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Form 3160-3
(June 2015)

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.
NMLC0065431

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.
BIG EDDY / NMNM068294X

8. Lease Name and Well No.
BIG EDDY UNIT DI5 BS2-5E
340H 327309

2. Name of Operator
XTO PERMIAN OPERATING LLC 373075

9. API Well No.
30-015-46834

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

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*
At surface SWNE / 2050 FNL / 1873 FEL / LAT 32.545897 / LONG -103.854521
At proposed prod. zone NENE / 1980 FSL / 200 FEL / LAT 32.542431 / LONG -103.814803

11. Sec., T. R. M. or Blk. and Survey or Area
SEC 27 / T20S / R31E / NMP

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

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)
1873 feet

16. No of acres in lease
240

17. Spacing Unit dedicated to this well
400

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

19. Proposed Depth
9491 feet / 22678 feet

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

21. Elevations (Show whether DF, KDB, RT, GL, etc.)
3531 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)	Stephanie Rabadue / Ph: (432)620-6714	11/20/2018

Title: Regulatory Coordinator

Approved by *(Signature)*	Name *(Printed/Typed)*	Date
(Electronic Submission)	Cody Layton / Ph: (575)234-5959	08/27/2019

Title	Office
Assistant Field Manager Lands & Minerals	CARLSBAD

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
Approval Date: 08/27/2019

(Continued on page 2)

*(Instructions on page 2)

RWP 3-13-20

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.

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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 DRILLING
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	**XTO Permian Operating, LLC**
LEASE NO.:	**NMLC-0065431**
WELL NAME & NO.:	**Big Eddy Unit DI5 BS2-5E 340H**
SURFACE HOLE FOOTAGE:	**2050' FNL & 1873' FEL**
BOTTOM HOLE FOOTAGE	**1980' FSL & 0200' FEL Sec. 25, T. 20 S., R 31 E.**
LOCATION:	**Section 27, T. 20 S., R 31 E., NMPM**
COUNTY:	**County, New Mexico**

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

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

A. DRILLING OPERATIONS 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

1. **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.**

2. 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. **If the drilling rig is removed without approval – an Incident of Non-Compliance will be written and will be a "Major" violation.**

3. 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 is located, this does not include the dog house or stairway area.

4. **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.**

B. **CASING**

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.

Centralizers required on surface casing per Onshore Order 2.III.B.1.f.

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.

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.

No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.

R-111-P Potash
Capitan Reef
Possibility of water flows in the Castile, Yates, and Salado.
Possibility of lost circulation in the Red Beds, Rustler, Yates, Capitan Reef, and Delaware.

1. The **16** inch surface casing shall be set at approximately **849** feet (a minimum of 25 feet into the Rustler Anhydrite and above the salt) and cemented to the surface. **If salt is encountered, set casing at least 25 feet above the salt.**

    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 is to include the lead cement slurry.**

    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 1st intermediate casing, which shall be set at approximately **2700** feet, is:

    ☐ Cement to surface. If cement does not circulate see B.1.a, c-d above. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to potash.**

3. The minimum required fill of cement behind the **9-5/8** inch 2nd intermediate casing is:

Operator has proposed DV tool at depth of 2915', but will adjust cement proportionately if moved. DV tool shall be set a minimum of 50' below previous shoe and a minimum of 200' above current shoe. Operator shall submit sundry if DV tool depth cannot be set in this range. If an ECP is used, it is to be set a minimum of 50' below the shoe to provide cement across the shoe. If it cannot be set below the shoe, a CBL shall be run to verify cement coverage.

a. First stage to DV tool:___

☒ Cement to circulate. If cement does not circulate, contact the appropriate BLM office before proceeding with second stage cement job. Operator should have plans as to how they will achieve circulation on the next stage.

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 potash and Capitan Reef.**

Centralizers required through the curve and a minimum of one every other joint.

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

   ☐ Cement should tie-back at least **50 feet above the Capitan Reef** (Top of Capitan Reef estimated at 2850'). Operator shall provide method of verification.

5. 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..

6. Whenever a casing string is cemented in the R-111-P potash area, the NMOCD requirements shall be followed.

C. **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 53.

2. Variance approved to use flex line from BOP to choke manifold. 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.** If the BLM inspector questions the straightness of the hose, a BLM engineer will be contacted and will review in the field or via picture supplied by inspector to determine if changes are required (operator shall expect delays if this occurs).

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

4. **Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the 13-3/8 1st intermediate casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the 13-3/8 1st intermediate casing shoe shall be 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. **Operator shall perform the 9-5/8" casing integrity tests to 70% of the casing burst. This will test the multi-bowl seals.**
    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 hours in advance for a representative to witness the tests.

a. 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.

b. The tests shall be done by an independent service company utilizing a test plug **not a cup or J-packer**.

c. 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.

d. The results of the test shall be reported to the appropriate BLM office.

e. 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.**

f. 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.

D. DRILL STEM TEST

If drill stem tests are performed, Onshore Order 2.III.D shall be followed.

E. 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.

JAM 081319

PECOS DISTRICT
SURFACE USE
CONDITIONS OF APPROVAL

XTO Permian Operating LLC
Big Eddy Unit DI 5 Drill Island MW
Lease Number NMLC0065431

BIG EDDY UNIT 5E CHEWBACCA #100H: Slot C 12
Surface Hole Location: 1,870' FNL & 2,290' FEL, Section 27, T. 20 S. R. 31 E.
Bottom Hole Location: 660' FSL & 50' FWL, Section 21, T. 20 S. R. 31 E.

BIG EDDY UNIT 5E CHEWBACCA #101H: Slot C 11
Surface Hole Location: 1,870' FNL & 1,700' FEL, Section 27, T. 20 S. R. 31 E
Bottom Hole Location: 660' FSL & 50' FEL, Section 24, T. 20 S. R. 31 E.

BIG EDDY UNIT 5E CHEWBACCA #102H: Slot C 10
Surface Hole Location: 1,870' FNL & 1,980' FEL, Section 27, T. 20 S. R. 31 E.
Bottom Hole Location: 1,980' FSL & 50' FEL, Section 24, T. 20 S. R. 31 E.

BIG EDDY UNIT 5E CHEWBACCA #103H: Slot F 12
Surface Hole Location: 2,145' FNL & 1,670' FEL, Section 27, T. 20 S. R. 31 E.
Bottom Hole Location: 1,980' FNL & 50' FEL, Section 25, T. 20 S. R. 31 E.

BIG EDDY UNIT 5E CHEWBACCA #104H: Slot F 11
Surface Hole Location: 2,145' FNL & 1,700' FEL, Section 27, T. 20 S. R. 31 E.
Bottom Hole Location: 1,980 FSL & 50' FEL, Section 25, T. 20 S. R. 31 E.

BIG EDDY UNIT 5E CHEWBACCA #105: Slot F 10
Surface Hole Location: 2,145' FNL & 1,730' FEL, Section 27, T. 20 S. R. 31 E.
Bottom Hole Location: 660' FSL & 50' FEL, Section 25, T. 20 S. R. 31 E.

BIG EDDY UNIT 5W CHEWBACCA #106H: Slot C 1
Surface Hole Location: 1,870' FNL & 2,290' FEL, Section 27, T. 20 S. R. 31 E.
Bottom Hole Location: 660' FSL & 50' FWL, Section 21, T. 20 S. R. 31 E.

BIG EDDY UNIT 5W CHEWBACCA #107H: Slot C 2
Surface Hole Location: 1,870' FNL & 2,260' FEL, Section 27, T. 20 S. R. 31 E.
Bottom Hole Location: 660' FNL & 50' FWL, Section 28, 20 S. R. 31 E.

BIG EDDY UNIT 5W CHEWBACCA #108H: Slot C 3
Surface Hole Location: 1,870' FNL & 2,230' FEL, Section 27, T. 20 S. R. 31 E.
Bottom Hole Location: 1,980' FNL & 50' FWL, Section 28, T. 20 S. R. 31 E.

BIG EDDY UNIT 5W CHEWBACCA #109H: Slot F 1

Surface Hole Location: 2,145' FNL & 2,290' FEL, Section 27, T. 20 S R. 31 E.
Bottom Hole Location: 1,980' FSL & 50' FWL, Section 28, T. 20 R. 31 E.

BIG EDDY UNIT 5W CHEWBACCA #110H: Slot F 2
Surface Hole Location: 2,145' FNL & 2,260' FEL, Section 27, T. 20 S. R. 31 E.
Bottom Hole Location: 660' FSL & 50' FWL, Section 28, T. 20 R. 31 E.

BIG EDDY UNIT 5E HAN-SOLO #100H: Slot A 9
Surface Hole Location: 1,670' FNL & 1,855' FEL, Section 27, T. 20 S. R. 31 E.
Bottom Hole Location: 1,980' FSL & 50' FEL, Section 24, T. 20 S. R. 31 E.

BIG EDDY UNIT 5E HAN-SOLO #101H: Slot A 8
Surface Hole Location: 1,670' FNL & 1,885' FEL, Section 27, T. 20 S. R. 31 E.
Bottom Hole Location: 660' FSL & 50' FEL, Section 24, T. 20 S. R. 31 E.

BIG EDDY UNIT 5E HAN-SOLO #102H: Slot A 7
Surface Hole Location: 1,870' FNL & 1,730' FEL, Section 27, T. 20 S. R. 31 E.
Bottom Hole Location: 660' FNL & 50' FEL, Section 25, 20 S. R. 31 E.

BIG EDDY UNIT 5E HAN-SOLO #104H: Slot F 9
Surface Hole Location: 2,145' FNL & 1,855' FEL, Section 27, T. 20 S. R. 31 E.
Bottom Hole Location: 1,980' FSL & 50' FEL, Section 25, 20 S. R. 31 E.

BIG EDDY UNIT 5E HAN-SOLO #105H: Slot F 8
Surface Hole Location: 2,145' FNL & 1,885' FEL, Section 27, T 20 S. R. 31 E.
Bottom Hole Location: 660' FSL & 50' FEL, Section 25, T. 20 S. R. 31 E.

BIG EDDY UNIT 5W HAN-SOLO #106H: Slot A 4
Surface Hole Location: 1,670' FNL & 2,105' FEL, Section 27, T. 20 S. R. 31 E.
Bottom Hole Location: 660' FSL & 50' FWL, Section 21, T. 21 S. R 31 E.

BIG EDDY UNIT 5W HAN-SOLO #107H: Slot A 5
Surface Hole Location: 1,670' FNL & 2,075 FEL, Section 27, T. 20 S. R. 31 E.
Bottom Hole Location: 660' FNL & 50' FWL, Section 27, T. 20 S. 31 E.

BIG EDDY UNIT 5W HAN-SOLO #108H: Slot A 6
Surface Hole Location: 1,670' FNL & 2,045' FEL, Section 27, T. 20 S. R. 31 E.
Bottom Hole Location: 1,980' FNL & 50' FWL, Section 28, T. 20 S. R. 31 E.

BIG EDDY UNIT 5W HAN-SOLO #109H: Slot F 4
Surface Hole Location: 2,145' FNL & 2,105' FEL, Section 27, T. 20 S. R. 31 E.
Bottom Hole Location: 1,980' FSL & 50' FWL, Section 28, T. 20 S. R. 31 E

BIG EDDY UNIT 5W HAN-SOLO #110H: Slot F 5
Surface Hole Location: 2,145' FNL & 2,075 FEL, Section 27, T. 20 S. R. 31 E.
Bottom Hole Location: 660' FSL & 50' FWL, Section 28, T. 20 S. R. 31 E.

BIG EDDY UNIT 5E HAN-SOLO #111H: Slot D 8
Surface Hole Location: 1,945 'FNL & 1,885' FEL, Section 27, T. 20 S. R. 31 E.
Bottom Hole Location: 1,340' FNL & 50' FEL, Section 25, T. 20 S.R. 31 E.

BIG EDDY UNIT 5E HAN-SOLO #114H: Slot F 7
Surface Hole Location: 2,145' FNL & 1,915' FEL, Section 27, T. 20 S. R. 31 E.
Bottom Hole Location: 2,640' FNL & 50' FEL, Section 25, T. 20 S. R. 31 E.

BIG EDDY UNIT 5W HAN-SOLO #118H: Slot F 6
Surface Hole Location: 2,145' FNL & 2,045 FWL, Section 27, T. 20 S. R. 31 E.
Bottom Hole Location: 2,635' FNL & 50' FWL, Section 28, T. 20 S. R. 31 E.

BIG EDDY UNIT 5E LEIA #103H: Slot E 12
Surface Hole Location: 2,070' FNL & 1,670' FEL, Section 27, T. 20 S. R. 31 E.
Bottom Hole Location: 1,980' FNL & 50' FEL, Section 25, T. 20 S. R. 31 E.

BIG EDDY UNIT 5E R2D2 #100H: Slot A 12
Surface Hole Location: 1,670' FNL & 1,670' FEL, Section 27, T. 20 S. R. 31 E.
Bottom Hole Location: 1,980' FSL & 50' FEL, Section 24, T. 20 S. R. 31 E.

BIG EDDY UNIT 5E R2D2 #101H: Slot A 11
Surface Hole Location: 1,670' FNL & 1,700' FEL, Section 27, T. 20 S. R. 31 E.
Bottom Hole Location: 660' FSL & 50' FEL, Section 24, T. 20 S. R. 31 E.

BIG EDDY UNIT 5E R2D2 #102H: Slot A 10
Surface Hole Location: 1,670' FNL & 1,730' FEL, Section 27, T. 20 S. R. 31 E.
Bottom Hole Location: 660' FNL & 50' FEL, Section 25, 20 S. R. 31 E.

BIG EDDY UNIT DI 5 BS2-5E #337H
Surface Hole Location: 1,890' FNL & 1,873' FEL, Section 27, T. 20 S. R. 31 E.
Bottom Hole Location: 1,980' FSL & 200' FEL, Section 24, 20 S. R. 31 E.

BIG EDDY UNIT DI 5 BS2-7E #338H
Surface Hole Location: 1,920' FNL & 1,873' FEL, Section 27, T. 20 S. R. 31 E.
Bottom Hole Location: 660' FSL & 200' FEL, Section 24, 20 S. R. 31 E.

BIG EDDY UNIT DI 5 BS2-1E #339H
Surface Hole Location: 1,950' FNL & 1,873' FEL, Section 27, T. 20 S. R. 31 E.
Bottom Hole Location: 660' FNL & 200' FEL, Section 25, 20 S. R. 31 E.

BIG EDDY UNIT DI 5 BS2-5E #340H
Surface Hole Location: 2,050' FNL & 1,873' FEL, Section 27, T. 20 S. R. 31 E.
Bottom Hole Location: 1,980' FSL & 200' FEL, Section 25, 20 S. R. 31 E.

BIG EDDY UNIT DI 5 BS2-7E #341H
Surface Hole Location: 2,080' FNL & 1,873' FEL, Section 27, T. 20 S. R. 31 E.
Bottom Hole Location: 660' FSL & 200' FEL, Section 25, 20 S. R. 31 E.

BIG EDDY UNIT DI 5 BS2-3E #342H
Surface Hole Location: 2,000' FNL & 1,835' FEL, Section 27, T. 20 S. R. 31 E.
Bottom Hole Location: 1,340' FNL & 200' FEL, Section 25, 20 S. R. 31 E.

BIG EDDY UNIT DI 5 BS1-3E #343H
Surface Hole Location: 2,000' FNL & 1,798' FEL, Section 27, T. 20 S. R. 31 E.
Bottom Hole Location: 1,980' FNL & 200' FEL, Section 25, 20 S. R. 31 E.

BIG EDDY UNIT DI 5 BS2-7W #344H
Surface Hole Location: 1,920' FNL & 2,087' FEL, Section 27, T. 20 S. R. 31 E.
Bottom Hole Location: 660' FSL & 200' FWL, Section 21, 20 S. R. 31 E.

BIG EDDY UNIT DI 5 BS2-1W #345H
Surface Hole Location: 1,950' FNL & 2,087' FEL, Section 27, T. 20 S. R. 31 E.
Bottom Hole Location: 660' FSL & 200' FWL, Section 28, 20 S. R. 31 E.

BIG EDDY UNIT DI 5 BS2-3W #346H
Surface Hole Location: 2,000' FNL & 2,087' FEL, Section 27, T. 20 S. R. 31 E.
Bottom Hole Location: 1,980' FNL & 200' FWL, Section 28, 20 S. R. 31 E.

BIG EDDY UNIT DI 5 BS2-5W #347H
Surface Hole Location: 2,050' FNL & 2,087' FEL, Section 27, T. 20 S. R. 31 E.
Bottom Hole Location: 1,980' FNL & 200' FWL, Section 28, 20 S. R. 31 E.

BIG EDDY UNIT DI 5 BSAL-3E #349H
Surface Hole Location: 2,000' FNL & 1,761' FEL, Section 27, T. 20 S. R. 31 E.
Bottom Hole Location: 1,980' FNL & 200' FEL, Section 25, 20 S. R. 31 E.

Future Well #1: Slot A1
Surface Hole Location: 2,290' FEL & 1,670' FNL, Section 27, T. 20 S. R. 31 E.
Bottom Hole Location: To Be Determined

Future Well #2: Slot A2
Surface Hole Location: 2,260' FEL & 1,670' FNL, Section 27, T. 20 S. R. 31 E.
Bottom Hole Location: To Be Determined

Future Well #3: Slot A3
Surface Hole Location: 2,230' FEL & 1,670' FNL, Section 27, T. 20 S. R. 31 E.
Bottom Hole Location: To Be Determined

Future Well #4: Slot B1
Surface Hole Location: 2,290' FEL & 1,745' FNL, Section 27, T. 20 S. R. 31 E.
Bottom Hole Location: To Be Determined

Future Well #5: Slot B2
Surface Hole Location: 2,260' FEL & 1,745' FNL, Section 27, T. 20 S. R. 31 E.
Bottom Hole Location: To Be Determined

Future Well #6: Slot B3
Surface Hole Location: 2,230' FEL & 1,670' FWL, Section 27, T. 20 S. R. 31 E.
Bottom Hole Location: To Be Determined

Future Well #7: Slot B4
Surface Hole Location: 2,105' FEL & 1,745' FNL, Section 27, T. 20 S. R. 31 E.
Bottom Hole Location: To Be Determined

Future Well #8: Slot B5
Surface Hole Location: 2,075' FEL & 1,745' FNL, Section 27, T. 20 S. R. 31 E.
Bottom Hole Location: To Be Determined

Future Well #9: Slot B6
Surface Hole Location: 2,045' FEL & 1,745' FNL, Section 27, T. 20 S. R. 31 E.
Bottom Hole Location: To Be Determined

Future Well #10: Slot C4
Surface Hole Location: 2,105' FEL & 1,870' FNL, Section 27, T. 20 S. R. 31 E.
Bottom Hole Location: To Be Determined

Future Well #11: Slot C5
Surface Hole Location: 2,075' FEL & 1,870' FNL, Section 27, T. 20 S. R. 31 E.
Bottom Hole Location: To Be Determined

Future Well #12: Slot C6
Surface Hole Location: 2,045' FEL & 1,870' FNL, Section 27, T. 20 S. R. 31 E.
Bottom Hole Location: To Be Determined

Future Well #13: Slot D1
Surface Hole Location: 2,290' FEL & 1,945' FNL, Section 27, T. 20 S. R. 31 E.
Bottom Hole Location: To Be Determined

Future Well #14: Slot D2
Surface Hole Location: 2,260' FEL & 1,945' FNL, Section 27, T. 20 S. R. 31 E.
Bottom Hole Location: To Be Determined

Future Well #15: Slot D3
Surface Hole Location: 2,230' FEL & 1,945' FNL, Section 27, T. 20 S. R. 31 E.
Bottom Hole Location: To Be Determined

Future Well #16: Slot D4
Surface Hole Location: 2,105' FEL & 1,945' FNL, Section 27, T. 20 S. R. 31 E.
Bottom Hole Location: To Be Determined

Future Well #17: Slot D5
Surface Hole Location: 2,075' FEL & 1,945' FNL, Section 27, T. 20 S. R. 31 E.
Bottom Hole Location: To Be Determined

Future Well #18: Slot D6
Surface Hole Location: 2,045' FEL & 1,945' FNL, Section 27, T. 20 S. R. 31 E.
Bottom Hole Location: To Be Determined

Future Well #19: Slot E1
Surface Hole Location: 2,290' FEL & 2,070' FNL, Section 27, T. 20 S. R. 31 E.
Bottom Hole Location: To Be Determined

Future Well #20: Slot E2
Surface Hole Location: 2,260' FEL & 2,070' FNL, Section 27, T. 20 S. R. 31 E.
Bottom Hole Location: To Be Determined

Future Well #21: Slot E3
Surface Hole Location: 2,230' FEL & 2,070' FNL, Section 27, T. 20 S. R. 31 E.
Bottom Hole Location: To Be Determined

Future Well #22: Slot E4
Surface Hole Location: 2,105' FEL & 2,070' FNL, Section 27, T. 20 S. R. 31 E.
Bottom Hole Location: To Be Determined

Future Well #23: Slot E5
Surface Hole Location: 2,075' FEL & 2,070' FNL, Section 27, T. 20 S. R. 31 E.
Bottom Hole Location: To Be Determined

Future Well #24: Slot E6
Surface Hole Location: 2,045' FEL & 2,070' FNL, Section 27, T. 20 S. R. 31 E.
Bottom Hole Location: To Be Determined

Future Well #25: Slot F3
Surface Hole Location: 2,230' FEL & 2,145' FNL, Section 27, T. 20 S. R. 31 E.
Bottom Hole Location: To Be Determined

Future Well #26: Slot B7
Surface Hole Location: 1,915' FEL & 1,745' FNL, Section 27, T. 20 S. R. 31 E.
Bottom Hole Location: To Be Determined

Future Well #27: Slot B8
Surface Hole Location: 1,885' FEL & 1,745' FNL, Section 27, T. 20 S. R. 31 E.
Bottom Hole Location: To Be Determined

Future Well #28: Slot B9
Surface Hole Location: 1,855' FEL & 1,745' FNL, Section 27, T. 20 S. R. 31 E.
Bottom Hole Location: To Be Determined

Future Well #29: Slot B10
Surface Hole Location: 1,730' FEL & 1,745' FNL, Section 27, T. 20 S. R. 31 E.
Bottom Hole Location: To Be Determined

Future Well #30: Slot B11
Surface Hole Location: 1,700' FEL & 1,745' FNL, Section 27, T. 20 S. R. 31 E.
Bottom Hole Location: To Be Determined

Future Well #31: Slot B12
Surface Hole Location: 1,670' FEL & 1,745' FNL, Section 27, T. 20 S. R. 31 E.
Bottom Hole Location: To Be Determined

Future Well #32: Slot C7
Surface Hole Location: 1,915' FEL & 1,870' FNL, Section 27, T. 20 S. R. 31 E.
Bottom Hole Location: To Be Determined

Future Well #33: Slot C8
Surface Hole Location: 1,885' FEL & 1,870' FNL, Section 27, T. 20 S. R. 31 E.
Bottom Hole Location: To Be Determined

Future Well #34: Slot C9
Surface Hole Location: 1,855' FEL & 1,870' FNL, Section 27, T. 20 S. R. 31 E.
Bottom Hole Location: To Be Determined

Future Well #35: Slot D7
Surface Hole Location: 1,915' FEL & 1,945' FNL, Section 27, T. 20 S. R. 31 E.
Bottom Hole Location: To Be Determined

Future Well #36: Slot D9
Surface Hole Location: 1,855' FEL & 1,945' FNL, Section 27, T. 20 S. R. 31 E.
Bottom Hole Location: To Be Determined

Future Well #37: Slot D10
Surface Hole Location: 1,730' FEL & 1,945' FNL, Section 27, T. 20 S. R. 31 E.
Bottom Hole Location: To Be Determined

Future Well #38: Slot D11
Surface Hole Location: 1,700' FEL & 1,945' FNL, Section 27, T. 20 S. R. 31 E.
Bottom Hole Location: To Be Determined

Future Well #39: Slot D12
Surface Hole Location: 1,670' FEL & 1,945' FNL, Section 27, T. 20 S. R. 31 E.
Bottom Hole Location: To Be Determined

Future Well #40: Slot E7
Surface Hole Location: 1,915' FEL & 2,070' FNL, Section 27, T. 20 S. R. 31 E.
Bottom Hole Location: To Be Determined

Future Well #41: Slot E8
Surface Hole Location: 1,885' FEL & 2,070' FNL, Section 27, T. 20 S. R. 31 E.
Bottom Hole Location: To Be Determined

Future Well #42: Slot E9
Surface Hole Location: 1,855' FEL & 2,070' FNL, Section 27, T. 20 S. R. 31 E.
Bottom Hole Location: To Be Determined

Future Well #43: Slot E10
Surface Hole Location: 1,730' FEL & 2,070' FNL, Section 27, T. 20 S. R. 31 E.
Bottom Hole Location: To Be Determined

Future Well #44: Slot E11
Surface Hole Location: 1,700' FEL & 2,070' FNL, Section 27, T. 20 S. R. 31 E.
Bottom Hole Location: To Be Determined

Existing Wells

BIG EDDY UNIT 5W #4H
Surface Hole Location: 1,980' FNL & 1,848' FEL, Section 27, T. 20, S. R. 31 E.
Bottom Hole Location: 2,049' FNL & 350' FEL, Section 27, T. 20, S. R 31 E.

BIG EDDY UNIT 5W AS-DRILL BEU #24H
Surface Hole Location: 2,000' FNL & 1,873' FEL, Section 27, T. 29, S. R. 30 E.
Bottom Hole Location: 1,968' FNL & 161' FEL, Section 25, T. 29 S. R. 30 E.

BIG EDDY UNIT 5W JOSEPHINE RODKE FEDERAL #1
Surface Hole Location: 1,980' FNL & 1,980' FEL, Section 27, T. 20, S. R. 31 E.
Bottom Hole Location: 1,980' FNL & 1,980' FEL, Section 27, T. 20, S. R. 31 E.

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

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 and/or paleontological resource discovered by the operator or by any person working on the operator's behalf shall immediately report such findings to the Authorized Officer. The operator is fully accountable for the actions of their contractors and subcontractors. The operator 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 shall be made by the Authorized Officer to determine the appropriate actions that shall be required to prevent the loss of significant cultural or scientific values of the discovery. The operator shall be held responsible for the cost of the proper mitigation measures that the Authorized Officer assesses after consultation with the operator on the evaluation and decisions of the discovery. Any unauthorized collection or disturbance of cultural or paleontological resources may result in a shutdown order by the Authorized Officer.

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)

Hydrology:

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

Tank battery locations will be lined and bermed. A 20 mil permanent liner will be installed with a 4 oz. felt backing to prevent tears or punctures. Tank battery berms must be large enough to contain 1 ½ times the content of the largest tank or 24 hour production, whichever is greater. Automatic shut off, check valves, or similar systems will be installed for tanks to minimize the effects of catastrophic line failures used in production or drilling.

When crossing ephemeral drainages the pipeline(s) will be buried to a minimum depth of 48 inches from the top of pipe to ground level. Erosion control methods such as gabions and/or rock aprons should be placed on both up and downstream sides of the pipeline crossing. In addition, curled (weed free) wood/straw fiber wattles/logs and/or silt fences should be placed on the downstream side for sediment control during construction and maintained until soils and vegetation have stabilized. Water bars should be placed within the ROW to divert and dissipate surface runoff. A pipeline access road is not permitted to cross these ephemeral drainages. Traffic should be diverted to a preexisting route. Additional seeding may be required in floodplains and drainages to restore energy dissipating vegetation.

Prior to pipeline installation/construction a leak detection plan will be developed. The method(s) could incorporate gauges to detect pressure drops, situating valves and lines so they can be visually inspected periodically or installing electronic sensors to alarm when a leak is present. The leak detection plan will incorporate an automatic shut off system that will be installed for proposed pipelines to minimize the effects of an undesirable event.

Any water erosion that may occur due to the construction of overhead electric line and during the life of the power line will be quickly corrected and proper measures will be

taken to prevent future erosion. A power pole should not be placed in drainages, playas, wetlands, riparian areas, or floodplains and must span across the features at a distance away that would not promote further erosion.

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.

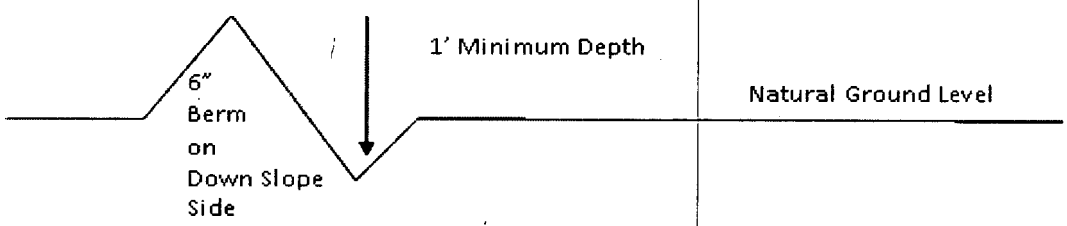
Turnouts

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

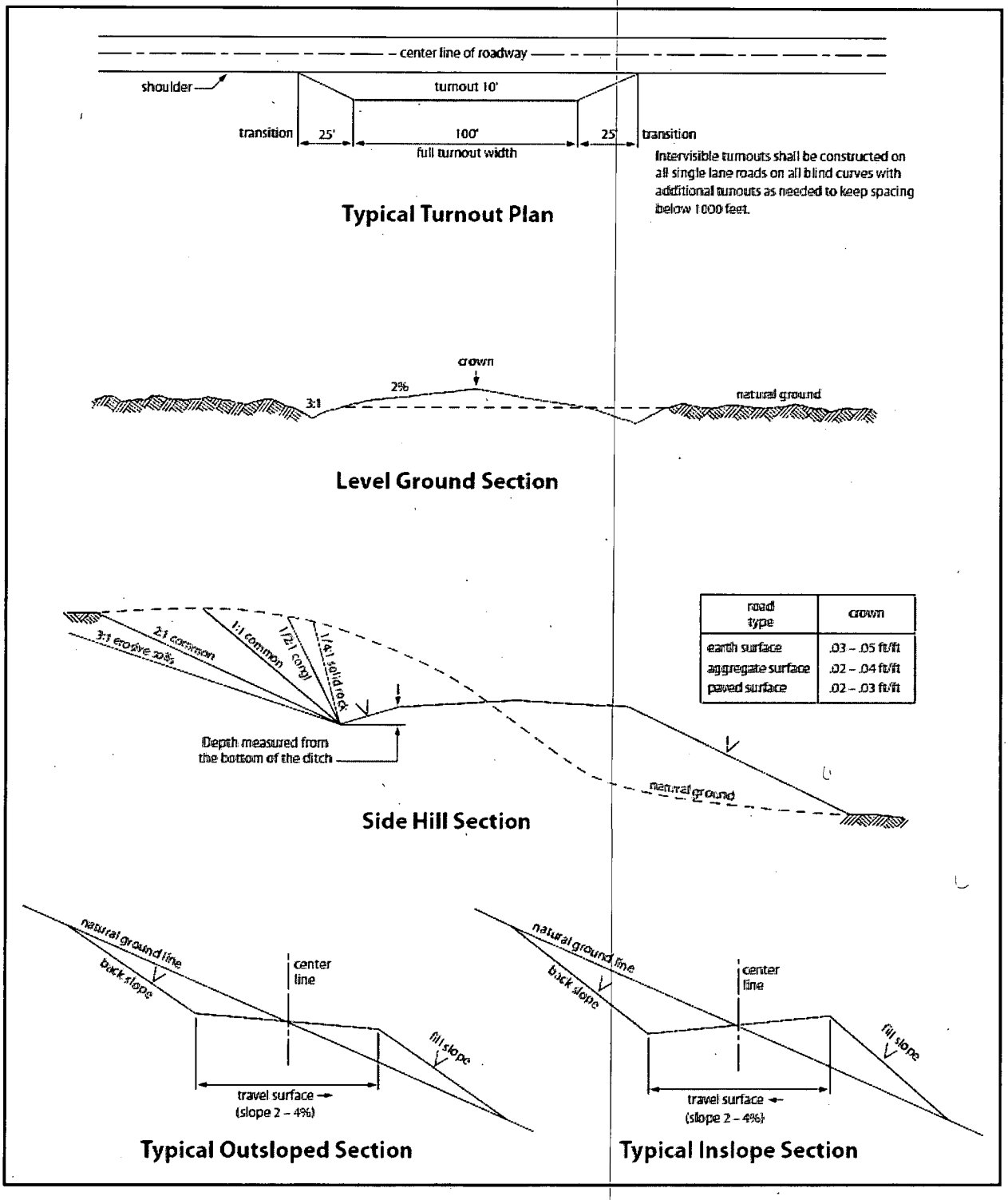


Figure 1. Cross-sections and plans for typical road sections representative of BLM resource or FS local and higher-class roads.

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).

B. PIPELINES

BURIED PIPELINE STIPULATIONS

A copy of the application (Grant, APD, or Sundry Notice) and attachments, including conditions of approval, survey plat and/or map, will be on location during construction. BLM personnel may request to you a copy of your permit during construction to ensure compliance with all stipulations.

Holder agrees to comply with the following stipulations to the satisfaction of the Authorized Officer:

1. The Holder shall indemnify the United States against any liability for damage to life or property arising from the occupancy or use of public lands under this grant.

2. The Holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder shall comply with the Toxic Substances Control Act of 1976 as amended, 15 USC 2601 et seq. (1982) with regards to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized under this right-of-way grant. (See 40 CFR Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193.) Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation, and Liability Act, section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the authorized officer concurrent with the filing of the reports to the involved Federal agency or State government.

3. The holder agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. 9601, et seq. or the Resource Conservation and Recovery Act, 42 U.S.C.6901, et seq.) on the Right-of-Way (unless the release or threatened release is wholly unrelated to the Right-of-Way holder's activity on the Right-of-Way), or resulting from the activity of the Right-of-Way holder on the Right-of-Way.

This agreement applies without regard to whether a release is caused by the holder, its agent, or unrelated third parties.

4. If, during any phase of the construction, operation, maintenance, or termination of the pipeline, any oil or other pollutant should be discharged from the pipeline system, impacting Federal lands, the control and total removal, disposal, and cleaning up of such oil or other pollutant, wherever found, shall be the responsibility of holder, regardless of fault. Upon failure of holder to control, dispose of, or clean up such discharge on or affecting Federal lands, or to repair all damages resulting therefrom, on the Federal lands, the Authorized Officer may take such measures as he deems necessary to control and clean up the discharge and restore the area, including where appropriate, the aquatic environment and fish and wildlife habitats, at the full expense of the holder. Such action by the Authorized Officer shall not relieve holder of any responsibility as provided herein.

5. All construction and maintenance activity will be confined to the authorized right-of-way.

6. The pipeline will be buried with a minimum cover of **36** inches between the top of the pipe and ground level.

7. The maximum allowable disturbance for construction in this right-of-way will be **30** feet:

- Blading of vegetation within the right-of-way will be allowed: maximum width of blading operations will not exceed **30** feet. The trench is included in this area. (*Blading is defined as the complete removal of brush and ground vegetation.*)

- Clearing of brush species within the right-of-way will be allowed: maximum width of clearing operations will not exceed **30** feet. The trench and bladed area are included in this area. (*Clearing is defined as the removal of brush while leaving ground vegetation (grasses, weeds, etc.) intact. Clearing is best accomplished by holding the blade 4 to 6 inches above the ground surface.*)

- The remaining area of the right-of-way (if any) shall only be disturbed by compressing the vegetation. (*Compressing can be caused by vehicle tires, placement of equipment, etc.*)

8. The holder shall stockpile an adequate amount of topsoil where blading is allowed. The topsoil to be stripped is approximately ___6___ inches in depth. The topsoil will be segregated from other spoil piles from trench construction. The topsoil will be evenly distributed over the bladed area for the preparation of seeding.

9. The holder shall minimize disturbance to existing fences and other improvements on public lands. The holder is required to promptly repair improvements to at least their former state. Functional use of these improvements will be maintained at all times. The holder will contact the owner of any improvements prior to disturbing them. When necessary to pass through a fence line, the fence shall be braced on both sides of the passageway prior to cutting of the fence. No permanent gates will be allowed unless approved by the Authorized Officer.

10. Vegetation, soil, and rocks left as a result of construction or maintenance activity will be randomly scattered on this right-of-way and will not be left in rows, piles, or berms, unless otherwise approved by the Authorized Officer. The entire right-of-way shall be recontoured to match the surrounding landscape. The backfilled soil shall be compacted and a 6 inch berm will be left over the ditch line to allow for settling back to grade.

11. In those areas where erosion control structures are required to stabilize soil conditions, the holder will install such structures as are suitable for the specific soil conditions being encountered and which are in accordance with sound resource management practices.

12. The holder will reseed all disturbed areas. Seeding will be done according to the attached seeding requirements, using the following seed mix.

( ) seed mixture 1	( ) seed mixture 3
(X) seed mixture 2	( ) seed mixture 4
( ) seed mixture 2/LPC	( ) Aplomado Falcon Mixture

13. All above-ground structures not subject to safety requirements shall be painted by the holder to blend with the natural color of the landscape. The paint used shall be color which simulates "Standard Environmental Colors" – **Shale Green**, Munsell Soil Color No. 5Y 4/2.

14. The pipeline will be identified by signs at the point of origin and completion of the right-of-way and at all road crossings. At a minimum, signs will state the holder's name, BLM serial number, and the product being transported. All signs and information thereon will be posted in a permanent, conspicuous manner, and will be maintained in a legible condition for the life of the pipeline.

15. The holder shall not use the pipeline route as a road for purposes other than routine maintenance as determined necessary by the Authorized Officer in consultation with the holder before maintenance begins. The holder will take whatever steps are necessary to ensure that the pipeline route is not used as a roadway. As determined necessary during the life of the pipeline, the Authorized Officer may ask the holder to construct temporary deterrence structures.

16. Any cultural and/or paleontological resources (historic or prehistoric site or object) discovered by the holder, or any person working on his behalf, on public or Federal land shall be immediately reported to the Authorized Officer. 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 proper mitigation measures will be made by the Authorized Officer after consulting with the holder.

17. 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 associated roads, 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.

18. Escape Ramps - The operator will construct and maintain pipeline/utility trenches [that are not otherwise fenced, screened, or netted] to prevent livestock, wildlife, and humans from becoming entrapped. At a minimum, the operator will construct and maintain escape ramps, ladders, or other methods of avian and terrestrial wildlife escape in the trenches according to the following criteria:

a. Any trench left open for eight (8) hours or less is not required to have escape ramps; however, before the trench is backfilled, the contractor/operator shall inspect the trench for wildlife, remove all trapped wildlife, and release them at least 100 yards from the trench.
b. For trenches left open for eight (8) hours or more, earthen escape ramps (built at no more than a 30 degree slope and spaced no more than 500 feet apart) shall be placed in the trench.

C. ELECTRIC LINES

STANDARD STIPULATIONS FOR OVERHEAD ELECTRIC DISTRIBUTION LINES

A copy of the grant and attachments, including stipulations, survey plat and/or map, will be on location during construction. BLM personnel may request to you a copy of your permit during construction to ensure compliance with all stipulations.

Holder agrees to comply with the following stipulations to the satisfaction of the Authorized Officer:

1. The holder shall indemnify the United States against any liability for damage to life or property arising from the occupancy or use of public lands under this grant.

2. The holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder shall comply with the Toxic Substances Control Act of 1976 as amended, 15 USC 2601 et seq. (1982) with regards to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized under this right-of-

way grant. (See 40 CFR, Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193.) Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR, Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation, and Liability Act, section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the authorized officer concurrent with the filing of the reports to the involved Federal agency or State government.

3. The holder agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. 9601, et seq. or the Resource Conservation and Recovery Act, 42 U.S.C. 6901, et seq.) on the Right-of-Way (unless the release or threatened release is wholly unrelated to the Right-of-Way holder's activity on the Right-of-Way), or resulting from the activity of the Right-of-Way holder on the Right-of-Way. This agreement applies without regard to whether a release is caused by the holder, its agent, or unrelated third parties.

4. There will be no clearing or blading of the right-of-way unless otherwise agreed to in writing by the Authorized Officer.

5. Power lines shall be constructed and designed in accordance to standards outlined in "Suggested Practices for Avian Protection on Power lines: The State of the Art in 2006" Edison Electric Institute, APLIC, and the California Energy Commission 2006 . The holder shall assume the burden and expense of proving that pole designs not shown in the above publication deter raptor perching, roosting, and nesting. Such proof shall be provided by a raptor expert approved by the Authorized Officer. The BLM reserves the right to require modification or additions to all powerline structures placed on this right-of-way, should they be necessary to ensure the safety of large perching birds. Such modifications and/or additions shall be made by the holder without liability or expense to the United States.

Raptor deterrence will consist of but not limited to the following: triangle perch discouragers shall be placed on each side of the cross arms and a nonconductive perching deterrence shall be placed on all vertical poles that extend past the cross arms.

6. The holder shall minimize disturbance to existing fences and other improvements on public lands. The holder is required to promptly repair improvements to at least their former state. Functional use of these improvements will be maintained at all times. The holder will contact the owner of any improvements prior to disturbing them. When necessary to pass through a fence line, the fence shall be braced on both sides of the passageway prior to cutting the fence. No permanent gates will be allowed unless approved by the Authorized Officer.

7. The BLM serial number assigned to this authorization shall be posted in a permanent, conspicuous manner where the power line crosses roads and at all serviced facilities. Numbers will be at least two inches high and will be affixed to the pole nearest the road crossing and at the facilities served.

8. Upon cancellation, relinquishment, or expiration of this grant, the holder shall comply with those abandonment procedures as prescribed by the Authorized Officer.

9. All surface structures (poles, lines, transformers, etc.) shall be removed within 180 days of abandonment, relinquishment, or termination of use of the serviced facility or facilities or within 180 days of abandonment, relinquishment, cancellation, or expiration of this grant, whichever comes first. This will not apply where the power line extends service to an active, adjoining facility or facilities.

10. Any cultural and/or paleontological resource (historic or prehistoric site or object) discovered by the holder, or any person working on his behalf, on public or Federal land shall be immediately reported to the Authorized Officer. 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 proper mitigation measures will be made by the Authorized Officer after consulting with the holder.

11. Special Stipulations:

- For reclamation remove poles, lines, transformer, etc. and dispose of properly.
- Fill in any holes from the poles removed.

VIII. INTERIM RECLAMATION

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

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

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

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

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

IX. FINAL ABANDONMENT & RECLAMATION

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

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

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

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

Seed Mixture 2, for Sandy Sites

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

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

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

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

*Pounds of pure live seed:

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

AFMSS

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

Operator Certification Data Report

08/27/2019

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: Stephanie Rabadue

Signed on: 06/15/2018

Title: Regulatory Coordinator

Street Address: 500 W. Illinois St, Ste 100

City: Midland **State:** TX **Zip:** 79701

Phone: (432)620-6714

Email address: stephanie_rabadue@xtoenergy.com

Field Representative

Representative Name:

Street Address:

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

Phone:

Email address:

AFMSS

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

Application Data Report

08/27/2019

APD ID: 10400036552
Submission Date: 11/20/2018
Operator Name: XTO PERMIAN OPERATING LLC
Well Name: BIG EDDY UNIT DI5 BS2-5E
Well Number: 340H
Well Type: OIL WELL
Well Work Type: Drill

Highlighted data reflects the most recent changes

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Section 1 - General

APD ID: 10400036552
Tie to previous NOS?
Submission Date: 11/20/2018
BLM Office: CARLSBAD
User: Stephanie Rabadue
Title: Regulatory Coordinator
Federal/Indian APD: FED
Is the first lease penetrated for production Federal or Indian? FED
Lease number: NMLC0065431
Lease Acres: 240
Surface access agreement in place?
Allotted?
Reservation:
Agreement in place? YES
Federal or Indian agreement: FEDERAL
Agreement number: NMNM068294X
Agreement name:
Keep application confidential? NO
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 DI5 BS2-5E
Well Number: 340H
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 DI5 BS2-5E **Well Number:** 340H

Describe other minerals:

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

Type of Well Pad: MULTIPLE WELL **Multiple Well Pad Name:** BEU DI **Number:** 5

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: 24.38 Miles **Distance to nearest well:** 30 FT **Distance to lease line:** 1873 FT

Reservoir well spacing assigned acres Measurement: 400 Acres

Well plat: BEU_DI5_340H_C102_20181120061809.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:**

	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
SHL Leg #1	2050	FNL	1873	FEL	20S	31E	27	Aliquot SWNE	32.545897	-103.854521	EDDY	NEW MEXICO	NEW MEXICO	F	NMLC0065431	3531	0	0
KOP Leg #1	2050	FNL	1873	FEL	20S	31E	27	Aliquot SWNE	32.545897	-103.854521	EDDY	NEW MEXICO	NEW MEXICO	F	NMLC0065431	1531	2000	2000
PPP Leg #1	1980	FSL	660	FWL	20S	31E	25	Aliquot NWSW	32.542456	-103.829165	EDDY	NEW MEXICO	NEW MEXICO	F	NMLC0065914	-5960	18000	9491

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: BIG EDDY UNIT DI5 BS2-5E **Well Number:** 340H

	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
PPP Leg #1	1980	FSL	660	FEL	20S	31E	26	Aliquot NESW	32.542452	-103.833452	EDDY	NEW MEXICO	NEW MEXICO	F	NMLC0065872A	-5960	16700	9491
PPP Leg #1	1980	FSL	1980	FWL	20S	31E	25	Aliquot NESW	32.542456	-103.824876	EDDY	NEW MEXICO	NEW MEXICO	F	NMLC0065914A	-5960	19300	9491
PPP Leg #1	1980	FSL	1980	FEL	20S	31E	25	Aliquot SWNE	32.542456	-103.820587	EDDY	NEW MEXICO	NEW MEXICO	F	NMLC0065914	-5960	22500	9491
PPP Leg #1	1980	FSL	1980	FEL	20S	31E	26	Aliquot NWSE	32.542445	-103.837736	EDDY	NEW MEXICO	NEW MEXICO	F	NMLC0065872	-5960	15400	9491
PPP Leg #1	1980	FSL	2310	FEL	20S	31E	27	Aliquot NWSE	32.542445	-103.855941	EDDY	NEW MEXICO	NEW MEXICO	F	NMLC0065431	-5960	10100	9491
PPP Leg #1	1980	FSL	1980	FWL	20S	31E	26	Aliquot NESW	32.542436	-103.842001	EDDY	NEW MEXICO	NEW MEXICO	F	NMLC0065872A	-5960	14000	9491
PPP Leg #1	1980	FSL	660	FWL	20S	31E	26	Aliquot NWSW	32.542428	-103.846303	EDDY	NEW MEXICO	NEW MEXICO	F	NMLC0065872	-5960	12700	9491
PPP Leg #1	1980	FSL	660	FEL	20S	31E	27	Aliquot NESE	32.542432	-103.850584	EDDY	NEW MEXICO	NEW MEXICO	F	NMLC0065897A	-5960	11400	9491
EXIT Leg #1	1980	FSL	330	FEL	20S	31E	25	Aliquot NENE	32.542432	-103.815225	EDDY	NEW MEXICO	NEW MEXICO	F	NMLC0065914A	-5960	22500	9491
BHL Leg #1	1980	FSL	200	FEL	20S	31E	25	Aliquot NENE	32.542431	-103.814803	EDDY	NEW MEXICO	NEW MEXICO	F	NMLC0065914A	-5960	22678	9491

APD ID: 10400036552 **Submission Date:** 11/20/2018

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: BIG EDDY UNIT DI5 BS2-5E **Well Number:** 340H

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

Highlighted data reflects the most recent changes

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Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical Depth	Measured Depth	Lithologies	Mineral Resources	Producing Formation
1	PERMIAN	3531	0	0	OTHER : Alluvium	NONE	N
2	RUSTLER	2869	660	660	SILTSTONE	USEABLE WATER	N
3	TOP SALT	2600	929	929	SALT	OTHER,POTASH : Produced Water	N
4	BASE OF SALT	1084	2445	2445	SALT	OTHER : Produced Water	N
5	CAPITAN REEF	685	2844	2844	LIMESTONE	USEABLE WATER	N
6	DELAWARE	-395	3924	3924	SANDSTONE	OTHER,NATURAL GAS,OIL : Produced Water	N
7	BRUSHY CANYON	-2340	5869	5869	SANDSTONE	OTHER,NATURAL GAS,OIL : Produced Water	N
8	BONE SPRING	-3956	7485	7485	SANDSTONE	OTHER,NATURAL GAS,OIL : Produced Water	N
9	BONE SPRING 1ST	-5180	8709	8709	SANDSTONE	OTHER,NATURAL GAS,OIL : Produced Water	N
10	BONE SPRING 2ND	-5708	9237	9237	SANDSTONE	OTHER,NATURAL GAS,OIL : Produced Water	Y

Section 2 - Blowout Prevention

Pressure Rating (PSI): 3M **Rating Depth:** 9491

Equipment: The blow out preventer equipment (BOP) for this well consists of a 13-5/8" minimum 3M Hydril and a 13-5/8" minimum 3M Double Ram BOP.
Requesting Variance? YES

Variance request: A variance is requested to allow use of a flex hose as the choke line from the BOP to the Choke Manifold. If this hose is used, a copy of the manufacturer's certification and pressure test chart will be kept on the rig. Attached is an example of a certification and pressure test chart. The manufacturer does not require anchors. XTO requests to utilize centralizers only in the curve after the KOP and only a minimum of one every other joint. Permanent Wellhead – GE RSH Multibowl System A. Starting Head: 13-5/8" 5M top flange x 13-3/8" SOW bottom B. Tubing Head: 13-5/8" 5M bottom flange x 7-1/16" 10M top flange Wellhead will be installed by manufacturer's representatives. Manufacturer will monitor welding process to ensure appropriate temperature of seal. Operator will test the 9-5/8" casing per BLM Onshore Order 2 Wellhead Manufacturer representative will not be present for BOP test plug installation
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, the BOP test will be limited to 3,000 psi. All BOP tests will include a low pressure test as per BLM regulations. The 3M BOP diagram is attached. Blind rams will be function tested each trip, pipe rams will be function tested each day.

Choke Diagram Attachment:

BEU_DI5_3MCM_20181112130137.pdf

BOP Diagram Attachment:

BEU_DI5_3MBOP_20181112130147.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	18.125	16.0	NEW	API	N	0	849	0	849			849	J-55	84	BUTT	3.63	7.67	DRY	18.59	DRY	18.59
2	INTERMEDIATE	14.75	13.375	NEW	API	N	0	2854	0	2854			2854	HCL-80	68	ST&C	2.17	2.28	DRY	3.48	DRY	3.48
3	INTERMEDIATE	12.25	9.625	NEW	API	N	0	3500	0	3500			3500	J-55	40	LT&C	2.74	4.21	DRY	3.71	DRY	3.71
4	PRODUCTION	8.75	5.5	NEW	API	N	0	22678	0	9491			22678	P-110	17	BUTT	1.65	1.12	DRY	2.31	DRY	2.31

Casing Attachments

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

BEU_DI5_340H_Csg_20181120061423.pdf

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: BIG EDDY UNIT DI5 BS2-5E **Well Number:** 340H

Casing Attachments

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

BEU_DI5_340H_Csg_20181120061434.pdf

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

BEU_DI5_340H_Csg_20181120061445.pdf

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

BEU_DI5_340H_Csg_20181120061454.pdf

Section 4 - Cement

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: BIG EDDY UNIT DI5 BS2-5E **Well Number:** 340H

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
SURFACE	Lead		0	849	164	1.68	12.8	275.52	100	ExtendaCem-CZ	None
SURFACE	Tail				293	1.35	14.8	395.55	100	HalCem-C	2% CaCl
INTERMEDIATE	Lead		0	2854	528	1.88	12.9	992.64	100	EconoCem-HCL	+ 5% salt + 5% Kol-Seal
INTERMEDIATE	Tail				158	1.33	14.8	210.14	100	HalCem-C	none
INTERMEDIATE	Lead	2915	0	3500	834	1.88	12.9	1567.92	100	EconoCem-HCL	+ 5% salt + 5% Kol-Seal
INTERMEDIATE	Tail				470	1.33	14.8	625.1	100	HalCem-C	none
PRODUCTION	Lead		0	22678	1025	2.69	10.5	2757.25	30	Tuned Light	0.5lbm/sk CFR-3 + 1.5lbm/sk Salt + 0.1% HR601
PRODUCTION	Tail				2301	1.61	13.2	3704.61	30	VersaCem PBHS2	+ 0.5% LAP-1 + 0.25lbm/sk D-air 5000 + 0.2% HR601 + 0.4% CFR-3 + 1pps Salt

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 DI5 BS2-5E **Well Number:** 340H

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
0	849	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
3500	9491	OIL-BASED MUD	8.8	9.2							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
849	2854	OTHER : Brine/Gel Sweeps	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
2854	3500	OTHER : FW/Cut Brine / Poly-Sweeps	8.6	9.3							A mud test will be performed every 24 hours to determine: density, viscosity, strength, filtration and pH as necessary. Use available solids controls equipment to help keep mud weight down after mud up. Rig up solids control equipment to operate as a closed loop system

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: BIG EDDY UNIT DI5 BS2-5E **Well Number:** 340H

Section 6 - Test, Logging, Coring

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

Open hole logging to include Density/Neutron/PE/Dual Laterlog/Spectral Gamma from kick-off point to intermediate casing shoe.

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

CBL,CNL,DS,GR

Coring operation description for the well:

No coring will take place on this well.

Section 7 - Pressure

Anticipated Bottom Hole Pressure: 4688 **Anticipated Surface Pressure:** 2600.42

Anticipated Bottom Hole Temperature(F): 160

Anticipated abnormal pressures, temperatures, or potential geologic hazards? YES

Describe:

Potential loss of circulation through the Capitan Reef.

Contingency Plans geoharzards description:

The necessary mud products for weight addition and fluid loss control will be on location at all times.A Pason or Totco will be used to detect changes in loss or gain of mud volume. A mud test will be performed every 24 hours to determine: density, viscosity, strength, filtration and pH as necessary. Use available solids controls equipment to help keep mud weight down after mud up. Rig up solids control equipment to operate as a closed loop system. Lost circulation could occur but is not expected to be a serious problem in this area and hole seepage will be compensated for by additions of small amounts of LCM in the drilling fluid.

Contingency Plans geohazards attachment:

Hydrogen Sulfide drilling operations plan required? YES

Hydrogen sulfide drilling operations plan:

BEU_DI5_H2S_Dia_20181112130503.pdf

BEU_DI5_H2S_Plan_20181112130439.pdf

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: BIG EDDY UNIT DI5 BS2-5E **Well Number:** 340H

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

BEU_DI5_340_DD_20181120061641.pdf

Other proposed operations facets description:

A variance is requested to allow use of a flex hose as the choke line from the BOP to the Choke Manifold. If this hose is used, a copy of the manufacturer's certification and pressure test chart will be kept on the rig. Attached is an example of a certification and pressure test chart. The manufacturer does not require anchors.

XTO requests to utilize centralizers only in the curve after the KOP and only a minimum of one every other joint.

Permanent Wellhead – GE RSH Multibowl System
A. Starting Head: 13-5/8" 5M top flange x 13-3/8" SOW bottom
B. Tubing Head: 13-5/8" 5M bottom flange x 7-1/16" 10M top flange
Wellhead will be installed by manufacturer's representatives.
Manufacturer will monitor welding process to ensure appropriate temperature of seal.
Operator will test the 9-5/8" casing per BLM Onshore Order 2
Wellhead Manufacturer representative will not be present for BOP test plug installation

Other proposed operations facets attachment:

BEU_DI5_340H_GCP_20181120061651.pdf
BEU_DI5_MBS_20190709060115.pdf

Other Variance attachment:

BEU_DI5_FH_20181120052947.pdf

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
Big Eddy Unit DI5 BS2-5E #340H

OH

Plan: Plan #1

Standard Planning Report

25 September, 2017

XTO ENERGY

Project: Eddy County, NM (NAD-27)
Site: Big Eddy Unit
Well: Big Eddy Unit DI5 BS2-5E #340H
Wellbore: OH
Design: Plan #1

WELL DETAILS: Big Eddy Unit DI5 BS2-5E #340H

Rig Name:
RKB= 25' @ 3556.00usft
Ground Level: 3531.00

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	562598.10	647698.30	32.545777	-103.854021

SECTION DETAILS

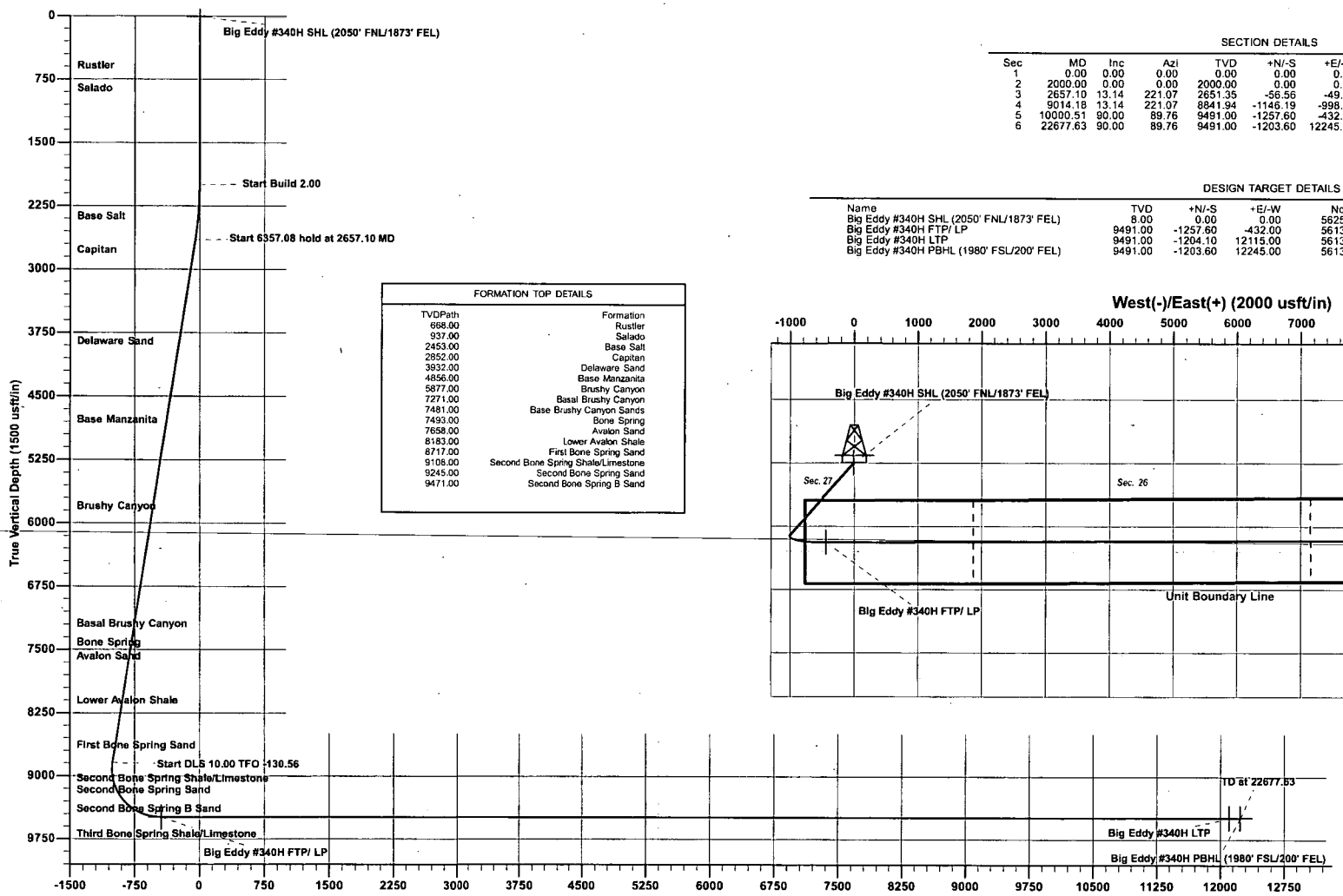
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	2000.00	0.00	0.00	2000.00	0.00	0.00	0.00	0.00	0.00
3	2657.10	13.14	221.07	2651.35	-56.56	-49.30	2.00	221.07	-49.53
4	9014.18	13.14	221.07	8841.94	-1146.19	-998.95	0.00	0.00	-1003.74
5	10000.51	90.00	89.76	9491.00	-1257.60	-432.00	10.00	-130.56	-437.26
6	22677.63	90.00	89.76	9491.00	-1203.60	12245.00	0.00	0.00	12239.85

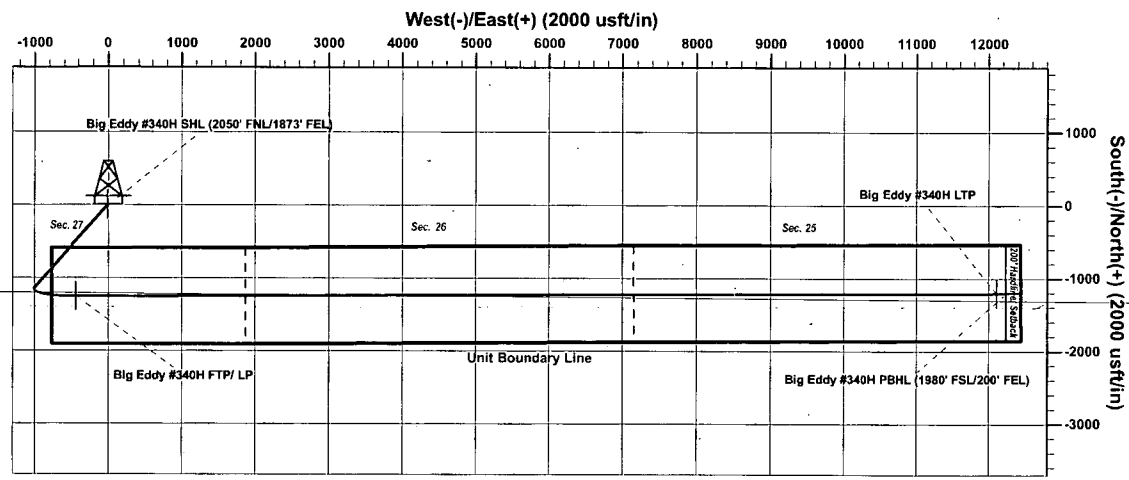
DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
Big Eddy #340H SHL (2050' FNL/1873' FEL)	0.00	0.00	0.00	562598.10	647698.30	32.545777	-103.854021	Point
Big Eddy #340H FTP/ LP	9491.00	-1257.60	-432.00	561340.50	647266.30	32.542325	-103.855441	Point
Big Eddy #340H LTP	9491.00	-1204.10	12115.00	561394.00	659813.30	32.542311	-103.814725	Point
Big Eddy #340H PBHL (1980' FSL/200' FEL)	9491.00	-1203.60	12245.00	561394.50	659943.30	32.542311	-103.814303	Point

FORMATION TOP DETAILS

TVDPath	Formation
668.00	Rustler
937.00	Salado
2453.00	Base Salt
2852.00	Capitan
3932.00	Delaware Sand
4856.00	Base Manzanita
5877.00	Brushy Canyon
7271.00	Basal Brushy Canyon
7481.00	Base Brushy Canyon Sands
7493.00	Bone Spring
7658.00	Avalon Sand
8183.00	Lower Avalon Shale
8717.00	First Bone Spring Sand
9106.00	Second Bone Spring Shale/Limestone
9245.00	Second Bone Spring Sand
9471.00	Second Bone Spring B Sand





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: Plan #1 (Big Eddy Unit DI5 BS2-5E #340H/OH)
Created By: Matthew May Date: 18:35, September 25 2017

Note: All Plan Details including boundary lines and offset well data is subject to customers approval.

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well Big Eddy Unit DI5 BS2-5E #340H
Company:	XTO Energy	**TVD Reference:**	RKB= 25' @ 3556.00usft
Project:	Eddy County, NM (NAD-27)	**MD Reference:**	RKB= 25' @ 3556.00usft
Site:	Big Eddy Unit	**North Reference:**	Grid
Well:	Big Eddy Unit DI5 BS2-5E #340H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

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				
Site Position:		**Northing:**	562,758.10 usft	**Latitude:**	32.546217
From:	Map	**Easting:**	647,697.70 usft	**Longitude:**	-103.854020
Position Uncertainty:	0.00 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	0.26 °

Well	Big Eddy Unit DI5 BS2-5E #340H					
Well Position	**+N/-S**	-160.00 usft	**Northing:**	562,598.10 usft	**Latitude:**	32.545777
	+E/-W	0.60 usft	**Easting:**	647,698.30 usft	**Longitude:**	-103.854021
Position Uncertainty		0.00 usft	**Wellhead Elevation:**	0.00 usft	**Ground Level:**	3,531.00 usft

Wellbore	OH				
Magnetics	**Model Name**	**Sample Date**	**Declination (°)**	**Dip Angle (°)**	**Field Strength (nT)**
	IGRF2015	9/23/2017	7.08	60.31	48,071

Design	Plan #1				
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	89.76	

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	
2,657.10	13.14	221.07	2,651.36	-56.56	-49.30	2.00	2.00	0.00	221.07	
9,014.18	13.14	221.07	8,841.94	-1,146.19	-998.95	0.00	0.00	0.00	0.00	
10,000.52	90.00	89.76	9,491.00	-1,257.60	-432.00	10.00	7.79	-13.31	-130.56	Big Eddy #340H FT
22,677.63	90.00	89.76	9,491.00	-1,203.60	12,245.00	0.00	0.00	0.00	0.00	Big Eddy #340H PE

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well Big Eddy Unit DI5 BS2-5E #340H
Company:	XTO Energy	**TVD Reference:**	RKB= 25' @ 3556.00usft
Project:	Eddy County, NM (NAD-27)	**MD Reference:**	RKB= 25' @ 3556.00usft
Site:	Big Eddy Unit	**North Reference:**	Grid
Well:	Big Eddy Unit DI5 BS2-5E #340H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

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
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
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	221.07	2,099.98	-1.32	-1.15	-1.15	2.00	2.00	0.00
2,200.00	4.00	221.07	2,199.84	-5.26	-4.59	-4.61	2.00	2.00	0.00
2,300.00	6.00	221.07	2,299.45	-11.83	-10.31	-10.36	2.00	2.00	0.00
2,400.00	8.00	221.07	2,398.70	-21.02	-18.32	-18.41	2.00	2.00	0.00
2,500.00	10.00	221.07	2,497.47	-32.81	-28.60	-28.73	2.00	2.00	0.00
2,600.00	12.00	221.07	2,595.62	-47.19	-41.13	-41.33	2.00	2.00	0.00
2,657.10	13.14	221.07	2,651.36	-56.56	-49.30	-49.53	2.00	2.00	0.00
2,700.00	13.14	221.07	2,693.13	-63.92	-55.71	-55.97	0.00	0.00	0.00
2,800.00	13.14	221.07	2,790.51	-81.06	-70.64	-70.98	0.00	0.00	0.00
2,900.00	13.14	221.07	2,887.89	-98.20	-85.58	-85.99	0.00	0.00	0.00
3,000.00	13.14	221.07	2,985.27	-115.34	-100.52	-101.00	0.00	0.00	0.00
3,100.00	13.14	221.07	3,082.65	-132.48	-115.46	-116.01	0.00	0.00	0.00
3,200.00	13.14	221.07	3,180.03	-149.62	-130.40	-131.02	0.00	0.00	0.00
3,300.00	13.14	221.07	3,277.42	-166.76	-145.34	-146.03	0.00	0.00	0.00
3,400.00	13.14	221.07	3,374.80	-183.90	-160.27	-161.04	0.00	0.00	0.00
3,500.00	13.14	221.07	3,472.18	-201.04	-175.21	-176.05	0.00	0.00	0.00
3,600.00	13.14	221.07	3,569.56	-218.18	-190.15	-191.06	0.00	0.00	0.00
3,700.00	13.14	221.07	3,666.94	-235.32	-205.09	-206.07	0.00	0.00	0.00
3,800.00	13.14	221.07	3,764.32	-252.46	-220.03	-221.08	0.00	0.00	0.00
3,900.00	13.14	221.07	3,861.70	-269.60	-234.97	-236.09	0.00	0.00	0.00
4,000.00	13.14	221.07	3,959.08	-286.74	-249.90	-251.10	0.00	0.00	0.00
4,100.00	13.14	221.07	4,056.46	-303.88	-264.84	-266.11	0.00	0.00	0.00
4,200.00	13.14	221.07	4,153.84	-321.02	-279.78	-281.12	0.00	0.00	0.00
4,300.00	13.14	221.07	4,251.22	-338.16	-294.72	-296.13	0.00	0.00	0.00
4,400.00	13.14	221.07	4,348.61	-355.30	-309.66	-311.14	0.00	0.00	0.00
4,500.00	13.14	221.07	4,445.99	-372.44	-324.60	-326.15	0.00	0.00	0.00
4,600.00	13.14	221.07	4,543.37	-389.58	-339.54	-341.16	0.00	0.00	0.00
4,700.00	13.14	221.07	4,640.75	-406.73	-354.47	-356.17	0.00	0.00	0.00
4,800.00	13.14	221.07	4,738.13	-423.87	-369.41	-371.18	0.00	0.00	0.00
4,900.00	13.14	221.07	4,835.51	-441.01	-384.35	-386.19	0.00	0.00	0.00
5,000.00	13.14	221.07	4,932.89	-458.15	-399.29	-401.20	0.00	0.00	0.00
5,100.00	13.14	221.07	5,030.27	-475.29	-414.23	-416.21	0.00	0.00	0.00
5,200.00	13.14	221.07	5,127.65	-492.43	-429.17	-431.23	0.00	0.00	0.00

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well Big Eddy Unit DI5 BS2-5E #340H
Company:	XTO Energy	**TVD Reference:**	RKB= 25' @ 3556.00usft
Project:	Eddy County, NM (NAD-27)	**MD Reference:**	RKB= 25' @ 3556.00usft
Site:	Big Eddy Unit	**North Reference:**	Grid
Well:	Big Eddy Unit DI5 BS2-5E #340H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

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)
5,300.00	13.14	221.07	5,225.03	-509.57	-444.10	-446.24	0.00	0.00	0.00
5,400.00	13.14	221.07	5,322.42	-526.71	-459.04	-461.25	0.00	0.00	0.00
5,500.00	13.14	221.07	5,419.80	-543.85	-473.98	-476.26	0.00	0.00	0.00
5,600.00	13.14	221.07	5,517.18	-560.99	-488.92	-491.27	0.00	0.00	0.00
5,700.00	13.14	221.07	5,614.56	-578.13	-503.86	-506.28	0.00	0.00	0.00
5,800.00	13.14	221.07	5,711.94	-595.27	-518.80	-521.29	0.00	0.00	0.00
5,900.00	13.14	221.07	5,809.32	-612.41	-533.74	-536.30	0.00	0.00	0.00
6,000.00	13.14	221.07	5,906.70	-629.55	-548.67	-551.31	0.00	0.00	0.00
6,100.00	13.14	221.07	6,004.08	-646.69	-563.61	-566.32	0.00	0.00	0.00
6,200.00	13.14	221.07	6,101.46	-663.83	-578.55	-581.33	0.00	0.00	0.00
6,300.00	13.14	221.07	6,198.84	-680.97	-593.49	-596.34	0.00	0.00	0.00
6,400.00	13.14	221.07	6,296.22	-698.11	-608.43	-611.35	0.00	0.00	0.00
6,500.00	13.14	221.07	6,393.61	-715.25	-623.37	-626.36	0.00	0.00	0.00
6,600.00	13.14	221.07	6,490.99	-732.39	-638.30	-641.37	0.00	0.00	0.00
6,700.00	13.14	221.07	6,588.37	-749.53	-653.24	-656.38	0.00	0.00	0.00
6,800.00	13.14	221.07	6,685.75	-766.67	-668.18	-671.39	0.00	0.00	0.00
6,900.00	13.14	221.07	6,783.13	-783.81	-683.12	-686.40	0.00	0.00	0.00
7,000.00	13.14	221.07	6,880.51	-800.96	-698.06	-701.41	0.00	0.00	0.00
7,100.00	13.14	221.07	6,977.89	-818.10	-713.00	-716.42	0.00	0.00	0.00
7,200.00	13.14	221.07	7,075.27	-835.24	-727.93	-731.43	0.00	0.00	0.00
7,300.00	13.14	221.07	7,172.65	-852.38	-742.87	-746.44	0.00	0.00	0.00
7,400.00	13.14	221.07	7,270.03	-869.52	-757.81	-761.45	0.00	0.00	0.00
7,500.00	13.14	221.07	7,367.42	-886.66	-772.75	-776.46	0.00	0.00	0.00
7,600.00	13.14	221.07	7,464.80	-903.80	-787.69	-791.47	0.00	0.00	0.00
7,700.00	13.14	221.07	7,562.18	-920.94	-802.63	-806.48	0.00	0.00	0.00
7,800.00	13.14	221.07	7,659.56	-938.08	-817.57	-821.49	0.00	0.00	0.00
7,900.00	13.14	221.07	7,756.94	-955.22	-832.50	-836.50	0.00	0.00	0.00
8,000.00	13.14	221.07	7,854.32	-972.36	-847.44	-851.51	0.00	0.00	0.00
8,100.00	13.14	221.07	7,951.70	-989.50	-862.38	-866.52	0.00	0.00	0.00
8,200.00	13.14	221.07	8,049.08	-1,006.64	-877.32	-881.53	0.00	0.00	0.00
8,300.00	13.14	221.07	8,146.46	-1,023.78	-892.26	-896.54	0.00	0.00	0.00
8,400.00	13.14	221.07	8,243.84	-1,040.92	-907.20	-911.55	0.00	0.00	0.00
8,500.00	13.14	221.07	8,341.22	-1,058.06	-922.13	-926.56	0.00	0.00	0.00
8,600.00	13.14	221.07	8,438.61	-1,075.20	-937.07	-941.57	0.00	0.00	0.00
8,700.00	13.14	221.07	8,535.99	-1,092.34	-952.01	-956.58	0.00	0.00	0.00
8,800.00	13.14	221.07	8,633.37	-1,109.48	-966.95	-971.59	0.00	0.00	0.00
8,900.00	13.14	221.07	8,730.75	-1,126.62	-981.89	-986.60	0.00	0.00	0.00
9,000.00	13.14	221.07	8,828.13	-1,143.76	-996.83	-1,001.61	0.00	0.00	0.00
9,014.18	13.14	221.07	8,841.94	-1,146.19	-998.95	-1,003.74	0.00	0.00	0.00
9,050.00	11.14	206.86	8,876.96	-1,152.35	-1,003.19	-1,008.00	10.00	-5.58	-39.69
9,100.00	9.95	180.05	8,926.15	-1,160.99	-1,005.37	-1,010.23	10.00	-2.40	-53.61
9,150.00	11.10	153.13	8,975.33	-1,169.61	-1,003.20	-1,008.09	10.00	2.30	-53.84
9,200.00	14.03	134.32	9,024.15	-1,178.14	-996.69	-1,001.61	10.00	5.87	-37.63
9,250.00	17.89	122.66	9,072.23	-1,186.52	-985.88	-990.84	10.00	7.72	-23.32
9,300.00	22.20	115.21	9,119.20	-1,194.70	-970.85	-975.85	10.00	8.62	-14.90
9,350.00	26.74	110.12	9,164.70	-1,202.59	-951.73	-956.76	10.00	9.08	-10.16
9,400.00	31.41	106.44	9,208.39	-1,210.16	-928.66	-933.72	10.00	9.34	-7.36
9,450.00	36.16	103.64	9,249.93	-1,217.33	-901.81	-906.90	10.00	9.50	-5.61
9,500.00	40.97	101.41	9,289.02	-1,224.05	-871.39	-876.51	10.00	9.61	-4.46
9,550.00	45.80	99.57	9,325.35	-1,230.28	-837.63	-842.77	10.00	9.68	-3.67
9,600.00	50.67	98.02	9,358.64	-1,235.96	-800.78	-805.95	10.00	9.73	-3.11
9,650.00	55.55	96.67	9,388.65	-1,241.05	-761.13	-766.32	10.00	9.76	-2.70
9,700.00	60.45	95.46	9,415.14	-1,245.52	-718.98	-724.19	10.00	9.79	-2.40
9,750.00	65.35	94.37	9,437.91	-1,249.32	-674.65	-679.87	10.00	9.81	-2.18

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well Big Eddy Unit DI5 BS2-5E #340H
Company:	XTO Energy	**TVD Reference:**	RKB= 25' @ 3556.00usft
Project:	Eddy County, NM (NAD-27)	**MD Reference:**	RKB= 25' @ 3556.00usft
Site:	Big Eddy Unit	**North Reference:**	Grid
Well:	Big Eddy Unit DI5 BS2-5E #340H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

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)
9,800.00	70.26	93.36	9,456.79	-1,252.44	-628.47	-633.71	10.00	9.82	-2.02
9,850.00	75.18	92.42	9,471.64	-1,254.84	-580.80	-586.05	10.00	9.83	-1.90
9,900.00	80.10	91.51	9,482.34	-1,256.51	-532.01	-537.26	10.00	9.84	-1.81
9,950.00	85.02	90.63	9,488.81	-1,257.43	-482.45	-487.71	10.00	9.85	-1.76
10,000.52	90.00	89.76	9,491.00	-1,257.60	-432.00	-437.26	10.00	9.85	-1.73
10,100.00	90.00	89.76	9,491.00	-1,257.18	-332.52	-337.78	0.00	0.00	0.00
10,200.00	90.00	89.76	9,491.00	-1,256.75	-232.52	-237.78	0.00	0.00	0.00
10,300.00	90.00	89.76	9,491.00	-1,256.32	-132.52	-137.78	0.00	0.00	0.00
10,400.00	90.00	89.76	9,491.00	-1,255.90	-32.52	-37.78	0.00	0.00	0.00
10,500.00	90.00	89.76	9,491.00	-1,255.47	67.48	62.22	0.00	0.00	0.00
10,600.00	90.00	89.76	9,491.00	-1,255.05	167.48	162.22	0.00	0.00	0.00
10,700.00	90.00	89.76	9,491.00	-1,254.62	267.48	262.22	0.00	0.00	0.00
10,800.00	90.00	89.76	9,491.00	-1,254.19	367.48	362.22	0.00	0.00	0.00
10,900.00	90.00	89.76	9,491.00	-1,253.77	467.48	462.22	0.00	0.00	0.00
11,000.00	90.00	89.76	9,491.00	-1,253.34	567.48	562.22	0.00	0.00	0.00
11,100.00	90.00	89.76	9,491.00	-1,252.92	667.48	662.22	0.00	0.00	0.00
11,200.00	90.00	89.76	9,491.00	-1,252.49	767.47	762.22	0.00	0.00	0.00
11,300.00	90.00	89.76	9,491.00	-1,252.06	867.47	862.22	0.00	0.00	0.00
11,400.00	90.00	89.76	9,491.00	-1,251.64	967.47	962.22	0.00	0.00	0.00
11,500.00	90.00	89.76	9,491.00	-1,251.21	1,067.47	1,062.22	0.00	0.00	0.00
11,600.00	90.00	89.76	9,491.00	-1,250.79	1,167.47	1,162.22	0.00	0.00	0.00
11,700.00	90.00	89.76	9,491.00	-1,250.36	1,267.47	1,262.22	0.00	0.00	0.00
11,800.00	90.00	89.76	9,491.00	-1,249.93	1,367.47	1,362.22	0.00	0.00	0.00
11,900.00	90.00	89.76	9,491.00	-1,249.51	1,467.47	1,462.22	0.00	0.00	0.00
12,000.00	90.00	89.76	9,491.00	-1,249.08	1,567.47	1,562.22	0.00	0.00	0.00
12,100.00	90.00	89.76	9,491.00	-1,248.66	1,667.47	1,662.22	0.00	0.00	0.00
12,200.00	90.00	89.76	9,491.00	-1,248.23	1,767.47	1,762.22	0.00	0.00	0.00
12,300.00	90.00	89.76	9,491.00	-1,247.81	1,867.46	1,862.22	0.00	0.00	0.00
12,400.00	90.00	89.76	9,491.00	-1,247.38	1,967.46	1,962.22	0.00	0.00	0.00
12,500.00	90.00	89.76	9,491.00	-1,246.95	2,067.46	2,062.22	0.00	0.00	0.00
12,600.00	90.00	89.76	9,491.00	-1,246.53	2,167.46	2,162.22	0.00	0.00	0.00
12,700.00	90.00	89.76	9,491.00	-1,246.10	2,267.46	2,262.22	0.00	0.00	0.00
12,800.00	90.00	89.76	9,491.00	-1,245.68	2,367.46	2,362.22	0.00	0.00	0.00
12,900.00	90.00	89.76	9,491.00	-1,245.25	2,467.46	2,462.22	0.00	0.00	0.00
13,000.00	90.00	89.76	9,491.00	-1,244.82	2,567.46	2,562.22	0.00	0.00	0.00
13,100.00	90.00	89.76	9,491.00	-1,244.40	2,667.46	2,662.22	0.00	0.00	0.00
13,200.00	90.00	89.76	9,491.00	-1,243.97	2,767.46	2,762.22	0.00	0.00	0.00
13,300.00	90.00	89.76	9,491.00	-1,243.55	2,867.46	2,862.22	0.00	0.00	0.00
13,400.00	90.00	89.76	9,491.00	-1,243.12	2,967.45	2,962.22	0.00	0.00	0.00
13,500.00	90.00	89.76	9,491.00	-1,242.69	3,067.45	3,062.22	0.00	0.00	0.00
13,600.00	90.00	89.76	9,491.00	-1,242.27	3,167.45	3,162.22	0.00	0.00	0.00
13,700.00	90.00	89.76	9,491.00	-1,241.84	3,267.45	3,262.22	0.00	0.00	0.00
13,800.00	90.00	89.76	9,491.00	-1,241.42	3,367.45	3,362.22	0.00	0.00	0.00
13,900.00	90.00	89.76	9,491.00	-1,240.99	3,467.45	3,462.22	0.00	0.00	0.00
14,000.00	90.00	89.76	9,491.00	-1,240.56	3,567.45	3,562.22	0.00	0.00	0.00
14,100.00	90.00	89.76	9,491.00	-1,240.14	3,667.45	3,662.22	0.00	0.00	0.00
14,200.00	90.00	89.76	9,491.00	-1,239.71	3,767.45	3,762.22	0.00	0.00	0.00
14,300.00	90.00	89.76	9,491.00	-1,239.29	3,867.45	3,862.22	0.00	0.00	0.00
14,400.00	90.00	89.76	9,491.00	-1,238.86	3,967.45	3,962.22	0.00	0.00	0.00
14,500.00	90.00	89.76	9,491.00	-1,238.43	4,067.44	4,062.22	0.00	0.00	0.00
14,600.00	90.00	89.76	9,491.00	-1,238.01	4,167.44	4,162.22	0.00	0.00	0.00
14,700.00	90.00	89.76	9,491.00	-1,237.58	4,267.44	4,262.22	0.00	0.00	0.00
14,800.00	90.00	89.76	9,491.00	-1,237.16	4,367.44	4,362.22	0.00	0.00	0.00
14,900.00	90.00	89.76	9,491.00	-1,236.73	4,467.44	4,462.22	0.00	0.00	0.00

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well Big Eddy Unit DI5 BS2-5E #340H
Company:	XTO Energy	**TVD Reference:**	RKB= 25' @ 3556.00usft
Project:	Eddy County, NM (NAD-27)	**MD Reference:**	RKB= 25' @ 3556.00usft
Site:	Big Eddy Unit	**North Reference:**	Grid
Well:	Big Eddy Unit DI5 BS2-5E #340H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

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)
15,000.00	90.00	89.76	9,491.00	-1,236.30	4,567.44	4,562.22	0.00	0.00	0.00
15,100.00	90.00	89.76	9,491.00	-1,235.88	4,667.44	4,662.22	0.00	0.00	0.00
15,200.00	90.00	89.76	9,491.00	-1,235.45	4,767.44	4,762.22	0.00	0.00	0.00
15,300.00	90.00	89.76	9,491.00	-1,235.03	4,867.44	4,862.22	0.00	0.00	0.00
15,400.00	90.00	89.76	9,491.00	-1,234.60	4,967.44	4,962.22	0.00	0.00	0.00
15,500.00	90.00	89.76	9,491.00	-1,234.17	5,067.44	5,062.22	0.00	0.00	0.00
15,600.00	90.00	89.76	9,491.00	-1,233.75	5,167.43	5,162.22	0.00	0.00	0.00
15,700.00	90.00	89.76	9,491.00	-1,233.32	5,267.43	5,262.22	0.00	0.00	0.00
15,800.00	90.00	89.76	9,491.00	-1,232.90	5,367.43	5,362.22	0.00	0.00	0.00
15,900.00	90.00	89.76	9,491.00	-1,232.47	5,467.43	5,462.22	0.00	0.00	0.00
16,000.00	90.00	89.76	9,491.00	-1,232.04	5,567.43	5,562.22	0.00	0.00	0.00
16,100.00	90.00	89.76	9,491.00	-1,231.62	5,667.43	5,662.22	0.00	0.00	0.00
16,200.00	90.00	89.76	9,491.00	-1,231.19	5,767.43	5,762.22	0.00	0.00	0.00
16,300.00	90.00	89.76	9,491.00	-1,230.77	5,867.43	5,862.22	0.00	0.00	0.00
16,400.00	90.00	89.76	9,491.00	-1,230.34	5,967.43	5,962.22	0.00	0.00	0.00
16,500.00	90.00	89.76	9,491.00	-1,229.91	6,067.43	6,062.22	0.00	0.00	0.00
16,600.00	90.00	89.76	9,491.00	-1,229.49	6,167.43	6,162.22	0.00	0.00	0.00
16,700.00	90.00	89.76	9,491.00	-1,229.06	6,267.42	6,262.22	0.00	0.00	0.00
16,800.00	90.00	89.76	9,491.00	-1,228.64	6,367.42	6,362.22	0.00	0.00	0.00
16,900.00	90.00	89.76	9,491.00	-1,228.21	6,467.42	6,462.22	0.00	0.00	0.00
17,000.00	90.00	89.76	9,491.00	-1,227.78	6,567.42	6,562.22	0.00	0.00	0.00
17,100.00	90.00	89.76	9,491.00	-1,227.36	6,667.42	6,662.22	0.00	0.00	0.00
17,200.00	90.00	89.76	9,491.00	-1,226.93	6,767.42	6,762.22	0.00	0.00	0.00
17,300.00	90.00	89.76	9,491.00	-1,226.51	6,867.42	6,862.22	0.00	0.00	0.00
17,400.00	90.00	89.76	9,491.00	-1,226.08	6,967.42	6,962.22	0.00	0.00	0.00
17,500.00	90.00	89.76	9,491.00	-1,225.65	7,067.42	7,062.22	0.00	0.00	0.00
17,600.00	90.00	89.76	9,491.00	-1,225.23	7,167.42	7,162.22	0.00	0.00	0.00
17,700.00	90.00	89.76	9,491.00	-1,224.80	7,267.42	7,262.22	0.00	0.00	0.00
17,800.00	90.00	89.76	9,491.00	-1,224.38	7,367.41	7,362.22	0.00	0.00	0.00
17,900.00	90.00	89.76	9,491.00	-1,223.95	7,467.41	7,462.22	0.00	0.00	0.00
18,000.00	90.00	89.76	9,491.00	-1,223.53	7,567.41	7,562.22	0.00	0.00	0.00
18,100.00	90.00	89.76	9,491.00	-1,223.10	7,667.41	7,662.22	0.00	0.00	0.00
18,200.00	90.00	89.76	9,491.00	-1,222.67	7,767.41	7,762.22	0.00	0.00	0.00
18,300.00	90.00	89.76	9,491.00	-1,222.25	7,867.41	7,862.22	0.00	0.00	0.00
18,400.00	90.00	89.76	9,491.00	-1,221.82	7,967.41	7,962.22	0.00	0.00	0.00
18,500.00	90.00	89.76	9,491.00	-1,221.40	8,067.41	8,062.22	0.00	0.00	0.00
18,600.00	90.00	89.76	9,491.00	-1,220.97	8,167.41	8,162.22	0.00	0.00	0.00
18,700.00	90.00	89.76	9,491.00	-1,220.54	8,267.41	8,262.22	0.00	0.00	0.00
18,800.00	90.00	89.76	9,491.00	-1,220.12	8,367.41	8,362.22	0.00	0.00	0.00
18,900.00	90.00	89.76	9,491.00	-1,219.69	8,467.40	8,462.22	0.00	0.00	0.00
19,000.00	90.00	89.76	9,491.00	-1,219.27	8,567.40	8,562.22	0.00	0.00	0.00
19,100.00	90.00	89.76	9,491.00	-1,218.84	8,667.40	8,662.22	0.00	0.00	0.00
19,200.00	90.00	89.76	9,491.00	-1,218.41	8,767.40	8,762.22	0.00	0.00	0.00
19,300.00	90.00	89.76	9,491.00	-1,217.99	8,867.40	8,862.22	0.00	0.00	0.00
19,400.00	90.00	89.76	9,491.00	-1,217.56	8,967.40	8,962.22	0.00	0.00	0.00
19,500.00	90.00	89.76	9,491.00	-1,217.14	9,067.40	9,062.22	0.00	0.00	0.00
19,600.00	90.00	89.76	9,491.00	-1,216.71	9,167.40	9,162.22	0.00	0.00	0.00
19,700.00	90.00	89.76	9,491.00	-1,216.28	9,267.40	9,262.22	0.00	0.00	0.00
19,800.00	90.00	89.76	9,491.00	-1,215.86	9,367.40	9,362.22	0.00	0.00	0.00
19,900.00	90.00	89.76	9,491.00	-1,215.43	9,467.40	9,462.22	0.00	0.00	0.00
20,000.00	90.00	89.76	9,491.00	-1,215.01	9,567.39	9,562.22	0.00	0.00	0.00
20,100.00	90.00	89.76	9,491.00	-1,214.58	9,667.39	9,662.22	0.00	0.00	0.00
20,200.00	90.00	89.76	9,491.00	-1,214.15	9,767.39	9,762.22	0.00	0.00	0.00
20,300.00	90.00	89.76	9,491.00	-1,213.73	9,867.39	9,862.22	0.00	0.00	0.00

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well Big Eddy Unit DI5 BS2-5E #340H
Company:	XTO Energy	**TVD Reference:**	RKB= 25' @ 3556.00usft
Project:	Eddy County, NM (NAD-27)	**MD Reference:**	RKB= 25' @ 3556.00usft
Site:	Big Eddy Unit	**North Reference:**	Grid
Well:	Big Eddy Unit DI5 BS2-5E #340H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

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)
20,400.00	90.00	89.76	9,491.00	-1,213.30	9,967.39	9,962.22	0.00	0.00	0.00
20,500.00	90.00	89.76	9,491.00	-1,212.88	10,067.39	10,062.22	0.00	0.00	0.00
20,600.00	90.00	89.76	9,491.00	-1,212.45	10,167.39	10,162.22	0.00	0.00	0.00
20,700.00	90.00	89.76	9,491.00	-1,212.02	10,267.39	10,262.22	0.00	0.00	0.00
20,800.00	90.00	89.76	9,491.00	-1,211.60	10,367.39	10,362.22	0.00	0.00	0.00
20,900.00	90.00	89.76	9,491.00	-1,211.17	10,467.39	10,462.22	0.00	0.00	0.00
21,000.00	90.00	89.76	9,491.00	-1,210.75	10,567.39	10,562.22	0.00	0.00	0.00
21,100.00	90.00	89.76	9,491.00	-1,210.32	10,667.38	10,662.22	0.00	0.00	0.00
21,200.00	90.00	89.76	9,491.00	-1,209.89	10,767.38	10,762.22	0.00	0.00	0.00
21,300.00	90.00	89.76	9,491.00	-1,209.47	10,867.38	10,862.22	0.00	0.00	0.00
21,400.00	90.00	89.76	9,491.00	-1,209.04	10,967.38	10,962.22	0.00	0.00	0.00
21,500.00	90.00	89.76	9,491.00	-1,208.62	11,067.38	11,062.22	0.00	0.00	0.00
21,600.00	90.00	89.76	9,491.00	-1,208.19	11,167.38	11,162.22	0.00	0.00	0.00
21,700.00	90.00	89.76	9,491.00	-1,207.76	11,267.38	11,262.22	0.00	0.00	0.00
21,800.00	90.00	89.76	9,491.00	-1,207.34	11,367.38	11,362.22	0.00	0.00	0.00
21,900.00	90.00	89.76	9,491.00	-1,206.91	11,467.38	11,462.22	0.00	0.00	0.00
22,000.00	90.00	89.76	9,491.00	-1,206.49	11,567.38	11,562.22	0.00	0.00	0.00
22,100.00	90.00	89.76	9,491.00	-1,206.06	11,667.38	11,662.22	0.00	0.00	0.00
22,200.00	90.00	89.76	9,491.00	-1,205.63	11,767.37	11,762.22	0.00	0.00	0.00
22,300.00	90.00	89.76	9,491.00	-1,205.21	11,867.37	11,862.22	0.00	0.00	0.00
22,400.00	90.00	89.76	9,491.00	-1,204.78	11,967.37	11,962.22	0.00	0.00	0.00
22,500.00	90.00	89.76	9,491.00	-1,204.36	12,067.37	12,062.22	0.00	0.00	0.00
22,600.00	90.00	89.76	9,491.00	-1,203.93	12,167.37	12,162.22	0.00	0.00	0.00
22,677.63	90.00	89.76	9,491.00	-1,203.60	12,245.00	12,239.85	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
Big Eddy #340H SHL - plan hits target center - Point	0.00	0.00	8.00	0.00	0.00	562,598.10	647,698.30	32.545777	-103.854021
Big Eddy #340H LTP - plan misses target center by 0.05usft at 22547.63usft MD (9491.00 TVD, -1204.15 N, 12115.00 E) - Point	0.00	0.00	9,491.00	-1,204.10	12,115.00	561,394.00	659,813.30	32.542311	-103.814725
Big Eddy #340H FTP/ - plan hits target center - Point	0.00	0.00	9,491.00	-1,257.60	-432.00	561,340.50	647,266.30	32.542325	-103.855441
Big Eddy #340H PBH - plan hits target center - Point	0.00	0.00	9,491.00	-1,203.60	12,245.00	561,394.50	659,943.30	32.542311	-103.814304

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well Big Eddy Unit DI5 BS2-5E #340H
Company:	XTO Energy	**TVD Reference:**	RKB= 25' @ 3556.00usft
Project:	Eddy County, NM (NAD-27)	**MD Reference:**	RKB= 25' @ 3556.00usft
Site:	Big Eddy Unit	**North Reference:**	Grid
Well:	Big Eddy Unit DI5 BS2-5E #340H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1		

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
668.00	668.00	Rustler			
937.00	937.00	Salado			
2,454.91	2,453.00	Base Salt			
2,863.14	2,852.00	Capitan			
3,972.19	3,932.00	Delaware Sand			
4,921.04	4,856.00	Base Manzanita			
5,969.50	5,877.00	Brushy Canyon			
7,400.99	7,271.00	Basal Brushy Canyon			
7,616.64	7,481.00	Base Brushy Canyon Sands			
7,628.96	7,493.00	Bone Spring			
7,798.40	7,658.00	Avalon Sand			
8,337.52	8,183.00	Lower Avalon Shale			
8,885.88	8,717.00	First Bone Spring Sand			
9,287.95	9,108.00	Second Bone Spring Shale/Limesto			
9,443.91	9,245.00	Second Bone Spring Sand			
9,847.52	9,471.00	Second Bone Spring B Sand			