L	NM	OIL CONSERVA	TION			17-321	1
Form 3160-3 (March 2012)		SEP 20 20.1		FORM OMB N Expires O	APPROVED lo. 1004-0137 lotober 31, 2014		
UNITED STA DEPARTMENT OF TI BURFAU OF LAND I	ATES He interi( Manageme	DR RECEIVED		5. Lease Serial No. NMNM19612	<u></u>		
APPLICATION FOR PERMIT	TO DRILL	OR REENTER		6. If Indian, Allotee	or Tribe Name		
la. Type of work:	ENTER			7 If Unit or CA Agre	ement, Name an	d No.	
Ib. Type of Well: Oil Wey Gas Well Other		Single Zone 🔽 Multip	ple Zone	8. Lease Name and V ROSS DRAW 303	Well No. 1 FEDERAL 1	н 3194	620
2 Name of Operator XTO ENERGY INCORPORATED		5380		9. API Well No. <b>30-01</b>	5-444	46	
3a. Address 810 Houston St. Ft. Worth TX 76102	3b. Phon (432)62	e No. (include area code) 20-6700		10. Field and Pool, or DELWARE BASIN	Exploratory / PURPLE SA	AGE WO	
4. Location of Well (Report location clearly and in accordance w	vith any State requ	uirements.*)		11. Sec., T. R. M. or B	lk. and Survey or	Area	
At surface LOT 2 / 170 FSL / 380 FWL / LAT 32.00	0583 / LONG	-103.927969		SEC 31 / T26S / R	30E / NMP		
At proposed prod. zone LOT 1 / 200 FNL / 380 FWL /	LAT 32.01999	93 / LONG -103.92798	7	12 County or Parish	[12.8	1010	
14. Distance in miles and direction from nearest town or post office	e*			EDDY	NM	1410	
<ul> <li>15. Distance from proposed*</li> <li>location to nearest</li> <li>170 feet</li> <li>property or lease line, ft.</li> <li>(Also to nearest drig. unit line, if any)</li> </ul>	16. No. 1288.8	of acres in lease 1	ng Unit dedicated to this v	well			
<ol> <li>Distance from proposed location* to nearest well, drilling, completed, 0 feet applied for, on this lease, ft.</li> </ol>	19. Proj 10471	posed Depth feet / 17255 feet	l/BIA Bond No. on file JTB000138				
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 2877 feet	22. App 07/31/	roximate date work will sta 2017		23. Estimated duratio 90 days	n		
	24. A	ttachments					
The following, completed in accordance with the requirements of	Onshore Oil and	Gas Order No.1, must be a	ttached to the	nis form:	· · · · · · · · · · ·		
<ol> <li>Well plat certified by a registered surveyor.</li> <li>A Drilling Plan.</li> <li>A Surface Use Plan (if the location is on National Forest Syupo must be filed with the appropriate Forest Service Office</li> </ol>	ystem Lands, the	<ul> <li>4. Bond to cover t Item 20 above).</li> <li>5. Operator certifie</li> <li>6. Such other site BLM</li> </ul>	he operation cation specific int	ons unless covered by an formation and/or plans as	existing bond o s may be required	n file (see d by the	
25. Signature (Electronic Submission)	N S	ame (Printed/Typed) tephanie Rabadue / Pl	n: (432)62	0-6714	Date 02/21/2017		
Title Regulatory Compliance Analyst							
Approved by (Signature)/s/Cody Layton	N	ame (Printed/Typed)			SEP 1	9 2017	
Title	0	ffice ARI SBAD					
Application approval does not warrant or certify that the applicar conduct operations thereon. Conditions of approval, if any, are attached.	it holds legal or	equitable title to those righ	nts in the su	bject lease which would e	entitle the applica	ant to	
Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make States any false, fictitious or fraudulent statements or representation	it a crime for a ons as to any mat	ny person knowingly and ter within its jurisdiction.	willfully to	nake to any department o	or agency of the	United	
(Continued on page 2)				*(Inst	ructions on	page 2)	

# NM OIL CONSERVATION ARTESIA DISTRICT

SEP 2 6 2017

NSP Reguired " Reguired " RW 9-28-17

# 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)
  - Chaves and Roosevelt Counties
     Call the Roswell Field Office, 2909 West Second St., Roswell NM 88201.
     During office hours call (575) 627-0272.
     After office hours call (575)
  - Eddy County

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

- Lea County Call the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240, (575) 393-3612
- 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 2<sup>nd</sup> 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

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- 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.
- <u>Wait on cement (WOC) for Potash Areas:</u> After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi for all cement blends, 2) until cement has been in place at least <u>24</u> <u>hours</u>. WOC time will be recorded in the driller's log.
- <u>Wait on cement (WOC) for Water Basin:</u> 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 <u>8 hours</u>. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements.
- 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

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- 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: 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. Operator shall perform the intermediate casing integrity test 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 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).

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- 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.
- c. The tests shall be done by an independent service company utilizing a test plug not a cup or J-packer. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to Onshore Order 2 with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for water basin (8 hours) or potash (24 hours) or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).
- 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.
- é. The results of the test shall be reported to the appropriate BLM office.
- f. 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.
- g. 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.
- h. 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

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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.

# PECOS DISTRICT DRILLING OPERATIONS CONDITIONS OF APPROVAL

OPERATOR'S NAME:	XTO Energy Inc
LEASE NO.:	NM19612
WELL NAME & NO.:	Ross Draw 3031 Federal – 1H
SURFACE HOLE FOOTAGE:	170'/S & 380'/W
BOTTOM HOLE FOOTAGE	200'/N & 380'/W, sec. 30
LOCATION:	Sec. 31, T. 26 S, R. 30 E
COUNTY:	Eddy County

Potash	r None	C Secretary	<b>C</b> R-111-P
Cave Karst Potential	C Low	C Medium	• High
Variance	( None	Flex Hose	Other
Wellhead	Conventional	Multibowl	
Other	□4 String Area	□Capitan Reef	□WIPP

# A. Hydrogen Sulfide

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.

# **B.** CASING

- 1. The **13 3/8** inch surface casing shall be set at approximately **300** 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.
  - In <u>High Cave/Karst Areas</u> if cement does not circulate to surface on the first two casing strings, the cement on the 3rd casing string must come to surface.

Formation below the 9-5/8" shoe to be tested according to Onshore Order 2.III.B.1.i. Test to be done as a mud equivalency test using the mud weight necessary for the pore pressure of the formation below the shoe (not the mud weight required to prevent dissolving the salt formation) and the mud weight for the bottom of the hole. Report results to BLM office.

- 3. The minimum required fill of cement behind the 7 inch production casing is:
  - Cement should tie-back at least 200 feet into previous casing string. Operator shall provide method of verification.
- 4. The minimum required fill of cement behind the 4 1/2 inch production liner is:
  - Cement as proposed. Operator shall provide method of verification. Excess calculates to 19% additional cement might be required.

# C. PRESSURE CONTROL

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- 1. Variance approved to use flex line from BOP to choke manifold. Manufacturer's specification to be radily 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 **5000 (5M)** psi.

# **D. SPECIAL REQUIREMENT(S)**

# **Communitization Agreement**

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- The operator will submit a Communitization Agreement to the Carlsbad Field Office, 620 E Greene St. Carlsbad, New Mexico 88220, at least 90 days before the anticipated date of first production from a well subject to a spacing order issued by the New Mexico Oil Conservation Division. The Communitization Agreement will include the signatures of all working interest owners in all Federal and Indian leases subject to the Communitization Agreement (i.e., operating rights owners and lessees of record), or certification that the operator has obtained the written signatures of all such owners and will make those signatures available to the BLM immediately upon request.
- If the operator does not comply with this condition of approval, the BLM may take enforcement actions that include, but are not limited to, those specified in 43 CFR 3163.1.
- In addition, the well sign shall include the surface and bottom hole lease numbers. <u>When the Communitization Agreement number is known, it shall also be</u> <u>on the sign.</u>

# Well Name

Operator must submit a sundry to add "Com" to the well name.

# 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.

# MHH 08092017

# ⇒AFMSS

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



Zip: 79701

# **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 Rabac	lue	Signed on: 02/20/2017
Title: Regulatory Complia	ance Analyst	
Street Address: 500 W.	Illinois St, Ste 100	
City: Midland	State: TX	<b>Zip:</b> 79701
Phone: (432)620-6714		
Email address: stephan	e_rabadue@xtoenergy.com	
Field Represe	entative	
Representative Name	: Stephanie Rabadue	
Street Address: 500 V	V. Illinois St Ste 100	

City: Midland State: TX

Phone: (432)620-6714

Email address: stephanie\_rabadue@xtoenergy.com

# \*#AFMSS

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



Submission Date: 02/21/2017

Well Number: 1H

Well Work Type: Drill

Highlighted data reflects the most recent changes

Show Final Text

APD ID: 10400011654 Operator Name: XTO ENERGY INCORPORATED Well Name: ROSS DRAW 3031 FEDERAL Well Type: OIL WELL

# Section 1 - General

<b>APD ID:</b> 10400011654	Tie to previous NOS?	Submission Date: 02/21/2017
BLM Office: CARLSBAD	User: Stephanie Rabadue	Title: Regulatory Compliance Analys
Federal/Indian APD: FED	Is the first lease penetrated	for production Federal or Indian? FED
Lease number: NMNM19612	Lease Acres: 1288.81	
Surface access agreement in place	e? Allotted? R	Reservation:
Agreement in place? NO	Federal or Indian agreemen	t:
Agreement number:		
Agreement name:		
Keep application confidential? NO		
Permitting Agent? NO	APD Operator: XTO ENERG	Y INCORPORATED
Operator letter of designation:	Ross 3031 Fed 1H_Op State_02-20-20	17.pdf

# **Operator Info**

Operator Organization Name	: XTO ENERGY INCORPORATE	Ð							
Operator Address: 810 Houston St.									
Operator PO Box:		<b>21p.</b> 70102							
Operator City: Ft. Worth	State: TX								
<b>Operator Phone:</b> (432)620-67	00								
Operator Internet Address: F	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: ROSS DRAW 3031 FEDERAL	Well Number: 1H	Well API Number:			
Field/Pool or Exploratory? Field and Pool	Field Name: DELWARE BASIN Pool Name: PURPLE S WOLFCAMP GAS				

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

Well Number: 1H

Describe other minerals:						
Is the proposed well in a Helium produ	uction area? N	Use Existing Well Pad?	NO	New surface disturbance?		
Type of Well Pad: SINGLE WELL		Multiple Well Pad Name	;	Number:		
Well Class: HORIZONTAL		Number of Legs:				
Well Work Type: Drill						
Well Type: OIL WELL						
Describe Well Type:						
Well sub-Type: CONFIRMATION						
Describe sub-type:						
Distance to town:	Distance to ne	arest well: 0 FT	Distanc	e to lease line: 170 FT		
Reservoir well spacing assigned acres	s Measurement:	320 Acres				
Well plat: Ross 3031 Fed 1H_Plat_0	2-20-2017.pdf					
Well work start Date: 07/31/2017		Duration: 90 DAYS				

# **Section 3 - Well Location Table**

Describe Survey Type:

Datum: NAD83

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	170	FSL	380	FWL	26S	30E	31	Lot	32.00058	-	EDD	NEW	NEW	F	NMNM	287	0	0
Leg								2	3	103.9279	Y	MEXI	MEXI		19612	7	i	
#1					i I					69		co	со					
KOP	170	FSL	380	FWL	26S	30E	31	Lot	32.00058	-	DON	NEW	NEW	F	NMNM	-	990	989
Leg								2	3	103.9279	A	MEXI	MEXI		19612	702	0	9
#1						i 1		[		69	ANA	CO	co			2		
PPP	770	FSL	380	FWL	26S	30E	31	Lot	32.00223	-	EDD	NEW	NEW	F	NMNM	-	108	104
Leg							1	2		103.9279	Y	MEXI	MEXI		19612	756	00	40
#1										86		co	co			3	1	

Vertical Datum: NAVD88

# Operator Name: XTO ENERGY INCORPORATED Well Name: ROSS DRAW 3031 FEDERAL

#### Well Number: 1H

	NS-Foot	NS Indicator	EW-Foot	EW Indicator	Twsp	Range	Section	Aliquot/Lot/Tract	Latitude	Longitude	County	State	Meridian	Lease Type	Lease Number	Elevation	dM	TVD
EXIT	330	FNL	380	FWL	26S	30E	30	Lot	32.01963	-	DON	NEW	NEW	F	NMNM	-	171	104
Leg								1	6	103.9279	A	MEXI	MEXI		19612	759	00	70
#1			ĺ							86	ANA	co	co			3		
BHL	200	FNL	380	FWL	26S	30E	30	Lot	32.01999	-	EDD	NEW	NEW	F	NMNM	-	172	104
Leg			Į					1	3	103.9279	Y	MEXI	MEXI		19612	759	55	71
#1										87		co	co			4		



Stephanie Rabadue Regulatory Analyst XTO Energy Inc. 500 W. Illinois St Ste 100 Midland, Texas 79701 (432) 620-6714 stephanie\_rabadue@xtoenergy.com

January 9, 2017

Bureau of Land Management Carlsbad Field Office 620 E. Greene Street Carlsbad, NM 88220

RE: Operating Agreement/Rights for Ross Draw 3031 Federal Com #1H

To Whom It May Concern:

This is to hereby certify that XTO Energy, Inc. is has operating rights over leases: NMNM 019612 and NMNM 017225A through acreage trades and acquisitions.

Sincerely,

Signau Randice

Stephanie Rabadue Regulatory Analyst XTO Energy, Inc



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



APD ID: 10400011654

Submission Date: 02/21/2017

Highlighted data reflects the most recent changes

Show Final Text

Well Type: OIL WELL

Well Number: 1H Well Work Type: Drill

# **Section 1 - Geologic Formations**

**Operator Name: XTO ENERGY INCORPORATED** 

Well Name: ROSS DRAW 3031 FEDERAL

Formation			True Vertical	Measured			Producing
ID	Formation Name	Elevation	Depth	Depth	Lithologies	Mineral Resources	Formation
17706	PERMIAN	2877	0	0	OTHER : Quaternary	NONE	No
17746	RUSTLER	2625	252	252	SANDSTONE	USEABLE WATER	No
17718	TOP SALT	1882	995	995	SALT	NONE	No
17722	BASE OF SALT	-175	3052	3052	SALT	NONE	No
15332	BELL CANYON	-215	3092	3092		OTHER : Produced Water	No
15316	CHERRY CANYON	-1115	3992	3992		OTHER : Produced Water	Yes
17713	BRUSHY CANYON	-2788	5665	5665		NATURAL GAS,OIL,OTHER : Produced Water	No
17688	BONE SPRING	-3955	6832	6832		NATURAL GAS,OIL,OTHER : Produced Water	No
15338	BONE SPRING 1ST	-4920	7797	7797		NATURAL GAS,OIL,OTHER : Produced Water	Yes
17737	BONE SPRING 2ND	-5575	8452	8452	SANDSTONE	NATURAL GAS,OIL,OTHER : Produced Water	No
17738	BONE SPRING 3RD	-6812	9689	9689	SANDSTONE	NATURAL GAS,OIL,OTHER : Produced Water	No
17709	WOLFCAMP	-7162	10039	10039	SHALE	NATURAL GAS,OIL,OTHER : Produced Water	Yes

# **Section 2 - Blowout Prevention**

Well Name: ROSS DRAW 3031 FEDERAL

Well Number: 1H

#### Pressure Rating (PSI): 3M Rating Depth: 10471

**Equipment:** The blow out preventer equipment (BOP) for this well consists of a 13-5/8" minimum 5M Hydril and a 13-5/8" minimum 5M Double Ram BOP. Max bottom hole pressure should not exceed 6806 psi. **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" 5M bradenhead and flange, the BOP test will be limited to 5000psi. When nippling up on the 7", the BOP will be tested to a minimum of 5000 psi. All BOP tests will include a low pressure test as per BLM regulations. The 5M BOP diagrams are attached. Blind rams will be functioned tested each trip, pipe rams will be functioned tested each day.

#### **Choke Diagram Attachment:**

Ross 3031 Fed 1H\_CM\_02-20-2017.pdf

#### **BOP Diagram Attachment:**

Ross 3031 Fed 1H\_BOP\_02-20-2017.pdf

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	950	0	950	2877	1927	950	H-40	48	STC	1.7	6.92	DRY	7.06	DRY	7.06
2	INTERMED IATE	12.2 5	9.625	NEW	API	N	0	3150	0	3150	2877	-273	3150	J-55	36	LTC	1.21	2.61	DRY	3.99	DRY	3.99
3	PRODUCTI ON	8.75	7.0	NEW	API	N	0	15578	0	7636	2877	-7594	15578	P- 110	29	LTC	1.66	1.18	DRY	2.58	DRY	2.58
4	LINER	6.12 5	4.5	NEW	API	N	9767	17255	9767	17255	-6890	-7594	7488	P- 110	13.5	BUTT	1.57	1.31	DRY	4.17	DRY	4.17

# Section 3 - Casing

#### **Casing Attachments**

Operator Name: XTO ENERGY INCORPORATED Well Name: ROSS DRAW 3031 FEDERAL

Well Number: 1H

Casing	Attachm	ents
--------	---------	------

Casing ID: 1 String Type:SURFACE

**Inspection Document:** 

Spec Document:

**Tapered String Spec:** 

#### Casing Design Assumptions and Worksheet(s):

Ross 3031 Fed 1H\_Csg WS\_02-20-2017.pdf

Casing ID: 2 String Type: INTERMEDIATE

Inspection Document:

Spec Document:

**Tapered String Spec:** 

#### Casing Design Assumptions and Worksheet(s):

Ross 3031 Fed 1H\_Csg WS\_02-20-2017.pdf

Casing ID: 3 String Type: PRODUCTION

Inspection Document:

Spec Document:

**Tapered String Spec:** 

#### Casing Design Assumptions and Worksheet(s):

Ross 3031 Fed 1H\_Csg WS\_02-20-2017.pdf

Well Number: 1H

#### **Casing Attachments**

Casing ID: 4

String Type:LINER

Inspection Document:

Spec Document:

**Tapered String Spec:** 

#### Casing Design Assumptions and Worksheet(s):

Ross 3031 Fed 1H\_Csg WS\_02-20-2017.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	950	335	1.88	12.9	629.8	100	HalCem-C	+ 2% CaCL
SURFACE	Tail		0	950	525	1.33	14.8	698.2 5	100	HalCem-C	2% CaCl
INTERMEDIATE	Lead		0	3150	885	1.88	12.9	1663	100	EconoCem-HLC	3 lbm/sk Kol-Seal + 0.25 lbm D-air 5000
INTERMEDIATE	Tail		0	3150	235	1.33	14.8	312	100	HalCem-C	none
PRODUCTION	Lead		0	1065 0	512	2.81	11	1437. 7	50	NeoCem	+ 2 lbm/sk Kol-Seal + 0.3 lbm/sk CFR-3
PRODUCTION	Tail		0	1065 0	230	1.4	14.5	322	30	VersaCem-H	+ 3 lbm/sk Kol-Seal + 0.4% Halad 344 + 0.3% CFR-3 + 0.3% Super CBL + 0.25 lbm/sk D-air 5000
LINER	Lead		9767	1725 5	605	1.4	14.5	847	20	VersaCem PBHS2	+ 0.25 lbm/sk D-air 5000 + 0.5% Halad 344 + 0.3% CFR-3

Well Number: 1H

# **Section 5 - Circulating Medium**

Mud System Type: Closed

Will an air or gas system be Used? NO

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

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

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

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

# **Circulating Medium Table**

Top Depth	Bottom Depth	Mud Type	Min Weight (Ibs/gal)	Max Weight (Ibs/gal)	Density (lbs/cu ft)	Gel Strength (Ibs/100 sqft)	Н	Viscosity (CP)	Salinity (ppm)	Filtration (cc)	Additional Characteristics
0	950	OTHER : FW/Native	8.4	8.8							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. Solids control equipment will be used to operate as a closed loop system.
950	3150	OTHER : Brine/Gel Sweeps	9.8	10.2							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. Solids control equipment will be used to operate as a closed loop system.
3150	1065 0	OTHER : Fresh Water/Cut Brine	8.6	9.5							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

Operator Name: XTO ENERGY INCORPORATED Well Name: ROSS DRAW 3031 FEDERAL

Well Number: 1H

Top Depth	Bottom Depth	Mud Type	Min Weight (İbs/gal)	Max Weight (Ibs/gal)	Density (Ibs/cu ft)	Gel Strength (lbs/100 sqft)	Hd	Viscosity (CP)	Salinity (ppm)	Filtration (cc)	Additional Characteristics
							_				necessary. Solids control equipment will be used to operate as a closed loop system.
1065 0	1725 5	OIL-BASED MUD	9.5	12.5							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. Solids control equipment will be used 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 @ 3150'.

Catch 20' samples from 3150' to TD

Send 1 set of dry samples to Midland Sample Library.

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: 6806

Anticipated Surface Pressure: 4502.38

Anticipated Bottom Hole Temperature(F): 180

#### Anticipated abnormal pressures, temperatures, or potential geologic hazards? NO

Describe:

Contingency Plans geoharzards description:

Well Number: 1H

#### **Contingency Plans geohazards attachment:**

#### Hydrogen Sulfide drilling operations plan required? YES

#### Hydrogen sulfide drilling operations plan:

Ross 3031 Fed 1H\_H2S\_02-20-2017.pdf Ross 3031 Fed 1H\_H2S Dia\_02-20-2017.pdf

# **Section 8 - Other Information**

#### Proposed horizontal/directional/multi-lateral plan submission:

Ross 3031 Fed 1H\_Direct\_02-20-2017.pdf

#### Other proposed operations facets description:

#### Other proposed operations facets attachment:

Ross 3031 Fed 1H\_Drill\_02-20-2017.pdf

#### Other Variance attachment:

Ross 3031 Fed 1H\_Flex\_02-21-2017.pdf





# XTO Energy Inc. Ross Draw 3031 Fed 1H Projected TD: 17255' MD / 10471' TVD SHL: 170' FSL & 380' FWL, SECTION 31, T26S, R30E BHL: 200' FNL & 380' FWL, SECTION 30, T26S, R30E Eddy County, NM

.

Casing Worksheet

Hole	Depth	OD	Weight	Collar	Grade	New/Used	SF	SF Collapse	SF
Size		Csg					Burst		Tension
17-1/2"	0' – 950'	13-	48#	STC	H-40	New	6.92	1.70	7.06
		3/8"							:
12-1/4"	0'-3150'	9-5/8"	36#	LTC	J-55	New	2.61	1.21	3.99
8-3/4"	0'	7"	29#	LTC	P-110	New	1.18	1.66	2.58
	10650'								
6-1/8"	9767' –	4-1/2"	13.5#	BTC	P-110	New	1.31	1.57	4.17
	17255'								



January 9, 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 Ross Draw 3031 Federal Com #1H located in Section 31, T26S, R30E, 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,

Duitant Rabain

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<sub>2</sub>S, 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<sub>2</sub>S monitors and air packs in order to control the release.
- · Use the "buddy system" to ensure no injuries occur during the response
- Take precautions to avoid personal injury during this operation.
- Contact operator and/or local officials to aid in operation. See list of phone numbers attached.
- · Have received training in the
  - o Detection of H<sub>2</sub>S, and
  - o Measures for protection against the gas,
  - o Equipment used for protection and emergency response.

# Ignition of Gas source

Should control of the well be considered lost and ignition considered, take care to protect against exposure to Sulfur Dioxide (SO<sub>2</sub>). 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.

Ununuvionio					
Common	Chemical	Specific	Threshold	Hazardous	Lethal
Name	Formula	Gravity	Limit	Limit	Concentration
Hydrogen	H₂S	1.189 Air = l	10 ppm	100	600 ppm
Sulfide				ppm/hr	
<b>Sulfur Dioxide</b>	SO <sub>2</sub>	2.21 Air = I	2 ppm	N/A	1000 ppm
		Contrating	Authorition		

# Characteristics of H<sub>2</sub>S and SO<sub>2</sub>

# **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 Milton Turman, Drilling Superintendent Jeff Raines, Construction Foreman Dudley McMinn, EH & S Manager Rick Wilson, Production Foreman	432-234-9872 817-524-5107 432-557-3159 432-557-7976 575-441-1147
SHERIFF DEPARTMENTS:	
Eddy County Lea County	575-887-7551 575-396-3611
NEW MEXICO STATE POLICE:	575-392-5588
FIRE DEPARTMENTS:	
Carlsbad Eunice Hobbs Jal Lovington	911 575-885-2111 575-394-2111 575-397-9308 575-395-2221 575-396-2359
HOSPITALS:	
Carlsbad Medical Emergency Eunice Medical Emergency Hobbs Medical Emergency Jal Medical Emergency Lovington Medical Emergency	911 575-885-2111 575-394-2112 575-397-9308 575-395-2221 575-396-2359
AGENT NOTIFICATIONS:	
Bureau of Land Management New Mexico Oil Conservation Division Mosaic Potash - Carlsbad	575-393-3612 575-393-6161 575-887-2871

#### **CONTRACTORS:**

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394-3155
391-8543
393-7726
393-3093
393-3180
393-2415
397-4541
393-5305



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**XTO Energy** Eddy County, New Mexico (NAD 27) Ross Draw 3031 Federal 1H

Wellbore #1

Plan: Design #2

# **Standard Planning Report**

06 January, 2017





Planning Report



Database: Company: Project: Site: Well: Wellbore: Design:	Conroe S XTO Ene Eddy Co Ross Dra 1H Wellbore Design #	Server ergy unty, New Mexic aw 3031 Federal #1 :2	o (NAD 27)	Local Co- TVD Refer MD Refer North Ref Survey Ca	ordinate Referenc rence: ence: erence: alculation Method:	e: Well 1H WELL @ 290 WELL @ 290 Grid Minimum Cu	Well 1H WELL @ 2902.00usft (Noram 25) WELL @ 2902.00usft (Noram 25) Grid Minimum Curvature			
Project	Eddy Cou	inty, New Mexico	(NAD 27)		ay in plant and a last a last any and the formula to the plant the spin of the	nangt kangt nana anan "an tit ana Panat kan <sup>an</sup> mantakan titut yana dita Pan				
Map System: Geo Datum: Map Zone:	US State F NAD 1927 New Mexic	Plane 1927 (Exac (NADCON CON to East 3001	et solution) US)	System Da	tum:	Mean Sea Lev	el			
Well	1H									
Well Position	+N/-S +E/-W	364,129.79 usft 625,809.12 usft	Northing: Easting:		364,129.79 usft 625,809.12 usft	Latitude: Longitude:	32° 0' 1.646 N 103° 55' 38.964 W			
Position Uncert	tainty	0.00 usft	Wellhead El	evation:		Ground Level:	2,877.00 usft			
Wellbore	Wellbore	#1								
Magnetics	Model	Name	Sample Date	Declinat (°)	lion	Dip Angle (°)	Field Strength (nT)			
L	BC	GGM2016	1/7/2017		7.22	59.79	47,881			
Design Audit Notes:	Design #2	2								
Version:			Phase:	PROTOTYPE	Tie On De	epth:	0.00			
Vertical Section	<b>)</b> :	Depth F (L C	<b>rom (TVD)</b> Isft) 0.00	<b>+N/-S</b> (usft) 0.00	<b>+E/-W</b> (usft) 0.00	D	irection (°) 359.74			
Plan Survey To	ol Program	Date 1/6/2	2017							
Depth Fror (usft)	n Depth To (usft)	o Survey (Wel	lbore)	Tool Name	Rem	arks				
1 0.0	00 17,255.8	3 Design #2 (W	/ellbore #1)	MWD						
1				OWSG MWD	- Standard					
Plan Sections										

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
9,867.74	0.00	0.00	9,867.74	0.00	0.00	0.00	0.00	0.00	0.00	
10,765.04	89.73	359.74	10,440.69	570.25	-2.57	10.00	10.00	0.00	359.74	
17,255.83	89.73	359.74	10,471.27	7,060.91	-31.81	0.00	0.00	0.00	0.00	PBHL v2 - Ross Dra





Well 1H

WELL @ 2902.00usft (Noram 25) WELL @ 2902.00usft (Noram 25) Grid

Minimum Curvature

Planning Report

Conroe Server	Local Co-ordinate Reference:
XTO Energy	TVD Reference:
Eddy County, New Mexico (NAD 27)	MD Reference:
Ross Draw 3031 Federal	North Reference:
1H	Survey Calculation Method:
Wellbore #1	
Design #2	
	Conroe Server XTO Energy Eddy County, New Mexico (NAD 27) Ross Draw 3031 Federal 1H Wellbore #1 Design #2

#### Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
252.00	0.00	0.00	252.00	0.00	0.00	0.00	0.00	0.00	0.00
Rustler									
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00 995.00	0.00	0.00	900.00 995.00	0.00	0.00	0.00	0.00	0.00	0.00
Salado/Tor	Salt	0.00	000.00	0.00	0.00	0.00	0.00	0.00	0.00
1 000 00	0.00	0.00	1 000 00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	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
1.394.00	0.00	0.00	1,394,00	0.00	0.00	0.00	0.00	0.00	0.00
Castile	0,00	0.00	1,00 1100	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
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1 700 00	0.00	0.00	1 700 00	0.00	0.00	0.00	0.00	0.00	0.00
1.800.00	0.00	0.00	1.800.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900,00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	0.00	2.000.00	0.00	0.00	0.00	0.00	0.00	0.00
2,100.00	0.00	0.00	2,100.00	0.00	0.00	0.00	0.00	0.00	0.00
2,200.00	0.00	0.00	2,200.00	0.00	0.00	0.00	0.00	0.00	0.00
2,300.00	0.00	0.00	2,300.00	0.00	0.00	0.00	0.00	0.00	0.00
2,400.00	0.00	0.00	2,400.00	0.00	0.00	0.00	0.00	0.00	0.00
2,500.00	0.00	0.00	2,500.00	0.00	0.00	0.00	0.00	0.00	0.00
2,600.00	0.00	0.00	2,600.00	0.00	0.00	0.00	0.00	0.00	0.00
2,700.00	0.00	0.00	2,700.00	0.00	0.00	0.00	0.00	0.00	0.00
2,800.00	0.00	0.00	2,800.00	0.00	0.00	0.00	0.00	0.00	0.00
2,900.00	0.00	0.00	2,900.00	0.00	0.00	0.00	0.00	0.00	0.00
3,000.00	0.00	0.00	3,000.00	0.00	0.00	0.00	0,00	0.00	0.00
3,052.00	0.00	0.00	3,052.00	0.00	0,00	0.00	0.00	0.00	0.00
Lamar/Bas	e Salt								
3,092.00	0.00	0.00	3,092.00	0.00	0.00	0.00	0.00	0.00	0.00
Bell Canyo	n								
3,100.00	0.00	0.00	3,100.00	0.00	0.00	0.00	0.00	0.00	0.00
3,200.00	0.00	0.00	3,200.00	0.00	0.00	0.00	0.00	0.00	0.00
3,300.00	0.00	0.00	3,300.00	0.00	0.00	0.00	0.00	0.00	0.00
3,400.00	0.00	0.00	3,400.00	0.00	0.00	0.00	0.00	0.00	0.00
3,500.00	0.00	0.00	3,500.00	0.00	0.00	0.00	0.00	0.00	0.00
3,600.00	0.00	0.00	3,600.00	0.00	0.00	0.00	0.00	0.00	0.00
3,700.00	0.00	0.00	3,700.00	0.00	0.00	0.00	0.00	0.00	0.00
3,800.00	0.00	0.00	3,800.00	0.00	0.00	0.00	0.00	0.00	0.00
3,900.00	0.00	0.00	3,900.00	0.00	0.00	0.00	0.00	0.00	0.00
3,992.00	0.00	0.00	3,992.00	0.00	0.00	0.00	0.00	0.00	0.00
Cherry Car	iyon								
4,000.00	0.00	0.00	4,000.00	0.00	0.00	0.00	0.00	0.00	0.00

÷.



Planning Report



WELL @ 2902.00usft (Noram 25)

WELL @ 2902.00usft (Noram 25)

Minimum Curvature

Well 1H

Grid

Conroe Server Local Co-ordinate Reference: Database: **XTO Energy** Company: **TVD Reference:** Eddy County, New Mexico (NAD 27) Project: **MD Reference:** Site: Ross Draw 3031 Federal North Reference: **Survey Calculation Method:** Well: 1HWellbore #1 Wellbore: Design #2 Design:

#### **Planned Survey**

Measured Vertical Vertical Dogleg Build Turn Depth Depth Rate Rate +N/-S Section Rate Inclination Azimuth +E/-W (usft) (usft) (usft) (usft) (usft) (°/100usft) (°/100usft) (°/100usft) (°) (°) 4,100.00 0.00 0.00 4,100.00 0.00 0.00 0.00 0.00 0.00 0.00 4,200.00 0.00 0.00 4,200.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 4,300.00 0.00 4,300.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 4,400.00 0.00 0.00 0.00 0.00 0.00 4 400.00 0.00 0.00 4,500.00 0.00 4,500.00 0.00 0.00 0.00 0.00 0.00 0.00 4,600,00 0.00 0.00 4,600.00 0.00 0,00 0.00 0.00 0.00 0.00 0.00 0.00 4,700.00 0.00 0.00 4,700.00 0.00 0.00 0.00 0.00 4,800.00 0.00 0.00 4,800.00 0.00 0.00 0.00 0.00 0.00 0.00 4,900.00 4,900.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 5,000.00 0.00 0.00 5,000.00 0.00 0.00 0.00 0.00 0.00 0.00 5,100.00 0.00 0.00 5,100.00 0.00 0.00 0.00 0.00 0.00 0.00 5,200.00 0.00 0.00 5,200.00 0.00 0.00 0.00 0.00 0.00 0.00 5,300.00 0.00 0.00 5,300.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 5,400.00 5,400.00 0.00 0.00 0.00 0.00 0.00 5,500.00 5.500.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 5,600.00 0.00 5.600.00 0.00 0.00 0,00 0.00 0.00 5,665.00 0.00 0.00 5,665.00 0.00 0.00 0.00 0.00 0.00 0.00 **Brushy Canyon** 5,700.00 0.00 0.00 5,700.00 0.00 0.00 0.00 0.00 0,00 0.00 0.00 0.00 5,800.00 0.00 0.00 5,800.00 0.00 0.00 0.00 0.00 0.00 0.00 5,900.00 0.00 5 900.00 0.00 0.00 0.00 0.00 0.00 6,000.00 0.00 0.00 6,000.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 6,100.00 0.00 0.00 6,100.00 0.00 0.00 0,00 0.00 0.00 0.00 0.00 6.200.00 0.00 6.200.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 6.300.00 0.00 6,300.00 0.00 0.00 0.00 0.00 0.00 6,400.00 0.00 0.00 0.00 6.400.00 0.00 0,00 0.00 0.00 0.00 6,500,00 0.00 0.00 6,500,00 0.00 0.00 0.00 0.00 0.00 0.00 6,600,00 0.00 0,00 6,600,00 0.00 0.00 0.00 0.00 0.00 0.00 6,700.00 0.00 0.00 6,700.00 0.00 0.00 0.00 0.00 0.00 0.00 6,800.00 0.00 0.00 6.800.00 0.00 0.00 0.00 0.00 0.00 0.00 6,832.00 0.00 0.00 6,832.00 0.00 0.00 0.00 0.00 0.00 0.00 Bone Spring 6,900.00 0.00 0.00 6,900.00 0.00 0.00 0.00 0.00 0.00 0.00 7 000.00 0.00 0.00 7 000 00 0.00 0.00 0.00 0.00 0.00 0.00 7,100.00 0.00 0.00 7,100.00 0.00 0.00 0.00 0.00 0,00 0.00 7,200.00 0.00 0.00 7,200.00 0.00 0,00 0.00 0.00 0.00 0.00 7,300.00 0.00 0.00 7,300.00 0.00 0.00 0.00 0.00 0.00 0,00 7.400.00 0.00 0.00 7,400.00 0.00 0.00 0.00 0.00 0.00 0.00 7,500.00 0.00 0.00 7,500.00 0.00 0.00 0.00 0.00 0.00 0.00 7,600.00 0.00 0.00 7,600.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 7,700.00 0.00 7,700,00 0.00 0.00 0.00 0.00 0.00 0.00 7,797.00 0.00 0.00 7,797.00 0.00 0.00 0.00 0.00 0.00 0.00 **First Bone Spring** 0.00 0.00 0.00 7.800.00 7.800.00 0.00 0.00 0.00 0.00 0.00 7,900.00 0.00 0.00 7,900.00 0.00 0.00 0.00 0.00 0.00 0.00 8,000.00 0,00 0.00 8,000.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 8,100.00 8,100.00 0.00 0.00 0.00 0.00 0.00 0.00 8,200.00 0.00 0.00 8,200.00 0,00 0.00 0.00 0.00 0.00 0.00 8.300.00 0.00 0.00 8.300.00 0.00 0.00 0.00 0.00 0.00 0.00 8,400.00 0.00 0.00 8,400.00 0.00 0.00 0.00 0.00 0.00 0.00 8,452.00 0.00 0.00 8,452.00 0.00 0.00 0.00 0.00 0.00 0.00 Second Bone Spring 0.00 0.00 8,500.00 8,500.00 0.00 0.00 0.00 0.00 0.00 0.00

COMPASS 5000.14 Build 85





Planning Report

Database:	Conroe Server	Local Co-ordinate Reference:	Well 1H
Company:	XTO Energy	TVD Reference:	WELL @ 2902.00usft (Noram 25)
Project:	Eddy County, New Mexico (NAD 27)	MD Reference:	WELL @ 2902.00usft (Noram 25)
Site:	Ross Draw 3031 Federal	North Reference:	Grid
Well:	1H	Survey Calculation Method:	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	Design #2		

# Planned Survey

weasure	ed		Vertical			Vertical	Dogleg	Build	Turn
Depth (usft)	Inclination (°)	Azimuth (°)	Depth (usft)	+N/-S (usft)	+E/-W (usft)	Section (usft)	Rate (°/100usft)	Rate (°/100usft)	Rate (°/100usft)
8.600.	00 0.00	0.00	8,600.00	0.00	0.00	0.00	0.00	0.00	0.00
8,700.	00.0 000	0.00	8,700.00	0.00	0.00	0.00	0.00	0.00	0.00
8,800.	00.0 00	0.00	8,800.00	0.00	0.00	0.00	0.00	0.00	0.00
8,900.	00.00	0.00	8,900.00	0.00	0.00	0.00	0.00	0.00	0.00
9,000.	00.0 00	0.00	9,000.00	0.00	0.00	0.00	0.00	0.00	0.00
9,100.	00.0 00.00	0.00	9,100.00	0.00	0.00	0.00	0.00	0.00	0.00
9,200.	00.00	0.00	9,200.00	0.00	0.00	0.00	0.00	0.00	0.00
9,300.	00.00	0.00	9,300.00	0.00	0.00	0.00	0.00	0.00	0.00
9,400.	00.00	0.00	9,400.00	0.00	0.00	0.00	0.00	0.00	0.00
9,500.	00.00	0.00	9,500.00	0.00	0.00	0.00	0.00	0.00	0.00
9,600.	00.00	0.00	9,600.00	0.00	0.00	0.00	0.00	0.00	0.00
9,689.	00 0.00	0.00	9,689.00	0.00	0.00	0.00	0.00	0.00	0.00
Third E	Bone Spring	0.00	0 700 00	0.00	0.00	0.00	0.00	0.00	0.00
9,700.	00 0.00	0.00	9,700.00	0.00	0.00	0.00	0.00	0.00	0.00
9,000.	0.00	0.00	9,800.00	0.00	0.00	0,00	0.00	0.00	0.00
9,862.	00 0.00	0.00	9,862.00	0.00	0.00	0.00	0.00	0.00	0.00
9.867	74 0.00	0.00	9 867 74	0.00	0.00	0.00	0.00	0.00	0.00
KOP. 1	0.00°/100' Build	0.00	0,007.14	0.00	0.00	0.00	0.00	0.00	0.00
9 900.	00 3.23	359.74	9,899,98	0.91	0.00	0.91	10.00	10.00	0.00
9,970.	51 10.28	359.74	9,969.96	9,19	-0.04	9.19	10.00	10.00	0.00
TBSG	RH		,						
10,000.	00 13.23	359.74	9,998.83	15.20	-0.07	15.20	10.00	10.00	0.00
10,041.	53 17.38	359,74	10,038.88	26.16	-0.12	26.16	10.00	10.00	0.00
Wolfca	mp								
10,071.	07 20.33	359,74	10,066.83	35.70	-0.16	35.70	10.00	10.00	0.00
WFMP	_X								
10,100.	00 23,23	359.74	10,093.69	46.44	-0.21	46.44	10.00	10.00	0.00
10,200.	00 33.23	359.74	10,181.69	93.67	-0.42	93.67	10.00	10.00	0.00
10,204.	63 33.69	359.74	10,185.55	96.22	-0.43	96.22	10.00	10.00	0.00
WFMP_	_Y								
10,300.	00 43.23	359.74	10,260.15	155.47	-0.70	155.47	10.00	10.00	0.00
10,400.	00 53.23	359.74	10,326.68	229.95	-1.04	229.95	10.00	10.00	0.00
10,500.	00 63.23	359.74	10,379.27	314.86	-1,42	314.86	10.00	10.00	0.00
10,600.	00 73.23	359.74	10,416.32	407.60	-1.84	407.61	10.00	10.00	0.00
10,700.	00 83.23	359.74	10,436.69	505.37	-2.28	505.38	10.00	10.00	0.00
10,765.	04 89.73	359.74	10,440.69	570.25	-2.57	570.26	10.00	10.00	0.00
Begin 8	89.73° Lateral								
10,800.	00 89.73	359.74	10,440.85	605.22	-2.73	605.22	0.00	0.00	0.00
10,900.	00 89.73	359.74	10,441.32	705.21	-3.18	705.22	0.00	0.00	0.00
11,000.	00 89.73	359.74	10,441.79	805.21	-3.63	805.22	0.00	0.00	0.00
11,100.	00 89.73	359.74	10,442.27	905.21	-4.08	905.22	0.00	0.00	0.00
11,200.	00 89.73	359,74	10,442.74	1,005.21	-4.53	1,005.22	0.00	0.00	0.00
11,300.	00 89.73	359.74	10,443.21	1,105.20	-4.98	1,105.22	0.00	0.00	0.00
11,400.	00 89.73	359.74	10,443.68	1,205.20	-5.43	1,205.21	0.00	0.00	0.00
11,500.	00 89.73	359.74	10,444.15	1,305.20	-5.88	1,305.21	0.00	0.00	0.00
11,600.	00 89,73	359.74	10,444.62	1,405.20	-6.33	1,405.21	0.00	0.00	0.00
11,700.	00 89.73	359.74	10,445.09	1,505.20	-6.78	1,505.21	0.00	0.00	0.00
11,800.0	00 89.73	359.74	10,445.56	1,605.19	-7.23	1,605.21	0.00	0.00	0.00
11,900.0	00 89.73	359.74	10,446.04	1,705.19	-7.68	1,705.21	0.00	0.00	0.00
12,000.	00 89.73	359.74	10,446.51	1,805.19	-8.13	1,805.21	0.00	0.00	0.00
12,100.0	00 89.73	359.74	10,446.98	1,905.19	-8.58	1,905.21	0.00	0.00	0.00
12,200.0	00 89.73	359.74	10,447.45	2,005.19	-9.03	2,005.21	0.00	0.00	0.00



Planning Report



Conroe Server Local Co-ordinate Reference: Well 1H Database: XTO Energy Company: TVD Reference: WELL @ 2902.00usft (Noram 25) Eddy County, New Mexico (NAD 27) WELL @ 2902.00usft (Noram 25) Project: MD Reference: Ross Draw 3031 Federal Site: North Reference: Grid 1H Survey Calculation Method: Minimum Curvature Well: Wellbore #1 Wellbore: Design #2 Design:

#### 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)
12,300.00 12,400.00 12,500.00 12,600.00	89.73 89.73 89.73 89.73	359.74 359.74 359.74 359.74	10,447.92 10,448.39 10,448.86 10,449.33	2,105.18 2,205.18 2,305.18 2,405.18	-9.49 -9.94 -10.39 -10.84	2,105.20 2,205.20 2,305.20 2,405.20	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00
12,700.00 12,800.00 12,900.00 13,000.00 13,100.00	89.73 89.73 89.73 89.73 89.73 89.73	359.74 359.74 359.74 359.74 359.74 359.74	10,449.81 10,450.28 10,450.75 10,451.22 10,451.69	2,505.18 2,605.17 2,705.17 2,805.17 2,905.17	-11.29 -11.74 -12.19 -12.64 -13.09	2,505.20 2,605.20 2,705.20 2,805.20 2,905.20	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00
13,200.00 13,300.00 13,400.00 13,500.00 13,600.00	89.73 89.73 89.73 89.73 89.73 89.73	359.74 359.74 359.74 359.74 359.74	10,452.16 10,452.63 10,453.10 10,453.58 10,454.05	3,005.16 3,105.16 3,205.16 3,305.16 3,405.16	-13.54 -13.99 -14.44 -14.89 -15.34	3,005.19 3,105.19 3,205.19 3,305.19 3,405.19	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00
13,700.00 13,800.00 13,900.00 14,000.00 14,100.00	89.73 89.73 89.73 89.73 89.73	359.74 359.74 359.74 359.74 359.74	10,454.52 10,454.99 10,455.46 10,455.93 10,456.40	3,505.15 3,605.15 3,705.15 3,805.15 3,905.15	-15.79 -16.24 -16.69 -17.14 -17.60	3,505.19 3,605.19 3,705.19 3,805.19 3,905.18	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00
14,200.00 14,300.00 14,400.00 14,500.00 14,600.00	89.73 89.73 89.73 89.73 89.73	359.74 359.74 359.74 359.74 359.74	10,456.87 10,457.35 10,457.82 10,458.29 10,458.76	4,005.14 4,105.14 4,205.14 4,305.14 4,405.13	-18.05 -18.50 -18.95 -19.40 -19.85	4,005.18 4,105.18 4,205.18 4,305.18 4,405.18	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00
14,700.00 14,800.00 14,900.00 15,000.00 15,100.00	89.73 89.73 89.73 89.73 89.73	359.74 359.74 359.74 359.74 359.74 359.74	10,459.23 10,459.70 10,460.17 10,460.64 10,461.12	4,505.13 4,605.13 4,705.13 4,805.13 4,905.12	-20.30 -20.75 -21.20 -21.65 -22.10	4,505.18 4,605.18 4,705.18 4,805.18 4,905.17	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00
15,200.00 15,300.00 15,400.00 15,500.00 15,600.00	89.73 89.73 89.73 89.73 89.73	359.74 359.74 359.74 359.74 359.74	10,461.59 10,462.06 10,462.53 10,463.00 10,463.47	5,005.12 5,105.12 5,205.12 5,305.12 5,405.11	-22.55 -23.00 -23.45 -23.90 -24.35	5,005.17 5,105.17 5,205.17 5,305.17 5,405.17	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00
15,700.00 15,800.00 15,900.00 16,000.00 16,100.00	89.73 89.73 89.73 89.73 89.73	359.74 359.74 359.74 359.74 359.74 359.74	10,463.94 10,464.41 10,464.89 10,465.36 10,465.83	5,505.11 5,605.11 5,705.11 5,805.11 5,905.10	-24.80 -25.26 -25.71 -26.16 -26.61	5,505.17 5,605.17 5,705.17 5,805.16 5,905.16	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00
16,200.00 16,300.00 16,400.00 16,500.00 16,600.00	89.73 89.73 89.73 89.73 89.73	359.74 359.74 359.74 359.74 359.74	10,466.30 10,466.77 10,467.24 10,467.71 10,468.18	6,005.10 6,105.10 6,205.10 6,305.09 6,405.09	-27.06 -27.51 -27.96 -28.41 -28.86	6,005.16 6,105.16 6,205.16 6,305.16 6,405.16	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0,00 0.00 0.00	0.00 0.00 0,00 0.00 0.00
16,700.00 16,800.00 16,900.00 17,000.00 17,100.00	89.73 89.73 89.73 89.73 89.73 89.73	359.74 359.74 359.74 359.74 359.74	10,468.66 10,469.13 10,469.60 10,470.07 10,470.54	6,505.09 6,605.09 6,705.09 6,805.08 6,905.08	-29.31 -29.76 -30.21 -30.66 -31.11	6,505.16 6,605.16 6,705.15 6,805.15 6,905.15	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00 0.00
17,200.00 17,255.83 <b>PBHL</b>	89.73 89.73	359.74 359.74	10,471.01 10,471.27	7,005.08 7,060.91	-31.56 -31.81	7,005.15 7,060.98	0.00 0.00	0.00 0.00	0.00 0.00



Planning Report



Conroe Server Local Co-ordinate Reference: Well 1H Database: Company: XTO Energy WELL @ 2902.00usft (Noram 25) TVD Reference: Eddy County, New Mexico (NAD 27) MD Reference: **Project:** WELL @ 2902.00usft (Noram 25) Ross Draw 3031 Federal Site: North Reference: Grid 1H Survey Calculation Method: Minimum Curvature Well: Wellbore #1 Wellbore: Design #2 Design:

#### Design Targets

Target Name

- hit/miss target	Dip Angle	ip Angle Dip Dir. TVD +N/-S +E/-			+E/-W	Northing	Easting		
- Shape	(°)	(°) (usf	(usft)	isft) (usft)	(usft)	(usft)	(usft)	Latitude	Longitude
FTP v2 - Ross Draw 3 - plan misses targe - Point	0.00 et center by	0.01 0.03usft at	10,440.80 : 10794.20u:	599.42 sft MD (1044	-2.71 0.82 TVD, 5	364,729.21 99.42 N, -2.70 E)	625,806.40	32° 0' 7.578 N	103° 55' 38.969 W
LTP v2 - Ross Draw 3 - plan misses targ - Point	0.00 et center by	0.01 0.02usft at	10,470.65 17125.83u	6,930.91 sft MD (1047	-31.21 0.66 TVD, 6	371,060.70 930.91 N, -31.23	625,777.90 E)	32° 1' 10.238 N	103° 55' 39.024 W
PBHL v2 - Ross Draw	0.27	359.74	10,471.27	7,060.91	-31.81	371,190.70	625,777.30	32° 1' 11.525 N	103° 55' 39.026 W

- plan hits target center - Rectangle (sides W60.00 H6,490.79 D0.00)

#### Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
	050.00		Linology	()	
252.00	252.00	Rustler		-0.27	359.74
995.00	995.00	Salado/Top Salt		-0.27	359.74
1,394.00	1,394.00	Castile		-0.27	359.74
3,052.00	3,052.00	Lamar/Base Salt		-0.27	359.74
3,092.00	3,092.00	Bell Canyon		-0.27	359.74
3,992.00	3,992.00	Cherry Canyon		-0.27	359.74
5,665.00	5,665.00	Brushy Canyon		-0.27	359.74
6,832.00	6,832.00	Bone Spring		-0.27	359.74
7,797.00	7,797.00	First Bone Spring		-0.27	359.74
8,452.00	8,452.00	Second Bone Spring		-0.27	359.74
9,689.00	9,689.00	Third Bone Spring		-0.27	359.74
9,862.00	9,862.00	TBSG_WW		-0.27	359.74
9,970.51	9,969.96	TBSG_RH		-0.27	359.74
10,041.53	10,038.88	Wolfcamp		-0.27	359.74
10,071.07	10,066.83	WFMP_X		-0.27	359.74
10,204.63	10,185.55	WFMP_Y		-0.27	359.74

#### **Plan Annotations**

Measured	Vertical	Local Coor		
Depth (usft)	Depth (usft)	+N/-S (usft)	+E/-W (usft)	Comment
9,867.74	9,867.74	0.00	0.00	KOP, 10.00°/100' Build
10,765.04	10,440.69	570.25	-2.57	Begin 89.73° Lateral
 17,255.83	10,471.27	7,060.91	-31.81	PBHL

#### DRILLING PLAN: BLM COMPLIANCE (Supplement to BLM 3160-3)

# XTO Energy Inc. Ross Draw 3031 Fed 1H Projected TD: 17255' MD / 10471' TVD SHL: 170' FSL & 380' FWL, SECTION 31, T26S, R30E BHL: 200' FNL & 380' FWL, SECTION 30, T26S, R30E Eddy County, NM

# **1. GEOLOGIC NAME OF SURFACE FORMATION:**

# A. Permian

.

4

# 2. ESTIMATED TOPS OF GEOLOGICAL MARKERS & DEPTHS OF ANTICIPATED FRESH WATER, OIL OR GAS:

Formation	Well Depth (TVD)	Water / Oil / Gas	
Rustler	252'	Water	
Top of Salt	995'		
Base of Salt	3052'	***************************************	
Bell Canyon	3092'	Water	
Cherry Canyon	3992'	Water	
Brushy Canyon	5665'	Water/Oil/Gas	
Bone Spring	6832'	Water/Oil/Gas	
1 <sup>st</sup> Bone Spring	7797'	Water/Oil/Gas	
2 <sup>nd</sup> Bone Spring	8452'	Water/Oil/Gas	
3 <sup>rd</sup> Bone Spring	9689'	Water/Oil/Gas	
Wolfcamp	10039'	Water/Oil/Gas	
Target/Land Curve	10438'	Water/Oil/Gas	

\*\*\* Hydrocarbons @ Brushy Canyon

\*\*\* Groundwater depth 100' (per NM State Engineers Office).

No other formations are expected to yield oil, gas or fresh water in measurable volumes. The surface fresh water sands will be protected by setting 13-3/8" casing @ 950' (45' above the salt) and circulating cement back to surface. The salt will be isolated by setting 9-5/8" casing at 3150' and circulating cement to surface. An 8-3/4" vertical and curve hole will be drilled and 7" casing run and cemented 500' into the 9-5/8" casing. A 6-1/8" curve and lateral hole will be drilled to MD/TD and a 4-1/2" liner will be set at TD and cemented back into the 7" casing shoe.

# 3. CASING PROGRAM:

Hole Size	Depth	OD Csg	Weight	Collar	Grade	New/Used	SF	SF Collapse	SF Tension
1						11	Burst		
17-1/2"	0' – 950'	13-3/8"	48#	STC	H-40	New	6.92	1.70	7.06
12-1/4"	0' - 3150'	9-5/8"	36#	LTC	J-55	New	2.61	1.21	3.99
8-3/4"	0' - 10650'	7"	29#	LTC	P-110	New	1.18	1.66	2.58
6-1/8"	9767' – 17255'	4-1/2"	13.5#	BTC	P-110	New	1.31	1.57	4.17

#### WELLHEAD:

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A. Starting Head: 13-3/8" SOW bottom x 13-5/8" 5,000 psi top flange

B. 'Tubing Head: 13-5/8" 5,000 psi bottom flange x 7-1/16" 10,000 psi top flange

#### 4. CEMENT PROGRAM:

A. Surface Casing: 13-3/8", 48#, NEW H-40, STC casing to be set at  $\pm$  950'.

Lead: 20 bbls FW, then 335 sx HalCem-C + 2% CaCl (mixed at 12.9 ppg, 1.88  $ft^3/sk$ , 10.11 gal/sx wtr)

Tail: 525 sx HalCem-C + 2% CaCl (mixed at 14.8 ppg, 1.33  $ft^3/sk$ , 6.39 gal/sx wtr)

\*\*\*All volumes 100% excess in open hole. Cement to surface.

B. Intermediate Casing: 9-5/8", 36#, NEW J-55, LTC casing to be set at  $\pm$  3150'.

Lead: 20 bbls FW, then 885 sx EconoCem-HLC + 3 lbm/sk Kol-Seal + 0.25 lbm D-air 5000 (mixed at 12.9 ppg,  $1.88 \text{ ft}^3/\text{sk}$ , 10.11 gal/sx wtr)

Tail: 235 sx HalCem-C (mixed at 14.8 ppg, 1.33 ft<sup>3</sup>/sk, 6.34 gal/sx wtr)

\*\*\*All volumes 100% excess in open hole. Cement to surface.

C. <u>Production Casing</u>: 7", 29#, NEW P-110, LTC casing to be set at  $\pm$  10650'.

Lead: 20 bbls FW, then 512 sx NeoCem + 2 lbm/sk Kol-Seal + 0.3 lbm/sk CFR-3 (mixed at 11 ppg, 2.808 ft<sup>3</sup>/sk, 14.5 gal/sx wtr)

Tail: 230 sx VersaCem - H + 3 lbm/sk Kol-Seal + 0.4% Halad 344 + 0.3% CFR-3 + 0.3% Super CBL + 0.25 lbm/sk D-air 5000 (mixed at 14.5 ppg, 1.4 ft<sup>3</sup>/sk, 5.33 gal/sx wtr)

\*\*\* 50% open hole excess on lead, 30% on tail. Planned top of cement 500' into intermediate casing shoe.

D. <u>Production Liner</u>: 4-1/2", 13.5#, NEW P-110, BTC casing to be set at  $\pm$  17255'. Liner top will be at  $\pm$  9767'. Casing will be cemented and will include sliding sleeves for the completion.

Tail: 605 sx VersaCem PBHS2 + 0.25 lbm/sk D-air 5000 + 0.5% Halad 344 + 0.3% CFR-3 (mixed at 14.5 ppg, 1.4 ft<sup>3</sup>/sk, 5.33 gal/sx wtr)

\*\*\*All volumes 20% excess in open hole. Planned top of cement at liner top

# 5. PRESSURE CONTROL EQUIPMENT:

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The blow out preventer equipment (BOP) for this well consists of a 13-5/8" minimum 5M Hydril and a 13-5/8" minimum 5M Double Ram BOP. Max bottom hole pressure should not exceed 6806 psi.

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" 5M bradenhead and flange, the BOP test will be limited to 5000psi. When nippling up on the 7", the BOP will be tested to a minimum of 5000 psi. All BOP tests will include a low pressure test as per BLM regulations. The 5M BOP diagrams are attached. Blind rams will be functioned tested each trip, pipe rams will be functioned tested each day.

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.

INTERVAL	Hole Size	Mud Type	MW (ppg)	Viscosity (sec/qt)	Fluid Loss (cc)
0' to 950'	17-1/2"	FW/Native	8.4 - 8.8	35 - 40	NC
950' to 3150'	12-1/4"	Brine/Gel Sweeps	9.8 - 10.2	30 - 32	NC
3150' to 10650'	8-3/4"	FW / Cut Brine	8.6 - 9.5	29 - 32	NC - 20
10650' to 17255'	6-1/8"	OBM	9.5 - 12.5	32 - 50	8 - 20

# 6. PROPOSED MUD CIRCULATION SYSTEM:

The necessary mud products for weight addition and fluid loss control will be on location at all times.

Spud with fresh water/native mud. Drill out from under 13-3/8" surface casing with brine solution. A 9.8ppg - 10.2ppg brine mud will be used while drilling through the salt formation. Cut brine will be used to drill the 8-3/4" section. An oil-based mud will be used to drill the 6-1/8" section. Pump speed will be recorded on a daily drilling report after mudding up. 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. Solids control equipment will be used to operate as a closed loop system.

# 7. AUXILIARY WELL CONTROL AND MONITORING EQUIPMENT:

A. A Kelly cock will be in the drill string at all times.

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- B. A full opening drill pipe stabbing valve having appropriate connections will be on the rig floor at all times.
- C. H2S monitors will be on location when drilling below the 13-3/8" casing.

# 8. LOGGING, CORING AND TESTING PROGRAM:

Mud Logger: Mud Logging Unit (2 man) on @ 3150'. Catch 20' samples from 3150' to TD Send 1 set of dry samples to Midland Sample Library.

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

# 9. ABNORMAL PRESSURES AND TEMPERATURES / POTENTIAL HAZARDS:

None anticipated. BHT of 180 F is anticipated. No H2S is expected but monitors will be in place to detect any H2S occurrences. Should these circumstances be encountered the operator and drilling contractor are prepared to take all necessary steps to ensure safety of all personnel and environment. 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.

# **10. ANTICIPATED STARTING DATE AND DURATION OF OPERATIONS:**

Road and location construction will begin after Santa Fe and BLM have approved the APD. Anticipated spud date will be as soon after Santa Fe and BLM approval and as soon as a rig will be available. Move in operations and drilling is expected to take 40 days. If production casing is run, an additional 30 days will be needed to complete well and construct surface facilities and/or lay flow lines in order to place well on production.



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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 Data.	6/8/2014		
Customer Ref.	PENDING	Hese Serval No.	D-060814-1		
invoice No. :	201709	Croated By.	NORMA		
	4				
	FD3.042.0R41/16.5KFLGE/E_LE				
Product Description:		FD3.042.0R41/16.5KFLGE/E_1	LE		
Product Description:		FD3.042.0R41/16.5KFLGE; E 1	LE		
Product Description:	4 1/16 m.5K FLG	FD3.042.0R41/16.5KFLGE/E 1	4 1/16 in,5K FLG		
Product Description:	4 1/16 m.5K FLG 4774-600 i	End Fitting 2 * Assembly Code :	4 1/16 in.5K FLG L33090011513D-060814-1		

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.

	//		
	11		
Quelity.	// QUALITY	Technical Supervisor :	PRODUCTION
DMC -	111, 0/8/2014/1/	Date	
Signature	MULLING / MER	Signature 1	
	i		
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Form PTC 01 Rev.0 2



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ч 7 CLOSE I.D. 2014 LENGTH YOM SID TEST PRESSIONE 250 181 TENT DATE & ALT U- SERIAL " un D-100ii Ç, 75(215-E Gra 1 Yus Sirans

# JAFMSS

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



APD ID: 10400011654 Operator Name: XTO ENERGY INCORPORATED Well Name: ROSS DRAW 3031 FEDERAL Well Type: OIL WELL

# Submission Date: 02/21/2017

Well Number: 1H Well Work Type: Drill Highlighted data reflects the most recent changes

Show Final Text

# Section 1 - Existing Roads

Will existing roads be used? NO

# Section 2 - New or Reconstructed Access Roads

Will new roads be needed? YES

New Road Map:

Ross 3031 Fed 1H\_Access\_02-21-2017.pdf

New road type: RESOURCE

Length: 4089

Width (ft.): 30

Max grade (%): 3

Max slope (%): 2

Army Corp of Engineers (ACOE) permit required? NO

Feet

ACOE Permit Number(s):

New road travel width: 14

**New road access erosion control:** The access road will be constructed and maintained as necessary to prevent soil erosion and accommodate all-weather traffic. The road will be crowned and ditched with water turnouts installed as necessary to provide for proper drainage along with access road route. **New road access plan or profile prepared?** NO

New road access plan attachment:

Access road engineering design? NO

Access road engineering design attachment:

Access surfacing type: OTHER

Access topsoil source: ONSITE

Access surfacing type description: Surface material will be native caliche

Well Name: ROSS DRAW 3031 FEDERAL

Well Number: 1H

Access onsite topsoil source depth: 6

Offsite topsoil source description:

**Onsite topsoil removal process:** Approximately 6 inches of topsoil (root zone) will be stripped from the proposed access road prior to any further construction activity. The topsoil that was stripped will be spread along the edge of the road and within the ditch. The topsoil will be seeded with the proper seed mix designated by the BLM.

Access other construction information: Construction, reclamation, and/or routine maintenance will not be conducted during periods when the soil conditions for construction could lead to impacts to the surrounding environment, or when watershed damage is likely to occur as a result of these activities.

Access miscellaneous information:

Number of access turnouts: 1 Access turnout map:

# **Drainage Control**

New road drainage crossing: OTHER

**Drainage Control comments:** The access road and associated drainage structures will be constructed and maintained in accordance with road guidelines contained in the joint BLM/USFS publication: Surface Operating Standards for Oil and Gas Exploration and Development, The Gold Book, Fourth Edition and/or BLM Manual Section 9113 concerning road construction standards on projects subject to federal jurisdiction.

**Road Drainage Control Structures (DCS) description:** No drainage control structures were identified at onsite. Drainage control structures will be applied for as-needed and be in accordance with road guidelines contained in the joint BLM/USFS publication: Surface Operating Standards for Oil and Gas Exploration and Development, The Gold Book, Fourth Edition and/or BLM Manual Section 9113 concerning road construction standards on projects subject to federal jurisdiction. **Road Drainage Control Structures (DCS) attachment:** 

#### **Access Additional Attachments**

Additional Attachment(s):

# Section 3 - Location of Existing Wells

Existing Wells Map? YES

Attach Well map:

Ross 3031 Fed 1H\_1 Mile\_02-21-2017.pdf

**Existing Wells description:** 

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

#### Submit or defer a Proposed Production Facilities plan? DEFER

**Estimated Production Facilities description:** A new facility is not necessary for this well. Production will flow to the existing Ross Draw CTB located in Section 25-T26S-R29E. Flowlines: 12798.1' or 2.424 miles of alowline will be laid in existing and proposed road corridors to the Ross Draw CTB. Electrical: 12479' or 2.363 miles of electrical will follow existing road corridors from the Ross Draw Federal Com #1H to the Ross Draw 3031 Federal #1H pad. Gas Sales Line: No gas sales line is anticipated for this location. A gas sales line exists and is tied in to the Ross Draw CTB. 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. 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.

Well Number: 1H

# Section 5 - Location and Types of Water Supply

# Water Source Table

Water source use type: INTERMEDIATE/PRODUCTION CASING,<br/>INTERMEDIATE/PRODUCTION CASING, STIMULATION,<br/>STIMULATION, SURFACE CASING, SURFACE CASING<br/>Describe type:Water source type: GW WELLSource longitude:

Source latitude:

Source datum: NAD83

Water source permit type: PRIVATE CONTRACT

Source land ownership: FEDERAL

Water source transport method: TRUCKING

Source transportation land ownership: FEDERAL

Water source volume (barrels): 40000

Source volume (gal): 1680000

#### Water source and transportation map:

Ross 3031 Fed 1H Water 02-21-2017.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 the following two sources per Rockhouse Water: 1st Well: CP745 Section 12-T20S-R29E Latitude: 32.585782 Longitude: -104.034144 2nd Well: CP742 Section 31-T19S-R30E Latitude: 32.614117 Longitude: -104.017098 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. Well completion is expected to require approximately 50,000 barrels of fresh water per horizontal well. Actual water volumes used during operations will depend on the depth of the well and length of horizontal sections. After production is established, XTO may complete wells with approximately 50,000 barrels of produced water. If the decision to use produced water is made, the BLM will be notified appropriately, proper permitting will ensue with the New Mexico Oil Conservation division and this surface use plan will be amended as needed. A fresh water frac pond is anticipated after the wells are drilled. The potential location of the frac pond is unknown at this time but will be staked with a BLM representative present in order to make certain all wildlife habitat and hydrological areas are protected with minimal environmental impact, then permitted properly prior to being built. 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:

Source volume (acre-feet): 5.155724

Well target aquifer:

Operator Name: XTO ENERGY INCORPORATED Well Name: ROSS DRAW 3031 FEDERAL

Well Number: 1H

Est. depth to top of aquifer(ft): Aquifer comments:	Est thickness of aquifer:
Aquifer documentation:	
Well depth (ft):	Well casing type:
Well casing outside diameter (in.):	Well casing inside diameter (in.):
New water well casing?	Used casing source:
Drilling method:	Drill material:
Grout material:	Grout depth:
Casing length (ft.):	Casing top depth (ft.):
Well Production type:	Completion Method:
Water well additional information:	
State appropriation permit:	
Additional information attachment:	

#### **Section 6 - Construction Materials**

**Construction Materials description:** Native caliche. Source 1: BLM Pit 25-T26S-R29E Source 2: BLM Pit 24-T26S-R29E **Construction Materials source location attachment:** 

# Section 7 - Methods for Handling Waste

Waste type: DRILLING

Waste content description: Cuttings

Amount of waste: 2100 pounds

Waste disposal frequency : One Time Only

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

Safe containmant attachment:

Waste disposal type: HAUL TO COMMERCIALDisposal location ownership: COMMERCIALFACILITYDisposal 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

Well Name: ROSS DRAW 3031 FEDERAL

#### Well Number: 1H

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 Disposal location ownership: COMMERCIAL FACILITY 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 Disposal location ownership: COMMERCIAL

FACILITY 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.)

**Operator Name: XTO ENERGY INCORPORATED** Well Name: ROSS DRAW 3031 FEDERAL

Well Number: 1H

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:

Ross 3031 Fed 1H Maps 02-20-2017.pdf Comments:

Well Name: ROSS DRAW 3031 FEDERAL

Well Number: 1H

# Section 10 - Plans for Surface Reclamation

Type of disturbance: NEW

#### **Recontouring attachment:**

Ross 3031 Fed 1H\_Int Rec\_02-20-2017.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): 2.816	Access road short term disturbance (acres): 2.816
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: 5.46751	Total short term disturbance: 6.63831

**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:** According to the Natural Resources Conservation Service's online database, the project area soil is Pajarito-Dune land complex, loamy sand, 0-3 percent slopes. This soil supports grassland dominated by black grama, dropseeds and bluestems. Shurbs, such as sand sage, shinnery oak, and mesquite are dispersed throughout. The project area is in a low area of deep sands amongst low to medium height dunes with some gravel and outcrops. Vegetation such as fourwing saltbrush, snakeweed and desert sage was viewed in the project area. **Existing Vegetation at the well pad attachment:** 

**Existing Vegetation Community at the road:** According to the Natural Resources Conservation Service's online database, the project area soil is Pajarito-Dune land complex, loamy sand, 0-3 percent slopes. This soil supports grassland dominated by black grama, dropseeds and bluestems. Shurbs, such as sand sage, shinnery oak, and mesquite are dispersed throughout. The project area is in a low area of deep sands amongst low to medium height dunes with some gravel and outcrops. Vegetation such as fourwing saltbrush, snakeweed and desert sage was viewed in the project area. **Existing Vegetation Community at the road attachment:** 

**Existing Vegetation Community at the pipeline:** According to the Natural Resources Conservation Service's online database, the project area soil is Pajarito-Dune land complex, loamy sand, 0-3 percent slopes. This soil supports grassland dominated by black grama, dropseeds and bluestems. Shurbs, such as sand sage, shinnery oak, and mesquite are dispersed throughout. The project area is in a low area of deep sands amongst low to medium height dunes with some gravel and outcrops. Vegetation such as fourwing saltbrush, snakeweed and desert sage was viewed in the project area. **Existing Vegetation Community at the pipeline attachment:** 

**Existing Vegetation Community at other disturbances:** According to the Natural Resources Conservation Service's online database, the project area soil is Pajarito-Dune land complex, loamy sand, 0-3 percent slopes. This soil supports grassland dominated by black grama, dropseeds and bluestems. Shurbs, such as sand sage, shinnery oak, and mesquite are dispersed throughout. The project area is in a low area of deep sands amongst low to medium height dunes with some gravel and outcrops. Vegetation such as fourwing saltbrush, snakeweed and desert sage was viewed in the project area.

Well Name: ROSS DRAW 3031 FEDERAL

Well Number: 1H

Existing Vegetation Community at other disturbances attachment: Non native seed used? NO Non native seed description: Seedling transplant description: Will seedlings be transplanted for this project? NO Seedling transplant description attachment: Will seed be harvested for use in site reclamation? NO Seed harvest description: Seed harvest description attachment:

#### Seed Management

Sood Summany	Total pounds/Acre:
PLS pounds per acre:	Proposed seeding season:
Seed use location:	
Seed cultivar:	
Source phone:	
Source name:	Source address:
Seed name:	
Seed type:	Seed source:
Seed Table	

Seed Summary

Seed Type

#### Seed reclamation attachment:

#### **Operator Contact/Responsible Official Contact Info**

Pounds/Acre

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

Well Name: ROSS DRAW 3031 FEDERAL

Well Number: 1H

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: OTHER Describe: Electrical 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:** 

Well Name: ROSS DRAW 3031 FEDERAL

Well Number: 1H

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:** 

Disturbance type: NEW ACCESS ROAD 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:**  Operator Name: XTO ENERGY INCORPORATED Well Name: ROSS DRAW 3031 FEDERAL

Well Number: 1H

Disturbance type: PIPELINE	
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

Disturbance type: OTHER Describe: Facility & Flowline 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:** 

Well Number: 1H

# Section 12 - Other Information

#### Right of Way needed? YES

Use APD as ROW? YES

**ROW Type(s):** 281001 ROW - ROADS,288101 ROW - O&G Facility Sites,289001 ROW- O&G Well Pad,FLPMA (Powerline),Other

# **ROW Applications**

SUPO Additional Information:

Use a previously conducted onsite? YES

Previous Onsite information: Bob Ballard performed the onsite of this location.

# Other SUPO Attachment

Ross 3031\_Electrical1\_02-21-2017.pdf Ross 3031\_Electrical2\_02-21-2017.pdf Ross 3031\_Flowline1\_02-21-2017.pdf Ross 3031\_Flowline2\_02-21-2017.pdf Ross\_Gas Sales\_02-21-2017.pdf



C Anjelica\2015\XTO Energy\Well\15110915 Ross Draw 3031 Federal #1H

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# TOPOGRAPHICAL AND ACCESS ROAD MAP



Enerdeq Browser

RIVER K FEDERAL CC JERSEY LILLY STATE 57-6 17XL 51 3456401092000110011 39 SCHMTJ STATE ISN 33459 C S ANYEZA C E N M 2000 C S ANYEZA C E N M 2000 NAMERA C E N M 2000 N AMOCO FEDERAL 2 (24467 ð ž ROLEDENT 3 ROLEDE K FEDERAL COM 1H 21 MONTCLAIR 11 MONTCLAIR 1003497 MONTCLAIR 7 MOOD FEDERAL 184910 K1111 K114 FEDERAL 3 FEDERAL 1890 H. 187 FEDERAL 2008 AMOOD FEDERAL 18 AMOOD FEDERAL 1800 H. E DIMARROY 27 FEDERAL 1820 AMOOD FEDERAL 18 AMOOD FEDERAL 1800 H. E DIMARROY 27 FEDERAL 1820 AMOOD FEDERAL 18 AMOOD FEDERAL 18400 ROSENAULT 1220 AMOOD FEDERAL 18 AMOOD FEDERAL 18400 ROSENAULT 1220 MOBIL '22 FEDERAL 10ASHLAND 1 MOBIL 227 FEDERAL 7 MONTCLAIR 4 JOHNSON WD JR 'E' 6 MONTCLAIR 2 JOHNSON /0 4-C LOVING AT FEE 5 31539 WD JOHNSON 20XXON JOHNSON 30736.00/NG\*AT FEE 3 JOHNSON /0 2 • 3665 WORTHFEDERAL ANONIN REDEAT SHOP TO SHO JOHNSON W D JR - P X 24812 LOWING AY FEE OIL UNIT 2 1 3087 LOWING 'AT FEE OIL UNIT 2 CULF-BEATY 1 CULF-BEATY 2 CULF-BEATY 202711 BRUSHY ONW DEP FOR RAL Yearshi Color 200808 RSE FEDFEAN GOOD - THE PEDERAL TH RED BLUFF 10 1 3051X SALT MOUNTAIN '25' FEDERAL'3 
 WD JOHNSON I NO 00026
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# **Ross Draw 3031 Lease**

# VICINITY MAP



SCALE: 1'' = 2 MILES

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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

DRIVING ROUTE: SEE TOPOGRAPHICAL AND ACCESS ROAD MAP

SEC. \_\_31\_\_TWP. 26-S\_RGE. 30-E

 SURVEY \_\_\_\_\_N.M.P.M.

 COUNTY \_\_\_\_EDDY \_\_\_STATE \_\_\_NEW\_MEXICO

 DESCRIPTION \_\_\_\_\_O' FSL & 380' FWL

 ELEVATION \_\_\_\_\_\_2877'

 OPERATOR \_\_\_\_\_\_XTO \_\_\_\_\_

 VIO ENERGY

 LEASE \_\_\_\_\_ROSS \_\_\_\_\_\_\_ROS3 \_\_\_\_\_\_

Interim Reclamation Diagram Ross Draw 3031 Federal 1H V-Door West



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C Anjelica/2016/XTO ENERGY/Easements/16110040 GosLn at the Ross Draw Sec25, 1265, R29E

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



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: 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:

PWD disturbance (acres):

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#### Section 3 - Unlined Pits

#### Would you like to utilize Unlined Pit PWD options? NO

Produced Water Disposal (PWD) Location:

**PWD surface owner:** 

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:

Injection PWD discharge volume (bbl/day):

Injection well mineral owner:

PWD disturbance (acres):

PWD disturbance (acres):

Injection we't type: Injection well number: Assigned 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: 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: Other PWD discharge volume (bbl/day): Other PWD type description: Other PWD type attachment: Have other regulatory requirements been met? Other regulatory requirements attachment: Injection well name:

#### Injection well API number:

PWD disturbance (acres):

PWD disturbance (acres):



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

## **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:

