OCD – Artesia – REC'D 5/4/2020

Form 3160-5
(June 2015)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

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

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to re-enter an abandoned well. Use form 3160-3 (APD) for such proposals.

SUBMIT IN TRIPLICATE - Other instructions on page 2

5. Lease Serial No.
NMLC065431

6. If Indian, Allottee or Tribe Name

7. If Unit or CA/Agreement, Name and/or No.
891000326X

1. Type of Well
☒ Oil Well ☐ Gas Well ☐ Other

8. Well Name and No.
BIG EDDY UNIT 5E HAN SOLO 100H

2. Name of Operator
XTO PERMIAN OPERATING LLC
Contact: KELLY KARDOS
E-Mail: kelly_kardos@xtoenergy.com

9. API Well No.
30-015-46829-00-X1

3a. Address
6401 HOLIDAY HILL ROAD BLDG 5
MIDLAND, TX 79707

3b. Phone No. (include area code)
Ph: 432-620-4374

10. Field and Pool or Exploratory Area
WILDCAT - BONE SPRING

4. Location of Well *(Footage, Sec., T., R., M., or Survey Description)*
Sec 27 T20S R31E SWNE 1670FNL 1855FEL

11. County or Parish, State
EDDY COUNTY, NM

12. CHECK THE APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
☒ Notice of Intent	☐ Acidize	☐ Deepen	☐ Production (Start/Resume)	☐ Water Shut-Off
☐ Subsequent Report	☐ Alter Casing	☐ Hydraulic Fracturing	☐ Reclamation	☐ Well Integrity
☐ Final Abandonment Notice	☐ Casing Repair	☐ New Construction	☐ Recomplete	☒ Other Change to Original A PD
	☐ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon	
	☐ Convert to Injection	☐ Plug Back	☐ Water Disposal	

13. Describe Proposed or Completed Operation: Clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recomplete horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports must be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 must be filed once testing has been completed. Final Abandonment Notices must be filed only after all requirements, including reclamation, have been completed and the operator has determined that the site is ready for final inspection.

XTO Permian Operating, LLC requests permission to make the following changes to the original APD:

Change the SHL from 1890FNL & 1873FEL to 1670FNL & 1855FEL

Change the BHL from 1980FSL & 200FEL to 1980FSL & 50FEL

Change the casing/cement design per the attached drilling program.

XTO requests the following variances:

Batch drill this well if necessary. In doing so, XTO will set each casing string and ensure that same COA's JR

EWB Rev JAM 4/28/20 Surface good 4-29-20

14. I hereby certify that the foregoing is true and correct.

Electronic Submission #510717 verified by the BLM Well Information System
For XTO PERMIAN OPERATING LLC, sent to the Carlsbad
Committed to AFMSS for processing by PRISCILLA PEREZ on 04/15/2020 (20PP2035SE)

Name *(Printed/Typed)* KELLY KARDOS — Title REGULATORY COORDINATOR

Signature (Electronic Submission) — Date 04/14/2020

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By — Title AFM-LD — Date 04/29/20

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

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

(Instructions on page 2)

**** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ** BLM REVISED ****

RWP 5/8/2020

Additional data for EC transaction #510717 that would not fit on the form

32. Additional remarks, continued

the well is cemented properly and the well is static. With floats holding, no pressure on the csg annulus, and the installation of a 10K TA cap as per GE recommendations, XTO will contact the BLM to skid the rig to drill the remaining wells on the pad. Once surface and intermediate strings are all completed, XTO will begin drilling the production hole on each of the wells.

ONLY test broken pressure seals on the BOP equipment when moving from wellhead to wellhead which is in compliance with API Standard 53. API standard 53 states, that for pad drilling operation, moving from one wellhead to another within 21 days, pressure testing is required for pressure-containing and pressure-controlling connections when the integrity of a pressure seal is broken. Based on discussions with the BLM on February 27th 2020, we will request permission to ONLY retest broken pressure seals if the following conditions are met: 1. After a full BOP test is conducted on the first well on the pad (First well will be the deepest Intermediate) 2. When skidding to drill an intermediate section does not penetrate into the Wolfcamp 3. Full BOP test will be required prior to drilling the production hole

A variance is requested to cement offline for the surface and intermediate casing strings.

Attachments:
C102 & Supplement
Casing/Cement Design

Revisions to Operator-Submitted EC Data for Sundry Notice #510717

	Operator Submitted	BLM Revised (AFMSS)
Sundry Type:	APDCH NOI	APDCH NOI
Lease:	NMLC065431	NMLC065431
Agreement:		891000326X (NMNM68294X)
Operator:	XTO PERMIAN OPERATING, LLC 6401 HOLIDAY HILL RD BLDG 5 MIDLAND, TX 79707 Ph: 432-620-4374	XTO PERMIAN OPERATING LLC 6401 HOLIDAY HILL ROAD BLDG 5 MIDLAND, TX 79707 Ph: 432.683 2277
Admin Contact:	KELLY KARDOS REGULATORY COORDINATOR E-Mail: kelly_kardos@xtoenergy.com Ph: 432-620-4374	KELLY KARDOS REGULATORY COORDINATOR E-Mail: kelly_kardos@xtoenergy.com Ph: 432-620-4374
Tech Contact:	KELLY KARDOS REGULATORY COORDINATOR E-Mail: kelly_kardos@xtoenergy.com Ph: 432-620-4374	KELLY KARDOS REGULATORY COORDINATOR E-Mail: kelly_kardos@xtoenergy.com Ph: 432-620-4374
Location: State: County:	 NM EDDY	 NM EDDY
Field/Pool:	WILDCAT BONE SPRING	WILDCAT - BONE SPRING
Well/Facility:	BIG EDDY UNIT 5E HAN SOLO 100H Sec 27 T20S R31E Mer NMP SWNE 1890FNL 1873FEL	BIG EDDY UNIT 5E HAN SOLO 100H Sec 27 T20S R31E SWNE 1890FNL 1873FEL 32.546337 N Lat, 103.854523 W Lon

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

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

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

☑ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

[1] API Number	[2] Pool Code	[3] Pool Name
30-015-46829	98232	WILDCAT; BONE SPRING WC-015 G-06 S203127G

[4] Property Code	[5] Property Name	[6] Well Number
327350	BIG EDDY UNIT 5E HAN SOLO	100H

[7] OGRID No.	[8] Operator Name	[9] Elevation
373075	XTO PERMIAN OPERATING, LLC.	3,525'

[10] Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
G	27	20 S	31 E		1,670	NORTH	1,855	EAST	EDDY

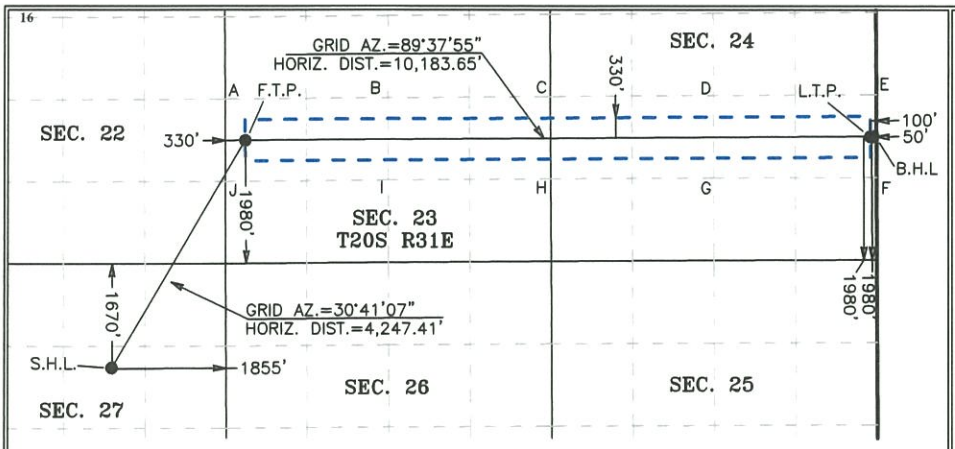
[11] Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
I	24	20 S	31 E		1,980	SOUTH	50	EAST	EDDY

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

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

16



GEODETIC COORDINATES SURFACE LOCATION NAD 83 NME	LAST TAKE POINT NAD 83 NME	GEODETIC COORDINATES SURFACE LOCATION NAD 27 NME	LAST TAKE POINT NAD 27 NME
Y= 563,039.7	Y= 566,757.6	Y= 562,978.1	Y= 566,696.0
X= 688,894.7	X= 701,195.7	X= 647,714.8	X= 660,015.9
LAT.= 32.546941°N	LAT.= 32.557002°N	LAT.= 32.546821°N	LAT.= 32.556882°N
LONG.= 103.854462°W	LONG.= 103.814484°W	LONG.= 103.853961°W	LONG.= 103.813984°W
FIRST TAKE POINT NAD 83 NME	**BOTTOM HOLE LOCATION NAD 83 NME**	**FIRST TAKE POINT NAD 27 NME**	**BOTTOM HOLE LOCATION NAD 27 NME**
Y= 566,692.4	Y= 566,757.8	Y= 566,630.8	Y= 566,696.2
X= 691,062.2	X= 701,245.7	X= 649,882.4	X= 660,065.9
LAT.= 32.556955°N	LAT.= 32.557002°N	LAT.= 32.556834°N	LAT.= 32.556882°N
LONG.= 103.847374°W	LONG.= 103.814322°W	LONG.= 103.846873°W	LONG.= 103.813822°W

CORNER COORDINATES TABLE NAD 83 NME	CORNER COORDINATES TABLE NAD 27 NME
A – Y= 567,354.4 N, X= 690,728.6 E	A – Y= 567,292.8 N, X= 649,548.8 E
B – Y= 567,376.6 N, X= 693,370.0 E	B – Y= 567,315.0 N, X= 652,190.2 E
C – Y= 567,398.6 N, X= 696,001.4 E	C – Y= 567,337.0 N, X= 654,821.6 E
D – Y= 567,415.5 N, X= 698,649.6 E	D – Y= 567,353.9 N, X= 657,469.8 E
E – Y= 567,432.4 N, X= 701,292.5 E	E – Y= 567,370.8 N, X= 660,112.7 E
F – Y= 566,105.2 N, X= 701,298.7 E	F – Y= 566,043.6 N, X= 660,118.9 E
G – Y= 566,090.6 N, X= 698,655.4 E	G – Y= 566,029.0 N, X= 657,475.6 E
H – Y= 566,075.3 N, X= 696,009.6 E	H – Y= 566,013.7 N, X= 654,829.8 E
I – Y= 566,053.6 N, X= 693,374.9 E	I – Y= 565,992.0 N, X= 652,195.1 E
J – Y= 566,032.1 N, X= 690,735.8 E	J – Y= 565,970.5 N, X= 649,556.0 E

[17] OPERATOR CERTIFICATION

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

Kelly Kardos — Signature
4-14-20 — Date

Kelly Kardos — Printed Name

kelly_kardos@xtoenergy.com — E-mail Address

[18] SURVEYOR CERTIFICATION

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

7-9-2019 — Date of Survey

Signatue and Seal of Professional Surveyor:

MARK DILLON HARP NEW MEXICO 23786 PROFESSIONAL SURVEYOR

MARK DILLON HARP 23786 — Certificate Number
RR 2017081343

RWP 5/8/2020

Intent [X] As Drilled [ ]

API #
30-015-46829

Operator Name:	Property Name:	Well Number
XTO PERMIAN OPERATING, LLC	Big Eddy Unit 5E HAN SOLO	100H

Kick Off Point (KOP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
G	27	20S	31E		1670	North	1855	East	Eddy

Latitude	Longitude	NAD
32.546941	-103.854462	83

First Take Point (FTP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
L	23	20S	31E		1980	South	330	West	Eddy

Latitude	Longitude	NAD
32.556894	-103.846873	83

Last Take Point (LTP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
I	24	20S	31E		1980	South	100	East	Eddy

Latitude	Longitude	NAD
32.557002	-103.814322	83

Is this well the defining well for the Horizontal Spacing Unit? [Y]

Is this well an infill well? [ ]

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

API #

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

KZ 06/29/2018

PECOS DISTRICT DRILLING
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	**XTO Permian Operating, LLC**
LEASE NO.:	**NMLC-0065431**
WELL NAME & NO.:	**Big Eddy Unit 5E Han Solo 100H**
SURFACE HOLE FOOTAGE:	**1670' FNL & 1855' FEL**
BOTTOM HOLE FOOTAGE	**1980' FSL & 0050' FEL Sec. 24, T. 20 S., R 31 E.**
LOCATION:	**Section 27, T. 20 S., R 31 E., NMPM**
COUNTY:	**Eddy County, New Mexico**

Offline cementing and BOP testing variance is NOT approved

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

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

A. DRILLING OPERATIONS REQUIREMENTS

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

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

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

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

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

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

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

B. CASING

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

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

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

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

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

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

1. The **18-5/8** inch surface casing shall be set at approximately **810** feet (a minimum of 25 feet into the Rustler Anhydrite and above the salt) and cemented to the surface. **If salt is encountered, set casing at least 25 feet above the salt.**

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

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

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

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

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

2. The minimum required fill of cement behind the **13-3/8** inch 1st intermediate casing, which shall be set at approximately **2700** feet, is:

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

3. The minimum required fill of cement behind the **9-5/8** inch 2nd intermediate casing, which shall be set at approximately **3500** feet (base of Capitan Reef), is:

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

a. First stage to DV tool:

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

b. Second stage above DV tool:

☒ Cement to surface. If cement does not circulate, contact the appropriate BLM office. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to potash and Capitan Reef. Cement excess calculated to negative 68% more cement will be needed.**

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

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

☒ Cement should tie-back at least **50 feet above the Capitan Reef** (Top of Capitan Reef estimated at 2850'). Operator shall provide method of verification.

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

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

C. PRESSURE CONTROL

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

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

3. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **2000 (2M)** psi.

4. **Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the 13-3/8 1st intermediate casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the 13-3/8 1st intermediate casing shoe shall be 3000 (3M) psi.**
    a. **Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.**
    b. **If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.**
    c. **Manufacturer representative shall install the test plug for the initial BOP test.**
    d. **Operator shall perform the 9-5/8" casing integrity tests to 70% of the casing burst. This will test the multi-bowl seals.**
    e. **If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.**

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

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

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

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

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

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

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

D. DRILL STEM TEST

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

E. WASTE MATERIAL AND FLUIDS

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

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

JAM 04282020

Big Eddy Unit 5E Han Solo 100H
Projected TD: 21108' MD / 9541' TVD
SHL: 1670' FNL & 1855' FEL , Section 27, T20S, R31E
BHL: 1980' FSL & 50' FEL , Section 24, T20S, R31E
Eddy County, NM

Casing Design

The surface fresh water sands will be protected by setting 18-5/8 inch casing @ 810' (139' above the salt) and circulating cement back to surface. The salt will be isolated by setting 13-3/8 inch casing at 2757' and circulating cement to surface. The Capitan Reef zone will be isolated by setting 9-5/8 inch casing at 4050'. An 8-3/4 inch curve and 8-1/2 inch lateral hole will be drilled to MD/TD and 5-1/2 inch casing will be set at TD and cemented back up to the 13-3/8 inch casing shoe.

Hole Size	Depth	OD Csg	Weight	Collar	Grade	New/Used	SF Burst	SF Collapse	SF Tension
24"	0' – 810'	18-5/8"	87.5#	STC	H-40	New	1.90	1.70	7.89
17-1/2"	0' – 2757'	13-3/8"	54.5#	STC	J-55	New	2.90	1.30	3.42
12-1/4"	0' – 4050'	9-5/8"	36#	LTC	J-55	New	1.40	2.11	3.11
8-3/4" x 8-1/2"	0' – 21108'	5-1/2"	17#	BTC	P-110	New	1.12	1.62	2.22

XTO requests to not utilize centralizers in the curve and lateral
13-3/8 & 9-5/8" Collapse analyzed using 50% evacuation based on regional experience.
5-1/2" tension calculated using vertical hanging weight plus the lateral weight multiplied by a friction factor of 0.35.

WELLHEAD:

Temporary Wellhead

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

Permanent Wellhead – GE RSH Multibowl System

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

Cement Program

Surface Casing:

Lead: 680 sxs EconoCem-HLTRRC (mixed at 12.9 ppg, 1.87 ft3/sx, 10.13 gal/sx water)
Tail: 550 sxs Halcem-C + 2% CaCl (mixed at 14.8 ppg, 1.35 ft3/sx, 6.39 gal/sx water)
Compressives: 12-hr = 900 psi 24 hr = 1500 psi

1st Intermediate Casing:

Lead: 1590 sxs EconoCem-HLTRRC (mixed at 12.9 ppg, 1.87 ft3/sx, 10.13 gal/sx water)
Tail: 620 sxs Halcem-C + 2% CaCl (mixed at 14.8 ppg, 1.35 ft3/sx, 6.39 gal/sx water)
Compressives: 12-hr = 900 psi 24 hr = 1500 psi

2nd Intermediate Casing:

ECP/DV Tool to be set at 2790'

1st Stage

Lead: 80 sxs Halcem-C + 2% CaCl (mixed at 12.9 ppg, 1.88 ft3/sx, 9.61 gal/sx water)
Tail: 470 sxs Halcem-C + 2% CaCl (mixed at 14.8 ppg, 1.33 ft3/sx, 6.39 gal/sx water)
Compressives: 12-hr = 900 psi 24 hr = 1151 psi

2nd Stage

Lead: 10 sxs Halcem-C + 2% CaCl (mixed at 12.9 ppg, 1.88 ft3/sx, 9.61 gal/sx water)
Tail: 230 sxs Halcem-C + 2% CaCl (mixed at 14.8 ppg, 1.33 ft3/sx, 6.39 gal/sx water)
Compressives: 12-hr = 900 psi 24 hr = 1151 psi

Production Casing:

Lead: 860 sxs NeoCem (mixed at 10.5 ppg, 2.69 ft3/sx, 12.26 gal/sx water)
Tail: 2140 sxs VersaCem (mixed at 13.2 ppg, 1.61 ft3/sx, 8.38 gal/sx water)
Compressives: 12-hr = 1375 psi 24 hr = 2285 psi

Mud Circulation Program

INTERVAL	Hole Size	Mud Type	MW (ppg)	Viscosity (sec/qt)	Fluid Loss (cc)
0' - 810'	24"	FW/Native	8.3 - 9.5	35-40	NC
810' - 2757'	17-1/2"	Brine	9.8-10.2	30-35	NC
2757' to 4050'	12-1/4"	FW / Cut Brine	8.3-9.0	30-32	NC
4050' to 21108'	8-3/4" x 8-1/2"	FW / Cut Brine / Polymer/ OBM	9 - 9.3	29-32	NC - 20

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

XTO Energy Inc.
BEU 5E Han Solo 100H
Projected TD: 21108' MD / 9541' TVD
SHL: 1670' FNL & 1855' FEL , Section 27, T20S, R31E
BHL: 1980' FSL & 50' FEL , Section 24, T20S, R31E
Eddy County, NM

1. Geologic Name of Surface Formation

A. Quaternary

2. Estimated Tops of Geological Markers & Depths of Anticipated Fresh Water, Oil or Gas:

Formation	Well Depth (TVD)	Water/Oil/Gas
Rustler	673'	Water
Top of Salt	949'	Water
Base of Salt	2657'	Water
Capitan	2861'	Water
Delaware	3943'	Water
Bone Spring	8404'	Water/Oil/Gas
1st Bone Spring Ss	8743'	Water/Oil/Gas
2nd Bone Spring Ss	9275'	Water/Oil/Gas
2nd Bone Spring Ss B	9497'	Water/Oil/Gas
Target/Land Curve	9541'	Water/Oil/Gas

*** Hydrocarbons @ Brushy Canyon
*** Groundwater depth 40' (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 18-5/8 inch casing @ 810' (139' above the salt) and circulating cement back to surface. The salt will be isolated by setting 13-3/8 inch casing at 2757' and circulating cement to surface. The Capitan Reef zone will be isolated by setting 9-5/8 inch casing at 4050'. An 8-3/4 inch curve and 8-1/2 inch lateral hole will be drilled to MD/TD and 5-1/2 inch casing will be set at TD and cemented back up to the 13-3/8 inch casing shoe.

Casing Design

Hole Size	Depth	OD Csg	Weight	Collar	Grade	New/Used	SF Burst	SF Collapse	SF Tension
24"	0' – 810'	18-5/8"	87.5#	STC	H-40	New	1.90	1.70	7.89
17-1/2"	0' – 2757'	13-3/8"	54.5#	STC	J-55	New	2.90	1.30	3.42
12-1/4"	0' – 4050'	9-5/8"	36#	LTC	J-55	New	1.40	2.11	3.11
8-3/4" x 8-1/2"	0' – 21108'	5-1/2"	17#	BTC	P-110	New	1.12	1.62	2.22

- XTO requests to utilize centralizers only in the curve after the KOP and only a minimum of one every other joint.
- 13-3/8" & 9-5/8" Collapse analyzed using 50% evacuation based on regional experience.
- 5-1/2" tension calculated using vertical hanging weight plus the lateral weight multiplied by a friction factor of 0.35

WELLHEAD:

Temporary Wellhead

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

Permanent Wellhead – GE RSH Multibowl System

A. Starting Head: 13-5/8" 5M top flange x 13-3/8" SOW bottom
B. Tubing Head: 13-5/8" 5M bottom flange x 7-1/16" 10M top flange

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

4. Cement Program

Surface Casing: 18-5/8", 87.5# New H-40, STC casing to be set at +/- 810'

Lead: 680 sxs EconoCem-HLTRRC (mixed at 12.9 ppg, 1.87 ft3/sx, 10.13 gal/sx water)
Tail: 550 sxs Halcem-C + 2% CaCl (mixed at 14.8 ppg, 1.35 ft3/sx, 6.39 gal/sx water)
Compressives: 12-hr = 900 psi 24 hr = 1500 psi

1st Intermediate Casing: 13-3/8", 54.5# New J-55, STC casing to be set at +/- 2757'

Lead: 1590 sxs EconoCem-HLTRRC (mixed at 12.9 ppg, 1.87 ft3/sx, 10.13 gal/sx water)
Tail: 620 sxs Halcem-C + 2% CaCl (mixed at 14.8 ppg, 1.35 ft3/sx, 6.39 gal/sx water)
Compressives: 12-hr = 900 psi 24 hr = 1500 psi

2nd Intermediate Casing: 9-5/8", 36# New J-55, LTC casing to be set at +/- 4050'

ECP/DV Tool to be set at 2790'

1st Stage
Lead: 80 sxs Halcem-C + 2% CaCl (mixed at 12.9 ppg, 1.88 ft3/sx, 9.61 gal/sx water)
Tail: 470 sxs Halcem-C + 2% CaCl (mixed at 14.8 ppg, 1.33 ft3/sx, 6.39 gal/sx water)
Compressives: 12-hr = 900 psi 24 hr = 1500 psi

2nd Stage
Lead: 10 sxs Halcem-C + 2% CaCl (mixed at 12.9 ppg, 1.88 ft3/sx, 9.61 gal/sx water)
Tail: 230 sxs Halcem-C + 2% CaCl (mixed at 14.8 ppg, 1.33 ft3/sx, 6.39 gal/sx water)
Compressives: 12-hr = 900 psi 24 hr = 1500 psi

Production Casing: 5-1/2", 17# New P-110, BTC casing to be set at +/- 21108'

Lead: 860 sxs NeoCem (mixed at 10.5 ppg, 2.69 ft3/sx, 12.26 gal/sx water)
Tail: 2140 sxs VersaCem (mixed at 13.2 ppg, 1.61 ft3/sx, 8.38 gal/sx water)
Compressives: 12-hr = 1375 psi 24 hr = 2285 psi

5. Pressure Control Equipment

The blow out preventer equipment (BOP) for on surf casing / temp. wellhead will consist of a 21-1/4" minimum 2M Hydril. MASP should not exceed 856 psi.

Once the permanent WH is installed on the 13-3/8 casing, the blow out preventer equipment (BOP) will consist of a 13-5/8" minimum 5M Hydril and a 13-5/8" minimum 3M 3-Ram BOP. MASP should not exceed 2515 psi. In any instance where 10M BOP is required by BLM, XTO requests a variance to utilize 5M annular with 10M ram preventers (a common BOP configuration, which allows use of 10M rams in unlikely event that pressures exceed 5M).

All BOP testing will be done by an independent service company. Annular pressure tests will be limited to 50% of the working pressure but no greater than casing 70% burst. When nippling up on the 13-5/8" 3M bradenhead and flange, the BOP test will be limited to 3000 psi. When nippling up on the 9-5/8", the BOP will be tested to a minimum of 3000 psi. All BOP tests will include a low pressure test as per BLM regulations. The 3M BOP diagrams are attached. Blind rams will be functioned tested each trip, pipe rams will be functioned tested each day.

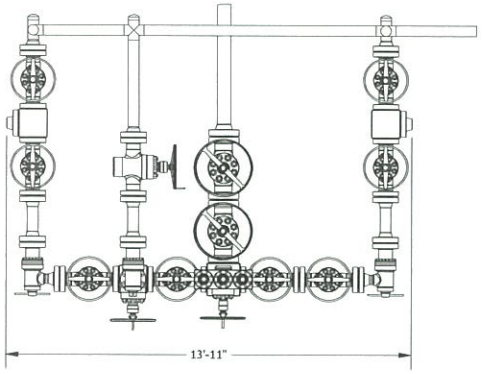
A variance is requested to allow use of a flex hose as the choke line from the BOP to the Choke Manifold. If this hose is used, a copy of the manufacturer's certification and pressure test chart will be kept on the rig. Attached is an example of a certification and pressure test chart. The manufacturer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

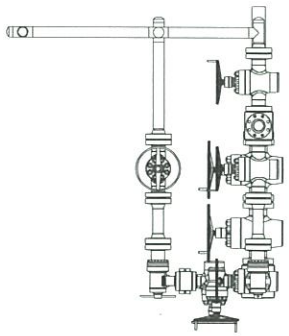
6. Proposed Mud Circulation System

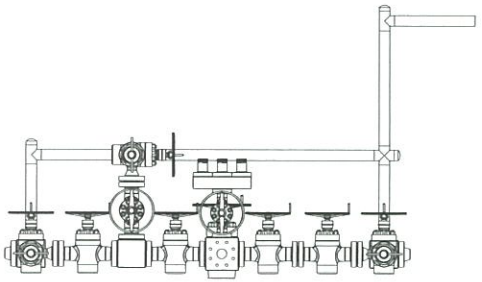
INTERVAL	Hole Size	Mud Type	MW (ppg)	Viscosity (sec/qt)	Fluid Loss (cc)
0' - 810'	24"	FW/Native	8.3 - 9.5	35-40	NC
810' - 2757'	17-1/2"	Brine	9.8-10.2	30-35	NC
2757' to 4050'	12-1/4"	FW / Cut Brine	8.3-9.0	30-32	NC
4050' to 21108'	8-3/4" x 8-1/2"	FW / Cut Brine / Polymer/ OBM	9 - 9.3	29-32	NC - 20

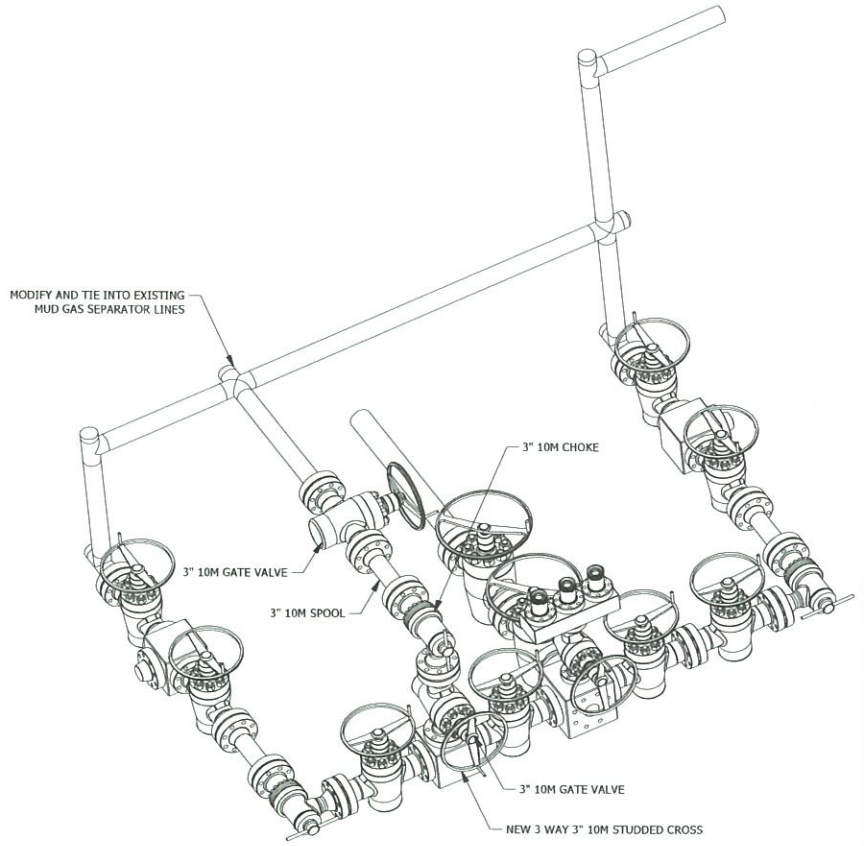
The necessary mud products for weight addition and fluid loss control will be on location at all times.

Spud with fresh water/native mud. Drill out from under 18-5/8" surface casing with brine solution. A 9.8ppg-10.2ppg brine mud will be used while drilling through the salt formation. Use fibrous materials as needed to control seepage and lost circulation. Pump viscous sweeps as needed for hole cleaning. 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. Use available solids controls equipment to help keep mud weight down after mud up. Rig up solids control equipment to operate as a closed loop system.









ISOMETRIC VIEW

TOLERANCES UNLESS OTHERWISE NOTED:

.X = ± .030	ANGULAR DIMENSIONS ± .5°
.XX = ± .010	CONCENTRICITY .005 T.I.R
.XXX = ± .005	SURFACE FINISH 125 RMS

BREAK EDGES .015 X 45° MIMINUM RADIUS R.010

GENERAL NOTES:
- FABRICATION TOLERANCE ± 1/16"
- ALL WELDING AND ELECTRODES CONFORMS TO CWB W59
- ALL WELDS MIN 1/4" FILLET UNO
- ALL PLATE STEEL IS CSA G40.21 44W UNO
- ALL STRUCTURAL STEEL SHAPES ARE CSA G40.21 50W UNO
- CAP ALL TUBING FLUSH
- IF IN DOUBT ASK!

REVISION HISTORY

REV	DESCRIPTION	DATE	REV BY	CHK BY
A	INITIAL RELEASE	-	-	-

AKITA DRILLING LTD.
2302 8th Street, Nisku Alberta T9E 7Z2 Tel: (780) 955-6700

850 SERIES CHOKE MANIFOLDS WITH A 3RD CHOKE ADDED

REVISION: A

SCALE	FILE	PROJECT	SIZE
NTS	3rd Choke 850 Series	850	B

DRAWN BY	DATE	CHECKED BY	DATE	
DRN	12/11/19	-	-	SHEET 1 OF 1

XTO Energy

Eddy County, NM (Nad-27 / East Zone)
Big Eddy Unit 5E Han Solo
#100H

Wellbore #1

Plan: PERMIT

Standard Planning Report

27 March, 2020

WELLBENDERS
DIRECTIONAL SERVICES

Company: XTO Energy
Project: Eddy County, NM (Nad-27 / East Zone)
Site: Big Eddy Unit 5E Han Solo
Well: #100H
Wellbore: Wellbore #1
Design: PERMIT

WELL DETAILS: #100H

Rig Name: Akita 802 RKB = 31' @ 3556.00usft (Akita 802)
3525.00

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	562978.10	647714.80	32.546821	-103.853961

DESIGN TARGET DETAILS

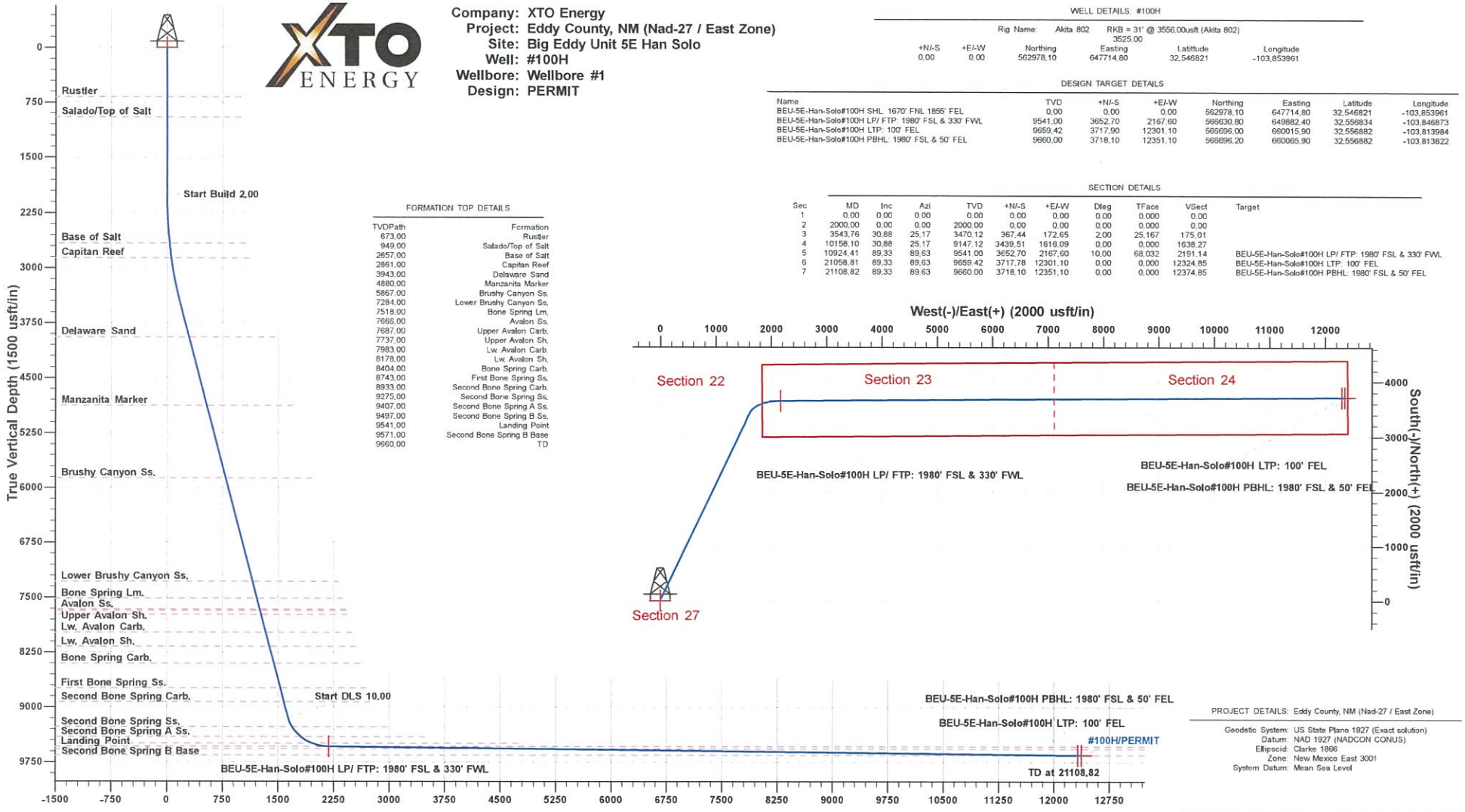
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
BEU-5E-Han-Solo#100H SHL: 1670' FNL 1855' FEL	0.00	0.00	0.00	562978.10	647714.80	32.546821	-103.853961
BEU-5E-Han-Solo#100H LP/ FTP: 1980' FSL & 330' FWL	9541.00	3652.70	2167.60	566630.80	649882.40	32.556834	-103.846873
BEU-5E-Han-Solo#100H LTP: 100' FEL	9659.42	3717.90	12301.10	566696.00	660015.90	32.556882	-103.813984
BEU-5E-Han-Solo#100H PBHL: 1980' FSL & 50' FEL	9660.00	3718.10	12351.10	566696.20	660065.90	32.556882	-103.813822

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	0.00	
2	2000.00	0.00	0.00	2000.00	0.00	0.00	0.00	0.000	0.00	
3	3543.76	30.88	25.17	3470.12	367.44	172.65	2.00	25.167	175.01	
4	10158.10	30.88	25.17	9147.12	3439.51	1616.09	0.00	0.000	1638.27	
5	10924.41	89.33	89.63	9541.00	3652.70	2167.60	10.00	68.032	2191.14	BEU-5E-Han-Solo#100H LP/ FTP: 1980' FSL & 330' FWL
6	21058.81	89.33	89.63	9659.42	3717.78	12301.10	0.00	0.000	12324.85	BEU-5E-Han-Solo#100H LTP: 100' FEL
7	21108.82	89.33	89.63	9660.00	3718.10	12351.10	0.00	0.000	12374.85	BEU-5E-Han-Solo#100H PBHL: 1980' FSL & 50' FEL

FORMATION TOP DETAILS

TVDPath	Formation
673.00	Rustler
949.00	Salado/Top of Salt
2657.00	Base of Salt
2861.00	Capitan Reef
3943.00	Delaware Sand
4880.00	Manzanita Marker
5867.00	Brushy Canyon Ss.
7284.00	Lower Brushy Canyon Ss.
7518.00	Bone Spring Lm.
7665.00	Avalon Ss.
7687.00	Upper Avalon Carb.
7737.00	Upper Avalon Sh.
7983.00	Lw. Avalon Carb.
8178.00	Lw. Avalon Sh.
8404.00	Bone Spring Carb.
8743.00	First Bone Spring Ss.
8933.00	Second Bone Spring Carb.
9275.00	Second Bone Spring Ss.
9407.00	Second Bone Spring A Ss.
9497.00	Second Bone Spring B Ss.
9541.00	Landing Point
9571.00	Second Bone Spring B Base
9660.00	TD



PROJECT DETAILS: Eddy County, NM (Nad-27 / East Zone)

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

Plan: PERMIT (#100H/Wellbore #1)
Created By: Matthew May Date: 12:00, March 27 2020

Database:	WBDS_SQL_2	**Local Co-ordinate Reference:**	Well #100H
Company:	XTO Energy	**TVD Reference:**	RKB = 31' @ 3556.00usft (Akita 802)
Project:	Eddy County, NM (Nad-27 / East Zone)	**MD Reference:**	RKB = 31' @ 3556.00usft (Akita 802)
Site:	Big Eddy Unit 5E Han Solo	**North Reference:**	Grid
Well:	#100H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	PERMIT		

Project	Eddy County, NM (Nad-27 / East Zone)		
Map System:	US State Plane 1927 (Exact solution)	**System Datum:**	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site	Big Eddy Unit 5E Han Solo				
Site Position:		**Northing:**	562,978.10 usft	**Latitude:**	32.546821
From:	Map	**Easting:**	647,714.80 usft	**Longitude:**	-103.853962
Position Uncertainty:	0.00 usft	**Slot Radius:**	13.200 in	**Grid Convergence:**	0.258 °

Well	#100H					
Well Position	**+N/-S**	0.00 usft	**Northing:**	562,978.10 usft	**Latitude:**	32.546821
	+E/-W	0.00 usft	**Easting:**	647,714.80 usft	**Longitude:**	-103.853962
Position Uncertainty		0.00 usft	**Wellhead Elevation:**		**Ground Level:**	3,525.00 usft

Wellbore	Wellbore #1			
Magnetics	**Model Name**	**Sample Date**	**Declination (°)**	**Dip Angle (°)**	**Field Strength (nT)**
	IGRF2015	03/26/20	6.809	60.277	47,812.76204418

Design	PERMIT			
Audit Notes:				
Version:	**Phase:**	PLAN	**Tie On Depth:**	0.00

Vertical Section:	**Depth From (TVD) (usft)**	**+N/-S (usft)**	**+E/-W (usft)**	**Direction (°)**
	0.00	0.00	0.00	89.63

Plan Survey Tool Program **Date** 03/27/20

	Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	21,108.82	PERMIT (Wellbore #1)	WBDS_IGRF	
				OWSG MWD + IGRF or WM	

Plan Sections

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.000	
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.000	
3,543.76	30.88	25.17	3,470.12	367.44	172.65	2.00	2.00	0.00	25.167	
10,158.10	30.88	25.17	9,147.12	3,439.51	1,616.09	0.00	0.00	0.00	0.000	
10,924.41	89.33	89.63	9,541.00	3,652.70	2,167.60	10.00	7.63	8.41	68.032	BEU-5E-Han-Solo#
21,058.81	89.33	89.63	9,659.42	3,717.78	12,301.10	0.00	0.00	0.00	0.000	BEU-5E-Han-Solo#
21,108.82	89.33	89.63	9,660.00	3,718.10	12,351.10	0.00	0.00	0.00	0.000	BEU-5E-Han-Solo#

Database:	WBDS_SQL_2	**Local Co-ordinate Reference:**	Well#100H
Company:	XTO Energy	**TVD Reference:**	RKB = 31' @ 3556.00usft (Akita 802)
Project:	Eddy County, NM (Nad-27 / East Zone)	**MD Reference:**	RKB = 31' @ 3556.00usft (Akita 802)
Site:	Big Eddy Unit 5E Han Solo	**North Reference:**	Grid
Well:	#100H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	PERMIT		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	0.00	0.00	0.00	0.00
1,600.00	0.00	0.00	1,600.00	0.00	0.00	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	0.00	0.00	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00
1,900.00	0.00	0.00	1,900.00	0.00	0.00	0.00	0.00	0.00	0.00
2,000.00	0.00	0.00	2,000.00	0.00	0.00	0.00	0.00	0.00	0.00
2,100.00	2.00	25.17	2,099.98	1.58	0.74	0.75	2.00	2.00	0.00
2,200.00	4.00	25.17	2,199.84	6.32	2.97	3.01	2.00	2.00	0.00
2,300.00	6.00	25.17	2,299.45	14.20	6.67	6.77	2.00	2.00	0.00
2,400.00	8.00	25.17	2,398.70	25.23	11.86	12.02	2.00	2.00	0.00
2,500.00	10.00	25.17	2,497.47	39.39	18.51	18.76	2.00	2.00	0.00
2,600.00	12.00	25.17	2,595.62	56.66	26.62	26.99	2.00	2.00	0.00
2,700.00	14.00	25.17	2,693.06	77.02	36.19	36.68	2.00	2.00	0.00
2,800.00	16.00	25.17	2,789.64	100.44	47.19	47.84	2.00	2.00	0.00
2,900.00	18.00	25.17	2,885.27	126.90	59.63	60.44	2.00	2.00	0.00
3,000.00	20.00	25.17	2,979.82	156.37	73.47	74.48	2.00	2.00	0.00
3,100.00	22.00	25.17	3,073.17	188.80	88.71	89.93	2.00	2.00	0.00
3,200.00	24.00	25.17	3,165.21	224.16	105.33	106.77	2.00	2.00	0.00
3,300.00	26.00	25.17	3,255.84	262.41	123.30	124.99	2.00	2.00	0.00
3,400.00	28.00	25.17	3,344.94	303.50	142.60	144.56	2.00	2.00	0.00
3,500.00	30.00	25.17	3,432.39	347.38	163.22	165.46	2.00	2.00	0.00
3,543.76	30.88	25.17	3,470.12	367.44	172.65	175.01	2.00	2.00	0.00
3,600.00	30.88	25.17	3,518.39	393.56	184.92	187.46	0.00	0.00	0.00
3,700.00	30.88	25.17	3,604.22	440.01	206.74	209.58	0.00	0.00	0.00
3,800.00	30.88	25.17	3,690.05	486.45	228.56	231.70	0.00	0.00	0.00
3,900.00	30.88	25.17	3,775.88	532.90	250.39	253.82	0.00	0.00	0.00
4,000.00	30.88	25.17	3,861.71	579.34	272.21	275.95	0.00	0.00	0.00
4,100.00	30.88	25.17	3,947.54	625.79	294.03	298.07	0.00	0.00	0.00
4,200.00	30.88	25.17	4,033.37	672.23	315.86	320.19	0.00	0.00	0.00
4,300.00	30.88	25.17	4,119.19	718.68	337.68	342.31	0.00	0.00	0.00
4,400.00	30.88	25.17	4,205.02	765.13	359.50	364.44	0.00	0.00	0.00
4,500.00	30.88	25.17	4,290.85	811.57	381.33	386.56	0.00	0.00	0.00
4,600.00	30.88	25.17	4,376.68	858.02	403.15	408.68	0.00	0.00	0.00
4,700.00	30.88	25.17	4,462.51	904.46	424.97	430.80	0.00	0.00	0.00
4,800.00	30.88	25.17	4,548.34	950.91	446.79	452.93	0.00	0.00	0.00
4,900.00	30.88	25.17	4,634.17	997.35	468.62	475.05	0.00	0.00	0.00
5,000.00	30.88	25.17	4,719.99	1,043.80	490.44	497.17	0.00	0.00	0.00
5,100.00	30.88	25.17	4,805.82	1,090.25	512.26	519.29	0.00	0.00	0.00
5,200.00	30.88	25.17	4,891.65	1,136.69	534.09	541.42	0.00	0.00	0.00

Database:	WBDS_SQL_2	**Local Co-ordinate Reference:**	Well #100H
Company:	XTO Energy	**TVD Reference:**	RKB = 31' @ 3556.00usft (Akita 802)
Project:	Eddy County, NM (Nad-27 / East Zone)	**MD Reference:**	RKB = 31' @ 3556.00usft (Akita 802)
Site:	Big Eddy Unit 5E Han Solo	**North Reference:**	Grid
Well:	#100H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	PERMIT		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
5,300.00	30.88	25.17	4,977.48	1,183.14	555.91	563.54	0.00	0.00	0.00
5,400.00	30.88	25.17	5,063.31	1,229.58	577.73	585.66	0.00	0.00	0.00
5,500.00	30.88	25.17	5,149.14	1,276.03	599.56	607.78	0.00	0.00	0.00
5,600.00	30.88	25.17	5,234.97	1,322.47	621.38	629.91	0.00	0.00	0.00
5,700.00	30.88	25.17	5,320.80	1,368.92	643.20	652.03	0.00	0.00	0.00
5,800.00	30.88	25.17	5,406.62	1,415.36	665.02	674.15	0.00	0.00	0.00
5,900.00	30.88	25.17	5,492.45	1,461.81	686.85	696.27	0.00	0.00	0.00
6,000.00	30.88	25.17	5,578.28	1,508.26	708.67	718.40	0.00	0.00	0.00
6,100.00	30.88	25.17	5,664.11	1,554.70	730.49	740.52	0.00	0.00	0.00
6,200.00	30.88	25.17	5,749.94	1,601.15	752.32	762.64	0.00	0.00	0.00
6,300.00	30.88	25.17	5,835.77	1,647.59	774.14	784.76	0.00	0.00	0.00
6,400.00	30.88	25.17	5,921.60	1,694.04	795.96	806.89	0.00	0.00	0.00
6,500.00	30.88	25.17	6,007.42	1,740.48	817.79	829.01	0.00	0.00	0.00
6,600.00	30.88	25.17	6,093.25	1,786.93	839.61	851.13	0.00	0.00	0.00
6,700.00	30.88	25.17	6,179.08	1,833.38	861.43	873.25	0.00	0.00	0.00
6,800.00	30.88	25.17	6,264.91	1,879.82	883.25	895.38	0.00	0.00	0.00
6,900.00	30.88	25.17	6,350.74	1,926.27	905.08	917.50	0.00	0.00	0.00
7,000.00	30.88	25.17	6,436.57	1,972.71	926.90	939.62	0.00	0.00	0.00
7,100.00	30.88	25.17	6,522.40	2,019.16	948.72	961.74	0.00	0.00	0.00
7,200.00	30.88	25.17	6,608.23	2,065.60	970.55	983.86	0.00	0.00	0.00
7,300.00	30.88	25.17	6,694.05	2,112.05	992.37	1,005.99	0.00	0.00	0.00
7,400.00	30.88	25.17	6,779.88	2,158.49	1,014.19	1,028.11	0.00	0.00	0.00
7,500.00	30.88	25.17	6,865.71	2,204.94	1,036.02	1,050.23	0.00	0.00	0.00
7,600.00	30.88	25.17	6,951.54	2,251.39	1,057.84	1,072.35	0.00	0.00	0.00
7,700.00	30.88	25.17	7,037.37	2,297.83	1,079.66	1,094.48	0.00	0.00	0.00
7,800.00	30.88	25.17	7,123.20	2,344.28	1,101.48	1,116.60	0.00	0.00	0.00
7,900.00	30.88	25.17	7,209.03	2,390.72	1,123.31	1,138.72	0.00	0.00	0.00
8,000.00	30.88	25.17	7,294.85	2,437.17	1,145.13	1,160.84	0.00	0.00	0.00
8,100.00	30.88	25.17	7,380.68	2,483.61	1,166.95	1,182.97	0.00	0.00	0.00
8,200.00	30.88	25.17	7,466.51	2,530.06	1,188.78	1,205.09	0.00	0.00	0.00
8,300.00	30.88	25.17	7,552.34	2,576.51	1,210.60	1,227.21	0.00	0.00	0.00
8,400.00	30.88	25.17	7,638.17	2,622.95	1,232.42	1,249.33	0.00	0.00	0.00
8,500.00	30.88	25.17	7,724.00	2,669.40	1,254.24	1,271.46	0.00	0.00	0.00
8,600.00	30.88	25.17	7,809.83	2,715.84	1,276.07	1,293.58	0.00	0.00	0.00
8,700.00	30.88	25.17	7,895.66	2,762.29	1,297.89	1,315.70	0.00	0.00	0.00
8,800.00	30.88	25.17	7,981.48	2,808.73	1,319.71	1,337.82	0.00	0.00	0.00
8,900.00	30.88	25.17	8,067.31	2,855.18	1,341.54	1,359.95	0.00	0.00	0.00
9,000.00	30.88	25.17	8,153.14	2,901.62	1,363.36	1,382.07	0.00	0.00	0.00
9,100.00	30.88	25.17	8,238.97	2,948.07	1,385.18	1,404.19	0.00	0.00	0.00
9,200.00	30.88	25.17	8,324.80	2,994.52	1,407.01	1,426.31	0.00	0.00	0.00
9,300.00	30.88	25.17	8,410.63	3,040.96	1,428.83	1,448.44	0.00	0.00	0.00
9,400.00	30.88	25.17	8,496.46	3,087.41	1,450.65	1,470.56	0.00	0.00	0.00
9,500.00	30.88	25.17	8,582.28	3,133.85	1,472.47	1,492.68	0.00	0.00	0.00
9,600.00	30.88	25.17	8,668.11	3,180.30	1,494.30	1,514.80	0.00	0.00	0.00
9,700.00	30.88	25.17	8,753.94	3,226.74	1,516.12	1,536.93	0.00	0.00	0.00
9,800.00	30.88	25.17	8,839.77	3,273.19	1,537.94	1,559.05	0.00	0.00	0.00
9,900.00	30.88	25.17	8,925.60	3,319.64	1,559.77	1,581.17	0.00	0.00	0.00
10,000.00	30.88	25.17	9,011.43	3,366.08	1,581.59	1,603.29	0.00	0.00	0.00
10,100.00	30.88	25.17	9,097.26	3,412.53	1,603.41	1,625.42	0.00	0.00	0.00
10,158.10	30.88	25.17	9,147.12	3,439.51	1,616.09	1,638.27	0.00	0.00	0.00
10,200.00	32.65	32.38	9,182.76	3,458.80	1,626.72	1,649.02	10.00	4.24	17.22
10,250.00	35.25	40.04	9,224.25	3,481.25	1,643.24	1,665.68	10.00	5.20	15.31
10,300.00	38.28	46.70	9,264.32	3,502.93	1,663.80	1,686.39	10.00	6.05	13.32
10,350.00	41.63	52.48	9,302.65	3,523.68	1,688.26	1,710.98	10.00	6.70	11.57

Database:	WBDS_SQL_2	**Local Co-ordinate Reference:**	Well#100H
Company:	XTO Energy	**TVD Reference:**	RKB = 31' @ 3556.00usft (Akita 802)
Project:	Eddy County, NM (Nad-27 / East Zone)	**MD Reference:**	RKB = 31' @ 3556.00usft (Akita 802)
Site:	Big Eddy Unit 5E Han Solo	**North Reference:**	Grid
Well:	#100H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	PERMIT		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
10,400.00	45.23	57.53	9,338.97	3,543.33	1,716.42	1,739.27	10.00	7.21	10.09
10,450.00	49.03	61.97	9,372.99	3,561.75	1,748.08	1,771.04	10.00	7.60	8.88
10,500.00	52.98	65.91	9,404.45	3,578.77	1,782.99	1,806.06	10.00	7.90	7.89
10,550.00	57.05	69.46	9,433.12	3,594.29	1,820.88	1,844.05	10.00	8.14	7.10
10,600.00	61.21	72.69	9,458.78	3,608.18	1,861.47	1,884.73	10.00	8.32	6.47
10,650.00	65.44	75.68	9,481.22	3,620.33	1,904.44	1,927.78	10.00	8.46	5.97
10,700.00	69.73	78.46	9,500.29	3,630.65	1,949.48	1,972.89	10.00	8.57	5.57
10,750.00	74.05	81.10	9,515.83	3,639.06	1,996.24	2,019.70	10.00	8.66	5.27
10,800.00	78.41	83.62	9,527.73	3,645.51	2,044.36	2,067.85	10.00	8.72	5.05
10,850.00	82.79	86.07	9,535.89	3,649.93	2,093.47	2,117.00	10.00	8.76	4.89
10,900.00	87.18	88.47	9,540.26	3,652.30	2,143.21	2,166.75	10.00	8.78	4.80
10,924.41	89.33	89.63	9,541.00	3,652.70	2,167.60	2,191.14	10.00	8.79	4.76
11,000.00	89.33	89.63	9,541.88	3,653.19	2,243.18	2,266.73	0.00	0.00	0.00
11,100.00	89.33	89.63	9,543.05	3,653.83	2,343.17	2,366.72	0.00	0.00	0.00
11,200.00	89.33	89.63	9,544.22	3,654.47	2,443.17	2,466.71	0.00	0.00	0.00
11,300.00	89.33	89.63	9,545.39	3,655.11	2,543.16	2,566.71	0.00	0.00	0.00
11,400.00	89.33	89.63	9,546.56	3,655.75	2,643.15	2,666.70	0.00	0.00	0.00
11,500.00	89.33	89.63	9,547.73	3,656.40	2,743.14	2,766.69	0.00	0.00	0.00
11,600.00	89.33	89.63	9,548.89	3,657.04	2,843.13	2,866.69	0.00	0.00	0.00
11,700.00	89.33	89.63	9,550.06	3,657.68	2,943.12	2,966.68	0.00	0.00	0.00
11,800.00	89.33	89.63	9,551.23	3,658.32	3,043.11	3,066.67	0.00	0.00	0.00
11,900.00	89.33	89.63	9,552.40	3,658.96	3,143.10	3,166.67	0.00	0.00	0.00
12,000.00	89.33	89.63	9,553.57	3,659.61	3,243.09	3,266.66	0.00	0.00	0.00
12,100.00	89.33	89.63	9,554.74	3,660.25	3,343.09	3,366.65	0.00	0.00	0.00
12,200.00	89.33	89.63	9,555.90	3,660.89	3,443.08	3,466.65	0.00	0.00	0.00
12,300.00	89.33	89.63	9,557.07	3,661.53	3,543.07	3,566.64	0.00	0.00	0.00
12,400.00	89.33	89.63	9,558.24	3,662.18	3,643.06	3,666.63	0.00	0.00	0.00
12,500.00	89.33	89.63	9,559.41	3,662.82	3,743.05	3,766.63	0.00	0.00	0.00
12,600.00	89.33	89.63	9,560.58	3,663.46	3,843.04	3,866.62	0.00	0.00	0.00
12,700.00	89.33	89.63	9,561.75	3,664.10	3,943.03	3,966.61	0.00	0.00	0.00
12,800.00	89.33	89.63	9,562.92	3,664.74	4,043.02	4,066.60	0.00	0.00	0.00
12,900.00	89.33	89.63	9,564.08	3,665.39	4,143.01	4,166.60	0.00	0.00	0.00
13,000.00	89.33	89.63	9,565.25	3,666.03	4,243.01	4,266.59	0.00	0.00	0.00
13,100.00	89.33	89.63	9,566.42	3,666.67	4,343.00	4,366.58	0.00	0.00	0.00
13,200.00	89.33	89.63	9,567.59	3,667.31	4,442.99	4,466.58	0.00	0.00	0.00
13,300.00	89.33	89.63	9,568.76	3,667.96	4,542.98	4,566.57	0.00	0.00	0.00
13,400.00	89.33	89.63	9,569.93	3,668.60	4,642.97	4,666.56	0.00	0.00	0.00
13,500.00	89.33	89.63	9,571.09	3,669.24	4,742.96	4,766.56	0.00	0.00	0.00
13,600.00	89.33	89.63	9,572.26	3,669.88	4,842.95	4,866.55	0.00	0.00	0.00
13,700.00	89.33	89.63	9,573.43	3,670.52	4,942.94	4,966.54	0.00	0.00	0.00
13,800.00	89.33	89.63	9,574.60	3,671.17	5,042.93	5,066.54	0.00	0.00	0.00
13,900.00	89.33	89.63	9,575.77	3,671.81	5,142.93	5,166.53	0.00	0.00	0.00
14,000.00	89.33	89.63	9,576.94	3,672.45	5,242.92	5,266.52	0.00	0.00	0.00
14,100.00	89.33	89.63	9,578.11	3,673.09	5,342.91	5,366.52	0.00	0.00	0.00
14,200.00	89.33	89.63	9,579.27	3,673.73	5,442.90	5,466.51	0.00	0.00	0.00
14,300.00	89.33	89.63	9,580.44	3,674.38	5,542.89	5,566.50	0.00	0.00	0.00
14,400.00	89.33	89.63	9,581.61	3,675.02	5,642.88	5,666.50	0.00	0.00	0.00
14,500.00	89.33	89.63	9,582.78	3,675.66	5,742.87	5,766.49	0.00	0.00	0.00
14,600.00	89.33	89.63	9,583.95	3,676.30	5,842.86	5,866.48	0.00	0.00	0.00
14,700.00	89.33	89.63	9,585.12	3,676.95	5,942.85	5,966.48	0.00	0.00	0.00
14,800.00	89.33	89.63	9,586.28	3,677.59	6,042.85	6,066.47	0.00	0.00	0.00
14,900.00	89.33	89.63	9,587.45	3,678.23	6,142.84	6,166.46	0.00	0.00	0.00
15,000.00	89.33	89.63	9,588.62	3,678.87	6,242.83	6,266.45	0.00	0.00	0.00
15,100.00	89.33	89.63	9,589.79	3,679.51	6,342.82	6,366.45	0.00	0.00	0.00

Database:	WBDS_SQL_2	**Local Co-ordinate Reference:**	Well #100H
Company:	XTO Energy	**TVD Reference:**	RKB = 31' @ 3556.00usft (Akita 802)
Project:	Eddy County, NM (Nad-27 / East Zone)	**MD Reference:**	RKB = 31' @ 3556.00usft (Akita 802)
Site:	Big Eddy Unit 5E Han Solo	**North Reference:**	Grid
Well:	#100H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	PERMIT		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
15,200.00	89.33	89.63	9,590.96	3,680.16	6,442.81	6,466.44	0.00	0.00	0.00
15,300.00	89.33	89.63	9,592.13	3,680.80	6,542.80	6,566.43	0.00	0.00	0.00
15,400.00	89.33	89.63	9,593.30	3,681.44	6,642.79	6,666.43	0.00	0.00	0.00
15,500.00	89.33	89.63	9,594.46	3,682.08	6,742.78	6,766.42	0.00	0.00	0.00
15,600.00	89.33	89.63	9,595.63	3,682.72	6,842.77	6,866.41	0.00	0.00	0.00
15,700.00	89.33	89.63	9,596.80	3,683.37	6,942.77	6,966.41	0.00	0.00	0.00
15,800.00	89.33	89.63	9,597.97	3,684.01	7,042.76	7,066.40	0.00	0.00	0.00
15,900.00	89.33	89.63	9,599.14	3,684.65	7,142.75	7,166.39	0.00	0.00	0.00
16,000.00	89.33	89.63	9,600.31	3,685.29	7,242.74	7,266.39	0.00	0.00	0.00
16,100.00	89.33	89.63	9,601.47	3,685.94	7,342.73	7,366.38	0.00	0.00	0.00
16,200.00	89.33	89.63	9,602.64	3,686.58	7,442.72	7,466.37	0.00	0.00	0.00
16,300.00	89.33	89.63	9,603.81	3,687.22	7,542.71	7,566.37	0.00	0.00	0.00
16,400.00	89.33	89.63	9,604.98	3,687.86	7,642.70	7,666.36	0.00	0.00	0.00
16,500.00	89.33	89.63	9,606.15	3,688.50	7,742.69	7,766.35	0.00	0.00	0.00
16,600.00	89.33	89.63	9,607.32	3,689.15	7,842.69	7,866.35	0.00	0.00	0.00
16,700.00	89.33	89.63	9,608.49	3,689.79	7,942.68	7,966.34	0.00	0.00	0.00
16,800.00	89.33	89.63	9,609.65	3,690.43	8,042.67	8,066.33	0.00	0.00	0.00
16,900.00	89.33	89.63	9,610.82	3,691.07	8,142.66	8,166.33	0.00	0.00	0.00
17,000.00	89.33	89.63	9,611.99	3,691.71	8,242.65	8,266.32	0.00	0.00	0.00
17,100.00	89.33	89.63	9,613.16	3,692.36	8,342.64	8,366.31	0.00	0.00	0.00
17,200.00	89.33	89.63	9,614.33	3,693.00	8,442.63	8,466.30	0.00	0.00	0.00
17,300.00	89.33	89.63	9,615.50	3,693.64	8,542.62	8,566.30	0.00	0.00	0.00
17,400.00	89.33	89.63	9,616.66	3,694.28	8,642.61	8,666.29	0.00	0.00	0.00
17,500.00	89.33	89.63	9,617.83	3,694.93	8,742.61	8,766.28	0.00	0.00	0.00
17,600.00	89.33	89.63	9,619.00	3,695.57	8,842.60	8,866.28	0.00	0.00	0.00
17,700.00	89.33	89.63	9,620.17	3,696.21	8,942.59	8,966.27	0.00	0.00	0.00
17,800.00	89.33	89.63	9,621.34	3,696.85	9,042.58	9,066.26	0.00	0.00	0.00
17,900.00	89.33	89.63	9,622.51	3,697.49	9,142.57	9,166.26	0.00	0.00	0.00
18,000.00	89.33	89.63	9,623.68	3,698.14	9,242.56	9,266.25	0.00	0.00	0.00
18,100.00	89.33	89.63	9,624.84	3,698.78	9,342.55	9,366.24	0.00	0.00	0.00
18,200.00	89.33	89.63	9,626.01	3,699.42	9,442.54	9,466.24	0.00	0.00	0.00
18,300.00	89.33	89.63	9,627.18	3,700.06	9,542.53	9,566.23	0.00	0.00	0.00
18,400.00	89.33	89.63	9,628.35	3,700.71	9,642.53	9,666.22	0.00	0.00	0.00
18,500.00	89.33	89.63	9,629.52	3,701.35	9,742.52	9,766.22	0.00	0.00	0.00
18,600.00	89.33	89.63	9,630.69	3,701.99	9,842.51	9,866.21	0.00	0.00	0.00
18,700.00	89.33	89.63	9,631.85	3,702.63	9,942.50	9,966.20	0.00	0.00	0.00
18,800.00	89.33	89.63	9,633.02	3,703.27	10,042.49	10,066.20	0.00	0.00	0.00
18,900.00	89.33	89.63	9,634.19	3,703.92	10,142.48	10,166.19	0.00	0.00	0.00
19,000.00	89.33	89.63	9,635.36	3,704.56	10,242.47	10,266.18	0.00	0.00	0.00
19,100.00	89.33	89.63	9,636.53	3,705.20	10,342.46	10,366.17	0.00	0.00	0.00
19,200.00	89.33	89.63	9,637.70	3,705.84	10,442.45	10,466.17	0.00	0.00	0.00
19,300.00	89.33	89.63	9,638.87	3,706.48	10,542.45	10,566.16	0.00	0.00	0.00
19,400.00	89.33	89.63	9,640.03	3,707.13	10,642.44	10,666.15	0.00	0.00	0.00
19,500.00	89.33	89.63	9,641.20	3,707.77	10,742.43	10,766.15	0.00	0.00	0.00
19,600.00	89.33	89.63	9,642.37	3,708.41	10,842.42	10,866.14	0.00	0.00	0.00
19,700.00	89.33	89.63	9,643.54	3,709.05	10,942.41	10,966.13	0.00	0.00	0.00
19,800.00	89.33	89.63	9,644.71	3,709.70	11,042.40	11,066.13	0.00	0.00	0.00
19,900.00	89.33	89.63	9,645.88	3,710.34	11,142.39	11,166.12	0.00	0.00	0.00
20,000.00	89.33	89.63	9,647.04	3,710.98	11,242.38	11,266.11	0.00	0.00	0.00
20,100.00	89.33	89.63	9,648.21	3,711.62	11,342.37	11,366.11	0.00	0.00	0.00
20,200.00	89.33	89.63	9,649.38	3,712.26	11,442.37	11,466.10	0.00	0.00	0.00
20,300.00	89.33	89.63	9,650.55	3,712.91	11,542.36	11,566.09	0.00	0.00	0.00
20,400.00	89.33	89.63	9,651.72	3,713.55	11,642.35	11,666.09	0.00	0.00	0.00
20,500.00	89.33	89.63	9,652.89	3,714.19	11,742.34	11,766.08	0.00	0.00	0.00

Database:	WBDS_SQL_2	**Local Co-ordinate Reference:**	Well#100H
Company:	XTO Energy	**TVD Reference:**	RKB = 31' @ 3556.00usft (Akita 802)
Project:	Eddy County, NM (Nad-27 / East Zone)	**MD Reference:**	RKB = 31' @ 3556.00usft (Akita 802)
Site:	Big Eddy Unit 5E Han Solo	**North Reference:**	Grid
Well:	#100H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	PERMIT		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
20,600.00	89.33	89.63	9,654.05	3,714.83	11,842.33	11,866.07	0.00	0.00	0.00
20,700.00	89.33	89.63	9,655.22	3,715.47	11,942.32	11,966.07	0.00	0.00	0.00
20,800.00	89.33	89.63	9,656.39	3,716.12	12,042.31	12,066.06	0.00	0.00	0.00
20,900.00	89.33	89.63	9,657.56	3,716.76	12,142.30	12,166.05	0.00	0.00	0.00
21,000.00	89.33	89.63	9,658.73	3,717.40	12,242.29	12,266.05	0.00	0.00	0.00
21,058.81	89.33	89.63	9,659.42	3,717.78	12,301.10	12,324.85	0.00	0.00	0.00
21,108.82	89.33	89.63	9,660.00	3,718.10	12,351.10	12,374.85	0.00	0.00	0.00

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
BEU-5E-Han-Solo#1C - plan hits target center - Point	0.00	0.00	0.00	0.00	0.00	562,978.10	647,714.80	32.546821	-103.853962
BEU-5E-Han-Solo#1C - plan hits target center - Point	0.00	0.00	9,541.00	3,652.70	2,167.60	566,630.80	649,882.40	32.556835	-103.846873
BEU-5E-Han-Solo#1C - plan misses target center by 0.12usft at 21058.81usft MD (9659.42 TVD, 3717.78 N, 12301.10 E) - Point	0.00	0.00	9,659.42	3,717.90	12,301.10	566,696.00	660,015.90	32.556882	-103.813984
BEU-5E-Han-Solo#1C - plan hits target center - Point	0.00	0.00	9,660.00	3,718.10	12,351.10	566,696.20	660,065.90	32.556882	-103.813822

Database:	WBDS_SQL_2	**Local Co-ordinate Reference:**	Well #100H
Company:	XTO Energy	**TVD Reference:**	RKB = 31' @ 3556.00usft (Akita 802)
Project:	Eddy County, NM (Nad-27 / East Zone)	**MD Reference:**	RKB = 31' @ 3556.00usft (Akita 802)
Site:	Big Eddy Unit 5E Han Solo	**North Reference:**	Grid
Well:	#100H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Wellbore #1		
Design:	PERMIT		

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
673.00	673.00	Rustler			
949.00	949.00	Salado/Top of Salt			
2,662.90	2,657.00	Base of Salt			
2,874.52	2,861.00	Capitan Reef			
4,094.71	3,943.00	Delaware Sand			
5,186.42	4,880.00	Manzanita Marker			
6,336.39	5,867.00	Brushy Canyon Ss.			
7,987.35	7,284.00	Lower Brushy Canyon Ss.			
8,259.99	7,518.00	Bone Spring Lm.			
8,432.43	7,666.00	Avalon Ss.			
8,456.89	7,687.00	Upper Avalon Carb.			
8,515.15	7,737.00	Upper Avalon Sh.			
8,801.77	7,983.00	Lw. Avalon Carb.			
9,028.96	8,178.00	Lw. Avalon Sh.			
9,292.28	8,404.00	Bone Spring Carb.			
9,687.25	8,743.00	First Bone Spring Ss.			
9,908.62	8,933.00	Second Bone Spring Carb.			
10,313.69	9,275.00	Second Bone Spring Ss.			
10,504.24	9,407.00	Second Bone Spring A Ss.			
10,690.69	9,497.00	Second Bone Spring B Ss.			
10,924.41	9,541.00	Landing Point			
13,491.91	9,571.00	Second Bone Spring B Base			
21,108.82	9,660.00	TD			