Form 3160-3
(June 2015)

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.
NMLC0063667

6. If Indian, Allotee or Tribe Name

1a. Type of work: ☑ DRILL ☐ REENTER

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

1c. Type of Completion: ☐ Hydraulic Fracturing ☑ Single Zone ☐ Multiple Zone

7. If Unit or CA Agreement, Name and No.
BIG EDDY / NMNM068294X

8. Lease Name and Well No.
BIG EDDY UNIT 30W SKYWALKER 110H

2. Name of Operator
XTO PERMIAN OPERATING LLC

9. API Well No.
3001547151

3a. Address
6401 Holiday Hill Road, Bldg 5 Midland TX 79707

3b. Phone No. *(include area code)*
(432)682-8873

10. Field and Pool, or Exploratory
WC WILLIAMS SINK; BONE SPRING

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*

At surface SWSW / 940 FSL / 65 FWL / LAT 32.568631 / LONG -103.848242

At proposed prod. zone NWNW / 660 FNL / 50 FWL / LAT 32.564316 / LONG -103.882555

11. Sec., T. R. M. or Blk. and Survey or Area
SEC 14 / T20S / R31E / NMP

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

12. County or Parish
EDDY

13. State
NM

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

16. No of acres in lease
960

17. Spacing Unit dedicated to this well
320

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

19. Proposed Depth
9235 feet / 20107 feet

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

21. Elevations (Show whether DF, KDB, RT, GL, etc.)
3453 feet

22. Approximate date work will start*
05/01/2019

23. Estimated duration
90 days

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, and the Hydraulic Fracturing rule per 43 CFR 3162.3-3 (as applicable)

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

25. Signature	Name *(Printed/Typed)*	Date
(Electronic Submission)	Stephanie Rabadue / Ph: (432)620-6714	04/17/2019

Title
Regulatory Coordinator

Approved by *(Signature)*	Name *(Printed/Typed)*	Date
(Electronic Submission)	Cody Layton / Ph: (575)234-5959	07/05/2019

Title	Office
Assistant Field Manager Lands & Minerals	CARLSBAD

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

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

APPROVED WITH CONDITIONS

Approval Date: 07/05/2019

(Continued on page 2)

*(Instructions on page 2)

District I
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720
District III
1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-102
Revised August 1, 2011
Submit one copy to appropriate District Office

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

[1] API Number	[2] Pool Code	[3] Pool Name
30-015- 47151	97650	WC Williams Sink; Bone Spring

[4] Property Code	[5] Property Name	[6] Well Number
325775	BIG EDDY UNIT 30W SKYWALKER	110H

[7] OGRID No.	[8] Operator Name	[9] Elevation
~~260737~~ -373075	XTO PERMIAN OPERATING, LLC.	3,453'

[10] Surface Location

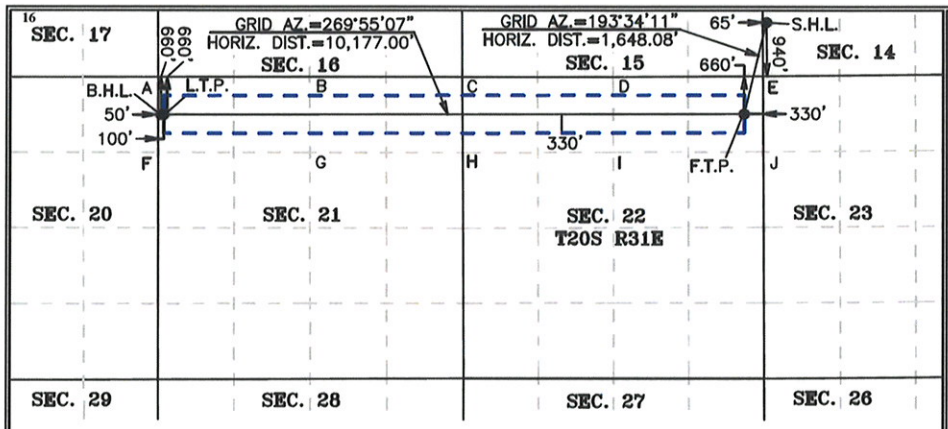
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	14	20 S	31 E		940	SOUTH	65	WEST	EDDY

[11] Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
D	21	20 S	31 E		660	NORTH	50	WEST	EDDY

[12] Dedicated Acres	[13] Joint or Infill	[14] Consolidation Code	[15] Order No.
320			

No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.



SURFACE LOCATION NAD 27 NME	LAST TAKE POINT NAD 27 NME	SURFACE LOCATION NAD 83 NME	LAST TAKE POINT NAD 83 NME
Y= 570,877.5	Y= 569,261.2	Y= 570,939.2	Y= 569,322.8
X= 649,595.5	X= 639,081.8	X= 690,775.2	X= 680,261.5
LAT.= 32.568511°N	LAT.= 32.564195°N	LAT.= 32.568631°N	LAT.= 32.564315°N
LONG.= 103.847741°W	LONG.= 103.881891°W	LONG.= 103.848242°W	LONG.= 103.882392°W

FIRST TAKE POINT NAD 27 NME	BOTTOM HOLE LOCATION NAD 27 NME	FIRST TAKE POINT NAD 83 NME	BOTTOM HOLE LOCATION NAD 83 NME
Y= 569,275.5	Y= 569,261.1	Y= 569,337.2	Y= 569,322.7
X= 649,208.8	X= 639,031.8	X= 690,388.5	X= 680,211.5
LAT.= 32.564113°N	LAT.= 32.564196°N	LAT.= 32.564232°N	LAT.= 32.564316°N
LONG.= 103.849020°W	LONG.= 103.882053°W	LONG.= 103.849521°W	LONG.= 103.882555°W

CORNER COORDINATES TABLE
NAD 27 NME

A – Y= 569,921.0 N,	X= 638,980.6 E	B – Y= 569,924.6 N,	X= 641,625.7 E
C – Y= 569,922.6 N,	X= 644,268.3 E	D – Y= 569,925.5 N,	X= 646,909.9 E
E – Y= 569,936.9 N,	X= 649,535.5 E	F – Y= 568,598.2 N,	X= 638,983.1 E
G – Y= 568,599.6 N,	X= 641,630.7 E	H – Y= 568,598.2 N,	X= 644,278.5 E
I – Y= 568,604.4 N,	X= 646,915.1 E	J – Y= 568,614.9 N,	X= 649,542.2 E

CORNER COORDINATES TABLE
NAD 83 NME

A – Y= 569,982.7 N,	X= 680,160.3 E	B – Y= 569,986.3 N,	X= 682,805.4 E
C – Y= 569,984.3 N,	X= 685,448.0 E	D – Y= 569,987.2 N,	X= 688,089.6 E
E – Y= 569,998.6 N,	X= 690,715.2 E	F – Y= 568,659.8 N,	X= 680,162.8 E
G – Y= 568,661.2 N,	X= 682,810.4 E	H – Y= 568,659.8 N,	X= 685,458.2 E
I – Y= 568,666.0 N,	X= 688,094.8 E	J – Y= 568,676.5 N,	X= 690,721.9 E

[17] OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Stephanie Rabadue 01/30/2019
Signature Date

Stephanie Rabadue
Printed Name

stephanie_rabadue@xtoenergy.com
E-mail Address

[18] SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

01-28-2019
Date of Survey

Signatue and Seal of Professional Surveyor:

MARK DILLON HARP NEW MEXICO 23786 PROFESSIONAL SURVEYOR

MARK DILLON HARP 23786
Certificate Number DH 2017081262

Intent ☐ As Drilled ☐

API #

Operator Name:	Property Name:	Well Number
XTO PERMIAN OPERATING, LLC	BIG EDDY UNIT 30W SKYWALKER	110H

Kick Off Point (KOP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
M	14	20S	31E		940	SOUTH	65	WEST	Eddy

Latitude	Longitude	NAD
32.568631	-103.848242	83

First Take Point (FTP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
A	22	20S	31E		660	NORTH	330	EAST	Eddy

Latitude	Longitude	NAD
32.564232	-103.849521	83

Last Take Point (LTP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
D	21	20S	31E		660	NORTH	100	WEST	Eddy

Latitude	Longitude	NAD
32.564315	-103.882392	83

Is this well the defining well for the Horizontal Spacing Unit? ☐

Is this well an infill well? ☐

If infill is yes please provide API if available, Operator Name and well number for Defining well for Horizontal Spacing Unit.

API #

Operator Name:	Property Name:	Well Number
XTO PERMIAN OPERATING, LLC		

KZ 06/29/2018

District I
1625 N. French Dr., Hobbs, NM 88240
District II
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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: 01/30/2019

☒ Original
☐ Amended - Reason for Amendment:

Operator & OGRID No.: XTO Permian Operating, LLC [260737]

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

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
Big Eddy Unit 30W Skywalker 110H		M-14-20S-31E	940'FSL & 65'FWL	2500 MCF/D	Sold	CTB Connected

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 DCP Midstream and will be connected to DCP Midstream 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 Permian Operating, LLC. provides (periodically) to DCP Midstream a drilling, completion and estimated first production date for wells that are scheduled to be drilled in the foreseeable future. In addition, XTO Permian Operating, LLC. and DCP Midstream have periodic conference calls to discuss changes to drilling and completion schedules. Gas from these wells will be processed at DCP Midstream Processing Plant located in Sec._19_, Twn._19S_, Rng._32E_, Eddy County, New Mexico. 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 DCP Midstream system at that time. Based on current information, it is XTO Permian Operating, LLC'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

PECOS DISTRICT DRILLING
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	**XTO Permian Operating, LLC**
LEASE NO.:	**NMLC-0063667**
WELL NAME & NO.:	**Big Eddy Unit 30W Skywalker 110H**
SURFACE HOLE FOOTAGE:	**0940' FSL & 0065' FWL**
BOTTOM HOLE FOOTAGE	**0660' FNL & 0050' FWL Sec. 21, T. 20 S., R 31 E.**
LOCATION:	**Section 14, T. 20 S., R 31 E., NMPM**
COUNTY:	**County, New Mexico**

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

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

A. DRILLING OPERATIONS REQUIREMENTS

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

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

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

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

2. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval. **If the drilling rig is removed without approval – an Incident of Non-Compliance will be written and will be a "Major" violation.**

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

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

B. **CASING**

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

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

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

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

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

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

1. The **18-5/8** inch surface casing shall be set at approximately **820** feet (a minimum of 25 feet into the Rustler Anhydrite and above the salt) and cemented to the surface. **If salt is encountered, set casing at least 25 feet above the salt.**

    a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.

    b. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry.**

    c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.

    d. If cement falls back, remedial cementing will be done prior to drilling out that string.

13-3/8 1st Intermediate casing shall be kept fluid filled while running into hole to meet BLM minimum collapse requirements.

2. The minimum required fill of cement behind the **13-3/8** inch 1st intermediate casing (**set below the base of the Salt**) is:

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

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

Operator has proposed DV tool at depth of 2270', but will adjust cement proportionately if moved. DV tool shall be set a minimum of 50' below previous shoe and a minimum of 200' above current shoe. Operator shall submit sundry if DV tool depth cannot be set in this range. If an ECP is used, it is to be set a minimum of 50' below the shoe to provide cement across the shoe. If it cannot be set below the shoe, a CBL shall be run to verify cement coverage.

a. First stage to DV tool:___

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

b. Second stage above DV tool:

☐ Cement to surface. If cement does not circulate, contact the appropriate BLM office. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to potash.**

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

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

☐ Cement should tie-back at least **50 feet above the Capitan Reef** (Top of Capitan Reef estimated at 2809'). Operator shall provide method of verification. **Excess calculates to 24% - Additional cement may be required.**

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

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

C. **PRESSURE CONTROL**

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

2. Variance approved to use flex line from BOP to choke manifold. Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. **Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.** If the BLM inspector questions the straightness of the hose, a BLM engineer will be contacted and will review in the field or via picture supplied by inspector to determine if changes are required (operator shall expect delays if this occurs).

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

4. **Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the 13-3/8 1st intermediate casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the 13-3/8 1st intermediate casing shoe shall be psi.**
    a. **Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.**
    b. **If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.**
    c. **Manufacturer representative shall install the test plug for the initial BOP test.**
    d. **Operator shall perform the 9-5/8" casing integrity tests to 70% of the casing burst. This will test the multi-bowl seals.**
    e. **If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.**

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

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

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

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

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

e. All tests are required to be recorded on a calibrated test chart. **A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.**

f. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug. This test shall be performed prior to the test at full stack pressure.

D. DRILL STEM TEST

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

E. WASTE MATERIAL AND FLUIDS

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

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

JAM 060519

APD ID: 10400039908 **Submission Date:** 04/17/2019

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: BIG EDDY UNIT 30W SKYWALKER **Well Number:** 110H

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	PERMIAN	3453	0	0	OTHER : Alluvium	NONE	No
2	RUSTLER	2763	686	686	SILTSTONE	USEABLE WATER	No
3	TOP SALT	2499	950	950	SALT	POTASH	No
4	BASE OF SALT	1480	1969	1969	SALT	POTASH	No
5	CAPITAN REEF	713	2736	2736	LIMESTONE	USEABLE WATER	No
6	DELAWARE	-568	4017	4017	SANDSTONE	NATURAL GAS,OIL,OTHER : Produced Water	No
7	BONE SPRING	-3922	7371	7371	SANDSTONE	NATURAL GAS,OIL,OTHER : Produced Water	No
8	BONE SPRING 1ST	-5128	8577	8577	SANDSTONE	NATURAL GAS,OIL,OTHER : Produced Water	No
9	BONE SPRING 2ND	-5883	9332	9332	SANDSTONE	NATURAL GAS,OIL,OTHER : Produced Water	Yes

Section 2 - Blowout Prevention

Pressure Rating (PSI): 2M **Rating Depth:** 820

Equipment: The blow out preventer equipment (BOP) on surface casing temporary wellhead will consist of a 21-1/4" minimum 2M Hydril.

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, the BOP test will be limited to 1500 psi. All BOP tests will include a low pressure test as per BLM regulations. The 2M BOP diagram is attached.

Choke Diagram Attachment:

BEU30_2MCM_20190312053134.pdf

BOP Diagram Attachment:

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: BIG EDDY UNIT 30W SKYWALKER **Well Number:** 110H

BEU30_2MCM_20190312053134.pdf

BEU30_2MBOP_20190312053147.pdf

Pressure Rating (PSI): 3M **Rating Depth:** 9235

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

Variance request: A variance is requested to allow use of a flex hose as the choke line from the BOP to the Choke Manifold. If this hose is used, a copy of the manufacturer’s certification and pressure test chart will be kept on the rig. Attached is an example of a certification and pressure test chart. The manufacturer does not require anchors. XTO requests to utilize centralizers only in the curve after the KOP and only a minimum of one every other joint. Permanent Wellhead – GE RSH Multibowl System A. Starting Head: 13-5/8” 5M top flange x 13-3/8” SOW bottom B. Tubing Head: 13-5/8” 5M bottom flange x 7-1/16” 10M top flange Wellhead will be installed by manufacturer’s representatives. Manufacturer will monitor welding process to ensure appropriate temperature of seal. Operator will test the 9-5/8" casing per BLM Onshore Order 2 Wellhead Manufacturer representative will not be present for BOP test plug installation
Testing Procedure: All BOP testing will be done by an independent service company. Annular pressure tests will be limited to 50% of the working pressure. When nippling up, the BOP test will be limited to 3,000 psi. All BOP tests will include a low pressure test as per BLM regulations. The 3M BOP diagram is attached. Blind rams will be function tested each trip, pipe rams will be function tested each day.

Choke Diagram Attachment:

BEU30_3MCM_20190218081411.pdf

BOP Diagram Attachment:

BEU30_3MBOP_20190218081426.pdf

Section 3 - Casing

Casing ID	String Type	Hole Size	Csg Size	Condition	Standard	Tapered String	Top Set MD	Bottom Set MD	Top Set TVD	Bottom Set TVD	Top Set MSL	Bottom Set MSL	Calculated casing length MD	Grade	Weight	Joint Type	Collapse SF	Burst SF	Joint SF Type	Joint SF	Body SF Type	Body SF
1	SURFACE	24	18.625	NEW	API	N	0	820	0	820			820	H-40	87.5	STC	1.7	2.46	DRY	7.79	DRY	7.79
2	INTERMEDIATE	17.5	13.375	NEW	API	N	0	2170	0	2170			2170	J-55	54.5	STC	1.68	2.71	DRY	4.35	DRY	4.35
3	INTERMEDIATE	12.25	9.625	NEW	API	N	0	4060	0	4060			4060	J-55	40	LTC	1.63	2.38	DRY	4.48	DRY	4.48
4	PRODUCTION	8.75	5.5	NEW	API	N	0	20107	0	9235			20107	P-110	17	BUTT	1.67	1.12	DRY	2.33	DRY	2.33

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: BIG EDDY UNIT 30W SKYWALKER **Well Number:** 110H

Casing Attachments

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

BEU30_Sky_110H_Csg_20190313075543.pdf

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

BEU30_Sky_110H_Csg_20190313075554.pdf

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

BEU30_Sky_110H_Csg_20190313075606.pdf

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: BIG EDDY UNIT 30W SKYWALKER **Well Number:** 110H

Casing Attachments

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

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

BEU30_Sky_110H_Csg_20190313075613.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	820	690	1.87	12.9	1290.3	100	EconoCem-HLTRRC	None
SURFACE	Tail				550	1.35	14.8	742.5	100	HalCem-C	2% CaCl
INTERMEDIATE	Lead		0	2170	1380	1.87	12.9	2580.6	100	EconoCem-HLTRRC	None
INTERMEDIATE	Tail				300	1.35	14.8	405	100	HalCem-C	2% CaCl
INTERMEDIATE	Lead		0	2270	580	1.88	12.9	1090.4	100	Halcem-C	2% CaCl
INTERMEDIATE	Tail				230	1.33	14.8	305.9	100	Halcem-C	2% CaCl
INTERMEDIATE	Lead	2270	2270	4060	420	1.88	12.9	789.6	100	EconoCem-HCL	2% CaCl
INTERMEDIATE	Tail				230	1.33	14.8	305.9	100	HalCem-C	2% CaCl
PRODUCTION	Lead		0	20107	650	2.69	10.5	1748.5	30	NeoCem	None
PRODUCTION	Tail				2300	1.61	13.2	3703	30	VersaCem	None

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: BIG EDDY UNIT 30W SKYWALKER **Well Number:** 110H

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
2170	4060	OTHER : FW	8.7	9							A mud test will be performed every 24 hours to determine: density, viscosity, strength, filtration and pH as necessary. Use available solids controls equipment to help keep mud weight down after mud up. Rig up solids control equipment to operate as a closed loop system
0	820	OTHER : FW/Native	8.4	8.7							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
4060	9235	OTHER : FW/Cut Brine/Polymer	9.1	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

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: BIG EDDY UNIT 30W SKYWALKER **Well Number:** 110H

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
											as a closed loop system
820	2170	OTHER : Brine/Gel Sweeps	9.8	10.1							A mud test will be performed every 24 hours to determine: density, viscosity, strength, filtration and pH as necessary. Use available solids controls equipment to help keep mud weight down after mud up. Rig up solids control equipment to operate as a closed loop system

Section 6 - Test, Logging, Coring

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

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

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

CBL,CNL,DS,GR

Coring operation description for the well:

No coring will take place on this well.

Section 7 - Pressure

Anticipated Bottom Hole Pressure: 4418 **Anticipated Surface Pressure:** 2333.71

Anticipated Bottom Hole Temperature(F): 160

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

Describe:

Potential loss of circulation through the Capitan Reef.

Contingency Plans geoharzards description:

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

Contingency Plans geohazards attachment:

Operator Name: XTO PERMIAN OPERATING LLC

Well Name: BIG EDDY UNIT 30W SKYWALKER **Well Number:** 110H

Hydrogen Sulfide drilling operations plan required? YES

Hydrogen sulfide drilling operations plan:

BEU30_H2S_Dia_20190218114621.pdf

BEU30_H2S_20190218114648.pdf

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

BEU30_Sky_110H_DD_20190313080005.pdf

Other proposed operations facets description:

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

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

Other proposed operations facets attachment:

BEU30_Sky_110H_GCP_20190313080022.pdf

Other Variance attachment:

BEU30_FH_20190218114835.pdf

BEU30_MBS_20190530115909.pdf

Casing Design

Hole Size	Depth	OD Csg	Weight	Collar	Grade	New/Used	SF Burst	SF Collapse	SF Tension
24"	0' – 820'	18-5/8"	87.5	STC	H-40	New	2.46	1.70	7.79
17-1/2"	0' – 2170'	13-3/8"	54.5	STC	J-55	New	2.71	1.68	4.35
12-1/4"	0' – 4060'	9-5/8"	40	LTC	J-55	New	2.38	1.63	4.48
8-3/4"	0' – 20224'	5-1/2"	17	BTC	P-110	New	1.12	1.67	2.32

- XTO requests to utilize centralizers only in the curve after the KOP and only a minimum of one every other joint.
- 13-3/8" 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
- Test on 2M Annular & 18-5/8" casing will be limited to 70% burst of the casing or 1500 psi, whichver is less

Wellhead:

Temporary Wellhead

- 18-5/8" SOW bottom x 21-1/4" 2M top flange.

Permanent Wellhead – GE RSH Multibowl System

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

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

- Wellhead will be installed by manufacturer's representatives.
- Manufacturer will monitor welding process to ensure appropriate temperature of seal.
- Operator will test the 9-5/8" casing per BLM Onshore Order 2
- Wellhead Manufacturer representative will not be present for BOP test plug installation

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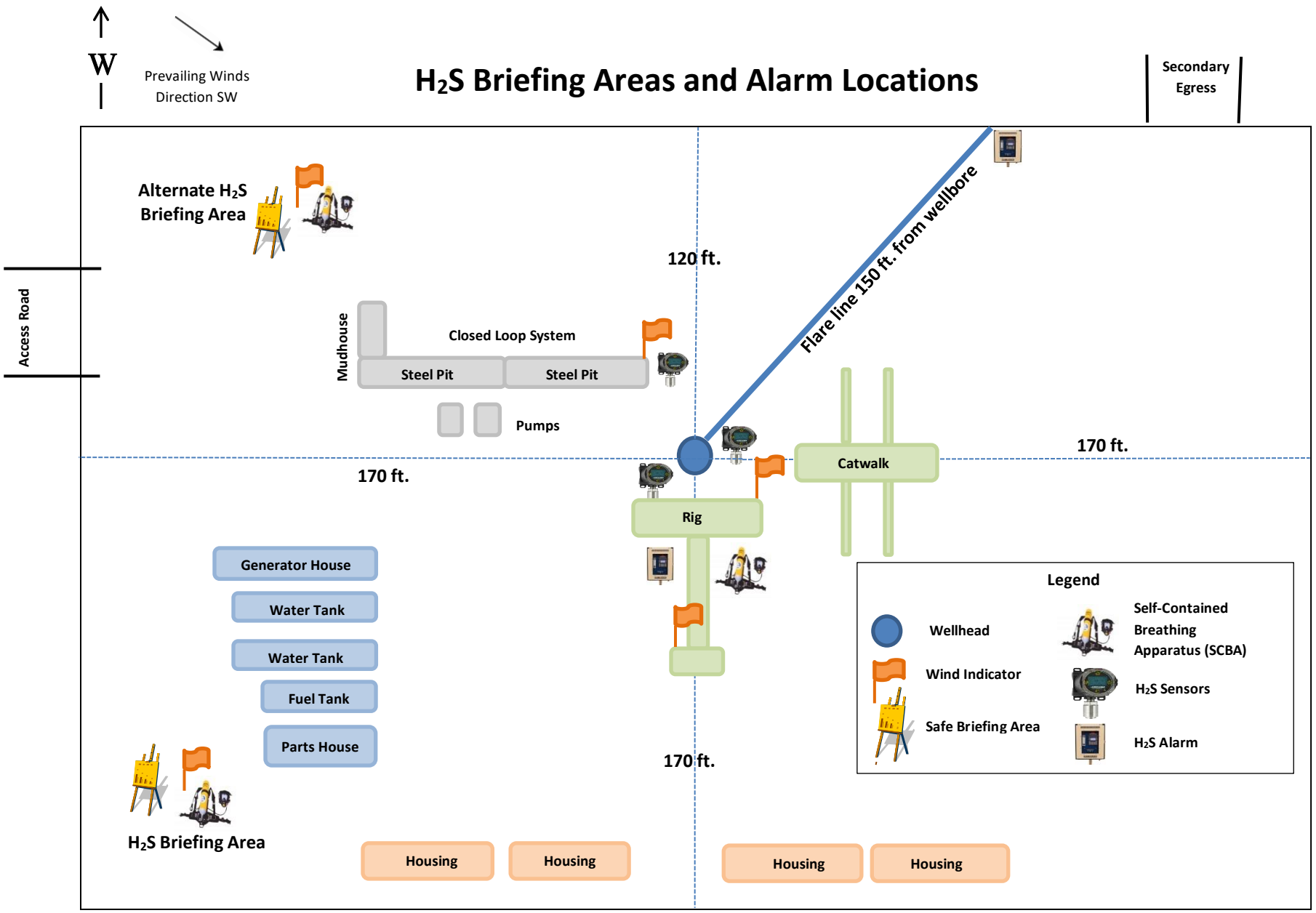
H_2S Briefing Areas and Alarm Locations



GENERAL OFFICES – MIDLAND, TEXAS

BOPCO, L.P.

6401 Holiday Hill Road
Midland, Tx 79707
(432) 683-2277

HYDROGEN SULFIDE (H_2S) 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 = l**	**10 ppm**	**100 ppm/hr**	**600 ppm**
Sulfur Dioxide	**SO_2**	**2.21 Air = l**	**2 ppm**	**N/A**	**1000 ppm**

Contacting Authorities

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

CARLSBAD OFFICE – EDDY & LEA COUNTIES

3104 E. Greene St., Carlsbad, NM 88220
Carlsbad, NM 575-887-7329

BOPCO, L.P. PERSONNEL:

Kendall Decker, Drilling Manager	903-521-6477
Milton Turman, Drilling Superintendent	817-524-5107
Jeff Raines, Construction Foreman	432-557-3159
Toady Sanders, EH & S Manager	903-520-1601
Wes McSpadden, Production Foreman	575-441-1147

SHERIFF DEPARTMENTS:

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

NEW MEXICO STATE POLICE: 575-392-5588

FIRE DEPARTMENTS: 911

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

HOSPITALS: 911

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

AGENT NOTIFICATIONS:

For Lea County:

Bureau of Land Management – Hobbs	575-393-3612
New Mexico Oil Conservation Division – Hobbs	575-393-6161

For Eddy County:

Bureau of Land Management - Carlsbad	575-234-5972
New Mexico Oil Conservation Division - Artesia	575-748-1283

XTO Energy

Eddy County, NM (NAD-27)
BEU 30W Skywalker
110H

OH

Plan: PERMIT

Standard Planning Report

08 February, 2019

Project: Eddy County, NM (NAD-27)
Site: BEU 30W Skywalker
Well: 110H
Wellbore: OH
Design: PERMIT

WELL DETAILS: 110H

Rig Name:
RKB=25 @ 3474.00usft
Ground Level: 3449.00

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	570877.50	649595.50	32.568511	-103.847741

SECTION DETAILS

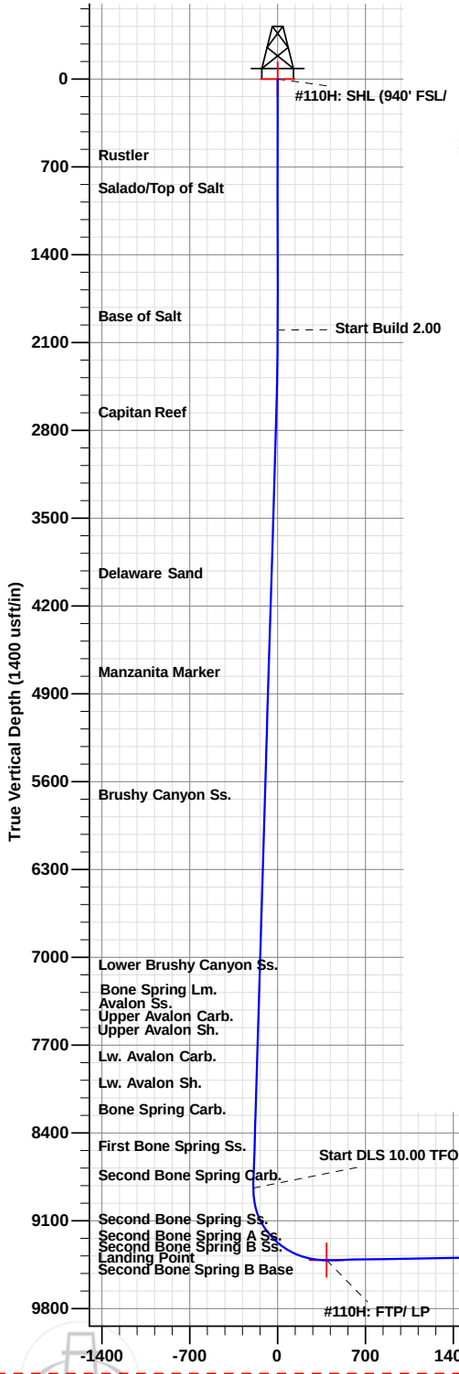
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	0.00
2	2000.00	0.00	0.00	2000.00	0.00	0.00	0.00	0.000	0.00
3	2640.69	12.81	172.42	2635.36	-70.72	9.41	2.00	172.417	-9.32
4	9002.23	12.81	172.42	8838.48	-1469.26	195.60	0.00	0.000	-193.55
5	9928.60	91.00	269.92	9413.00	-1602.00	-386.70	10.00	97.097	388.94
6	20057.16	91.00	269.92	9235.87	-1616.33	-10513.70	0.00	0.000	10515.95
7	20107.17	91.00	269.92	9235.00	-1616.40	-10563.70	0.00	0.000	10565.95

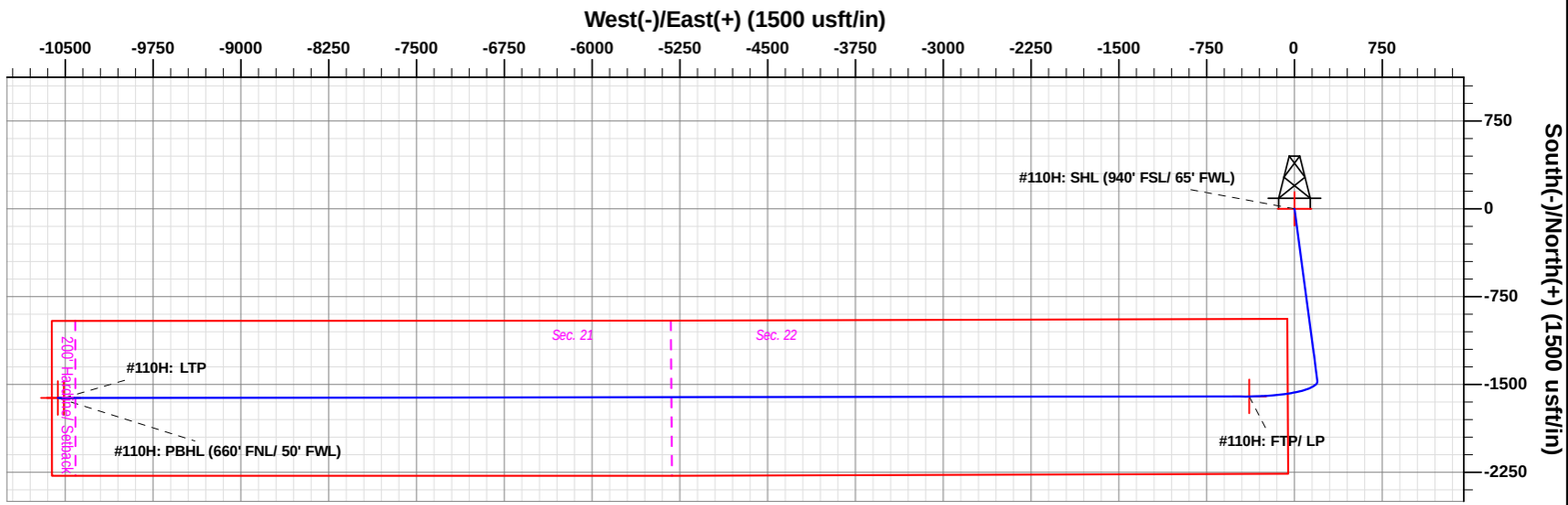
DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
#110H: SHL (940' FSL/ 65' FWL)	0.00	0.00	0.00	570877.50	649595.50	32.568511	-103.847741	Point
#110H: PBHL (660' FNL/ 50' FWL)	9235.00	-1616.40	-10563.70	569261.10	639031.80	32.564196	-103.882053	Point
#110H: LTP	9235.87	-1616.30	-10513.70	569261.20	639081.80	32.564196	-103.881891	Point
#110H: FTP/ LP	9413.00	-1602.00	-386.70	569275.50	649208.80	32.564112	-103.849020	Point

FORMATION TOP DETAILS

TVDPath	Formation
686.00	Rustler
950.00	Salado/Top of Salt
1969.00	Base of Salt
2736.00	Capitan Reef
4017.00	Delaware Sand
4802.00	Manzanita Marker
5785.00	Brushy Canyon Ss.
7139.00	Lower Brushy Canyon Ss.
7371.00	Bone Spring Lm.
7533.00	Avalon Ss.
7550.00	Upper Avalon Carb.
7600.00	Upper Avalon Sh.
7868.00	Lw. Avalon Carb.
8080.00	Lw. Avalon Sh.
8290.00	Bone Spring Carb.
8577.00	First Bone Spring Ss.
8811.00	Second Bone Spring Carb.
9162.00	Second Bone Spring Ss.
9293.00	Second Bone Spring A Ss.
9380.00	Second Bone Spring B Ss.
9413.00	Landing Point





PROJECT DETAILS: Eddy County, NM (NAD-27)

Geodetic System: US State Plane 1927 (Exact solution)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone: New Mexico East 3001
System Datum: Mean Sea Level

Plan: PERMIT (110H/OH)

Created By: Matthew May Date: 16:52, February 08 2019

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well 110H
Company:	XTO Energy	**TVD Reference:**	RKB=25 @ 3474.00usft
Project:	Eddy County, NM (NAD-27)	**MD Reference:**	RKB=25 @ 3474.00usft
Site:	BEU 30W Skywalker	**North Reference:**	Grid
Well:	110H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	PERMIT		

Project Eddy County, NM (NAD-27)

Map System:	US State Plane 1927 (Exact solution)	**System Datum:**	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site BEU 30W Skywalker

Site Position:		**Northing:**	571,477.20 usft	**Latitude:**	32.570160
From:	Map	**Easting:**	649,562.30 usft	**Longitude:**	-103.847841
Position Uncertainty:	0.00 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	0.261 °

Well 110H

Well Position	**+N/-S**	-599.70 usft	**Northing:**	570,877.50 usft	**Latitude:**	32.568511
	+E/-W	33.20 usft	**Easting:**	649,595.50 usft	**Longitude:**	-103.847742
Position Uncertainty		0.00 usft	**Wellhead Elevation:**	0.00 usft	**Ground Level:**	3,449.00 usft

Wellbore OH

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	2/4/2019	6.932	60.313	47,944

Design PERMIT

Audit Notes:

Version:		**Phase:**	PROTOTYPE	**Tie On Depth:**	0.00

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	269.92

Plan Sections

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.000	
2,640.69	12.81	172.42	2,635.36	-70.72	9.41	2.00	2.00	0.00	172.417	
9,002.24	12.81	172.42	8,838.48	-1,469.26	195.60	0.00	0.00	0.00	0.000	
9,928.60	91.00	269.92	9,413.00	-1,602.00	-386.70	10.00	8.44	10.53	97.097	#110H: FTP/ LP
20,057.16	91.00	269.92	9,235.87	-1,616.33	-10,513.70	0.00	0.00	0.00	0.000	#110H: LTP
20,107.17	91.00	269.92	9,235.00	-1,616.40	-10,563.70	0.00	0.00	0.00	0.000	#110H: PBHL (660'

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well 110H
Company:	XTO Energy	**TVD Reference:**	RKB=25 @ 3474.00usft
Project:	Eddy County, NM (NAD-27)	**MD Reference:**	RKB=25 @ 3474.00usft
Site:	BEU 30W Skywalker	**North Reference:**	Grid
Well:	110H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	PERMIT		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
#110H: SHL (940' FSL/ 65' FWL)									
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
686.00	0.00	0.00	686.00	0.00	0.00	0.00	0.00	0.00	0.00
Rustler									
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
950.00	0.00	0.00	950.00	0.00	0.00	0.00	0.00	0.00	0.00
Salado/Top of Salt									
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,969.00	0.00	0.00	1,969.00	0.00	0.00	0.00	0.00	0.00	0.00
Base of Salt									
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
2,100.00	2.00	172.42	2,099.98	-1.73	0.23	-0.23	2.00	2.00	0.00
2,200.00	4.00	172.42	2,199.84	-6.92	0.92	-0.91	2.00	2.00	0.00
2,300.00	6.00	172.42	2,299.45	-15.56	2.07	-2.05	2.00	2.00	0.00
2,400.00	8.00	172.42	2,398.70	-27.64	3.68	-3.64	2.00	2.00	0.00
2,500.00	10.00	172.42	2,497.47	-43.14	5.74	-5.68	2.00	2.00	0.00
2,600.00	12.00	172.42	2,595.62	-62.06	8.26	-8.17	2.00	2.00	0.00
2,640.69	12.81	172.42	2,635.36	-70.72	9.41	-9.32	2.00	2.00	0.00
2,700.00	12.81	172.42	2,693.20	-83.76	11.15	-11.03	0.00	0.00	0.00
2,743.90	12.81	172.42	2,736.00	-93.41	12.44	-12.31	0.00	0.00	0.00
Capitan Reef									
2,800.00	12.81	172.42	2,790.71	-105.74	14.08	-13.93	0.00	0.00	0.00
2,900.00	12.81	172.42	2,888.21	-127.73	17.00	-16.83	0.00	0.00	0.00
3,000.00	12.81	172.42	2,985.72	-149.71	19.93	-19.72	0.00	0.00	0.00
3,100.00	12.81	172.42	3,083.23	-171.70	22.86	-22.62	0.00	0.00	0.00
3,200.00	12.81	172.42	3,180.74	-193.68	25.78	-25.51	0.00	0.00	0.00
3,300.00	12.81	172.42	3,278.25	-215.67	28.71	-28.41	0.00	0.00	0.00
3,400.00	12.81	172.42	3,375.76	-237.65	31.64	-31.31	0.00	0.00	0.00
3,500.00	12.81	172.42	3,473.27	-259.63	34.56	-34.20	0.00	0.00	0.00
3,600.00	12.81	172.42	3,570.78	-281.62	37.49	-37.10	0.00	0.00	0.00
3,700.00	12.81	172.42	3,668.29	-303.60	40.42	-39.99	0.00	0.00	0.00
3,800.00	12.81	172.42	3,765.80	-325.59	43.34	-42.89	0.00	0.00	0.00
3,900.00	12.81	172.42	3,863.31	-347.57	46.27	-45.79	0.00	0.00	0.00
4,000.00	12.81	172.42	3,960.82	-369.55	49.20	-48.68	0.00	0.00	0.00
4,057.61	12.81	172.42	4,017.00	-382.22	50.88	-50.35	0.00	0.00	0.00
Delaware Sand									

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well 110H
Company:	XTO Energy	**TVD Reference:**	RKB=25 @ 3474.00usft
Project:	Eddy County, NM (NAD-27)	**MD Reference:**	RKB=25 @ 3474.00usft
Site:	BEU 30W Skywalker	**North Reference:**	Grid
Well:	110H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	PERMIT		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,100.00	12.81	172.42	4,058.33	-391.54	52.12	-51.58	0.00	0.00	0.00
4,200.00	12.81	172.42	4,155.84	-413.52	55.05	-54.47	0.00	0.00	0.00
4,300.00	12.81	172.42	4,253.35	-435.51	57.98	-57.37	0.00	0.00	0.00
4,400.00	12.81	172.42	4,350.86	-457.49	60.91	-60.27	0.00	0.00	0.00
4,500.00	12.81	172.42	4,448.37	-479.48	63.83	-63.16	0.00	0.00	0.00
4,600.00	12.81	172.42	4,545.88	-501.46	66.76	-66.06	0.00	0.00	0.00
4,700.00	12.81	172.42	4,643.39	-523.44	69.69	-68.95	0.00	0.00	0.00
4,800.00	12.81	172.42	4,740.90	-545.43	72.61	-71.85	0.00	0.00	0.00
4,862.66	12.81	172.42	4,802.00	-559.20	74.45	-73.67	0.00	0.00	0.00
Manzanita Marker									
4,900.00	12.81	172.42	4,838.41	-567.41	75.54	-74.75	0.00	0.00	0.00
5,000.00	12.81	172.42	4,935.92	-589.40	78.47	-77.64	0.00	0.00	0.00
5,100.00	12.81	172.42	5,033.43	-611.38	81.39	-80.54	0.00	0.00	0.00
5,200.00	12.81	172.42	5,130.94	-633.37	84.32	-83.43	0.00	0.00	0.00
5,300.00	12.81	172.42	5,228.45	-655.35	87.25	-86.33	0.00	0.00	0.00
5,400.00	12.81	172.42	5,325.96	-677.33	90.17	-89.23	0.00	0.00	0.00
5,500.00	12.81	172.42	5,423.47	-699.32	93.10	-92.12	0.00	0.00	0.00
5,600.00	12.81	172.42	5,520.97	-721.30	96.03	-95.02	0.00	0.00	0.00
5,700.00	12.81	172.42	5,618.48	-743.29	98.95	-97.91	0.00	0.00	0.00
5,800.00	12.81	172.42	5,715.99	-765.27	101.88	-100.81	0.00	0.00	0.00
5,870.77	12.81	172.42	5,785.00	-780.83	103.95	-102.86	0.00	0.00	0.00
Brushy Canyon Ss.									
5,900.00	12.81	172.42	5,813.50	-787.25	104.81	-103.71	0.00	0.00	0.00
6,000.00	12.81	172.42	5,911.01	-809.24	107.73	-106.60	0.00	0.00	0.00
6,100.00	12.81	172.42	6,008.52	-831.22	110.66	-109.50	0.00	0.00	0.00
6,200.00	12.81	172.42	6,106.03	-853.21	113.59	-112.39	0.00	0.00	0.00
6,300.00	12.81	172.42	6,203.54	-875.19	116.51	-115.29	0.00	0.00	0.00
6,400.00	12.81	172.42	6,301.05	-897.18	119.44	-118.19	0.00	0.00	0.00
6,500.00	12.81	172.42	6,398.56	-919.16	122.37	-121.08	0.00	0.00	0.00
6,600.00	12.81	172.42	6,496.07	-941.14	125.29	-123.98	0.00	0.00	0.00
6,700.00	12.81	172.42	6,593.58	-963.13	128.22	-126.87	0.00	0.00	0.00
6,800.00	12.81	172.42	6,691.09	-985.11	131.15	-129.77	0.00	0.00	0.00
6,900.00	12.81	172.42	6,788.60	-1,007.10	134.07	-132.67	0.00	0.00	0.00
7,000.00	12.81	172.42	6,886.11	-1,029.08	137.00	-135.56	0.00	0.00	0.00
7,100.00	12.81	172.42	6,983.62	-1,051.07	139.93	-138.46	0.00	0.00	0.00
7,200.00	12.81	172.42	7,081.13	-1,073.05	142.85	-141.36	0.00	0.00	0.00
7,259.35	12.81	172.42	7,139.00	-1,086.10	144.59	-143.07	0.00	0.00	0.00
Lower Brushy Canyon Ss.									
7,300.00	12.81	172.42	7,178.64	-1,095.03	145.78	-144.25	0.00	0.00	0.00
7,400.00	12.81	172.42	7,276.15	-1,117.02	148.71	-147.15	0.00	0.00	0.00
7,497.27	12.81	172.42	7,371.00	-1,138.40	151.55	-149.96	0.00	0.00	0.00
Bone Spring Lm.									
7,500.00	12.81	172.42	7,373.66	-1,139.00	151.63	-150.04	0.00	0.00	0.00
7,600.00	12.81	172.42	7,471.17	-1,160.99	154.56	-152.94	0.00	0.00	0.00
7,663.41	12.81	172.42	7,533.00	-1,174.93	156.42	-154.78	0.00	0.00	0.00
Avalon Ss.									
7,680.85	12.81	172.42	7,550.00	-1,178.76	156.93	-155.28	0.00	0.00	0.00
Upper Avalon Carb.									
7,700.00	12.81	172.42	7,568.68	-1,182.97	157.49	-155.84	0.00	0.00	0.00
7,732.12	12.81	172.42	7,600.00	-1,190.03	158.43	-156.77	0.00	0.00	0.00
Upper Avalon Sh.									
7,800.00	12.81	172.42	7,666.19	-1,204.95	160.41	-158.73	0.00	0.00	0.00
7,900.00	12.81	172.42	7,763.70	-1,226.94	163.34	-161.63	0.00	0.00	0.00

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well 110H
Company:	XTO Energy	**TVD Reference:**	RKB=25 @ 3474.00usft
Project:	Eddy County, NM (NAD-27)	**MD Reference:**	RKB=25 @ 3474.00usft
Site:	BEU 30W Skywalker	**North Reference:**	Grid
Well:	110H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	PERMIT		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
8,000.00	12.81	172.42	7,861.21	-1,248.92	166.27	-164.52	0.00	0.00	0.00
8,006.97	12.81	172.42	7,868.00	-1,250.45	166.47	-164.73	0.00	0.00	0.00
Lw. Avalon Carb.									
8,100.00	12.81	172.42	7,958.72	-1,270.91	169.19	-167.42	0.00	0.00	0.00
8,200.00	12.81	172.42	8,056.23	-1,292.89	172.12	-170.32	0.00	0.00	0.00
8,224.38	12.81	172.42	8,080.00	-1,298.25	172.83	-171.02	0.00	0.00	0.00
Lw. Avalon Sh.									
8,300.00	12.81	172.42	8,153.74	-1,314.88	175.05	-173.21	0.00	0.00	0.00
8,400.00	12.81	172.42	8,251.24	-1,336.86	177.97	-176.11	0.00	0.00	0.00
8,439.75	12.81	172.42	8,290.00	-1,345.60	179.14	-177.26	0.00	0.00	0.00
Bone Spring Carb.									
8,500.00	12.81	172.42	8,348.75	-1,358.84	180.90	-179.00	0.00	0.00	0.00
8,600.00	12.81	172.42	8,446.26	-1,380.83	183.83	-181.90	0.00	0.00	0.00
8,700.00	12.81	172.42	8,543.77	-1,402.81	186.75	-184.80	0.00	0.00	0.00
8,734.08	12.81	172.42	8,577.00	-1,410.30	187.75	-185.78	0.00	0.00	0.00
First Bone Spring Ss.									
8,800.00	12.81	172.42	8,641.28	-1,424.80	189.68	-187.69	0.00	0.00	0.00
8,900.00	12.81	172.42	8,738.79	-1,446.78	192.61	-190.59	0.00	0.00	0.00
8,974.05	12.81	172.42	8,811.00	-1,463.06	194.78	-192.73	0.00	0.00	0.00
Second Bone Spring Carb.									
9,002.24	12.81	172.42	8,838.48	-1,469.26	195.60	-193.55	0.00	0.00	0.00
9,050.00	13.10	193.80	8,885.06	-1,479.77	195.01	-192.94	10.00	0.59	44.78
9,100.00	15.07	212.80	8,933.58	-1,490.74	190.13	-188.05	10.00	3.96	37.99
9,150.00	18.22	226.44	8,981.49	-1,501.60	180.94	-178.84	10.00	6.30	27.28
9,200.00	22.05	235.84	9,028.44	-1,512.27	167.50	-165.38	10.00	7.65	18.81
9,250.00	26.26	242.48	9,074.06	-1,522.65	149.91	-147.78	10.00	8.41	13.26
9,300.00	30.69	247.35	9,118.01	-1,532.68	128.31	-126.17	10.00	8.86	9.75
9,350.00	35.26	251.08	9,159.95	-1,542.28	102.87	-100.72	10.00	9.14	7.47
9,352.52	35.49	251.25	9,162.00	-1,542.75	101.49	-99.34	10.00	9.25	6.57
Second Bone Spring Ss.									
9,400.00	39.92	254.05	9,199.56	-1,551.38	73.77	-71.61	10.00	9.33	5.90
9,450.00	44.64	256.49	9,236.55	-1,559.89	41.25	-39.07	10.00	9.45	4.88
9,500.00	49.41	258.55	9,270.62	-1,567.77	5.53	-3.35	10.00	9.54	4.12
9,535.66	52.83	259.84	9,293.00	-1,572.97	-21.73	23.93	10.00	9.59	3.63
Second Bone Spring A Ss.									
9,550.00	54.21	260.33	9,301.52	-1,574.95	-33.09	35.29	10.00	9.62	3.40
9,600.00	59.04	261.91	9,329.02	-1,581.38	-74.33	76.54	10.00	9.65	3.16
9,650.00	63.88	263.34	9,352.91	-1,587.00	-117.88	120.09	10.00	9.68	2.86
9,700.00	68.73	264.65	9,373.00	-1,591.78	-163.40	165.62	10.00	9.71	2.63
9,720.19	70.69	265.16	9,380.00	-1,593.46	-182.25	184.48	10.00	9.72	2.50
Second Bone Spring B Ss.									
9,750.00	73.59	265.88	9,389.14	-1,595.67	-210.54	212.77	10.00	9.73	2.43
9,800.00	78.46	267.05	9,401.21	-1,598.66	-258.95	261.19	10.00	9.74	2.34
9,850.00	83.34	268.18	9,409.12	-1,600.70	-308.27	310.50	10.00	9.75	2.26
9,900.00	88.21	269.29	9,412.80	-1,601.80	-358.10	360.34	10.00	9.75	2.21
9,928.60	91.00	269.92	9,413.00	-1,602.00	-386.70	388.94	10.00	9.75	2.20
Landing Point - #110H: FTP/ LP									
10,000.00	91.00	269.92	9,411.75	-1,602.10	-458.09	460.32	0.00	0.00	0.00
10,100.00	91.00	269.92	9,410.00	-1,602.24	-558.07	560.31	0.00	0.00	0.00
10,200.00	91.00	269.92	9,408.25	-1,602.38	-658.06	660.29	0.00	0.00	0.00
10,300.00	91.00	269.92	9,406.51	-1,602.53	-758.04	760.28	0.00	0.00	0.00
10,400.00	91.00	269.92	9,404.76	-1,602.67	-858.02	860.26	0.00	0.00	0.00
10,500.00	91.00	269.92	9,403.01	-1,602.81	-958.01	960.25	0.00	0.00	0.00

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well 110H
Company:	XTO Energy	**TVD Reference:**	RKB=25 @ 3474.00usft
Project:	Eddy County, NM (NAD-27)	**MD Reference:**	RKB=25 @ 3474.00usft
Site:	BEU 30W Skywalker	**North Reference:**	Grid
Well:	110H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	PERMIT		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
10,600.00	91.00	269.92	9,401.26	-1,602.95	-1,057.99	1,060.23	0.00	0.00	0.00
10,700.00	91.00	269.92	9,399.51	-1,603.09	-1,157.98	1,160.22	0.00	0.00	0.00
10,800.00	91.00	269.92	9,397.76	-1,603.23	-1,257.96	1,260.20	0.00	0.00	0.00
10,900.00	91.00	269.92	9,396.01	-1,603.37	-1,357.95	1,360.19	0.00	0.00	0.00
11,000.00	91.00	269.92	9,394.26	-1,603.52	-1,457.93	1,460.17	0.00	0.00	0.00
11,100.00	91.00	269.92	9,392.52	-1,603.66	-1,557.92	1,560.15	0.00	0.00	0.00
11,200.00	91.00	269.92	9,390.77	-1,603.80	-1,657.90	1,660.14	0.00	0.00	0.00
11,300.00	91.00	269.92	9,389.02	-1,603.94	-1,757.89	1,760.12	0.00	0.00	0.00
11,400.00	91.00	269.92	9,387.27	-1,604.08	-1,857.87	1,860.11	0.00	0.00	0.00
11,500.00	91.00	269.92	9,385.52	-1,604.22	-1,957.86	1,960.09	0.00	0.00	0.00
11,600.00	91.00	269.92	9,383.77	-1,604.36	-2,057.84	2,060.08	0.00	0.00	0.00
11,700.00	91.00	269.92	9,382.02	-1,604.51	-2,157.82	2,160.06	0.00	0.00	0.00
11,800.00	91.00	269.92	9,380.27	-1,604.65	-2,257.81	2,260.05	0.00	0.00	0.00
11,900.00	91.00	269.92	9,378.52	-1,604.79	-2,357.79	2,360.03	0.00	0.00	0.00
12,000.00	91.00	269.92	9,376.78	-1,604.93	-2,457.78	2,460.02	0.00	0.00	0.00
12,100.00	91.00	269.92	9,375.03	-1,605.07	-2,557.76	2,560.00	0.00	0.00	0.00
12,200.00	91.00	269.92	9,373.28	-1,605.21	-2,657.75	2,659.99	0.00	0.00	0.00
12,300.00	91.00	269.92	9,371.53	-1,605.35	-2,757.73	2,759.97	0.00	0.00	0.00
12,400.00	91.00	269.92	9,369.78	-1,605.50	-2,857.72	2,859.96	0.00	0.00	0.00
12,500.00	91.00	269.92	9,368.03	-1,605.64	-2,957.70	2,959.94	0.00	0.00	0.00
12,600.00	91.00	269.92	9,366.28	-1,605.78	-3,057.69	3,059.93	0.00	0.00	0.00
12,700.00	91.00	269.92	9,364.53	-1,605.92	-3,157.67	3,159.91	0.00	0.00	0.00
12,800.00	91.00	269.92	9,362.79	-1,606.06	-3,257.66	3,259.89	0.00	0.00	0.00
12,900.00	91.00	269.92	9,361.04	-1,606.20	-3,357.64	3,359.88	0.00	0.00	0.00
13,000.00	91.00	269.92	9,359.29	-1,606.35	-3,457.62	3,459.86	0.00	0.00	0.00
13,100.00	91.00	269.92	9,357.54	-1,606.49	-3,557.61	3,559.85	0.00	0.00	0.00
13,200.00	91.00	269.92	9,355.79	-1,606.63	-3,657.59	3,659.83	0.00	0.00	0.00
13,300.00	91.00	269.92	9,354.04	-1,606.77	-3,757.58	3,759.82	0.00	0.00	0.00
13,400.00	91.00	269.92	9,352.29	-1,606.91	-3,857.56	3,859.80	0.00	0.00	0.00
13,500.00	91.00	269.92	9,350.54	-1,607.05	-3,957.55	3,959.79	0.00	0.00	0.00
13,600.00	91.00	269.92	9,348.80	-1,607.19	-4,057.53	4,059.77	0.00	0.00	0.00
13,700.00	91.00	269.92	9,347.05	-1,607.34	-4,157.52	4,159.76	0.00	0.00	0.00
13,800.00	91.00	269.92	9,345.30	-1,607.48	-4,257.50	4,259.74	0.00	0.00	0.00
13,900.00	91.00	269.92	9,343.55	-1,607.62	-4,357.49	4,359.73	0.00	0.00	0.00
14,000.00	91.00	269.92	9,341.80	-1,607.76	-4,457.47	4,459.71	0.00	0.00	0.00
14,100.00	91.00	269.92	9,340.05	-1,607.90	-4,557.46	4,559.70	0.00	0.00	0.00
14,200.00	91.00	269.92	9,338.30	-1,608.04	-4,657.44	4,659.68	0.00	0.00	0.00
14,300.00	91.00	269.92	9,336.55	-1,608.18	-4,757.42	4,759.67	0.00	0.00	0.00
14,400.00	91.00	269.92	9,334.81	-1,608.33	-4,857.41	4,859.65	0.00	0.00	0.00
14,500.00	91.00	269.92	9,333.06	-1,608.47	-4,957.39	4,959.64	0.00	0.00	0.00
14,600.00	91.00	269.92	9,331.31	-1,608.61	-5,057.38	5,059.62	0.00	0.00	0.00
14,700.00	91.00	269.92	9,329.56	-1,608.75	-5,157.36	5,159.60	0.00	0.00	0.00
14,800.00	91.00	269.92	9,327.81	-1,608.89	-5,257.35	5,259.59	0.00	0.00	0.00
14,900.00	91.00	269.92	9,326.06	-1,609.03	-5,357.33	5,359.57	0.00	0.00	0.00
15,000.00	91.00	269.92	9,324.31	-1,609.17	-5,457.32	5,459.56	0.00	0.00	0.00
15,100.00	91.00	269.92	9,322.56	-1,609.32	-5,557.30	5,559.54	0.00	0.00	0.00
15,200.00	91.00	269.92	9,320.82	-1,609.46	-5,657.29	5,659.53	0.00	0.00	0.00
15,300.00	91.00	269.92	9,319.07	-1,609.60	-5,757.27	5,759.51	0.00	0.00	0.00
15,400.00	91.00	269.92	9,317.32	-1,609.74	-5,857.26	5,859.50	0.00	0.00	0.00
15,500.00	91.00	269.92	9,315.57	-1,609.88	-5,957.24	5,959.48	0.00	0.00	0.00
15,600.00	91.00	269.92	9,313.82	-1,610.02	-6,057.22	6,059.47	0.00	0.00	0.00
15,700.00	91.00	269.92	9,312.07	-1,610.17	-6,157.21	6,159.45	0.00	0.00	0.00
15,800.00	91.00	269.92	9,310.32	-1,610.31	-6,257.19	6,259.44	0.00	0.00	0.00
15,900.00	91.00	269.92	9,308.57	-1,610.45	-6,357.18	6,359.42	0.00	0.00	0.00

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well 110H
Company:	XTO Energy	**TVD Reference:**	RKB=25 @ 3474.00usft
Project:	Eddy County, NM (NAD-27)	**MD Reference:**	RKB=25 @ 3474.00usft
Site:	BEU 30W Skywalker	**North Reference:**	Grid
Well:	110H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	PERMIT		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
16,000.00	91.00	269.92	9,306.83	-1,610.59	-6,457.16	6,459.41	0.00	0.00	0.00
16,100.00	91.00	269.92	9,305.08	-1,610.73	-6,557.15	6,559.39	0.00	0.00	0.00
16,200.00	91.00	269.92	9,303.33	-1,610.87	-6,657.13	6,659.38	0.00	0.00	0.00
16,300.00	91.00	269.92	9,301.58	-1,611.01	-6,757.12	6,759.36	0.00	0.00	0.00
16,400.00	91.00	269.92	9,299.83	-1,611.16	-6,857.10	6,859.34	0.00	0.00	0.00
16,500.00	91.00	269.92	9,298.08	-1,611.30	-6,957.09	6,959.33	0.00	0.00	0.00
16,600.00	91.00	269.92	9,296.33	-1,611.44	-7,057.07	7,059.31	0.00	0.00	0.00
16,700.00	91.00	269.92	9,294.58	-1,611.58	-7,157.06	7,159.30	0.00	0.00	0.00
16,800.00	91.00	269.92	9,292.84	-1,611.72	-7,257.04	7,259.28	0.00	0.00	0.00
16,900.00	91.00	269.92	9,291.09	-1,611.86	-7,357.02	7,359.27	0.00	0.00	0.00
17,000.00	91.00	269.92	9,289.34	-1,612.00	-7,457.01	7,459.25	0.00	0.00	0.00
17,100.00	91.00	269.92	9,287.59	-1,612.15	-7,556.99	7,559.24	0.00	0.00	0.00
17,200.00	91.00	269.92	9,285.84	-1,612.29	-7,656.98	7,659.22	0.00	0.00	0.00
17,300.00	91.00	269.92	9,284.09	-1,612.43	-7,756.96	7,759.21	0.00	0.00	0.00
17,400.00	91.00	269.92	9,282.34	-1,612.57	-7,856.95	7,859.19	0.00	0.00	0.00
17,500.00	91.00	269.92	9,280.59	-1,612.71	-7,956.93	7,959.18	0.00	0.00	0.00
17,600.00	91.00	269.92	9,278.84	-1,612.85	-8,056.92	8,059.16	0.00	0.00	0.00
17,700.00	91.00	269.92	9,277.10	-1,612.99	-8,156.90	8,159.15	0.00	0.00	0.00
17,800.00	91.00	269.92	9,275.35	-1,613.14	-8,256.89	8,259.13	0.00	0.00	0.00
17,900.00	91.00	269.92	9,273.60	-1,613.28	-8,356.87	8,359.12	0.00	0.00	0.00
18,000.00	91.00	269.92	9,271.85	-1,613.42	-8,456.86	8,459.10	0.00	0.00	0.00
18,100.00	91.00	269.92	9,270.10	-1,613.56	-8,556.84	8,559.08	0.00	0.00	0.00
18,200.00	91.00	269.92	9,268.35	-1,613.70	-8,656.82	8,659.07	0.00	0.00	0.00
18,300.00	91.00	269.92	9,266.60	-1,613.84	-8,756.81	8,759.05	0.00	0.00	0.00
18,400.00	91.00	269.92	9,264.85	-1,613.98	-8,856.79	8,859.04	0.00	0.00	0.00
18,500.00	91.00	269.92	9,263.11	-1,614.13	-8,956.78	8,959.02	0.00	0.00	0.00
18,600.00	91.00	269.92	9,261.36	-1,614.27	-9,056.76	9,059.01	0.00	0.00	0.00
18,700.00	91.00	269.92	9,259.61	-1,614.41	-9,156.75	9,158.99	0.00	0.00	0.00
18,800.00	91.00	269.92	9,257.86	-1,614.55	-9,256.73	9,258.98	0.00	0.00	0.00
18,900.00	91.00	269.92	9,256.11	-1,614.69	-9,356.72	9,358.96	0.00	0.00	0.00
19,000.00	91.00	269.92	9,254.36	-1,614.83	-9,456.70	9,458.95	0.00	0.00	0.00
19,100.00	91.00	269.92	9,252.61	-1,614.98	-9,556.69	9,558.93	0.00	0.00	0.00
19,200.00	91.00	269.92	9,250.86	-1,615.12	-9,656.67	9,658.92	0.00	0.00	0.00
19,300.00	91.00	269.92	9,249.12	-1,615.26	-9,756.66	9,758.90	0.00	0.00	0.00
19,400.00	91.00	269.92	9,247.37	-1,615.40	-9,856.64	9,858.89	0.00	0.00	0.00
19,500.00	91.00	269.92	9,245.62	-1,615.54	-9,956.62	9,958.87	0.00	0.00	0.00
19,600.00	91.00	269.92	9,243.87	-1,615.68	-10,056.61	10,058.86	0.00	0.00	0.00
19,700.00	91.00	269.92	9,242.12	-1,615.82	-10,156.59	10,158.84	0.00	0.00	0.00
19,800.00	91.00	269.92	9,240.37	-1,615.97	-10,256.58	10,258.82	0.00	0.00	0.00
19,900.00	91.00	269.92	9,238.62	-1,616.11	-10,356.56	10,358.81	0.00	0.00	0.00
20,000.00	91.00	269.92	9,236.87	-1,616.25	-10,456.55	10,458.79	0.00	0.00	0.00
20,057.16	91.00	269.92	9,235.87	-1,616.33	-10,513.70	10,515.95	0.00	0.00	0.00
#110H: LTP									
20,107.17	91.00	269.92	9,235.00	-1,616.40	-10,563.70	10,565.95	0.00	0.00	0.00
#110H: PBHL (660' FNL/ 50' FWL)									

Database:	EDM 5000.1 Single User Db	**Local Co-ordinate Reference:**	Well 110H
Company:	XTO Energy	**TVD Reference:**	RKB=25 @ 3474.00usft
Project:	Eddy County, NM (NAD-27)	**MD Reference:**	RKB=25 @ 3474.00usft
Site:	BEU 30W Skywalker	**North Reference:**	Grid
Well:	110H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OH		
Design:	PERMIT		

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
#110H: SHL (940' FSI - plan hits target center - Point	0.00	0.01	0.00	0.00	0.00	570,877.50	649,595.50	32.568511	-103.847742
#110H: PBHL (660' FI - plan hits target center - Point	0.00	0.01	9,235.00	-1,616.40	-10,563.70	569,261.10	639,031.80	32.564196	-103.882053
#110H: LTP - plan misses target center by 0.03usft at 20057.16usft MD (9235.87 TVD, -1616.33 N, -10513.70 E) - Point	0.00	0.01	9,235.87	-1,616.30	-10,513.70	569,261.20	639,081.80	32.564196	-103.881891
#110H: FTP/ LP - plan hits target center - Point	0.00	0.01	9,413.00	-1,602.00	-386.70	569,275.50	649,208.80	32.564113	-103.849021

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
686.00	686.00	Rustler			
950.00	950.00	Salado/Top of Salt			
1,969.00	1,969.00	Base of Salt			
2,743.90	2,736.00	Capitan Reef			
4,057.61	4,017.00	Delaware Sand			
4,862.66	4,802.00	Manzanita Marker			
5,870.77	5,785.00	Brushy Canyon Ss.			
7,259.35	7,139.00	Lower Brushy Canyon Ss.			
7,497.27	7,371.00	Bone Spring Lm.			
7,663.41	7,533.00	Avalon Ss.			
7,680.85	7,550.00	Upper Avalon Carb.			
7,732.12	7,600.00	Upper Avalon Sh.			
8,006.97	7,868.00	Lw. Avalon Carb.			
8,224.38	8,080.00	Lw. Avalon Sh.			
8,439.75	8,290.00	Bone Spring Carb.			
8,734.08	8,577.00	First Bone Spring Ss.			
8,974.05	8,811.00	Second Bone Spring Carb.			
9,352.52	9,162.00	Second Bone Spring Ss.			
9,535.66	9,293.00	Second Bone Spring A Ss.			
9,720.19	9,380.00	Second Bone Spring B Ss.			
9,928.60	9,413.00	Landing Point			