provide chemical treatments periodically and as needed throughout the year.
   D. **Routing**. All equipment and vehicles will be confined to the travel routes laid out in the vicinity map provided by Frank's Surveying unless otherwise approved by the BLM and applied for by XTO Permian Operating, LLC.
   E. **Road Dimensions**. The maximum width of the driving surface of new roads will be 30 feet. The roads will be crowned and ditched with a 2% slope from the tip of the crown to the edge of the driving surface. The ditches will be 1 foot deep with 3:1 slopes. The driving surface will be made of 6" rolled and compacted caliche.



Level Ground Section

F. **Surface Material**. Surface material will be native caliche. The average grade of all roads will be approximately 3%.
G. **Fence Cuts**: No.
H. **Fences**: No.
I. **Cattle Guards**: No.
J. **Turnouts**: No.
K. **Culverts**: No.
L. **Cuts and Fills**: Not significant.
M. **Topsoil**. Approximately 6 inches of topsoil (root zone) will be stripped from the proposed access road prior to any further construction activity. The topsoil that was stripped will be spread along the edge of the road and within the ditch. The topsoil will be seeded with the proper seed mix designated by the BLM.
N. **Maintenance**. The access road will be constructed and maintained as necessary to prevent soil erosion and accommodate all-weather traffic. The road will be crowned and ditched with water turnouts installed as necessary to provide for proper drainage along with access road route.
O. **Drainage**. The access road and associated drainage structures will be constructed and maintained in accordance with road guidelines contained in the joint BLM/USFS publication: Surface Operating Standards for Oil and Gas Exploration and Development, The Gold Book, Fourth Edition and/or BLM Manual Section 9113 concerning road construction standards on projects subject to federal jurisdiction.

3. Location of Existing Wells

A. See attached 1-mile radius well map.

4. Ancillary Facilities

A. **Ancillary Facilities**. No off-pad ancillary facilities are planned during the exploration phase including, but not limited to: campsites, airstrips or staging areas.

5. Location of Proposed Production Facilities

A. **Production Facilities**. No production facility is included with this request. Once a location is determined for the CTB and an onsite has been conducted, XTO will submit the CTB for application via a 3160-5 sundry notification of intent prior to construction.
B. **Flowlines**. No flowlines are included with this request. Once a location is determined for the CTB and an onsite has been conducted, XTO will submit the flowline routes for application via a 3160-5 sundry notification of intent prior to construction.
C. **Oil & Gas Pipeline**. No oil or gas pipelines are included with this request. Once a location is determined for the CTB and an onsite has been conducted, XTO will submit the oil and gas pipeline routes for application via a 3160-5 sundry notification of intent prior to construction.
D. **Disposal Facilities**. Produced water will be hauled from location to a commercial disposal facility as needed. Once wells are drilled and completed, a 3160-5 sundry notification will be submitted to BLM in compliance with Onshore Order 7.
E. **Flare**. No flare is required. No additional surface disturbance is needed.
F. **Aboveground Structures**. All permanent (on site six months or longer) aboveground structures constructed or installed on location and not subject to safety requirements will be painted earth-tone colors such as 'shale green' that reduce the visual impacts of the built environment.
G. **Containment Berms**. Containment berms will be constructed completely around any production facilities designed to hold fluids. The containment berms will be constructed of compacted subsoil, be sufficiently impervious, hold 1 ½ times the capacity of the largest tank and away from cut or fill areas.

H. **Electrical**. No electrical is included with this request. Once a location is determined for the CTB and an onsite has been conducted, XTO will submit the electrical route for application via a 3160-5 sundry notification of intent prior to construction.

6. Location and Types of Water Supply

The well will be drilled using a combination of water mud systems as outlined in the Drilling Program. The water will be obtained from a 3rd party vendor and hauled to the anticipated pit in Section 7 by transport truck using the existing and proposed roads depicted in the attached exhibits. No water well will be drilled on the location.

Water for drilling, completion and dust control will be purchased from the following company:
Texas Pacific Water Resources

Water for drilling, completion and dust control will be supplied by Texas Pacific Water Resources for sale to XTO Permian Operating, LLC. from Section 27, T25S-R30E, Eddy County, New Mexico. In the event that Texas Pacific Water Resources does not have the appropriate water for XTO at time of drilling and completion, then XTO water will come from Intrepid Potash Company with the location of the water being in Section 6, T25S-R29E, Eddy County, New Mexico.

Anticipated water usage for drilling includes an estimated 35,000 barrels of water to drill a horizontal well in a combination of fresh water and brine as detailed in the mud program in the drilling plans. These volumes are calculated for ~1.5bbls per foot of hole drilled with excess to accommodate any lost circulation or wash out that may occur. Actual water volumes used during operations will depend on the depth of the well, length of horizontal sections, and the losses that may occur during the operation.

Temporary water flowlines will be permitted via ROW approval letter and proper grants as-needed based on drilling and completion schedules as needed. Well completion is expected to require approximately 300,000 barrels of water per horizontal well. Actual water volumes used during operations will depend on the depth of the well and length of horizontal sections.

7. Construction Activities

- Construction, reclamation, and/or routine maintenance will not be conducted during periods when the soil conditions for construction could lead to impacts to the surrounding environment, or when watershed damage is likely to occur as a result of these activities.
- Any construction material that may be required for surfacing of the drill pad and access road will be from a contractor having a permitted source of materials within the general area. No construction materials will be removed from federal lands without prior approval from the appropriate surface management agency. All roads and well pads will be constructed of 6" rolled and compacted caliche.
- Anticipated Caliche Locations:
    i. Pit 1: Federal Caliche Pit, Section 27-20S-31E
    ii. Pit 2: Federal Caliche Pit, Section 5-21S-30E

8. Methods for Handling Waste

- **Cuttings**. The well will be drilled utilizing a closed-loop mud system. Drill cuttings will be held in roll-off style mud boxes and taken to a New Mexico Oil Conservation Division (NMOCD) approved disposal site.
- **Drilling Fluids**. These will be contained in steel mud pits and then taken to a NMOCD approved commercial disposal facility.
- **Produced Fluids**. Water produced from the well during completion will be held temporarily in steel tanks and then taken to a NMOCD approved commercial disposal facility. Oil produced during operations will be stored in tanks until sold.
- **Sewage**. Portable, self-contained toilets will be provided for human waste disposal. Upon completion of drilling and completion activities, or as required, the toilet holding tanks will be pumped 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.

- **Garbage and Other Waste Materials.** 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 approve 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.
- **Debris**. Immediately after removal of the drilling rig, all debris and other waste materials not contained in the trash cage will be cleaned and removed from the well location. No potential adverse materials or substances will be left on location.
- **Hazardous Materials.**
    i. All drilling wastes identified as hazardous substances by the Comprehensive Environmental Response Compensation Liability Act (CERCLA) removed from the location and not reused at another drilling location will be disposed of at a hazardous waste facility approved by the U.S. Environmental Protection Agency (EPA).
    ii. XTO Permian Operating, LLC. and its contractors will comply with all applicable Federal, State and local laws and regulations, existing or hereafter enacted promulgated, with regard to any hazardous material, as defined in this paragraph, that will be used, produced, transported or stored on the oil and gas lease. "Hazardous material" means any substance, pollutant or contaminant that is listed as hazardous under the CERCLA of 1980, as amended, 42 U.S.C 9601 et seq., and its regulation. The definition of hazardous substances under CERLCA includes any 'hazardous waste" as defined in the RCRA of 1976, as amended, 42 U.S.C. 6901 et seq., and its regulations. The term hazardous material also includes any nuclear or nuclear by-product material as defined by the Atomic Energy Act of 1954, as amended, 42 U.C.S. 2011 et seq. The term does not include petroleum, including crude oil or any fraction thereof that is not otherwise specifically listed or designated as a hazardous substance under CERCLA Section 101 (14) U.S.C. 9601 (14) nor does the term include natural gas.
    iii. No hazardous substances or wastes will be stored on the location after completion of the well.
    iv. Chemicals brought to location will be on the Toxic Substance Control Act (TSCA) approved inventory list.
    v. All undesirable events (fires, accidents, blowouts, spills, discharges) as specified in Notice to Lessees (NTL) 3A will be reported to the BLM Carlsbad Field Office. Major events will be reported verbally within 24 hours, followed by a written report within 15 days. "Other than Major Events" will be reported in writing within 15 days.

9. Well Site Layout

A. **Rig Plat Diagrams**: There is one (1) multi-well pad in the Big Eddy Unit DI 38 development area anticipated. This will allow enough space for cuts and fills and storm water control. A well list is attached to this application. Interim reclamation of these pads is anticipated after the drilling and completion of all wells on the pad. The size of the well pad is expected to be 895'x1477' for 74 wells over the project development life.

B. **Closed-Loop System**: There will be no reserve pit as each well will be drilled utilizing a closed loop mud system. The closed loop system will meet the NMOCD requirements 19.15.17.

C. **V-Door Orientation**: No additional surface disturbance is required for these wells. The drill island is built and the pad will not fall off of the drill island boundaries. Drill island plat is attached.

D. All equipment and vehicles will be confined to the approved disturbed areas of this APD (i.e., access road, well pad and topsoil storage areas).

10. Plans for Surface Reclamation:

No surface reclamation is planned for this well. XTO Permian Operating, LLC. requests a variance to interim reclamation until all wells on the drill island have been drilled and completed, at which time, XTO Permian Operating, LLC. will contact the appropriate BLM personnel to discuss appropriate interim reclamation plans.

11. Surface Ownership

A. The Big Eddy Unit DI 38 is 100% under the administrative jurisdiction of the Bureau of Land Management.

B. The surface is multiple-use with the primary uses of the region for grazing and for the production of oil and gas.

12. **Other Information**

Drill Island

- **Drill Island.** The proposed drill island is requested as use for oil and gas operations inside of the Secretary's Order of Potash Area (SOPA). The island requested will be used for surface hole locations for wells productive of oil and gas with no surface hole planned outside of the boundary of the onsited and approved drill island. The total penetrable space of the drill island is: 660'x660'.

  Drill Island: 10acres [Centerpoint: 787'FEL & 612'FNL, Sec 28-22S-29E]

  The total size of the drill island with pad fall off is anticipated to be to: 895'x1477' or 30.35 acres.

  A current detailed plat of the drill island is attached depicting shallow and deep designation areas, proposed well pads, pipelines, and existing well pads. Shallow and deep designation areas were determined post-onsite based on ¼ mile or ½ mile from the edge of the drill island to existing mine workings as depicted in BLM shape files.

  A current detailed plat of the drill island is attached depicting the anticipated wells on the island. Shallow and deep designation areas were determined post-onsite based on ¼ mile or ½ mile from the edge of the drill island to existing mine workings as depicted in BLM shape files.

- **Well Sites.** One (1) 1895'x1477' well pad has been staked on the drill island, known as Big Eddy Unit DI 38. Surveys of the drill island location have been completed by FSC, Inc., a registered professional land surveyor and are attached to this application. Center stake surveys with access roads have been completed on State lands with Jeffery Robertson, Bureau of Land Management Natural Resource Specialist, and the following individuals: Jim Rutley, Bureau of Land Management, in attendance.
  - The wellbore paths will not leave the 660'x660' (based on maximum footages of the two longest 2-sides) drill island until the salt zone is cased and protected pursuant to NMOCD Order R-111-P.
  - A full list of XTO Permian Operating, LLC wells anticipated to be located on Big Eddy Unit DI 38 is attached.
  - Approval of the drill island does not constitute approval to drill. An APD must be submitted and approved for each well located on the drill island prior to any drilling activity.

- **Facility.** The proposed Central Tank Battery is located off of the proposed drill island to the South as depicted on the detailed drill island plat (included).

- **Cultural Resources – Archaeology**: A 3rd party archaeological survey has been performed by Boone Archaeology. A copy of the report has been submitted to the Bureau of Land Management for review.

- **Dwellings and Structures**. There are no dwellings or structures within 2 miles of this location.

Soils and Vegetation

- **Environmental Setting**. According to the National Resources Conservation Service, a department of the United States Department of Agriculture, the soils in this project area are classified as Simona Bippus. Simona soils are associated with the Shallow sandy ecological site (R042CX002NM) which typically

supports black grama grasslands with an even distribution of yucca, javelina bush, range ratany, prickly pear, and mesquite. The current vegetative community consists of mesquite, broom snakeweed, sunflower, and desert grasses and forbs.

- **Traffic**. No truck traffic will be operated during periods or in areas of saturated ground when surface rutting could occur. The access road will be constructed and maintained as necessary to prevent soil erosion and accommodate all-weather traffic. The road will be crowned and ditched with water turnouts installed as necessary to provide for proper drainage along the access road route.

- **Water**. There is no permanent or live water in the immediate or within the project area.

13. Bond Coverage

Bond Coverage is Nationwide. Bond Number: COB000050

Operator's Representatives:

The XTO Permian Operating, LLC. representatives for ensuring compliance of the surface use plan are listed below:

Surface:

Jimie Scott
Construction Lead
XTO Energy, Incorporated
6401 Holiday Hill Road, Bldg 5
Midland, Texas 79707
432-488-9955
james_scott@xtoenergy.com

AFMSS

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

PWD Data Report

03/05/2020

APD ID: 10400050118 **Submission Date:** 10/28/2019

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: BIG EDDY UNIT 38E STARK **Well Number:** 105H

Well Type: OIL WELL **Well Work Type:** Drill

Section 1 - General

Would you like to address long-term produced water disposal? NO

Section 2 - Lined Pits

Would you like to utilize Lined Pit PWD options? N

Produced Water Disposal (PWD) Location:

PWD surface owner: **PWD disturbance (acres):**

Lined pit PWD on or off channel:

Lined pit PWD discharge volume (bbl/day):

Lined pit specifications:

Pit liner description:

Pit liner manufacturers information:

Precipitated solids disposal:

Decribe precipitated solids disposal:

Precipitated solids disposal permit:

Lined pit precipitated solids disposal schedule:

Lined pit precipitated solids disposal schedule attachment:

Lined pit reclamation description:

Lined pit reclamation attachment:

Leak detection system description:

Leak detection system attachment:

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: BIG EDDY UNIT 38E STARK **Well Number:** 105H

Lined pit Monitor description:

Lined pit Monitor attachment:

Lined pit: do you have a reclamation bond for the pit?

Is the reclamation bond a rider under the BLM bond?

Lined pit bond number:

Lined pit bond amount:

Additional bond information attachment:

Section 3 - Unlined Pits

Would you like to utilize Unlined Pit PWD options? N

Produced Water Disposal (PWD) Location:

PWD disturbance (acres): **PWD surface owner:**

Unlined pit PWD on or off channel:

Unlined pit PWD discharge volume (bbl/day):

Unlined pit specifications:

Precipitated solids disposal:

Decribe precipitated solids disposal:

Precipitated solids disposal permit:

Unlined pit precipitated solids disposal schedule:

Unlined pit precipitated solids disposal schedule attachment:

Unlined pit reclamation description:

Unlined pit reclamation attachment:

Unlined pit Monitor description:

Unlined pit Monitor attachment:

Do you propose to put the produced water to beneficial use?

Beneficial use user confirmation:

Estimated depth of the shallowest aquifer (feet):

Does the produced water have an annual average Total Dissolved Solids (TDS) concentration equal to or less than that of the existing water to be protected?

TDS lab results:

Geologic and hydrologic evidence:

State authorization:

Unlined Produced Water Pit Estimated percolation:

Unlined pit: do you have a reclamation bond for the pit?

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: BIG EDDY UNIT 38E STARK **Well Number:** 105H

Is the reclamation bond a rider under the BLM bond?

Unlined pit bond number:

Unlined pit bond amount:

Additional bond information attachment:

Section 4 - Injection

Would you like to utilize Injection PWD options? N

Produced Water Disposal (PWD) Location:

PWD surface owner: **PWD disturbance (acres):**

Injection PWD discharge volume (bbl/day):

Injection well mineral owner:

Injection well type:

Injection well number: **Injection well name:**

Assigned injection well API number? **Injection well API number:**

Injection well new surface disturbance (acres):

Minerals protection information:

Mineral protection attachment:

Underground Injection Control (UIC) Permit?

UIC Permit attachment:

Section 5 - Surface Discharge

Would you like to utilize Surface Discharge PWD options? N

Produced Water Disposal (PWD) Location:

PWD surface owner: **PWD disturbance (acres):**

Surface discharge PWD discharge volume (bbl/day):

Surface Discharge NPDES Permit?

Surface Discharge NPDES Permit attachment:

Surface Discharge site facilities information:

Surface discharge site facilities map:

Section 6 - Other

Would you like to utilize Other PWD options? N

Produced Water Disposal (PWD) Location:

PWD surface owner: **PWD disturbance (acres):**

Other PWD discharge volume (bbl/day):

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: BIG EDDY UNIT 38E STARK **Well Number:** 105H

Other PWD type description:

Other PWD type attachment:

Have other regulatory requirements been met?

Other regulatory requirements attachment:

AFMSS

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

Bond Info Data Report

03/05/2020

APD ID: 10400050118

Submission Date: 10/28/2019

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: BIG EDDY UNIT 38E STARK

Well Number: 105H

Well Type: OIL WELL

Well Work Type: Drill

Highlighted data reflects the most recent changes

Show Final Text

Bond Information

Federal/Indian APD: FED

BLM Bond number: COB000050

BIA Bond number:

Do you have a reclamation bond? NO

Is the reclamation bond a rider under the BLM bond?

Is the reclamation bond BLM or Forest Service?

BLM reclamation bond number:

Forest Service reclamation bond number:

Forest Service reclamation bond attachment:

Reclamation bond number:

Reclamation bond amount:

Reclamation bond rider amount:

Additional reclamation bond information attachment: