NM OIL CONSERVATION
ARTESIA DISTRICT

JAN 22 2018

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Form 3160-3
(March 2012)

FORM APPROVED
OMB No. 1004-0137
Expires October 31, 2014

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.
NMNM15302

6. If Indian, Allotee or Tribe Name

1a. Type of work: ☑ DRILL ☐ REENTER

7. If Unit or CA Agreement, Name and No.

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

8. Lease Name and Well No.
CORRAL CANYON FEDERAL COM 29H 319439

2. Name of Operator
XTO ENERGY INCORPORATED 5380

9. API Well No.
30-015-44641

3a. Address
810 Houston St. Ft. Worth TX 76102

3b. Phone No. *(include area code)*
(432)620-6700

10. Field and Pool, or Exploratory
BONE SPRING / WILLOW LAKE; BONE

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*
At surface SWSW / 180 FSL / 196 FWL / LAT 32.152394 / LONG -103.997407
At proposed prod. zone SWSW / 200 FSL / 330 FWL / LAT 32.123273 / LONG -103.996958

11. Sec., T. R. M. or Blk. and Survey or Area
SEC 4 / T25S / R29E / NMP

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

12. County or Parish
EDDY

13. State
NM

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

16. No. of acres in lease
1917.02

17. Spacing Unit dedicated to this well
320

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

19. Proposed Depth
8610 feet / 18965 feet

20. BLM/BIA Bond No. on file
FED: UTB000138

21. Elevations (Show whether DF, KDB, RT, GL, etc.)
2944 feet

22. Approximate date work will start*
01/15/2018

23. Estimated duration
30 days

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No.1, must be attached to this form:

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

25. Signature	Name *(Printed/Typed)*	Date
(Electronic Submission)	Stephanie Rabadue / Ph: (432)620-6714	10/02/2017

Title
Regulatory Compliance Analyst

Approved by *(Signature)*	Name *(Printed/Typed)*	Date
(Electronic Submission)	Christopher Walls / Ph: (575)234-2234	01/12/2018
Title: Petroleum Engineer	Office: CARLSBAD	

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.
Conditions of approval, if any, are attached.

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

(Continued on page 2)

*(Instructions on page 2)

APPROVED WITH CONDITIONS

Approval Date: 01/12/2018

RWP 1-19-18
1-23-18

INSTRUCTIONS

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

ITEM 1: If the proposal is to redrill to the same reservoir at a different subsurface location or to a new reservoir, use this form with appropriate notations. Consult applicable Federal regulations concerning subsequent work proposals or reports on the well.

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

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

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

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

NOTICES

The Privacy Act of 1974 and regulation in 43 CFR 2.48(d) provide that you be furnished the following information in connection with information required by this application.
AUTHORITY: 30 U.S.C. 181 et seq., 25 U.S.C. 396; 43 CFR 3160
PRINCIPAL PURPOSES: The information will be used to: (1) process and evaluate your application for a permit to drill a new oil, gas, or service well or to reenter a plugged and abandoned well; and (2) document, for administrative use, information for the management, disposal and use of National Resource Lands and resources including (a) analyzing your proposal to discover and extract the Federal or Indian resources encountered; (b) reviewing procedures and equipment and the projected impact on the land involved; and (c) evaluating the effects of the proposed operation on the surface and subsurface water and other environmental impacts.
ROUTINE USE: Information from the record and/or the record will be transferred to appropriate Federal, State, and local or foreign agencies, when relevant to civil, criminal or regulatory investigations or prosecution, in connection with congressional inquiries and for regulatory responsibilities.
EFFECT OF NOT PROVIDING INFORMATION: Filing of this application and disclosure of the information is mandatory only if you elect to initiate a drilling or reentry operation on an oil and gas lease.

The Paperwork Reduction Act of 1995 requires us to inform you that:
The BLM collects this information to allow 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 Collection Clearance Officer (WO-630), 1849 C Street, N.W., Mail Stop 401 LS, Washington, D.C. 20240.

(Continued on page 3)

Additional Operator Remarks

Location of Well

1. SHL: SWSW / 180 FSL / 196 FWL / TWSP: 25S / RANGE: 29E / SECTION: 4 / LAT: 32.152394 / LONG: -103.997407 (TVD: 0 feet, MD: 0 feet)
   PPP: NWNW / 330 FNL / 330 FWL / TWSP: 25S / RANGE: 29E / SECTION: 4 / LAT: 32.150993 / LONG: -103.996975 (TVD: 8610 feet, MD: 9000 feet)
   BHL: SWSW / 200 FSL / 330 FWL / TWSP: 25S / RANGE: 29E / SECTION: 16 / LAT: 32.123273 / LONG: -103.996958 (TVD: 8610 feet, MD: 18965 feet)

BLM Point of Contact

Name: Priscilla Perez

Title: Legal Instruments Examiner

Phone: 5752345934

Email: pperez@blm.gov

Review and Appeal Rights

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

PECOS DISTRICT
DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	XTO ENERGY INCORPORATED
LEASE NO.:	NMNM15302
WELL NAME & NO.:	29H –CORRAL CANYON FEDERAL COM
SURFACE HOLE FOOTAGE:	180'/S & 196'/W
BOTTOM HOLE FOOTAGE	200'/S & 300'/W
LOCATION:	Section 4.,T25S., R.29E., NMP
COUNTY:	EDDY County, New Mexico

COA

H2S	○ Yes	◉ No	
Potash	◉ None	○ Secretary	○ R-111-P
Cave/Karst Potential	○ Low	◉ Medium	○ High
Variance	○ None	◉ Flex Hose	○ Other
Wellhead	◉ Conventional	○ Multibowl	○ Both
Other	☐ 4 String Area	☐ Capitan Reef	☐ WIPP

A. Hydrogen Sulfide

Hydrogen Sulfide (H2S) monitors shall be installed prior to drilling out the surface shoe. If H2S is detected in concentrations greater than 100 ppm, the Hydrogen Sulfide area shall meet Onshore Order 6 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, provide measured values and formations to the BLM.

B. CASING

1. The **13-3/8** inch surface casing shall be set at approximately **640** feet (a minimum of 25 feet into the Rustler Anhydrite and above the salt) and cemented to the surface.

   a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
   b. Wait on cement (WOC) time for a primary cement job will be a minimum of **8 hours** or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement)

   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 **9-5/8** inch intermediate casing is:
   - Cement to surface. If cement does not circulate see B.1.a, c-d above.

Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst or potash.

- ❖ In Medium Cave/Karst Areas if cement does not circulate to surface on the first two casing strings , the cement on the 3rd casing string must come to surface.

3. The minimum required fill of cement behind the **5-1/2** inch production casing is:
   - Cement should tie-back at least 200 feet into previous casing string. Operator shall provide method of verification.

C. PRESSURE CONTROL

1. Variance approved to use flex line from BOP to choke manifold. Manufacturer's specification to be readily available. No external damage to flex line. Flex line to be installed as straight as possible (no hard bends).

2. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **3000 (3M)** psi.

GENERAL REQUIREMENTS

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

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

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

1. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.
   a. In the event the operator has proposed to drill multiple wells utilizing a skid/walking rig. Operator shall secure the wellbore on the current well, after installing and testing the wellhead, by installing a blind flange of like pressure rating to the wellhead and a pressure gauge that can be monitored while drilling is performed on the other well(s).

b. When the operator proposes to set surface casing with Spudder Rig
   - Notify the BLM when moving in and removing the Spudder Rig.
   - Notify the BLM when moving in the 2nd Rig. Rig to be moved in within 90 days of notification that Spudder Rig has left the location.
   - BOP/BOPE test to be conducted per Onshore Oil and Gas Order No. 2 as soon as 2nd Rig is rigged up on well.

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

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

A. CASING

1. Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size or are Non-API. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.). The initial wellhead installed on the well will remain on the well with spools used as needed.

2. Wait on cement (WOC) for Potash Areas: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi for all cement blends, 2) until cement has been in place at least 24 hours. WOC time will be recorded in the driller's log. The casing intergrity test can be done (prior to the cement setting up) immediately after bumping the plug.

3. Wait on cement (WOC) for Water Basin: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements. The casing intergrity test can be done (prior to the cement setting up) immediately after bumping the plug.

4. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. Have well specific cement details onsite prior to pumping the cement for each casing string.

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

6. On that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Formation at the shoe shall be tested to a minimum of the mud weight equivalent anticipated to control the formation pressure to the next casing depth or at total depth of the well. This test shall be performed before drilling more than 20 feet of new hole.

7. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.

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

B. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.

2. If a variance is approved for a flexible hose to be installed from the BOP to the choke manifold, the following requirements apply: The flex line must meet the requirements of API 16C. Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.

3. 5M or higher system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.

4. If the operator has proposed a multi-bowl wellhead assembly in the APD. The following requirements must be met:
    a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.

b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
c. Manufacturer representative shall install the test plug for the initial BOP test.
d. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
e. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.

5. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.

a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead when specified), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).

b. In potash areas, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. For all casing strings, casing cut-off and BOP installation can be initiated at twelve hours after bumping the plug. However, **no tests** shall commence until the cement has had a minimum of 24 hours setup time, except the casing pressure test can be initiated immediately after bumping the plug (only applies to single stage cement jobs).

c. The tests shall be done by an independent service company utilizing a test plug. The results of the test shall be reported to the appropriate BLM office.

d. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one hour chart. A circular chart shall have a maximum 2 hour clock. If a twelve hour or twenty-four hour chart is used, tester shall make a notation that it is run with a two hour clock.

e. 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. This test shall be performed prior to the test at full stack pressure.

g. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the Wolfcamp formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per Onshore Order No. 2.

C. DRILLING MUD

Mud system monitoring equipment, with derrick floor indicators and visual and audio alarms, shall be operating before drilling into the Wolfcamp formation, and shall be used until production casing is run and cemented.

D. WASTE MATERIAL AND FLUIDS

All waste (i.e. drilling fluids, trash, salts, chemicals, sewage, gray water, etc.) created as a result of drilling operations and completion operations shall be safely contained and disposed of properly at a waste disposal facility. No waste material or fluid shall be disposed of on the well location or surrounding area.

Porto-johns and trash containers will be on-location during fracturing operations or any other crew-intensive operations.

Waste Minimization Plan (WMP)

In the interest of resource development, submission of additional well gas capture development plan information is deferred but may be required by the BLM Authorized Officer at a later date.

ZS 011118

PECOS DISTRICT
SURFACE USE
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	XTO ENERGY INCORPORATED
LEASE NO.:	NMNM15302
WELL NAME & NO.:	29H –CORRAL CANYON FEDERAL COM
SURFACE HOLE FOOTAGE:	180'/S & 196'/W
BOTTOM HOLE FOOTAGE	200'/S & 300'/W
LOCATION:	Section 4.,T25S., R.29E., NMP
COUNTY:	EDDY County, New Mexico

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.

I. GENERAL PROVISIONS

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

II. PERMIT EXPIRATION

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

III. ARCHAEOLOGICAL, PALEONTOLOGY & HISTORICAL SITES

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

IV. NOXIOUS WEEDS

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

V. SPECIAL REQUIREMENT(S)

Cave/Karst Surface Mitigation

The following stipulations will be applied to minimize impacts during construction, drilling and production.

Construction:
In the advent that any underground voids are opened up during construction activities, construction activities will be halted and the BLM will be notified immediately.

No Blasting:
No blasting will be utilized for pad construction. The pad will be constructed and leveled by adding the necessary fill and caliche.

Pad Berming:
The entire perimeter of the well pad 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 high with impermeable mineral material (e.g. caliche).
- No water flow from the uphill side(s) of the pad shall be allowed to enter the well pad.
- The topsoil stockpile shall be located outside the bermed well pad.
- Topsoil, either from the well pad or surrounding area, shall not be used to construct the berm.
- No storm drains, tubing or openings shall be placed in the berm.
- 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.
- 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 access road entering the well pad shall be constructed so that the integrity of the berm height surrounding the well pad is not compromised. (Any access road crossing the berm cannot be lower than the berm height.)

Tank Battery Liners and Berms:
Tank battery locations and all facilities will be lined and bermed. A 20 mil permanent liner will be installed with a 4 oz. felt backing, or equivalent, to prevent tears or punctures. Tank battery berms must be large enough to contain 1 ½ times the content of the largest tank.

Leak Detection System:
A method of detecting leaks is required. The method could incorporate gauges to measure loss, situating values and lines so they can be visually inspected, or installing

electronic sensors to alarm when a leak is present. Leak detection plan will be submitted to BLM for approval.

Automatic Shut-off Systems:
Automatic shut off, check values, or similar systems will be installed for pipelines and tanks to minimize the effects of catastrophic line failures used in production or drilling.

Cave/Karst Subsurface Mitigation

The following stipulations will be applied to protect cave/karst and ground water concerns:

Rotary Drilling with Fresh Water:
Fresh water will be used as a circulating medium in zones where caves or karst features are expected. SEE ALSO: Drilling COAs for this well.

Directional Drilling:
Kick off for directional drilling will occur at least 100 feet below the bottom of the cave occurrence zone. SEE ALSO: Drilling COAs for this well.

Lost Circulation:
ALL lost circulation zones from the surface to the base of the cave occurrence zone will be logged and reported in the drilling report.

Regardless of the type of drilling machinery used, if a void of four feet or more and circulation losses greater than 70 percent occur simultaneously while drilling in any cave-bearing zone, the BLM will be notified immediately by the operator. The BLM will assess the situation and work with the operator on corrective actions to resolve the problem.

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

Pressure Testing:
Annual pressure monitoring will be performed by the operator on all casing annuli and reported in a sundry notice. If the test results indicated a casing failure has occurred, remedial action will be undertaken to correct the problem to the BLM's approval.

Water Shed Requirements:

- The entire well pad will be bermed to prevent oil, salt, and other chemical contaminants from leaving the well pad. 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 berm shall be maintained through the life of the well and 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.

- Exhaust noise from pump jack engines must be muffled or otherwise controlled so as not to exceed 75 db measured at 30 ft. from the source of the noise.

Tank Battery COAs Only:

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

Surface Pipeline COAs Only:

- A leak detection plan will be submitted to the BLM Carlsbad Field Office for approval prior to pipeline installation. The method could incorporate gauges to detect pressure drops, situating values 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.

VI. CONSTRUCTION

A. NOTIFICATION

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

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

B. TOPSOIL

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

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

C. CLOSED LOOP SYSTEM

Tanks are required for drilling operations: No Pits.

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

D. FEDERAL MINERAL MATERIALS PIT

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

E. WELL PAD SURFACING

Surfacing of the well pad is not required.

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

F. EXCLOSURE FENCING (CELLARS & PITS)

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

G. ON LEASE ACCESS ROADS

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

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

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

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

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

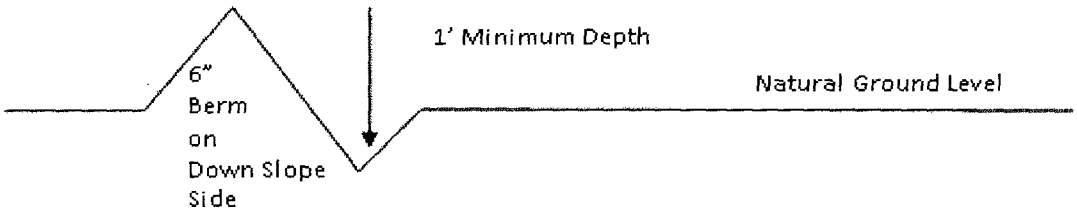
Ditching
Ditching shall be required on both sides of the road.

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

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

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

Cross Section of a Typical Lead-off Ditch



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

Formula for Spacing Interval of Lead-off Ditches

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

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

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

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

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

Construction Steps

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

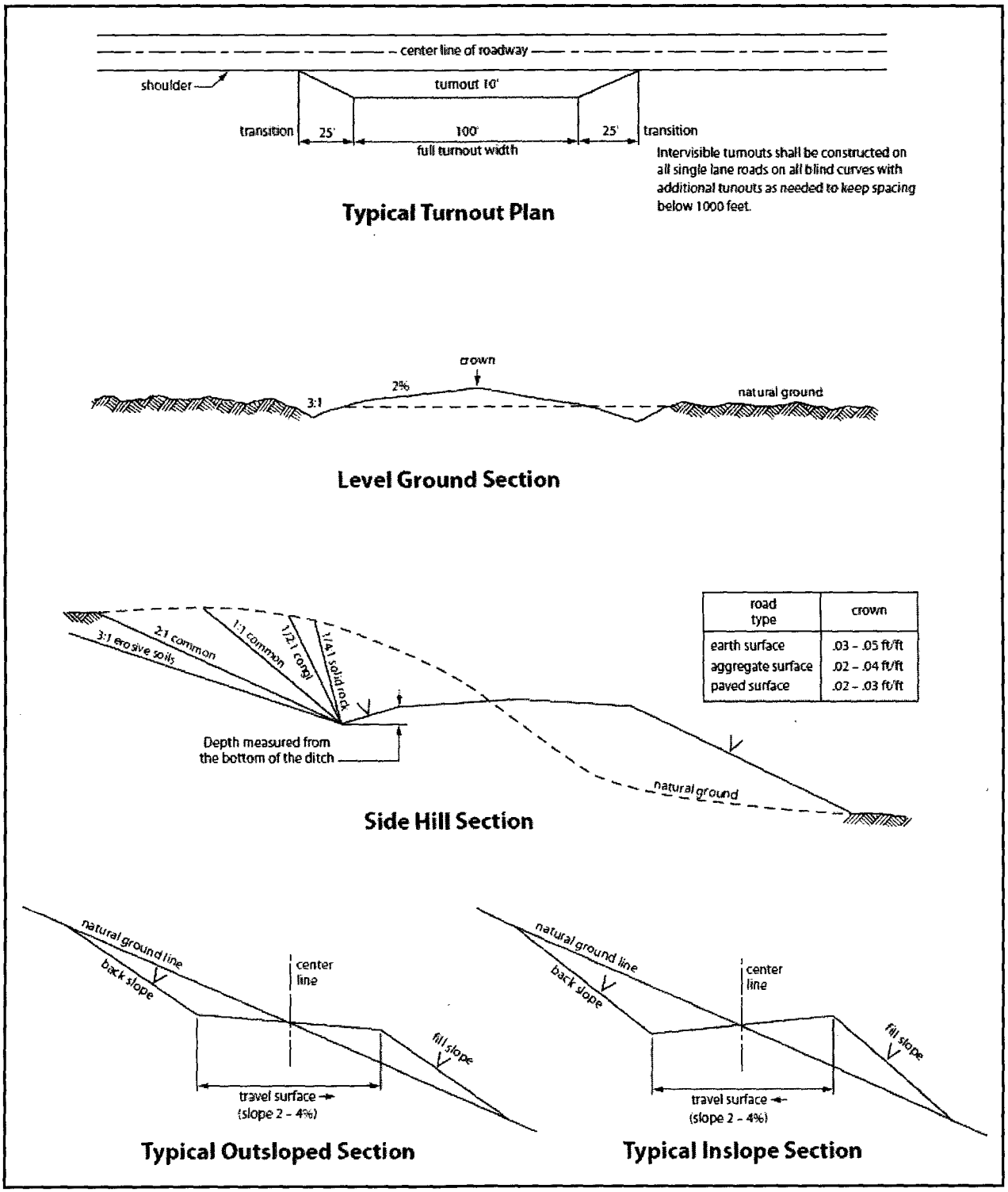


Figure 1. Cross-sections and plans for typical road sections representative of BLM resource or FS local and higher-class roads.

VII. PRODUCTION (POST DRILLING)

A. WELL STRUCTURES & FACILITIES

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

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

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

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

Containment Structures

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

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

B. PIPELINES

BURIED PIPELINE STIPULATIONS

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

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

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

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

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

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

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

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

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

- Blading of vegetation within the right-of-way will be allowed: maximum width of blading operations will not exceed **20** feet. The trench is included in this area. (*Blading is defined as the complete removal of brush and ground vegetation.*)

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

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

8. The holder shall stockpile an adequate amount of topsoil where blading is allowed. The topsoil to be stripped is approximately 6 inches in depth. The topsoil will be segregated from other spoil piles from trench construction. The topsoil will be evenly distributed over the bladed area for the preparation of seeding.

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

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

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

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

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

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

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

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

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

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

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

a. Any trench left open for eight (8) hours or less is not required to have escape ramps; however, before the trench is backfilled, the contractor/operator shall inspect the trench for wildlife, remove all trapped wildlife, and release them at least 100 yards from the trench.

b. For trenches left open for eight (8) hours or more, earthen escape ramps (built at no more than a 30 degree slope and spaced no more than 500 feet apart) shall be placed in the trench.

C. ELECTRIC LINES

STANDARD STIPULATIONS FOR OVERHEAD ELECTRIC DISTRIBUTION LINES

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

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

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

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

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

5. Power lines shall be constructed and designed in accordance to standards outlined in "Suggested Practices for Avian Protection on Power lines: The State of the Art in 2006" Edison Electric Institute, APLIC, and the California Energy Commission 2006 . The holder shall assume the burden and expense of proving that pole designs not shown in the above publication deter raptor perching, roosting, and nesting. Such proof shall be provided by a raptor expert approved by the Authorized Officer. The BLM reserves the

right to require modification or additions to all powerline structures placed on this right-of-way, should they be necessary to ensure the safety of large perching birds. Such modifications and/or additions shall be made by the holder without liability or expense to the United States.

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

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

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

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

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

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

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

VIII. INTERIM RECLAMATION

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

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

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

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

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

IX. FINAL ABANDONMENT & RECLAMATION

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

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

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

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

"EXHIBIT A-1"

Seed Mixture 2, for Sandy Sites

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

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

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

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

*Pounds of pure live seed:

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

AFMSS

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

Operator Certification Data Report

01/18/2018

Operator Certification

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

NAME: Stephanie Rabadue **Signed on:** 10/02/2017

Title: Regulatory Compliance Analyst

Street Address: 500 W. Illinois St, Ste 100

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

Phone: (432)620-6714

Email address: stephanie_rabadue@xtoenergy.com

Field Representative

Representative Name:

Street Address:

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

Phone:

Email address:

APD ID: 10400022808 **Submission Date:** 10/02/2017

Operator Name: XTO ENERGY INCORPORATED

Well Name: CORRAL CANYON FEDERAL COM **Well Number:** 29H

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

Highlighted data reflects the most recent changes

Show Final Text

Section 1 - General

APD ID: 10400022808 **Tie to previous NOS?** 10400012329 **Submission Date:** 10/02/2017

BLM Office: CARLSBAD **User:** Stephanie Rabadue **Title:** Regulatory Compliance Analyst

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

Lease number: NMNM15302 **Lease Acres:** 1917.02

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

Agreement in place? NO **Federal or Indian agreement:**

Agreement number:

Agreement name:

Keep application confidential? NO

Permitting Agent? NO **APD Operator:** XTO ENERGY INCORPORATED

Operator letter of designation:

Operator Info

Operator Organization Name: XTO ENERGY INCORPORATED

Operator Address: 810 Houston St. **Zip:** 76102

Operator PO Box:

Operator City: Ft. Worth **State:** TX

Operator Phone: (432)620-6700

Operator Internet Address: Richard_redus@xtoenergy.com

Section 2 - Well Information

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

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

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

Well Name: CORRAL CANYON FEDERAL COM **Well Number:** 29H **Well API Number:**

Field/Pool or Exploratory? Field and Pool **Field Name:** BONE SPRING **Pool Name:** WILLOW LAKE; BONE SPRING, SE

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

Operator Name: XTO ENERGY INCORPORATED

Well Name: CORRAL CANYON FEDERAL COM **Well Number:** 29H

Describe other minerals:

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

Type of Well Pad: MULTIPLE WELL **Multiple Well Pad Name:** CORRAL CANYON **Number:** 5

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

Well Work Type: Drill

Well Type: OIL WELL

Describe Well Type:

Well sub-Type: DELINEATION

Describe sub-type:

Distance to town: **Distance to nearest well:** 25 FT **Distance to lease line:** 180 FT

Reservoir well spacing assigned acres Measurement: 320 Acres

Well plat: Corral_Fed_29H_C102_20171002072830.pdf

Well work start Date: 01/15/2018 **Duration:** 30 DAYS

Section 3 - Well Location Table

Survey Type: RECTANGULAR

Describe Survey Type:

Datum: NAD83 **Vertical Datum:** NAVD88

Survey number:

	NS-Foot	NS Indicator	EW-Foot	EW Indicator	Twsp	Range	Section	Aliquot/Lot/Tract	Latitude	Longitude	County	State	Meridian	Lease Type	Lease Number	Elevation	MD	TVD
SHL Leg #1	180	FSL	196	FWL	25S	29E	4	Aliquot SWSW	32.152394	-103.997407	EDDY	NEW MEXICO	NEW MEXICO	F	NMNM 15302	2944	0	0
KOP Leg #1	180	FSL	196	FWL	25S	29E	4	Aliquot SWSW	32.152394	-103.997407	EDDY	NEW MEXICO	NEW MEXICO	F	NMNM 15302	-5068	8012	8012
PPP Leg #1	330	FNL	330	FWL	25S	29E	4	Aliquot NWNW	32.150993	-103.996975	EDDY	NEW MEXICO	NEW MEXICO	F	NMNM 136870	-5666	9000	8610

APD ID: 10400022808 **Submission Date:** 10/02/2017

Operator Name: XTO ENERGY INCORPORATED

Well Name: CORRAL CANYON FEDERAL COM **Well Number:** 29H

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

Highlighted data reflects the most recent changes

Show Final Text

Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical Depth	Measured Depth	Lithologies	Mineral Resources	Producing Formation
1	---	3293	0	0	ALLUVIUM,OTHER : Quaternary	NONE	No
2	RUSTLER	3002	291	291	SANDSTONE	USEABLE WATER	No
3	TOP SALT	2623	670	670	SALT	NONE	No
4	BASE OF SALT	596	2697	2697	SALT	NONE	No
5	DELAWARE	393	2900	2900	SANDSTONE	NATURAL GAS,OIL,OTHER : Produced Water	No
6	CHERRY CANYON	-509	3802	3802	SANDSTONE	NATURAL GAS,OIL,OTHER : Produced Water	No
7	BRUSHY CANYON	-2097	5390	5390	SANDSTONE	NATURAL GAS,OIL,OTHER : Produced Water	No
8	BONE SPRING	-3343	6636	6636	SANDSTONE	NATURAL GAS,OIL,OTHER : Produced Water	No
9	BONE SPRING 1ST	-4275	7568	7568	SANDSTONE	NATURAL GAS,OIL,OTHER : Produced Water	No
10	BONE SPRING 2ND	-4523	7816	7816		NATURAL GAS,OIL,OTHER : Produced Water	Yes

Section 2 - Blowout Prevention

Pressure Rating (PSI): 3M **Rating Depth:** 8610

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.
Testing Procedure: All BOP testing will be done by an independent service company. Annular pressure tests will be limited to 50% of the working pressure. When nippling up on the 13-5/8" 3M bradenhead and flange, the BOP test will be limited to 3000psi. When nippling up on the 9-5/8", the BOP will be tested to a minimum of 3000 psi. All BOP tests will include a low pressure test as per BLM regulations. The 3M BOP diagram is attached. Blind rams will be function tested each trip, pipe rams will be function tested each day.

Operator Name: XTO ENERGY INCORPORATED

Well Name: CORRAL CANYON FEDERAL COM **Well Number:** 29H

Choke Diagram Attachment:

Corral_Fed_29H_3MCM_20171002092132.pdf

BOP Diagram Attachment:

Corral_Fed_29H_3MBOP2_20180110112124.pdf

Section 3 - Casing

Casing ID	String Type	Hole Size	Csg Size	Condition	Standard	Tapered String	Top Set MD	Bottom Set MD	Top Set TVD	Bottom Set TVD	Top Set MSL	Bottom Set MSL	Calculated casing length MD	Grade	Weight	Joint Type	Collapse SF	Burst SF	Joint SF Type	Joint SF	Body SF Type	Body SF
1	SURFACE	17.5	13.375	NEW	API	N	0	640	0	640			640	H-40	48	STC	2.63	5.91	DRY	10.48	DRY	10.48
2	INTERMEDIATE	12.25	9.625	NEW	API	N	0	2750	0	2750			2750	J-55	36	LTC	2.74	4.78	DRY	4.58	DRY	4.58
3	INTERMEDIATE	8.75	5.5	NEW	API	N	0	18965	0	8610			18965	P-110	17	BUTT	1.82	1.12	DRY	2.58	DRY	2.58

Casing Attachments

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Corral_Fed_29H_Csg_20171002065434.pdf

Operator Name: XTO ENERGY INCORPORATED

Well Name: CORRAL CANYON FEDERAL COM **Well Number:** 29H

Casing Attachments

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Corral_Fed_29H_Csg_20171002065537.pdf

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Corral_Fed_29H_Csg_20171002065706.pdf

Section 4 - Cement

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
SURFACE	Lead		0	640	650	1.35	14.8	877.5	100	HalCem-C	+ 2% CaCl
INTERMEDIATE	Lead		0	2750	740	1.88	12.9	1391.2	100	Halcem-C	+2% CaCl
INTERMEDIATE	Tail				230	1.33	14.8	305.9	100	HalCem-C	+2% CaCl
INTERMEDIATE	Lead		0	18965	640	2.69	10.5	1721.6	100	Neocem	None

Operator Name: XTO ENERGY INCORPORATED

Well Name: CORRAL CANYON FEDERAL COM **Well Number:** 29H

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
INTERMEDIATE	Tail				2140	1.61	13.2	3445.4	100	Versacem	none

Section 5 - Circulating Medium

Mud System Type: Closed

Will an air or gas system be Used? NO

Description of the equipment for the circulating system in accordance with Onshore Order #2:

Diagram of the equipment for the circulating system in accordance with Onshore Order #2:

Describe what will be on location to control well or mitigate other conditions: The necessary mud products for weight addition and fluid loss control will be on location at all times.

Describe the mud monitoring system utilized: A Pason or Totco will be used to detect changes in loss or gain of mud volume.

Circulating Medium Table

Top Depth	Bottom Depth	Mud Type	Min Weight (lbs/gal)	Max Weight (lbs/gal)	Density (lbs/cu ft)	Gel Strength (lbs/100 sqft)	PH	Viscosity (CP)	Salinity (ppm)	Filtration (cc)	Additional Characteristics
0	640	OTHER : FW/Native	8.5	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
450	1500	SALT SATURATED	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

Top Depth	Bottom Depth	Mud Type	Min Weight (lbs/gal)	Max Weight (lbs/gal)	Density (lbs/cu ft)	Gel Strength (lbs/100 sqft)	PH	Viscosity (CP)	Salinity (ppm)	Filtration (cc)	Additional Characteristics
640	2750	OTHER : FW/Cut 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
2750	18695	OTHER : Cut Brine/Poly-Sweeps	8.4	9.2							A mud test will be performed every 24 hours to determine: density, viscosity, strength, filtration and pH as necessary. Use available solids controls equipment to help keep mud weight down after mud up. Rig up solids control equipment to operate as a closed loop system

Section 6 - Test, Logging, Coring

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

Mud Logger: Mud Logging Unit (2 man) on below intermediate casing.

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,DLL,GR,MUDLOG

Coring operation description for the well:

No coring will take place on this well.

Section 7 - Pressure

Anticipated Bottom Hole Pressure: 2225 **Anticipated Surface Pressure:** 330.79

Anticipated Bottom Hole Temperature(F): 150

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:

Corral_Fed_29H_H2S_Dia_20171002070654.pdf
Corral_Fed_29H_H2S_Plan_20171002070702.pdf

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

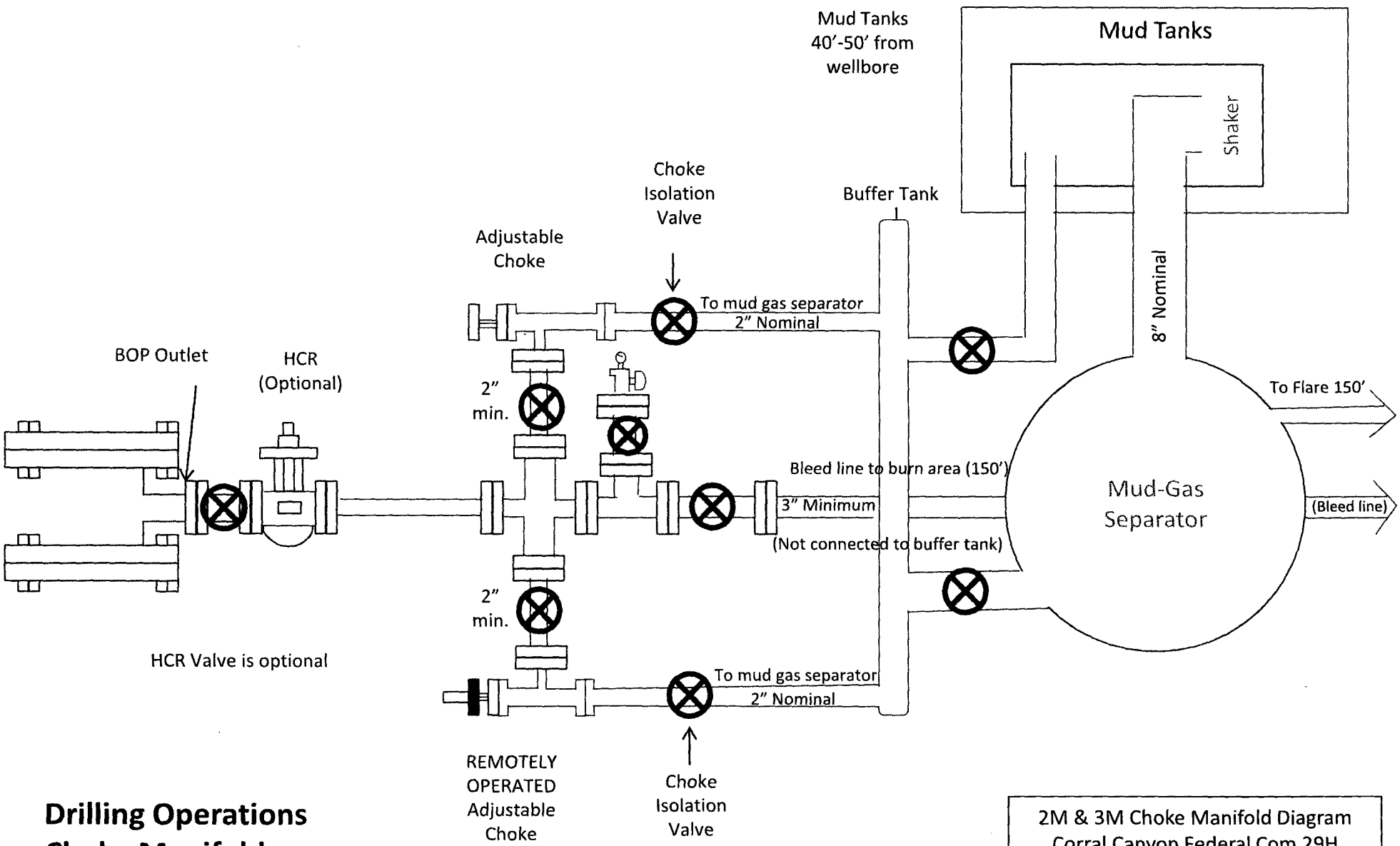
Corral_Fed_29H_Direct_20171002070718.pdf

Other proposed operations facets description:

Other proposed operations facets attachment:

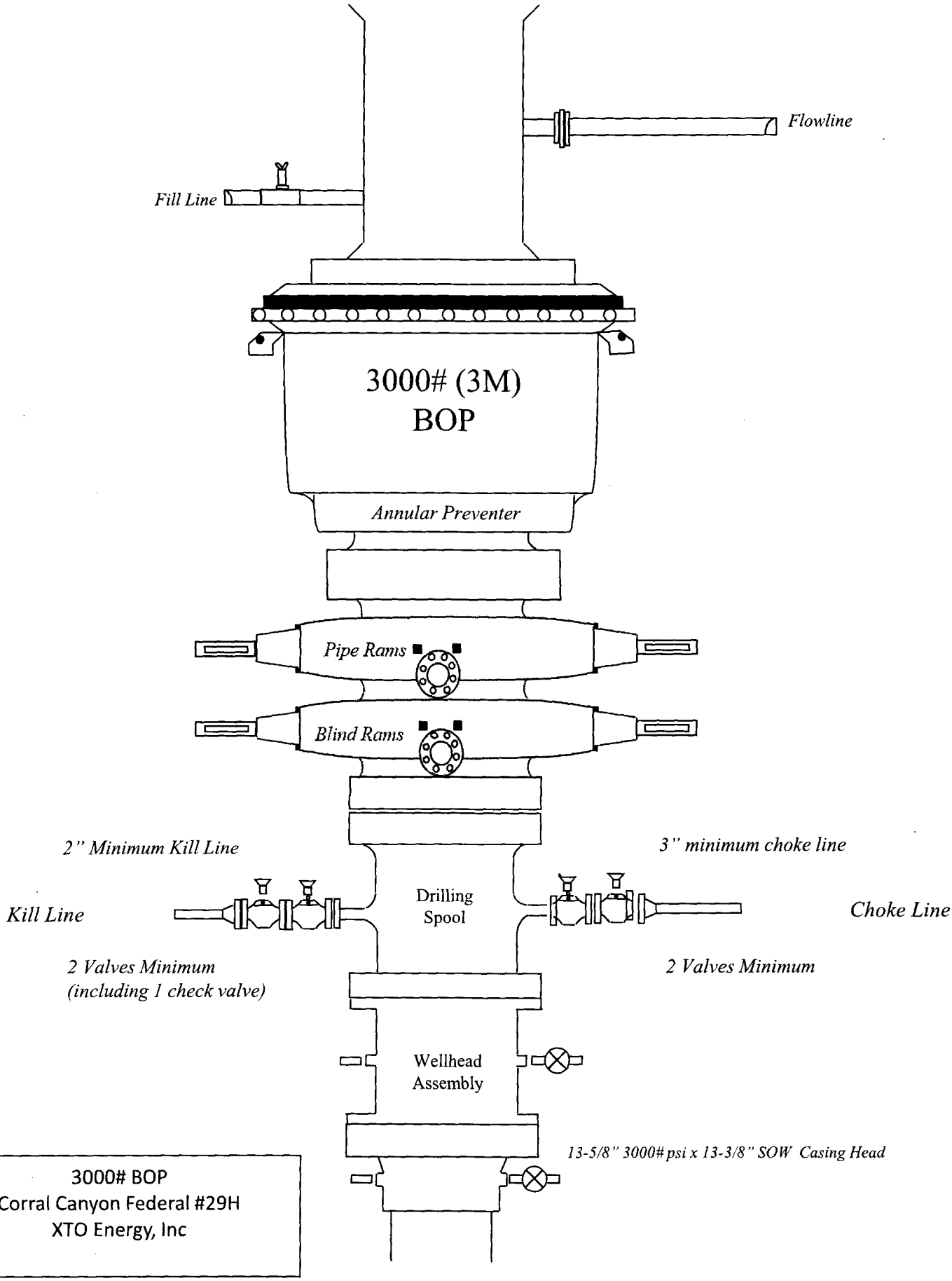
Other Variance attachment:

Corral_Fed_29H_FH_20171002070726.pdf
Corral_Fed_29H_GCP_20171002072920.pdf



Drilling Operations
Choke Manifold
2M & 3M Service

2M & 3M Choke Manifold Diagram
Corral Canyon Federal Com 29H
XTO Energy, Inc



3000# BOP
Corral Canyon Federal #29H
XTO Energy, Inc

XTO Energy Inc.
Corral Canyon Fed 29H
Projected TD: 18965' MD / 8610' TVD
SHL: 180' FSL & 196' FWL , SECTION 4, T25S, R29E
BHL: 200' FSL & 330' FWL , SECTION 16, T25S, R29E
Eddy County, NM

3. Casing Design

Hole Size	Depth	OD Csg	Weight	Collar	Grade	New/Used	SF Burst	SF Collapse	SF Tension
17-1/2"	0' – 640'	13-3/8"	48#	STC	H-40	New	5.91	2.63	10.48
12-1/4"	0' – 2750'	9-5/8"	36#	LTC	J-55	New	4.78	2.74	4.58
8-3/4" x 8-1/2"	0' – 18965'	5-1/2"	17#	BTC	P-110	New	1.12	1.82	2.58

- XTO requests to utilize centralizers only in the curve after the KOP and only a minimum of one every other joint.
- 9-5/8" Collapse analyzed using 50% evacuation based on regional experience.
- 5-1/2" tension calculated using vertical hanging weight plus the lateral weight multiplied by a friction factor of 0.35

XTO Energy Inc.
Corral Canyon Fed 29H
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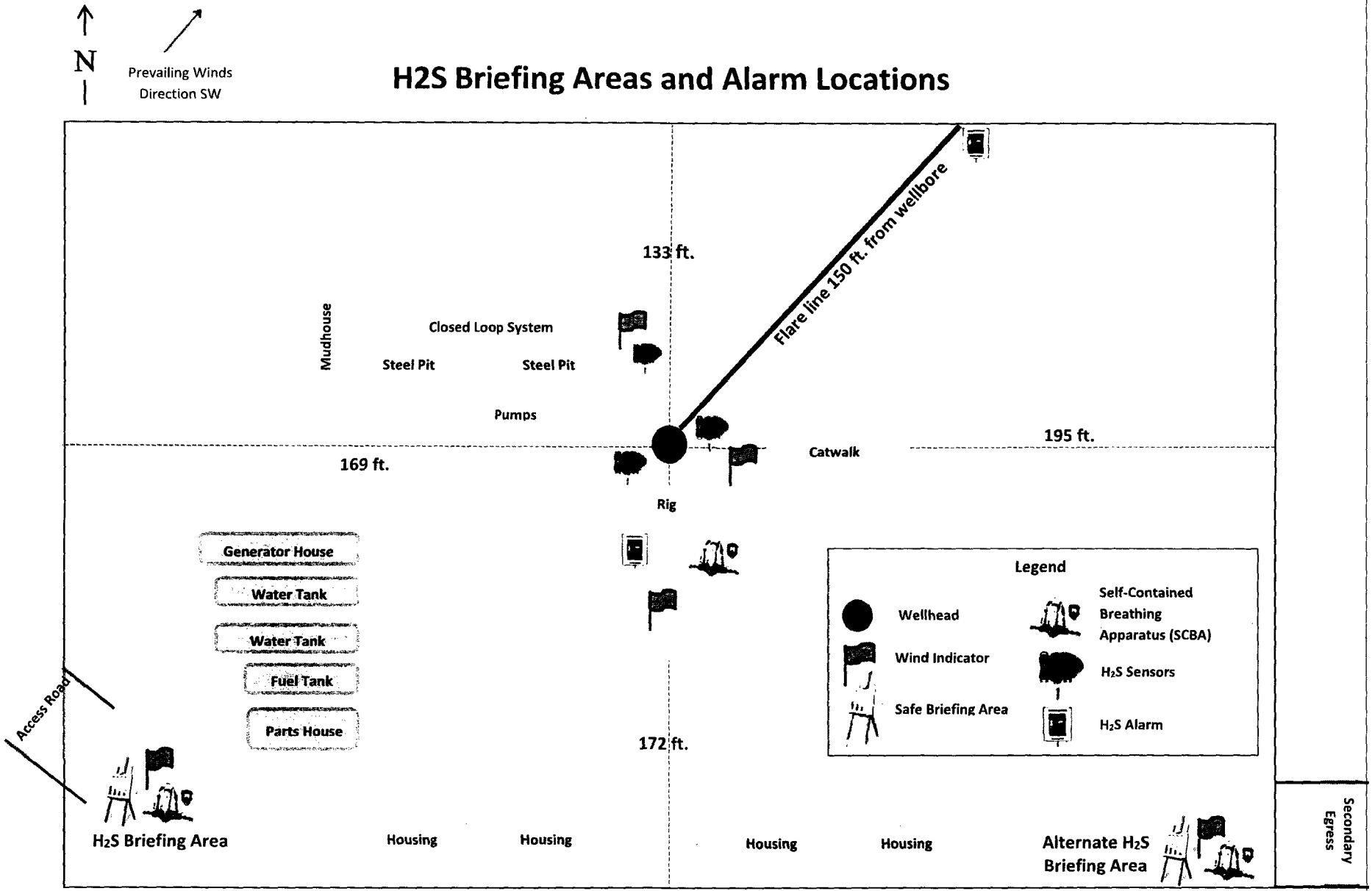
H2S Briefing Areas and Alarm Locations



XTO ENERGY

July 10, 2017

Stephanie Rabadue
XTO Energy Inc.
500 W. Illinois St Ste 100
Midland, TX 79701
432-620-6714
stephanie_rabadue@xtoenergy.com

Bureau of Land Management
620 E. Greene
Carlsbad, NM 88220
575-887-6544

Dear Sirs:

XTO Energy Inc. does not anticipate encountering H2S while drilling the Corral Canyon Federal Com #29H located in Section 4, T25S, R29E, in Eddy County, New Mexico. As a precaution, I have attached an H2S contingency plan along with a gas analysis of our well stream. If you need anything further, please contact me at the telephone number or email listed above.

Thank you,

Stephanie Rabadue

Stephanie Rabadue
Regulatory Analyst

HYDROGEN SULFIDE (H2S) CONTINGENCY PLAN

Assumed 100 ppm ROE = 3000'

100 ppm H2S concentration shall trigger activation of this plan.

Emergency Procedures

In the event of a release of gas containing H_2S, the first responder(s) must

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

Ignition of Gas source

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

Characteristics of H_2S and SO_2

Common Name	Chemical Formula	Specific Gravity	Threshold Limit	Hazardous Limit	Lethal Concentration
Hydrogen Sulfide	H_2S	1.189 Air = I	10 ppm	100 ppm/hr	600 ppm
Sulfur Dioxide	SO_2	2.21 Air = I	2 ppm	N/A	1000 ppm

Contacting Authorities

XTO Energy Inc's 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).

EUNICE OFFICE – EDDY & LEA COUNTIES

EMSU @ Oil Center, NM, 8/10ths mile west of Hwy 8 on Hwy 175
Eunice, NM 575-394-2089

XTO ENERGY INC PERSONNEL:

Logan Farmar, Drilling Engineer	432-234-9872
Milton Turman, Drilling Superintendent	817-524-5107
Jeff Raines, Construction Foreman	432-557-3159
Dudley McMinn, EH & S Manager	432-557-7976
Wes McSpadden, Production Foreman	575-441-1147

SHERIFF DEPARTMENTS:

Eddy County	575-887-7551
Lea County	575-396-3611

NEW MEXICO STATE POLICE: 575-392-5588

FIRE DEPARTMENTS:

	911
Carlsbad	575-885-2111
Eunice	575-394-2111
Hobbs	575-397-9308
Jal	575-395-2221
Lovington	575-396-2359

HOSPITALS:

	911
Carlsbad Medical Emergency	575-885-2111
Eunice Medical Emergency	575-394-2112
Hobbs Medical Emergency	575-397-9308
Jal Medical Emergency	575-395-2221
Lovington Medical Emergency	575-396-2359

AGENT NOTIFICATIONS:

Bureau of Land Management	575-393-3612
New Mexico Oil Conservation Division	575-393-6161
Mosaic Potash - Carlsbad	575-887-2871

CONTRACTORS:

ABC Rental – Light Towers	575-394-3155
Bulldog Services – Trucking/Forklift	575-391-8543
Champion – Chemical	575-393-7726
Indian Fire & Safety	575-393-3093
Key – Dirt Contractor	575-393-3180
Key Tools – Light Towers	575-393-2415
Sweatt – Dirt Contractor	575-397-4541
RWI – Contract Gang	575-393-5305

XTO ENERGY

5D Plan Report

XTO Energy

Field Name: *Eddy Co., NM (NAD 27 NME)*
Site Name: *Corral Canyon Federal #29H*
Well Name: *Corral Canyon Federal #29H*
Plan: *P1:V1*

1 August 2017

Weatherford®

Weatherford

XTO ENERGY

Corral Canyon Federal #29H

Field Name: Eddy Co., NM (NAD 27 NME)

Map Units: US ft **Company Name:** XTO Energy
Vertical Reference Datum (VRD):
Projected Coordinate System: NAD27 / New Mexico East
Comment:

Site: Corral Canyon Federal #29H

Units: US ft **North Reference:** Grid **Convergence Angle:** 0.18
Position: **Northing:** 419280.10 US ft **Latitude:** 32° 9' 8.17"
Easting: 604113.80 US ft **Longitude:** -103° 59' 48.91"
Elevation above Field Reference: 2944.00 US ft
Comment:

Slot: Corral Canyon Federal #29H

Position (Relative to Site Centre)
+N/-S: 0.00 US ft **Northing:** 419280.10 US ft **Latitude:** 32°9'8.17"
+E/-W: 0.00 US ft **Easting:** 604113.80 US ft **Longitude:** -103°59'48.91"
Elevation above Field Reference: 2944.00 US ft
Comment:

Well: Corral Canyon Federal #29H

Type: Main well **UWI:** **Plan:** P1:V1
File Number: **Comment:**
Closure Distance: 10594.6US ft **Closure Azimuth:** 179.07°
Vertical Section: Position of Origin (Relative to Slot centre)
+N/-S: 0.00 US ft **+E/-W:** 0.00 US ft **Az:** 179.77°
Magnetic Parameters:
Model: bggm2017 **Field Strength:** 47917.6nT **Declination:** 7.21° **Dip:** 59.89° **Date:** 01/Aug/2017

Drill floor: Plan: P1:V1

Rig Height (Drill Floor): 26.50US ft **Elevation above Field Reference:** 2970.50US ft **Inclination:** 0.00° **Azimuth:** 0.00°

Target set: Corral Canyon Federal #29H Comment:

Target Name:	Shape:	TVD (US ft)	N.Offset (US ft)	E.Offset (US ft)	Northing (US ft)	Easting (US ft)	Comment
FTP	Point	8610.00	-509.20	135.30	418770.90	604249.10	
LPT	Point	8610.00	-10463.20	171.30	408816.90	604285.10	
PBHL	Cuboid	8610.00	-10593.20	171.80	408686.90	604285.60	

Wellpath created using minimum curvature.

Tie Point:

MD:	Inclination:	Azimuth:	TVD:	North Offset:	East Offset:
0.00USFt	0.00°	0.00°	0.00USFt	0.00USFt	0.00USFt

Salient Points: (Relative to Slot centre)(TVD relative to Drill Floor)

MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	VS (US ft)	N.Offset (US ft)	E.Offset (US ft)	B.Rate (°/100US ft)	T.Rate (°/100US ft)	DLS (°/100US ft)	Comment
0.00	0.00	0.00	0.00	-0.00	0.00	0.00	0.00	0.00	0.00	
8012.44	0.00	0.00	8012.44	-0.00	0.00	0.00	0.00	0.00	0.00	KOP
8327.44	31.50	150.80	8311.81	73.87	-73.70	41.19	10.00	0.00	10.00	Build/Turn 10's
8955.43	90.00	179.77	8610.00	583.46	-582.94	131.74	9.32	4.61	10.00	LP
18835.77	90.00	179.77	8610.00	10463.80	-10463.20	171.28	0.00	0.00	0.00	Cross 330 HL
18965.77	90.00	179.77	8610.00	10593.80	-10593.20	171.80	0.00	0.00	0.00	PBHL

Interpolated Points: (Relative to Slot centre)(TVD relative to Drill Floor)

MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	VS (US ft)	N.Offset (US ft)	E.Offset (US ft)	Northing (US ft)	Easting (US ft)	DLS (°/100US ft)	Comment
0.00	0.00	0.00	0.00	-0.00	0.00	0.00	419280.10	604113.80	0.00	
100.00	0.00	0.00	100.00	-0.00	0.00	0.00	419280.10	604113.80	0.00	
200.00	0.00	0.00	200.00	-0.00	0.00	0.00	419280.10	604113.80	0.00	
300.00	0.00	0.00	300.00	-0.00	0.00	0.00	419280.10	604113.80	0.00	
400.00	0.00	0.00	400.00	-0.00	0.00	0.00	419280.10	604113.80	0.00	
500.00	0.00	0.00	500.00	-0.00	0.00	0.00	419280.10	604113.80	0.00	
600.00	0.00	0.00	600.00	-0.00	0.00	0.00	419280.10	604113.80	0.00	
700.00	0.00	0.00	700.00	-0.00	0.00	0.00	419280.10	604113.80	0.00	
800.00	0.00	0.00	800.00	-0.00	0.00	0.00	419280.10	604113.80	0.00	
900.00	0.00	0.00	900.00	-0.00	0.00	0.00	419280.10	604113.80	0.00	
1000.00	0.00	0.00	1000.00	-0.00	0.00	0.00	419280.10	604113.80	0.00	
1100.00	0.00	0.00	1100.00	-0.00	0.00	0.00	419280.10	604113.80	0.00	
1200.00	0.00	0.00	1200.00	-0.00	0.00	0.00	419280.10	604113.80	0.00	
1300.00	0.00	0.00	1300.00	-0.00	0.00	0.00	419280.10	604113.80	0.00	
1400.00	0.00	0.00	1400.00	-0.00	0.00	0.00	419280.10	604113.80	0.00	
1500.00	0.00	0.00	1500.00	-0.00	0.00	0.00	419280.10	604113.80	0.00	
1600.00	0.00	0.00	1600.00	-0.00	0.00	0.00	419280.10	604113.80	0.00	
1700.00	0.00	0.00	1700.00	-0.00	0.00	0.00	419280.10	604113.80	0.00	
1800.00	0.00	0.00	1800.00	-0.00	0.00	0.00	419280.10	604113.80	0.00	
1900.00	0.00	0.00	1900.00	-0.00	0.00	0.00	419280.10	604113.80	0.00	
2000.00	0.00	0.00	2000.00	-0.00	0.00	0.00	419280.10	604113.80	0.00	
2100.00	0.00	0.00	2100.00	-0.00	0.00	0.00	419280.10	604113.80	0.00	
2200.00	0.00	0.00	2200.00	-0.00	0.00	0.00	419280.10	604113.80	0.00	
2300.00	0.00	0.00	2300.00	-0.00	0.00	0.00	419280.10	604113.80	0.00	
2400.00	0.00	0.00	2400.00	-0.00	0.00	0.00	419280.10	604113.80	0.00	
2500.00	0.00	0.00	2500.00	-0.00	0.00	0.00	419280.10	604113.80	0.00	
2600.00	0.00	0.00	2600.00	-0.00	0.00	0.00	419280.10	604113.80	0.00	
2700.00	0.00	0.00	2700.00	-0.00	0.00	0.00	419280.10	604113.80	0.00	
2800.00	0.00	0.00	2800.00	-0.00	0.00	0.00	419280.10	604113.80	0.00	
2900.00	0.00	0.00	2900.00	-0.00	0.00	0.00	419280.10	604113.80	0.00	
3000.00	0.00	0.00	3000.00	-0.00	0.00	0.00	419280.10	604113.80	0.00	
3100.00	0.00	0.00	3100.00	-0.00	0.00	0.00	419280.10	604113.80	0.00	
3200.00	0.00	0.00	3200.00	-0.00	0.00	0.00	419280.10	604113.80	0.00	
3300.00	0.00	0.00	3300.00	-0.00	0.00	0.00	419280.10	604113.80	0.00	
3400.00	0.00	0.00	3400.00	-0.00	0.00	0.00	419280.10	604113.80	0.00	
3500.00	0.00	0.00	3500.00	-0.00	0.00	0.00	419280.10	604113.80	0.00	
3600.00	0.00	0.00	3600.00	-0.00	0.00	0.00	419280.10	604113.80	0.00	
3700.00	0.00	0.00	3700.00	-0.00	0.00	0.00	419280.10	604113.80	0.00	
3800.00	0.00	0.00	3800.00	-0.00	0.00	0.00	419280.10	604113.80	0.00	
3900.00	0.00	0.00	3900.00	-0.00	0.00	0.00	419280.10	604113.80	0.00	
4000.00	0.00	0.00	4000.00	-0.00	0.00	0.00	419280.10	604113.80	0.00	
4100.00	0.00	0.00	4100.00	-0.00	0.00	0.00	419280.10	604113.80	0.00	
4200.00	0.00	0.00	4200.00	-0.00	0.00	0.00	419280.10	604113.80	0.00	
4300.00	0.00	0.00	4300.00	-0.00	0.00	0.00	419280.10	604113.80	0.00	
4400.00	0.00	0.00	4400.00	-0.00	0.00	0.00	419280.10	604113.80	0.00	

5D Survey Report

Interpolated Points: (Relative to Slot centre)(TVD relative to Drill Floor)

MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	VS (US ft)	N.Offset (US ft)	E.Offset (US ft)	Northing (US ft)	Easting (US ft)	DLS (°/100US ft)	Comment
4500.00	0.00	0.00	4500.00	-0.00	0.00	0.00	419280.10	604113.80	0.00	
4600.00	0.00	0.00	4600.00	-0.00	0.00	0.00	419280.10	604113.80	0.00	
4700.00	0.00	0.00	4700.00	-0.00	0.00	0.00	419280.10	604113.80	0.00	
4800.00	0.00	0.00	4800.00	-0.00	0.00	0.00	419280.10	604113.80	0.00	
4900.00	0.00	0.00	4900.00	-0.00	0.00	0.00	419280.10	604113.80	0.00	
5000.00	0.00	0.00	5000.00	-0.00	0.00	0.00	419280.10	604113.80	0.00	
5100.00	0.00	0.00	5100.00	-0.00	0.00	0.00	419280.10	604113.80	0.00	
5200.00	0.00	0.00	5200.00	-0.00	0.00	0.00	419280.10	604113.80	0.00	
5300.00	0.00	0.00	5300.00	-0.00	0.00	0.00	419280.10	604113.80	0.00	
5400.00	0.00	0.00	5400.00	-0.00	0.00	0.00	419280.10	604113.80	0.00	
5500.00	0.00	0.00	5500.00	-0.00	0.00	0.00	419280.10	604113.80	0.00	
5600.00	0.00	0.00	5600.00	-0.00	0.00	0.00	419280.10	604113.80	0.00	
5700.00	0.00	0.00	5700.00	-0.00	0.00	0.00	419280.10	604113.80	0.00	
5800.00	0.00	0.00	5800.00	-0.00	0.00	0.00	419280.10	604113.80	0.00	
5900.00	0.00	0.00	5900.00	-0.00	0.00	0.00	419280.10	604113.80	0.00	
6000.00	0.00	0.00	6000.00	-0.00	0.00	0.00	419280.10	604113.80	0.00	
6100.00	0.00	0.00	6100.00	-0.00	0.00	0.00	419280.10	604113.80	0.00	
6200.00	0.00	0.00	6200.00	-0.00	0.00	0.00	419280.10	604113.80	0.00	
6300.00	0.00	0.00	6300.00	-0.00	0.00	0.00	419280.10	604113.80	0.00	
6400.00	0.00	0.00	6400.00	-0.00	0.00	0.00	419280.10	604113.80	0.00	
6500.00	0.00	0.00	6500.00	-0.00	0.00	0.00	419280.10	604113.80	0.00	
6600.00	0.00	0.00	6600.00	-0.00	0.00	0.00	419280.10	604113.80	0.00	
6700.00	0.00	0.00	6700.00	-0.00	0.00	0.00	419280.10	604113.80	0.00	
6800.00	0.00	0.00	6800.00	-0.00	0.00	0.00	419280.10	604113.80	0.00	
6900.00	0.00	0.00	6900.00	-0.00	0.00	0.00	419280.10	604113.80	0.00	
7000.00	0.00	0.00	7000.00	-0.00	0.00	0.00	419280.10	604113.80	0.00	
7100.00	0.00	0.00	7100.00	-0.00	0.00	0.00	419280.10	604113.80	0.00	
7200.00	0.00	0.00	7200.00	-0.00	0.00	0.00	419280.10	604113.80	0.00	
7300.00	0.00	0.00	7300.00	-0.00	0.00	0.00	419280.10	604113.80	0.00	
7400.00	0.00	0.00	7400.00	-0.00	0.00	0.00	419280.10	604113.80	0.00	
7500.00	0.00	0.00	7500.00	-0.00	0.00	0.00	419280.10	604113.80	0.00	
7600.00	0.00	0.00	7600.00	-0.00	0.00	0.00	419280.10	604113.80	0.00	
7700.00	0.00	0.00	7700.00	-0.00	0.00	0.00	419280.10	604113.80	0.00	
7800.00	0.00	0.00	7800.00	-0.00	0.00	0.00	419280.10	604113.80	0.00	
7900.00	0.00	0.00	7900.00	-0.00	0.00	0.00	419280.10	604113.80	0.00	
8000.00	0.00	0.00	8000.00	-0.00	0.00	0.00	419280.10	604113.80	0.00	
8012.44	0.00	0.00	8012.44	-0.00	0.00	0.00	419280.10	604113.80	0.00	KOP
8100.00	8.76	150.80	8099.66	5.84	-5.83	3.26	419274.27	604117.06	10.00	
8200.00	18.76	150.80	8196.67	26.62	-26.56	14.84	419253.54	604128.64	10.00	
8300.00	28.76	150.80	8288.08	61.82	-61.68	34.47	419218.42	604148.27	10.00	
8327.44	31.50	150.80	8311.81	73.87	-73.70	41.19	419206.40	604154.99	10.00	Build/Turn 10's
8400.00	37.77	157.25	8371.50	111.03	-110.79	59.06	419169.31	604172.86	10.00	
8500.00	46.82	163.60	8445.43	174.50	-174.17	81.25	419105.93	604195.05	10.00	
8600.00	56.13	168.28	8507.66	250.39	-249.99	100.03	419030.11	604213.83	10.00	
8700.00	65.58	172.03	8556.32	336.41	-335.95	114.81	418944.15	604228.61	10.00	
8800.00	75.11	175.25	8589.91	429.93	-429.43	125.16	418850.67	604238.96	10.00	
8900.00	84.69	178.19	8607.43	528.12	-527.60	130.75	418752.50	604244.55	10.00	
8955.43	90.00	179.77	8610.00	583.46	-582.94	131.74	418697.16	604245.54	10.00	LP
9000.00	90.00	179.77	8610.00	628.03	-627.51	131.92	418652.59	604245.72	0.00	
9100.00	90.00	179.77	8610.00	728.03	-727.51	132.32	418552.59	604246.12	0.00	
9200.00	90.00	179.77	8610.00	828.03	-827.51	132.72	418452.59	604246.52	0.00	
9300.00	90.00	179.77	8610.00	928.03	-927.51	133.12	418352.59	604246.92	0.00	
9400.00	90.00	179.77	8610.00	1028.03	-1027.50	133.52	418252.60	604247.32	0.00	
9500.00	90.00	179.77	8610.00	1128.03	-1127.50	133.92	418152.60	604247.72	0.00	
9600.00	90.00	179.77	8610.00	1228.03	-1227.50	134.32	418052.60	604248.12	0.00	
9700.00	90.00	179.77	8610.00	1328.03	-1327.50	134.72	417952.60	604248.52	0.00	
9800.00	90.00	179.77	8610.00	1428.03	-1427.50	135.12	417852.60	604248.92	0.00	
9900.00	90.00	179.77	8610.00	1528.03	-1527.50	135.52	417752.60	604249.32	0.00	

5D Plan Report

Interpolated Points: (Relative to Slot centre)(TVD relative to Drill Floor)										
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	VS (US ft)	N.Offset (US ft)	E.Offset (US ft)	Northing (US ft)	Easting (US ft)	DLS (°/100US ft)	Comment
10000.00	90.00	179.77	8610.00	1628.03	-1627.50	135.92	417652.60	604249.72	0.00	
10100.00	90.00	179.77	8610.00	1728.03	-1727.50	136.32	417552.60	604250.12	0.00	
10200.00	90.00	179.77	8610.00	1828.03	-1827.50	136.72	417452.60	604250.52	0.00	
10300.00	90.00	179.77	8610.00	1928.03	-1927.50	137.12	417352.60	604250.92	0.00	
10400.00	90.00	179.77	8610.00	2028.03	-2027.50	137.52	417252.60	604251.32	0.00	
10500.00	90.00	179.77	8610.00	2128.03	-2127.50	137.92	417152.60	604251.72	0.00	
10600.00	90.00	179.77	8610.00	2228.03	-2227.49	138.32	417052.61	604252.12	0.00	
10700.00	90.00	179.77	8610.00	2328.03	-2327.49	138.72	416952.61	604252.52	0.00	
10800.00	90.00	179.77	8610.00	2428.03	-2427.49	139.12	416852.61	604252.92	0.00	
10900.00	90.00	179.77	8610.00	2528.03	-2527.49	139.52	416752.61	604253.32	0.00	
11000.00	90.00	179.77	8610.00	2628.03	-2627.49	139.92	416652.61	604253.72	0.00	
11100.00	90.00	179.77	8610.00	2728.03	-2727.49	140.32	416552.61	604254.12	0.00	
11200.00	90.00	179.77	8610.00	2828.03	-2827.49	140.72	416452.61	604254.52	0.00	
11300.00	90.00	179.77	8610.00	2928.03	-2927.49	141.12	416352.61	604254.92	0.00	
11400.00	90.00	179.77	8610.00	3028.03	-3027.49	141.52	416252.61	604255.32	0.00	
11500.00	90.00	179.77	8610.00	3128.03	-3127.49	141.92	416152.61	604255.72	0.00	
11600.00	90.00	179.77	8610.00	3228.03	-3227.49	142.32	416052.61	604256.12	0.00	
11700.00	90.00	179.77	8610.00	3328.03	-3327.49	142.72	415952.61	604256.52	0.00	
11800.00	90.00	179.77	8610.00	3428.03	-3427.49	143.12	415852.61	604256.92	0.00	
11900.00	90.00	179.77	8610.00	3528.03	-3527.48	143.52	415752.62	604257.32	0.00	
12000.00	90.00	179.77	8610.00	3628.03	-3627.48	143.92	415652.62	604257.72	0.00	
12100.00	90.00	179.77	8610.00	3728.03	-3727.48	144.32	415552.62	604258.12	0.00	
12200.00	90.00	179.77	8610.00	3828.03	-3827.48	144.72	415452.62	604258.52	0.00	
12300.00	90.00	179.77	8610.00	3928.03	-3927.48	145.12	415352.62	604258.92	0.00	
12400.00	90.00	179.77	8610.00	4028.03	-4027.48	145.52	415252.62	604259.32	0.00	
12500.00	90.00	179.77	8610.00	4128.03	-4127.48	145.92	415152.62	604259.72	0.00	
12600.00	90.00	179.77	8610.00	4228.03	-4227.48	146.32	415052.62	604260.12	0.00	
12700.00	90.00	179.77	8610.00	4328.03	-4327.48	146.72	414952.62	604260.52	0.00	
12800.00	90.00	179.77	8610.00	4428.03	-4427.48	147.12	414852.62	604260.92	0.00	
12900.00	90.00	179.77	8610.00	4528.03	-4527.48	147.52	414752.62	604261.32	0.00	
13000.00	90.00	179.77	8610.00	4628.03	-4627.48	147.92	414652.62	604261.72	0.00	
13100.00	90.00	179.77	8610.00	4728.03	-4727.47	148.32	414552.63	604262.12	0.00	
13200.00	90.00	179.77	8610.00	4828.03	-4827.47	148.72	414452.63	604262.52	0.00	
13300.00	90.00	179.77	8610.00	4928.03	-4927.47	149.12	414352.63	604262.92	0.00	
13400.00	90.00	179.77	8610.00	5028.03	-5027.47	149.53	414252.63	604263.33	0.00	
13500.00	90.00	179.77	8610.00	5128.03	-5127.47	149.93	414152.63	604263.73	0.00	
13600.00	90.00	179.77	8610.00	5228.03	-5227.47	150.33	414052.63	604264.13	0.00	
13700.00	90.00	179.77	8610.00	5328.03	-5327.47	150.73	413952.63	604264.53	0.00	
13800.00	90.00	179.77	8610.00	5428.03	-5427.47	151.13	413852.63	604264.93	0.00	
13900.00	90.00	179.77	8610.00	5528.03	-5527.47	151.53	413752.63	604265.33	0.00	
14000.00	90.00	179.77	8610.00	5628.03	-5627.47	151.93	413652.63	604265.73	0.00	
14100.00	90.00	179.77	8610.00	5728.03	-5727.47	152.33	413552.63	604266.13	0.00	
14200.00	90.00	179.77	8610.00	5828.03	-5827.47	152.73	413452.63	604266.53	0.00	
14300.00	90.00	179.77	8610.00	5928.03	-5927.47	153.13	413352.63	604266.93	0.00	
14400.00	90.00	179.77	8610.00	6028.03	-6027.46	153.53	413252.64	604267.33	0.00	
14500.00	90.00	179.77	8610.00	6128.03	-6127.46	153.93	413152.64	604267.73	0.00	
14600.00	90.00	179.77	8610.00	6228.03	-6227.46	154.33	413052.64	604268.13	0.00	
14700.00	90.00	179.77	8610.00	6328.03	-6327.46	154.73	412952.64	604268.53	0.00	
14800.00	90.00	179.77	8610.00	6428.03	-6427.46	155.13	412852.64	604268.93	0.00	
14900.00	90.00	179.77	8610.00	6528.03	-6527.46	155.53	412752.64	604269.33	0.00	
15000.00	90.00	179.77	8610.00	6628.03	-6627.46	155.93	412652.64	604269.73	0.00	
15100.00	90.00	179.77	8610.00	6728.03	-6727.46	156.33	412552.64	604270.13	0.00	
15200.00	90.00	179.77	8610.00	6828.03	-6827.46	156.73	412452.64	604270.53	0.00	
15300.00	90.00	179.77	8610.00	6928.03	-6927.46	157.13	412352.64	604270.93	0.00	
15400.00	90.00	179.77	8610.00	7028.03	-7027.46	157.53	412252.64	604271.33	0.00	
15500.00	90.00	179.77	8610.00	7128.03	-7127.46	157.93	412152.64	604271.73	0.00	
15600.00	90.00	179.77	8610.00	7228.03	-7227.45	158.33	412052.65	604272.13	0.00	
15700.00	90.00	179.77	8610.00	7328.03	-7327.45	158.73	411952.65	604272.53	0.00	
15800.00	90.00	179.77	8610.00	7428.03	-7427.45	159.13	411852.65	604272.93	0.00	

5D Final Report

Interpolated Points: (Relative to Slot centre)(TVD relative to Drill Floor)

MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	VS (US ft)	N.Offset (US ft)	E.Offset (US ft)	Northing (US ft)	Easting (US ft)	DLS (°/100US ft)	Comment
15900.00	90.00	179.77	8610.00	7528.03	-7527.45	159.53	411752.65	604273.33	0.00	
16000.00	90.00	179.77	8610.00	7628.03	-7627.45	159.93	411652.65	604273.73	0.00	
16100.00	90.00	179.77	8610.00	7728.03	-7727.45	160.33	411552.65	604274.13	0.00	
16200.00	90.00	179.77	8610.00	7828.03	-7827.45	160.73	411452.65	604274.53	0.00	
16300.00	90.00	179.77	8610.00	7928.03	-7927.45	161.13	411352.65	604274.93	0.00	
16400.00	90.00	179.77	8610.00	8028.03	-8027.45	161.53	411252.65	604275.33	0.00	
16500.00	90.00	179.77	8610.00	8128.03	-8127.45	161.93	411152.65	604275.73	0.00	
16600.00	90.00	179.77	8610.00	8228.03	-8227.45	162.33	411052.65	604276.13	0.00	
16700.00	90.00	179.77	8610.00	8328.03	-8327.45	162.73	410952.65	604276.53	0.00	
16800.00	90.00	179.77	8610.00	8428.03	-8427.45	163.13	410852.65	604276.93	0.00	
16900.00	90.00	179.77	8610.00	8528.03	-8527.44	163.53	410752.66	604277.33	0.00	
17000.00	90.00	179.77	8610.00	8628.03	-8627.44	163.93	410652.66	604277.73	0.00	
17100.00	90.00	179.77	8610.00	8728.03	-8727.44	164.33	410552.66	604278.13	0.00	
17200.00	90.00	179.77	8610.00	8828.03	-8827.44	164.73	410452.66	604278.53	0.00	
17300.00	90.00	179.77	8610.00	8928.03	-8927.44	165.13	410352.66	604278.93	0.00	
17400.00	90.00	179.77	8610.00	9028.03	-9027.44	165.53	410252.66	604279.33	0.00	
17500.00	90.00	179.77	8610.00	9128.03	-9127.44	165.93	410152.66	604279.73	0.00	
17600.00	90.00	179.77	8610.00	9228.03	-9227.44	166.33	410052.66	604280.13	0.00	
17700.00	90.00	179.77	8610.00	9328.03	-9327.44	166.73	409952.66	604280.53	0.00	
17800.00	90.00	179.77	8610.00	9428.03	-9427.44	167.13	409852.66	604280.93	0.00	
17900.00	90.00	179.77	8610.00	9528.03	-9527.44	167.53	409752.66	604281.33	0.00	
18000.00	90.00	179.77	8610.00	9628.03	-9627.44	167.93	409652.66	604281.73	0.00	
18100.00	90.00	179.77	8610.00	9728.03	-9727.43	168.34	409552.67	604282.14	0.00	
18200.00	90.00	179.77	8610.00	9828.03	-9827.43	168.74	409452.67	604282.54	0.00	
18300.00	90.00	179.77	8610.00	9928.03	-9927.43	169.14	409352.67	604282.94	0.00	
18400.00	90.00	179.77	8610.00	10028.03	-10027.43	169.54	409252.67	604283.34	0.00	
18500.00	90.00	179.77	8610.00	10128.03	-10127.43	169.94	409152.67	604283.74	0.00	
18600.00	90.00	179.77	8610.00	10228.03	-10227.43	170.34	409052.67	604284.14	0.00	
18700.00	90.00	179.77	8610.00	10328.03	-10327.43	170.74	408952.67	604284.54	0.00	
18800.00	90.00	179.77	8610.00	10428.03	-10427.43	171.14	408852.67	604284.94	0.00	
18835.77	90.00	179.77	8610.00	10463.80	-10463.20	171.28	408816.90	604285.08	0.00	Cross 330 HL
18900.00	90.00	179.77	8610.00	10528.03	-10527.43	171.54	408752.67	604285.34	0.00	
18965.77	90.00	179.77	8610.00	10593.80	-10593.20	171.80	408686.90	604285.60	0.00	PBHL

Formation Points: (Relative to Slot centre)(TVD relative to Drill Floor)

Name	MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	N.Offset (US ft)	E.Offset (US ft)	Northing (US ft)	Easting (US ft)	Comment
3rd Bone Spring Lm	N/A	0.00	0.00	8654.50	0.00	0.00	419280.10	604113.80	
Delaware	3041.50	0.00	0.00	3041.50	0.00	0.00	419280.10	604113.80	
Base Salt	3244.50	0.00	0.00	3244.50	0.00	0.00	419280.10	604113.80	
Cherry Canyon	3801.50	0.00	0.00	3801.50	0.00	0.00	419280.10	604113.80	
Top Salt	5271.50	0.00	0.00	5271.50	0.00	0.00	419280.10	604113.80	
Brushy Canyon	5389.50	0.00	0.00	5389.50	0.00	0.00	419280.10	604113.80	
Rustler	5650.50	0.00	0.00	5650.50	0.00	0.00	419280.10	604113.80	
Basal Brushy Canyon	6406.50	0.00	0.00	6406.50	0.00	0.00	419280.10	604113.80	
Bone Spring	6635.50	0.00	0.00	6635.50	0.00	0.00	419280.10	604113.80	
1st Bone Spring Ss	7567.50	0.00	0.00	7567.50	0.00	0.00	419280.10	604113.80	
2nd Bone Spring Lm	7815.50	0.00	0.00	7815.50	0.00	0.00	419280.10	604113.80	
2nd Bone Spring Ss	8421.79	39.71	158.83	8388.50	-123.44	64.15	419156.66	604177.95	
2nd Bone Spring B	8637.32	59.65	169.76	8527.50	-281.02	106.04	418999.08	604219.84	

5D Anti-Collision Report

XTO Energy

Field Name: *Eddy Co., NM (NAD 27 NME)*
Site Name: *Corral Canyon Federal #29H*
Well Name: *Corral Canyon Federal #29H*

1 August 2017

5D ... ion Report

Weatherford

Corral Canyon Federal #29H

Field Name: Eddy Co., NM (NAD 27 NME)

Map Units: US ft
Company Name: XTO Energy
Vertical Reference Datum (VRD):
Projected Coordinate System: NAD27 / New Mexico East
Comment:

Site: Corral Canyon Federal #29H

Units: US ft **North Reference:** Grid **Convergence Angle:** 0.18
Position: **Northing:** 419280.10 US ft **Latitude:** 32° 9' 8.17"
Easting: 604113.80 US ft **Longitude:** -103° 59' 48.91"
Elevation above Field Reference: 2944.00 US ft
Comment:

Slot: Corral Canyon Federal #29H

Position (Relative to Site Centre)
+N/-S: 0.00 US ft **Northing:** 419280.10 US ft **Latitude:** 32°9'8.17"
+E/-W: 0.00 US ft **Easting:** 604113.80 US ft **Longitude:** -103°59'48.91"
Elevation above Field Reference: 2944.00 US ft
Comment:

Well: Corral Canyon Federal #29H

Type: Main well **UWI:** **Plan:** Working Plan
File Number: **Comment:**
Closure Distance: 10594.6US ft **Closure Azimuth:** 179.07°
Vertical Section: Position of Origin (Relative to Slot centre)
+N/-S: 0.00 US ft **+E/-W:** 0.00 US ft **Az:** 179.77°
Magnetic Parameters:
Model: bggm2017 **Field Strength:** 47917.6nT **Declination:** 7.21° **Dip:** 59.89° **Date:** 01/Aug/2017

Drill floor: Plan: Working Plan

Rig Height (Drill Floor): 26.50US ft **Elevation above Field Reference:** 2970.50US ft **Inclination:** 0.00° **Azimuth:** 0.00°

Collision / Uncertainty Analysis

Primary Well	Start MD (USFt)	End MD (USFt)	Collision Risk Interval	No. of Std. Deviations in Error Computation
Corral Canyon Federal #29H (p)	0.00	18965.83	100.00	2

Secondary Well Names:

Corral Canyon #5H (p)

Anti-Collision Report Terminology

S.Minor, S.Major: Radii of the ellipse of uncertainty at the current location as seen in the along hole direction.
PHI: Angle between high-side vector and semi-minor axis
TVD Spread: Total TVD range of the ellipsoid of uncertainty at the current location.
ES: Distance between the extremities of the primary and secondary uncertainty ellipsoids in the direction Cr-Cr.
T.Face to Sec: Angle between the Hi-Side vector of the primary well at the current location and line of closest approach between the two wells.

AC Filter Info: Applied filter(s): Separation Factor.

Default Survey Tool: MWD

Separation factors calculated using Pedal Curve (Independent Uncertainty). Surface Uncertainty (S.U.) Not Applied. Wellpath created using minimum curvature.

Anti-Collision Summary (TVD relative to Drill Floor)

SF

Secondary Well Name	Pri MD (US ft)	TVD (US ft)	Sec MD (US ft)	ES (US ft)	CC (US ft)	SF	Risk
Corral Canyon #5H (p)	7932.62	7932.62	7923.33	-11.43	24.57	0.68	SF(Hi); CC (Lo)

CC

Secondary Well Name	Pri MD (US ft)	TVD (US ft)	Sec MD (US ft)	ES (US ft)	CC (US ft)	SF	Risk
Corral Canyon #5H (p)	7930.08	7930.08	7920.81	-11.42	24.57	0.68	SF(Hi); CC (Lo)

Primary Well: Corral Canyon Federal #29H (p)(TVD relative to Drill Floor)(All Azimuth Relative to GRID NORTH)

MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	S.Major (US ft)	S.Minor (US ft)	T.Face to Sec (°)	CC (US ft)	ES (US ft)	SF	Risk
1800.00	0.00	0.00	1800.00	3.94	3.94	269.09	25.20	16.75	2.98	CC (Lo)
1900.00	0.00	0.00	1900.00	4.16	4.16	269.09	25.20	16.30	2.83	CC (Lo)
2000.00	0.00	0.00	2000.00	4.39	4.39	269.09	25.20	15.85	2.69	CC (Lo)
2100.00	0.00	0.00	2100.00	4.61	4.61	269.09	25.20	15.40	2.57	CC (Lo)
2200.00	0.00	0.00	2200.00	4.83	4.83	269.09	25.20	14.95	2.46	CC (Lo)
2300.00	0.00	0.00	2300.00	5.06	5.06	269.09	25.20	14.50	2.36	CC (Lo)
2400.00	0.00	0.00	2400.00	5.28	5.28	269.09	25.20	14.05	2.26	CC (Lo)
2500.00	0.00	0.00	2500.00	5.51	5.51	269.09	25.20	13.60	2.17	CC (Lo)
2600.00	0.00	0.00	2600.00	5.73	5.73	269.09	25.20	13.15	2.09	CC (Lo)
2700.00	0.00	0.00	2700.00	5.96	5.96	269.09	25.20	12.70	2.02	CC (Lo)
2800.00	0.00	0.00	2800.00	6.18	6.18	269.09	25.20	12.26	1.95	SF(Lo); CC (Lo)
2900.00	0.00	0.00	2900.00	6.41	6.41	269.09	25.20	11.81	1.88	SF(Lo); CC (Lo)
3000.00	0.00	0.00	3000.00	6.63	6.63	269.09	25.20	11.36	1.82	SF(Lo); CC (Lo)
3100.00	0.00	0.00	3100.00	6.86	6.86	269.09	25.20	10.91	1.76	SF(Lo); CC (Lo)
3200.00	0.00	0.00	3200.00	7.08	7.08	269.09	25.20	10.46	1.71	SF(Lo); CC (Lo)
3300.00	0.00	0.00	3300.00	7.31	7.31	269.09	25.20	10.01	1.66	SF(Lo); CC (Lo)
3400.00	0.00	0.00	3400.00	7.53	7.53	269.09	25.20	9.56	1.61	SF(Lo); CC (Lo)
3500.00	0.00	0.00	3500.00	7.76	7.76	269.09	25.20	9.11	1.57	SF(Lo); CC (Lo)
3600.00	0.00	0.00	3600.00	7.98	7.98	269.09	25.20	8.66	1.52	SF(Lo); CC (Lo)
3700.00	0.00	0.00	3700.00	8.21	8.21	269.09	25.20	8.21	1.48	SF(Med); CC (Lo)
3800.00	0.00	0.00	3800.00	8.43	8.43	269.09	25.20	7.76	1.44	SF(Med); CC (Lo)
3900.00	0.00	0.00	3900.00	8.66	8.66	269.09	25.20	7.31	1.41	SF(Med); CC (Lo)
4000.00	0.00	0.00	4000.00	8.88	8.88	269.09	25.20	6.86	1.37	SF(Med); CC (Lo)
4100.00	0.00	0.00	4100.00	9.11	9.11	269.09	25.20	6.41	1.34	SF(Med); CC (Lo)
4200.00	0.00	0.00	4200.00	9.33	9.33	269.09	25.20	5.96	1.31	SF(Med); CC (Lo)
4300.00	0.00	0.00	4300.00	9.56	9.56	269.09	25.20	5.51	1.28	SF(Med); CC (Lo)
4400.00	0.00	0.00	4400.00	9.78	9.78	269.09	25.20	5.06	1.25	SF(Med); CC (Lo)
4500.00	0.00	0.00	4500.00	10.00	10.00	269.09	25.20	4.61	1.22	SF(Med); CC (Lo)
4600.00	0.00	0.00	4600.00	10.23	10.23	269.09	25.20	4.16	1.20	SF(Med); CC (Lo)
4700.00	0.00	0.00	4700.00	10.45	10.45	269.09	25.20	3.71	1.17	SF(Med); CC (Lo)
4800.00	0.00	0.00	4800.00	10.68	10.68	269.09	25.20	3.26	1.15	SF(Med); CC (Lo)

Primary Well: Corral Canyon Federal #29H (p)(TVD relative to Drill Floor)(All Azimuth Relative to GRID NORTH)										
MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	S.Major (US ft)	S.Minor (US ft)	T.Face to Sec (°)	CC (US ft)	ES (US ft)	SF	Risk
4900.00	0.00	0.00	4900.00	10.90	10.90	269.09	25.20	2.82	1.13	SF(Med); CC (Lo)
5000.00	0.00	0.00	5000.00	11.13	11.13	269.09	25.20	2.37	1.10	SF(Med); CC (Lo)
5100.00	0.00	0.00	5100.00	11.35	11.35	269.09	25.20	1.92	1.08	SF(Med); CC (Lo)
5200.00	0.00	0.00	5200.00	11.58	11.58	269.09	25.20	1.47	1.06	SF(Med); CC (Lo)
5300.00	0.00	0.00	5300.00	11.80	11.80	269.09	25.20	1.02	1.04	SF(Med); CC (Lo)
5400.00	0.00	0.00	5400.00	12.03	12.03	269.09	25.20	0.57	1.02	SF(Med); CC (Lo)
5500.00	0.00	0.00	5500.00	12.25	12.25	269.09	25.20	0.12	1.00	SF(Med); CC (Lo)
5600.00	0.00	0.00	5600.00	12.48	12.48	269.09	25.20	-0.33	0.99	SF(Hi); CC (Lo)
5700.00	0.00	0.00	5700.00	12.70	12.70	269.09	25.20	-0.78	0.97	SF(Hi); CC (Lo)
5800.00	0.00	0.00	5800.00	12.93	12.93	269.09	25.20	-1.23	0.95	SF(Hi); CC (Lo)
5900.00	0.00	0.00	5900.00	13.15	13.15	269.09	25.20	-1.68	0.94	SF(Hi); CC (Lo)
6000.00	0.00	0.00	6000.00	13.38	13.38	269.09	25.20	-2.13	0.92	SF(Hi); CC (Lo)
6100.00	0.00	0.00	6100.00	13.60	13.60	269.09	25.20	-2.58	0.91	SF(Hi); CC (Lo)
6200.00	0.00	0.00	6200.00	13.83	13.83	269.09	25.20	-3.03	0.89	SF(Hi); CC (Lo)
6300.00	0.00	0.00	6300.00	14.05	14.05	269.09	25.20	-3.48	0.88	SF(Hi); CC (Lo)
6400.00	0.00	0.00	6400.00	14.28	14.28	269.09	25.20	-3.93	0.87	SF(Hi); CC (Lo)
6500.00	0.00	0.00	6500.00	14.50	14.50	269.09	25.20	-4.38	0.85	SF(Hi); CC (Lo)
6600.00	0.00	0.00	6600.00	14.73	14.73	269.09	25.20	-4.83	0.84	SF(Hi); CC (Lo)
6700.00	0.00	0.00	6700.00	14.95	14.95	269.09	25.20	-5.28	0.83	SF(Hi); CC (Lo)
6800.00	0.00	0.00	6800.00	15.17	15.17	269.09	25.20	-5.73	0.81	SF(Hi); CC (Lo)
6900.00	0.00	0.00	6900.00	15.40	15.40	269.09	25.20	-6.17	0.80	SF(Hi); CC (Lo)
7000.00	0.00	0.00	7000.00	15.62	15.62	269.09	25.20	-6.62	0.79	SF(Hi); CC (Lo)
7100.00	0.00	0.00	7100.00	15.85	15.85	269.09	25.20	-7.07	0.78	SF(Hi); CC (Lo)
7200.00	0.00	0.00	7200.00	16.07	16.07	269.09	25.20	-7.52	0.77	SF(Hi); CC (Lo)
7300.00	0.00	0.00	7300.00	16.30	16.30	269.09	25.20	-7.97	0.76	SF(Hi); CC (Lo)
7400.00	0.00	0.00	7400.00	16.52	16.52	269.09	25.20	-8.42	0.75	SF(Hi); CC (Lo)
7500.00	0.00	0.00	7500.00	16.75	16.75	269.09	25.20	-8.87	0.74	SF(Hi); CC (Lo)
7600.00	0.00	0.00	7600.00	16.97	16.97	269.09	25.20	-9.32	0.73	SF(Hi); CC (Lo)
7700.00	0.00	0.00	7700.00	17.20	17.20	269.09	25.20	-9.77	0.72	SF(Hi); CC (Lo)
7800.00	0.00	0.00	7800.00	17.42	17.42	269.09	25.20	-10.22	0.71	SF(Hi); CC (Lo)
7900.00	0.00	0.00	7900.00	17.65	17.65	274.73	24.77	-11.05	0.69	SF(Hi); CC (Lo)
7932.62	0.00	0.00	7932.62	17.72	17.72	282.73	24.57	-11.43	0.68	SF(Hi); CC (Lo)
8000.00	0.00	0.00	8000.00	17.87	17.87	307.58	27.36	-8.71	0.76	SF(Hi); CC (Lo)
8100.00	8.77	150.70	8099.66	18.06	17.93	187.23	53.44	17.66	1.49	SF(Med)

Secondary Well: Corral Canyon #5H (p)(TVD relative to Drill Floor)(All Azimuth Relative to GRID NORTH)											
Pri MD (US ft)	Sec MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	S.Major (US ft)	S.Minor (US ft)	T.Face to Sec (°)	ES (US ft)	CC (US ft)	SF	Risk
1800.00	1790.50	0.00	0.00	1800.00	3.91	3.91	269.09	16.75	25.20	2.98	CC (Lo)
1900.00	1890.50	0.00	0.00	1900.00	4.14	4.14	269.09	16.30	25.20	2.83	CC (Lo)
2000.00	1990.50	0.00	0.00	2000.00	4.36	4.36	269.09	15.85	25.20	2.69	CC (Lo)
2100.00	2090.50	0.00	0.00	2100.00	4.59	4.59	269.09	15.40	25.20	2.57	CC (Lo)
2200.00	2190.50	0.00	0.00	2200.00	4.81	4.81	269.09	14.95	25.20	2.46	CC (Lo)
2300.00	2290.50	0.00	0.00	2300.00	5.04	5.04	269.09	14.50	25.20	2.36	CC (Lo)
2400.00	2390.50	0.00	0.00	2400.00	5.26	5.26	269.09	14.05	25.20	2.26	CC (Lo)
2500.00	2490.50	0.00	0.00	2500.00	5.49	5.49	269.09	13.60	25.20	2.17	CC (Lo)
2600.00	2590.50	0.00	0.00	2600.00	5.71	5.71	269.09	13.15	25.20	2.09	CC (Lo)
2700.00	2690.50	0.00	0.00	2700.00	5.94	5.94	269.09	12.70	25.20	2.02	CC (Lo)
2800.00	2790.50	0.00	0.00	2800.00	6.16	6.16	269.09	12.26	25.20	1.95	SF(Lo); CC (Lo)
2900.00	2890.50	0.00	0.00	2900.00	6.39	6.39	269.09	11.81	25.20	1.88	SF(Lo); CC (Lo)
3000.00	2990.50	0.00	0.00	3000.00	6.61	6.61	269.09	11.36	25.20	1.82	SF(Lo); CC (Lo)
3100.00	3090.50	0.00	0.00	3100.00	6.84	6.84	269.09	10.91	25.20	1.76	SF(Lo); CC (Lo)
3200.00	3190.50	0.00	0.00	3200.00	7.06	7.06	269.09	10.46	25.20	1.71	SF(Lo); CC (Lo)
3300.00	3290.50	0.00	0.00	3300.00	7.29	7.29	269.09	10.01	25.20	1.66	SF(Lo); CC (Lo)
3400.00	3390.50	0.00	0.00	3400.00	7.51	7.51	269.09	9.56	25.20	1.61	SF(Lo); CC (Lo)
3500.00	3490.50	0.00	0.00	3500.00	7.74	7.74	269.09	9.11	25.20	1.57	SF(Lo); CC (Lo)
3600.00	3590.50	0.00	0.00	3600.00	7.96	7.96	269.09	8.66	25.20	1.52	SF(Lo); CC (Lo)
3700.00	3690.50	0.00	0.00	3700.00	8.19	8.19	269.09	8.21	25.20	1.48	SF(Med); CC (Lo)
3800.00	3790.50	0.00	0.00	3800.00	8.41	8.41	269.09	7.76	25.20	1.44	SF(Med); CC (Lo)
3900.00	3890.50	0.00	0.00	3900.00	8.63	8.63	269.09	7.31	25.20	1.41	SF(Med); CC (Lo)
4000.00	3990.50	0.00	0.00	4000.00	8.86	8.86	269.09	6.86	25.20	1.37	SF(Med); CC (Lo)
4100.00	4090.50	0.00	0.00	4100.00	9.08	9.08	269.09	6.41	25.20	1.34	SF(Med); CC (Lo)
4200.00	4190.50	0.00	0.00	4200.00	9.31	9.31	269.09	5.96	25.20	1.31	SF(Med); CC (Lo)
4300.00	4290.50	0.00	0.00	4300.00	9.53	9.53	269.09	5.51	25.20	1.28	SF(Med); CC (Lo)
4400.00	4390.50	0.00	0.00	4400.00	9.76	9.76	269.09	5.06	25.20	1.25	SF(Med); CC (Lo)
4500.00	4490.50	0.00	0.00	4500.00	9.98	9.98	269.09	4.61	25.20	1.22	SF(Med); CC (Lo)
4600.00	4590.50	0.00	0.00	4600.00	10.21	10.21	269.09	4.16	25.20	1.20	SF(Med); CC (Lo)
4700.00	4690.50	0.00	0.00	4700.00	10.43	10.43	269.09	3.71	25.20	1.17	SF(Med); CC (Lo)
4800.00	4790.50	0.00	0.00	4800.00	10.66	10.66	269.09	3.26	25.20	1.15	SF(Med); CC (Lo)
4900.00	4890.50	0.00	0.00	4900.00	10.88	10.88	269.09	2.82	25.20	1.13	SF(Med); CC (Lo)
5000.00	4990.50	0.00	0.00	5000.00	11.11	11.11	269.09	2.37	25.20	1.10	SF(Med); CC (Lo)
5100.00	5090.50	0.00	0.00	5100.00	11.33	11.33	269.09	1.92	25.20	1.08	SF(Med); CC (Lo)
5200.00	5190.50	0.00	0.00	5200.00	11.56	11.56	269.09	1.47	25.20	1.06	SF(Med); CC (Lo)
5300.00	5290.50	0.00	0.00	5300.00	11.78	11.78	269.09	1.02	25.20	1.04	SF(Med); CC (Lo)
5400.00	5390.50	0.00	0.00	5400.00	12.01	12.01	269.09	0.57	25.20	1.02	SF(Med); CC (Lo)
5500.00	5490.50	0.00	0.00	5500.00	12.23	12.23	269.09	0.12	25.20	1.00	SF(Med); CC (Lo)
5600.00	5590.50	0.00	0.00	5600.00	12.46	12.46	269.09	-0.33	25.20	0.99	SF(Hi); CC (Lo)

Secondary Well: Corral Canyon #5H (p)(TVD relative to Drill Floor)(All Azimuth Relative to GRID NORTH)											
Pri MD (US ft)	Sec MD (US ft)	Inc (°)	Az (°)	TVD (US ft)	S.Major (US ft)	S.Minor (US ft)	T.Face to Sec (°)	ES (US ft)	CC (US ft)	SF	Risk
5700.00	5690.50	0.00	0.00	5700.00	12.68	12.68	269.09	-0.78	25.20	0.97	SF(Hi); CC (Lo)
5800.00	5790.50	0.00	0.00	5800.00	12.91	12.91	269.09	-1.23	25.20	0.95	SF(Hi); CC (Lo)
5900.00	5890.50	0.00	0.00	5900.00	13.13	13.13	269.09	-1.68	25.20	0.94	SF(Hi); CC (Lo)
6000.00	5990.50	0.00	0.00	6000.00	13.36	13.36	269.09	-2.13	25.20	0.92	SF(Hi); CC (Lo)
6100.00	6090.50	0.00	0.00	6100.00	13.58	13.58	269.09	-2.58	25.20	0.91	SF(Hi); CC (Lo)
6200.00	6190.50	0.00	0.00	6200.00	13.80	13.80	269.09	-3.03	25.20	0.89	SF(Hi); CC (Lo)
6300.00	6290.50	0.00	0.00	6300.00	14.03	14.03	269.09	-3.48	25.20	0.88	SF(Hi); CC (Lo)
6400.00	6390.50	0.00	0.00	6400.00	14.25	14.25	269.09	-3.93	25.20	0.87	SF(Hi); CC (Lo)
6500.00	6490.50	0.00	0.00	6500.00	14.48	14.48	269.09	-4.38	25.20	0.85	SF(Hi); CC (Lo)
6600.00	6590.50	0.00	0.00	6600.00	14.70	14.70	269.09	-4.83	25.20	0.84	SF(Hi); CC (Lo)
6700.00	6690.50	0.00	0.00	6700.00	14.93	14.93	269.09	-5.28	25.20	0.83	SF(Hi); CC (Lo)
6800.00	6790.50	0.00	0.00	6800.00	15.15	15.15	269.09	-5.73	25.20	0.81	SF(Hi); CC (Lo)
6900.00	6890.50	0.00	0.00	6900.00	15.38	15.38	269.09	-6.17	25.20	0.80	SF(Hi); CC (Lo)
7000.00	6990.50	0.00	0.00	7000.00	15.60	15.60	269.09	-6.62	25.20	0.79	SF(Hi); CC (Lo)
7100.00	7090.50	0.00	0.00	7100.00	15.83	15.83	269.09	-7.07	25.20	0.78	SF(Hi); CC (Lo)
7200.00	7190.50	0.00	0.00	7200.00	16.05	16.05	269.09	-7.52	25.20	0.77	SF(Hi); CC (Lo)
7300.00	7290.50	0.00	0.00	7300.00	16.28	16.28	269.09	-7.97	25.20	0.76	SF(Hi); CC (Lo)
7400.00	7390.50	0.00	0.00	7400.00	16.50	16.50	269.09	-8.42	25.20	0.75	SF(Hi); CC (Lo)
7500.00	7490.50	0.00	0.00	7500.00	16.73	16.73	269.09	-8.87	25.20	0.74	SF(Hi); CC (Lo)
7600.00	7590.50	0.00	0.00	7600.00	16.95	16.95	269.09	-9.32	25.20	0.73	SF(Hi); CC (Lo)
7700.00	7690.50	0.00	0.00	7700.00	17.18	17.18	269.09	-9.77	25.20	0.72	SF(Hi); CC (Lo)
7800.00	7790.50	0.00	0.00	7800.00	17.40	17.40	269.09	-10.22	25.20	0.71	SF(Hi); CC (Lo)
7900.00	7890.83	4.79	12.00	7900.26	17.62	17.59	274.73	-11.05	24.77	0.69	SF(Hi); CC (Lo)
7932.62	7923.33	7.39	12.00	7932.58	17.70	17.61	282.73	-11.43	24.57	0.68	SF(Hi); CC (Lo)
8000.00	7989.14	12.65	12.00	7997.36	17.84	17.58	307.58	-8.71	27.36	0.76	SF(Hi); CC (Lo)
8100.00	8079.85	19.91	12.00	8084.37	18.03	17.38	187.23	17.66	53.44	1.49	SF(Med)

GATES E & S NORTH AMERICA, INC
DU-TEX
134 44TH STREET
CORPUS CHRISTI, TEXAS 78405

PHONE: 361-887-9807
FAX: 361-887-0812
EMAIL: crpe&s@gates.com
WEB: www.gates.com

GRADE D PRESSURE TEST CERTIFICATE

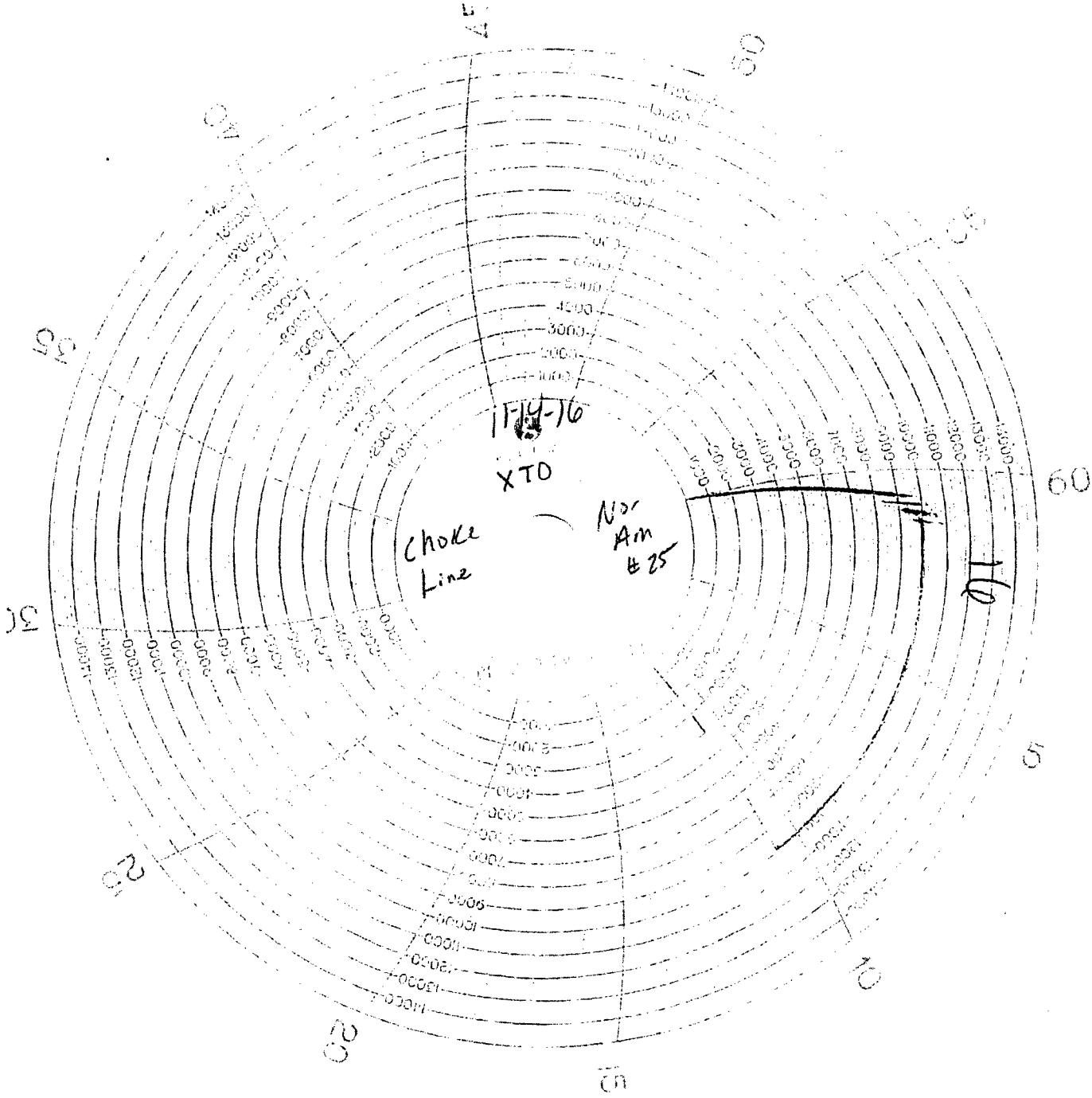
Customer :	AUSTIN DISTRIBUTING	Test Date:	6/8/2014
Customer Ref. :	PENDING	Hose Serial No.:	D-060814-1
Invoice No. :	201709	Created By:	NORMA

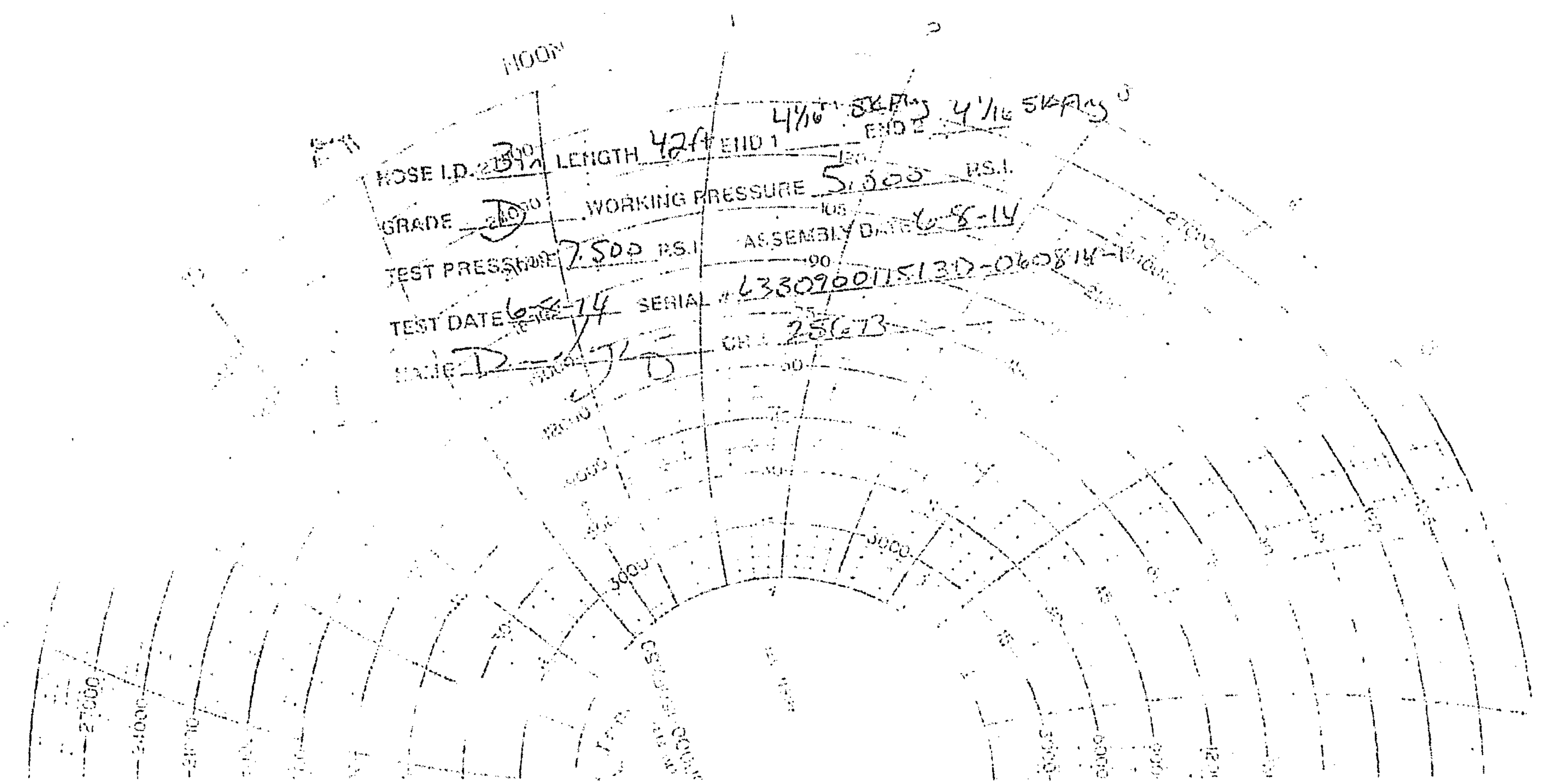
Product Description:	FD3.042.0R41/16.5KFLGE/E LE

End Fitting 1 :	4 1/16 in.5K FLG	End Fitting 2 :	4 1/16 in.5K FLG
Gates Part No. :	4774-6001	Assembly Code :	L33090011513D-060814-1
Working Pressure :	5,000 PSI	Test Pressure :	7,500 PSI

Gates E & S North America, Inc. certifies that the following hose assembly has been tested to the Gates Oilfield Roughneck Agreement/Specification requirements and passed the 15 minute hydrostatic test per API Spec 7K/Q1, Fifth Edition, June 2010, Test pressure 9.6.7 and per Table 9 to 7,500 psi in accordance with this product number. Hose burst pressure 9.6.7.2 exceeds the minimum of 2.5 times the working pressure per Table 9.

Quality:	QUALITY	Technical Supervisor :	PRODUCTION
Date :	6/8/2014	Date :	6/8/2014
Signature :		Signature :	


11-14-16
XTO
Choke Line
NO. Am #25


NOON
HOSE I.D. 3" LENGTH 42ft END 1 4 1/16" 5K Flg END 2 4 1/16 5K Flg
GRADE D WORKING PRESSURE 5,000 P.S.I.
TEST PRESSURE 7,500 P.S.I. ASSEMBLY DATE 6-8-14
TEST DATE 6-8-14 SERIAL #
CH
3000

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals and Natural Resources Department

Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505

Submit Original to Appropriate District Office

GAS CAPTURE PLAN

Date: 07/01/2017

☒ Original
☐ Amended - Reason for Amendment: _____

Operator & OGRID No.: XTO Energy, Inc

This Gas Capture Plan outlines actions to be taken by the Operator to reduce well/production facility flaring/venting for new completion (new drill, recomplete to new zone, re-frac) activity.

Note: Form C-129 must be submitted and approved prior to exceeding 60 days allowed by Rule (Subsection A of 19.15.18.12 NMAC).

Well(s)/Production Facility – Name of facility: Corral Canyon Federal CTB

The well(s) that will be located at the production facility are shown in the table below.

Well Name	API	Well Location (ULSTR)	Footages	Expected MCF/D	Flared or Vented	Comments
Corral Canyon Federal Com 29H		M-4-25S-29E	180'FSL & 196'FWL	2500	Flared/Sold	CTB Connected to P/L

Gathering System and Pipeline Notification

Well(s) will be connected to a production facility after flowback operations are complete, if gas transporter system is in place. The gas produced from production facility is dedicated to EnLink and will be connected to EnLink low/high pressure gathering system located in Eddy County, New Mexico. It will require 0' of pipeline to connect the facility to low/high pressure gathering system. XTO Energy, Inc provides (periodically) to EnLink a drilling, completion and estimated first production date for wells that are scheduled to be drilled in the foreseeable future. In addition, XTO Energy, Inc and EnLink have periodic conference calls to discuss changes to drilling and completion schedules. Gas from these wells will be processed at EnLink Processing Plant located in Section 4, Blk C27, PSL Survey, Loving County, Texas. The actual flow of the gas will be based on compression operating parameters and gathering system pressures.

Flowback Strategy

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

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

Alternatives to Reduce Flaring

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

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

APD ID: 10400022808 **Submission Date:** 10/02/2017

Operator Name: XTO ENERGY INCORPORATED

Well Name: CORRAL CANYON FEDERAL COM **Well Number:** 29H

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

Highlighted data reflects the most recent changes

Show Final Text

Section 1 - Existing Roads

Will existing roads be used? YES

Existing Road Map:

Corral_Fed_29H_Wtr_20171002070915.pdf

Existing Road Purpose: ACCESS,FLUID TRANSPORT **Row(s) Exist?** NO

ROW ID(s)

ID:

Do the existing roads need to be improved? NO

Existing Road Improvement Description:

Existing Road Improvement Attachment:

Section 2 - New or Reconstructed Access Roads

Will new roads be needed? NO

Section 3 - Location of Existing Wells

Existing Wells Map? YES

Attach Well map:

Corral_Fed_29H_1Mile_20171002072959.pdf

Operator Name: XTO ENERGY INCORPORATED

Well Name: CORRAL CANYON FEDERAL COM **Well Number:** 29H

Existing Wells description:

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

Submit or defer a Proposed Production Facilities plan? SUBMIT

Production Facilities description: a. Production facilities are located in Section 5-T25S-R29E and are already built. No additional surface disturbance is associated with this location. b. The facility location was staked out at time of on-site with Jesse Rice, BLM Natural Resource Specialist, in 2014. No new surface disturbance is associated with this location. c. All permanent (on site six months or longer) aboveground structures constructed or installed on location and not subject to safety requirements will be painted to BLM specifications. d. 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. e. Flowlines: No more than 1500' of flowline will be run across the approved well pad with no additional disturbance necessary as specified by the BLM on-site staking. Flowlines will go from the Corral Canyon Federal Com 29H wellhead to the existing facility following the same route as the Corral Canyon Federal #5H and #17H locations. f. Electrical: Electrical has already been run to the pad. No additional surface disturbance is associated with this well. No additional electrical will be required. g. Gas Sales Line: The Corral Canyon Central Tank Battery is already connected to a gas sales line. No additional surface disturbance is necessary for this well..

Production Facilities map:

Corral_Fed_29H_Facility_20171002073104.pdf

Section 5 - Location and Types of Water Supply

Water Source Table

Water source use type: INTERMEDIATE/PRODUCTION CASING, STIMULATION

Water source type: OTHER

Describe type: Purchased fr/3rd Party Contractor with well located in 5-26S-30E

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): 85000

Source volume (acre-feet): 10.955914

Source volume (gal): 3570000

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

Water source type: OTHER

Describe type:

Source latitude:

Source longitude:

Source datum:

Water source permit type: PRIVATE CONTRACT

Operator Name: XTO ENERGY INCORPORATED

Well Name: CORRAL CANYON FEDERAL COM **Well Number:** 29H

Source land ownership: FEDERAL

Water source transport method: TRUCKING

Source transportation land ownership: FEDERAL

Water source volume (barrels): 85000 **Source volume (acre-feet):** 10.955914

Source volume (gal): 3570000

Water source and transportation map:

Corral_Fed_29H_Wtr_20171002073130.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 location 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: Rockhouse Water & Brine Inc 1108 West Pierce St Carlsbad, NM 88220 Water for drilling, completion and dust control will be supplied by Rockhouse Water for sale to XTO Energy, Inc from two sources per Rockhouse Water. 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 40% 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. A water pond is anticipated and has been staked with onsite performed with BLM Natural Resource Specialist Fernando Banos on an XTO lease. This water pond is expected to cover water for drilling and completion of a minimum of 24 wells. 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 50,000 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. All water source information was provided by the anticipated contract vendor.

New water well? NO

New Water Well Info

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

Well target aquifer:

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

Aquifer comments:

Aquifer documentation:

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

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

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

Drilling method: **Drill material:**

Grout material: **Grout depth:**

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

Well Production type: **Completion Method:**

Water well additional information:

State appropriation permit:

Operator Name: XTO ENERGY INCORPORATED

Well Name: CORRAL CANYON FEDERAL COM **Well Number:** 29H

Additional information attachment:

Section 6 - Construction Materials

Construction Materials description: Native caliche. Source 1: BLM Pit (2-24S-29E) Source 2: State Pit (22-T25S-R28E)

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 FACILITY

Disposal type description:

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

Waste type: SEWAGE

Waste content description: Human Waste

Amount of waste: 250 gallons

Waste disposal frequency : Weekly

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

Safe containmant attachment:

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

Disposal type description:

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

Waste type: GARBAGE

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

Amount of waste: 250 pounds

Waste disposal frequency : Weekly

Safe containment description: All garbage, junk and non-flammable waste materials will be contained in a self-contained, portable dumpster or trash cage, to prevent scattering and will be removed and deposited in an approve sanitary landfill. Immediately after drilling all debris and other waste materials on and around the well location not contained in the trash cage

will be cleaned up and removed from the location. No potentially adverse materials or substances will be left on the location.

Safe containmant attachment:

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

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

Waste type: DRILLING

Waste content description: Fluid

Amount of waste: 500 barrels

Waste disposal frequency : One Time Only

Safe containment description: Steel mud pits

Safe containmant attachment:

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

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

Reserve Pit

Reserve Pit being used? NO

Temporary disposal of produced water into reserve pit?

Reserve pit length (ft.) **Reserve pit width (ft.)**

Reserve pit depth (ft.) **Reserve pit volume (cu. yd.)**

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

Reserve pit liner

Reserve pit liner specifications and installation description

Cuttings Area

Cuttings Area being used? NO

Are you storing cuttings on location? YES

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

Cuttings area depth (ft.) **Cuttings area volume (cu. yd.)**

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

WCuttings area liner

Cuttings area liner specifications and installation description

Section 8 - Ancillary Facilities

Are you requesting any Ancillary Facilities?: NO

Ancillary Facilities attachment:

Comments:

Section 9 - Well Site Layout

Well Site Layout Diagram:

Corral_Fed_29H_H2S_Dia_20171002071128.pdf

Comments:

Section 10 - Plans for Surface Reclamation

Type of disturbance: New Surface Disturbance **Multiple Well Pad Name:** CORRAL CANYON

Multiple Well Pad Number: 5

Recontouring attachment:

Corral_Fed_29H_Int_Rec_20171002093454.pdf

Drainage/Erosion control construction: All compacted areas to be seeded will be ripped to a minimum depth of 18 inches with a minimum furrow spacing of 2 feet, followed by recontouring the surface and then evenly spreading the stockpiled topsoil. Prior to seeding, the seedbed will be scarified to a depth of no less than 4-6 inches.
Drainage/Erosion control reclamation: Erosion features are equal to or less than surrounding area and erosion control is sufficient so that water naturally infiltrates into the soil and gullying, headcutting, slumping, and deep or excessive rills (greater than 3 inches) are not observed.

Wellpad long term disturbance (acres): 2.65151 **Wellpad short term disturbance (acres):** 3.82231

Access road long term disturbance (acres): 0 **Access road short term disturbance (acres):** 0

Pipeline long term disturbance (acres): 0 **Pipeline short term disturbance (acres):** 0

Other long term disturbance (acres): 0 **Other short term disturbance (acres):** 0

Total long term disturbance: 2.65151 **Total short term disturbance:** 3.82231

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

Topsoil redistribution: The original stock piled topsoil will be spread over the areas being reclaimed and the original landform will be restored for all disturbed areas including well pads, production facilities, roads, pipelines, and utility corridors as close as possible to the original topography. The location will then be ripped and seeded.
Soil treatment: A self-sustaining, vigorous, diverse, native (or otherwise approved) plan community will be established on the site with a density sufficient to control erosion and invasion by non-native plants and to re-establish wildlife habitat or forage production. At a minimum, the established plant community will consist of species included in the seed mix and/or desirable species occurring in the surrounding natural vegetation.
Existing Vegetation at the well pad: a. Soil area is a combination of Pajarito-Dune land complex, loamy sand with 0-3% slopes, and Potter-Simona complex, shallow sandy soil with 5 to 25% slopes. These soils support grassland dominated by black grama throughout with dropseeds and bluestems more prevalent in the loamier areas. The areas with shallower soil have fewer shrubs and more litter cover with shrubs such as sand sage, shinnery oak and mesquite appearing as the soil presents more loam. Other vegetation such as creosote, mesquite, catclaw, snakeweed, and soapweed yucca grow within the area.
Existing Vegetation at the well pad attachment:

Existing Vegetation Community at the road: a. Soil area is a combination of Pajarito-Dune land complex, loamy sand with 0-3% slopes, and Potter-Simona complex, shallow sandy soil with 5 to 25% slopes. These soils support grassland dominated by black grama throughout with dropseeds and bluestems more prevalent in the loamier areas. The areas with shallower soil have fewer shrubs and more litter cover with shrubs such as sand sage, shinnery oak and mesquite appearing as the soil presents more loam. Other vegetation such as creosote, mesquite, catclaw, snakeweed, and soapweed yucca grow within the area.
Existing Vegetation Community at the road attachment:

Existing Vegetation Community at the pipeline: a. Soil area is a combination of Pajarito-Dune land complex, loamy sand with 0-3% slopes, and Potter-Simona complex, shallow sandy soil with 5 to 25% slopes. These soils support grassland dominated by black grama throughout with dropseeds and bluestems more prevalent in the loamier areas. The areas with shallower soil have fewer shrubs and more litter cover with shrubs such as sand sage, shinnery oak and mesquite appearing as the soil presents more loam. Other vegetation such as creosote, mesquite, catclaw, snakeweed, and soapweed yucca grow within the area.
Existing Vegetation Community at the pipeline attachment:

Existing Vegetation Community at other disturbances: a. Soil area is a combination of Pajarito-Dune land complex, loamy sand with 0-3% slopes, and Potter-Simona complex, shallow sandy soil with 5 to 25% slopes. These soils support grassland dominated by black grama throughout with dropseeds and bluestems more prevalent in the loamier areas. The areas with shallower soil have fewer shrubs and more litter cover with shrubs such as sand sage, shinnery oak and mesquite appearing as the soil presents more loam. Other vegetation such as creosote, mesquite, catclaw, snakeweed, and soapweed yucca grow within the area.
Existing Vegetation Community at other disturbances attachment:

Non native seed used? NO

Non native seed description:

Seedling transplant description:

Will seedlings be transplanted for this project? NO

Seedling transplant description attachment:

Will seed be harvested for use in site reclamation? NO

Seed harvest description:

Operator Name: XTO ENERGY INCORPORATED

Well Name: CORRAL CANYON FEDERAL COM **Well Number:** 29H

Seed harvest description attachment:

Seed Management

Seed Table

Seed type: **Seed source:**

Seed name:

Source name: **Source address:**

Source phone:

Seed cultivar:

Seed use location:

PLS pounds per acre: **Proposed seeding season:**

Seed Summary

Total pounds/Acre:

Seed Type	Pounds/Acre

Seed reclamation attachment:

Operator Contact/Responsible Official Contact Info

First Name: Jeff **Last Name:** Raines

Phone: (432)620-4349 **Email:** jeffrey_raines@xtoenergy.com

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

Existing invasive species treatment description:

Existing invasive species treatment attachment:

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

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

Success standards: 100% compliance with applicable regulations.

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

Section 11 - Surface Ownership

Disturbance type: WELL PAD

Describe:

Surface Owner: BUREAU OF LAND MANAGEMENT

Other surface owner description:

BIA Local Office:

BOR Local Office:

COE Local Office:

DOD Local Office:

NPS Local Office:

State Local Office:

Military Local Office:

USFWS Local Office:

Other Local Office:

USFS Region:

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

Section 12 - Other Information

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

ROW Type(s): 289001 ROW- O&G Well Pad

ROW Applications

Operator Name: XTO ENERGY INCORPORATED

Well Name: CORRAL CANYON FEDERAL COM **Well Number:** 29H

SUPO Additional Information:

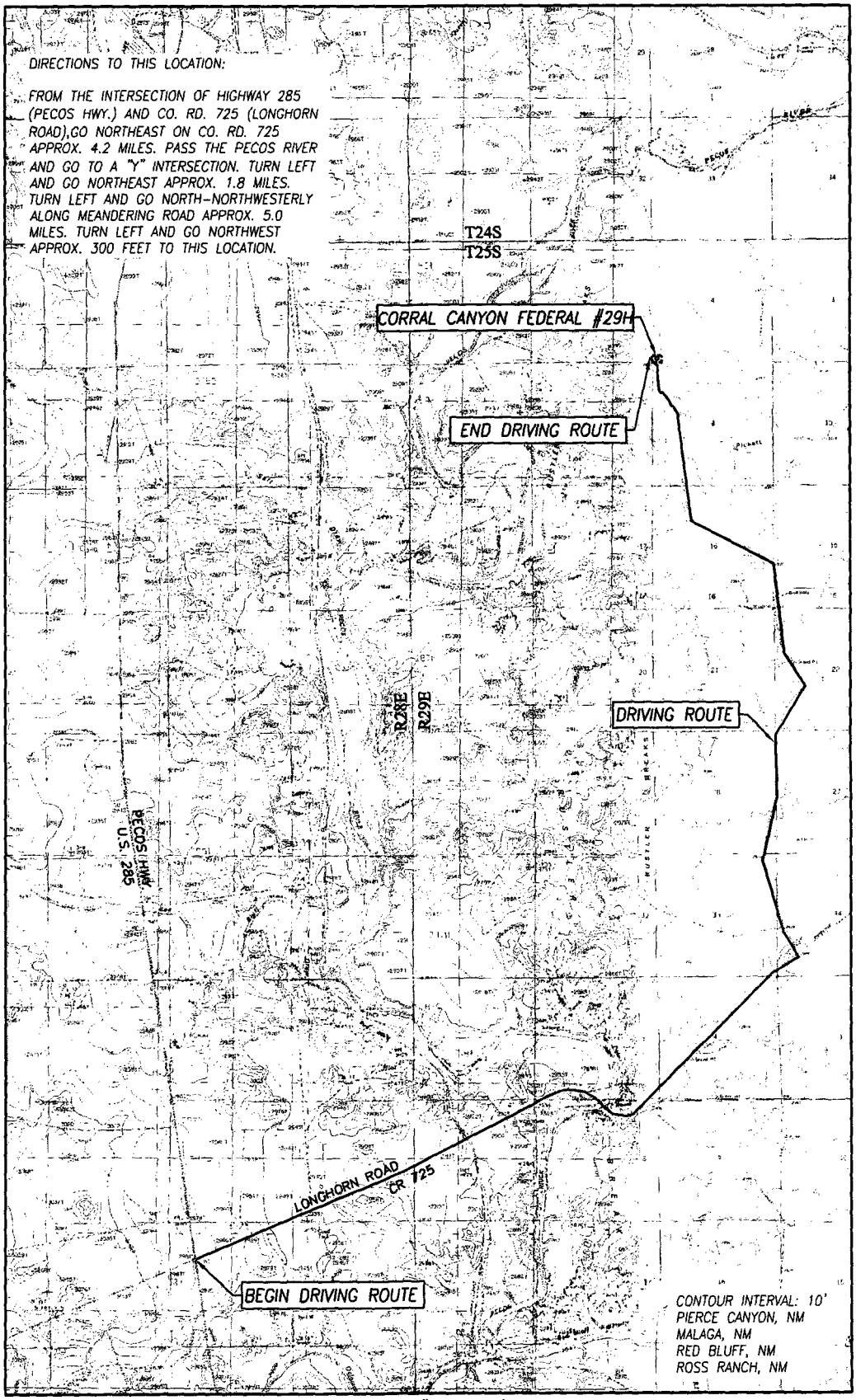
Use a previously conducted onsite? YES

Previous Onsite information: No additional surface disturbance is associated with this well.

Other SUPO Attachment

Corral_Fed_29H_Maps_20171002093538.pdf

TOPOGRAPHICAL AND ACCESS ROAD MAP

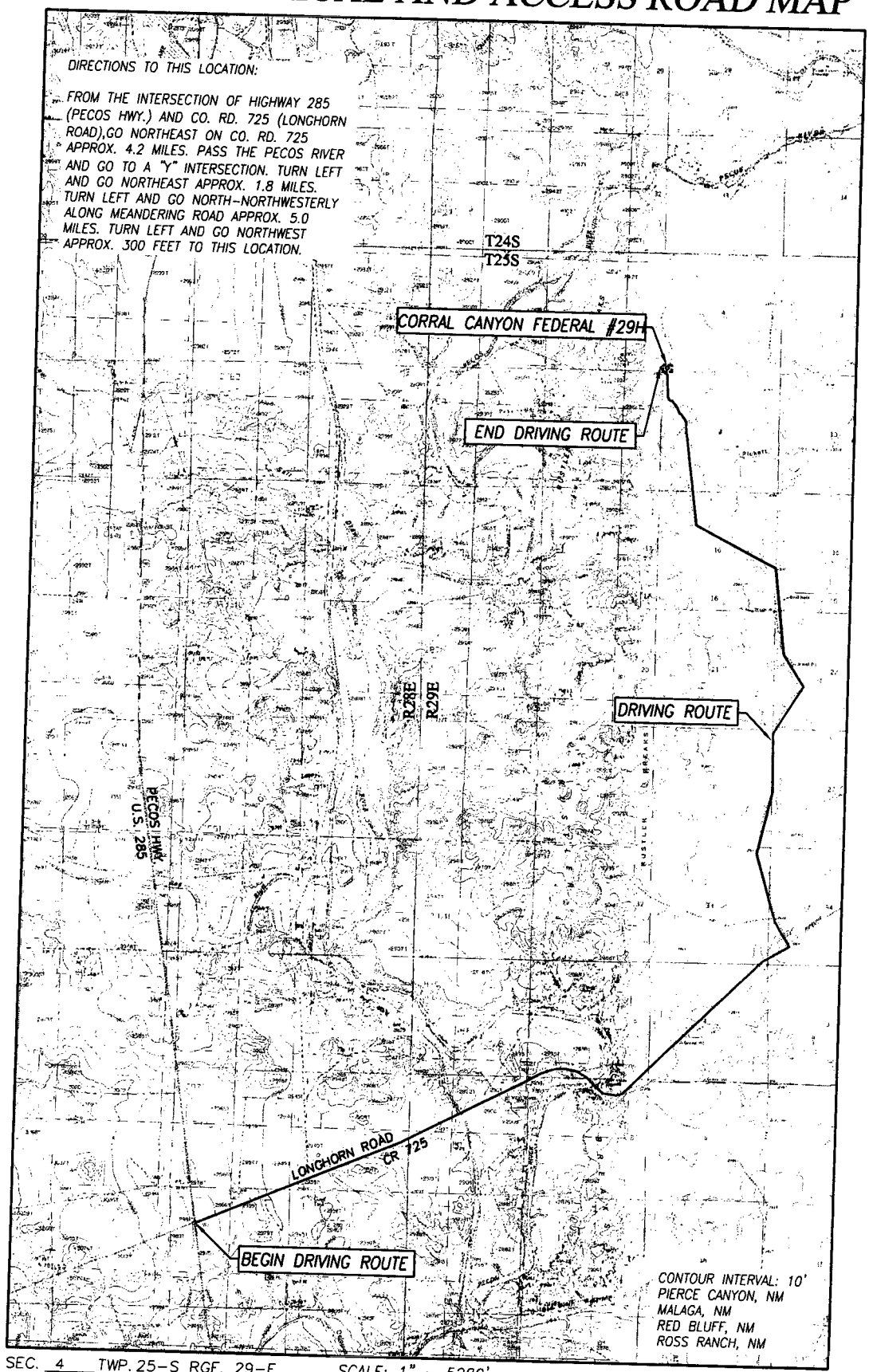


SEC. 4 TWP. 25-S RGE. 29-E
COUNTY EDDY STATE NEW MEXICO
DESCRIPTION 180' FSL & 196' FWL
ELEVATION 2944'
OPERATOR XTO ENERGY
LEASE CORRAL CANYON FEDERAL
U.S.G.S. TOPOGRAPHIC MAP
MALAGA, N.M. SURVEY N.M.P.M.

SCALE: 1" = 5280'

PROVIDING SURVEYING SERVICES
SINCE 1946
JOHN WEST SURVEYING COMPANY
412 N. DAL PASO HOBBS, N.M. 88240
(575) 393-3117 www.jwsc.biz
TBPLS# 10021000

TOPOGRAPHICAL AND ACCESS ROAD MAP



SEC. 4 TWP. 25-S RGE. 29-E
COUNTY EDDY STATE NEW MEXICO
DESCRIPTION 180' FSL & 196' FWL
ELEVATION 2944'
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LEASE CORRAL CANYON FEDERAL
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MALAGA, N.M. SURVEY N.M.P.M.

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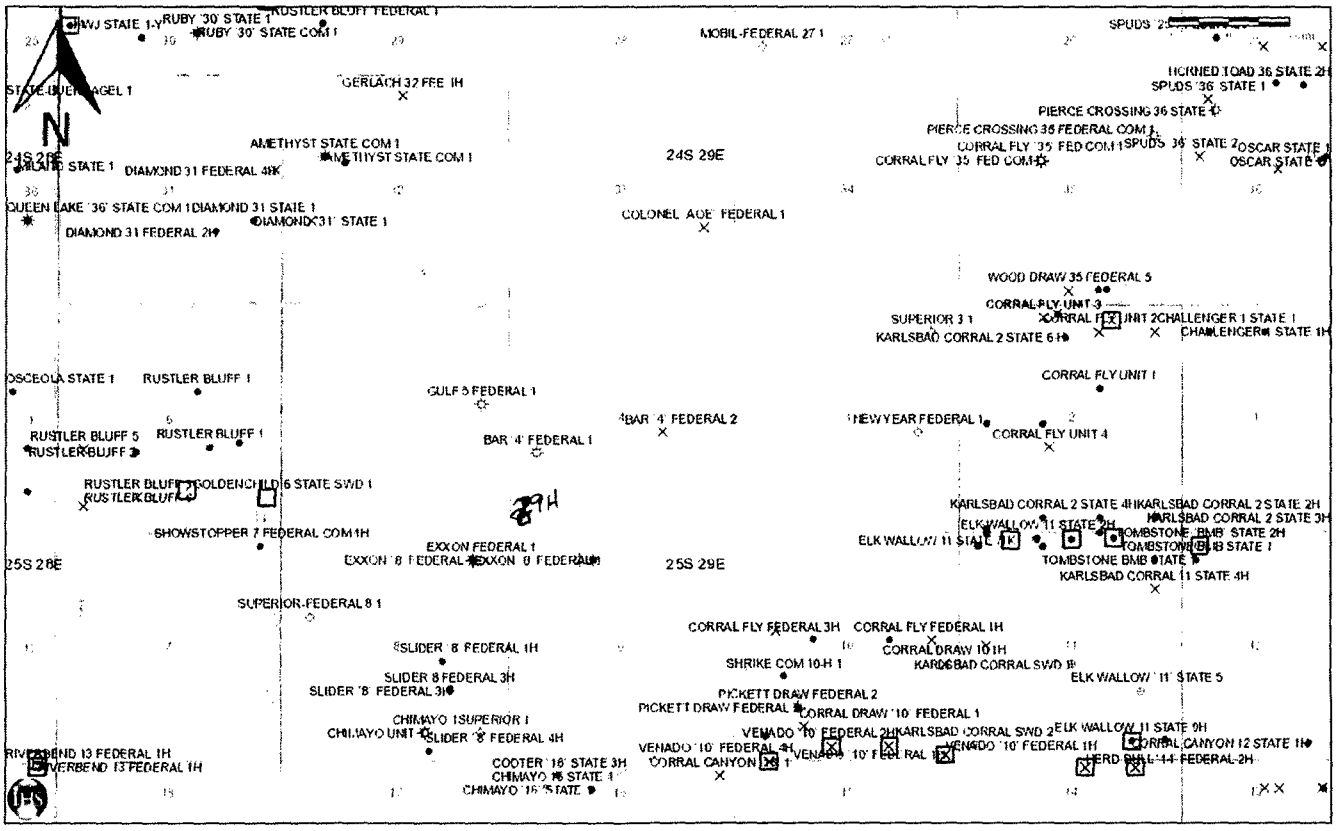
TBPLS# 10021000

Corral Canyon Federal Com #29H

One Mile Radius Map

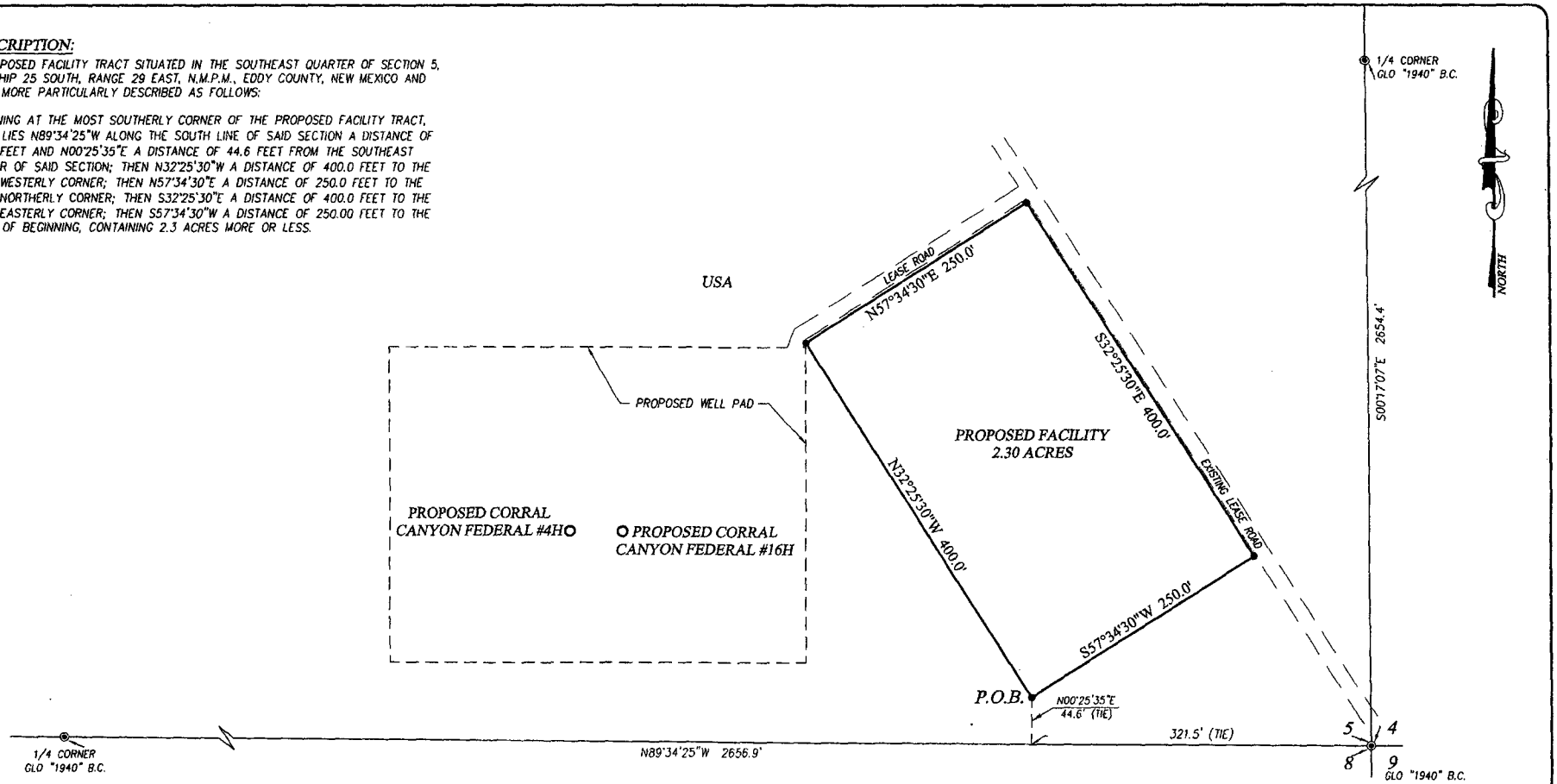


owser

DESCRIPTION:

A PROPOSED FACILITY TRACT SITUATED IN THE SOUTHEAST QUARTER OF SECTION 5, TOWNSHIP 25 SOUTH, RANGE 29 EAST, N.M.P.M., EDDY COUNTY, NEW MEXICO AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT THE MOST SOUTHERLY CORNER OF THE PROPOSED FACILITY TRACT, WHICH LIES N89°34'25"W ALONG THE SOUTH LINE OF SAID SECTION A DISTANCE OF 321.5 FEET AND N00°25'35"E A DISTANCE OF 44.6 FEET FROM THE SOUTHEAST CORNER OF SAID SECTION; THEN N32°25'30"W A DISTANCE OF 400.0 FEET TO THE MOST WESTERLY CORNER; THEN N57°34'30"E A DISTANCE OF 250.0 FEET TO THE MOST NORTHERLY CORNER; THEN S32°25'30"E A DISTANCE OF 400.0 FEET TO THE MOST EASTERLY CORNER; THEN S57°34'30"W A DISTANCE OF 250.00 FEET TO THE POINT OF BEGINNING, CONTAINING 2.3 ACRES MORE OR LESS.



LEGEND:

◉ DENOTES FOUND CORNER AS NOTED

NOTE

BEARINGS SHOWN HEREON ARE MERCATOR GRID AND CONFORM TO THE NEW MEXICO COORDINATE SYSTEM "NEW MEXICO EAST ZONE" NORTH AMERICAN DATUM 1983. DISTANCES ARE SURFACE VALUES.

100 0 100 200 Feet

Scale: 1"=100'

I, GARY G. EIDSON, NEW MEXICO PROFESSIONAL SURVEYOR No. 12641, DO HEREBY CERTIFY THAT THIS SURVEY PLAT AND THE ACTUAL SURVEY ON THE GROUND UPON WHICH IT IS BASED WERE PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION; THAT I AM RESPONSIBLE FOR THIS SURVEY; THAT THIS SURVEY MEETS THE MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO; AND THAT IT IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

GARY G. EIDSON _____

DATE: 4/3/14

GARY G. EIDSON NEW MEXICO 12641 REGISTERED PROFESSIONAL SURVEYOR

PROVIDING SURVEYING SERVICES SINCE 1946

JOHN WEST SURVEYING COMPANY

412 N. DAL PASO . HOBBS, N.M. 88240

(575) 393-3117 www.jwsc.biz

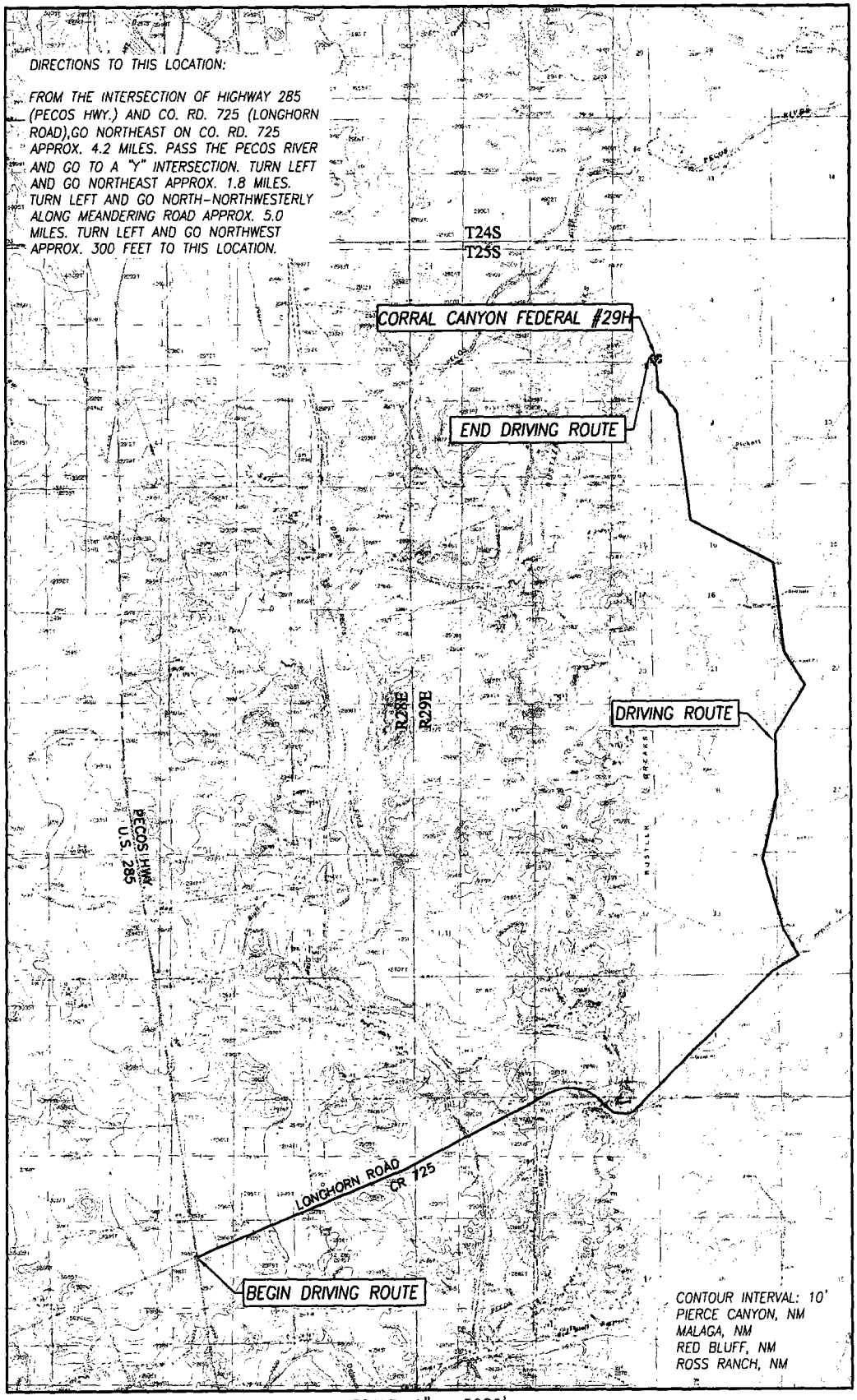
TBPLS# 10021000

XTO ENERGY

SURVEY FOR A PROPOSED FACILITY SITUATED IN THE SE/4 OF SECTION 5, TOWNSHIP 25 SOUTH, RANGE 29 EAST, N.M.P.M. EDDY COUNTY, NEW MEXICO

Survey Date: 03/05/14	CAD Date: 03/26/14	Drawn By: DSS
W.O. No.: 14110263	Rev: .	Rel. W.O.:	Sheet 1 of 1

TOPOGRAPHICAL AND ACCESS ROAD MAP



SEC. 4 TWP. 25-S RGE. 29-E
COUNTY EDDY STATE NEW MEXICO
DESCRIPTION 180' FSL & 196' FWL
ELEVATION 2944'
OPERATOR XTO ENERGY
LEASE CORRAL CANYON FEDERAL
U.S.G.S. TOPOGRAPHIC MAP
MALAGA, N.M. SURVEY N.M.P.M.

SCALE: 1" = 5280'

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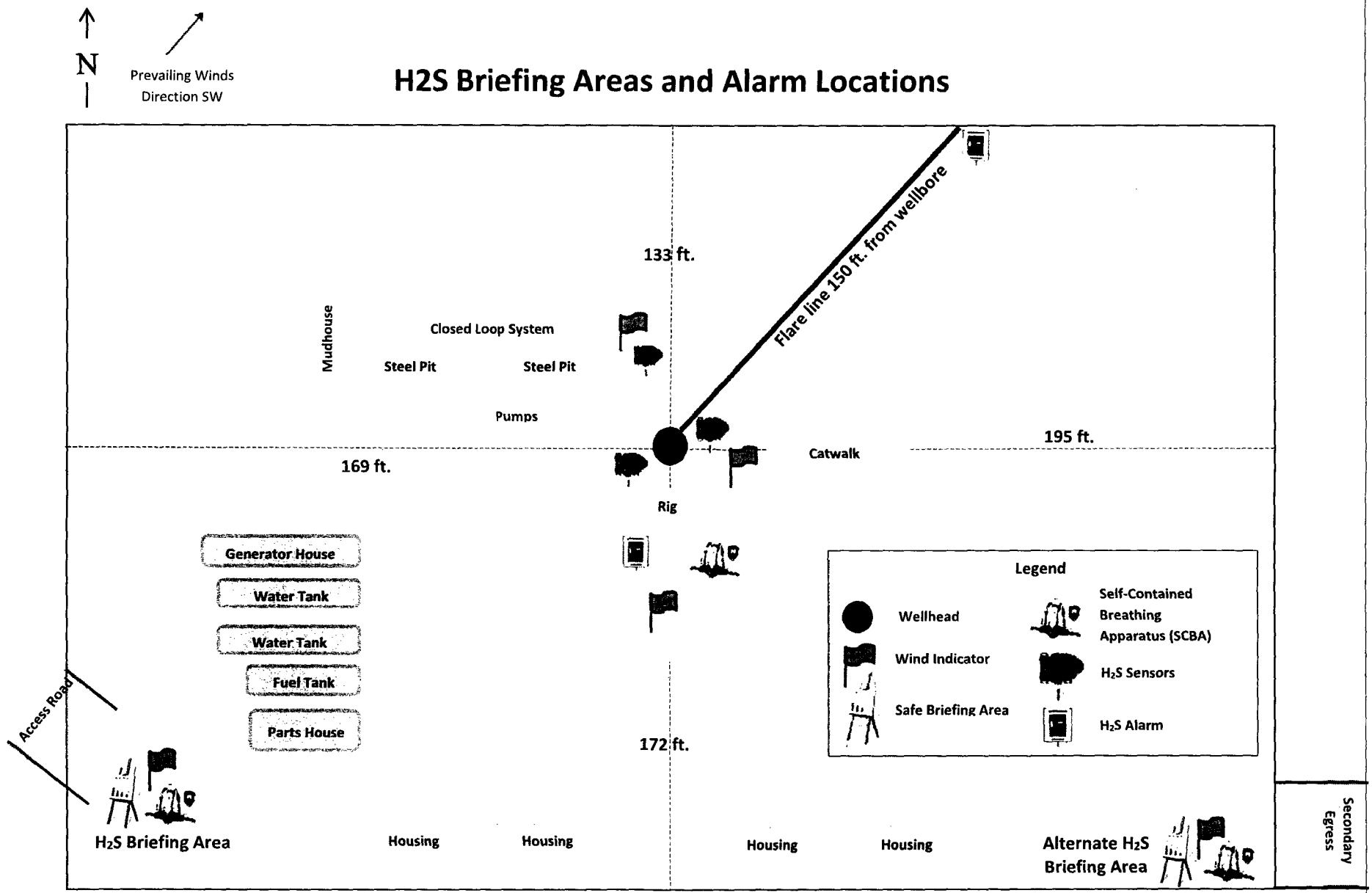
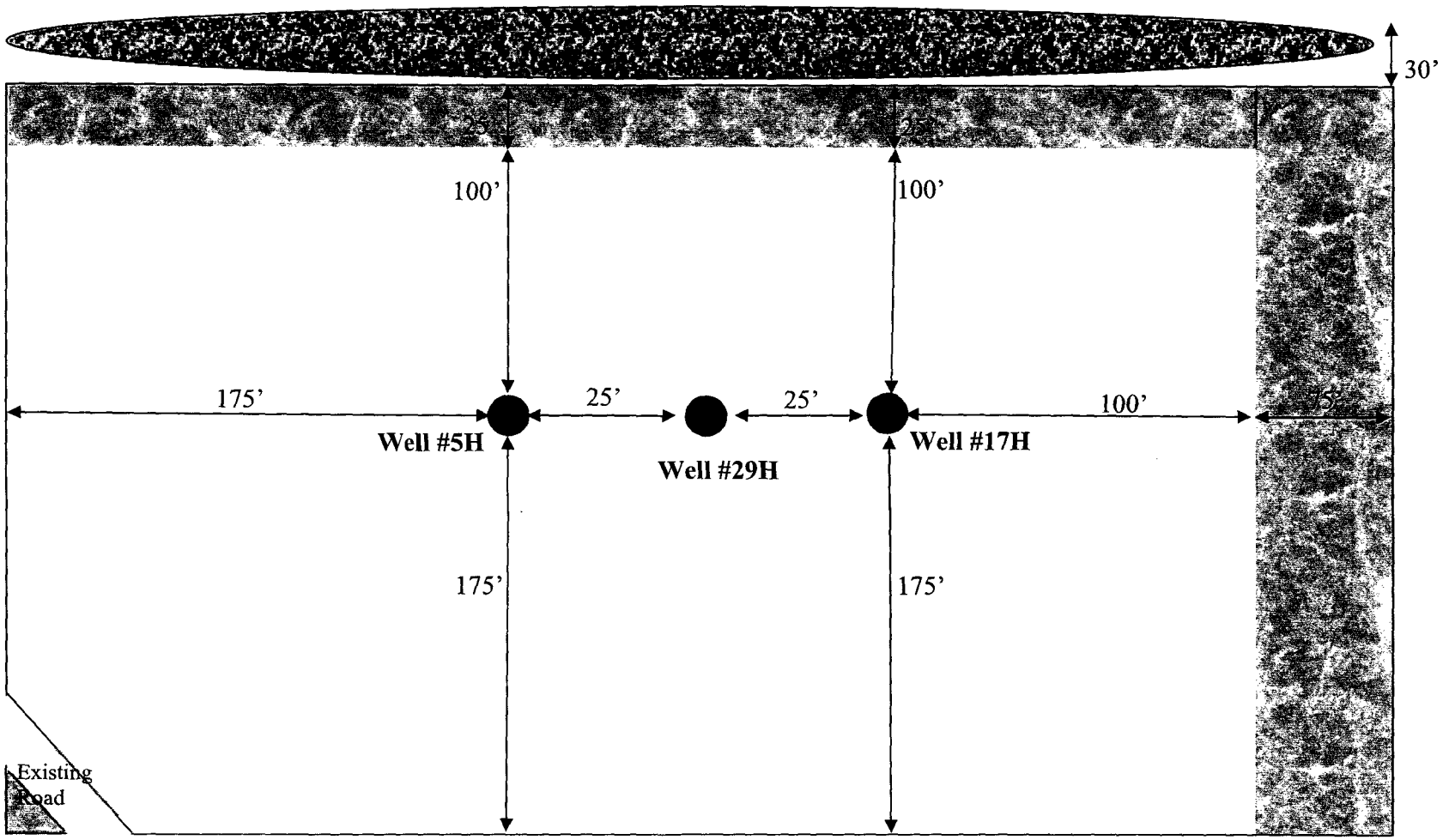
H2S Briefing Areas and Alarm Locations



Interim Reclamation Diagram

Corral Canyon Federal #5H, #17H, #29H

V-Door East (Both Wells)



LEGEND

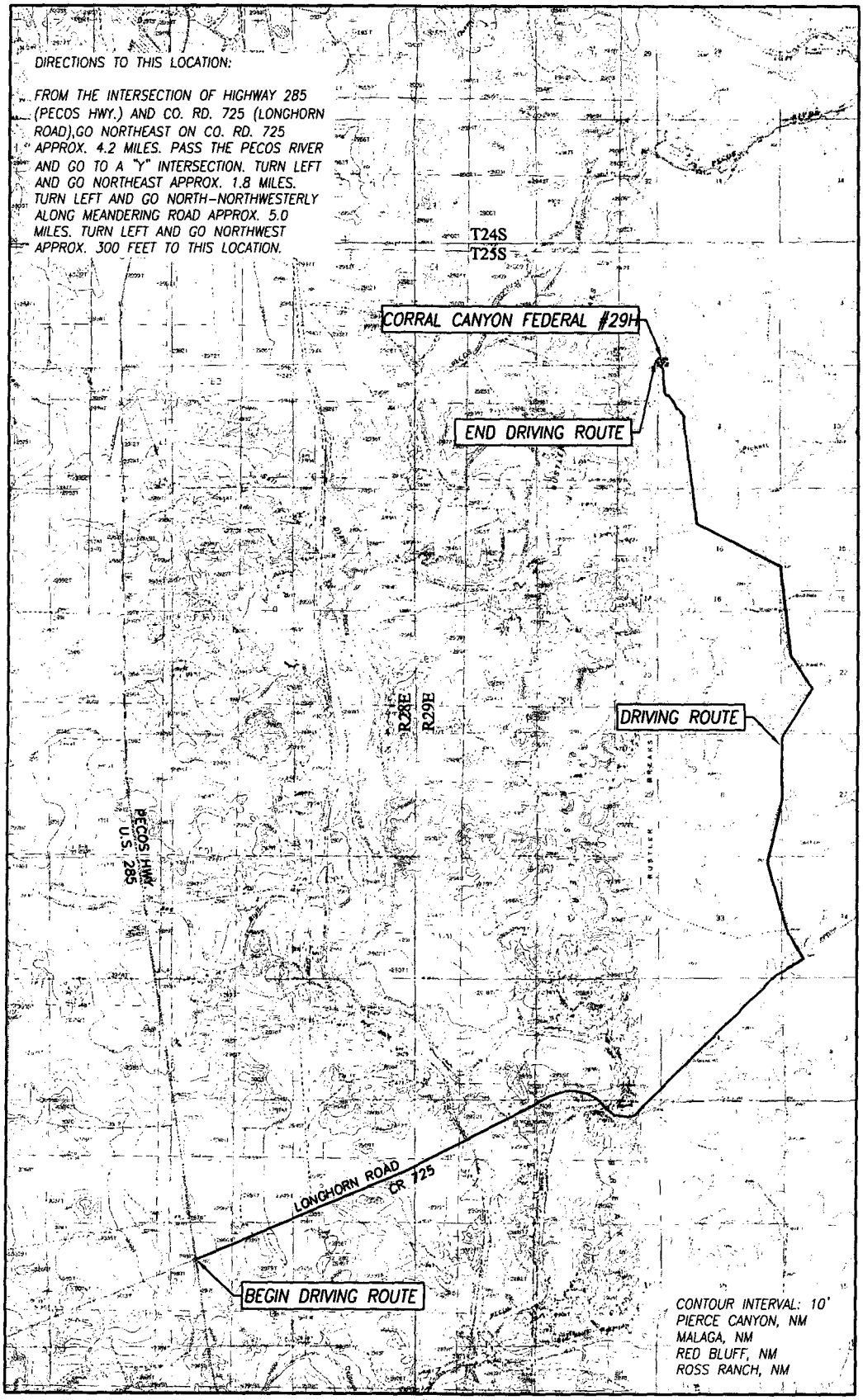
Wellbore

Interim Reclamation

Ditch & Berm

Topsoil

TOPOGRAPHICAL AND ACCESS ROAD MAP



SEC. 4 TWP. 25-S RGE. 29-E SCALE: 1" = 5280'
COUNTY EDDY STATE NEW MEXICO
DESCRIPTION 180' FSL & 196' FWL
ELEVATION 2944'
OPERATOR XTO ENERGY
LEASE CORRAL CANYON FEDERAL
U.S.G.S. TOPOGRAPHIC MAP
MALAGA, N.M. SURVEY N.M.P.M.

PROVIDING SURVEYING SERVICES
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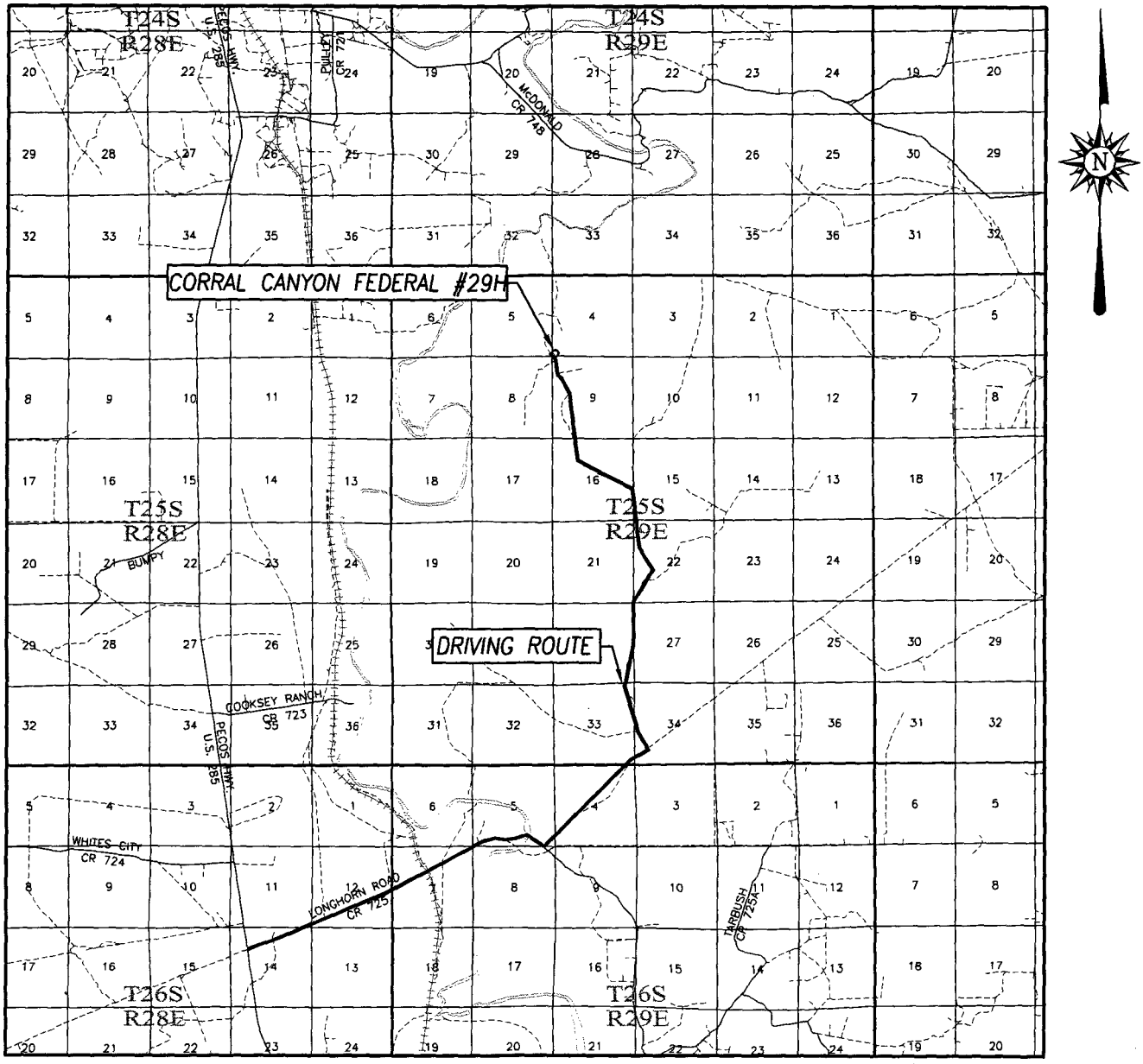
VICINITY MAP



SCALE: 1" = 2 MILES

DRIVING ROUTE: SEE TOPOGRAPHICAL AND ACCESS ROAD MAP

SEC. 4 TWP. 25-S RGE. 29-E

SURVEY N.M.P.M.

COUNTY EDDY STATE NEW MEXICO

DESCRIPTION 180' FSL & 196' FWL

ELEVATION 2944'

OPERATOR XTO ENERGY

LEASE CORRAL CANYON FEDERAL

PROVIDING SURVEYING SERVICES
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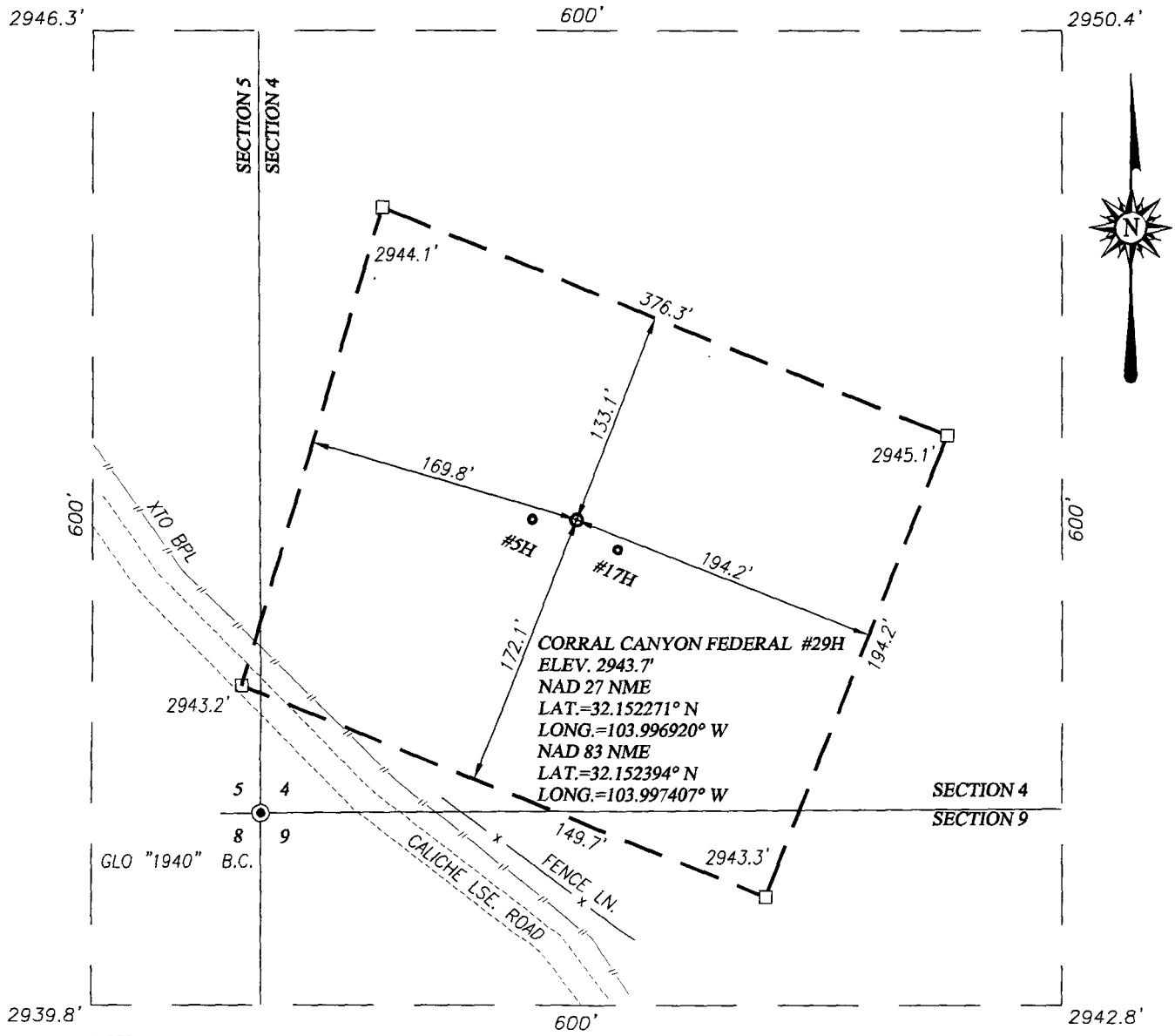
WELL SITE PLAN



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

DIRECTIONS TO THIS LOCATION:

FROM THE INTERSECTION OF HIGHWAY 285 (PECOS HWY.) AND CO. RD. 725 (LONGHORN ROAD),GO NORTHEAST ON CO. RD. 725 APPROX. 4.2 MILES. PASS THE PECOS RIVER AND GO TO A "Y" INTERSECTION. TURN LEFT AND GO NORTHEAST APPROX. 1.8 MILES. TURN LEFT AND GO NORTH-NORTHWESTERLY ALONG MEANDERING ROAD APPROX. 5.0 MILES. TURN LEFT AND GO NORTHWEST APPROX. 300 FEET TO THIS LOCATION.

100 0 100 200 Feet

Scale: 1"=100'

XTO ENERGY

CORRAL CANYON FEDERAL #29H WELL
LOCATED 180 FEET FROM THE SOUTH LINE
AND 196 FEET FROM THE WEST LINE OF SECTION 4,
TOWNSHIP 25 SOUTH, RANGE 29 EAST, N.M.P.M.,
EDDY COUNTY, NEW MEXICO

PROVIDING SURVEYING SERVICES
SINCE 1946
JOHN WEST SURVEYING COMPANY
412 N. DAL PASO HOBBS, N.M. 88240
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TBPLS# 10021000

Survey Date: 3/27/15	CAD Date: 4/14/15	Drawn By: LSL
W.O. No.: 15110412	Rev: .	Rel. W.O.:	Sheet 1 of 1

Section 1 - General

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

Section 2 - Lined Pits

Would you like to utilize Lined Pit PWD options? NO

Produced Water Disposal (PWD) Location:

PWD surface owner:

PWD disturbance (acres):

Lined pit PWD on or off channel:

Lined pit PWD discharge volume (bbl/day):

Lined pit specifications:

Pit liner description:

Pit liner manufacturers information:

Precipitated solids disposal:

Decribe precipitated solids disposal:

Precipitated solids disposal permit:

Lined pit precipitated solids disposal schedule:

Lined pit precipitated solids disposal schedule attachment:

Lined pit reclamation description:

Lined pit reclamation attachment:

Leak detection system description:

Leak detection system attachment:

Lined pit Monitor description:

Lined pit Monitor attachment:

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

Is the reclamation bond a rider under the BLM bond?

Lined pit bond number:

Lined pit bond amount:

Additional bond information attachment:

Section 3 - Unlined Pits

Would you like to utilize Unlined Pit PWD options? NO

Produced Water Disposal (PWD) Location:

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

Unlined pit PWD on or off channel:

Unlined pit PWD discharge volume (bbl/day):

Unlined pit specifications:

Precipitated solids disposal:

Decribe precipitated solids disposal:

Precipitated solids disposal permit:

Unlined pit precipitated solids disposal schedule:

Unlined pit precipitated solids disposal schedule attachment:

Unlined pit reclamation description:

Unlined pit reclamation attachment:

Unlined pit Monitor description:

Unlined pit Monitor attachment:

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

Beneficial use user confirmation:

Estimated depth of the shallowest aquifer (feet):

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

TDS lab results:

Geologic and hydrologic evidence:

State authorization:

Unlined Produced Water Pit Estimated percolation:

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

Is the reclamation bond a rider under the BLM bond?

Unlined pit bond number:

Unlined pit bond amount:

Additional bond information attachment:

Section 4 - Injection

Would you like to utilize Injection PWD options? NO

Produced Water Disposal (PWD) Location:

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

Injection PWD discharge volume (bbl/day):

Injection well mineral owner:

Injection well type:

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

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

Injection well new surface disturbance (acres):

Minerals protection information:

Mineral protection attachment:

Underground Injection Control (UIC) Permit?

UIC Permit attachment:

Section 5 - Surface Discharge

Would you like to utilize Surface Discharge PWD options? NO

Produced Water Disposal (PWD) Location:

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

Surface discharge PWD discharge volume (bbl/day):

Surface Discharge NPDES Permit?

Surface Discharge NPDES Permit attachment:

Surface Discharge site facilities information:

Surface discharge site facilities map:

Section 6 - Other

Would you like to utilize Other PWD options? NO

Produced Water Disposal (PWD) Location:

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

Other PWD discharge volume (bbl/day):

Other PWD type description:

Other PWD type attachment:

Have other regulatory requirements been met?

Other regulatory requirements attachment:

AFMSS

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

Bond Info Data Report

01/18/2018

Bond Information

Federal/Indian APD: FED

BLM Bond number: UTB000138

BIA Bond number:

Do you have a reclamation bond? NO

Is the reclamation bond a rider under the BLM bond?

Is the reclamation bond BLM or Forest Service?

BLM reclamation bond number:

Forest Service reclamation bond number:

Forest Service reclamation bond attachment:

Reclamation bond number:

Reclamation bond amount:

Reclamation bond rider amount:

Additional reclamation bond information attachment: