Form 3160-3
(June 2015)

RECEIVED
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EMNRD-OCD ARTESIA

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
109H

2. Name of Operator
XTO PERMIAN OPERATING LLC

9. API Well No.
30-015-46818

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 / 878 FNL / 859 FEL / LAT 32.368389 / LONG -103.983584
At proposed prod. zone NESE / 1980 FSL / 50 FEL / LAT 32.361477 / LONG -103.929853

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
9136 feet / 25283 feet

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

21. Elevations (Show whether DF, KDB, RT, GL, etc.)
3088 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	10/29/2019

Title
Regulatory Coordinator

Approved by *(Signature)*	Name *(Printed/Typed)*	Date
(Electronic Submission)	Cody Layton / Ph: (575) 234-5959	02/27/2020
Title: Assistant Field Manager Lands & Minerals	Office: 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

(Continued on page 2)

Approval Date: 02/27/2020

*(Instructions on page 2)

RJP 3-11-20

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 congressional 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.

(Continued on page 3)

Additional Operator Remarks

Location of Well

0. SHL: NENE / 878 FNL / 859 FEL / TWSP: 22S / RANGE: 29E / SECTION: 28 / LAT: 32.368389 / LONG: -103.983584 (TVD: 0 feet, MD: 0 feet)

PPP: NWSW / 1980 FSL / 330 FWL / TWSP: 22S / RANGE: 29E / SECTION: 26 / LAT: 32.36293 / LONG: -103.96316 (TVD: 8928 feet, MD: 14876 feet)

PPP: NWSE / 1980 FSL / 1650 FEL / TWSP: 22S / RANGE: 29E / SECTION: 27 / LAT: 32.36293 / LONG: -103.97153 (TVD: 8877 feet, MD: 12236 feet)

PPP: NWSW / 1980 FSL / 50 FWL / TWSP: 22S / RANGE: 29E / SECTION: 27 / LAT: 32.36168 / LONG: -103.980647 (TVD: 8826 feet, MD: 9596 feet)

BHL: NESE / 1980 FSL / 50 FEL / TWSP: 22S / RANGE: 29E / SECTION: 25 / LAT: 32.361477 / LONG: -103.929853 (TVD: 9136 feet, MD: 25283 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

Approval Date: 02/27/2020

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

TABLE OF CONTENTS

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.

Watershed:

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.

VI. CONSTRUCTION

A. NOTIFICATION

The BLM shall administer compliance and monitor construction of the access road and well pad. Notify the 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 .

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.

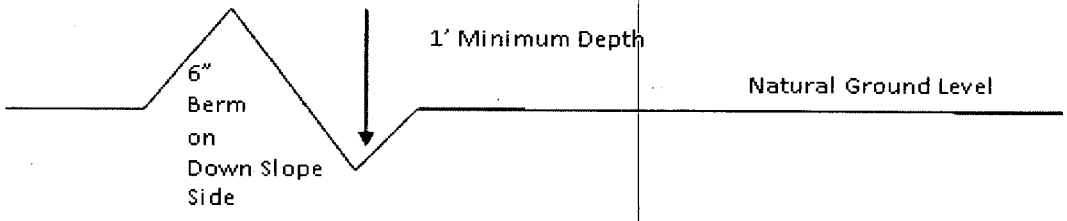
Crowning
Crowning shall be done on the access road driving surface. The road crown shall have a grade of approximately 2% (i.e., a 1" crown on a 14' wide road). The road shall conform to Figure 1; cross section and plans for typical road construction.

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, leadoff 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.



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 %);

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

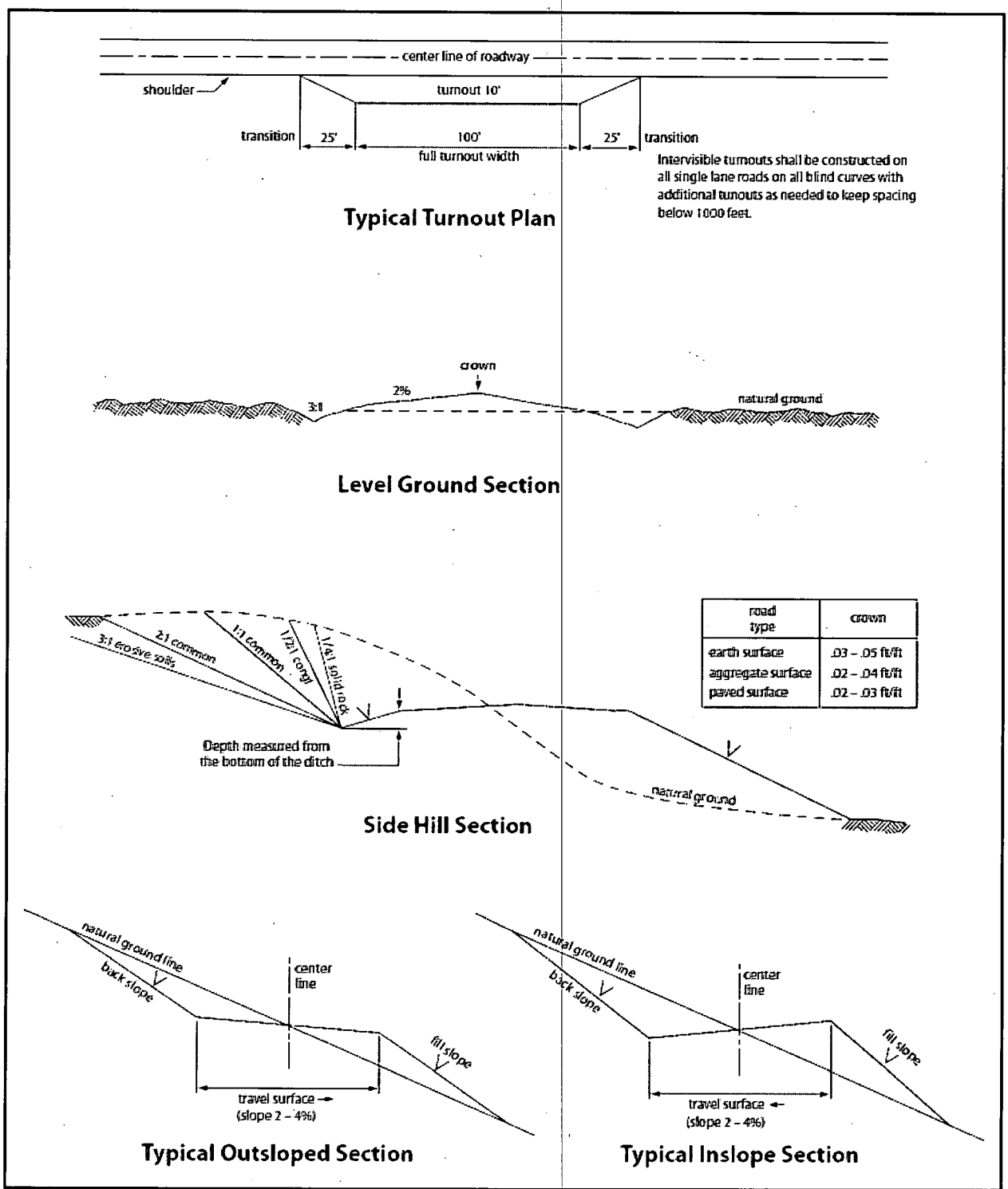


Figure 1. Cross-sections and plans for typical road sections representative of BLM resource or FS local and higher-class roads.

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).

Ground-level Abandoned Well Marker to avoid raptor perching: Upon the plugging and subsequent abandonment of the well, the well marker will be installed at ground level on a plate containing the pertinent information for the plugged well.

X. Potash Resources

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.

(Insert Seed Mixture Here)

PECOS DISTRICT
DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	XTO Permian Operating LLC
WELL NAME & NO.:	Big Eddy Unit 38E Stark 109H
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: 02/27/2020

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.

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.

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

Operator Certification Data Report

02/29/2020

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
02/29/2020

APD ID: 10400050181
Submission Date: 10/29/2019
Operator Name: XTO PERMIAN OPERATING LLC
Well Name: BIG EDDY UNIT 38E STARK
Well Number: 109H
Well Type: OIL WELL
Well Work Type: Drill

Highlighted data reflects the most recent changes

Show Final Text

Section 1 - General

APD ID: 10400050181
Tie to previous NOS? N
Submission Date: 10/29/2019
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: 109H
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:** 109H

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_109H_C102_20191028101108.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	878	FNL	859	FEL	22S	29E	28	Aliquot NENE	32.368389	-103.983584	EDDY	NEW MEXICO	NEW MEXICO	F	NMLC0064829	3088	0	0	N
KOP Leg #1	878	FNL	859	FEL	22S	29E	28	Aliquot NENE	32.368389	-103.983584	EDDY	NEW MEXICO	NEW MEXICO	F	NMLC0064829	1088	2000	2000	N
PPP Leg #1-1	1980	FSL	50	FWL	22S	29E	27	Aliquot NWSW	32.36168	-103.980647	EDDY	NEW MEXICO	NEW MEXICO	F	NMLC0064828A	-5738	9596	8826	Y

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: BIG EDDY UNIT 38E STARK **Well Number:** 109H

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	1980	FSL	1650	FEL	22S	29E	27	Aliquot NWSE	32.36293	-103.97153	EDDY	NEW MEXICO	NEW MEXICO	F	NMLC0064828	-5789	12236	8877	Y
PPP Leg #1-3	1980	FSL	330	FWL	22S	29E	26	Aliquot NWSW	32.36293	-103.96316	EDDY	NEW MEXICO	NEW MEXICO	F	NMNM 003864 1	-5840	14876	8928	Y
EXIT Leg #1	1980	FSL	100	FEL	22S	29E	25	Aliquot NESE	32.361477	-103.930015	EDDY	NEW MEXICO	NEW MEXICO	F	NMNM 008944	-6047	25233	9135	Y
BHL Leg #1	1980	FSL	50	FEL	22S	29E	25	Aliquot NESE	32.361477	-103.929853	EDDY	NEW MEXICO	NEW MEXICO	F	NMNM 008944	-6048	25283	9136	Y

AFMSS

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

Drilling Plan Data Report
02/29/2020

APD ID: 10400050181 **Submission Date:** 10/29/2019

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: BIG EDDY UNIT 38E STARK **Well Number:** 109H

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
573226	PERMIAN	3088	0	0	OTHER : Alluvium	NONE	N
573217	RUSTLER	2968	120	120	SILTSTONE	USEABLE WATER	N
573218	TOP SALT	2847	241	241	SALT	POTASH	N
573219	BASE OF SALT	703	2385	2385	SALT	POTASH	N
573215	DELAWARE	31	3057	3057	SANDSTONE	NATURAL GAS, OIL, OTHER : Produced Water	N
573216	BONE SPRING	-3659	6747	6747	SANDSTONE	NATURAL GAS, OIL, OTHER : Produced Water	N
573231	BONE SPRING 1ST	-4722	7810	7810	SANDSTONE	NATURAL GAS, OIL, OTHER : Produced Water	N
573230	BONE SPRING 2ND	-4943	8031	8031	SANDSTONE	NATURAL GAS, OIL, OTHER : Produced Water	Y

Section 2 - Blowout Prevention

Pressure Rating (PSI): 3M **Rating Depth:** 9136

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 2788 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:

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	3088	2872	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	81	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	-5284	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	25283	0	9136	3080	-6048	25283	P-110	17	BUTT	1.56	1.12	DRY	1.96	DRY	1.96

Casing Attachments

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

BEU_38_Stark_109H_Csg_20191028103601.pdf

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: BIG EDDY UNIT 38E STARK **Well Number:** 109H

Casing Attachments

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

BEU_38_Stark_109H_Csg_20191028103620.pdf

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

BEU_38_Stark_109H_Csg_20191028103642.pdf

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

BEU_38_Stark_109H_Csg_20191028103711.pdf

Section 4 - Cement

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: BIG EDDY UNIT 38E STARK **Well Number:** 109H

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	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
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
PRODUCTION	Lead		0	25283	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:** 109H

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	9136	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

Casing Assumption Worksheet

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	2.06	2.42	2.17
8-3/4"	0' – 25283'	5-1/2"	17	BTC	P-110	New	1.12	1.56	1.96

- 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

Permanent Wellhead – GE RSH Multibowl System

A. Starting Head: 13-5/8" 10M top flange x 13-3/8" SOW bottom

B. Tubing Head: 13-5/8" 10M bottom flange x 7-1/16" 15M top flange

Casing Assumption Worksheet

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
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8-3/4"	0' – 25283'	5-1/2"	17	BTC	P-110	New	1.12	1.56	1.96

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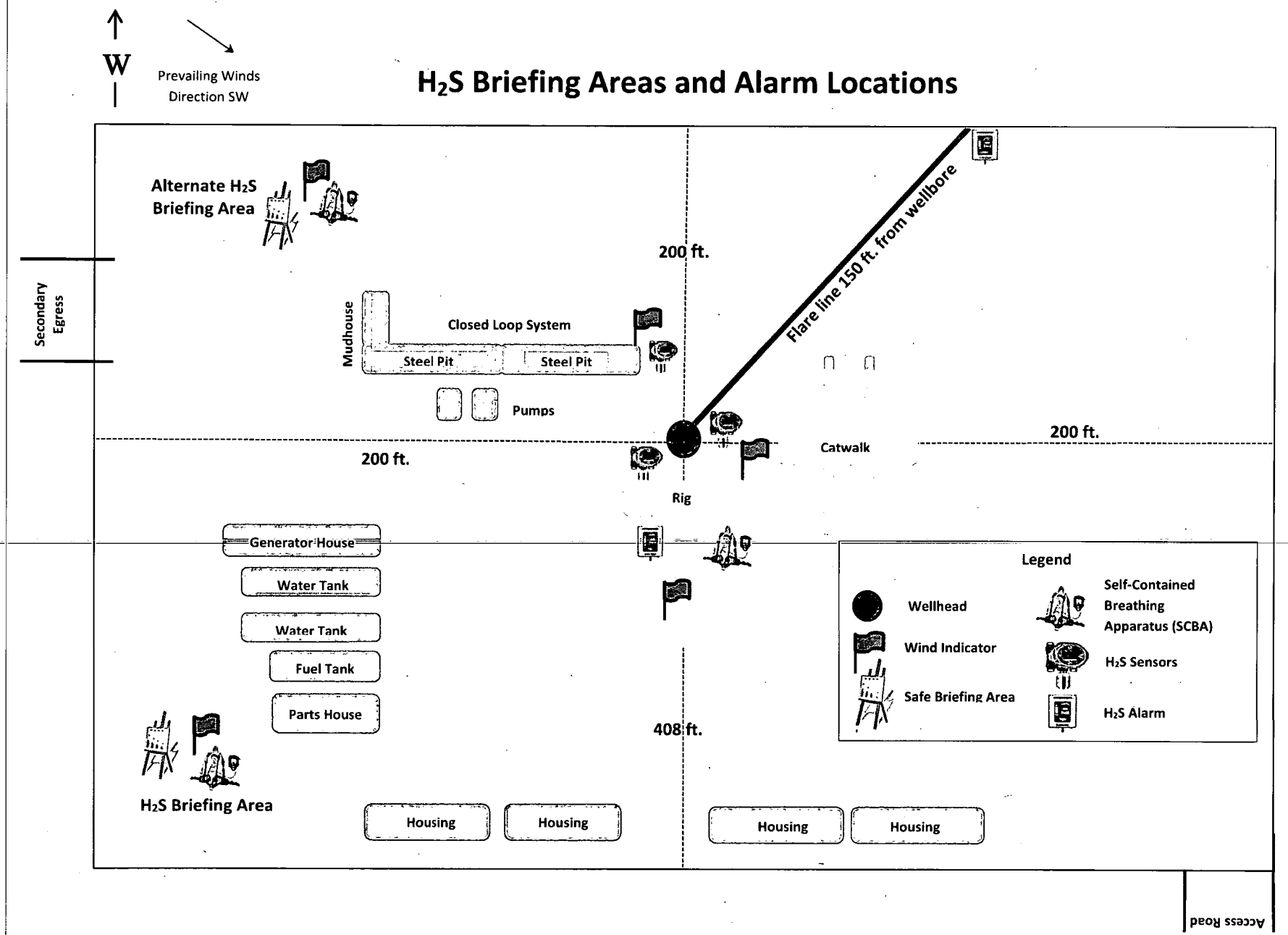
Permanent Wellhead – GE RSH Multibowl System

A. Starting Head: 13-5/8" 10M top flange x 13-3/8" SOW bottom

B. Tubing Head: 13-5/8" 10M bottom flange x 7-1/16" 15M top flange

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
#109H

OH

Plan: PERMIT

Standard Planning Report

16 October, 2019

XTO ENERGY

Project: Eddy County, NM (NAD-27)
Site: Big Eddy Unit 38E Stark
Well: #109H
Wellbore: OH
Design: PERMIT

WELL DETAILS: #109H

Rig Name:
RKB = 30' @ 3118.00usft
Ground Level: 3088.00

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	497867.50	608138.50	32.3682665	-103.9830873

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	2000.00	0.00	0.00	2000.00	0.00	0.00	0.00	0.00	0.00
3	3073.60	21.47	171.05	3048.65	-196.41	30.92	2.00	171.05	31.16
4	8739.46	21.47	171.05	8321.27	-2245.14	353.48	0.00	0.00	356.22
5	9596.02	88.87	90.07	8826.00	-2437.80	914.70	10.00	-82.01	917.68
6	25232.99	88.87	90.07	9135.01	-2456.24	16548.60	0.00	0.00	16551.59
7	25283.00	88.87	90.07	9136.00	-2456.30	16598.60	0.00	0.00	16601.59

DESIGN TARGET DETAILS

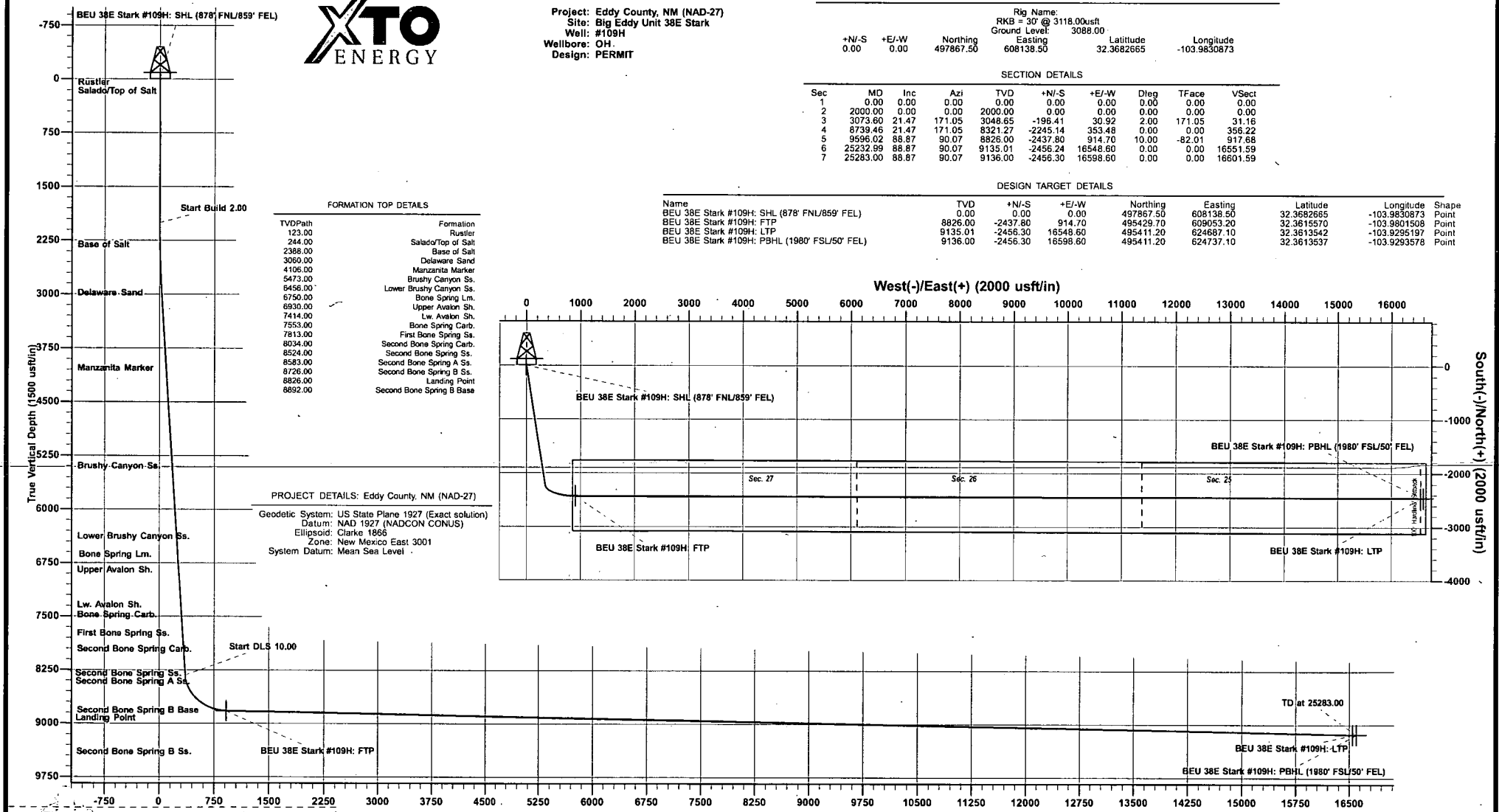
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
BEU 38E Stark #109H: SHL (878' FNL/859' FEL)	0.00	0.00	0.00	497867.50	608138.50	32.3682665	-103.9830873	Point
BEU 38E Stark #109H: FTP	8826.00	-2437.80	914.70	495429.70	609053.20	32.3615570	-103.9801508	Point
BEU 38E Stark #109H: LTP	9135.01	-2456.30	16548.60	495411.20	624687.10	32.3613542	-103.9295197	Point
BEU 38E Stark #109H: PBHL (1980' FSL/50' FEL)	9136.00	-2456.30	16598.60	495411.20	624737.10	32.3613537	-103.9293578	Point

FORMATION TOP DETAILS

TVDPath	Formation
123.00	Rustler
244.00	Salado/Top of Salt
2388.00	Base of Salt
3060.00	Delaware Sand
4106.00	Manzanita Marker
5473.00	Brushy Canyon Ss.
5456.00	Lower Brushy Canyon Ss.
6750.00	Bone Spring Lm.
6930.00	Upper Avalon Sh.
7414.00	Lw. Avalon Sh.
7553.00	Bone Spring Carb.
7813.00	First Bone Spring Ss.
8034.00	Second Bone Spring Carb.
8524.00	Second Bone Spring Ss.
8583.00	Second Bone Spring A Ss.
8726.00	Second Bone Spring B Ss.
8826.00	Landing Point
8892.00	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



Plan: PERMIT (#109H/OH)
Created By: Matthew May Date: 17:57, October 16 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	109H

[7] OGRID No.	[8] Operator Name	[9] Elevation
373075	XTO PERMIAN OPERATING, LLC.	3,088'

[10] Surface Location

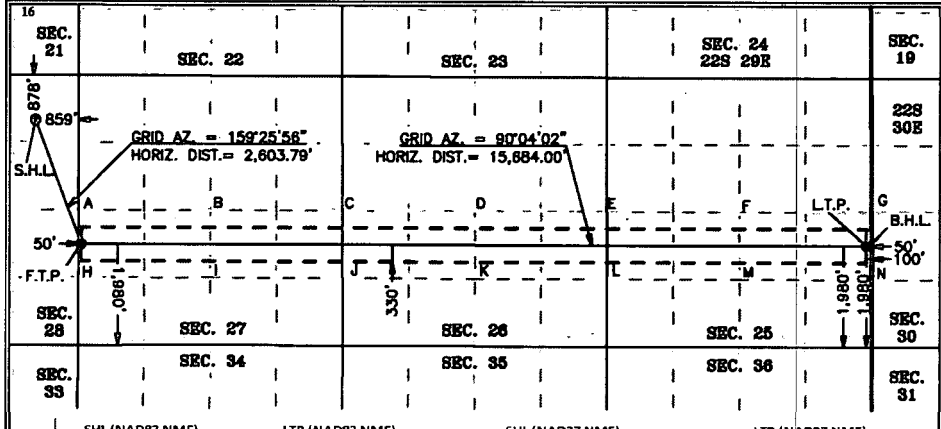
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	28	22S	29E		878	NORTH	859	EAST	EDDY

[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
I	25	22S	29E		1,980	SOUTH	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.



SHL (NAD83 NME)	LTP (NAD83 NME)	SHL (NAD27 NME)	LTP (NAD27 NME)
Y = 497,928.0	Y = 495,471.8	Y = 497,867.5	Y = 495,411.2
X = 649,320.2	X = 665,868.9	X = 608,138.5	X = 624,687.1
LAT. = 32.368389 °N	LAT. 32.361477 °N	LAT. 32.368266 °N	LAT. 32.361354 °N
LONG. = 103.983584 °W	LONG. 103.930015 °W	LONG. 103.983087 °W	LONG. 103.929520 °W
FTP (NAD83 NME)	**BHL (NAD83 NME)**	**FTP (NAD27 NME)**	**BHL (NAD27 NME)**
Y = 495,490.2	Y = 495,471.8	Y = 495,429.7	Y = 495,411.2
X = 650,234.9	X = 665,918.9	X = 609,053.2	X = 624,737.1
LAT. = 32.361680 °N	LAT. = 32.361477 °N	LAT. = 32.361557 °N	LAT. = 32.361354 °N
LONG. = 103.980647 °W	LONG. = 103.929853 °W	LONG. = 103.980151 °W	LONG. = 103.929358 °W

CORNER COORDINATES (NAD83 NME)			CORNER COORDINATES (NAD27 NME)		
A	Y = 496,158.1 N	X = 650,183.6 E	A	Y = 496,097.7 N	X = 609,001.9 E
B	Y = 496,154.4 N	X = 652,808.1 E	B	Y = 496,093.9 N	X = 611,626.4 E
C	Y = 496,150.6 N	X = 655,436.7 E	C	Y = 496,090.1 N	X = 614,254.9 E
D	Y = 496,144.3 N	X = 658,068.4 E	D	Y = 496,083.7 N	X = 616,886.7 E
E	Y = 496,137.9 N	X = 660,698.7 E	E	Y = 496,077.4 N	X = 619,516.9 E
F	Y = 496,134.2 N	X = 663,333.4 E	F	Y = 496,073.6 N	X = 622,151.6 E
G	Y = 496,130.5 N	X = 665,966.7 E	G	Y = 496,069.9 N	X = 624,784.9 E
H	Y = 494,834.1 N	X = 650,186.2 E	H	Y = 494,773.6 N	X = 609,004.4 E
I	Y = 494,837.1 N	X = 652,812.2 E	I	Y = 494,776.6 N	X = 611,630.5 E
J	Y = 494,828.0 N	X = 655,442.7 E	J	Y = 494,767.5 N	X = 614,260.9 E
K	Y = 494,822.4 N	X = 658,074.2 E	K	Y = 494,761.8 N	X = 616,892.4 E
L	Y = 494,816.6 N	X = 660,703.9 E	L	Y = 494,756.1 N	X = 619,522.1 E
M	Y = 494,813.7 N	X = 663,338.6 E	M	Y = 494,753.1 N	X = 622,156.8 E
N	Y = 494,811.1 N	X = 665,971.1 E	N	Y = 494,750.6 N	X = 624,789.3 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
Certificate Number AR 2019082963

P:\PROJECTS\2019\2019082963-XTO-BIG_EDDY_UNIT_38E_STARK_109H-EDDY\DWG\2019082963-XTO-BIG_EDDY_UNIT_38E_STARK_109H-EDDY_C102.dwg

Database:	EDM 5000.1.13 Single User Db	**Local Co-ordinate Reference:**	Well #109H
Company:	XTO Energy	**TVD Reference:**	RKB = 30' @ 3118.00usft
Project:	Eddy County, NM (NAD-27)	**MD Reference:**	RKB = 30' @ 3118.00usft
Site:	Big Eddy Unit 38E Stark	**North Reference:**	Grid
Well:	#109H	**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	#109H					
Well Position	**+N/-S**	-529.20 usft	**Northing:**	497,867.50 usft	**Latitude:**	32.3682665
	+E/-W	-386.30 usft	**Easting:**	608,138.50 usft	**Longitude:**	-103.9830873
Position Uncertainty		0.00 usft	**Wellhead Elevation:**	0.00 usft	**Ground Level:**	3,088.00 usft

Wellbore	OH				
Magnetics	**Model Name**	**Sample Date**	**Declination (°)**	**Dip Angle (°)**	**Field Strength (nT)**
	IGRF2015	10/16/19	6.90	60.10	47,743

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	90.07	

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	
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,073.60	21.47	171.05	3,048.65	-196.41	30.92	2.00	2.00	0.00	171.05	
8,739.46	21.47	171.05	8,321.27	-2,245.14	353.48	0.00	0.00	0.00	0.00	
9,596.02	88.87	90.07	8,826.00	-2,437.80	914.70	10.00	7.87	-9.45	-82.01	BEU 38E Stark #10
25,232.99	88.87	90.07	9,135.01	-2,456.24	16,548.60	0.00	0.00	0.00	0.00	BEU 38E Stark #10
25,283.00	88.87	90.07	9,136.00	-2,456.30	16,598.60	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 #109H
Company:	XTO Energy	**TVD Reference:**	RKB = 30' @ 3118.00usft
Project:	Eddy County, NM (NAD-27)	**MD Reference:**	RKB = 30' @ 3118.00usft
Site:	Big Eddy Unit 38E Stark	**North Reference:**	Grid
Well:	#109H	**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
123.00	0.00	0.00	123.00	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
244.00	0.00	0.00	244.00	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	2.00	171.05	2,099.98	-1.72	0.27	0.27	2.00	2.00	0.00
2,200.00	4.00	171.05	2,199.84	-6.89	1.09	1.09	2.00	2.00	0.00
2,300.00	6.00	171.05	2,299.45	-15.50	2.44	2.46	2.00	2.00	0.00
2,389.20	7.78	171.05	2,388.00	-26.08	4.11	4.14	2.00	2.00	0.00
Base of Salt									
2,400.00	8.00	171.05	2,398.70	-27.54	4.34	4.37	2.00	2.00	0.00
2,500.00	10.00	171.05	2,497.47	-42.99	6.77	6.82	2.00	2.00	0.00
2,600.00	12.00	171.05	2,595.62	-61.84	9.74	9.81	2.00	2.00	0.00
2,700.00	14.00	171.05	2,693.06	-84.06	13.23	13.34	2.00	2.00	0.00
2,800.00	16.00	171.05	2,789.64	-109.63	17.26	17.39	2.00	2.00	0.00
2,900.00	18.00	171.05	2,885.27	-138.51	21.81	21.98	2.00	2.00	0.00
3,000.00	20.00	171.05	2,979.82	-170.67	26.87	27.08	2.00	2.00	0.00
3,073.60	21.47	171.05	3,048.65	-196.41	30.92	31.16	2.00	2.00	0.00
3,085.80	21.47	171.05	3,060.00	-200.82	31.62	31.86	0.00	0.00	0.00
Delaware Sand									
3,100.00	21.47	171.05	3,073.21	-205.95	32.43	32.68	0.00	0.00	0.00
3,200.00	21.47	171.05	3,166.27	-242.11	38.12	38.41	0.00	0.00	0.00
3,300.00	21.47	171.05	3,259.33	-278.27	43.81	44.15	0.00	0.00	0.00
3,400.00	21.47	171.05	3,352.39	-314.43	49.50	49.89	0.00	0.00	0.00
3,500.00	21.47	171.05	3,445.45	-350.59	55.20	55.63	0.00	0.00	0.00
3,600.00	21.47	171.05	3,538.51	-386.75	60.89	61.36	0.00	0.00	0.00
3,700.00	21.47	171.05	3,631.57	-422.91	66.58	67.10	0.00	0.00	0.00
3,800.00	21.47	171.05	3,724.63	-459.07	72.28	72.84	0.00	0.00	0.00
3,900.00	21.47	171.05	3,817.69	-495.23	77.97	78.57	0.00	0.00	0.00
4,000.00	21.47	171.05	3,910.75	-531.39	83.66	84.31	0.00	0.00	0.00
4,100.00	21.47	171.05	4,003.81	-567.54	89.36	90.05	0.00	0.00	0.00
4,200.00	21.47	171.05	4,096.87	-603.70	95.05	95.79	0.00	0.00	0.00
4,209.81	21.47	171.05	4,106.00	-607.25	95.61	96.35	0.00	0.00	0.00
Manzanita Marker									

Database:	EDM 5000.1.13 Single User Db	**Local Co-ordinate Reference:**	Well #109H
Company:	XTO Energy	**TVD Reference:**	RKB = 30' @ 3118.00usft
Project:	Eddy County, NM (NAD-27)	**MD Reference:**	RKB = 30' @ 3118.00usft
Site:	Big Eddy Unit 38E Stark	**North Reference:**	Grid
Well:	#109H	**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)
4,300.00	21.47	171.05	4,189.93	-639.86	100.74	101.52	0.00	0.00	0.00
4,400.00	21.47	171.05	4,282.99	-676.02	106.43	107.26	0.00	0.00	0.00
4,500.00	21.47	171.05	4,376.05	-712.18	112.13	113.00	0.00	0.00	0.00
4,600.00	21.47	171.05	4,469.11	-748.34	117.82	118.73	0.00	0.00	0.00
4,700.00	21.47	171.05	4,562.17	-784.50	123.51	124.47	0.00	0.00	0.00
4,800.00	21.47	171.05	4,655.23	-820.66	129.21	130.21	0.00	0.00	0.00
4,900.00	21.47	171.05	4,748.29	-856.82	134.90	135.95	0.00	0.00	0.00
5,000.00	21.47	171.05	4,841.35	-892.98	140.59	141.68	0.00	0.00	0.00
5,100.00	21.47	171.05	4,934.41	-929.14	146.29	147.42	0.00	0.00	0.00
5,200.00	21.47	171.05	5,027.47	-965.30	151.98	153.16	0.00	0.00	0.00
5,300.00	21.47	171.05	5,120.53	-1,001.46	157.67	158.89	0.00	0.00	0.00
5,400.00	21.47	171.05	5,213.59	-1,037.61	163.36	164.63	0.00	0.00	0.00
5,500.00	21.47	171.05	5,306.65	-1,073.77	169.06	170.37	0.00	0.00	0.00
5,600.00	21.47	171.05	5,399.71	-1,109.93	174.75	176.11	0.00	0.00	0.00
5,678.76	21.47	171.05	5,473.00	-1,138.41	179.23	180.62	0.00	0.00	0.00
Brushy Canyon Ss.									
5,700.00	21.47	171.05	5,492.77	-1,146.09	180.44	181.84	0.00	0.00	0.00
5,800.00	21.47	171.05	5,585.82	-1,182.25	186.14	187.58	0.00	0.00	0.00
5,900.00	21.47	171.05	5,678.88	-1,218.41	191.83	193.32	0.00	0.00	0.00
6,000.00	21.47	171.05	5,771.94	-1,254.57	197.52	199.05	0.00	0.00	0.00
6,100.00	21.47	171.05	5,865.00	-1,290.73	203.22	204.79	0.00	0.00	0.00
6,200.00	21.47	171.05	5,958.06	-1,326.89	208.91	210.53	0.00	0.00	0.00
6,300.00	21.47	171.05	6,051.12	-1,363.05	214.60	216.27	0.00	0.00	0.00
6,400.00	21.47	171.05	6,144.18	-1,399.21	220.29	222.00	0.00	0.00	0.00
6,500.00	21.47	171.05	6,237.24	-1,435.37	225.99	227.74	0.00	0.00	0.00
6,600.00	21.47	171.05	6,330.30	-1,471.53	231.68	233.48	0.00	0.00	0.00
6,700.00	21.47	171.05	6,423.36	-1,507.68	237.37	239.21	0.00	0.00	0.00
6,735.07	21.47	171.05	6,456.00	-1,520.37	239.37	241.23	0.00	0.00	0.00
Lower Brushy Canyon Ss.									
6,800.00	21.47	171.05	6,516.42	-1,543.84	243.07	244.95	0.00	0.00	0.00
6,900.00	21.47	171.05	6,609.48	-1,580.00	248.76	250.69	0.00	0.00	0.00
7,000.00	21.47	171.05	6,702.54	-1,616.16	254.45	256.43	0.00	0.00	0.00
7,051.00	21.47	171.05	6,750.00	-1,634.60	257.36	259.35	0.00	0.00	0.00
Bone Spring Lm.									
7,100.00	21.47	171.05	6,795.60	-1,652.32	260.15	262.16	0.00	0.00	0.00
7,200.00	21.47	171.05	6,888.66	-1,688.48	265.84	267.90	0.00	0.00	0.00
7,244.42	21.47	171.05	6,930.00	-1,704.54	268.37	270.45	0.00	0.00	0.00
Upper Avalon Sh.									
7,300.00	21.47	171.05	6,981.72	-1,724.64	271.53	273.64	0.00	0.00	0.00
7,400.00	21.47	171.05	7,074.78	-1,760.80	277.22	279.38	0.00	0.00	0.00
7,500.00	21.47	171.05	7,167.84	-1,796.96	282.92	285.11	0.00	0.00	0.00
7,600.00	21.47	171.05	7,260.90	-1,833.12	288.61	290.85	0.00	0.00	0.00
7,700.00	21.47	171.05	7,353.96	-1,869.28	294.30	296.59	0.00	0.00	0.00
7,764.52	21.47	171.05	7,414.00	-1,892.61	297.98	300.29	0.00	0.00	0.00
Lw. Avalon Sh.									
7,800.00	21.47	171.05	7,447.02	-1,905.44	300.00	302.32	0.00	0.00	0.00
7,900.00	21.47	171.05	7,540.08	-1,941.59	305.69	308.06	0.00	0.00	0.00
7,913.89	21.47	171.05	7,553.00	-1,946.62	306.48	308.86	0.00	0.00	0.00
Bone Spring Carb.									
8,000.00	21.47	171.05	7,633.14	-1,977.75	311.38	313.80	0.00	0.00	0.00
8,100.00	21.47	171.05	7,726.20	-2,013.91	317.07	319.54	0.00	0.00	0.00
8,193.28	21.47	171.05	7,813.00	-2,047.64	322.39	324.89	0.00	0.00	0.00
First Bone Spring Ss.									

Database:	EDM 5000.1.13 Single User Db	**Local Co-ordinate Reference:**	Well #109H
Company:	XTO Energy	**TVD Reference:**	RKB = 30' @ 3118.00usft
Project:	Eddy County, NM (NAD-27)	**MD Reference:**	RKB = 30' @ 3118.00usft
Site:	Big Eddy Unit 38E Stark	**North Reference:**	Grid
Well:	#109H	**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)
8,200.00	21.47	171.05	7,819.26	-2,050.07	322.77	325.27	0.00	0.00	0.00
8,300.00	21.47	171.05	7,912.32	-2,086.23	328.46	331.01	0.00	0.00	0.00
8,400.00	21.47	171.05	8,005.38	-2,122.39	334.15	336.75	0.00	0.00	0.00
8,430.76	21.47	171.05	8,034.00	-2,133.51	335.91	338.51	0.00	0.00	0.00
Second Bone Spring Carb.									
8,500.00	21.47	171.05	8,098.44	-2,158.55	339.85	342.48	0.00	0.00	0.00
8,600.00	21.47	171.05	8,191.50	-2,194.71	345.54	348.22	0.00	0.00	0.00
8,700.00	21.47	171.05	8,284.56	-2,230.87	351.23	353.96	0.00	0.00	0.00
8,739.46	21.47	171.05	8,321.27	-2,245.14	353.48	356.22	0.00	0.00	0.00
8,750.00	21.64	168.22	8,331.08	-2,248.95	354.18	356.92	10.00	1.62	-26.86
8,800.00	23.07	155.59	8,377.35	-2,266.90	360.11	362.88	10.00	2.85	-25.26
8,850.00	25.37	144.74	8,422.97	-2,284.58	370.35	373.14	10.00	4.60	-21.70
8,900.00	28.33	135.80	8,467.59	-2,301.84	384.81	387.62	10.00	5.92	-17.88
8,950.00	31.77	128.54	8,510.88	-2,318.56	403.38	406.22	10.00	6.88	-14.53
8,965.53	32.91	126.57	8,524.00	-2,323.62	409.97	412.81	10.00	7.35	-12.67
Second Bone Spring Ss.									
9,000.00	35.54	122.61	8,552.50	-2,334.60	425.94	428.79	10.00	7.64	-11.48
9,038.22	38.59	118.79	8,583.00	-2,346.34	445.75	448.61	10.00	7.98	-10.00
Second Bone Spring A Ss.									
9,050.00	39.56	117.72	8,592.14	-2,349.85	452.29	455.16	10.00	8.18	-9.12
9,100.00	43.75	113.60	8,629.50	-2,364.19	482.24	485.13	10.00	8.38	-8.23
9,150.00	48.06	110.08	8,664.29	-2,377.50	515.57	518.47	10.00	8.63	-7.04
9,200.00	52.47	107.01	8,696.25	-2,389.69	552.02	554.93	10.00	8.82	-6.14
9,250.00	56.95	104.29	8,725.14	-2,400.67	591.30	594.24	10.00	8.96	-5.45
9,251.59	57.09	104.21	8,726.00	-2,401.00	592.59	595.53	10.00	9.02	-5.15
Second Bone Spring B Ss.									
9,300.00	61.48	101.83	8,750.72	-2,410.35	633.14	636.08	10.00	9.07	-4.91
9,350.00	66.05	99.57	8,772.82	-2,418.66	677.19	680.15	10.00	9.15	-4.51
9,400.00	70.66	97.47	8,791.26	-2,425.53	723.14	726.11	10.00	9.21	-4.20
9,450.00	75.28	95.49	8,805.90	-2,430.92	770.63	773.60	10.00	9.25	-3.97
9,500.00	79.93	93.59	8,816.63	-2,434.78	819.30	822.27	10.00	9.29	-3.80
9,550.00	84.58	91.74	8,823.37	-2,437.08	868.77	871.75	10.00	9.31	-3.69
9,596.02	88.87	90.07	8,826.00	-2,437.80	914.70	917.68	10.00	9.32	-3.64
Landing Point									
9,600.00	88.87	90.07	8,826.08	-2,437.80	918.68	921.65	0.00	0.00	0.00
9,700.00	88.87	90.07	8,828.05	-2,437.92	1,018.66	1,021.63	0.00	0.00	0.00
9,800.00	88.87	90.07	8,830.03	-2,438.04	1,118.64	1,121.62	0.00	0.00	0.00
9,900.00	88.87	90.07	8,832.01	-2,438.16	1,218.62	1,221.60	0.00	0.00	0.00
10,000.00	88.87	90.07	8,833.98	-2,438.28	1,318.60	1,321.58	0.00	0.00	0.00
10,100.00	88.87	90.07	8,835.96	-2,438.39	1,418.58	1,421.56	0.00	0.00	0.00
10,200.00	88.87	90.07	8,837.94	-2,438.51	1,518.56	1,521.54	0.00	0.00	0.00
10,300.00	88.87	90.07	8,839.91	-2,438.63	1,618.54	1,621.52	0.00	0.00	0.00
10,400.00	88.87	90.07	8,841.89	-2,438.75	1,718.52	1,721.50	0.00	0.00	0.00
10,500.00	88.87	90.07	8,843.86	-2,438.87	1,818.50	1,821.48	0.00	0.00	0.00
10,600.00	88.87	90.07	8,845.84	-2,438.98	1,918.48	1,921.46	0.00	0.00	0.00
10,700.00	88.87	90.07	8,847.82	-2,439.10	2,018.46	2,021.44	0.00	0.00	0.00
10,800.00	88.87	90.07	8,849.79	-2,439.22	2,118.44	2,121.42	0.00	0.00	0.00
10,900.00	88.87	90.07	8,851.77	-2,439.34	2,218.42	2,221.40	0.00	0.00	0.00
11,000.00	88.87	90.07	8,853.75	-2,439.46	2,318.40	2,321.38	0.00	0.00	0.00
11,100.00	88.87	90.07	8,855.72	-2,439.57	2,418.38	2,421.36	0.00	0.00	0.00
11,200.00	88.87	90.07	8,857.70	-2,439.69	2,518.36	2,521.34	0.00	0.00	0.00
11,300.00	88.87	90.07	8,859.67	-2,439.81	2,618.34	2,621.32	0.00	0.00	0.00
11,400.00	88.87	90.07	8,861.65	-2,439.93	2,718.32	2,721.30	0.00	0.00	0.00
11,500.00	88.87	90.07	8,863.63	-2,440.05	2,818.30	2,821.28	0.00	0.00	0.00

Database:	EDM 5000.1.13 Single User Db	**Local Co-ordinate Reference:**	Well #109H
Company:	XTO Energy	**TVD Reference:**	RKB = 30' @ 3118.00usft
Project:	Eddy County, NM (NAD-27)	**MD Reference:**	RKB = 30' @ 3118.00usft
Site:	Big Eddy Unit 38E Stark	**North Reference:**	Grid
Well:	#109H	**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	88.87	90.07	8,865.60	-2,440.16	2,918.28	2,921.26	0.00	0.00	0.00
11,700.00	88.87	90.07	8,867.58	-2,440.28	3,018.26	3,021.24	0.00	0.00	0.00
11,800.00	88.87	90.07	8,869.55	-2,440.40	3,118.25	3,121.22	0.00	0.00	0.00
11,900.00	88.87	90.07	8,871.53	-2,440.52	3,218.23	3,221.20	0.00	0.00	0.00
12,000.00	88.87	90.07	8,873.51	-2,440.64	3,318.21	3,321.19	0.00	0.00	0.00
12,100.00	88.87	90.07	8,875.48	-2,440.75	3,418.19	3,421.17	0.00	0.00	0.00
12,200.00	88.87	90.07	8,877.46	-2,440.87	3,518.17	3,521.15	0.00	0.00	0.00
12,300.00	88.87	90.07	8,879.44	-2,440.99	3,618.15	3,621.13	0.00	0.00	0.00
12,400.00	88.87	90.07	8,881.41	-2,441.11	3,718.13	3,721.11	0.00	0.00	0.00
12,500.00	88.87	90.07	8,883.39	-2,441.22	3,818.11	3,821.09	0.00	0.00	0.00
12,600.00	88.87	90.07	8,885.36	-2,441.34	3,918.09	3,921.07	0.00	0.00	0.00
12,700.00	88.87	90.07	8,887.34	-2,441.46	4,018.07	4,021.05	0.00	0.00	0.00
12,800.00	88.87	90.07	8,889.32	-2,441.58	4,118.05	4,121.03	0.00	0.00	0.00
12,900.00	88.87	90.07	8,891.29	-2,441.70	4,218.03	4,221.01	0.00	0.00	0.00
12,935.83	88.87	90.07	8,892.00	-2,441.74	4,253.85	4,256.83	0.00	0.00	0.00
Second Bone Spring B Base									
13,000.00	88.87	90.07	8,893.27	-2,441.81	4,318.01	4,320.99	0.00	0.00	0.00
13,100.00	88.87	90.07	8,895.24	-2,441.93	4,417.99	4,420.97	0.00	0.00	0.00
13,200.00	88.87	90.07	8,897.22	-2,442.05	4,517.97	4,520.95	0.00	0.00	0.00
13,300.00	88.87	90.07	8,899.20	-2,442.17	4,617.95	4,620.93	0.00	0.00	0.00
13,400.00	88.87	90.07	8,901.17	-2,442.29	4,717.93	4,720.91	0.00	0.00	0.00
13,500.00	88.87	90.07	8,903.15	-2,442.40	4,817.91	4,820.89	0.00	0.00	0.00
13,600.00	88.87	90.07	8,905.13	-2,442.52	4,917.89	4,920.87	0.00	0.00	0.00
13,700.00	88.87	90.07	8,907.10	-2,442.64	5,017.87	5,020.85	0.00	0.00	0.00
13,800.00	88.87	90.07	8,909.08	-2,442.76	5,117.85	5,120.83	0.00	0.00	0.00
13,900.00	88.87	90.07	8,911.05	-2,442.88	5,217.83	5,220.81	0.00	0.00	0.00
14,000.00	88.87	90.07	8,913.03	-2,442.99	5,317.81	5,320.79	0.00	0.00	0.00
14,100.00	88.87	90.07	8,915.01	-2,443.11	5,417.79	5,420.78	0.00	0.00	0.00
14,200.00	88.87	90.07	8,916.98	-2,443.23	5,517.78	5,520.76	0.00	0.00	0.00
14,300.00	88.87	90.07	8,918.96	-2,443.35	5,617.76	5,620.74	0.00	0.00	0.00
14,400.00	88.87	90.07	8,920.93	-2,443.47	5,717.74	5,720.72	0.00	0.00	0.00
14,500.00	88.87	90.07	8,922.91	-2,443.58	5,817.72	5,820.70	0.00	0.00	0.00
14,600.00	88.87	90.07	8,924.89	-2,443.70	5,917.70	5,920.68	0.00	0.00	0.00
14,700.00	88.87	90.07	8,926.86	-2,443.82	6,017.68	6,020.66	0.00	0.00	0.00
14,800.00	88.87	90.07	8,928.84	-2,443.94	6,117.66	6,120.64	0.00	0.00	0.00
14,900.00	88.87	90.07	8,930.82	-2,444.06	6,217.64	6,220.62	0.00	0.00	0.00
15,000.00	88.87	90.07	8,932.79	-2,444.17	6,317.62	6,320.60	0.00	0.00	0.00
15,100.00	88.87	90.07	8,934.77	-2,444.29	6,417.60	6,420.58	0.00	0.00	0.00
15,200.00	88.87	90.07	8,936.74	-2,444.41	6,517.58	6,520.56	0.00	0.00	0.00
15,300.00	88.87	90.07	8,938.72	-2,444.53	6,617.56	6,620.54	0.00	0.00	0.00
15,400.00	88.87	90.07	8,940.70	-2,444.64	6,717.54	6,720.52	0.00	0.00	0.00
15,500.00	88.87	90.07	8,942.67	-2,444.76	6,817.52	6,820.50	0.00	0.00	0.00
15,600.00	88.87	90.07	8,944.65	-2,444.88	6,917.50	6,920.48	0.00	0.00	0.00
15,700.00	88.87	90.07	8,946.62	-2,445.00	7,017.48	7,020.46	0.00	0.00	0.00
15,800.00	88.87	90.07	8,948.60	-2,445.12	7,117.46	7,120.44	0.00	0.00	0.00
15,900.00	88.87	90.07	8,950.58	-2,445.23	7,217.44	7,220.42	0.00	0.00	0.00
16,000.00	88.87	90.07	8,952.55	-2,445.35	7,317.42	7,320.40	0.00	0.00	0.00
16,100.00	88.87	90.07	8,954.53	-2,445.47	7,417.40	7,420.38	0.00	0.00	0.00
16,200.00	88.87	90.07	8,956.51	-2,445.59	7,517.38	7,520.37	0.00	0.00	0.00
16,300.00	88.87	90.07	8,958.48	-2,445.71	7,617.36	7,620.35	0.00	0.00	0.00
16,400.00	88.87	90.07	8,960.46	-2,445.82	7,717.34	7,720.33	0.00	0.00	0.00
16,500.00	88.87	90.07	8,962.43	-2,445.94	7,817.32	7,820.31	0.00	0.00	0.00
16,600.00	88.87	90.07	8,964.41	-2,446.06	7,917.30	7,920.29	0.00	0.00	0.00

Database:	EDM 5000.1.13 Single User Db	**Local Co-ordinate Reference:**	Well #109H
Company:	XTO Energy	**TVD Reference:**	RKB = 30' @ 3118.00usft
Project:	Eddy County, NM (NAD-27)	**MD Reference:**	RKB = 30' @ 3118.00usft
Site:	Big Eddy Unit 38E Stark	**North Reference:**	Grid
Well:	#109H	**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	88.87	90.07	8,966.39	-2,446.18	8,017.29	8,020.27	0.00	0.00	0.00
16,800.00	88.87	90.07	8,968.36	-2,446.30	8,117.27	8,120.25	0.00	0.00	0.00
16,900.00	88.87	90.07	8,970.34	-2,446.41	8,217.25	8,220.23	0.00	0.00	0.00
17,000.00	88.87	90.07	8,972.31	-2,446.53	8,317.23	8,320.21	0.00	0.00	0.00
17,100.00	88.87	90.07	8,974.29	-2,446.65	8,417.21	8,420.19	0.00	0.00	0.00
17,200.00	88.87	90.07	8,976.27	-2,446.77	8,517.19	8,520.17	0.00	0.00	0.00
17,300.00	88.87	90.07	8,978.24	-2,446.89	8,617.17	8,620.15	0.00	0.00	0.00
17,400.00	88.87	90.07	8,980.22	-2,447.00	8,717.15	8,720.13	0.00	0.00	0.00
17,500.00	88.87	90.07	8,982.20	-2,447.12	8,817.13	8,820.11	0.00	0.00	0.00
17,600.00	88.87	90.07	8,984.17	-2,447.24	8,917.11	8,920.09	0.00	0.00	0.00
17,700.00	88.87	90.07	8,986.15	-2,447.36	9,017.09	9,020.07	0.00	0.00	0.00
17,800.00	88.87	90.07	8,988.12	-2,447.48	9,117.07	9,120.05	0.00	0.00	0.00
17,900.00	88.87	90.07	8,990.10	-2,447.59	9,217.05	9,220.03	0.00	0.00	0.00
18,000.00	88.87	90.07	8,992.08	-2,447.71	9,317.03	9,320.01	0.00	0.00	0.00
18,100.00	88.87	90.07	8,994.05	-2,447.83	9,417.01	9,419.99	0.00	0.00	0.00
18,200.00	88.87	90.07	8,996.03	-2,447.95	9,516.99	9,519.97	0.00	0.00	0.00
18,300.00	88.87	90.07	8,998.00	-2,448.06	9,616.97	9,619.96	0.00	0.00	0.00
18,400.00	88.87	90.07	8,999.98	-2,448.18	9,716.95	9,719.94	0.00	0.00	0.00
18,500.00	88.87	90.07	9,001.96	-2,448.30	9,816.93	9,819.92	0.00	0.00	0.00
18,600.00	88.87	90.07	9,003.93	-2,448.42	9,916.91	9,919.90	0.00	0.00	0.00
18,700.00	88.87	90.07	9,005.91	-2,448.54	10,016.89	10,019.88	0.00	0.00	0.00
18,800.00	88.87	90.07	9,007.89	-2,448.65	10,116.87	10,119.86	0.00	0.00	0.00
18,900.00	88.87	90.07	9,009.86	-2,448.77	10,216.85	10,219.84	0.00	0.00	0.00
19,000.00	88.87	90.07	9,011.84	-2,448.89	10,316.83	10,319.82	0.00	0.00	0.00
19,100.00	88.87	90.07	9,013.81	-2,449.01	10,416.81	10,419.80	0.00	0.00	0.00
19,200.00	88.87	90.07	9,015.79	-2,449.13	10,516.80	10,519.78	0.00	0.00	0.00
19,300.00	88.87	90.07	9,017.77	-2,449.24	10,616.78	10,619.76	0.00	0.00	0.00
19,400.00	88.87	90.07	9,019.74	-2,449.36	10,716.76	10,719.74	0.00	0.00	0.00
19,500.00	88.87	90.07	9,021.72	-2,449.48	10,816.74	10,819.72	0.00	0.00	0.00
19,600.00	88.87	90.07	9,023.69	-2,449.60	10,916.72	10,919.70	0.00	0.00	0.00
19,700.00	88.87	90.07	9,025.67	-2,449.72	11,016.70	11,019.68	0.00	0.00	0.00
19,800.00	88.87	90.07	9,027.65	-2,449.83	11,116.68	11,119.66	0.00	0.00	0.00
19,900.00	88.87	90.07	9,029.62	-2,449.95	11,216.66	11,219.64	0.00	0.00	0.00
20,000.00	88.87	90.07	9,031.60	-2,450.07	11,316.64	11,319.62	0.00	0.00	0.00
20,100.00	88.87	90.07	9,033.58	-2,450.19	11,416.62	11,419.60	0.00	0.00	0.00
20,200.00	88.87	90.07	9,035.55	-2,450.31	11,516.60	11,519.58	0.00	0.00	0.00
20,300.00	88.87	90.07	9,037.53	-2,450.42	11,616.58	11,619.56	0.00	0.00	0.00
20,400.00	88.87	90.07	9,039.50	-2,450.54	11,716.56	11,719.55	0.00	0.00	0.00
20,500.00	88.87	90.07	9,041.48	-2,450.66	11,816.54	11,819.53	0.00	0.00	0.00
20,600.00	88.87	90.07	9,043.46	-2,450.78	11,916.52	11,919.51	0.00	0.00	0.00
20,700.00	88.87	90.07	9,045.43	-2,450.90	12,016.50	12,019.49	0.00	0.00	0.00
20,800.00	88.87	90.07	9,047.41	-2,451.01	12,116.48	12,119.47	0.00	0.00	0.00
20,900.00	88.87	90.07	9,049.39	-2,451.13	12,216.46	12,219.45	0.00	0.00	0.00
21,000.00	88.87	90.07	9,051.36	-2,451.25	12,316.44	12,319.43	0.00	0.00	0.00
21,100.00	88.87	90.07	9,053.34	-2,451.37	12,416.42	12,419.41	0.00	0.00	0.00
21,200.00	88.87	90.07	9,055.31	-2,451.48	12,516.40	12,519.39	0.00	0.00	0.00
21,300.00	88.87	90.07	9,057.29	-2,451.60	12,616.38	12,619.37	0.00	0.00	0.00
21,400.00	88.87	90.07	9,059.27	-2,451.72	12,716.36	12,719.35	0.00	0.00	0.00
21,500.00	88.87	90.07	9,061.24	-2,451.84	12,816.34	12,819.33	0.00	0.00	0.00
21,600.00	88.87	90.07	9,063.22	-2,451.96	12,916.32	12,919.31	0.00	0.00	0.00
21,700.00	88.87	90.07	9,065.19	-2,452.07	13,016.31	13,019.29	0.00	0.00	0.00
21,800.00	88.87	90.07	9,067.17	-2,452.19	13,116.29	13,119.27	0.00	0.00	0.00
21,900.00	88.87	90.07	9,069.15	-2,452.31	13,216.27	13,219.25	0.00	0.00	0.00
22,000.00	88.87	90.07	9,071.12	-2,452.43	13,316.25	13,319.23	0.00	0.00	0.00

Database:	EDM 5000.1.13 Single User Db	**Local Co-ordinate Reference:**	Well #109H
Company:	XTO Energy	**TVD Reference:**	RKB = 30' @ 3118.00usft
Project:	Eddy County, NM (NAD-27)	**MD Reference:**	RKB = 30' @ 3118.00usft
Site:	Big Eddy Unit 38E Stark	**North Reference:**	Grid
Well:	#109H	**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	88.87	90.07	9,073.10	-2,452.55	13,416.23	13,419.21	0.00	0.00	0.00
22,200.00	88.87	90.07	9,075.08	-2,452.66	13,516.21	13,519.19	0.00	0.00	0.00
22,300.00	88.87	90.07	9,077.05	-2,452.78	13,616.19	13,619.17	0.00	0.00	0.00
22,400.00	88.87	90.07	9,079.03	-2,452.90	13,716.17	13,719.15	0.00	0.00	0.00
22,500.00	88.87	90.07	9,081.00	-2,453.02	13,816.15	13,819.14	0.00	0.00	0.00
22,600.00	88.87	90.07	9,082.98	-2,453.14	13,916.13	13,919.12	0.00	0.00	0.00
22,700.00	88.87	90.07	9,084.96	-2,453.25	14,016.11	14,019.10	0.00	0.00	0.00
22,800.00	88.87	90.07	9,086.93	-2,453.37	14,116.09	14,119.08	0.00	0.00	0.00
22,900.00	88.87	90.07	9,088.91	-2,453.49	14,216.07	14,219.06	0.00	0.00	0.00
23,000.00	88.87	90.07	9,090.88	-2,453.61	14,316.05	14,319.04	0.00	0.00	0.00
23,100.00	88.87	90.07	9,092.86	-2,453.73	14,416.03	14,419.02	0.00	0.00	0.00
23,200.00	88.87	90.07	9,094.84	-2,453.84	14,516.01	14,519.00	0.00	0.00	0.00
23,300.00	88.87	90.07	9,096.81	-2,453.96	14,615.99	14,618.98	0.00	0.00	0.00
23,400.00	88.87	90.07	9,098.79	-2,454.08	14,715.97	14,718.96	0.00	0.00	0.00
23,500.00	88.87	90.07	9,100.77	-2,454.20	14,815.95	14,818.94	0.00	0.00	0.00
23,600.00	88.87	90.07	9,102.74	-2,454.32	14,915.93	14,918.92	0.00	0.00	0.00
23,700.00	88.87	90.07	9,104.72	-2,454.43	15,015.91	15,018.90	0.00	0.00	0.00
23,800.00	88.87	90.07	9,106.69	-2,454.55	15,115.89	15,118.88	0.00	0.00	0.00
23,900.00	88.87	90.07	9,108.67	-2,454.67	15,215.87	15,218.86	0.00	0.00	0.00
24,000.00	88.87	90.07	9,110.65	-2,454.79	15,315.85	15,318.84	0.00	0.00	0.00
24,100.00	88.87	90.07	9,112.62	-2,454.90	15,415.84	15,418.82	0.00	0.00	0.00
24,200.00	88.87	90.07	9,114.60	-2,455.02	15,515.82	15,518.80	0.00	0.00	0.00
24,300.00	88.87	90.07	9,116.57	-2,455.14	15,615.80	15,618.78	0.00	0.00	0.00
24,400.00	88.87	90.07	9,118.55	-2,455.26	15,715.78	15,718.76	0.00	0.00	0.00
24,500.00	88.87	90.07	9,120.53	-2,455.38	15,815.76	15,818.74	0.00	0.00	0.00
24,600.00	88.87	90.07	9,122.50	-2,455.49	15,915.74	15,918.73	0.00	0.00	0.00
24,700.00	88.87	90.07	9,124.48	-2,455.61	16,015.72	16,018.71	0.00	0.00	0.00
24,800.00	88.87	90.07	9,126.46	-2,455.73	16,115.70	16,118.69	0.00	0.00	0.00
24,900.00	88.87	90.07	9,128.43	-2,455.85	16,215.68	16,218.67	0.00	0.00	0.00
25,000.00	88.87	90.07	9,130.41	-2,455.97	16,315.66	16,318.65	0.00	0.00	0.00
25,100.00	88.87	90.07	9,132.38	-2,456.08	16,415.64	16,418.63	0.00	0.00	0.00
25,200.00	88.87	90.07	9,134.36	-2,456.20	16,515.62	16,518.61	0.00	0.00	0.00
25,232.99	88.87	90.07	9,135.01	-2,456.24	16,548.60	16,551.59	0.00	0.00	0.00
25,283.00	88.87	90.07	9,136.00	-2,456.30	16,598.60	16,601.59	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 #109H - plan hits target center - Point	0.00	0.00	0.00	0.00	0.00	497,867.50	608,138.50	32.3682665	-103.9830873
BEU 38E Stark #109H - plan hits target center - Point	0.00	0.00	8,826.00	-2,437.80	914.70	495,429.70	609,053.20	32.3615570	-103.9801508
BEU 38E Stark #109H - plan misses target center by 0.06usft at 25232.99usft MD (9135.01 TVD, -2456.24 N, 16548.60 E) - Point	0.00	0.00	9,135.01	-2,456.30	16,548.60	495,411.20	624,687.10	32.3613542	-103.9295197
BEU 38E Stark #109H - plan hits target center - Point	0.00	0.00	9,136.00	-2,456.30	16,598.60	495,411.20	624,737.10	32.3613537	-103.9293578

Database:	EDM 5000.1.13 Single User Db	**Local Co-ordinate Reference:**	Well #109H
Company:	XTO Energy	**TVD Reference:**	RKB = 30' @ 3118.00usft
Project:	Eddy County, NM (NAD-27)	**MD Reference:**	RKB = 30' @ 3118.00usft
Site:	Big Eddy Unit 38E Stark	**North Reference:**	Grid
Well:	#109H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	PERMIT		

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
123.00	123.00	Rustler			
244.00	244.00	Salado/Top of Salt			
2,389.20	2,388.00	Base of Salt			
3,085.80	3,060.00	Delaware Sand			
4,209.81	4,106.00	Manzanita Marker			
5,678.76	5,473.00	Brushy Canyon Ss.			
6,735.07	6,456.00	Lower Brushy Canyon Ss.			
7,051.00	6,750.00	Bone Spring Lm.			
7,244.42	6,930.00	Upper Avalon Sh.			
7,764.52	7,414.00	Lw. Avalon Sh.			
7,913.89	7,553.00	Bone Spring Carb.			
8,193.28	7,813.00	First Bone Spring Ss.			
8,430.76	8,034.00	Second Bone Spring Carb.			
8,965.53	8,524.00	Second Bone Spring Ss.			
9,038.22	8,583.00	Second Bone Spring A Ss.			
9,251.59	8,726.00	Second Bone Spring B Ss.			
9,596.02	8,826.00	Landing Point			
12,935.83	8,892.00	Second Bone Spring B Base			

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

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:** 109H

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_109H_Wtr_20191028103949.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:** 109H

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: 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:

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

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: BIG EDDY UNIT 38E STARK **Well Number:** 109H

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: 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: 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.

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:

Section 9 - Well Site Layout

Well Site Layout Diagram:

BEU_38_Stark_109H_Well_20191028104019.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:

Seed Management

Seed Table

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: BIG EDDY UNIT 38E STARK **Well Number:** 109H

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

Disturbance type: WELL PAD

Describe:

Surface Owner: BUREAU OF LAND MANAGEMENT

Other surface owner description:

BIA Local Office:

BOR Local Office:

COE Local Office:

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: BIG EDDY UNIT 38E STARK **Well Number:** 109H

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:**