RECEIVED

UNITED STATES DEPARTMENT OF THE INTERBURD OCD ART SIZE BUREAU OF LAND MANAGEMENT APPLICATION FOR PERMIT TO DRILL OR REENTER APPLICATION FOR PERMIT TO DRILL OR REENTER APPLICATION FOR PERMIT TO DRILL OR REENTER APPLICATION FOR PERMIT O DRILL OR REENTER A. Type of Well Other C. Type of Completion: Hydraulic Fracturing ON Single Zone BIG EDDY 339H 3. 2. Name of Operator TO PERMIAN OPERATING LLC 3. Address 4. Address 4. Address 4. Location of Vell (<i>Report location clearly and in accordance with any State requirements. '</i> At surface SWNE / 1950 FNL / 1873 FEL / LAT 32.546172 / LONG -103.854521 4. Location of Vell (<i>Report location clearly and in accordance with any State requirements. '</i> At surface SWNE / 1950 FNL / 1873 FEL / LAT 32.546172 / LONG -103.854521 4. Location of Vell (<i>Report location clearly and in accordance with any State requirements. '</i> At surface SWNE / 1950 FNL / 1873 FEL / LAT 32.546172 / LONG -103.854521 4. Distance from proposed foot State requirements. ' At surface SWNE / 1950 FNL / 1873 FEL / LAT 32.549746 / LONG -103.854521 4. Distance from proposed foot State requirements. ' At surface SWNE / 1950 FNL / 373 FeEL / LAT 32.549746 / LONG -103.854521 4. Distance from proposed foot State requirements. ' At surface SWNE / 1950 FNL / 373 FeEL / LAT 32.549746 / LONG -103.814809 4. Distance from proposed foot State requirements. ' At surface from proposed foot State requirements. ' At surface SWNE / 1950 FNL / 373 FeEL / LAT 32.549746 / LONG -103.814809 4. Distance from proposed foot State requirements. ' As arriace from proposed foot State requirements. ' As a miles 4. Bond to cover the operations unless cover location to that surface.' 3353 feet 24. Attachments 5. Su	FORM APPROVED OMB No. 1004-0137
APPLICATION FOR PERMIT TO DRILL OR REENTER 6. If Indian 1a. Type of work: DRILL REENTER 6. If Indian 1a. Type of work: DRILL REENTER 7. If Unit on 1b. Type of Well: Oil Well Gas Well Other 8. Lease Nit 1c. Type of Completion: Hydraulic Fracturing Single Zone Multiple Zone 86 EDDY 329H 339H 339H 339H 339H 339H 2. Name of Operator 9. API well 9. API well 9. API well 3a. Address Bib. Phone No. (include area code) 10. Field ar 6401 Holiday Hill Road, Bidg 5 Midland TX 79707 (432)682-8873 WILDCAT 7. At surface SWNE / 1950 FNL / 1873 FEL / LAT 32.546172 / LONG -103.854521 11. Sec., T. 8. Distance in miles and direction from nearest town or post office* 12. County 24.38 miles 16. No of acres in lease 17. Spacing Unit dedic 15. Distance from proposed* 1873 feet 16. No of acres in lease 17. Spacing Unit dedic 16. Ibitance in miles and direction from nearest town or post office* 20. BLM/BIA Bond Ni 19. Proposed Depth 20. BLM/BIA Bond Ni 15. Distance from proposed location*	rial No. 5431
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3a. Address 3b. Phone No. (include area code) 10. Field at 6401 Holiday Hill Road, Bldg 5 Midland TX 79707 (432)682-8873 11. Sec., 7. 4. Location of Well (Report location clearly and in accordance with any State requirements.*) At surface SWNE / 1950 FNL / 1873 FEL / LAT 32.546172 / LONG -103.854521 11. Sec., 7. At proposed prod. zone NENE / 660 FNL / 200 FEL / LAT 32.549746 / LONG -103.814809 12. County 14. Distance in miles and direction from nearest town or post office* 12. County 15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig, unit line, if any) 16. No of acres in lease 17. Spacing Unit dedic 18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 19. Proposed Depth 20. BLM//BIA Bond N. 13. Elevations (Show whether DF, KDB, RT, GL, etc.) 22. Approximate date work will start* 23. Estimat 16. Nolling Plan. 24. Attachments 90 days 17. Nearcified by a registered surveyor. 4. Bond to cover the operations unless cove Item 20 above). 5. Operator certification. 25. Signature (Electronic Submission) Name (Printed/Typed) Stephanie Rabadue / Ph: (432)620-6714	-015-46832
4. Location of Well (Report location clearly and in accordance with any State requirements.*) At surface SWNE / 1950 FNL / 1873 FEL / LAT 32.546172 / LONG -103.854521 At proposed prod. zone NENE / 660 FNL / 200 FEL / LAT 32.549746 / LONG -103.814809 11. Sec., T. SEC 27 / T 14. Distance in miles and direction from nearest town or post office* 12. County EDDY 15. Distance from proposed* location to nearest ing. unit line, if any) 16. No of acres in lease 240 17. Spacing Unit dedic 360 18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 19. Proposed Depth 9492 feet / 22680 feet 20. BLM/BIA Bond Nc FED: COB000050 21. Elevations (Show whether DF, KDB, RT, GL, etc.) 22. Approximate date work will start* 3532 feet 23. Estimat 90 days 24. Attachments 24. Attachments 90 days 25. Signature (Belowing, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, and the Hydraulic Fra- as applicable) 4. Bond to cover the operations unless cover ltem 20 above). 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). 5. Operator certification. 5. Signature (Electronic Submission) 5. Signature (Electronic Submission) Name (Printed/Typed) Stephanie Rabadue / Ph: (432)620-6714	Id Pool, or Exploratory BONE SPRING
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25. Signature (Electronic Submission) , Stephanie Rabadue / Ph: (432)620-6714 Title Regulatory Coordinator	r plans as may be requested by the
Title Regulatory Coordinator	Date 11/23/2018
Approved by (Signature) Name (Printed/Typed) (Electronic Submission) Cody Layton / Ph: (575)234-5959	Date 08/29/2019
Title Office Assistant Field Manager Lands & Minerals CARLSBAD	
Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject applicant to conduct operations thereon.	t lease which would entitle the
Solutions of approval, if any, are attached.	naka to any department or agener



(Continued on page 2)

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*(Instructions on page 2)

Rup 3-13-20

INSTRUCTIONS

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

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

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

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

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

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

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

NOTICES

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

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

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

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

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

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

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

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

Additional Operator Remarks

Location of Well

SHL: SWNE / 1950 FNL / 1873 FEL / TWSP: 20S / RANGE: 31E / SECTION: 27 / LAT: 32.546172 / LONG: -103.854521 (TVD: 0 feet, MD: 0 feet)
 PPP: NWNW / 660 FNL / 660 FWL / TWSP: 20S / RANGE: 31E / SECTION: 27 / LAT: 32.549698 / LONG: -103.8463 (TVD: 9492 feet, MD: 12700 feet)
 PPP: NENW / 660 FNL / 1980 FWL / TWSP: 20S / RANGE: 31E / SECTION: 26 / LAT: 32.549709 / LONG: -103.842021 (TVD: 9492 feet, MD: 14000 feet)
 PPP: NWNE / 660 FNL / 1980 FEL / TWSP: 20S / RANGE: 31E / SECTION: 26 / LAT: 32.549731 / LONG: -103.83774 (TVD: 9492 feet, MD: 15380 feet)
 PPP: NENE / 660 FNL / 660 FWL / TWSP: 20S / RANGE: 31E / SECTION: 26 / LAT: 32.549731 / LONG: -103.83459 (TVD: 9492 feet, MD: 16700 feet)
 PPP: NENE / 660 FNL / 1980 FWL / TWSP: 20S / RANGE: 31E / SECTION: 25 / LAT: 32.549739 / LONG: -103.824884 (TVD: 9492 feet, MD: 20700 feet)
 PPP: NENW / 660 FNL / 1980 FWL / TWSP: 20S / RANGE: 31E / SECTION: 25 / LAT: 32.54974 / LONG: -103.824884 (TVD: 9492 feet, MD: 19300 feet)
 PPP: NWNE / 660 FNL / 1980 FEL / TWSP: 20S / RANGE: 31E / SECTION: 25 / LAT: 32.54974 / LONG: -103.820594 (TVD: 9492 feet, MD: 19300 feet)
 PPP: NWNE / 660 FNL / 2310 FEL / TWSP: 20S / RANGE: 31E / SECTION: 27 / LAT: 32.549733 / LONG: -103.825937 (TVD: 9492 feet, MD: 10100 feet)
 PPP: NWNW / 660 FNL / 660 FWL / TWSP: 20S / RANGE: 31E / SECTION: 27 / LAT: 32.549733 / LONG: -103.820594 (TVD: 9492 feet, MD: 10100 feet)
 PPP: NWNW / 660 FNL / 2310 FEL / TWSP: 20S / RANGE: 31E / SECTION: 27 / LAT: 32.549738 / LONG: -103.820594 (TVD: 9492 feet, MD: 10100 feet)
 PPP: NWNW / 660 FNL / 200 FEL / TWSP: 20S / RANGE: 31E / SECTION: 27 / LAT: 32.549738 / LONG: -103.829173 (TVD: 9492 feet, MD: 10100 feet)
 PPP: NWNW / 660 FNL / 200 FEL / TWSP: 20S / RANGE: 31E / SECTION: 25 / LAT: 32.549738 / LONG: -103.829173 (TVD: 9492 feet, MD: 18000 feet)
 BHL: NENE / 660 FNL / 200 FEL / TWSP: 20S / RANG

BLM Point of Contact

Name: Tenille Ortiz Title: Legal Instruments Examiner Phone: 5752342224 Email: tortiz@blm.gov

Approval Date: 08/29/2019

(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: 08/29/2019

(Form 3160-3, page 4)

PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

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OPERATOR'S NAME:	XTO Permian Operating, LLC
LEASE NO.:	NMLC-0065431
WELL NAME & NO.:	Big Eddy Unit DI5 BS2-1E 339H
SURFACE HOLE FOOTAGE:	1950' FNL & 1873' FEL
BOTTOM HOLE FOOTAGE	0660' FNL & 0200' FEL Sec. 25, T. 20 S., R 31 E.
LOCATION:	Section 27, T. 20 S., R 31 E., NMPM
COUNTY:	County, New Mexico

<u>Commercial Well Determination</u>

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.

Page 1 of 7

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.

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- 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 <u>24 hours</u>. WOC time will be recorded in the driller's log.

Page 2 of 7

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 2^{nd} intermediate casing is:

Page 3 of 7

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.

Page 5 of 7

- 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.

Page 6 of 7

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Page 7 of 7

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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

Page 1 of 26

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.

Page 2 of 26

BIG EDDY UNIT 5E HAN-SOLO #111H: Slot D 8

Surface Hole Location: 1,945 'FNL & 1,885' FEL, Section 27, T. 20 S. R. 31 E. Bottom Hole Location: 1,340' FNL & 50' FEL, Section 25, T. 20 S.R. 31 E.

BIG EDDY UNIT 5E HAN-SOLO #114H: Slot F 7

Surface Hole Location: 2,145' FNL & 1,915' FEL, Section 27, T. 20 S. R. 31 E. Bottom Hole Location: 2,640' FNL & 50' FEL, Section 25, T. 20 S. R. 31 E.

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

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

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

BIG EDDY UNIT 5E R2D2 #101H: Slot A 11

Surface Hole Location: 1,670' FNL & 1,700' FEL, Section 27, T. 20 S. R. 31 E. **Bottom Hole Location**: 660' FSL & 50' FEL, Section 24, T. 20 S. R. 31 E.

BIG EDDY UNIT 5E R2D2 #102H: Slot A 10

Surface Hole Location: 1,670' FNL & 1,730' FEL, Section 27, T. 20 S. R. 31 E. Bottom Hole Location: 660' FNL & 50' FEL, Section 25, 20 S. R. 31 E.

BIG EDDY UNIT DI 5 BS2-5E #337H

Surface Hole Location: 1,890' FNL & 1,873' FEL, Section 27, T. 20 S. R. 31 E. Bottom Hole Location: 1,980' FSL & 200' FEL, Section 24, 20 S. R. 31 E.

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

BIG EDDY UNIT DI 5 BS2-1E #339H

Surface Hole Location: 1,950' FNL & 1,873' FEL, Section 27, T. 20 S. R. 31 E. Bottom Hole Location: 660' FNL & 200' FEL, Section 25, 20 S. R. 31 E.

BIG EDDY UNIT DI 5 BS2-5E #340H

Surface Hole Location: 2,050' FNL & 1,873' FEL, Section 27, T. 20 S. R. 31 E. Bottom Hole Location: 1,980' FSL & 200' FEL, Section 25, 20 S. R. 31 E.

BIG EDDY UNIT DI 5 BS2-7E #341H

Surface Hole Location: 2,080' FNL & 1,873' FEL, Section 27, T. 20 S. R. 31 E. Bottom Hole Location: 660' FSL & 200' FEL, Section 25, 20 S. R. 31 E.

Page 3 of 26

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

Page 4 of 26

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 D3Surface 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

Page 5 of 26

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 B8Surface 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 B10Surface 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

Page 6 of 26

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

Page 7 of 26

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 Réclamation

☐ 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 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

Page 9 of 26

with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policies.

Page 10 of 26

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 ¹/₂ 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

Page 11 of 26

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.

Page 12 of 26

VI. CONSTRUCTION

A. NOTIFICATION

The BLM shall administer compliance and monitor construction of the access road and well pad. Notify the at least 3 working days prior to commencing construction of the access road and/or well pad.

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

B. **TOPSOIL**

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

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

C. CLOSED LOOP SYSTEM

Tanks are required for drilling operations: No Pits.

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

D. FEDERAL MINERAL MATERIALS PIT

Payment shall be made to the BLM prior to removal of any federal mineral materials. Call the .

E. WELL PAD SURFACING

Surfacing of the well pad is not required.

If the operator elects to surface the well pad, the surfacing material may be required to be removed at the time of reclamation. The well pad shall be constructed in a manner which

Page 13 of 26

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

Page 14 of 26

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

Drainage

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

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



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

Cattle guards

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

Fence Requirement

7

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

Page 15 of 26

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

Page 16 of 26





Page 17 of 26

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

Page 18 of 26

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, <u>Shale Green</u> 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, <u>et seq</u>. or the Resource Conservation and Recovery Act, 42 U.S.C.6901, <u>et seq</u>.) 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.

Page 19 of 26

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 $\underline{30}$ feet:

- Blading of vegetation within the right-of-way will be allowed: maximum width of blading operations will not exceed $\underline{30}$ 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 <u>30</u> 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 <u>6</u> 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.

Page 20 of 26

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

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

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

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

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

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

14. The pipeline will be identified by signs at the point of origin and completion of the right-ofway 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.

Page 21 of 26

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. <u>Escape Ramps</u> - 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 <u>et seq</u>. (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-

Page 22 of 26

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 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.

Page 23 of 26

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.

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.

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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.

Page 24 of 26

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).

Page 25 of 26

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 <u>no</u> primary or secondary noxious weeds in the seed mixture. Seed will be tested and the viability testing of seed will be done in accordance with State law (s) and within nine (9) months prior to purchase. Commercial seed will be either certified or registered seed. The seed container will be tagged in accordance with State law(s) and available for inspection by the authorized officer.

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

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

Species

l<u>b/acre</u>

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

*Pounds of pure live seed:

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

Page 26 of 26



Perator Certification Data Report

08/30/2019

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

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	S	jigned on: 06/15/2018
Title: Regulatory Coordinator		
Street Address: 500 W. Illinois S	t, Ste 100	
City: Midland	State: TX	Zip: 79701
Phone: (432)620-6714		
Email address: stephanie_rabad	ue@xtoenergy.com	
Field Representativ	e	
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AFMSS

Application Data Report U.S. Department of the Interior 08/30/2019 **BUREAU OF LAND MANAGEMENT** APD ID: 10400036572 Submission Date: 11/23/2018 Highlighted data reflects the most **Operator Name: XTO PERMIAN OPERATING LLC** recent changes Well Name: BIG EDDY UNIT DI5 BS2-1E Well Number: 339H Show Final Text Well Type: OIL WELL Well Work Type: Drill Section 1 - General APD ID: 10400036572 **Tie to previous NOS?** Submission Date: 11/23/2018 **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 Agréement name: Keep application confidential? NO Permitting Agent? NO APD Operator: XTO PERMIAN OPERATING LLC **Operator letter of designation: Operator Info Operator Organization Name: XTO PERMIAN OPERATING LLC** Operator Address: 6401 Holiday Hill Road, Bldg 5 Zip: 79707 **Operator PO Box: Operator City: Midland** State: TX

Operator Phone: (432)682-8873

Operator Internet Address:

Section 2 - Well Information

Well in Master Development Plan? NO	Master Development Plan nam	ie:
Well in Master SUPO? NO	Master SUPO name:	
Well in Master Drilling Plan? NO	Master Drilling Plan name:	
Well Name: BIG EDDY UNIT DI5 BS2-1E	Well Number: 339H	Well API Number
Field/Pool or Exploratory? Field and Pool	Field Name: WILDCAT BONE SPRING	Pool Name:

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

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Оре	erator	Name	: XTC) PER		OPE	RATIN	IG LLC										
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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: 360 Acres																		
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Operator Name: XTO PERMIAN OPERATING LLC

Well Name: BIG EDDY UNIT DI5 BS2-1E

Well Number: 339H

											1							
	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	FNL	231 0	FEL	205	31E	27	Aliquot NWNE	32.54972 3	- 103.8559 37	EDD Y	NEW MEXI CO	NEW MEXI CO	F	NMNM 000408 2	- 596 0	101 00	949 2
PPP Leg #1	660	FNL	660	FWL	20S	31E	25	Aliquot NWN W	32.54973 8	- 103.8291 73	EDD Y	NEW MEXI CO	NEW MEXI CO	F	NMLC0 065914 A	- 596 0	180 00	949 2
PPP Leg #1	660	FNL	198 0	FWL	20S	31E	25	Aliquot NENW	32.54973 9	- 103.8248 84	EDD Y	NEW MEXI CO	NEW MEXI CO	F	NMLC0 065914	- 596 0	207 00	949 2
PPP Leg #1	660	FNL	660	FWL	20S	31E	27	Aliquot NWN W	32.54969 8	- 103.8463	EDD Y	NEW MEXI CO	NEW MEXI CO	F	NMLC0 065872 A	- 596 0	127 00	949 2
PPP Leg #1	660	FNL	660	FWL	20S	31E	26	Aliquot NENE	32.54973 1	- 103.8334 59	EDD Y	NEW MEXI CO	NEW MEXI CO	F	NMLC0 065872	- 596 0	167 00	949 2
PPP Leg #1	660	FNL	198 0	FEL	20S	31E	26	Aliquot NWNE	32.54972	- 103.8377 4	EDD Y	NEW MEXI CO	NEW MEXI CO	F	NMLC0 065872 A	- 596 0	153 80	949 2
PPP Leg #1	660	FNL	198 0	FWL	20S	31E	26	Aliquot NENW	32.54970 9	- 103.8420 21	EDD Y	NEW MEXI CO	NEW MEXI CO	F	NMLC0 065872	- 596 0	140 00	949 2
EXIT Leg #1	660	FSL	330	FEL	20S	31E	25	Aliquot NENE	32.54974 6	- 103.8152 31	EDD Y	NEW MEXI CO	NEW MEXI CO	F	NMLC0 065914	- 596 0	225 00	949 2
BHL Leg #1	660	FNL	200	FEL	20S	31E	25	Aliquot NENE	32.54974 6	- 103.8148 09	EDD Y	NEW MEXI CO	NEW MEXI CO	F	NMLC0 065914	- 596 0	226 80	949 2

FMSS

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

Drilling Plan Data Report

08/30/2019

APD ID: 10400036572

Operator Name: XTO PERMIAN OPERATING LLC

Submission Date: 11/23/2018

Highlighted data reflects the most recent changes

Well Name: BIG EDDY UNIT DI5 BS2-1E

Well Number: 339H

Well Work Type: Drill

Show Final Text

Well Type: OIL WELL

Section 1 - Geologic Formations

Formation	_		True Vertical	Measured		- - 		Producing
ID .	Formation Name	Elevation	Depth	Depth	Litho	ologies	Mineral Resources	Formation
1	PERMIAN	3532	0	0	OTHER	: Alluvium	NONE	N
2	RUSTLER	2870	660	660	SILT	STONE	USEABLE WATER	N
3	TOP SALT	2601	929	929	S	ALT	OTHER,POTASH : Produced Water	N
4	BASE OF SALT	1085	2445	2445	s	ALT	OTHER : Produced Water	N
5	CAPITAN REEF	686	2844	2844	LIME	STONE	USEABLE WATER	N
6	DELAWARE	-394	3924	3924	SANE	STONE	OTHER,NATURAL GAS,OIL : Produced Water	N
7	BRUSHY CANYON	-2339	5869	5869	SAND	STONE	OTHER,NATURAL GAS,OIL : Produced Water	N
8	BONE SPRING	-3955	7485	7485	SANC	STONE	OTHER,NATURAL GAS,OIL : Produced Water	N
9	BONE SPRING 1ST	-5179	8709	8709	SANE	STONE	OTHER,NATURAL GAS,OIL : Produced Water	N
10	BONE SPRING 2ND	-5707	9237	9237	SAND	STONE	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. 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

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: BIG EDDY UNIT DI5 BS2-1E

Well Number: 339H

to 50% of the working pressure. When nippling up, the BOP test will be limited to 2,000 psi. All BOP tests will include a low 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_20190815072301.pdf

BOP Diagram Attachment:

BEU_DI5_2MBOP_20190815072317.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 nippling up, the BOP test will be limited to 3,000 psi. All BOP tests will include a low pressure test as per BLM regulations. The 3M BOP diagram is attached. Blind rams will be function tested each trip, pipe rams will be function tested each day.

Choke Diagram Attachment:

BEU_DI5_3MCM_20181112130137.pdf

BOP Diagram Attachment:

BEU_DI5_3MBOP_20181112130147.pdf

Section 3 - Casing

														1								
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	18.1 25	16.0 ^	NEW	API	N	0	849	0	849			849	J-55	84	BUTT	3.63	7.67	DRY	18.5 9	DRY	18.5 9
2	INTERMED IATE	14.7 5	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

Operator Name: XTO PERMIAN OPERATING LLC Well Name: BIG EDDY UNIT DI5 BS2-1E

Well Number: 339H

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
3	INTERMED IATE	12.2 5	9.625	NEW	API	N	0	3500	0	3500			3500	J-55	40	LT&C	2.74	4.21	DRY	3.71	DRY	3.71
4	PRODUCTI ON	8.75	5.5	NEW	API	N	0	22680	0	9492			22680	P- 110	17	BÚTT	1.65	1.12	DRY	2.31	DRY	2.31

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Casing Attachments

Casing ID: 1 String Type: SURFACE	
Inspection Document:	
Spec Document:	
Tapered String Spec:	
Casing Design Assumptions and Worksheet(s):	
BEU_DI5_339H_Csg_20181120102854.pdf	
Casing ID: 2 String Type:INTERMEDIATE	· · ·
Inspection Document:	
Spec Document:	
Tapered String Spec:	1
Casing Design Assumptions and Worksheet(s):	
BEU_DI5_339H_Csg_20181120102906.pdf	

1

Operator Name: Well Name: BIG	XTO PI EDDY I	ERMIAI JNIT D	N OPE	RATIN	G LLC		We	ll Numl	per: 33	39H	·
Casing Attachme	ents					-					
Casing ID:	3 ocumei	S nt:	itring '	Type: IN	NTERM	IEDIAT	E				
Spec Docum	ent:										
Tapered Strir	ng Spec	:	1			•					
Casing Desig BEU_DI	In Assı 15_339⊦	Imptio	ns and _20181	i Work 120102	sheet(2916.p	s): df					· .
Casing ID:	4 ocumei	s nt:	String '	Type:P	RODU	CTION	I				
Spec Docum	ent:										
Tapered Strir	ng Spec	:									, .
Casing Desig BEU_DI	In Assı 15_339F	Imption	ns and 20181	I Work 120102	sheet(: 2923.pc	s): df					
Section	4 - C	emen	t								
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
NTERMEDIATE	Lead		0	2854	528	1.88	12.9	992.6 4	100	EconoCem-HCL	+ 5% salt + 5% Kol-Seal
NTERMEDIATE	Tail				158	1.33	14.8	210.1 4	100	HalCem-C	none
NTERMEDIATE	Lead	2915	0	3500	834	1.88	12.9	1567. 92	100	EconoCem-HCL	+ 5% salt + 5% Kol-Seal

,

Page 4 of 8

Operator Name: XTO PERMIAN OPERATING LLC Well Name: BIG EDDY UNIT DI5 BS2-1E

Well Number: 339H

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	Hal	Cem-C	none
PRODUCTION	Lead		0	2268 0	1025	2.69	10.5	2757. 25	30	Tun	ed Light	0.5lbm/sk CFR-3 + 1.5lbm/sk Salt + 0.1% HR601
PRODUCTION	Tail				2301	1.61	13.2	3704. 61	30	Vers PBH	aCem IS2	+ 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 (Ibs/gal)	Max Weight (Ibs/gal)	Density (lbs/cu-ft)	Gel Strength (lbs/100 sqft)	Н	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:

Page 5 of 8

Operator Name: XTO PERMIAN OPERATING LLC Well Name: BIG EDDY UNIT DI5 BS2-1E

Well Number: 339H

Top Depth	Bottom Depth	Mud Type	Min Weight (Ibs/gal)	Max Weight (Ibs/gal)	Density (lbs/cu ft)	Gel Strength (lbs/100 sqft)	Н	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 BS2-1E

Section 7 - Pressure

Anticipated Bottom Hole Pressure: 4689

Anticipated Surface Pressure: 2639.26

Well Number: 339H

Anticipated Bottom Hole Temperature(F): 160

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

Describe:

Potential loss of circulation through the Capitan Reef.

Contingency Plans geoharzards description:

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

Contingency Plans geohazards attachment:

Hydrogen Sulfide drilling operations plan required? YES

Hydrogen sulfide drilling operations plan:

BEU_DI5_H2S_Dia_20181112130503.pdf BEU_DI5_H2S_Plan_20181112130439.pdf

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

BEU_DI5_339H_DD_20181120103040.pdf

Other proposed operations facets description:

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

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

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

Other proposed operations facets attachment:

BEU_DI5_339H_GCP_20181120103050.pdf BEU_DI5_MBS_20190709061742.pdf Operator Name: XTO PERMIAN OPERATING LLC Well Name: BIG EDDY UNIT DI5 BS2-1E

Well Number: 339H

Other Variance attachment:

BEU_DI5_FH_20181120052947.pdf



HYDROGEN SULFIDE (H2S) CONTINGENCY PLAN

Assumed 100 ppm ROE = 3000'

100 ppm H2S concentration shall trigger activation of this plan.

Emergency Procedures

In the event of a release of gas containing 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 = I	10 ppm	100 ppm/hr	600 ppm
Sulfur Dioxide	SO ₂	2.21 Air = I	2 ppm	N/A	1000 ppm

Contacting Authorities

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

CARLSBAD OFFICE - EDDY & LEA COUNTIES

3104 E. Greene St., Carlsbad, NM 88220 Carlsbad, NM	575-887-7329
XTO PERSONNEL: Kendall Decker, Drilling Manager 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 BS2-1E #339H

OH

Plan: Plan #1

Standard Planning Report

25 September, 2017





www.prototypewellplanning.com Planning Report

W ENERGY											
Database: Company: Project: Site: Well: Wellbore: Design:	abase: EDM 5000.1 Single User Db mpany: XTO Energy ject: Eddy County, NM (NAD-27) e: Big Eddy Unit II: Big Eddy Unit DI5 BS2-1E #339H Ibore: OH sign: 'Plan #1 pject Eddy County, NM (NAD-27) state Plane 1927 (Exact solution)					o-ordinate R lerence: erence: eference: Calculation I	eference Method:	Well Big Eddy Unit DI5 BS2-1E #339H RKB= 25' @ 3557.00usft RKB= 25' @ 3557.00usft Grid Minimum Curvature			
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Measured Depth Ind (usft)	clination (°)	Azimuth (°)	Depth (usft)	+N/-S (usft)	+E/-W (usft)	Rate (°/100usft)	Rate (°/100u	sft)	(°/100usft)	(°)	Target
Measured Depth Ind (usft) 0.00	clination (°) 0.00	Azimuth (°) 0.00	Depth (usft)	+N/-S (usft) 0.00	+E/-W (usft) 0.00	Rate (°/100usft) 0.00	Rate (°/100u	sft)).00	(°/100usft)	(°) 0.00	Target
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Measured Depth Ind (usft) 0.00 2,000.00 2,667.41	(°) 0.00 0.00 13.35	Azimuth (°) 0.00 0.00 319.25	0.00 2,000.00 2,661.38	+N/-S (usft) 0.00 0.00 58.63	+E/-W (usft) 0.00 0.00 -50.52	Rate (°/100usft) 0.00 0.00 2.00	Rate (°/100u	sft) 0.00 0.00 2.00	(°/100usft) 0.00 0.00 0.00	(°) 0.00 0.00 319.25	Target
Measured Depth Ind (usft) 0.00 2,000.00 2,667.41 9,021.39	(°) 0.00 0.00 13.35 13.35	Azimuth (°) 0.00 0.00 319.25 319.25	0.00 2,000.00 2,661.38 8,843.72	+N/-S (usft) 0.00 0.00 58.63 1,169.92	+E/-W (usft) 0.00 0.00 -50.52 -1,008.06	Rate (°/100usft) 0.00 0.00 2.00 0.00	Rate (°/100u (°/100u	sft)).00).00 2.00).00	(°/100usft) 0.00 0.00 0.00 0.00	0.00 0.00 319.25 0.00	Target
Measured Depth Ind (usft) 0.00 2,000.00 2,667.41 9,021.39 10,007.52	0.00 0.00 0.00 13.35 13.35 90.00	Azimuth (°) 0.00 0.00 319.25 319.25 89.69	0.00 2,000.00 2,661.38 8,843.72 9,492.00	+N/-S (usft) 0.00 0.00 58.63 1,169.92 1,290.00	+E/-W (usft) 0.00 0.00 -50.52 -1,008.06 -442.20	Rate (°/100usft) 0.00 2.00 0.00 10.00	Rate (°/100u	sft)).00).00 2.00).00 7.77	(°/100usft) 0.00 0.00 0.00 0.00 13.23	(°) 0.00 0.00 319.25 0.00 129.67	Target Big Eddy #339H FT

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Planning Report

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Database:	EDM 5000.1 Single User Db	Local Co-ordinate	Reference:	Well Big Eddy Unit DI5 BS2-1E #339H	1
Company:	XTO Energy	TVD Reference:		RKB= 25' @ 3557.00usft	
Project:	Eddy County, NM (NAD-27)	MD Reference:		RKB= 25' @ 3557.00usft	
Site:	Big Eddy Unit	North Reference:	. [Grid	
Well:	Big Eddy Unit DI5 BS2-1E #339H	Survey Calculation	Method:	Minimum Curvature	
Wellbore:	OH	· · · · · ·			
Design:	¹ Plan #1			1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	u unar

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	Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
	0.00 100.00 200.00 300.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 100.00 200.00 300.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	
	400.00 500.00	0.00 0.00	0.00 0.00	400.00 500.00	0.00 0.00	0.00 0.00	0.00	0.00 0.00	0.00 0.00	0.00 0.00	
	600.00 700.00 800.00 900.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	600.00 700.00 800.00 900.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	
	1,000.00 1,100.00 1,200.00 1,300.00 1,400.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	1,000.00 1,100.00 1,200.00 1,300.00 1,400.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	. 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	
	1,500.00 1,600.00 1,700.00 1,800.00 1,900.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	1,500.00 1,600.00 1,700.00 1,800.00 1,900.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	
	2,000.00 2,100.00 2,200.00 2,300.00 2,400.00	0.00 2.00 4.00 6.00 8.00	0.00 319.25 319.25 319.25 319.25	2,000.00 2,099.98 2,199.84 2,299.45 2,398.70	0.00 1.32 5.29 11.89 21.12	0.00 -1.14 -4.56 -10.24 -18.20	0.00 -1.13 -4.53 -10.18 -18.08	0.00 2.00 2.00 2.00 2.00	0.00 2.00 2.00 2.00 2.00	0.00 0.00 0.00 0.00 0.00	
	2,500.00 2,600.00 2,667.41 2,700.00 2,800.00	10.00 12.00 13.35 13.35 13.35	319.25 319.25 319.25 319.25 319.25 319.25	2,497.47 2,595.62 2,661.38 2,693.10 2,790.40	32.97 47.43 58.63 64.33 81.82	-28.41 -40.86 -50.52 -55.43 -70.50	28.23 40.61 50.20 55.08 70.06	2.00 2.00 2.00 0.00 0.00	2.00 2.00 2.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	
(2,900.00 3,000.00 3,100.00 3,200.00 3,300.00	13.35 13.35 13.35 13.35 13.35 13.35	319.25 319.25 319.25 319.25 319.25 319.25	2,887.70 2,984.99 3,082.29 3,179.59 3,276.89	99.31 116.80 134.29 151.78 169.27	-85.57 -100.64 -115.71 -130.78 -145.85	-85.03 -100.01 -114.98 -129.96 -144.93	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	、
	3,400.00 3,500.00 3,600.00 3,700.00 3,800.00	13.35 13.35 13.35 13.35 13.35 13.35	319.25 319.25 319.25 319.25 319.25 319.25	3,374.19 3,471.49 3,568.79 3,666.08 3,763.38	186.76 204.25 221.74 239.23 256.72	-160.92 -175.99 -191.06 -206.13 -221.20	-159.91 -174.88 -189.86 -204.83 -219.81	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	
	3,900.00 4,000.00 4,100.00 4,200.00 4,300.00	13.35 13.35 13.35 13.35 13.35 13.35	319.25 319.25 319.25 319.25 319.25 319.25	3,860.68 3,957.98 4,055.28 4,152.58 4,249.88	274.21 291.70 309.19 326.67 344.16	-236.27 -251.34 -266.41 -281.48 -296.55	-234.78 -249.76 -264.73 -279.71 -294.68	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	
	4,400.00 4,500.00 4,600.00 4,700.00 '4,800.00	13.35 13.35 13.35 13.35 13.35 13.35	319.25 319.25 319.25 319.25 319.25 319.25	4,347.17 4,444.47 4,541.77 4,639.07 4,736.37	361.65 379.14 396.63 414.12 431.61	-311.62 -326.69 -341.76 -356.83 -371.90	-309.66 -324.63 -339.61 -354.58 -369.56	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	
	4,900.00 5,000.00 5,100.00 5,200.00	13.35 13.35 13.35 13.35 13.35	319.25 319.25 319.25 319.25 319.25	4,833.67 4,930.97 5,028.26 5,125.56	449.10 466.59 484.08 501.57	-386.97 -402.04 -417.11 -432.18	-384.53 -399.51 -414.48 -429.46	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	

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Database:	EDM 5000.1 Single User Db	Local Co-ordinate Refer	ence:	Well Big Eddy Unit DI5 BS2-1E #339H
Company:	XTO Energy	TVD Reference:		RKB= 25' @ 3557.00usft
Project:	Eddy County, NM (NAD-27)	MD Reference:		RKB= 25' @ 3557.00usft
Site:	Big Eddy Unit	North Reference:		Grid
Well:	Big Eddy Unit DI5 BS2-1E #339H	Survey Calculation Meth	iod:	Minimum Curvature
Wellbore:	ОН	1 7 1 1		
Design:	Plan #1	·		n 1 2 2 Marine Marine Marine Marine And Anno 1999 at 1995 at

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Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
5,300.00	13.35	319.25	, 5,222.86	519.06	-447.25	-444.44	0.00	0.00	0.00
5,400.00 5,500.00 5,600.00 5,700.00 5,800.00	13.35 13.35 13.35 13.35 13.35 13.35	319.25 319.25 319.25 319.25 319.25 319.25	5,320.16 5,417.46 5,514.76 5,612.05 5,709.35	536.55 554.04 571.53 589.02 606.51	-462.32 -477.39 -492.46 -507.53 -522.60	-459.41 -474.39 -489.36 -504.34 -519.31	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00
5,900.00 6,000.00 6,100.00 6,200.00 6,300.00	13.35 13.35 13.35 13.35 13.35 13.35	319.25 319.25 319.25 319.25 319.25 319.25	5,806.65 5,903.95 6,001.25 6,098.55 6,195.85	624.00 641.49 658.98 676.47 693.96	-537.67 -552.74 -567.81 -582.88 -597.95	-534.29 -549.26 -564.24 -579.21 -594.19	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00
6,400.00 6,500.00 6,600.00 6,700.00 6,800.00	13.35 13.35 13.35 13.35 13.35 13.35	319.25 319.25 319.25 319.25 319.25 319.25	6,293.14 6,390.44 6,487.74 6,585.04 6,682.34	711.45 728.94 746.43 763.92 781.41	-613.02 -628.09 -643.16 -658.23 -673.30	-609.16 -624.14 -639.11 -654.09 -669.06	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00
6,900.00 7,000.00 7,100.00 7,200.00 7,300.00	13.35 13.35 13.35 13.35 13.35 13.35	319.25 319.25 319.25 319.25 319.25 319.25	6,779.64 6,876.94 6,974.23 7,071.53 7,168.83	798.90 816.39 833.88 851.37 868.86	-688.37 -703.44 -718.51 -733.58 -748.65	-684.04 -699.01 -713.99 -728.96 -743.94	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00
7,400.00 7,500.00 7,600.00 7,700.00 7,800.00	13.35 13.35 13.35 13.35 13.35 13.35	319.25 319.25 319.25 319.25 319.25 319.25	7,266.13 7,363.43 7,460.73 7,558.03 7,655.32	886.34 903.83 921.32 938.81 956.30	-763.72 -778.79 -793.86 -808.93 -824.00	-758.91 -773.89 -788.86 -803.84 -818.81	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00
7,900.00 8,000.00 8,100.00 8,200.00 8,300.00	13.35 13.35 13.35 13.35 13.35 13.35	319.25 319.25 319.25 319.25 319.25 319.25	7,752.62 7,849.92 7,947.22 8,044.52 8,141.82	973.79 991.28 1,008.77 1,026.26 1,043.75	-839.07 -854.14 -869.21 -884.28 -899.35	-833.79 -848.76 -863.74 -878.72 -893.69	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00
8,400.00 8,500.00 8,600.00 8,700.00 8,800.00	13.35 13.35 13.35 13.35 13.35 13.35	319.25 319.25 319.25 319.25 319.25 319.25	8,239.12 8,336.41 8,433.71 8,531.01 8,628.31	1,061.24 1,078.73 1,096.22 1,113.71 1,131.20	-914.42 -929.49 -944.56 -959.63 -974.70	-908.67 -923.64 -938.62 -953.59 -968.57	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00
8,900.00 9,000.00 9,021.39 9,050.00 9,100.00	13.35 13.35 13.35 11.73 10.26	319.25 319.25 319.25 330.15 355.47	8,725.61 8,822.91 8,843.72 8,871.65 8,920.76	1,148.69 1,166.18 1,169.92 1,174.95 1,183.80	-989.77 -1,004.84 -1,008.06 -1,011.67 -1,014.55	-983.54 -998.52 -1,001.72 -1,005.30 -1,008.13	0.00 0.00 0.00 10.00 10.00	0.00 0.00 -5.67 -2.93	0.00 0.00 0.00 38.09 50.64
9,150.00 9,200.00 9,250.00 9,300.00 9,350.00	11.07 13.76 17.48 21.71 26.20	22.38 42.19 54.71 62.72 68.16	8,969.92 9,018.77 9,066.93 9,114.03 9,159.72	1,192.68 1,201.54 1,210.29 1,218.87 1,227.22	-1,013.07 -1,007.25 -997.12 -982.76 -964.28	-1,006.61 -1,000.73 -990.55 -976.15 -957.63	10.00 10.00 10.00 10.00 10.00	1.62 5.38 7.44 8.45 8.98	53.82 39.63 25.03 16.02 10.88
9,400.00 9,450.00 9,500.00 9,550.00 9,600.00	30.84 35.57 40.35 45.18 50.03	72.09 75.07 77.42 79.36 80.99	9,203.65 9,245.47 9,284.89 9,321.59 9,355.29	1,235.27 1,242.96 1,250.24 1,257.04 1,263.32	-941.83 -915.57 -885.70 -852.46 -816.08	-935.13 -908.83 -878.93 -845.64 -809.24	10.00 10.00 10.00 10.00 10.00	9.28 9.46 9.57 9.65 9.71	7.85 5.96 4.71 3.87 3.27
9,650.00 9,700.00 9,750.00	54.90 59.79 64.69	82.40 83.66 84.80	9,385.75 9,412.72 9,436.00	1,269.03 1,274.12 1,278.56	-776.86 -735.09 -691.08	-769.98 -728.18 -684.15	10.00 10.00 10.00	9.75 9.77 9.80	2.83 2.51 2.27

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Database:	EDM 5000.1 Single User Db	Local Co-ordinate Refe	rence:	Well Big Eddy Unit DI5 BS2-1E #339H	
Company:	XTO Energy	TVD Reference:		RKB= 25' @ 3557.00usft	
Project:	Eddy County, NM (NAD-27)	MD Reference:		RKB= 25' @ 3557.00usft	
Site:	Big Eddy Unit	North Reference:		Grid	4
Well:	Big Eddy Unit DI5 BS2-1E #339H	Survey Calculation Met	thod:	Minimum Curvature	1
Wellbore:	ОН	3			j
Design:	Plan #1				
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Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
9 800 00	60.50	95.94	0 455 42	1 292 21	6AE 10	620 22	10.00	0.01	2 00
9,000.00	74 50	86.92	9,433.42	1,202.31	-040.10	-030.23	10.00	9.01	2.09
5,050.00	74.50	00.03	9,470.03	1,205.55	-391.12	-590.76	10.00	9.02	1.97
9,900.00	79.42	87.76	9,482.10	1,287.64	-549.08	-542.11	10.00	9.83	1.87
9,950.00	84.34	88.67	9,489.16	1,289.18	-499.62	-492.64	10.00	9.84	1.81
10,000.00	89.26	89.56	9,491.95	1,289.95	-449.72	-442.74	10.00	9.84	1.78
10.007.52	90.00	89.69	9,492.00	1.290.00	-442.20	-435.21	10.00	9.84	1.78
10,100.00	90.00	89.69	9,492,00	1,290,49	-349.72	-342.74	0.00	0.00	0.00
40,000,00		~ ~ ~							
10,200.00	90.00	89.69	9,492.00	1,291.03	-249.72	-242.74	0.00	0.00	0.00
10,300.00	90.00	89.69	9,492.00	1,291.56	-149.73	-142.74	0.00	0.00	0.00
10,400.00	90.00	89.69	9,492.00	1,292.09	-49.73	-42.74	0.00	0.00	0.00
10,500.00	90.00	89.69	9,492.00	1,292.62	50.27	57.26	0.00	0.00	0.00
10,600.00	90.00	89.69	9,492.00	1,293.16	150.27	157.26	0.00	0.00	0.00
10 700 00	00.00	80.60	' a 4a2 00	1 203 60	250 27	257.26	0.00	0.00	0.00
10,700.00	90.00	80.60	9,492.00	1,293.09	250.27	257.20	0.00	0.00	0.00
10,000.00	90.00	09.09	9,492.00	1,294.22	450.27	357.20	0.00	0.00	0.00
10,900.00	90.00	09.09	9,492.00	1,294.75	400.27	457.20	0.00	0.00	0.00
11,000.00	90.00	89.69	9,492.00	1,295.29	550.26	557.26	0.00	0.00	0.00
11,100.00	90.00	89.69	9,492.00	1,295.82	650.26	057.20	0.00	0.00	0.00
11.200.00	90.00	89.69	9.492.00	1.296.35	750.26	757.26	0.00	0.00	0.00
11,300.00	90.00	89.69	9,492.00	1,296,88	850.26	857.26	0.00	0.00	0.00
11 400 00	90.00	89.69	9 492 00	1 297 42	950.26	957 26	0.00	0.00	0.00
11 500 00	90.00	89.69	9 492 00	1 297 95	1 050 26	1 057 26	0.00	0.00	0.00
11,000.00	90.00	89.69	9,492.00	1 208 48	1,050.20	1 157 26	0.00	0.00	0.00
11,000.00	30.00	09.09	5,452.00	1,230.40	1,100.20	1,157.20	0.00	0.00	0.00
11,700.00	90.00	89.69	9,492.00	1,299.01	1,250.25	1,257.26	0.00	0.00	· 0.00
11,800.00	90.00	89.69	9,492.00	1,299.55	1,350.25	1,357.26	0.00	0.00	0.00
11,900.00	90.00	89.69	9,492.00	1,300.08	1,450.25	1,457.26	0.00	0.00	0.00
12,000.00	90.00	89.69	9,492.00	1,300.61	1,550.25	1,557.26	0.00	0.00	0.00
12,100.00	90.00	89.69	9,492.00	1,301.15	1,650.25	1,657.26	0.00	0.00	0.00
10 000 00	00.00		0,400,00	4 204 00	4 750 05	1 757 00	0.00	0.00	0.00
12,200.00	90.00	89.69	9,492.00	1,301.68	1,750.25	1/5/.26	0.00	0.00	0.00
12,300.00	90.00	89.69	9,492.00	1,302.21	1,850.25	1,857.26	0.00	0.00	0.00
12,400.00	90.00	89.69	9,492.00	1,302.74	1,950.24	1,957.26	0.00	0.00	0.00
12,500.00	90.00	89.69	9,492.00	1,303.28	2,050.24	2,057.26	0.00	0.00	0.00
12,600.00	90.00	89.69	9,492.00	1,303.81	2,150.24	2,157.26	0.00	0.00	0.00
12,700.00	90.00	89 69	9 492 00	1 304 34	2 250 24	2 257 26	0.00	0.00	0.00
12 800.00	90.00	89.69	9 492.00	1 304.87	2 350.24	2 357.26	0.00	0.00	0.00
12,900.00	90.00	89.69	9 492.00	1 305.41	2 450 24	2 457 26	0.00	0.00	0.00
13 000 00	90.00	89.69	9 492 00	1 305 94	2 550 24	2 557 26	0.00	0.00	0.00
13 100 00	90.00	89.69	9 492 00	1 306 47	2,650.23	2 657 26	0.00	0.00	0.00
	00.00	00.00	0,102.00	1,000.17	2,000.20	2,007.20	0.00	0.00	
13,200.00	90.00	89.69	9,492.00	1,307.00	2,750.23	2,757.26	0.00	0.00	0.00
13,300.00	90.00	89.69	9,492.00	1,307.54	2,850.23	2,857.26	0.00	0.00	0.00 .
13,400.00	90.00	89.69	9,492.00	1,308.07	2,950.23	2,957.26	0.00	0.00	0.00
13,500.00	90.00	89.69	9,492.00	1,308.60	3,050.23	3,057.26	0.00	0.00	0.00
13,600.00	90.00	89.69	9,492.00	1,309.13	3,150.23	3,157.26	0.00	0.00	0.00
13 700 00	90.00	80.60	9 492 00	1 309 67	3 250 23	3 257 26	0.00	0.00	0.00
13,700.00	00.00	90.60	9,492.00	1,303.07	3,250.25	2 257 26	0.00	0.00	0.00
13,000.00	90.00	09.09 90.60	9,432.00 0 402 00	1,310.20	3,000.22	3 167 26	0.00	0.00	0.00
13,900.00	90.00	09.09	9,492.00	1,310.73	3,430.22	3,437.20	0.00	0.00	0.00
14,000.00	90.00	09.09	9,492.00	1,311.27	3,550.22	3,337.20	0.00	0.00	0.00
14,100.00	90.00	89.69	9,492.00	1,311.80	3,050.22	3,007.26	0.00	0.00	0.00
14,200.00	90.00	89.69	9.492.00	1.312.33	3,750,22	3,757,26	0.00	0.00	0.00
14 300 00	90.00	89 69	9,492.00	1.312.86	3,850,22	3 857 26	0.00	0.00	0.00
14 400 00	90.00	89 69	9 492 00	1.313.40	3,950,22	3 957 26	0.00	0.00	0.00
14 500.00	an nn	03.09	9 492 00	1 313 93	4 050 21	4 057 26	0.00	0.00	0.00
1/ 600.00	30.00 00.00	80.60	0,402.00 0 A02 AA	1 314 46	4 150 21	1 157 26	0.00	0.00	0.00
14,000.00	50.00	03.03	3,732.00	1,014,40	7,100.21		0.00	0.00	0.00
14,700.00	90.00	89.69	9,492.00	1,314.99	4,250.21	4,257.26	0.00	0.00	0.00
14,800.00	90.00	89.69	9,492.00	1,315.53	4,350.21	4,357.26	0.00	0.00	0.00

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Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well Big Eddy Unit DI5 BS2-1E #339H
Company:	XTO Energy	TVD Reference:	RKB= 25' @ 3557.00usft
Project:	Eddy County, NM (NAD-27)	MD Reference:	RKB= 25' @ 3557.00usft
Site:	Big Eddy Unit	North Reference:	Grid
Well:	Big Eddy Unit DI5 BS2-1E #339H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #1	k k	
0			na anana kana pambahananananana ina anana ang ang ang ang ang ang ang ang

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	[°] Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
14,900.00	90.00	89.69	9 492 00	1.316.06	4 450 21	4 457 26	0.00	0.00	0.00
15.000.00	90.00	89.69	9,492.00	1.316.59	4,550,21	4 557 26	0.00	0.00	0.00
15,100.00	90.00	89.69	9,492.00	1,317.12	4,650.21	4,657.26	0.00	0.00	0.00
15 200 00	00.00	90.60	0 402 00	1 217 66	4 750 20	4 757 26	0.00	0.00	0.00
15,200.00	90.00	09.09	9,492.00	1,317.00	4,750.20	4,757.20	0.00	0.00	0.00
15,300.00	90.00	09.09	9,492.00	1,318.19	4,850.20	4,857.26	0.00	0.00	0.00
15,400.00	90.00	89.69	9,492.00	1,318.72	4,950.20	4,957.26	0.00	0.00	0.00
15,500.00	90.00	89.69	9,492.00	1,319.25	5,050.20	5,057.26	0.00	0.00	0.00
15,600.00	90.00	89.69	9,492.00	1,319.79	5,150.20	5,157.26	0.00	0.00	0.00
15,700.00	90.00	89.69	9,492.00	1,320.32	5,250.20	5,257.26	0.00	0.00	0.00
15,800.00	90.00	89.69	9,492.00	1,320.85	5,350.20	5,357.26	0.00	0.00	0.00
15,900.00	90.00	89.69	9,492.00	1,321.39	5,450.19	5,457.26	0.00	0.00	. 0.00
16,000.00	90.00	89.69	9,492.00	1,321.92	5,550.19	5,557.26	0.00	0.00	0.00
16,100.00	90.00	89.69	9,492.00	1,322.45	5,650.19	5,657.26	0.00	0.00	0.00
16 200 00	90.00	69 68	9 492 00	1 322 08	5 750 10	5 757 26	0.00	0.00	0.00
16 300 00	90.00	03.00	9,492.00	1 323 52	5 850 10	5 857 26	0.00	0.00	0.00
16,000.00	90.00	80.60	9,492.00	1,323.32	5,050.19	5 057 26	0.00	0.00	0.00
16,400.00	90.00	80.60	9,492.00	1 224.00	5,950.19	6 057 26	0.00	0.00	0.00
16,500.00	90.00	80.60	9,492.00	1,324.30	6 150 19	6 157 26	0.00	0.00	0.00
10,000.00	50.00	09.09	9,492.00	1,525.11	0,150.18	0,157.20	0.00	0.00	0.00
16,700.00	90.00	89.69	9,492.00	1,325.65	6,250.18	6,257.26	0.00	0.00	0.00
16,800.00	90.00	89.69	9,492.00	1,326.18	6,350.18	6,357.26	0.00	0.00	0.00
16,900.00	90.00	89.69	9,492.00	1,326.71	6,450.18	6,457.26	0.00	0.00	0.00
17,000.00	90.00	89.69	9,492.00	1,327.24	6,550.18	6,557.26	0.00	0.00	0.00
17,100.00	90.00	89.69	9,492.00	1,327.78	6,650.18	6,657.26	0.00	0.00	0.00
17 200 00	90.00	89.69	9 492 00	1 328 31	6 750 18	6 757 26	0.00	0.00	0.00
17 300 00	90.00	89.69	9 492 00	1 328 84	6 850 17	6 857 26	0.00	0.00	0.00
17,000.00	90.00	89.69	9 492 00	1 320 37	6 950 17	6 957 26	0.00	0.00	0.00
17,500,00	90.00	89.69	9 492 00	1 329 91	7 050 17	7 057 26	0.00	0.00	0.00
17,600.00	90.00	89.69	9 492 00	1 330 44	7 150 17	7 157 26	0.00	0.00	0.00
		00.00	0,102.00	1,000.44			0.00	0.00	0.00
17,700.00	90.00	89.69	9,492.00	1,330.97	7,250.17	7,257.26	0.00	0.00	0.00
17,800.00	90.00	89.69	9,492.00	1,331.51	7,350.17	7,357.26	0.00	0.00	0.00
17,900.00	90.00	89.69	9,492.00	1,332.04	7,450.17	7,457.26	0.00	0.00	0.00
18,000.00	90.00	89.69	9,492.00	1,332.57	7,550.16	7,557.26	0.00	0.00	0.00
18,100.00	90.00	89.69	9,492.00	1,333.10	7,650.16	7,657.26	0.00	0.00	0.00
18,200.00	90.00	89.69	9,492.00	1,333.64	7,750.16	7,757.26	0.00	0.00	0.00
18,300.00	90.00	89.69	9,492.00	1,334.17	7,850.16	7,857.26	0.00	0.00	0.00
18,400.00	90.00	89.69	9,492.00	1,334.70	7,950.16	7,957.26	0.00	0.00	0.00
18,500.00	90.00	89.69	9,492.00	1,335.23	8,050.16	8,057.26	0.00	0.00	0.00
18,600.00	90.00	89.69	9,492.00	, 1,335.77	8,150.16	8,157.26	0.00	0.00	0.00
18 700 00	90.00	89 69	9 492 00	1 336 30	8 250 15	8 257 26	0.00	0.00	0.00
18,800,00	90.00	89.69	9 492 00	1 336 83	8 350 15	8 357 26	0.00	0.00	0.00
18,000.00	90.00	89.69	9,492.00	1,337.36	8 450 15	8 457 26	0.00	0.00	0.00
19,000,00	90.00	89.69	9,492.00	1 337 90	8 550 15	8 557 26	0.00	0.00	0.00
19 100 00	90.00	89.69	9 492 00	1 338 43	8 650 15	8 657 26	0.00	0.00	0.00
10,100.00	00.00	00.00	0,402.00	1,000.40	0,000.10	d (0.00	0.00	0.00
19,200.00	90.00	89.69	9,492.00	1,338.96	8,750.15	8,757.26	0.00	0.00	0.00
19,300.00	90.00	89.69	9,492.00	1,339.49	8,850.15	8,857.26	0.00	0.00	0.00
19,400.00	90.00	89.69	9,492.00	1,340.03	8,950.14	8,957.26	0.00	0.00	0.00
19,500.00	90.00	89.69	9,492.00	1,340.56	9,050.14	9,057.26	0.00	0.00	0.00
19,600.00	90.00	89.69	9,492.00	1,341.09	9,150.14	9,157.26	0.00	0.00	. 0.00
19,700.00	90.00	89.69	9,492.00	1,341.63	9,250.14	9,257.26	0.00	0.00	0.00
19,800.00	90.00	89.69	9,492.00	1,342.16	9,350.14	9,357.26	0.00	0.00	0.00
19,900.00	90.00	89.69	9,492.00	1,342.69	9,450.14	9,457.26	0.00	0.00	0.00
20.000.00	90.00	89.69	9.492.00	1.343.22	9,550,14	9,557,26	0.00	0.00	0.00
20.100.00	90.00	89.69	9,492.00	1.343.76	9,650.13	9,657.26	0.00	0.00	0.00
20,000.00	00.00	80.00	0,400,00	1.244.00	0,750,40	,	0.00	0.00	0.00
20,200.00	90.00	09.09	9,492.00	1,344.29	9,750.13	9,151.20	0.00	0.00	0.00

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COMPASS 5000.1 Build 76

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Planning Report

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Database:	EDM 5000.1 Single User Db	Local Co-ordinate Ref	erence:	Well Big Eddy Unit DI5 BS2-1E #339H	- 7
Company:	XTO Energy	TVD Reference:		RKB= 25' @ 3557.00usft	1
Project:	Eddy County, NM (NAD-27)	MD Reference:		RKB= 25' @ 3557.00usft	;
Site:	Big Eddy Unit	North Reference:	4	Grid	i
Well:	Big Eddy Unit DI5 BS2-1E #339H	Survey Calculation Me	thod:	Minimum Curvature	1
Wellbore:	ОН		1		1
Design:	Plan #1				;
i	An and the second s			The second	

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)	
	20,300.00	90.00	89.69	9,492.00	1,344.82	9,850.13	9.857.26	0.00	0.00	0.00	
	20,400.00	90.00	89.69	9,492.00	1,345.35	9,950.13	9,957.26	0.00	0.00	0.00	
	20,500.00	90.00	89.69	9,492.00	1,345.89	10,050.13	10,057.26	0.00	0.00	0.00	
	20,600.00	90.00	89.69	9,492.00	1,346.42	10,150.13	10,157.26	0.00	0.00	0.00	
	20,700.00	90.00	89.69	9,492.00	1,346.95	10,250,13	10,257.26	0.00	0.00	0.00	
	20,800.00	90.00	89.69	9,492.00	1,347.48	10,350.12	10 357.26	0.00	0.00	0.00	
	20,900.00	90.00	89.69	9,492.00	1,348.02	10,450.12	10 457.26	0.00	0.00	0.00	
	21,000.00	90.00	89.69	9,492.00	1,348.55	10,550.12	10 557.26	0.00	0.00	0.00	
	21,100.00	90.00	89.69	9,492.00	1,349.08	10,650.12	10,657.26	0.00	0.00	0.00	
	21,200.00	90.00	89.69	9,492.00	1,349.61	10,750.12	10,757.26	0.00	0.00	0.00	
	21,300.00	90.00	89.69	9,492.00	1,350.15	10,850.12	10 857.26	0.00	0.00	0.00	
	21,400.00	90.00	89.69	9,492.00	1,350.68	10,950.12	10,957.26	0.00	0.00	0.00	
	21,500.00	90.00	89.69	9,492.00	1,351.21	11,050.12	11,057.26	0.00	0.00	0.00	
	21,600.00	90.00	89.69	9,492.00	1,351.74	11,150.11	11,157.26	0.00	0.00	0.00	
	21,700.00	90.00	89.69	9,492.00	1,352.28	11,250.11	11,257.26	0.00	0.00	0.00	
	21,800.00	90.00	89.69	9,492.00	1,352.81	11,350.11	11,357.26	0.00	0.00	0.00	
1	21,900.00	90.00	89.69	9,492.00	1,353.34	11,450.11	11,457.26	0.00	0.00	0.00	
ł	22,000.00	90.00	89.69	9,492.00	1,353.88	11,550.11	11,557.26	0.00	0.00	0.00	
	22,100.00	90.00	89.69	9,492.00	1,354.41	11,650. 1 1	11,657.26	0.00	0.00	0.00	
	22,200.00	90.00	89.69	9,492.00	1,354.94	11,750.11	11,757.26	0.00	0.00	0.00	
	22,300.00	90.00	89.69	9,492.00	1,355.47	11,850.10	11 ⁽ 857.26	0.00	0.00	0.00	
	22,400.00	90.00	89.69	9,492.00	1,356.01	11,950.10	11,957.26	0.00	0.00	0.00	
	22,500.00	90.00	89.69	9,492.00	1,356.54	12,050.10	12,057.26	0.00	0.00	0.00	
	22,600.00	90.00	89.69	9,492.00	1,357.07	12,150.10	12,157.26	0.00	0.00	0.00	
	22,680.50	90.00	89.69	9,492.00	1,357.50	12,230.60	12,237.77	0.00	0.00	0.00	
							1 .				

Design Targets

 Target Name
 - hit/miss target
 Dip Angle
 Dip Dir.
 TVD
 +N/-S
 +E/-W
 Northing
 Easting

 - Shape
 (°)
 (°)
 (usft)
 (usft)
 (usft)
 Latitude

- Shape	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)	Latitude	Longitude
Big Eddy #339H SHL - plan hits target cente - Point	0.00 er	0.00	9.00	0.00	0.00	562,698.10	647,697.90	32.546052	-103.854021
Big Eddy #339H PBH - plan hits target cente - Point	0.00 er	0.00	9,492.00	1,357.50	12,230.60	564,055.60	659,928.50	32.549626	-103.814310

Big Eddy #339H LTP 0.00 0.00 9,492.00 1,356.90 12,100.60 564,055.00 659,798.50 32.549626 -103.814731 - plan misses target center by 0.09usft at 22550.50usft MD (9492.00 TVD, 1356.81 N, 12100.60 E) - Point

Big Eddy #339H FTP/	0.00	0.00	9,492.00	1,290.00	-442.20	563,988.10	647,255.70	32.549603	-103.855437
 plan hits target center 									
- Point					•				



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Database:	EDM 5000.1 Single User Db	Local Co-ordinate Refe	erence:	Well Big Eddy Unit DI5 BS2-1E #339H
Company:	XTO Energy	TVD Reference:		RKB= 25' @ 3557.00usft
Project:	Eddy County, NM (NAD-27)	MD Reference:		RKB= 25' @ 3557.00usft
Site:	Big Eddy Unit	North Reference:		Grid
Well:	Big Eddy Unit DI5 BS2-1E #339H	Survey Calculation Met	thod:	Minimum Curvature
Wellbore:	ОН			
Design:	Plan #1		4	

Formations			· · · · · · · · · · · · · · · · · · ·		······································	n ann a mar a san an an an Ann. An an Ann an Ann an Ann	
	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				
	2,864.34	2,853.00	Capitan				
	3,974.33	3,933.00	Delaware Sand				
	4,923.98	4,857.00	Base Manzanita				
	5,973.33	5,878.00	Brushy Canyon				
	7,406.03	7,272.00	Basal Brushy Canyon				
	7,621.86	7,482.00	Base Brushy Canyon Sands				
	7,634.20	7,494.00	Bone Spring				
	7,803.78	7,659.00	Avalon Sand			•	
	8,343.35	8,184.00	Lower Avalon Shale				
	8,892.18	8,718.00	First Bone Spring Sand				
	9,294.59	9,109.00	Second Bone Spring Shale/Limestor				
	9,450.65	9,246.00	Second Bone Spring Sand				
	9 854 46	9 472 00	Second Bone Spring B Sand	i i i i i i i i i i i i i i i i i i i			

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: BIG EDDY UNIT DI5 BS2-1E

Well Number: 339H

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:

١.

purce type: OTHER
ongitude:
volume (acre-feet): 43.179188

Operator Name: XTO PERMIAN OPERATING LLC	
Well Name: BIG EDDY UNIT DI5 BS2-1E Well No	umber: 339H
Water source use type: INTERMEDIATE/PRODUCTION CASING STIMULATION, SURFACE CASING Describe type: Fresh Water; Section 21-23S-30E	, Water source type: OTHER
Source latitude:	Source longitude:
Source datum:	
Water source permit type: PRIVATE CONTRACT	
Source land ownership: FEDERAL	
Water source transport method: TRUCKING	
Source transportation land ownership: FEDERAL	
Water source volume (barrels): 335000	Source volume (acre-feet): 43.179188
Source volume (gal): 14070000	
Water source and transportation map:	

BEU_DI5_339H_Wtr_20181120102731.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 In	nfo	
Well latitude:	Well Longitude:	Well datum:
Well target aquifer:		
Est. depth to top of aquifer(ft):	Est thickness of aq	uifer:
Aquifer comments:		
Aquifer documentation:		
Well depth (ft):	Well casing type:	
Well casing outside diameter (in.):	Well casing inside dia	imeter (in.):
New water well casing?	Used casing source:	
Drilling method:	Drill material:	

Operator Name: XTO PERMIAN OPERATING Well Name: BIG EDDY UNIT DI5 BS2-1E	ELLC Well Number	:: 339H	
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 Mat	terials		
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 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 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

FACILITY

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 L Well Name: BIG EDDY UNIT DI5 BS2-1E	LC Well Number: 339H
Waste disposal type: HAUL TO COMMERCIAL FACILITY	Disposal location ownership: COMMERCIAL
Disposal location description: A licensed 3rd pa	arty contractor will be used to haul and dispose of human waste.
Waste type: DRILLING	
Waste content description: Fluid	
Amount of waste: 500 barrels	
Waste disposal frequency : One Time Only	
Safe containment description: Steel mud pits	
Safe containmant attachment:	
Waste disposal type: HAUL TO COMMERCIAL FACILITY Disposal type description:	Disposal location ownership: COMMERCIAL
Disposal location description: R360 Environme	ntal Solutions 4507 W Carlsbad Hwy, Hobbs, NM 88240 (575) 393-1079
Waste type: GARBAGE	
Waste content description: Garbage, junk and r	non-flammable waste materials
Amount of waste: 250 pounds	
Waste disposal frequency : Weekly	
Safe containment description: All garbage, junk portable dumpster or trash cage, to prevent scatte Immédiately after drilling all debris and other wast will be cleaned up and removed from the location. Safe containmant attachment:	and non-flammable waste materials will be contained in a self-contained, aring and will be removed and deposited in an approve sanitary landfill. The materials on and around the well location not contained in the trash cage No potentially adverse materials or substances will be left on the location.
Waste disposal type: HAUL TO COMMERCIAL	Disposal location ownership: COMMERCIAL
FACILITY Disposal type description:	
Disposal location description: A licensed 3rd pa and non-flammable waste materials.	arty vendor will be contracted to haul and safely dispose of garbage, junk
Reserve P	it
Reserve Pit being used? NO	
Temporary disposal of produced water into rec	serve nit?
Reserve nit length (ff)	
Reserve nit denth (#)	Reserve nit volume (ou. v/d.)
le at least 50% of the records sit is sut?	
ns at least 50 % of the reserve pit in Gut?	
veserve hr men	