Form 3160-5 (June 2015)

# UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT

EMNRD-OCD ARTESIA REC'D: 6/04/2020 FORM APPROVED OMB NO. 1004-0137 Expires: January 31, 2018

5. Lease Serial No. NMLC065431

# 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.

6. If Indian, Allottee or Tribe Name

Control Service Control of the Control of the		Million Halling	a threat the Not		the most backet			
SUBMIT IN 1	TRIPLICATE - Other ins	tructions on	page 2		7. If Unit or CA/Agree NMNM68294X	ement, Name and/or No.		
Type of Well     ☐ Gas Well ☐ Oth	ner	Colorador Constituidades		1 7 C C S S S S S S S S S S S S S S S S S	8. Well Name and No. BIG EDDY UNIT	5E HAN SOLO 104H		
Name of Operator     XTO PERMIAN OPERATING		KELLY KAR os@xtoenergy			9. API Well No. 30-015-46834	8/1-3/2-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1		
3a. Address 6401 HOLIDAY HILL RD BLD MIDLAND, TX 79707	OG 5	3b. Phone No. Ph: 432-6	o. (include area code) 20-4374	) .	10. Field and Pool or WILDCAT BON			
4. Location of Well (Footage, Sec., T	., R., M., or Survey Descriptio	n)			11. County or Parish,	State		
Sec 27 T20S R31E Mer NMP	SWNE <del>2050FNL 1873</del> F	<del>EL</del> 2145FN	IL 1855FEL		EDDY COUNTY	Y, NM		
12. CHECK THE AF	PROPRIATE BOX(ES)	TO INDICA	TE NATURE O	F NOTICE,	REPORT, OR OTH	HER DATA		
TYPE OF SUBMISSION			TYPE OF	ACTION				
Notice of Intent	Acidize	□ Dee	epen	Product	ion (Start/Resume)	Water Shut-Off		
Notice of Intent	☐ Alter Casing	□ Hy	draulic Fracturing	Reclama	ation	☐ Well Integrity		
☐ Subsequent Report	☐ Casing Repair	□ Nev	w Construction	Recomp	lete	Other Change to Original A		
☐ Final Abandonment Notice	Change Plans	□ Plu	g and Abandon	□ Tempor	arily Abandon	Change to Original A PD		
	☐ Convert to Injection	□ Plu	g Back	□ Water D	Vater Disposal			
Change the SHL from 2050FN Change the BHL from 1980FS Change the casing/cement de XTO requests the following va Approval to utilize a spudder r Operations. Surface	NL & 1873FEL to 2145FN SL & 200FEL to 1980FSI esign per the attached dr ariances:	NL & 1855FE	L *NO SURFACE  n.  ttached Descripti	E DISTURB	ANCE*			
06/02/20 - Am All	cour apply. Ad	ditional	Cots regan	dung St	rell tests	ng a pour.		
14. I hereby certify that the foregoing is	true and correct.  Electronic Submission #	515003 verifie AN OPERATII	d by the BLM Wel IG LLC, sent to the by JUANA MEDRA	I Information he Carlsbad ANO on 05/12	n System 2/2020 ()			
Name (Printed/Typed) KELLY KA	RDOS		Title REGUL	ATORY CO	ORDINATOR			
Signature (Electronic S	Submission)		Date 05/12/20	020				
/	THIS SPACE FO	OR FEDERA	L OR STATE	OFFICE US	SE			
Approved By Conditions of approval, if any, are attached bertify that the applicant holds legal or equivalent to conduct the applicant the a	itable title to those rights in th	s not warrant or e subject lease	Title A	FM-RX	52000	Date Jun Zoz		
Title 18 U.S.C. Section 1001 and Title 43	-	a crime for any				r agency of the United		
States any false, fictitious or fraudulent s	statements or representations a	s to any matter v	vithin its jurisdiction.					

# Additional data for EC transaction #515003 that would not fit on the form

#### 32. Additional remarks, continued

Batch drill this well if necessary. In doing so, XTO will set each casing string and ensure that 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 Directional Plan Spudder Rig Description of Operations

# **Conditions of Approval**

Big Eddy Unit 5E Han Solo 104H 30-015-46834

**BOP Break Testing Variance** (Note: Shell testing is not approved for any portion of the hole with a MASP of 5000 psi or greater)

- While in transfer between wells, the BOPE shall be secured by the hydraulic carrier or cradle.
- Any well control event while drilling require notification to the BLM Petroleum Engineer prior to the commencement of any BOP Break Testing operations.

A full BOP test is required prior to drilling the first deep intermediate hole section. If any subsequent hole interval is deeper than the first, a full BOP test will be required.

District I 1625 N. French Dr., Hobbs, NM 88240 Phone: (575) 393-6161 Fax: (575) 393-0720

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

Form C-102

REC'D: 6/04/2020

Revised August 1, 2011 Submit one copy to appropriate

**EMNRD-OCD ARTESIA** 

District Office

✓ AMENDED REPORT

# WELL LOCATION AND ACREAGE DEDICATION PLAT

1220 South St. Francis Dr.

Santa Fe, NM 87505

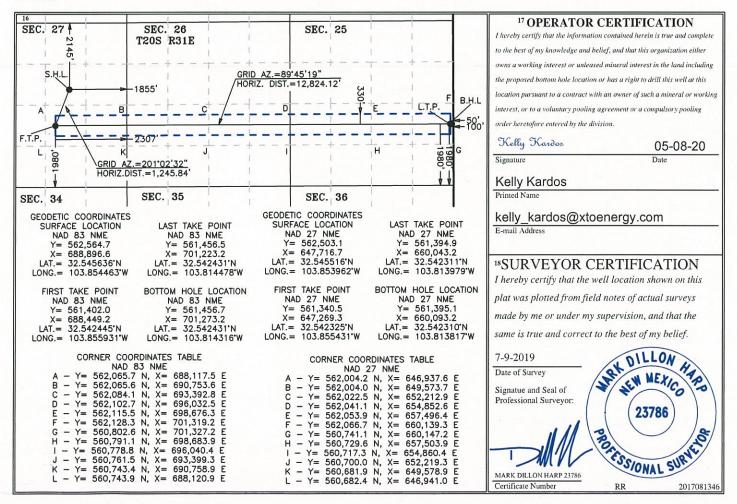
<sup>1</sup> API Number 30-015-46834	<sup>2</sup> Pool Code 98232	<sup>3</sup> Pool N WC-015 G-06 S203127G; BONE	
<sup>4</sup> Property Code	BIO	5 Property Name G EDDY UNIT 5E HAN SOLO	<sup>6</sup> Well Number 104H
<sup>7</sup> OGRID No	XTC	<sup>8</sup> Operator Name O PERMIAN OPERATING, LLC.	<sup>9</sup> Elevation 3,525'
373075	XTC	PERMIAN OPERATING, LLC.	3,52

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		2,145	NORTH	1,855	EAST	EDDY
			11 Bott	tom 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	25	20 S	31 E		1,980	SOUTH	50	EAST	EDDY
12 Dedicated Acre	s 13 Joint o	r Infill 14 C	onsolidation C	ode 15 Ord	ler No.				

400

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.



	015-468	334		100 527 Y	140 100							
1000	rator Na D PERM	me: 1IAN OPI	ERATIN	G, LL		Property N Big Eddy			Solo			Well Number 104H
(ick (	Off Point	(KOP)			*							
UL G	Section 27	Township 20S	Range 31E	Lot	Feet 2145	From N		Feet 1855	From	n E/W	County	
Latit			SIL	L	Longitude			1000	Las		NAD 83	5
First <sup>-</sup>	Take Poir	nt (FTP)										
UL <b>J</b>	Section 27	Township 20S	Range 31E	Lot	Feet 1980	From N South		Feet 2307	From	n E/W	County	
Latitu					Longitude	9			1240	•	NAD 83	
_ast T	Γake Poin	t (LTP)										
UL 	Section 25	Township 20S	Range 31E	Lot	10 M C 10 M 10 M 10 M 10 M 10 M 10 M 10	From N/S South	Feet	TANGET AND ADDRESS OF THE PARTY	n E/W t	Count		
Latitu 32.					Longitude			1=0.0	-	NAD 83	<u></u>	
s this	s well the	defining v	vell for th	e Horiz	zontal Spa	cing Unit?		<b>Y</b>				
		112			1							
					J							
	s well an	iiiiii weii:										
s this			ide API if a	availab	ole, Opera	tor Name a	and v	vell numbe	er for	Defini	ng well fo	r Horizontal
s this	ll is yes p ng Unit.		de API if	availab	lle, Opera	tor Name a	and v	vell numbe	er for	Definii	ng well fo	r Horizontal

KZ 06/29/2018

#### Big Eddy Unit 5E Han Solo 104H

Projected TD: 22366' MD / 9570' TVD SHL: 2145' FNL & 1855' FEL, Section 27, T20S, R31E BHL: 1980' FSL & 50' FEL, Section 25, 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	1.34	2.11	3.11
8-3/4" x 8-1/2"	0' - 22366'	5-1/2"	17#	втс	P-110	New	1.12	1.58	2.24

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.

- $\label{eq:permanent Wellhead GE RSH Multibowl System} A. Starting Head: 13-5/8" 5M top flange x 13-3/8" SOW bottom$
- 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) 900 psi 24 hr = 1500 psi Compressives: 12-hr =

#### 2nd Intermediate Casing:

ECP/DV Tool to be set at 2790

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

## **Production Casing:**

Lead: 730 sxs NeoCem (mixed at 10.5 ppg, 2.69 ft3/sx, 12.26 gal/sx water) Tail: 2570 sxs VersaCem (mixed at 13.2 ppg, 1.61 ft3/sx, 8.38 gal/sx water) 24 hr = 2285 psi Compressives: 12-hr = 1375 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 22366'	8-3/4" x 8-1/2"	FW / Cut Brine / Polymer/- OBM	9.2 - 9.5	29-32	NC - 20

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

XTO Energy Inc.

BEU 5E Han-Solo 104H

Projected TD: 22366' MD / 9570' TVD

SHL: 2145' FNL & 1855' FEL , Section 27, T20S, R31E

BHL: 1980' FSL & 50' FEL , Section 25, 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	9273'	Water/Oil/Gas
2nd Bone Spring Ss B	9497'	Water/Oil/Gas
Target/Land Curve	9570'	Water/Oil/Gas

<sup>\*\*\*</sup> Hydrocarbons @ Brushy Canyon

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	1.34	2.11	3.11
8-3/4" x 8-1/2"	0' - 22366'	5-1/2"	17#	ВТС	P-110	New	1.12	1.58	2.24

- 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

<sup>\*\*\*</sup> Groundwater depth 40' (per NM State Engineers Office).

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 +/- 22366'

Lead: 730 sxs NeoCem (mixed at 10.5 ppg, 2.69 ft3/sx, 12.26 gal/sx water)

Tail: 2570 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 2622 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 22366'	8-3/4" x 8-1/2"	FW / Cut Brine / Polymer/ OBM	9.2 - 9.5	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.

# **Delaware Basin Asset**

New Mexico, XTO
Big Eddy DI5
BEU 5E HAN SOLO 104H - Slot BEU 5E HAN SOLO 104H

**BEU 5E HAN SOLO 104H** 

Plan: BEU 5E HAN SOLO 104H

**Standard Planning Report - Geographic** 

08 April, 2020

### Planning Report - Geographic

EDM 5000.1 Single User Db Local Co-ordinate Reference: Well BEU 5E HAN SOLO 104H - Slot BEU 5E Database: HAN SOLO 104H Delaware Basin Asset Company: BEU 5E HAN SOLO 104H Default @ TVD Reference: 3555.0usft Project: New Mexico, XTO BEU 5E HAN SOLO 104H Default @ MD Reference: 3555.0usft Big Eddy DI5 Site: North Reference: Grid BEU 5E HAN SOLO 104H Minimum Curvature Well: Survey Calculation Method: Wellbore: BEU 5E HAN SOLO 104H Design: BEU 5E HAN SOLO 104H New Mexico, XTO Project US State Plane 1983 Mean Sea Level Map System: System Datum: North American Datum 1983 Geo Datum: Map Zone: New Mexico Eastern Zone

Site Big Eddy DI5 562,560.46 usft Site Position: Northing: Latitude: 32° 32' 44.282 N Мар Easting: 688,097.24 usft 103° 51' 25.405 W From: Longitude: 0.0 usft Slot Radius: **Position Uncertainty:** 13-3/16" **Grid Convergence:** 0.26

BEU 5E HAN SOLO 104H - Slot BEU 5E HAN SOLO 104H Well **Well Position** +N/-S 0.0 usft Northing: 562,565,17 usft Latitude: 32° 32' 44.293 N +E/-W 0.0 usft Easting: 688,897.42 usft Longitude: 103° 51' 16.056 W 0.0 usft Wellhead Elevation: **Ground Level: Position Uncertainty** 3,525.0 usft

 Wellbore
 BEU 5E HAN SOLO 104H

 Magnetics
 Model Name
 Sample Date (°)
 Declination (°)
 Dip Angle (°)
 Field Strength (nT)

 IGRF2020
 12/31/2009
 7.92
 60.47
 48,924.12256124

BEU 5E HAN SOLO 104H Design **Audit Notes:** Version: Phase: PLAN Tie On Depth: 0.0 Vertical Section: +N/-S +E/-W Direction Depth From (TVD) (usft) (usft) (usft) (°) 0.0 0.0 0.0 95.12

Plan Survey Tool Program Date 4/8/2020 **Depth From** Depth To **Tool Name** (usft) (usft) Survey (Wellbore) Remarks 0.0 4,000.0 BEU 5E HAN SOLO 104H (BEU OWSG GYRO-NS 1 OWSG Gyrocompass Gyro 4,000.0 22,366.1 BEU 5E HAN SOLO 104H (BEU MWD+IFR1+MS 2 OWSG MWD + IFR1 + Multi-S

# Planning Report - Geographic

Database:

EDM 5000.1 Single User Db

Company:

Delaware Basin Asset

Project:

New Mexico, XTO

Site:

Big Eddy DI5

Well: Wellbore: Design: BEU 5E HAN SOLO 104H BEU 5E HAN SOLO 104H BEU 5E HAN SOLO 104H Local Co-ordinate Reference:

TVD Reference:

MD Reference:

North Reference:

Survey Calculation Method:

Well BEU 5E HAN SOLO 104H - Slot BEU 5E

HAN SOLO 104H

BEU 5E HAN SOLO 104H Default @

3555.0usft

BEU 5E HAN SOLO 104H Default @

3555.0usft

Grid

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
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,700.0	0.00	0.00	2,700.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,950.0	5.00	80.00	2,949.7	1.9	10.7	2.00	2.00	0.00	80.00	
3,300.0	5.00	80.00	3,298.4	7.2	40.8	0.00	0.00	0.00	0.00	
3,550.0	0.00	0.00	3,548.0	9.1	51.5	2.00	-2.00	0.00	180.00	
4,050.0	0.00	0.00	4,048.0	9.1	51.5	0.00	0.00	0.00	0.00	
4,781.0	14.62	208.90	4,771.2	-72.1	6.7	2.00	2.00	0.00	208.90	
9,071.5	14.62	208.90	8,922.7	-1,020.3	-516.7	0.00	0.00	0.00	0.00	
10,042.1	90.00	89.76	9,550.0	-1,160.8	52.5	10.00	7.77	-12.27	-118.35 FTP	16-1
22,366.1	90.00	89.76	9,550.0	-1,108.4	12,376,4	0.00	0.00	0.00	0.00 BHL	16-1

# Planning Report - Geographic

Database: Company: EDM 5000.1 Single User Db

Delaware Basin Asset

Project:

New Mexico, XTO

Site:

Big Eddy DI5

Well: Wellbore: Design:

BEU 5E HAN SOLO 104H BEU 5E HAN SOLO 104H BEU 5E HAN SOLO 104H

Local Co-ordinate Reference:

TVD Reference:

MD Reference:

North Reference:

Survey Calculation Method:

Well BEU 5E HAN SOLO 104H - Slot BEU 5E

HAN SOLO 104H

BEU 5E HAN SOLO 104H Default @

3555.0usft

BEU 5E HAN SOLO 104H Default @

3555.0usft Grid

nned Survey									
Measured			Vertical			Мар	Мар		
Depth (usft)	Inclination (°)	Azimuth (°)	Depth (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
0.0	0.00	0.00	0.0	0.0	0.0	562,565.17	688,897.42	32° 32′ 44.293 N	103° 51' 16.05
100.0	0.00	0.00	100.0	0.0	0.0	562,565.17	688,897.42	32° 32′ 44.293 N	103° 51' 16.05
200.0	0.00	0.00	200.0	0.0	0.0	562,565.17	688,897.42	32° 32′ 44.293 N	103° 51' 16.05
300.0	0.00	0.00	300.0	0.0	0.0	562,565.17	688,897.42	32° 32′ 44.293 N	103° 51' 16.05
400.0	0.00	0.00	400.0	0.0	0.0	562,565.17	688,897.42	32° 32' 44.293 N	103° 51' 16.05
500.0	0.00	0.00	500.0	0.0	0.0	562,565.17	688,897.42	32° 32' 44.293 N	103° 51' 16.0
		0.00	600.0	0.0				32° 32′ 44.293 N	
600.0	0.00				0.0	562,565.17	688,897.42		103° 51' 16.0
700.0	0.00	0.00	700.0	0.0	0.0	562,565.17	688,897.42	32° 32′ 44.293 N	103° 51' 16.05
800.0	0.00	0.00	800.0	0.0	0.0	562,565.17	688,897.42	32° 32' 44.293 N	103° 51' 16.05
900.0	0.00	0.00	900.0	0.0	0.0	562,565.17	688,897.42	32° 32' 44.293 N	103° 51' 16.05
1,000.0	0.00	0.00	1,000.0	0.0	0.0	562,565.17	688,897.42	32° 32' 44.293 N	103° 51' 16.05
1,100.0	0.00	0.00	1,100.0	0.0	0.0	562,565.17	688,897.42	32° 32′ 44.293 N	103° 51' 16.08
1,200.0	0.00	0.00	1,200.0	0.0	0.0	562,565.17	688,897.42	32° 32' 44.293 N	103° 51' 16.05
1,300.0	0.00	0.00	1,300.0	0.0	0.0	562,565.17	688,897.42	32° 32' 44.293 N	103° 51' 16.0
1,400.0	0.00	0.00	1,400.0	0.0	0.0	562,565.17	688,897.42	32° 32′ 44.293 N	103° 51' 16.0
1,500.0	0.00	0.00	1,500.0	0.0	0.0	562,565.17	688,897.42	32° 32′ 44,293 N	103° 51' 16.05
1,600.0	0.00	0.00	1,600.0	0.0	0.0	562,565.17	688,897.42	32° 32′ 44.293 N	103° 51' 16.0
1,700.0	0.00	0.00	1,700.0	0.0	0.0	562,565.17	688,897.42	32° 32′ 44.293 N	103° 51' 16.0
1,800.0	0.00	0.00	1,800.0	0.0	0.0	562,565.17	688,897.42	32° 32′ 44.293 N	103° 51' 16.0
1,900.0	0.00	0.00	1,900.0	0.0	0.0	562,565.17	688,897.42	32° 32′ 44.293 N	103° 51' 16.05
2,000.0	0.00	0.00	2,000.0	0.0	0.0	562,565.17	688,897.42	32° 32′ 44.293 N	103° 51' 16.05
2,100.0	0.00	0.00	2,100.0	0.0	0.0	562,565.17	688,897.42	32° 32′ 44.293 N	103° 51' 16.05
2,200.0	0.00	0.00	2,200.0	0.0	0.0	562,565.17	688,897.42	32° 32′ 44.293 N	103° 51' 16.05
2,300.0	0.00	0.00	2,300.0	0.0	0.0	562,565.17	688,897.42	32° 32′ 44,293 N	103° 51' 16.05
2,400.0	0.00	0.00	2,400.0	0.0	0.0	562,565.17	688,897.42	32° 32′ 44.293 N	103° 51' 16.05
2,500.0	0.00	0.00	2,500.0	0.0	0.0	562,565.17	688,897.42	32° 32' 44.293 N	103° 51' 16.05
2,600.0	0.00	0.00	2,600.0	0.0	0.0	562,565.17	688,897.42	32° 32' 44.293 N	103° 51' 16.05
2,700.0	0.00	0.00	2,700.0	0.0	0.0	562,565.17	688,897.42	32° 32' 44,293 N	103° 51' 16.05
Start Bui	ld 2.00								
2,800.0	2.00	80.00	2,800.0	0.3	1.7	562,565.47	688,899.14	32° 32' 44.296 N	103° 51' 16.03
2,900.0	4.00	80.00	2,899.8	1.2	6.9	562,566,38	688,904.29	32° 32' 44.305 N	103° 51' 15.97
2,950.0	5.00	80.00	2,949.7	1.9	10.7	562,567.06	688,908.15	32° 32' 44,311 N	103° 51' 15.93
	.0 hold at 295								
3,000.0	5.00	80.00	2,999.5	2.6	15.0	562,567.82	688,912.45	32° 32' 44.319 N	103° 51' 15.88
3,100.0	5.00	80.00	3,099.1	4.2	23.6	562,569.33	688,921.03	32° 32' 44.333 N	103° 51' 15.78
3,200.0	5.00	80.00	3,198.7	5.7	32.2	562,570.84	688,929,61	32° 32' 44,348 N	103° 51' 15.68
3,300.0	5.00	80.00	3,298.4	7.2	40.8	562,572.36	688,938.20	32° 32' 44,363 N	103° 51' 15.57
Start Dro		30,00					NAC ANALYSIS OF THE PARTY OF TH		
	3.00	80.00	3,398.1	8.4	47.6	562,573.57	688,945,06	32° 32' 44.374 N	103° 51' 15.49
3,400.0 3,500.0	1.00	80.00	3,498.0	9.0	51.1	562,573.57	688,948.50	32° 32′ 44.374 N	103° 51' 15.45
	0.00	0.00		9.1	51.5			32° 32' 44,381 N	103° 51' 15.45
3,550.0			3,548.0	9,1	51.5	562,574.25	688,948.93	32 32 44,301 N	103 31 13,43
	.0 hold at 355	March Garden Countries and Con-	2.522.2			500 574 05	000 040 00	200 201 44 224 11	4000 541 45 45
3,600.0	0.00	0.00	3,598.0	9.1	51.5	562,574.25	688,948.93	32° 32' 44.381 N	103° 51' 15.45
3,700.0	0.00	0.00	3,698.0	9.1	51.5	562,574.25	688,948.93	32° 32' 44,381 N	103° 51' 15.45
3,800.0	0.00	0.00	3,798.0	9.1	51.5	562,574.25	688,948.93	32° 32' 44.381 N	103° 51' 15.45
3,900.0	0.00	0.00	3,898.0	9.1	51.5	562,574.25	688,948.93	32° 32' 44.381 N	103° 51' 15.45
4,000.0	0.00	0.00	3,998.0	9.1	51.5	562,574.25	688,948.93	32° 32′ 44.381 N	103° 51' 15.45
4,050.0	0.00	0.00	4,048.0	9.1	51.5	562,574.25	688,948.93	32° 32' 44.381 N	103° 51' 15.45
Start Bui	ld 2.00								
4,100.0	1.00	208.90	4,098.0	8.7	51.3	562,573.87	688,948.72	32° 32′ 44.377 N	_103° 51' 15.45
4,200.0	3.00	208.90	4,198.0	5.6	49.6	562,570.81	688,947.03	32° 32' 44.347 N	103° 51' 15.47

# Planning Report - Geographic

Database:

EDM 5000.1 Single User Db

Delaware Basin Asset

New Mexico, XTO

TVD Reference:

Well BEU 5E HAN SOLO 104H - Slot BEU 5E

HAN SOLO 104H

BEU 5E HAN SOLO 104H Default @

3555.0usft

BEU 5E HAN SOLO 104H Default @

3555,0usft

MD Reference:

North Reference:

Survey Calculation Method:

Local Co-ordinate Reference:

Grid

Minimum Curvature

Project: Site:

Big Eddy DI5

Well: Wellbore: Design:

Company:

BEU 5E HAN SOLO 104H BEU 5E HAN SOLO 104H

BEU 5E HAN SOLO 104H

Measured			Vertical			Мар	Мар		
Depth (usft)	Inclination (°)	Azimuth (°)	Depth (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
4,300.0	5.00	208.90	4,297.7	-0.5	46.2	562,564.71	688,943.66	32° 32' 44.287 N	103° 51' 15.516
4,400.0	7.00	208.90	4,397.2	-9.6	41.2	562,555.56	688,938.61	32° 32' 44.196 N	103° 51' 15.575
4,500.0	9.00	208.90	4,496.2	-21.8	34.5	562,543.37	688,931.89	32° 32' 44.076 N	103° 51' 15.655
4,600.0	11.00	208.90	4,594.7	-37.0	26.1	562,528.17	688,923.50	32° 32' 43,926 N	103° 51' 15.753
4,700.0	13.00	208.90	4,692.5	-55.2	16.0	562,509.97	688,913.45	32° 32' 43.746 N	103° 51' 15.872
4,781.0	14.62	208.90	4,771.2	-72.1	6.7	562,493.03	688,904.10	32° 32′ 43.579 N	103° 51' 15.98
Start 429	0.5 hold at 47	81.0 MD							
4,800.0	14.62	208.90	4,789.5	-76.3	4.4	562,488.84	688,901.79	32° 32' 43.538 N	103° 51' 16.009
4,900.0	14.62	208.90	4,886.3	-98.4	-7.8	562,466.74	688,889,59	32° 32' 43,320 N	103° 51' 16.153
5,000.0	14.62	208.90	4,983.0	-120.5	-20.0	562,444.65	688,877.39	32° 32' 43.102 N	103° 51' 16.296
5,100.0	14.62	208.90	5,079.8	-142.6	-32.2	562,422.55	688,865.19	32° 32' 42.883 N	103° 51' 16.440
5,200.0	14.62	208.90	5,176.6	-164.7	-44.4	562,400.45	688,852,99	32° 32' 42.665 N	103° 51' 16.584
5,300.0	14.62	208.90	5,273.3	-186.8	-56.6	562,378.35	688,840.80	32° 32' 42,447 N	103° 51' 16.72
5,400.0	14.62	208.90	5,370.1	-208.9	-68.8	562,356.25	688,828.60	32° 32′ 42,229 N	103° 51' 16.87
5,500.0	14.62	208.90	5,466.8	-231.0	-81.0	562,334.15	688,816.40	32° 32' 42.011 N	103° 51' 17.01
5,600.0	14.62	208.90	5,563.6	-253.1	-93.2	562,312.05	688,804.20	32° 32' 41.793 N	103° 51' 17.158
5,700.0	14.62	208.90	5,660.4	-275.2	-105.4	562,289.95	688,792.00	32° 32' 41.575 N	103° 51' 17.302
5,800.0	14.62	208.90	5,757.1	-297.3	-117.6	562,267.85	688,779.80	32° 32' 41.356 N	103° 51' 17.446
5,900.0	14.62	208.90	5,853.9	-319.4	-129.8	562,245.75	688,767.60	32° 32' 41.138 N	103° 51' 17.589
6,000.0	14.62	208.90	5,950.7	-341.5	-142.0	562,223,65	688,755.41	32° 32' 40.920 N	103° 51' 17.733
6,100.0	14.62	208.90	6,047.4	-363.6	-154.2	562,201.55	688,743.21	32° 32' 40,702 N	103° 51' 17.877
6,200.0	14.62	208.90	6,144.2	-385.7	-166.4	562,179.45	688,731.01	32° 32' 40,484 N	103° 51' 18.020
6,300.0	14.62	208.90	6,240.9	-407.8	-178.6	562,157.36	688,718.81	32° 32' 40,266 N	103° 51' 18.164
6,400.0	14.62	208.90	6,337.7	-429.9	-190.8	562,135.26	688,706.61	32° 32' 40.048 N	103° 51' 18.308
6,500.0	14.62	208.90	6,434.5	-452.0	-203.0	562,113.16	688,694.41	32° 32' 39.829 N	103° 51' 18.45°
6,600.0	14.62	208.90	6,531.2	-474.1	-215.2	562,091.06	688,682.22	32° 32' 39,611 N	103° 51' 18.595
6,700.0	14.62	208.90	6,628.0	-496.2	-227.4	562,068.96	688,670.02	32° 32' 39,393 N	103° 51' 18.739
6,800.0	14.62	208.90	6,724.7	-518.3	-239.6	562,046,86	688,657.82	32° 32' 39,175 N	103° 51' 18,882
6,900.0	14.62	208.90	6,821.5	-540.4	-251.8	562,024.76	688,645.62	32° 32' 38.957 N	103° 51' 19.026
7,000.0	14.62	208.90	6,918.3	-562.5	-264.0	562,002.66	688,633.42	32° 32' 38,739 N	103° 51' 19.170
7,100.0	14.62	208.90	7,015.0	-584.6	-276.2	561,980.56	688,621.22	32° 32' 38,521 N	103° 51' 19.313
7,200.0	14.62	208.90	7,111.8	-606.7	-288.4	561,958.46	688,609.03	32° 32' 38,303 N	103° 51' 19,457
7,300.0	14.62	208.90	7,208.6	-628.8	-300.6	561,936,36	688,596.83	32° 32' 38,084 N	103° 51' 19.60°
7,400.0	14.62	208,90	7,305.3	-650.9	-312.8	561,914.26	688,584.63	32° 32' 37,866 N	103° 51' 19.744
7,500.0	14.62	208,90	7,402.1	-673.0	-325.0	561,892.17	688,572.43	32° 32' 37.648 N	103° 51' 19.888
7,600.0	14.62	208,90	7,498.8	-695.1	-337.2	561,870.07	688,560.23	32° 32' 37,430 N	103° 51' 20,032
7,700.0	14.62	208,90	7,595.6	-717.2	-349.4	561,847.97	688,548.03	32° 32' 37,212 N	103° 51' 20,175
7,800.0	14.62	208,90	7,692.4	-739.3	-361.6	561,825.87	688,535.83	32° 32' 36,994 N	103° 51' 20.319
7,900.0	14.62	208,90	7,789.1	-761.4	-373.8	561,803.77	688,523.64	32° 32' 36.776 N	103° 51' 20.463
8,000.0	14.62	208.90	7,885.9	-783.5	-386.0	561,781.67	688,511.44	32° 32' 36.557 N	103° 51' 20.606
8,100.0	14.62	208,90	7,982.6	-805.6	-398.2	561,759.57	688,499.24	32° 32' 36,339 N	103° 51' 20,750
8,200.0		208.90	8,079.4	-827.7	-410.4	561,737.47	688,487.04	32° 32' 36,121 N	103° 51' 20.894
8,300.0		208.90	8,176.2	-849.8	-422.6	561,715.37	688,474.84	32° 32' 35.903 N	103° 51' 21.037
8,400.0		208.90	8,272.9	-871.9	-434.8	561,693.27	688,462.64	32° 32' 35,685 N	103° 51' 21.18′
8,500.0		208,90	8,369.7	-894.0	-447.0	561,671.17	688,450,45	32° 32' 35,467 N	103° 51' 21,325
8,600.0	14.62	208.90	8,466.5	-916.1	-459.2	561,649.07	688,438.25	32° 32' 35,249 N	103° 51' 21.468
8,700.0	14.62	208.90	8,563.2	-938.2	-471.4	561,626.97	688,426.05	32° 32' 35.031 N	103° 51' 21.612
8,800.0	14.62	208,90	8,660.0	-960.3	-483.6	561,604.88	688,413,85	32° 32′ 34,812 N	103° 51' 21.756
8,900.0	14.62	208,90	8,756.7	-982.4	-495.8	561,582.78	688,401.65	32° 32' 34,594 N	103° 51' 21.899
9,000.0	14.62	208.90	8,853.5	-1,004.5	-508.0	561,560.68	688,389.45	32° 32' 34.376 N	103° 51' 22.043

# Planning Report - Geographic

Database: Company: EDM 5000.1 Single User Db

Delaware Basin Asset

Project:

New Mexico, XTO

Site:

Big Eddy DI5

Well: Wellbore: Design:

BEU 5E HAN SOLO 104H

BEU 5E HAN SOLO 104H BEU 5E HAN SOLO 104H Local Co-ordinate Reference:

TVD Reference:

MD Reference:

North Reference:

Survey Calculation Method:

Well BEU 5E HAN SOLO 104H - Slot BEU 5E

HAN SOLO 104H

BEU 5E HAN SOLO 104H Default @

3555.0usft

BEU 5E HAN SOLO 104H Default @

3555.0usft

Grid

ned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
9,071.5	14.62	208.90	8,922.7	-1,020.3	-516.7	561,544.88	688,380.73	32° 32′ 34.220 N	103° 51' 22.14
Start DLS	10.00 TFO -1	118.35							
9,100.0	13.50	198.09	8,950.3	-1,026.6	-519.5	561,538.56	688,377.96	32° 32' 34.158 N	103° 51' 22.1
9,200.0	14.06	155.23	9,047.7	-1,048.8	-518.0	561,516.38	688,379.43	32° 32' 33,938 N	103° 51' 22.1
9,300.0	20.24	127.91	9,143.4	-1,070.5	-499.2	561,494.67	688,398.22	32° 32′ 33.723 N	103° 51' 21.9
9,400.0	28.61	114.45	9,234.4	-1,091.1	-463.7	561,474.08	688,433.75	32° 32' 33.517 N	103° 51' 21.5
9,500.0	37.73	106.88	9,318.1	-1,109.9	-412.5	561,455.23	688,484.95	32° 32′ 33.329 N	103° 51′ 20.9
9,600.0	47.17	101.95	9,391.8	-1,126.5	-347.1	561,438.71	688,550.27	32° 32′ 33,162 N	103° 51' 20.1
9,700.0	56.76	98.35	9,453.3	-1,140.2	-269.7	561,425.02	688,627.71	32° 32′ 33.023 N	103° 51' 19.26
9,800.0	66.43	95.46	9,500.9	-1,150.6	-182.5	561,414.56	688,714.93	32° 32' 32.916 N	103° 51' 18.24
9,900.0	76.15	92.98	9,532.9	-1,157.5	-88.1	561,407.66	688,809.27	32° 32′ 32.843 N	103° 51' 17.14
10,000.0	85.89	90.69	9,548.5	-1,160.6	10.5	561,404.53	688,907.87	32° 32′ 32.808 N	103° 51' 15.99
10,042.1	90.00	89.76	9,550.0	-1,160.8	52.5	561,404.36	688,949.95	32° 32′ 32.804 N	103° 51' 15.50
Start 123	24.0 hold at 1	CONSTRUCTION OF THE PERSON OF							
10,100.0	90.00	89.76	9,550.0	-1,160.6	110.4	561,404.61	689,007.83	32° 32′ 32,804 N	103° 51' 14.8
10,200.0	90.00	89.76	9,550.0	-1,160.1	210.4	561,405.03	689,107.83	32° 32′ 32,804 N	103° 51' 13.6
10,300.0	90.00	89.76	9,550.0	-1,159.7	310.4	561,405.46	689,207.83	32° 32' 32.804 N	103° 51' 12.49
10,400.0	90.00	89.76	9,550.0	-1,159.3	410.4	561,405.88	689,307.83	32° 32' 32.804 N	103° 51' 11.3
10,500.0	90.00	89.76	9,550.0	-1,158.9	510.4	561,406.31	689,407.83	32° 32′ 32.803 N	103° 51' 10.1
10,600.0	90.00	89.76	9,550.0	-1,158.4	610.4	561,406.74	689,507.83	32° 32' 32.803 N	103° 51' 8.98
10,700.0	90.00	89.76	9,550.0	-1,158.0	710.4	561,407.16	689,607.83	32° 32' 32.803 N	103° 51' 7.8′
10,800.0	90.00	89.76	9,550.0	-1,157.6	810.4	561,407.59	689,707.83	32° 32′ 32.803 N	103° 51' 6.64
10,900.0	90.00	89.76	9,550.0	-1,157.2	910.4	561,408.01	689,807.83	32° 32′ 32.802 N	103° 51' 5.48
11,000.0	90.00	89.76	9,550.0	-1,156.7	1,010.4	561,408.44	689,907.83	32° 32' 32,802 N	103° 51' 4.3°
11,100.0	90.00	89.76	9,550.0	-1,156.3	1,110.4	561,408.86	690,007.83	32° 32' 32.802 N	103° 51' 3.14
11,200.0	90.00	89.76	9,550.0	-1,155.9	1,210.4	561,409.29	690,107.82	32° 32' 32.801 N	103° 51' 1.97
11,300.0	90.00	89.76	9,550.0	-1,155.5	1,310.4	561,409.71	690,207.82	32° 32' 32.801 N	103° 51' 0.80
11,400.0	90.00	89.76	9,550.0	-1,155.0	1,410.4	561,410.14	690,307.82	32° 32' 32,801 N	103° 50' 59.64
11,500.0	90.00	89.76	9,550.0	-1,154.6	1,510.4	561,410.56	690,407.82	32° 32' 32.801 N	103° 50' 58.47
11,600.0	90.00	89.76	9,550.0	-1,154.2	1,610.4	561,410.99	690,507.82	32° 32' 32.800 N	103° 50' 57.30
11,700.0	90.00	89.76	9,550.0	-1,153.8	1,710.4	561,411.41	690,607.82	32° 32' 32.800 N	103° 50' 56.13
11,800.0	90,00	89.76	9,550.0	-1,153.3	1,810.4	561,411.84	690,707.82	32° 32' 32,800 N	103° 50' 54.96
11,900.0	90.00	89.76	9,550.0	-1,152.9	1,910.4	561,412.26	690,807.82	32° 32' 32.799 N	103° 50' 53.79
12,000.0	90.00	89.76	9,550.0	-1,152.5	2,010.4	561,412.69	690,907.82	32° 32' 32.799 N	103° 50' 52.63
12,100.0	90.00	89.76	9,550.0	-1,152.1	2,110.4	561,413.11	691,007.82	32° 32' 32.799 N	103° 50' 51.46
12,200.0	90.00	89.76	9,550.0	-1,151.6	2,210.4	561,413.54	691,107.82	32° 32' 32,799 N	103° 50' 50.29
12,300.0	90.00	89.76	9,550.0	-1,151.2	2,310.4	561,413.97	691,207.81	32° 32' 32.798 N	103° 50' 49.12
12,400.0	90.00	89.76	9,550.0	-1,150.8	2,410.4	561,414.39	691,307.81	32° 32' 32.798 N	103° 50' 47.95
12,500.0	90.00	89.76	9,550.0	-1,150.4	2,510.4	561,414.82	691,407.81	32° 32′ 32.798 N	103° 50' 46.78
12,600.0	90.00	89.76	9,550.0	-1,149.9	2,610.4	561,415.24	691,507.81	32° 32' 32.797 N	103° 50' 45.62
12,700.0	90.00	89.76	9,550.0	-1,149.5	2,710.4	561,415.67	691,607.81	32° 32' 32,797 N	103° 50' 44.45
12,800.0	90.00	89.76	9,550.0	-1,149.1	2,810.4	561,416.09	691,707.81	32° 32' 32.797 N	103° 50' 43.28
12,900.0	90.00	89.76	9,550.0	-1,148.7	2,910.4	561,416.52	691,807.81	32° 32' 32.796 N	103° 50' 42.11
13,000.0	90.00	89.76	9,550.0	-1,148.2	3,010.4	561,416.94	691,907.81	32° 32' 32,796 N	103° 50' 40.94
13,100.0	90.00	89.76	9,550.0	-1,147.8	3,110.4	561,417.37	692,007.81	32° 32' 32,796 N	103° 50' 39.78
13,200.0	90.00	89.76	9,550.0	-1,147.4	3,210.4	561,417.79	692,107.81	32° 32' 32.795 N	103° 50' 38.61
13,300.0	90.00	89.76	9,550.0	-1,146.9	3,310.4	561,418.22	692,207.81	32° 32' 32.795 N	103° 50' 37.44
13,400.0	90.00	89.76	9,550.0	-1,146.5	3,410.4	561,418.64	692,307.80	32° 32' 32,795 N	103° 50' 36.27
13,500.0	90.00	89.76	9,550.0	-1,146.1	3,510.4	561,419.07	692,407.80	32° 32' 32.794 N	103° 50' 35.10
13,600.0	90.00 90.00	89.76 89.76	9,550.0 9,550.0	-1,145.7 -1,145.2	3,610.4 3,710.4	561,419.49	692,507.80	32° 32′ 32.794 N	103° 50' 33.93 103° 50' 32.77

# Planning Report - Geographic

Database:

EDM 5000.1 Single User Db

Company:

Delaware Basin Asset

Project:

New Mexico, XTO

Site:

Big Eddy DI5

Well: Wellbore: Design:

BEU 5E HAN SOLO 104H BEU 5E HAN SOLO 104H

BEU 5E HAN SOLO 104H

Local Co-ordinate Reference:

TVD Reference:

MD Reference:

North Reference:

Survey Calculation Method:

Well BEU 5E HAN SOLO 104H - Slot BEU 5E HAN SOLO 104H

BEU 5E HAN SOLO 104H Default @

3555.0usft

BEU 5E HAN SOLO 104H Default @

3555,0usft

Grid

nned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
13,800.0	90.00	89.76	9,550.0	-1,144.8	3,810.4	561,420.35	692,707.80	32° 32' 32.793 N	103° 50' 31.602	
13,900.0	90.00	89.76	9,550.0	-1,144.4	3,910.4	561,420.77	692,807.80	32° 32' 32.793 N	103° 50' 30.434	
14,000.0	90.00	89.76	9,550.0	-1,144.0	4,010.4	561,421.20	692,907.80	32° 32' 32,793 N	103° 50' 29,266	
14,100.0	90.00	89.76	9,550.0	-1,143.5	4,110.4	561,421.62	693,007.80	32° 32' 32.792 N	103° 50' 28.098	
14,200.0	90.00	89.76	9,550.0	-1,143.1	4,210.4	561,422.05	693,107.80	32° 32' 32.792 N	103° 50' 26.92	
14,300.0	90.00	89.76	9,550.0	-1,142.7	4,310.4	561,422.47	693,207.80	32° 32' 32.791 N	103° 50' 25.76	
14,400.0	90.00	89.76	9,550.0	-1,142.3	4,410.4	561,422.90	693,307.80	32° 32′ 32.791 N	103° 50' 24.59	
14,500.0	90.00	89.76	9,550.0	-1,141.8	4,510.4	561,423.32	693,407.79	32° 32' 32.791 N	103° 50' 23.42	
14,600.0	90.00	89.76	9,550.0	-1,141.4	4,610.4	561,423.75	693,507.79	32° 32' 32.790 N	103° 50' 22.25	
14,700.0	90.00	89.76	9,550.0	-1,141.0	4,710.4	561,424.17	693,607.79	32° 32' 32,790 N	103° 50' 21.08	
14,800.0	90.00	89.76	9,550.0	-1,140.6	4,810.4	561,424.60	693,707.79	32° 32′ 32.790 N	103° 50' 19.92	
14,900.0	90.00	89.76	9,550.0	-1,140.1	4,910.4	561,425.02	693,807.79	32° 32' 32.789 N	103° 50' 18.75	
15,000.0	90.00	89.76	9,550.0	-1,139.7	5,010.4	561,425.45	693,907.79	32° 32′ 32.789 N	103° 50' 17.58	
15,100.0	90.00	89.76	9,550.0	-1,139.3	5,110.4	561,425.87	694,007.79	32° 32' 32.788 N	103° 50' 16.41	
15,200.0	90.00	89.76	9,550.0	-1,138.9	5,210.4	561,426.30	694,107.79	32° 32' 32.788 N	103° 50' 15.24	
15,300.0	90.00	89.76	9,550.0	-1,138.4	5,310.4	561,426.72	694,207.79	32° 32′ 32.788 N	103° 50' 14.07	
15,400.0	90.00	89.76	9,550.0	-1,138.0	5,410.4	561,427.15	694,307.79	32° 32′ 32.787 N	103° 50' 12.91	
15,500.0	90.00	89.76	9,550.0	-1,137.6	5,510.4	561,427.58	694,407.79	32° 32' 32.787 N	103° 50′ 11.74	
15,600.0	90.00	89.76	9,550.0	-1,137.2	5,610.4	561,428.00	694,507.78	32° 32′ 32.786 N	103° 50' 10.57	
15,700.0	90.00	89.76	9,550.0	-1,136.7	5,710.4	561,428.43	694,607.78	32° 32′ 32.786 N	103° 50' 9.40	
15,800.0	90.00	89.76	9,550.0	-1,136.3	5,810.4	561,428.85	694,707.78	32° 32′ 32.786 N	103° 50' 8.23	
15,900.0	90.00	89.76	9,550.0	-1,135.9	5,910.4	561,429.28	694,807.78	32° 32' 32.785 N	103° 50' 7.06	
16,000.0	90.00	89.76	9,550.0	-1,135.5	6,010.4	561,429.70	694,907.78	32° 32' 32.785 N	103° 50' 5.90	
16,100.0	90,00	89.76	9,550.0	-1,135.0	6,110.4	561,430.13	695,007.78	32° 32' 32.784 N	103° 50' 4.73	
16,200.0	90.00	89.76	9,550.0	-1,134.6	6,210.4	561,430.55	695,107.78	32° 32′ 32.784 N	103° 50' 3.56	
16,300.0	90.00	89.76	9,550.0	-1,134.2	6,310.4	561,430.98	695,207.78	32° 32′ 32.783 N	103° 50' 2.39	
16,400.0	90.00	89.76	9,550.0	-1,133.8	6,410.4	561,431.40	695,307.78	32° 32′ 32.783 N	103° 50′ 1.22	
16,500.0	90.00	89.76	9,550.0	-1,133.3	6,510.4	561,431.83	695,407.78	32° 32′ 32.783 N	103° 50' 0.06	
16,600.0	90.00	89.76	9,550.0	-1,132.9	6,610.4	561,432.25	695,507.78	32° 32′ 32.782 N	103° 49' 58.89	
16,700.0	90.00	89.76	9,550.0	-1,132.5	6,710.4	561,432.68	695,607.77	32° 32′ 32.782 N	103° 49' 57.72	
16,800.0	90.00	89.76	9,550.0	-1,132.1	6,810.4	561,433.10	695,707.77	32° 32′ 32.781 N	103° 49' 56.55	
16,900.0	90.00	89.76	9,550.0	-1,131.6	6,910.4	561,433.53	695,807.77	32° 32′ 32.781 N	103° 49' 55,38	
17,000.0	90.00	89.76	9,550.0	-1,131.2	7,010.4	561,433.96	695,907.77	32° 32′ 32.780 N	103° 49' 54.21	
17,100.0	90.00	89.76	9,550.0	-1,130.8	7,110.4	561,434.38	696,007.77	32° 32′ 32.780 N	103° 49' 53.05	
17,200.0	90.00	89.76	9,550.0	-1,130.4	7,210.4	561,434.81	696,107.77	32° 32′ 32.779 N	103° 49' 51.88	
17,300.0	90.00	89.76	9,550.0	-1,129.9	7,310.4	561,435.23	696,207.77	32° 32′ 32.779 N	103° 49' 50.71	
17,400.0	90.00	89.76	9,550.0	-1,129.5	7,410.3	561,435.66	696,307.77	32° 32′ 32.779 N	103° 49' 49.54	
17,500.0	90.00	89.76	9,550.0	-1,129.1	7,510.3	561,436.08	696,407.77	32° 32′ 32.778 N	103° 49' 48.37	
17,600.0	90.00	89.76	9,550.0	-1,128.7	7,610.3	561,436.51	696,507.77	32° 32′ 32.778 N	103° 49' 47.21	
17,700.0	90.00	89.76	9,550.0	-1,128.2	7,710.3	561,436.93	696,607.77	32° 32′ 32.777 N	103° 49' 46.04	
17,800.0	90.00	89.76	9,550.0	-1,127.8	7,810.3	561,437.36	696,707.76	32° 32′ 32.777 N	103° 49' 44.87	
17,900.0	90.00	89.76	9,550.0	-1,127.4	7,910.3	561,437.78	696,807.76	32° 32′ 32,776 N	103° 49' 43.70	
18,000.0	90.00	89.76	9,550.0	-1,127.0	8,010.3	561,438.21	696,907.76	32° 32' 32.776 N	103° 49' 42.53	
18,100.0	90.00	89.76	9,550.0	-1,126.5	8,110.3	561,438.63	697,007.76	32° 32′ 32,775 N	103° 49' 41.36	
18,200.0	90.00	89.76	9,550.0	-1,126.1	8,210.3	561,439.06	697,107.76	32° 32′ 32,775 N	103° 49′ 40.20	
18,300.0	90.00	89.76	9,550.0	-1,125.7	8,310.3	561,439.48	697,207.76	32° 32' 32.774 N	103° 49′ 39.03	
18,400.0	90.00	89.76	9,550.0	-1,125.3	8,410.3	561,439.91	697,307.76	32° 32' 32.774 N	103° 49′ 37.86	
18,500.0	90.00	89.76	9,550.0	-1,124.8	8,510.3	561,440.33	697,407.76	32° 32′ 32.773 N	103° 49′ 36,69	
18,600.0	90.00	89.76	9,550.0	-1,124.4	8,610.3	561,440.76	697,507.76	32° 32′ 32.773 N	103° 49' 35,52	
18,700.0	90.00	89.76	9,550.0	-1,124.0	8,710.3	561,441.19	697,607.76	32° 32′ 32.772 N	103° 49' 34.35	
18,800.0	90.00	89.76	9,550.0	-1,123.6	8,810.3	561,441.61	697,707.76	32° 32′ 32.772 N	103° 49′ 33.19	
→18,900.0	90.00	89.76	9,550.0	-1,123.1	8,910.3	561,442.04	697,807.75	32° 32' 32,771 N	103° 49' 32.02	

# Planning Report - Geographic

Database:

EDM 5000.1 Single User Db

Company:

Delaware Basin Asset

Project:

New Mexico, XTO

Site:

Big Eddy DI5

Well: Wellbore: BEU 5E HAN SOLO 104H BEU 5E HAN SOLO 104H

Design:

BEU 5E HAN SOLO 104H

Local Co-ordinate Reference:

TVD Reference:

MD Reference:

North Reference:

Survey Calculation Method:

Well BEU 5E HAN SOLO 104H - Slot BEU 5E

HAN SOLO 104H

BEU 5E HAN SOLO 104H Default @

3555.0usft

BEU 5E HAN SOLO 104H Default @

3555.0usft

Grid

ned Survey			Vertical			W.	Man		
Measured Depth (usft)	Inclination (°)	Azimuth	Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
19,000.0	90.00	89.76	9,550.0	-1,122.7	9,010.3	561,442,46	697,907.75	32° 32' 32,771 N	103° 49' 30.8
19,100.0	90.00	89.76	9,550.0	-1,122.3	9,110.3	561,442.89	698,007,75	32° 32' 32,770 N	103° 49' 29.6
19,200.0	90.00	89.76	9,550.0	-1,121.9	9,210.3	561,443.31	698,107.75	32° 32' 32.770 N	103° 49' 28.5
19,300.0	90.00	89.76	9,550.0	-1,121.4	9,310.3	561,443.74	698,207.75	32° 32' 32,769 N	103° 49' 27.3
19,400.0	90.00	89.76	9,550.0	-1,121.0	9,410.3	561,444.16	698,307.75	32° 32' 32.769 N	103° 49' 26.1
19,500.0	90.00	89.76	9,550.0	-1,120.6	9,510.3	561,444.59	698,407.75	32° 32' 32.768 N	103° 49' 25.0
19,600.0	90.00	89.76	9,550.0	-1,120.2	9,610.3	561,445.01	698,507.75	32° 32' 32.768 N	103° 49' 23.8
19,700,0	90.00	89.76	9,550.0	-1,119.7	9,710.3	561,445.44	698,607.75	32° 32' 32,767 N	103° 49' 22.6
19,800,0	90.00	89.76	9,550.0	-1,119,3	9,810.3	561,445.86	698,707.75	32° 32' 32.767 N	103° 49' 21.5
19,900.0	90.00	89.76	9,550.0	-1,118.9	9,910.3	561,446.29	698,807.75	32° 32' 32.766 N	103° 49' 20.3
20,000.0	90.00	89.76	9,550.0	-1,118.5	10,010.3	561,446.71	698,907.74	32° 32' 32.765 N	103° 49' 19.1
20,100.0	90,00	89.76	9,550.0	-1,118.0	10,110.3	561,447.14	699,007.74	32° 32' 32,765 N	103° 49' 18.0
20,200.0	90.00	89.76	9,550.0	-1,117.6	10,210,3	561,447.56	699,107.74	32° 32' 32.764 N	103° 49' 16.8
20,300.0	90.00	89.76	9,550.0	-1,117.2	10,310.3	561,447.99	699,207.74	32° 32' 32.764 N	103° 49' 15.6
20,400.0	90.00	89.76	9,550.0	-1,116.8	10,410.3	561,448.42	699,307.74	32° 32' 32.763 N	103° 49' 14.4
20,500.0	90.00	89.76	9,550.0	-1,116.3	10,510.3	561,448.84	699,407.74	32° 32' 32.763 N	103° 49' 13.3
20,600.0	90.00	89.76	9,550.0	-1,115.9	10,610,3	561,449.27	699,507.74	32° 32' 32.762 N	103° 49' 12.1
20,700.0	90.00	89.76	9,550.0	-1,115.5	10,710.3	561,449.69	699,607.74	32° 32' 32.762 N	103° 49' 10.9
20,800.0	90.00	89.76	9,550.0	-1,115.1	10,810.3	561,450.12	699,707.74	32° 32' 32.761 N	103° 49' 9.8
20,900.0	90.00	89.76	9,550.0	-1,114.6	10,910.3	561,450.54	699,807.74	32° 32' 32,760 N	103° 49' 8.6
21,000.0	90.00	89.76	9,550.0	-1,114.2	11,010.3	561,450.97	699,907.74	32° 32' 32.760 N	103° 49' 7.4
21,100.0	90.00	89.76	9,550.0	-1,113.8	11,110.3	561,451.39	700,007.73	32° 32′ 32.759 N	103° 49' 6.3
21,200.0	90.00	89.76	9,550.0	-1,113.3	11,210.3	561,451.82	700,107.73	32° 32' 32.759 N	103° 49' 5.1
21,300.0	90.00	89.76	9,550.0	-1,112.9	11,310.3	561,452.24	700,207.73	32° 32' 32,758 N	103° 49' 3.9
21,400.0	90.00	89.76	9,550.0	-1,112.5	11,410.3	561,452.67	700,307.73	32° 32' 32.758 N	103° 49' 2.8
21,500.0	90.00	89.76	9,550.0	-1,112.1	11,510.3	561,453.09	700,407.73	32° 32' 32.757 N	103° 49' 1.6
22,366.1	90.00	89.76	9,550.0	-1,108.4	12,376.4	561,456.76	701,273.82	32° 32' 32.752 N	103° 48' 51.5

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
FTP 16-1 - plan hits target ce - Rectangle (sides		323.33 D0.0)	9,550.0	-1,160.8	52.5	561,404.36	688,949.95	32° 32' 32,804 N	103° 51' 15.503 W
BHL 16-1 - plan hits target ce - Rectangle (sides		274.51 D0.0)	9,550.0	-1,108.4	12,376.4	561,456.76	701,273.82	32° 32′ 32.752 N	103° 48' 51.531 W

asing Points						
	Measured	Vertical			Casing	Hole
	Depth	Depth			Diameter	Diameter
	(usft)	(usft)		Name	(")	(")
	1,000.0	1,000.0	17.75		17-3/4	17-3/4

# Planning Report - Geographic

Database: Company: EDM 5000.1 Single User Db

Delaware Basin Asset

Project:

New Mexico, XTO

Site:

Big Eddy DI5

Well: Wellbore: Design:

BEU 5E HAN SOLO 104H BEU 5E HAN SOLO 104H BEU 5E HAN SOLO 104H

Local Co-ordinate Reference:

TVD Reference:

MD Reference:

North Reference:

Survey Calculation Method:

Well BEU 5E HAN SOLO 104H - Slot BEU 5E

HAN SOLO 104H

BEU 5E HAN SOLO 104H Default @

3555.0usft

BEU 5E HAN SOLO 104H Default @

3555.0usft

Grid

	Measured	Vertical	Local Coor	dinates		
	Depth (usft)	Depth (usft)	+N/-S (usft)	+E/-W (usft)	Comment	
THE PARTY OF THE P	2,700.0	2,700.0	0.0	0.0	Start Build 2.00	
	2,950.0	2,949.7	1.9	10.7	Start 350.0 hold at 2950.0 MD	
	3,300.0	3,298.4	7.2	40.8	Start Drop -2.00	
	3,550.0	3,548.0	9.1	51.5	Start 500.0 hold at 3550.0 MD	
	4,050.0	4,048.0	9.1	51.5	Start Build 2.00	
	4,781.0	4,771.2	-72.1	6.7	Start 4290.5 hold at 4781.0 MD	
	9,071.5	8,922.7	-1,020.3	-516.7	Start DLS 10,00 TFO -118,35	
	10,042.1	9,550.0	-1,160.8	52.5	Start 12324.0 hold at 10042.1 MD	
	22,366.1	9,550.0	-1,108.4	12,376.4	TD at 22366.1	

XTO respectfully requests approval to utilize a spudder rig to pre-set surface casing.

# Description of Operations:

- 1. Spudder rig will move in to drill the surface hole and pre-set surface casing on the well.
  - a. After drilling the surface hole section, the spudder rig will run casing and cement following all of the applicable rules and regulations (OnShore Order 2, all COAs and NMOCD regulations).
  - b. The spudder rig will utilize fresh water-based mud to drill the surface hole to TD. Solids control will be handled entirely on a closed loop basis. No earth pits will be used.
- 2. The wellhead will be installed and tested as soon as the surface casing is cut off and WOC time has been reached.
- 3. A blind flange at the same pressure rating as the wellhead will be installed to seal the wellbore. Pressure will be monitored with needle valves installed on two wing valves.
  - a. A means for intervention will be maintained while the drilling rig is not over the well.
- 4. Spudder rig operations are expected to take 2-3 days per well on the pad.
- 5. The BLM will be contacted and notified 24 hours prior to commencing spudder rig operations.
- 6. Drilling Operations will begin with a larger rig and a BOP stack equal to or greater than the pressure rating that was permitted will be nippled up and tested on the wellhead before drilling operations resume on each well.
  - a. The larger rig will move back onto the location within 90 days from the point at which the wells are secured and the spudder rig is moved off location.
  - b. The BLM will be notified 24 hours before the larger rig moves back on the pre-set locations
- 7. XTO will have supervision on the rig to ensure compliance with all BLM and NMOCD regulations and to oversee operations.
- 8. Once the rig is removed, XTO will secure the wellhead area by placing a guard rail around the cellar area.