

RECEIVED

MAR 04 2020

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

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

EMNRD-OCD ARTESIA

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of work: <input checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No. NMLC0065431	
1b. Type of Well: <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other		6. If Indian, Allottee or Tribe Name	
1c. Type of Completion: <input type="checkbox"/> Hydraulic Fracturing <input checked="" type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone		7. If Unit or CA Agreement, Name and No. BIG EDDY / NMNM068294X	
2. Name of Operator XTO PERMIAN OPERATING LLC		8. Lease Name and Well No. BIG EDDY UNIT D15 BS2-5E 337H 327309	
3a. Address 6401 Holiday Hill Road, Bldg 5 Midland TX 79707	3b. Phone No. (include area code) (432)682-8873	9. API Well No. 30-015-46829	
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface SWNE / 1890 FNL / 1873 FEL / LAT 32.546337 / LONG -103.854521 At proposed prod. zone NESE / 1980 FSL / 200 FEL / LAT 32.557002 / LONG -103.814808		10. Field and Pool, or Exploratory LOS MEDANOS; BONE SPRING	
11. Sec., T. R. M. or Blk. and Survey or Area SEC 27 / T20S / R31E / NMP		12. County or Parish EDDY	
13. State NM		14. Distance in miles and direction from nearest town or post office* 24.38 miles	
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 320	
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 30 feet	19. Proposed Depth 9492 feet / 21030 feet	20. BLM/BIA Bond No. in file FED: COB000050	
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3532 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.		4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).	
2. A Drilling Plan.		5. Operator certification.	
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).		6. Such other site specific information and/or plans as may be requested by the BLM.	
25. Signature (Electronic Submission)	Name (Printed/Typed) Stephanie Rabadue / Ph: (432)620-6714	Date 11/28/2018	
Title Regulatory Coordinator			
Approved by (Signature) (Electronic Submission)	Name (Printed/Typed) Cody Layton / Ph: (575)234-5959	Date 09/04/2019	
Title Assistant Field Manager Lands & Minerals			
Office 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: 09/04/2019

RUP 3-12-20

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 1: 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 well, 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 directionally 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 well 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 will 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 connects this information to an 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 Connection Clearance Officer (WO-630), 1849 C Street, N.W., Mail Stop 401 LS, Washington, D.C. 20240.

Additional Operator Remarks

Location of Well

1. SHL: SWNE / 1890 FNL / 1873 FEL / TWSP: 20S / RANGE: 31E / SECTION: 27 / LAT: 32.546337 / LONG: -103.854521 (TVD: 0 feet, MD: 0 feet)
PPP: NENE / 660 FNL / 660 FEL / TWSP: 20S / RANGE: 31E / SECTION: 27 / LAT: 32.5497 / LONG: -103.850577 (TVD: 3344 feet, MD: 3400 feet)
PPP: SESE / 660 FSL / 660 FEL / TWSP: 20S / RANGE: 31E / SECTION: 22 / LAT: 32.553333 / LONG: -103.850576 (TVD: 4361 feet, MD: 4600 feet)
PPP: NWSW / 1980 FSL / 330 FWL / TWSP: 21S / RANGE: 30E / SECTION: 23 / LAT: 32.556955 / LONG: -103.847374 (TVD: 9492 feet, MD: 11100 feet)
PPP: NENW / 1980 FSL / 1980 FWL / TWSP: 21S / RANGE: 30E / SECTION: 23 / LAT: 32.556981 / LONG: -103.842018 (TVD: 9492 feet, MD: 12600 feet)
BHL: NESE / 1980 FSL / 200 FEL / TWSP: 20S / RANGE: 31E / SECTION: 24 / LAT: 32.557002 / LONG: -103.814808 (TVD: 9492 feet, MD: 21030 feet)

BLM Point of Contact

Name: Tenille Ortiz

Title: Legal Instruments Examiner

Phone: 5752342224

Email: tortiz@blm.gov

Approval Date: 09/04/2019

(Form 3160-3, page 3)

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.

Approval Date: 09/04/2019

(Form 3160-3, page 4)

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 337H
SURFACE HOLE FOOTAGE:	1890' FNL & 1873' FEL
BOTTOM HOLE FOOTAGE:	1980' FSL & 0200' FEL Sec. 24, 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 082319

**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, T. 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, T. 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, T. 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.

TABLE OF CONTENTS

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

- ☐ General Provisions
- ☐ Permit Expiration
- ☐ Archaeology, Paleontology, and Historical Sites
- ☐ Noxious Weeds
- ☒ Special Requirements

Hydrology

- ☐ **Construction**
 - Notification
 - Topsoil
 - Closed Loop System
 - Federal Mineral Material Pits
 - Well Pads
 - Roads
- ☐ **Road Section Diagram**
- ☐ **Production (Post Drilling)**
 - Well Structures & Facilities
 - Pipelines
 - Electric Lines
- ☐ **Interim Reclamation**
- ☐ **Final Abandonment & Reclamation**

I. GENERAL PROVISIONS

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

II. PERMIT EXPIRATION

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

III. ARCHAEOLOGICAL, PALEONTOLOGY & HISTORICAL SITES

Any cultural 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 Carlsbad Field Office at (575) 234-5909 at least 3 working days prior to commencing construction of the access road and/or well pad.

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

B. TOPSOIL

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

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

C. CLOSED LOOP SYSTEM

Tanks are required for drilling operations: No Pits.

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

D. FEDERAL MINERAL MATERIALS PIT

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

E. WELL PAD SURFACING

Surfacing of the well pad is not required.

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

F. EXCLOSURE FENCING (CELLARS & PITS)

Exclosure Fencing

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

G. ON LEASE ACCESS ROADS**Road Width**

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

Surfacing

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

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

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

Crowning

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

Ditching

Ditching shall be required on both sides of the road.

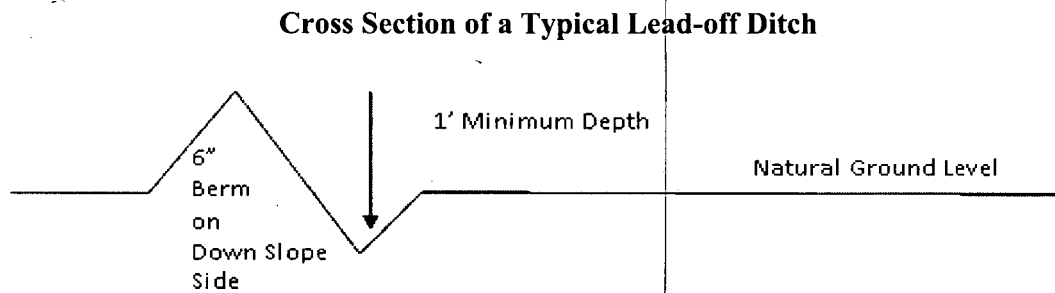
Turnouts

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

Drainage

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

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



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

Formula for Spacing Interval of Lead-off Ditches

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

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

Cattle guards

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

Fence Requirement

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

Public Access

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

Construction Steps

1. Salvage topsoil
2. Construct road

3. Redistribute topsoil
4. Revegetate slopes

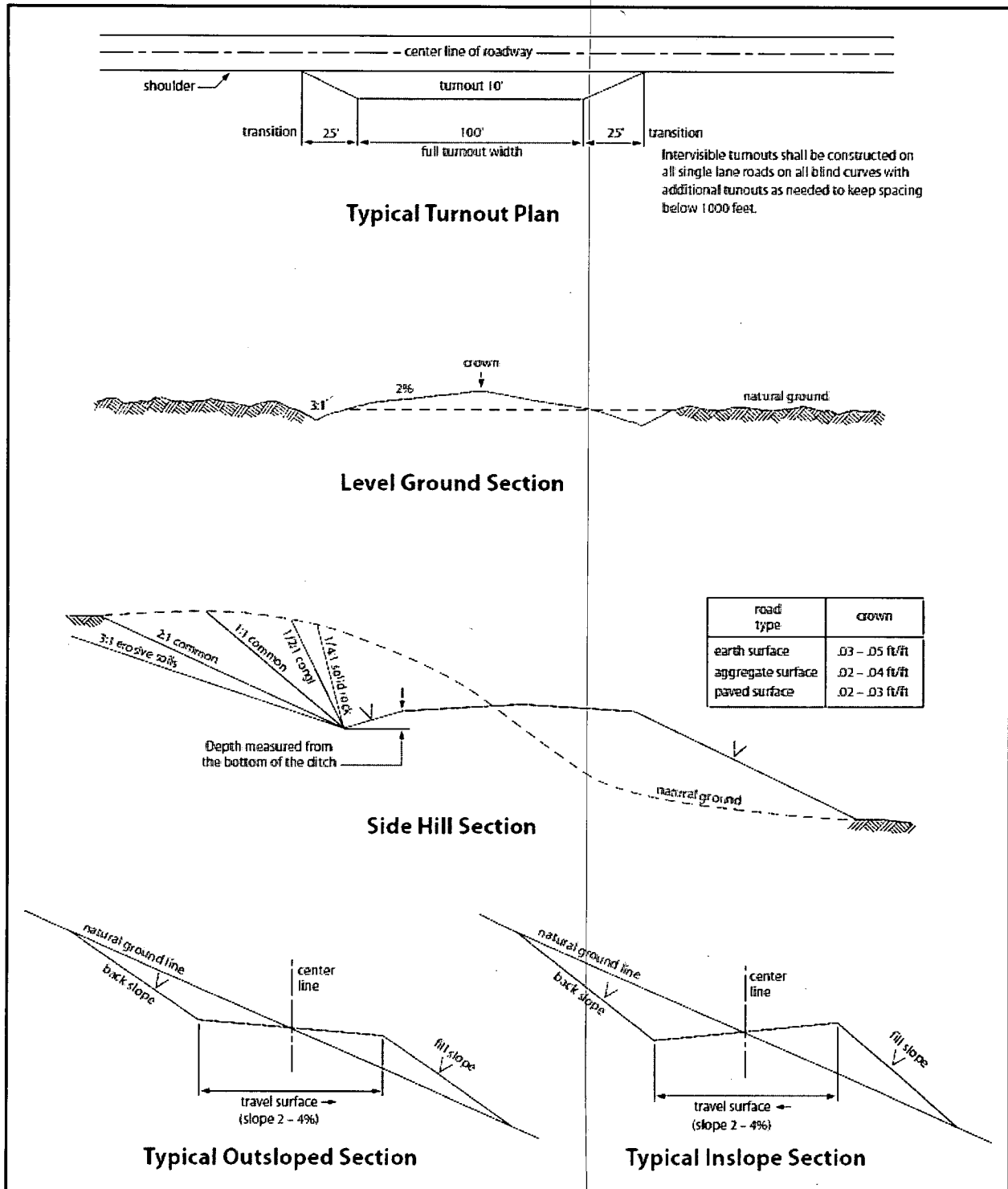


Figure 1. Cross-sections and plans for typical road sections representative of BLM resource or FS local and higher-class roads.

VII. PRODUCTION (POST DRILLING)

A. WELL STRUCTURES & FACILITIES

Placement of Production Facilities

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

Exclosure Netting (Open-top Tanks)

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

Chemical and Fuel Secondary Containment and Exclosure Screening

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

Open-Vent Exhaust Stack Exclosures

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

Containment Structures

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

Painting Requirement

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

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.

- | | |
|--|--|
| <input type="checkbox"/> seed mixture 1 | <input type="checkbox"/> seed mixture 3 |
| <input checked="" type="checkbox"/> seed mixture 2 | <input type="checkbox"/> seed mixture 4 |
| <input type="checkbox"/> seed mixture 2/LPC | <input type="checkbox"/> 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:

<u>Species</u>	<u>lb/acre</u>
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



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

Operator Certification Data Report

10/16/2019

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:

City:

State:

Zip:

Phone: (432)620-6714

Email address: stephanie_rabadue@xtoenergy.com

Field Representative

Representative Name:

Street Address:

City:

State:

Zip:

Phone:

Email address:



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

Application Data Report

10/16/2019

APD ID: 10400036586

Submission Date: 11/28/2018

Highlighted data
reflects the most
recent changes

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: BIG EDDY UNIT DI5 BS2-5E

Well Number: 337H

[Show Final Text](#)

Well Type: OIL WELL

Well Work Type: Drill

Section 1 - General

APD ID: 10400036586

Tie to previous NOS?

Submission Date: 11/28/2018

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

Operator PO Box:

Zip: 79707

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: 337H

Well API Number:

Field/Pool or Exploratory? Field and Pool

Field Name: LOS MEDANOS;
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: 337H

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

Is the proposed well in a Helium production area? N

Use Existing Well Pad? YES

New surface disturbance? N

Type of Well Pad: MULTIPLE WELL

Multiple Well Pad Name: BEU **Number:** 5

Well Class: HORIZONTAL

DI

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: 320 Acres

Well plat: BEU_DI5_337H_C102_20181120131619.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	189 0	FNL	187 3	FEL	20S	31E	27	Aliquot SWNE	32.54633 7	- 103.8545 21	EDD Y	NEW MEXI CO	NEW MEXI CO	F	NMLC0 065431	353 2	0	0
KOP Leg #1	189 0	FNL	187 3	FEL	20S	31E	27	Aliquot SWNE	32.54633 7	- 103.8545 21	EDD Y	NEW MEXI CO	NEW MEXI CO	F	NMLC0 065431	153 2	200 0	200 0
PPP Leg #1	660	FNL	660	FEL	20S	31E	27	Aliquot NENE	32.5497	- 103.8505 77	EDD Y	NEW MEXI CO	NEW MEXI CO	F	NMNM 000408 2	188	340 0	334 4

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: BIG EDDY UNIT DI5 BS2-5E

Well Number: 337H

	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	660	FSL	660	FEL	20S	31E	22	Aliquot SESE	32.55333 3	- 103.8505 76	EDD Y	NEW MEXI CO	NEW MEXI CO	F	NMLC0 065944	-829	460 0	436 1
PPP Leg #1	198 0	FSL	198 0	FWL	21S	30E	23	Aliquot NENW	32.55698 1	- 103.8420 18	EDD Y	NEW MEXI CO	NEW MEXI CO	F	NMLC0 065873	- 596 0	126 00	949 2
PPP Leg #1	198 0	FSL	330	FWL	21S	30E	23	Aliquot NWS W	32.55695 5	- 103.8473 74	EDD Y	NEW MEXI CO	NEW MEXI CO	F	NMLC0 065873 A	- 596 0	111 00	949 2
EXIT Leg #1	198 0	FSL	330	FEL	20S	31E	24	Aliquot NESE	32.55700 2	- 103.8152 3	EDD Y	NEW MEXI CO	NEW MEXI CO	F	NMNM 000586 4	- 596 0	209 00	949 2
BHL Leg #1	198 0	FSL	200	FEL	20S	31E	24	Aliquot NESE	32.55700 2	- 103.8148 08	EDD Y	NEW MEXI CO	NEW MEXI CO	F	NMNM 000586 4	- 596 0	210 30	949 2



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

Drilling Plan Data Report

10/16/2019

APD ID: 10400036586

Submission Date: 11/28/2018

Highlighted data
reflects the most
recent changes

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: BIG EDDY UNIT DI5 BS2-5E

Well Number: 337H

[Show Final Text](#)

Well Type: OIL WELL

Well Work Type: Drill

Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical Depth	Measured Depth	Lithologies	Mineral Resources	Producing Formation
1	PERMIAN	3532	0	0	OTHER : Alluvium	NONE	N
2	RUSTLER	2870	660	660	SILTSTONE	USEABLE WATER	N
3	TOP,SALT	2601	929	929	SALT	OTHER,POTASH : Produced Water	N
4	BASE OF SALT	1085	2445	2445	SALT	OTHER : Produced Water	N
5	CAPITAN REEF	686	2844	2844	LIMESTONE	USEABLE WATER	N
6	DELAWARE	-394	3924	3924	SANDSTONE	OTHER,NATURAL GAS,OIL : Produced Water	N
7	BRUSHY CANYON	-2339	5869	5869	SANDSTONE	OTHER,NATURAL GAS,OIL : Produced Water	N
8	BONE SPRING	-3955	7485	7485	SANDSTONE	OTHER,NATURAL GAS,OIL : Produced Water	N
9	BONE SPRING 1ST	-5179	8709	8709	SANDSTONE	OTHER,NATURAL GAS,OIL : Produced Water	N
10	BONE SPRING 2ND	-5707	9237	9237	SANDSTONE	OTHER,NATURAL GAS,OIL : Produced Water	Y

Section 2 - Blowout Prevention

Pressure Rating (PSI): 2M

Rating Depth: 849

Equipment: The blow out preventer equipment (BOP) for this well consists of a 13-5/8" minimum 2M Hydril and a 13-5/8" minimum 2M 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. 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 nipping up, the BOP test will be limited to 2,000 psi. All BOP tests will include a low

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: BIG EDDY UNIT DI5 BS2-5E

Well Number: 337H

pressure test as per BLM regulations. The 2M 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_2MCM_20190815080633.pdf

BOP Diagram Attachment:

BEU_DI5_2MBOP_20190815080656.pdf

Pressure Rating (PSI): 3M

Rating Depth: 9492

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 nipping 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

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: BIG EDDY UNIT DI5 BS2-5E

Well Number: 337H

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
4	PRODUCTI ON	8.75	5.5	NEW	API	N	0	21030	0	9492			21030	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_337H_Csg_20181120131407.pdf

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

BEU_DI5_337H_Csg_20181120131400.pdf

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: BIG EDDY UNIT DI5 BS2-5E

Well Number: 337H

Casing Attachments

Casing ID: 3 String Type: INTERMEDIATE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

BEU_DI5_337H_Csg_20181120131353.pdf

Casing ID: 4 String Type: PRODUCTION

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

BEU_DI5_337H_Csg_20181120131346.pdf

Section 4 - Cement

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	275.5 2	100	ExtendaCem-CZ	None
SURFACE	Tail				293	1.35	14.8	395.5 5	100	HalCem-C	2% CaCl
INTERMEDIATE	Lead		0	2854	528	1.88	12.9	992.6 4	100	EconoCem-HCL	+ 5% salt + 5% Kol-Seal
INTERMEDIATE	Tail				158	1.33	14.8	210.1 4	100	HalCem-C	none
INTERMEDIATE	Lead	2915	0	3500	834	1.88	12.9	1567.92	100	EconoCem-HCL	+ 5% salt + 5% Kol-Seal

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: BIG EDDY UNIT DI5 BS2-5E

Well Number: 337H

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
INTERMEDIATE	Tail				470	1.33	14.8	625.1	100	HalCem-C	none
PRODUCTION	Lead		0	2103 0	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

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	9492	OIL-BASED MUD	8.8	9.5							A mud test will be performed every 24 hours to determine:

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: BIG EDDY UNIT DI5 BS2-5E

Well Number: 337H

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
											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

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.

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: BIG EDDY UNIT DI5 BS2-5E

Well Number: 337H

Section 7 - Pressure

Anticipated Bottom Hole Pressure: 4689

Anticipated Surface Pressure: 2600.75

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 geohazards 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

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

BEU_DI5_337H_DD_20181120131519.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.

Other proposed operations facets attachment:

BEU_DI5_337H_GCP_20181120131532.pdf

Other Variance attachment:

BEU_DI5_FH_20181120052947.pdf

BEU_DI5_MBS_20190709063717.pdf

DRILLING PLAN: BLM COMPLIANCE

1. CASING PROGRAM:

Hole Size	Depth	OD Csg	Weight	Collar	Grade	New/Used	SF Burst	SF Collapse	SF Tension
18-1/8"	0' – 849'	16"	84#	BTC	J-55	New	7.67	3.63	18.59
14-3/4"	0' – 2854'	13-3/8"	68#	STC	HCL-80	New	2.28	2.17	3.48
12-1/4"	0' – 3500'	9-5/8"	40#	LTC	J-55	New	4.21	2.74	3.71
8-3/4"	0' – 17353'	5-1/2"	17#	BTC	P-110	New	1.12	1.65	2.31

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

WELLHEAD:

Temporary Wellhead

- 16" SOW x 16-3/4" 3M top flange

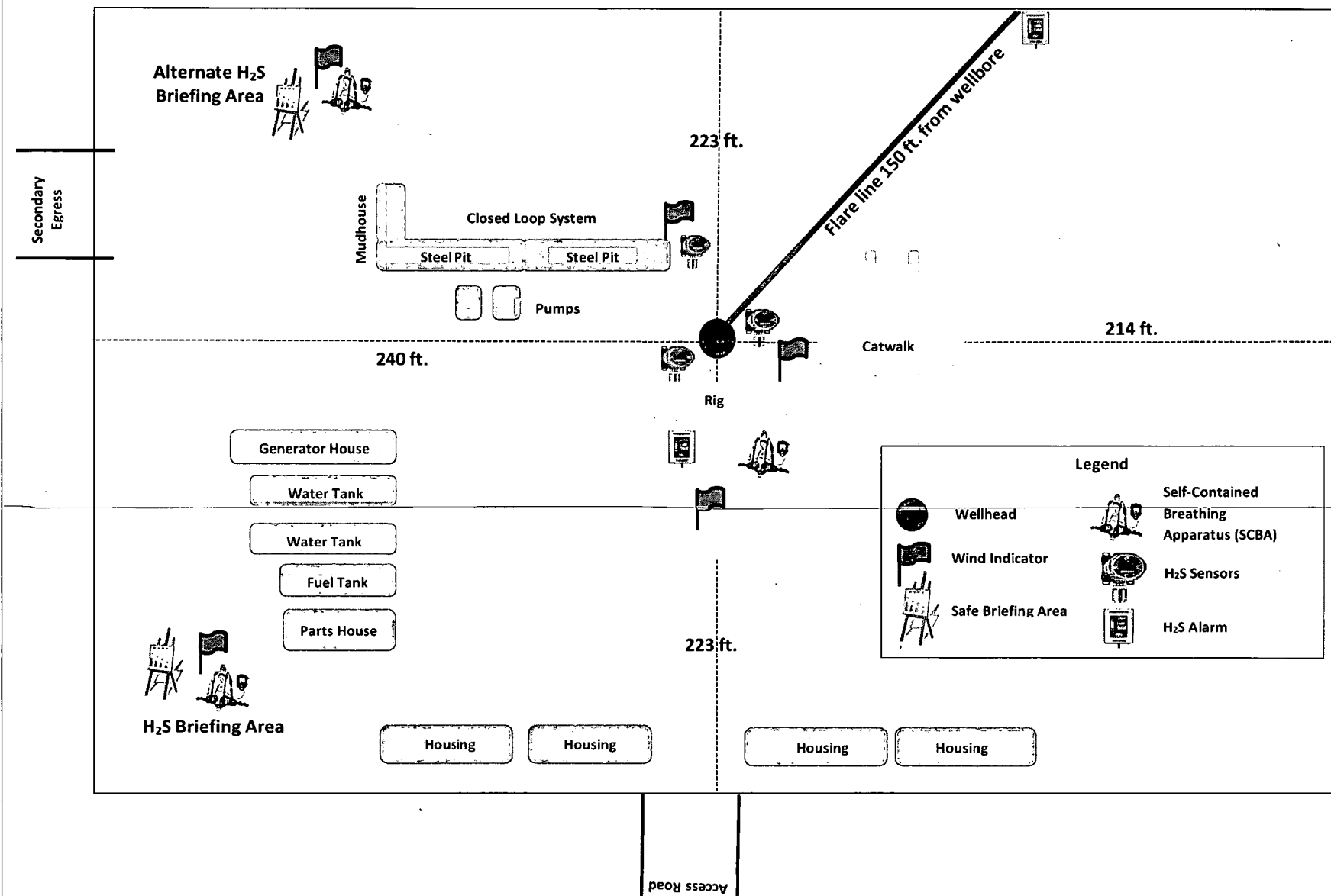
Permanent Wellhead – GE RSH Multibowl System

- A. Starting Head: 13-5/8" 5M top flange x 13-3/8" SOW bottom
- B. Tubing Head: 13-5/8" 5M bottom flange x 7-1/16" 10M top flange
 - Wellhead will be installed by manufacturer's representatives.
 - Manufacturer will monitor welding process to ensure appropriate temperature of seal.
 - Manufacturer will witness installation of test plug for initial test.
 - Operator will test the 9-5/8" casing to 70% of casing burst before drilling out.



Prevailing Winds
Direction SW

H₂S Briefing Areas and Alarm Locations





HYDROGEN SULFIDE (H₂S) CONTINGENCY PLAN

Assumed 100 ppm ROE = 3000'

100 ppm H₂S concentration shall trigger activation of this plan.

Emergency Procedures

In the event of a release of gas containing H₂S, 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 H₂S monitors and air packs in order to control the release.
- Use the "buddy system" to ensure no injuries occur during the response
- Take precautions to avoid personal injury during this operation.
- Contact operator and/or local officials to aid in operation. See list of phone numbers attached.
- Have received training in the
 - o Detection of H₂S, and
 - o Measures for protection against the gas,
 - o Equipment used for protection and emergency response.

Ignition of Gas source

Should control of the well be considered lost and ignition considered, take care to protect against exposure to Sulfur Dioxide (SO₂). 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 H₂S and SO₂

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

Contacting Authorities

All XTO location personnel must liaison with local and state agencies to ensure a proper response to a major release. Additionally, the OCD must be notified of the release as soon as possible but no later than 4 hours. Agencies will ask for information such as type and volume of release, wind direction, location of release, etc. Be prepared with all information available including directions to site. The following call list of essential and potential responders has been prepared for use during a release. (Operator Name)'s response must be in coordination with the State of New Mexico's "Hazardous Materials Emergency Response Plan" (HMER).

CARLSBAD OFFICE – EDDY & LEA COUNTIES

3104 E. Greene St., Carlsbad, NM 88220
Carlsbad, NM

575-887-7329

XTO PERSONNEL:

Kendall Decker, Drilling Manager
Milton Turman, Drilling Superintendent
Jeff Raines, Construction Foreman
Toady Sanders, EH & S Manager
Wes McSpadden, Production Foreman

903-521-6477
817-524-5107
432-557-3159
903-520-1601
575-441-1147

SHERIFF DEPARTMENTS:

Eddy County
Lea County

575-887-7551
575-396-3611

NEW MEXICO STATE POLICE:

575-392-5588

FIRE DEPARTMENTS:

Carlsbad
Eunice
Hobbs
Jal
Lovington

911
575-885-2111
575-394-2111
575-397-9308
575-395-2221
575-396-2359

HOSPITALS:

Carlsbad Medical Emergency
Eunice Medical Emergency
Hobbs Medical Emergency
Jal Medical Emergency
Lovington Medical Emergency

911
575-885-2111
575-394-2112
575-397-9308
575-395-2221
575-396-2359

AGENT NOTIFICATIONS:

For Lea County:

Bureau of Land Management – Hobbs
New Mexico Oil Conservation Division – Hobbs

575-393-3612
575-393-6161

For Eddy County:

Bureau of Land Management - Carlsbad
New Mexico Oil Conservation Division - Artesia

575-234-5972
575-748-1283



XTO Energy

Eddy County, NM (NAD-27)

Big Eddy Unit

Big Eddy Unit DI5 BS2-5E #337H

OH

Plan: Plan #1

Standard Planning Report

25 September, 2017



Project: Eddy County, NM (NAD-27)
Site: Big Eddy Unit
Well: Big Eddy Unit D15 BS2-5E #337H
Wellbore: OH
Design: Plan #1

WELL DETAILS: Big Eddy Unit D15 BS2-5E #337H

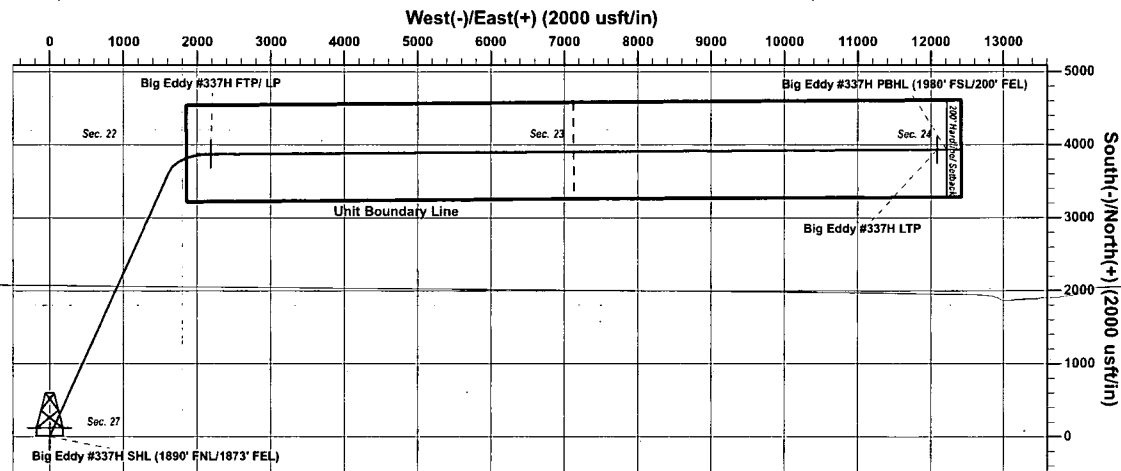
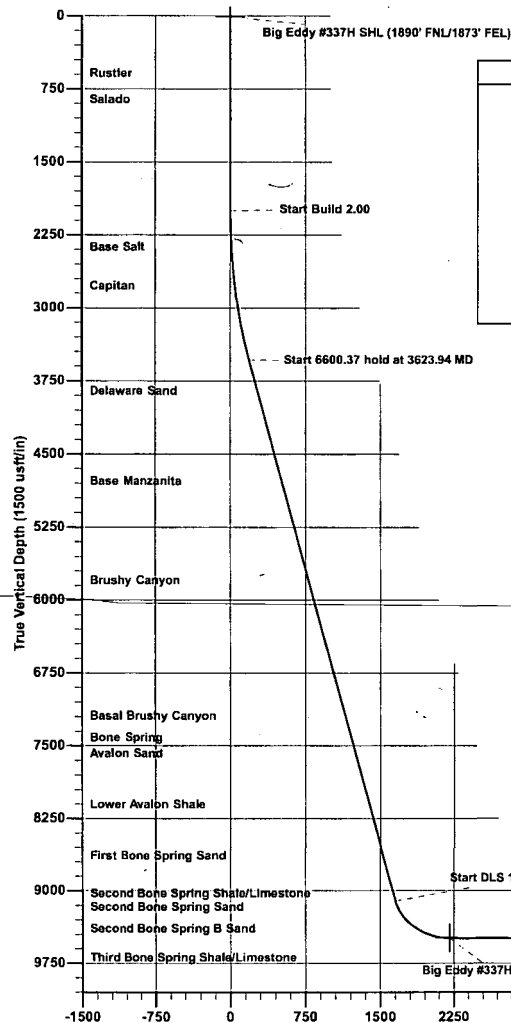
Rig Name: Unknown
RKB= 25 @ 3557.00usft (Unknown)
Ground Level: 3532.00
Northing: 562758.10
Easting: 647697.70
Latitude: 32.546217
Longitude: -103.854020

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec
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	3623.94	32.48	24.06	3538.35	409.16	182.65	2.00	24.06	185.30
4	10224.30	32.48	24.06	9106.36	3645.60	1627.50	0.00	0.00	1651.01
5	10996.00	90.00	89.63	9492.00	3872.70	2184.70	10.00	69.04	2209.66
6	21029.71	90.00	89.63	9492.00	3937.40	12218.20	0.00	0.00	12243.37

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
Big Eddy #337H SHL (1890' FNL/1873' FEL)	9.00	0.00	0.00	562758.10	647697.70	32.546217	-103.854020	Point
Big Eddy #337H FTP/ LP	9492.00	3872.70	2184.70	566630.80	649882.40	32.556834	-103.846873	Point
Big Eddy #337H LTP	9492.00	3936.80	12088.20	566694.90	659785.90	32.556882	-103.814730	Point
Big Eddy #337H PBHL (1980' FSL/200' FEL)	9492.00	3937.40	12218.20	566695.50	659915.90	32.556882	-103.814308	Point



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 D15 BS2-5E #337H/OH)

Created By: Matthew May Date: 12:36, September 25 2017

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

Vertical Section at 89.63° (1500 usft/in)



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well Big Eddy Unit DI5 BS2-5E #337H
Company:	XTO Energy	TVD Reference:	RKB= 25' @ 3557.00usft (Unknown)
Project:	Eddy County, NM (NAD-27)	MD Reference:	RKB= 25' @ 3557.00usft (Unknown)
Site:	Big Eddy Unit	North Reference:	Grid
Well:	Big Eddy Unit DI5 BS2-5E #337H	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
From:	Map	Easting:	647,697.70 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "
		Latitude:	32.546217
		Longitude:	-103.854020
		Grid Convergence:	0.26 °

Well	Big Eddy Unit DI5 BS2-5E #337H		
Well Position	+N/-S	0.00 usft	Latitude: 32.546217
	+E/-W	0.00 usft	Longitude: -103.854020
Position Uncertainty	0.00 usft	Wellhead Elevation:	0.00 usft
		Ground Level:	3,532.00 usft

Wellbore	OH		
Magnetics	Model Name	Sample Date	Declination (°)
	IGRF2015	9/21/2017	7.08
		Dip Angle (°)	Field Strength (nT)
		60.31	48,071

Design	Plan #1		
Audit Notes:			
Version:	Phase:	PLAN	Tie On Depth: 0.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W
	(usft)	(usft)	(usft)
	0.00	0.00	0.00
			Direction (°)
			89.63

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00	
3,623.94	32.48	24.06	3,538.35	409.16	182.66	2.00	2.00	0.00	24.06	
10,224.30	32.48	24.06	9,106.36	3,645.60	1,627.50	0.00	0.00	0.00	0.00	
10,996.00	90.00	89.63	9,492.00	3,872.70	2,184.70	10.00	7.45	8.50	69.04	Big Eddy #337H FT
21,029.71	90.00	89.63	9,492.00	3,937.40	12,218.20	0.00	0.00	0.00	0.00	Big Eddy #337H PE



Database: EDM 5000.1 Single User Db
 Company: XTO Energy
 Project: Eddy County, NM (NAD-27)
 Site: Big Eddy Unit
 Well: Big Eddy Unit DI5 BS2-5E #337H
 Wellbore: OH
 Design: Plan #1

Local Co-ordinate Reference: Well Big Eddy Unit DI5 BS2-5E #337H
 TVD Reference: RKB= 25' @ 3557.00usft (Unknown)
 MD Reference: RKB= 25' @ 3557.00usft (Unknown)
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature

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	24.06	2,099.98	1.59	0.71	0.72	2.00	2.00	0.00
2,200.00	4.00	24.06	2,199.84	6.37	2.84	2.89	2.00	2.00	0.00
2,300.00	6.00	24.06	2,299.45	14.33	6.40	6.49	2.00	2.00	0.00
2,400.00	8.00	24.06	2,398.70	25.46	11.37	11.53	2.00	2.00	0.00
2,500.00	10.00	24.06	2,497.47	39.74	17.74	18.00	2.00	2.00	0.00
2,600.00	12.00	24.06	2,595.62	57.16	25.52	25.89	2.00	2.00	0.00
2,700.00	14.00	24.06	2,693.06	77.70	34.69	35.19	2.00	2.00	0.00
2,800.00	16.00	24.06	2,789.64	101.34	45.24	45.89	2.00	2.00	0.00
2,900.00	18.00	24.06	2,885.27	128.03	57.16	57.98	2.00	2.00	0.00
3,000.00	20.00	24.06	2,979.82	157.76	70.43	71.45	2.00	2.00	0.00
3,100.00	22.00	24.06	3,073.17	190.48	85.04	86.27	2.00	2.00	0.00
3,200.00	24.00	24.06	3,165.21	226.16	100.96	102.42	2.00	2.00	0.00
3,300.00	26.00	24.06	3,255.84	264.75	118.19	119.90	2.00	2.00	0.00
3,400.00	28.00	24.06	3,344.94	306.20	136.70	138.67	2.00	2.00	0.00
3,500.00	30.00	24.06	3,432.39	350.47	156.46	158.72	2.00	2.00	0.00
3,600.00	32.00	24.06	3,518.11	397.50	177.45	180.02	2.00	2.00	0.00
3,623.94	32.48	24.06	3,538.35	409.16	182.66	185.30	2.00	2.00	0.00
3,700.00	32.48	24.06	3,602.52	446.46	199.31	202.19	0.00	0.00	0.00
3,800.00	32.48	24.06	3,686.88	495.49	221.20	224.40	0.00	0.00	0.00
3,900.00	32.48	24.06	3,771.24	544.52	243.09	246.60	0.00	0.00	0.00
4,000.00	32.48	24.06	3,855.60	593.56	264.98	268.81	0.00	0.00	0.00
4,100.00	32.48	24.06	3,939.96	642.59	286.87	291.02	0.00	0.00	0.00
4,200.00	32.48	24.06	4,024.31	691.63	308.76	313.22	0.00	0.00	0.00
4,300.00	32.48	24.06	4,108.67	740.66	330.65	335.43	0.00	0.00	0.00
4,400.00	32.48	24.06	4,193.03	789.69	352.54	357.63	0.00	0.00	0.00
4,500.00	32.48	24.06	4,277.39	838.73	374.43	379.84	0.00	0.00	0.00
4,600.00	32.48	24.06	4,361.75	887.76	396.32	402.05	0.00	0.00	0.00
4,700.00	32.48	24.06	4,446.11	936.80	418.21	424.25	0.00	0.00	0.00
4,800.00	32.48	24.06	4,530.47	985.83	440.10	446.46	0.00	0.00	0.00
4,900.00	32.48	24.06	4,614.83	1,034.87	461.99	468.67	0.00	0.00	0.00
5,000.00	32.48	24.06	4,699.19	1,083.90	483.88	490.87	0.00	0.00	0.00
5,100.00	32.48	24.06	4,783.55	1,132.93	505.77	513.08	0.00	0.00	0.00
5,200.00	32.48	24.06	4,867.91	1,181.97	527.67	535.29	0.00	0.00	0.00



Database: EDM 5000.1 Single User Db
Company: XTO Energy
Project: Eddy County, NM (NAD-27)
Site: Big Eddy Unit
Well: Big Eddy Unit D15 BS2-5E #337H
Wellbore: OH
Design: Plan #1

Local Co-ordinate Reference: Well Big Eddy Unit D15 BS2-5E #337H
TVD Reference: RKB= 25' @ 3557.00usft (Unknown)
MD Reference: RKB= 25' @ 3557.00usft (Unknown)
North Reference: Grid
Survey Calculation Method: Minimum Curvature

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	32.48	24.06	4,952.27	1,231.00	549.56	557.49	0.00	0.00	0.00
5,400.00	32.48	24.06	5,036.62	1,280.04	571.45	579.70	0.00	0.00	0.00
5,500.00	32.48	24.06	5,120.98	1,329.07	593.34	601.91	0.00	0.00	0.00
5,600.00	32.48	24.06	5,205.34	1,378.11	615.23	624.11	0.00	0.00	0.00
5,700.00	32.48	24.06	5,289.70	1,427.14	637.12	646.32	0.00	0.00	0.00
5,800.00	32.48	24.06	5,374.06	1,476.17	659.01	668.53	0.00	0.00	0.00
5,900.00	32.48	24.06	5,458.42	1,525.21	680.90	690.73	0.00	0.00	0.00
6,000.00	32.48	24.06	5,542.78	1,574.24	702.79	712.94	0.00	0.00	0.00
6,100.00	32.48	24.06	5,627.14	1,623.28	724.68	735.15	0.00	0.00	0.00
6,200.00	32.48	24.06	5,711.50	1,672.31	746.57	757.35	0.00	0.00	0.00
6,300.00	32.48	24.06	5,795.86	1,721.35	768.46	779.56	0.00	0.00	0.00
6,400.00	32.48	24.06	5,880.22	1,770.38	790.35	801.76	0.00	0.00	0.00
6,500.00	32.48	24.06	5,964.57	1,819.41	812.24	823.97	0.00	0.00	0.00
6,600.00	32.48	24.06	6,048.93	1,868.45	834.13	846.18	0.00	0.00	0.00
6,700.00	32.48	24.06	6,133.29	1,917.48	856.02	868.38	0.00	0.00	0.00
6,800.00	32.48	24.06	6,217.65	1,966.52	877.91	890.59	0.00	0.00	0.00
6,900.00	32.48	24.06	6,302.01	2,015.55	899.80	912.80	0.00	0.00	0.00
7,000.00	32.48	24.06	6,386.37	2,064.59	921.69	935.00	0.00	0.00	0.00
7,100.00	32.48	24.06	6,470.73	2,113.62	943.58	957.21	0.00	0.00	0.00
7,200.00	32.48	24.06	6,555.09	2,162.65	965.47	979.42	0.00	0.00	0.00
7,300.00	32.48	24.06	6,639.45	2,211.69	987.36	1,001.62	0.00	0.00	0.00
7,400.00	32.48	24.06	6,723.81	2,260.72	1,009.25	1,023.83	0.00	0.00	0.00
7,500.00	32.48	24.06	6,808.17	2,309.76	1,031.14	1,046.04	0.00	0.00	0.00
7,600.00	32.48	24.06	6,892.52	2,358.79	1,053.03	1,068.24	0.00	0.00	0.00
7,700.00	32.48	24.06	6,976.88	2,407.83	1,074.92	1,090.45	0.00	0.00	0.00
7,800.00	32.48	24.06	7,061.24	2,456.86	1,096.81	1,112.66	0.00	0.00	0.00
7,900.00	32.48	24.06	7,145.60	2,505.89	1,118.70	1,134.86	0.00	0.00	0.00
8,000.00	32.48	24.06	7,229.96	2,554.93	1,140.59	1,157.07	0.00	0.00	0.00
8,100.00	32.48	24.06	7,314.32	2,603.96	1,162.48	1,179.28	0.00	0.00	0.00
8,200.00	32.48	24.06	7,398.68	2,653.00	1,184.37	1,201.48	0.00	0.00	0.00
8,300.00	32.48	24.06	7,483.04	2,702.03	1,206.26	1,223.69	0.00	0.00	0.00
8,400.00	32.48	24.06	7,567.40	2,751.06	1,228.16	1,245.89	0.00	0.00	0.00
8,500.00	32.48	24.06	7,651.76	2,800.10	1,250.05	1,268.10	0.00	0.00	0.00
8,600.00	32.48	24.06	7,736.12	2,849.13	1,271.94	1,290.31	0.00	0.00	0.00
8,700.00	32.48	24.06	7,820.47	2,898.17	1,293.83	1,312.51	0.00	0.00	0.00
8,800.00	32.48	24.06	7,904.83	2,947.20	1,315.72	1,334.72	0.00	0.00	0.00
8,900.00	32.48	24.06	7,989.19	2,996.24	1,337.61	1,356.93	0.00	0.00	0.00
9,000.00	32.48	24.06	8,073.55	3,045.27	1,359.50	1,379.13	0.00	0.00	0.00
9,100.00	32.48	24.06	8,157.91	3,094.30	1,381.39	1,401.34	0.00	0.00	0.00
9,200.00	32.48	24.06	8,242.27	3,143.34	1,403.28	1,423.55	0.00	0.00	0.00
9,300.00	32.48	24.06	8,326.63	3,192.37	1,425.17	1,445.75	0.00	0.00	0.00
9,400.00	32.48	24.06	8,410.99	3,241.41	1,447.06	1,467.96	0.00	0.00	0.00
9,500.00	32.48	24.06	8,495.35	3,290.44	1,468.95	1,490.17	0.00	0.00	0.00
9,600.00	32.48	24.06	8,579.71	3,339.48	1,490.84	1,512.37	0.00	0.00	0.00
9,700.00	32.48	24.06	8,664.07	3,388.51	1,512.73	1,534.58	0.00	0.00	0.00
9,800.00	32.48	24.06	8,748.42	3,437.54	1,534.62	1,556.79	0.00	0.00	0.00
9,900.00	32.48	24.06	8,832.78	3,486.58	1,556.51	1,578.99	0.00	0.00	0.00
10,000.00	32.48	24.06	8,917.14	3,535.61	1,578.40	1,601.20	0.00	0.00	0.00
10,100.00	32.48	24.06	9,001.50	3,584.65	1,600.29	1,623.41	0.00	0.00	0.00
10,200.00	32.48	24.06	9,085.86	3,633.68	1,622.18	1,645.61	0.00	0.00	0.00
10,224.30	32.48	24.06	9,106.36	3,645.60	1,627.50	1,651.01	0.00	0.00	0.00
10,250.00	33.47	28.41	9,127.92	3,658.13	1,633.69	1,657.28	10.00	3.88	16.94
10,300.00	35.81	36.19	9,169.07	3,682.08	1,648.89	1,672.64	10.00	4.68	15.56
10,350.00	38.60	43.07	9,208.91	3,705.30	1,668.20	1,692.09	10.00	5.57	13.75



Database: EDM 5000.1 Single User Db
 Company: XTO Energy
 Project: Eddy County, NM (NAD-27)
 Site: Big Eddy Unit
 Well: Big Eddy Unit D15 BS2-5E #337H
 Wellbore: OH
 Design: Plan #1

Local Co-ordinate Reference: Well Big Eddy Unit D15 BS2-5E #337H
 TVD Reference: RKB= 25' @ 3557.00usft (Unknown)
 MD Reference: RKB= 25' @ 3557.00usft (Unknown)
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature

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)
10,400.00	41.73	49.11	9,247.13	3,727.60	1,691.44	1,715.48	10.00	6.28	12.08
10,450.00	45.15	54.42	9,283.44	3,748.82	1,718.46	1,742.63	10.00	6.83	10.63
10,500.00	48.79	59.12	9,317.57	3,768.79	1,749.03	1,773.33	10.00	7.27	9.40
10,550.00	52.59	63.32	9,349.25	3,787.37	1,782.94	1,807.36	10.00	7.61	8.39
10,600.00	56.53	67.10	9,378.24	3,804.41	1,819.92	1,844.45	10.00	7.88	7.56
10,650.00	60.57	70.55	9,404.33	3,819.79	1,859.68	1,884.31	10.00	8.09	6.90
10,700.00	64.70	73.73	9,427.31	3,833.38	1,901.94	1,926.65	10.00	8.25	6.36
10,750.00	68.89	76.70	9,447.01	3,845.09	1,946.36	1,971.15	10.00	8.38	5.94
10,800.00	73.13	79.51	9,463.28	3,854.81	1,992.61	2,017.46	10.00	8.48	5.61
10,850.00	77.40	82.19	9,475.99	3,862.49	2,040.34	2,065.24	10.00	8.55	5.36
10,900.00	81.70	84.78	9,485.06	3,868.06	2,089.18	2,114.11	10.00	8.60	5.19
10,950.00	86.02	87.32	9,490.40	3,871.48	2,138.76	2,163.71	10.00	8.63	5.07
10,996.00	90.00	89.63	9,492.00	3,872.70	2,184.70	2,209.66	10.00	8.65	5.02
11,000.00	90.00	89.63	9,492.00	3,872.73	2,188.70	2,213.66	0.00	0.00	0.00
11,100.00	90.00	89.63	9,492.00	3,873.37	2,288.70	2,313.66	0.00	0.00	0.00
11,200.00	90.00	89.63	9,492.00	3,874.02	2,388.70	2,413.66	0.00	0.00	0.00
11,300.00	90.00	89.63	9,492.00	3,874.66	2,488.69	2,513.66	0.00	0.00	0.00
11,400.00	90.00	89.63	9,492.00	3,875.31	2,588.69	2,613.66	0.00	0.00	0.00
11,500.00	90.00	89.63	9,492.00	3,875.95	2,688.69	2,713.66	0.00	0.00	0.00
11,600.00	90.00	89.63	9,492.00	3,876.59	2,788.69	2,813.66	0.00	0.00	0.00
11,700.00	90.00	89.63	9,492.00	3,877.24	2,888.69	2,913.66	0.00	0.00	0.00
11,800.00	90.00	89.63	9,492.00	3,877.88	2,988.68	3,013.66	0.00	0.00	0.00
11,900.00	90.00	89.63	9,492.00	3,878.53	3,088.68	3,113.66	0.00	0.00	0.00
12,000.00	90.00	89.63	9,492.00	3,879.17	3,188.68	3,213.66	0.00	0.00	0.00
12,100.00	90.00	89.63	9,492.00	3,879.82	3,288.68	3,313.66	0.00	0.00	0.00
12,200.00	90.00	89.63	9,492.00	3,880.46	3,388.67	3,413.66	0.00	0.00	0.00
12,300.00	90.00	89.63	9,492.00	3,881.11	3,488.67	3,513.66	0.00	0.00	0.00
12,400.00	90.00	89.63	9,492.00	3,881.75	3,588.67	3,613.66	0.00	0.00	0.00
12,500.00	90.00	89.63	9,492.00	3,882.40	3,688.67	3,713.66	0.00	0.00	0.00
12,600.00	90.00	89.63	9,492.00	3,883.04	3,788.67	3,813.66	0.00	0.00	0.00
12,700.00	90.00	89.63	9,492.00	3,883.69	3,888.66	3,913.66	0.00	0.00	0.00
12,800.00	90.00	89.63	9,492.00	3,884.33	3,988.66	4,013.66	0.00	0.00	0.00
12,900.00	90.00	89.63	9,492.00	3,884.98	4,088.66	4,113.66	0.00	0.00	0.00
13,000.00	90.00	89.63	9,492.00	3,885.62	4,188.66	4,213.66	0.00	0.00	0.00
13,100.00	90.00	89.63	9,492.00	3,886.27	4,288.66	4,313.66	0.00	0.00	0.00
13,200.00	90.00	89.63	9,492.00	3,886.91	4,388.65	4,413.66	0.00	0.00	0.00
13,300.00	90.00	89.63	9,492.00	3,887.56	4,488.65	4,513.66	0.00	0.00	0.00
13,400.00	90.00	89.63	9,492.00	3,888.20	4,588.65	4,613.66	0.00	0.00	0.00
13,500.00	90.00	89.63	9,492.00	3,888.85	4,688.65	4,713.66	0.00	0.00	0.00
13,600.00	90.00	89.63	9,492.00	3,889.49	4,788.65	4,813.66	0.00	0.00	0.00
13,700.00	90.00	89.63	9,492.00	3,890.14	4,888.64	4,913.66	0.00	0.00	0.00
13,800.00	90.00	89.63	9,492.00	3,890.78	4,988.64	5,013.66	0.00	0.00	0.00
13,900.00	90.00	89.63	9,492.00	3,891.43	5,088.64	5,113.66	0.00	0.00	0.00
14,000.00	90.00	89.63	9,492.00	3,892.07	5,188.64	5,213.66	0.00	0.00	0.00
14,100.00	90.00	89.63	9,492.00	3,892.72	5,288.64	5,313.66	0.00	0.00	0.00
14,200.00	90.00	89.63	9,492.00	3,893.36	5,388.63	5,413.66	0.00	0.00	0.00
14,300.00	90.00	89.63	9,492.00	3,894.01	5,488.63	5,513.66	0.00	0.00	0.00
14,400.00	90.00	89.63	9,492.00	3,894.65	5,588.63	5,613.66	0.00	0.00	0.00
14,500.00	90.00	89.63	9,492.00	3,895.29	5,688.63	5,713.66	0.00	0.00	0.00
14,600.00	90.00	89.63	9,492.00	3,895.94	5,788.62	5,813.66	0.00	0.00	0.00
14,700.00	90.00	89.63	9,492.00	3,896.58	5,888.62	5,913.66	0.00	0.00	0.00
14,800.00	90.00	89.63	9,492.00	3,897.23	5,988.62	6,013.66	0.00	0.00	0.00
14,900.00	90.00	89.63	9,492.00	3,897.87	6,088.62	6,113.66	0.00	0.00	0.00
15,000.00	90.00	89.63	9,492.00	3,898.52	6,188.62	6,213.66	0.00	0.00	0.00



Database: EDM 5000.1 Single User Db
 Company: XTO Energy
 Project: Eddy County, NM (NAD-27)
 Site: Big Eddy Unit
 Well: Big Eddy Unit DI5 BS2-5E #337H
 Wellbore: OH
 Design: Plan #1

Local Co-ordinate Reference: Well Big Eddy Unit DI5 BS2-5E #337H
 TVD Reference: RKB= 25' @ 3557.00usft (Unknown)
 MD Reference: RKB= 25' @ 3557.00usft (Unknown)
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature

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)
15,100.00	90.00	89.63	9,492.00	3,899.16	6,288.61	6,313.66	0.00	0.00	0.00
15,200.00	90.00	89.63	9,492.00	3,899.81	6,388.61	6,413.66	0.00	0.00	0.00
15,300.00	90.00	89.63	9,492.00	3,900.45	6,488.61	6,513.66	0.00	0.00	0.00
15,400.00	90.00	89.63	9,492.00	3,901.10	6,588.61	6,613.66	0.00	0.00	0.00
15,500.00	90.00	89.63	9,492.00	3,901.74	6,688.61	6,713.66	0.00	0.00	0.00
15,600.00	90.00	89.63	9,492.00	3,902.39	6,788.60	6,813.66	0.00	0.00	0.00
15,700.00	90.00	89.63	9,492.00	3,903.03	6,888.60	6,913.66	0.00	0.00	0.00
15,800.00	90.00	89.63	9,492.00	3,903.68	6,988.60	7,013.66	0.00	0.00	0.00
15,900.00	90.00	89.63	9,492.00	3,904.32	7,088.60	7,113.66	0.00	0.00	0.00
16,000.00	90.00	89.63	9,492.00	3,904.97	7,188.60	7,213.66	0.00	0.00	0.00
16,100.00	90.00	89.63	9,492.00	3,905.61	7,288.59	7,313.66	0.00	0.00	0.00
16,200.00	90.00	89.63	9,492.00	3,906.26	7,388.59	7,413.66	0.00	0.00	0.00
16,300.00	90.00	89.63	9,492.00	3,906.90	7,488.59	7,513.66	0.00	0.00	0.00
16,400.00	90.00	89.63	9,492.00	3,907.55	7,588.59	7,613.66	0.00	0.00	0.00
16,500.00	90.00	89.63	9,492.00	3,908.19	7,688.59	7,713.66	0.00	0.00	0.00
16,600.00	90.00	89.63	9,492.00	3,908.84	7,788.58	7,813.66	0.00	0.00	0.00
16,700.00	90.00	89.63	9,492.00	3,909.48	7,888.58	7,913.66	0.00	0.00	0.00
16,800.00	90.00	89.63	9,492.00	3,910.13	7,988.58	8,013.66	0.00	0.00	0.00
16,900.00	90.00	89.63	9,492.00	3,910.77	8,088.58	8,113.66	0.00	0.00	0.00
17,000.00	90.00	89.63	9,492.00	3,911.42	8,188.58	8,213.66	0.00	0.00	0.00
17,100.00	90.00	89.63	9,492.00	3,912.06	8,288.57	8,313.66	0.00	0.00	0.00
17,200.00	90.00	89.63	9,492.00	3,912.71	8,388.57	8,413.66	0.00	0.00	0.00
17,300.00	90.00	89.63	9,492.00	3,913.35	8,488.57	8,513.66	0.00	0.00	0.00
17,400.00	90.00	89.63	9,492.00	3,913.99	8,588.57	8,613.66	0.00	0.00	0.00
17,500.00	90.00	89.63	9,492.00	3,914.64	8,688.56	8,713.66	0.00	0.00	0.00
17,600.00	90.00	89.63	9,492.00	3,915.28	8,788.56	8,813.66	0.00	0.00	0.00
17,700.00	90.00	89.63	9,492.00	3,915.93	8,888.56	8,913.66	0.00	0.00	0.00
17,800.00	90.00	89.63	9,492.00	3,916.57	8,988.56	9,013.66	0.00	0.00	0.00
17,900.00	90.00	89.63	9,492.00	3,917.22	9,088.56	9,113.66	0.00	0.00	0.00
18,000.00	90.00	89.63	9,492.00	3,917.86	9,188.55	9,213.66	0.00	0.00	0.00
18,100.00	90.00	89.63	9,492.00	3,918.51	9,288.55	9,313.66	0.00	0.00	0.00
18,200.00	90.00	89.63	9,492.00	3,919.15	9,388.55	9,413.66	0.00	0.00	0.00
18,300.00	90.00	89.63	9,492.00	3,919.80	9,488.55	9,513.66	0.00	0.00	0.00
18,400.00	90.00	89.63	9,492.00	3,920.44	9,588.55	9,613.66	0.00	0.00	0.00
18,500.00	90.00	89.63	9,492.00	3,921.09	9,688.54	9,713.66	0.00	0.00	0.00
18,600.00	90.00	89.63	9,492.00	3,921.73	9,788.54	9,813.66	0.00	0.00	0.00
18,700.00	90.00	89.63	9,492.00	3,922.38	9,888.54	9,913.66	0.00	0.00	0.00
18,800.00	90.00	89.63	9,492.00	3,923.02	9,988.54	10,013.66	0.00	0.00	0.00
18,900.00	90.00	89.63	9,492.00	3,923.67	10,088.54	10,113.66	0.00	0.00	0.00
19,000.00	90.00	89.63	9,492.00	3,924.31	10,188.53	10,213.66	0.00	0.00	0.00
19,100.00	90.00	89.63	9,492.00	3,924.96	10,288.53	10,313.66	0.00	0.00	0.00
19,200.00	90.00	89.63	9,492.00	3,925.60	10,388.53	10,413.66	0.00	0.00	0.00
19,300.00	90.00	89.63	9,492.00	3,926.25	10,488.53	10,513.66	0.00	0.00	0.00
19,400.00	90.00	89.63	9,492.00	3,926.89	10,588.53	10,613.66	0.00	0.00	0.00
19,500.00	90.00	89.63	9,492.00	3,927.54	10,688.52	10,713.66	0.00	0.00	0.00
19,600.00	90.00	89.63	9,492.00	3,928.18	10,788.52	10,813.66	0.00	0.00	0.00
19,700.00	90.00	89.63	9,492.00	3,928.83	10,888.52	10,913.66	0.00	0.00	0.00
19,800.00	90.00	89.63	9,492.00	3,929.47	10,988.52	11,013.66	0.00	0.00	0.00
19,900.00	90.00	89.63	9,492.00	3,930.12	11,088.51	11,113.66	0.00	0.00	0.00
20,000.00	90.00	89.63	9,492.00	3,930.76	11,188.51	11,213.66	0.00	0.00	0.00
20,100.00	90.00	89.63	9,492.00	3,931.41	11,288.51	11,313.66	0.00	0.00	0.00
20,200.00	90.00	89.63	9,492.00	3,932.05	11,388.51	11,413.66	0.00	0.00	0.00
20,300.00	90.00	89.63	9,492.00	3,932.69	11,488.51	11,513.66	0.00	0.00	0.00
20,400.00	90.00	89.63	9,492.00	3,933.34	11,588.50	11,613.66	0.00	0.00	0.00



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well Big Eddy Unit DI5 BS2-5E #337H
Company:	XTO Energy	TVD Reference:	RKB= 25' @ 3557.00usft (Unknown)
Project:	Eddy County, NM (NAD-27)	MD Reference:	RKB= 25' @ 3557.00usft (Unknown)
Site:	Big Eddy Unit	North Reference:	Grid
Well:	Big Eddy Unit DI5 BS2-5E #337H	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)
20,500.00	90.00	89.63	9,492.00	3,933.98	11,688.50	11,713.66	0.00	0.00	0.00
20,600.00	90.00	89.63	9,492.00	3,934.63	11,788.50	11,813.66	0.00	0.00	0.00
20,700.00	90.00	89.63	9,492.00	3,935.27	11,888.50	11,913.66	0.00	0.00	0.00
20,800.00	90.00	89.63	9,492.00	3,935.92	11,988.50	12,013.66	0.00	0.00	0.00
20,900.00	90.00	89.63	9,492.00	3,936.56	12,088.49	12,113.66	0.00	0.00	0.00
21,000.00	90.00	89.63	9,492.00	3,937.21	12,188.49	12,213.66	0.00	0.00	0.00
21,029.71	90.00	89.63	9,492.00	3,937.40	12,218.20	12,243.37	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 #337H SHL - plan hits target center - Point	0.00	0.00	9.00	0.00	0.00	562,758.10	647,697.70	32.546217	-103.854020
Big Eddy #337H PBH - plan hits target center - Point	0.00	0.00	9,492.00	3,937.40	12,218.20	566,695.50	659,915.90	32.556882	-103.814309
Big Eddy #337H LTP - plan misses target center by 0.24usft at 20899.71usft MD (9492.00 TVD, 3936.56 N, 12088.20 E) - Point	0.00	0.00	9,492.00	3,936.80	12,088.20	566,694.90	659,785.90	32.556882	-103.814731
Big Eddy #337H FTP/ - plan hits target center - Point	0.00	0.00	9,492.00	3,872.70	2,184.70	566,630.80	649,882.40	32.556835	-103.846873

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
669.00	669.00	Rustler			
938.00	938.00	Salado			
2,455.92	2,454.00	Base Salt			
2,866.14	2,853.00	Capitan			
4,091.75	3,933.00	Delaware Sand			
5,187.07	4,857.00	Base Manzanita			
6,397.37	5,878.00	Brushy Canyon			
8,049.83	7,272.00	Basal Brushy Canyon			
8,298.77	7,482.00	Base Brushy Canyon Sands			
8,312.99	7,494.00	Bone Spring			
8,508.59	7,659.00	Avalon Sand			
9,130.93	8,184.00	Lower Avalon Shale			
9,763.94	8,718.00	First Bone Spring Sand			
10,227.43	9,109.00	Second Bone Spring Shale/Limesto			
10,398.49	9,246.00	Second Bone Spring Sand			
10,832.69	9,472.00	Second Bone Spring B Sand			



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

SUPO Data Report

10/16/2019

APD ID: 10400036586

Submission Date: 11/28/2018

Highlighted data
reflects the most
recent changes

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: BIG EDDY UNIT DI5 BS2-5E

Well Number: 337H

[Show Final Text](#)

Well Type: OIL WELL

Well Work Type: Drill

Section 1 - Existing Roads

Will existing roads be used? YES

Existing Road Map:

BEU_DI5_337H_Road_20181120131202.pdf

Existing Road Purpose: ACCESS,FLUID TRANSPORT

Row(s) Exist? YES

ROW ID(s)

ID:

Do the existing roads need to be improved? NO

Existing Road Improvement Description:

Existing Road Improvement Attachment:

Section 2 - New or Reconstructed Access Roads

Will new roads be needed? NO

Section 3 - Location of Existing Wells

Existing Wells Map? YES

Attach Well map:

BEU_DI5_1_Mile_20181120051455.pdf

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: BIG EDDY UNIT DI5 BS2-5E

Well Number: 337H

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

Submit or defer a Proposed Production Facilities plan? SUBMIT

Production Facilities description: Production Facilities. No additional production facilities are necessary for Big Eddy Unit DI5 wells. Once drilled and completed, the wells will flow to the Big Eddy Unit DI5 battery, directly adjacent to the Big Eddy Unit DI5. No additional surface disturbance is needed. Flowlines. Eighty-three (83) 5107.26' buried 10" or less steel or poly flowlines with a maximum safety pressure rating of 1440psi (operating pressure: 750psi) are requested for the BEU DI5 CTB for future production (oil, gas, water). Eighty-three (83) additional 5107.26' buried 10" or less steel flowlines with a maximum safety pressure rating of 1440psi (operating pressure: 750psi) are requested for the BEU DI5 CTB for gas lift. Total Flowlines to the West Battery with this applications: 166 buried. The anticipated width of the corridor to both the West side and East side batteries is anticipated to be 50' wide on the West side and the East side. A 30' wide corridor for flowlines has been previously approved via 3160-5 sundry. Gas Pipeline. No Gas Sales line is required for this well. No additional surface disturbance is needed. Disposal Facilities. Produced water will be hauled from location to a commercial disposal facility as needed. Once wells are drilled and completed, a 3160-5 sundry notification will be submitted to BLM in compliance with Onshore Order 7. Flare. No flare is required. No additional surface disturbance is needed. Aboveground Structures. All permanent (on site six months or longer) aboveground structures constructed or installed on location and not subject to safety requirements will be painted earth-tone colors such as 'shale green' that reduce the visual impacts of the built environment. Containment Berms. Containment berms will be constructed completely around any production facilities designed to hold fluids. The containment berms will be constructed of compacted subsoil, be sufficiently impervious, hold 1 ½ times the capacity of the largest tank and away from cut or fill areas. Electrical. No additional electrical is required for this well. No additional surface disturbance is needed.

Production Facilities map:

BEU_DI5_FL_20190709063737.pdf

Section 5 - Location and Types of Water Supply

Water Source Table

Water source type: OTHER

Describe type: Fresh Water; Section 21-23S-30E

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

Source latitude:

Source longitude:

Source datum:

Water source permit type: PRIVATE CONTRACT

Water source transport method: TRUCKING

Source land ownership: FEDERAL

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: BIG EDDY UNIT D15 BS2-5E

Well Number: 337H

Source transportation land ownership: FEDERAL

Water source volume (barrels): 335000

Source volume (acre-feet): 43.179188

Source volume (gal): 14070000

Water source type: OTHER

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

Water source use type:

- SURFACE CASING
- SURFACE CASING
- SURFACE CASING
- INTERMEDIATE/PRODUCTION CASING
- INTERMEDIATE/PRODUCTION CASING
- INTERMEDIATE/PRODUCTION CASING
- STIMULATION
- STIMULATION
- STIMULATION

Source latitude:

Source longitude:

Source datum:

Water source permit type:

- PRIVATE CONTRACT
- PRIVATE CONTRACT
- PRIVATE CONTRACT

Water source transport method:

- TRUCKING
- TRUCKING
- TRUCKING

Source land ownership: FEDERAL

Source transportation land ownership: FEDERAL

Water source volume (barrels): 335000

Source volume (acre-feet): 43.179188

Source volume (gal): 14070000

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: BIG EDDY UNIT DI5 BS2-5E

Well Number: 337H

Water source and transportation map:

BEU_DI5_337H_Wtr_20181120131228.pdf

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

New water well? NO

New Water Well Info

Well latitude:

Well Longitude:

Well datum:

Well target aquifer:

Est. depth to top of aquifer(ft):

Est thickness of aquifer:

Aquifer comments:

Aquifer documentation:

Well depth (ft):

Well casing type:

Well casing outside diameter (in.):

Well casing inside diameter (in.):

New water well casing?

Used casing source:

Drilling method:

Drill material:

Grout material:

Grout depth:

Casing length (ft.):

Casing top depth (ft.):

Well Production type:

Completion Method:

Water well additional information:

State appropriation permit:

Additional information attachment:

Section 6 - Construction Materials

Using any construction materials: YES

Construction Materials description: The drill island was constructed by BOPCO, L.P. prior to XTO Permian Operating, LLC's merger. Construction, reclamation, and/or routine maintenance will not be conducted during periods when the soil conditions for construction could lead to impacts to the surrounding environment, or when watershed damage is likely to occur as a result of these activities. Any construction material that may be required for surfacing of the drill pad and access

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: BIG EDDY UNIT DI5 BS2-5E

Well Number: 337H

road will be from a contractor having a permitted source of materials within the general area. No construction materials will be removed from federal lands without prior approval from the appropriate surface management agency. All roads and well pads will be constructed of 6" rolled and compacted caliche. Anticipated Caliche Locations: Pit 1: State Caliche Pit 613-Eddy, Sec-2-24S-33E Pit 2: Federal Caliche Pit, Section 34-T23S-R29E

Construction Materials source location attachment:

Section 7 - Methods for Handling Waste

Waste type: DRILLING

Waste content description: Cuttings

Amount of waste: 2100 pounds

Waste disposal frequency : One Time Only

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

Safe containmant attachment:

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

Disposal type description:

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

Waste type: DRILLING

Waste content description: Fluid

Amount of waste: 500 barrels

Waste disposal frequency : One Time Only

Safe containment description: Steel mud pits

Safe containmant attachment:

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

Disposal type description:

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

Waste type: SEWAGE

Waste content description: Human Waste

Amount of waste: 250 gallons

Waste disposal frequency : Weekly

Safe containment description: Portable, self-contained toilets will be provided for human waste disposal. Upon completion of drilling and completion activities, or as required, the toilet holding tanks will be pumped and the contents thereof disposed of in an approved sewage disposal facility. All state and local laws and regulations pertaining to the disposal of human and solid waste will be complied with. This equipment will be properly maintained during the drilling and completion operations and will be removed when all operations are complete.

Safe containmant attachment:

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: BIG EDDY UNIT DI5 BS2-5E

Well Number: 337H

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

Disposal type description:

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

Waste type: GARBAGE

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

Amount of waste: 250 pounds

Waste disposal frequency : Weekly

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

Safe containmant attachment:

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

Disposal type description:

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

Reserve Pit

Reserve Pit being used? NO

Temporary disposal of produced water into reserve pit?

Reserve pit length (ft.)

Reserve pit width (ft.)

Reserve pit depth (ft.)

Reserve pit volume (cu. yd.)

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

Reserve pit liner

Reserve pit liner specifications and installation description

Cuttings Area

Cuttings Area being used? NO

Are you storing cuttings on location? YES

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

Cuttings area length (ft.)

Cuttings area width (ft.)

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: BIG EDDY UNIT DI5 BS2-5E

Well Number: 337H

Cuttings area depth (ft.)

Cuttings area volume (cu. yd.)

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

WCuttings area liner

Cuttings area liner specifications and installation description

Section 8 - Ancillary Facilities

Are you requesting any Ancillary Facilities?: NO

Ancillary Facilities attachment:

Comments:

Section 9 - Well Site Layout

Well Site Layout Diagram:

BEU_DI5_337H_Well_20181120131302.pdf

Comments:

Section 10 - Plans for Surface Reclamation

Type of disturbance: No New Surface Disturbance Multiple Well Pad Name: BEU DI

Multiple Well Pad Number: 5

Recontouring attachment:

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

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

Well pad proposed disturbance
(acres): 0

Road proposed disturbance (acres): 0

Powerline proposed disturbance
(acres): 0

Pipeline proposed disturbance
(acres): 0

Other proposed disturbance (acres): 0

Total proposed disturbance: 0

Well pad interim reclamation (acres):

Road interim reclamation (acres):

Powerline interim reclamation (acres):
0

Pipeline interim reclamation (acres):

Other interim reclamation (acres):

Total interim reclamation:

Well pad long term disturbance
(acres):

Road long term disturbance (acres):

Powerline long term disturbance
(acres): 0

Pipeline long term disturbance
(acres):

Other long term disturbance (acres):

Total long term disturbance:

Disturbance Comments: No surface reclamation is planned for this well. XTO Permian Operating, LLC. requests a variance

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: BIG EDDY UNIT DI5 BS2-5E

Well Number: 337H

to interim reclamation until all wells on the drill island have been drilled and completed, at which time, XTO Permian Operating, LLC. will contact the appropriate BLM personnel to discuss appropriate interim reclamation plans.

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

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

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

Existing Vegetation at the well pad: No vegetation exists currently at the well. The well pad has been built and construction has taken place by BOPCO, L.P. prior to XTO Permian Operating, LLC's merger with the company.

Existing Vegetation at the well pad attachment:

Existing Vegetation Community at the road: No vegetation exists currently at the road. The road has been built and construction has taken place by BOPCO, L.P. prior to XTO Permian Operating, LLC's merger with the company.

Existing Vegetation Community at the road attachment:

Existing Vegetation Community at the pipeline: No vegetation exists currently at the pipeline. The pipeline has been built and construction has taken place by BOPCO, L.P. prior to XTO Permian Operating, LLC's merger with the company.

Existing Vegetation Community at the pipeline attachment:

Existing Vegetation Community at other disturbances:

Existing Vegetation Community at other disturbances attachment:

Non native seed used? NO

Non native seed description:

Seedling transplant description:

Will seedlings be transplanted for this project? NO

Seedling transplant description attachment:

Will seed be harvested for use in site reclamation? NO

Seed harvest description:

Seed harvest description attachment:

Seed Management

Seed Table

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: BIG EDDY UNIT DI5 BS2-5E

Well Number: 337H

Seed type:

Seed source:

Seed name:

Source name:

Source address:

Source phone:

Seed cultivar:

Seed use location:

PLS pounds per acre:

Proposed seeding season:

Seed Summary	
Seed Type	Pounds/Acre

Total pounds/Acre:

Seed reclamation attachment:

Operator Contact/Responsible Official Contact Info

First Name: Jeff

Last Name: Raines

Phone: (432)620-4349

Email: jeffrey_raines@xtoenergy.com

Seedbed prep: Initial seedbed preparation will consist of recontouring to the appropriate interim or final reclamation standard. All compacted areas to be seeded will be ripped to a minimum depth of 18 inches with a minimum furrow spacing of 2 feet, followed by recontouring the surface and then evenly spreading the stockpiled topsoil. Prior to seeding, the seedbed will be scarified to a depth of no less than 4-6 inches. If the site is to be broadcast seeded, the surface will be left rough enough to trap seed and snow, control erosion, and increase water infiltration.

Seed BMP: If broadcast seeding is to be used and is delayed, final seedbed preparation will consist of contour cultivating to a depth of 4-6 inches within 24 hours prior to seeding, dozer tracking, or other imprinting in order to break the soil crust and create seed germination micro-sites.

Seed method: Seeding will be conducted no more than two weeks following completion of final seedbed preparation. A certified weed-free seed mix designed by the BLM to meet reclamation standards will be used. If the site is harrowed or dragged, seed will be covered by no more than 0.25 inch of soil.

Existing invasive species? NO

Existing invasive species treatment description:

Existing invasive species treatment attachment:

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

Weed treatment plan attachment:

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

Monitoring plan attachment:

Success standards: 100% compliance with applicable regulations.

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

Pit closure attachment: