

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENTFORM 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.*5. Lease Serial No.
NMNM01206A

6. If Indian, Allottee or Tribe Name

7. If Unit or CA/Agreement, Name and/or No.
891000326X8. Well Name and No.
BIG EDDY UNIT 29E VADER 106H9. API Well No.
30-025-46655-00-X110. Field and Pool or Exploratory Area
WILDCAT - BONE SPRING11. County or Parish, State
LEA COUNTY, NM

SUBMIT IN TRIPLICATE - Other instructions on page 2

1. Type of Well

☒ Oil Well ☐ Gas Well ☐ Other

2. Name of Operator

XTO PERMIAN OPERATING LLC

Contact: KELLY KARDOS

E-Mail: kelly_kardos@xtoenergy.com

3a. Address

6401 HOLIDAY HILL ROAD, BLDG 5
MIDLAND, TX 79707

3b. Phone No. (include area code)

Ph: 432-620-4374

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)

Sec 16 T20S R32E SWSW 360FSL 280FWL
32.566971 N Lat, 103.778931 W Lon

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

TYPE OF SUBMISSION

TYPE OF ACTION

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

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 recompleat 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 recompleat 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 well name to Big Eddy Unit 29E Vader 106H. (327077)

Change SHL from 360'FSL & 280'FWL to 124'FSL & 295'FWL. No surface disturbance.

Change BHL from 1980'FSL & 50'FWL in Sec. 18-T20S-R32E to 660'FNL & 50'FEL in Sec. 21-T20S-R32E

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

Electronic Submission #498278 verified by the BLM Well Information System
For XTO PERMIAN OPERATING LLC, sent to the Hobbs
Committed to AFMSS for processing by JENNIFER SANCHEZ on 01/09/2020 (20JAS0119SE)

Name (Printed/Typed) KELLY KARDOS

Title REGULATORY COORDINATOR

Signature (Electronic Submission)

Date 01/08/2020

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved By CODY LAYTON

Title ASSISTANT FIELD MANAGER

Date 01/16/2020

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 Hobbs

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 **

KZ

Revisions to Operator-Submitted EC Data for Sundry Notice #498278

	Operator Submitted	BLM Revised (AFMSS)
Sundry Type:	APDCH NOI	APDCH NOI
Lease:	NMNM01206A	NMNM01206A
Agreement:	NMNM68294X	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: 4326828873
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:	NM	NM
County:	LEA	LEA
Field/Pool:	SALT LAKE BONE SPRING	WILDCAT - BONE SPRING
Well/Facility:	BIG EDDY UNIT 29 BS2-5W 368H Sec 16 T20S R32E Mer NMP SWSW 360FSL 280FWL	BIG EDDY UNIT 29E VADER 106H Sec 16 T20S R32E SWSW 360FSL 280FWL 32.566971 N Lat, 103.778931 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 30-025- 46655	² Pool Code 53560	³ Pool Name SALT LAKE; BONE SPRING
⁴ Property Code 727077	⁵ Property Name BIG EDDY UNIT 29E VADER	
⁷ OGRID No. 373075	⁸ Operator Name XTO PERMIAN OPERATING, LLC.	
		⁶ Well Number 106H
		⁹ Elevation 3,516'

¹⁰ Surface Location

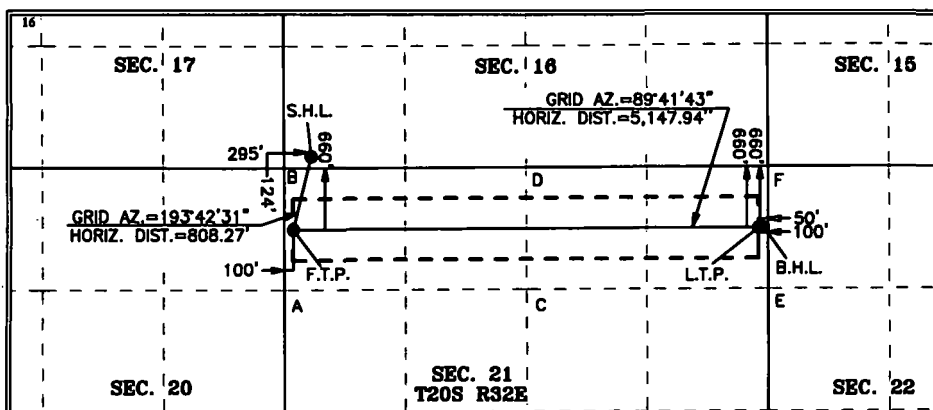
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	16	20 S	32 E		124	SOUTH	295	WEST	LEA

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
A	21	20 S	32 E		660	NORTH	50	EAST	LEA

¹² Dedicated Acres 160	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
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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.



GEODETIC COORDINATES
SURFACE LOCATION
NAD 27 NME
Y= 570,140.9
X= 670,967.3
LAT.= 32.566199°N
LONG.= 103.778383°W

LAST TAKE POINT
NAD 27 NME
Y= 569,382.8
X= 675,873.6
LAT.= 32.564044°N
LONG.= 103.762471°W

GEODETIC COORDINATES
SURFACE LOCATION
NAD 83 NME
Y= 570,202.6
X= 712,147.1
LAT.= 32.566320°N
LONG.= 103.778882°W

LAST TAKE POINT
NAD 83 NME
Y= 569,444.5
X= 717,053.4
LAT.= 32.564165°N
LONG.= 103.762970°W

FIRST TAKE POINT
NAD 27 NME
Y= 569,355.6
X= 670,775.8
LAT.= 32.564044°N
LONG.= 103.779018°W

BOTTOM HOLE LOCATION
NAD 27 NME
Y= 569,383.0
X= 675,823.6
LAT.= 32.564044°N
LONG.= 103.762309°W

FIRST TAKE POINT
NAD 83 NME
Y= 569,417.3
X= 711,955.6
LAT.= 32.564164°N
LONG.= 103.779517°W

BOTTOM HOLE LOCATION
NAD 83 NME
Y= 569,444.7
X= 717,103.4
LAT.= 32.564164°N
LONG.= 103.762808°W

CORNER COORDINATES TABLE

NAD 27 NME
A - Y= 568,693.6 N, X= 670,678.5 E
B - Y= 570,015.0 N, X= 670,673.1 E
C - Y= 568,709.4 N, X= 673,330.0 E
D - Y= 570,031.4 N, X= 673,323.7 E
E - Y= 568,722.8 N, X= 675,976.7 E
F - Y= 570,043.2 N, X= 675,970.5 E

CORNER COORDINATES TABLE

NAD 83 NME
A - Y= 568,755.3 N, X= 711,858.3 E
B - Y= 570,076.7 N, X= 711,852.9 E
C - Y= 568,771.1 N, X= 714,509.8 E
D - Y= 570,093.1 N, X= 714,503.5 E
E - Y= 568,784.5 N, X= 717,156.5 E
F - Y= 570,104.9 N, X= 717,150.3 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 1-7-20
Signature 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.

11-06-2019
Date of Survey

Signature and Seal of
Professional Surveyor:

MARK DILLON HARP 23786
Certificate Number



LB 2019072124

Intent ☒ As Drilled ☐

API # 30-025-46655			
Operator Name: XTO PERMIAN OPERATING, LLC		Property Name: BIG EDDY UNIT 29E VADER	Well Number 106H

Kick Off Point (KOP)

UL M	Section 16	Township 20S	Range 32E	Lot	Feet 124	From N/S SOUTH	Feet 295	From E/W WEST	County LEA
Latitude 32.566320					Longitude -103.778882				NAD 83

First Take Point (FTP)

UL D	Section 21	Township 20S	Range 32E	Lot	Feet 660	From N/S NORTH	Feet 100	From E/W WEST	County LEA
Latitude 32.564164					Longitude -103.779517				NAD 83

Last Take Point (LTP)

UL A	Section 21	Township 20S	Range 32E	Lot	Feet 660	From N/S NORTH	Feet 100	From E/W EAST	County LEA
Latitude 32.5471578					Longitude -103.813830				NAD 83

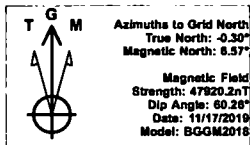
Is this well the defining well for the Horizontal Spacing Unit? ☐

Is this well an infill well? ☒

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

API # 30-025-46541			
Operator Name: XTO PERMIAN OPERATING, LLC		Property Name: Big Eddy Unit 29W VADER	Well Number 102H

KZ 06/29/2018



RKB (Precision 595) 25' + GL(3516') @ 3541.00usf

3516.00

WELL DETAILS

			3516.00		
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	570140.90	670967.30	32.56619927	-103.77838294

Plan 2

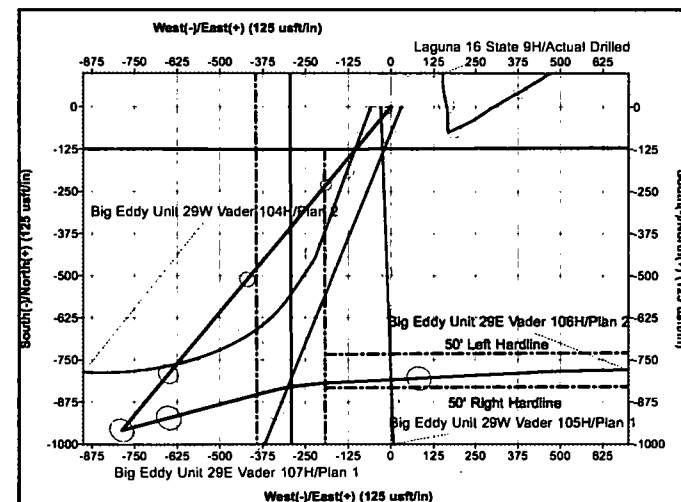
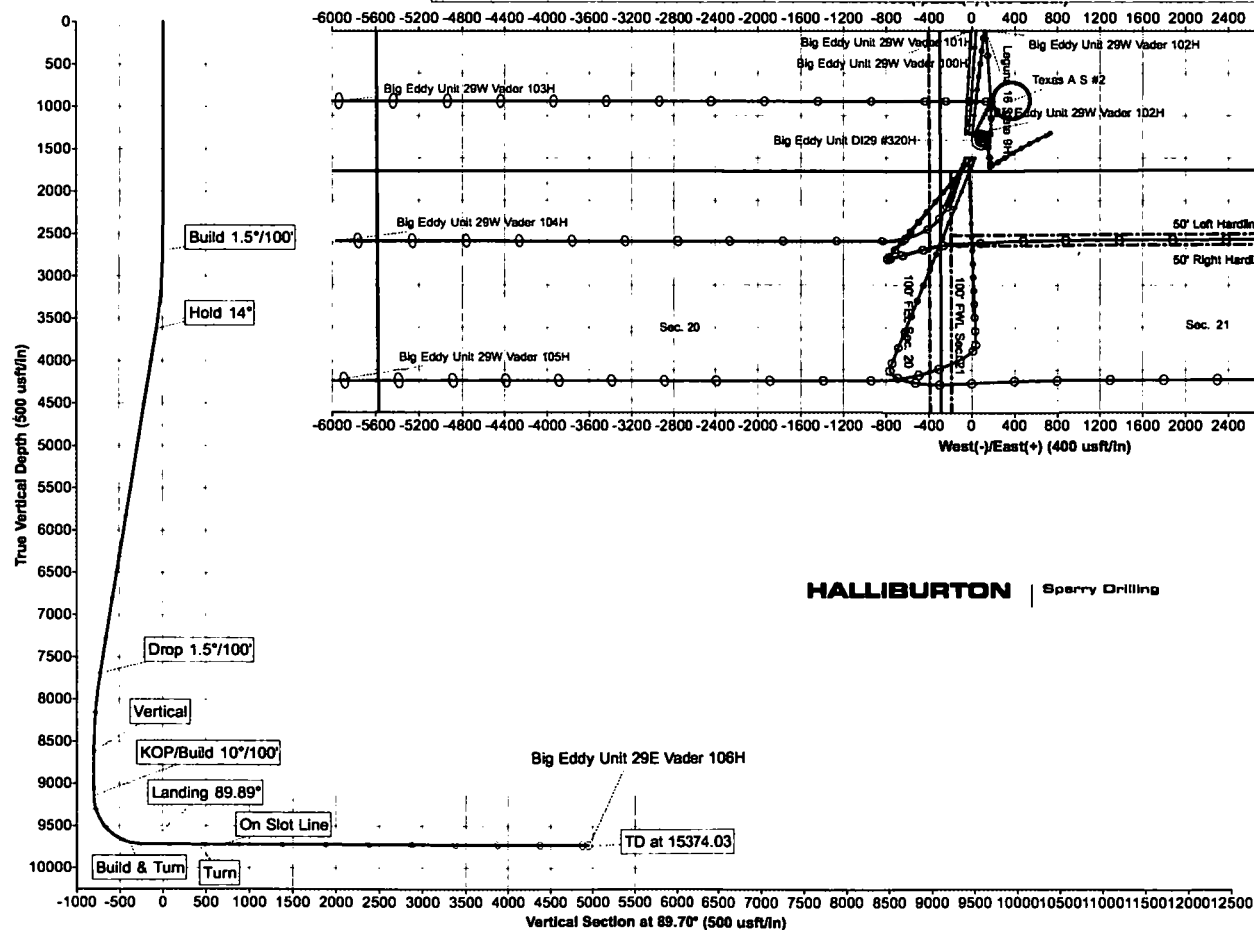
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Annotation
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2700.00	0.00	0.00	2700.00	0.00	0.00	0.00	0.00	0.00	Build 1.5"/100'
3633.33	14.00	219.35	3624.07	-87.74	-71.94	1.50	219.35	-72.40	Hold 14°
7823.33	14.00	219.35	7689.61	-871.58	-714.65	0.00	0.00	-719.21	Drop 1.5"/100'
8756.67	0.00	0.00	8613.69	-959.32	-786.60	1.50	180.00	-791.61	Vertical
9285.48	0.00	0.00	9142.50	-959.32	-786.60	0.00	0.00	-791.61	KOP/Build 10"/100'
10035.48	75.00	75.00	9695.93	-849.41	-376.40	10.00	75.00	-380.84	Build & Turn
10225.84	89.89	87.00	9720.98	-820.37	-190.83	10.00	39.60	-195.13	Landing 89.89°
10840.84	89.89	87.00	9722.16	-788.18	423.32	0.00	0.00	419.19	Turn
11110.84	89.89	89.70	9722.68	-780.41	693.18	1.00	90.00	689.09	On Slot Line
15374.03	89.89	89.70	9731.00	-757.90	4956.30	0.00	-125.86	4952.26	TD at 15374.03

DESIGN TARGET DETAILS

Name	+N/-S	+E/-W	Northing	Eastlong	Latitude	Longitude
Vader 106H BHL (660° FNL - 50° FEL)	-757.90	4956.30	569383.00	675923.60	32.56404397	-103.76230894
Vader 106H FTP (660° FNL - 100° FWL)	-785.30	-191.50	569355.60	670775.80	32.56404345	-103.77901779
Vader 106H LTP (660° FNL - 100° FL)	-758.10	4906.30	569382.80	675873.60	32.56404415	-103.76247123

Project: Lea County, NM (NAD27)
Site: Big Eddy Unit 29 Pad (Grid)
Well: Big Eddy Unit 29E Vader 106H
Wellbore: Wellbore #1
Design: Plan 2
Rig:

Map System: US State Plane 1927 (Exact solution)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone Name: New Mexico East 3001



XTO Energy Inc.

Lea County, NM (NAD27) Big Eddy Unit 29 Pad (Grid)

API#

Big Eddy Unit 29E Vader 106H

SHL: (124' FSL - 295' FWL)

Wellbore #1

Plan: Plan 2

Please review plan for SCC Application or Non-Tag Spacing.

Highlighted plan sections are within the Short Collar Correction (SCC) Instability Zone

Sperry Drilling Services Combo Report

18 December, 2019

Well Coordinates: 32.56619927
-103.77838294

NAD 1927 (NADCON CONUS)
New Mexico East 3001
570,140.90 N
670,967.30 E

Ground Level: 3,516.00 usft

Local Coordinate Origin:

Centered on Well Big Eddy Unit 29E Vader 106H

Viewing Datum:

RKB (Precision 595) 25' + GL(3516') @ 3541.00usft

TVDs to System:

N

North Reference:

Grid

Unit System:

Midcon (2 decimal)

Version: 5000.15 Build: 91E

Report Version: Midcon Combo v1.15

HALLIBURTON

HALLIBURTON**Plan Report for Big Eddy Unit 29E Vader 106H - Plan 2**

Measured Depth (usft)	Inclination (°)	Grid Azimuth (°)	Vertical Depth (usft)	Local Coordinates		Map Coordinates		Dogleg Rate (°/100usft)	Vertical Section (usft)	Toolface Angle (°)	Comments
				Northing (usft)	Easting (usft)	Northing (usft)	Easting (usft)				
0.00	0.00	0.00	0.00	0.00 N	0.00 E	570,140.90	670,967.30	0.00	0.00	0.00	
100.00	0.00	0.00	100.00	0.00 N	0.00 E	570,140.90	670,967.30	0.00	0.00	0.00	
200.00	0.00	0.00	200.00	0.00 N	0.00 E	570,140.90	670,967.30	0.00	0.00	0.00	
300.00	0.00	0.00	300.00	0.00 N	0.00 E	570,140.90	670,967.30	0.00	0.00	0.00	
400.00	0.00	0.00	400.00	0.00 N	0.00 E	570,140.90	670,967.30	0.00	0.00	0.00	
500.00	0.00	0.00	500.00	0.00 N	0.00 E	570,140.90	670,967.30	0.00	0.00	0.00	
600.00	0.00	0.00	600.00	0.00 N	0.00 E	570,140.90	670,967.30	0.00	0.00	0.00	
700.00	0.00	0.00	700.00	0.00 N	0.00 E	570,140.90	670,967.30	0.00	0.00	0.00	
800.00	0.00	0.00	800.00	0.00 N	0.00 E	570,140.90	670,967.30	0.00	0.00	0.00	
900.00	0.00	0.00	900.00	0.00 N	0.00 E	570,140.90	670,967.30	0.00	0.00	0.00	
1,000.00	0.00	0.00	1,000.00	0.00 N	0.00 E	570,140.90	670,967.30	0.00	0.00	0.00	
1,100.00	0.00	0.00	1,100.00	0.00 N	0.00 E	570,140.90	670,967.30	0.00	0.00	0.00	18 3/4"
1,200.00	0.00	0.00	1,200.00	0.00 N	0.00 E	570,140.90	670,967.30	0.00	0.00	0.00	
1,300.00	0.00	0.00	1,300.00	0.00 N	0.00 E	570,140.90	670,967.30	0.00	0.00	0.00	
1,400.00	0.00	0.00	1,400.00	0.00 N	0.00 E	570,140.90	670,967.30	0.00	0.00	0.00	
1,500.00	0.00	0.00	1,500.00	0.00 N	0.00 E	570,140.90	670,967.30	0.00	0.00	0.00	
1,600.00	0.00	0.00	1,600.00	0.00 N	0.00 E	570,140.90	670,967.30	0.00	0.00	0.00	
1,700.00	0.00	0.00	1,700.00	0.00 N	0.00 E	570,140.90	670,967.30	0.00	0.00	0.00	
1,800.00	0.00	0.00	1,800.00	0.00 N	0.00 E	570,140.90	670,967.30	0.00	0.00	0.00	
1,900.00	0.00	0.00	1,900.00	0.00 N	0.00 E	570,140.90	670,967.30	0.00	0.00	0.00	
2,000.00	0.00	0.00	2,000.00	0.00 N	0.00 E	570,140.90	670,967.30	0.00	0.00	0.00	
2,100.00	0.00	0.00	2,100.00	0.00 N	0.00 E	570,140.90	670,967.30	0.00	0.00	0.00	
2,200.00	0.00	0.00	2,200.00	0.00 N	0.00 E	570,140.90	670,967.30	0.00	0.00	0.00	
2,300.00	0.00	0.00	2,300.00	0.00 N	0.00 E	570,140.90	670,967.30	0.00	0.00	0.00	
2,400.00	0.00	0.00	2,400.00	0.00 N	0.00 E	570,140.90	670,967.30	0.00	0.00	0.00	
2,500.00	0.00	0.00	2,500.00	0.00 N	0.00 E	570,140.90	670,967.30	0.00	0.00	0.00	13 3/8"
2,600.00	0.00	0.00	2,600.00	0.00 N	0.00 E	570,140.90	670,967.30	0.00	0.00	0.00	
2,700.00	0.00	0.00	2,700.00	0.00 N	0.00 E	570,140.90	670,967.30	0.00	0.00	0.00	Build 1.5°/100'
2,800.00	1.50	219.35	2,799.99	1.01 S	0.83 W	570,139.89	670,966.47	1.50	-0.84	219.35	
2,900.00	3.00	219.35	2,899.91	4.05 S	3.32 W	570,136.85	670,963.98	1.50	-3.34	0.00	
3,000.00	4.50	219.35	2,999.69	9.11 S	7.47 W	570,131.79	670,959.83	1.50	-7.51	0.00	
3,100.00	6.00	219.35	3,099.27	16.18 S	13.27 W	570,124.72	670,954.03	1.50	-13.35	0.00	
3,200.00	7.50	219.35	3,198.57	25.27 S	20.72 W	570,115.63	670,946.58	1.50	-20.85	0.00	
3,300.00	9.00	219.35	3,297.54	36.37 S	29.82 W	570,104.53	670,937.48	1.50	-30.01	0.00	
3,400.00	10.50	219.35	3,396.09	49.46 S	40.56 W	570,091.44	670,926.74	1.50	-40.81	0.00	
3,500.00	12.00	219.35	3,494.16	64.55 S	52.92 W	570,076.35	670,914.38	1.50	-53.26	0.00	

Plan Report for Big Eddy Unit 29E Vader 106H - Plan 2

Measured Depth (usft)	Inclination (°)	Grid Azimuth (°)	Vertical Depth (usft)	Local Coordinates		Map Coordinates		Dogleg Rate (°/100usft)	Vertical Section (usft)	Toolface Angle (°)	Comments
				Northing (usft)	Easting (usft)	Northing (usft)	Easting (usft)				
3,600.00	13.50	219.35	3,591.70	81.61 S	66.92 W	570,059.29	670,900.38	1.50	-67.34	0.00	
3,633.33	14.00	219.35	3,624.07	87.74 S	71.94 W	570,053.16	670,895.36	1.50	-72.40	0.00	Hold 14°
3,700.00	14.00	219.35	3,688.76	100.21 S	82.17 W	570,040.69	670,885.13	0.00	-82.69	0.00	
3,800.00	14.00	219.35	3,785.79	118.92 S	97.51 W	570,021.98	670,869.79	0.00	-98.13	0.00	
3,900.00	14.00	219.35	3,882.82	137.63 S	112.85 W	570,003.27	670,854.45	0.00	-113.56	0.00	
4,000.00	14.00	219.35	3,979.85	156.33 S	128.18 W	569,984.57	670,839.12	0.00	-129.00	0.00	
4,100.00	14.00	219.35	4,076.88	175.04 S	143.52 W	569,965.86	670,823.78	0.00	-144.44	0.00	
4,200.00	14.00	219.35	4,173.91	193.75 S	158.86 W	569,947.15	670,808.44	0.00	-159.88	0.00	
4,300.00	14.00	219.35	4,270.94	212.46 S	174.20 W	569,928.44	670,793.10	0.00	-175.31	0.00	
4,400.00	14.00	219.35	4,367.97	231.16 S	189.54 W	569,909.74	670,777.76	0.00	-190.75	0.00	
4,500.00	14.00	219.35	4,465.00	249.87 S	204.88 W	569,891.03	670,762.42	0.00	-206.19	0.00	
4,600.00	14.00	219.35	4,562.03	268.58 S	220.22 W	569,872.32	670,747.08	0.00	-221.62	0.00	
4,700.00	14.00	219.35	4,659.06	287.29 S	235.56 W	569,853.61	670,731.74	0.00	-237.06	0.00	
4,800.00	14.00	219.35	4,756.09	305.99 S	250.90 W	569,834.91	670,716.40	0.00	-252.50	0.00	
4,900.00	14.00	219.35	4,853.11	324.70 S	266.24 W	569,816.20	670,701.06	0.00	-267.93	0.00	
5,000.00	14.00	219.35	4,950.14	343.41 S	281.58 W	569,797.49	670,685.72	0.00	-283.37	0.00	
5,051.38	14.00	219.35	5,000.00	353.02 S	289.46 W	569,787.88	670,677.84	0.00	-291.30	0.00	958°
5,100.00	14.00	219.35	5,047.17	362.12 S	296.92 W	569,778.78	670,670.38	0.00	-298.81	0.00	
5,200.00	14.00	219.35	5,144.20	380.82 S	312.26 W	569,760.08	670,655.04	0.00	-314.25	0.00	
5,300.00	14.00	219.35	5,241.23	399.53 S	327.59 W	569,741.37	670,639.71	0.00	-329.68	0.00	
5,400.00	14.00	219.35	5,338.26	418.24 S	342.93 W	569,722.66	670,624.37	0.00	-345.12	0.00	
5,500.00	14.00	219.35	5,435.29	436.95 S	358.27 W	569,703.95	670,609.03	0.00	-360.56	0.00	
5,600.00	14.00	219.35	5,532.32	455.65 S	373.61 W	569,685.25	670,593.69	0.00	-375.99	0.00	
5,700.00	14.00	219.35	5,629.35	474.36 S	388.95 W	569,666.54	670,578.35	0.00	-391.43	0.00	
5,800.00	14.00	219.35	5,726.38	493.07 S	404.29 W	569,647.83	670,563.01	0.00	-406.87	0.00	
5,900.00	14.00	219.35	5,823.41	511.78 S	419.63 W	569,629.12	670,547.67	0.00	-422.30	0.00	
6,000.00	14.00	219.35	5,920.44	530.48 S	434.97 W	569,610.42	670,532.33	0.00	-437.74	0.00	
6,100.00	14.00	219.35	6,017.47	549.19 S	450.31 W	569,591.71	670,516.99	0.00	-453.18	0.00	
6,200.00	14.00	219.35	6,114.50	567.90 S	465.65 W	569,573.00	670,501.65	0.00	-468.61	0.00	
6,300.00	14.00	219.35	6,211.53	586.61 S	480.99 W	569,554.29	670,486.31	0.00	-484.05	0.00	
6,400.00	14.00	219.35	6,308.56	605.31 S	496.33 W	569,535.59	670,470.97	0.00	-499.49	0.00	
6,500.00	14.00	219.35	6,405.59	624.02 S	511.67 W	569,516.88	670,455.63	0.00	-514.93	0.00	
6,600.00	14.00	219.35	6,502.62	642.73 S	527.00 W	569,498.17	670,440.30	0.00	-530.36	0.00	
6,700.00	14.00	219.35	6,599.65	661.44 S	542.34 W	569,479.46	670,424.96	0.00	-545.80	0.00	
6,800.00	14.00	219.35	6,696.68	680.14 S	557.68 W	569,460.76	670,409.62	0.00	-561.24	0.00	
6,900.00	14.00	219.35	6,793.71	698.85 S	573.02 W	569,442.05	670,394.28	0.00	-576.67	0.00	
7,000.00	14.00	219.35	6,890.74	717.56 S	588.36 W	569,423.34	670,378.94	0.00	-592.11	0.00	

HALLIBURTON**Plan Report for Big Eddy Unit 29E Vader 106H - Plan 2**

Measured Depth (usft)	Inclination (°)	Grid Azimuth (°)	Vertical Depth (usft)	Local Coordinates		Map Coordinates		Dogleg Rate (°/100usft)	Vertical Section (usft)	Toolface Angle (°)	Comments
				Northing (usft)	Easting (usft)	Northing (usft)	Easting (usft)				
7,100.00	14.00	219.35	6,987.77	736.27 S	603.70 W	569,404.63	670,363.60	0.00	-607.55	0.00	
7,200.00	14.00	219.35	7,084.79	754.97 S	619.04 W	569,385.93	670,348.26	0.00	-622.98	0.00	
7,300.00	14.00	219.35	7,181.82	773.68 S	634.38 W	569,367.22	670,332.92	0.00	-638.42	0.00	
7,400.00	14.00	219.35	7,278.85	792.39 S	649.72 W	569,348.51	670,317.58	0.00	-653.86	0.00	
7,500.00	14.00	219.35	7,375.88	811.10 S	665.06 W	569,329.80	670,302.24	0.00	-669.29	0.00	
7,600.00	14.00	219.35	7,472.91	829.80 S	680.40 W	569,311.10	670,286.90	0.00	-684.73	0.00	
7,700.00	14.00	219.35	7,569.94	848.51 S	695.74 W	569,292.39	670,271.56	0.00	-700.17	0.00	
7,800.00	14.00	219.35	7,666.97	867.22 S	711.07 W	569,273.68	670,256.23	0.00	-715.61	0.00	
7,823.33	14.00	219.35	7,689.61	871.58 S	714.65 W	569,269.32	670,252.65	0.00	-719.21	0.00	Drop 1.5°/100'
7,900.00	12.85	219.35	7,764.18	885.35 S	725.94 W	569,255.55	670,241.36	1.50	-730.57	-180.00	
8,000.00	11.35	219.35	7,861.96	901.56 S	739.23 W	569,239.34	670,228.07	1.50	-743.94	180.00	
8,100.00	9.85	219.35	7,960.25	915.78 S	750.89 W	569,225.12	670,216.41	1.50	-755.68	180.00	
8,200.00	8.35	219.35	8,058.99	928.01 S	760.92 W	569,212.89	670,206.38	1.50	-765.77	180.00	
8,300.00	6.85	219.35	8,158.11	938.24 S	769.31 W	569,202.66	670,197.99	1.50	-774.21	180.00	
8,400.00	5.35	219.35	8,257.54	946.45 S	776.04 W	569,194.45	670,191.26	1.50	-780.99	180.00	
8,500.00	3.85	219.35	8,357.21	952.66 S	781.13 W	569,188.24	670,186.17	1.50	-786.11	180.00	
8,600.00	2.35	219.35	8,457.06	956.84 S	784.56 W	569,184.06	670,182.74	1.50	-789.56	180.00	
8,700.00	0.85	219.35	8,557.02	959.00 S	786.33 W	569,181.90	670,180.97	1.50	-791.34	180.00	
8,756.67	0.00	0.00	8,613.69	959.32 S	786.60 W	569,181.58	670,180.70	1.50	-791.61	180.00	Vertical
8,800.00	0.00	0.00	8,657.02	959.32 S	786.60 W	569,181.58	670,180.70	0.00	-791.61	0.00	
8,900.00	0.00	0.00	8,757.02	959.32 S	786.60 W	569,181.58	670,180.70	0.00	-791.61	0.00	
9,000.00	0.00	0.00	8,857.02	959.32 S	786.60 W	569,181.58	670,180.70	0.00	-791.61	0.00	
9,100.00	0.00	0.00	8,957.02	959.32 S	786.60 W	569,181.58	670,180.70	0.00	-791.61	0.00	
9,200.00	0.00	0.00	9,057.02	959.32 S	786.60 W	569,181.58	670,180.70	0.00	-791.61	0.00	
9,285.48	0.00	0.00	9,142.50	959.32 S	786.60 W	569,181.58	670,180.70	0.00	-791.61	0.00	KOP/Build 10°/100'
9,300.00	1.45	75.00	9,157.02	959.27 S	786.42 W	569,181.63	670,180.88	10.00	-791.43	75.00	
9,350.00	6.45	75.00	9,206.88	958.38 S	783.09 W	569,182.52	670,184.21	10.00	-788.10	0.00	
9,400.00	11.45	75.00	9,256.26	956.37 S	775.58 W	569,184.53	670,191.72	10.00	-780.57	0.00	
9,450.00	16.45	75.00	9,304.77	953.25 S	763.94 W	569,187.65	670,203.36	10.00	-768.92	0.00	
9,500.00	21.45	75.00	9,352.04	949.05 S	748.26 W	569,191.85	670,219.04	10.00	-753.21	0.00	
9,550.00	26.45	75.00	9,397.72	943.80 S	728.65 W	569,197.10	670,238.65	10.00	-733.59	0.00	
9,600.00	31.45	75.00	9,441.46	937.53 S	705.28 W	569,203.37	670,262.02	10.00	-710.18	0.00	
9,650.00	36.45	75.00	9,482.92	930.31 S	678.32 W	569,210.59	670,288.98	10.00	-683.18	0.00	
9,700.00	41.45	75.00	9,521.79	922.18 S	647.97 W	569,218.72	670,319.33	10.00	-652.79	0.00	
9,750.00	46.45	75.00	9,557.78	913.20 S	614.46 W	569,227.70	670,352.84	10.00	-619.23	0.00	
9,800.00	51.45	75.00	9,590.60	903.44 S	578.04 W	569,237.46	670,389.26	10.00	-582.77	0.00	
9,850.00	56.45	75.00	9,620.02	892.98 S	539.01 W	569,247.92	670,428.29	10.00	-543.68	0.00	

Plan Report for Big Eddy Unit 29E Vader 106H - Plan 2

Measured Depth (usft)	Inclination (°)	Grid Azimuth (°)	Vertical Depth (usft)	Local Coordinates		Map Coordinates		Dogleg Rate (°/100usft)	Vertical Section (usft)	Toolface Angle (°)	Comments
				Northing (usft)	Easting (usft)	Northing (usft)	Easting (usft)				
9,900.00	61.45	75.00	9,645.80	881.90 S	497.64 W	569,259.00	670,469.66	10.00	-502.25	0.00	
9,950.00	66.45	75.00	9,667.74	870.28 S	454.27 W	569,270.62	670,513.03	10.00	-458.82	0.00	
10,000.00	71.45	75.00	9,685.70	858.20 S	409.21 W	569,282.70	670,558.09	10.00	-413.70	0.00	
10,035.48	75.00	75.00	9,695.93	849.41 S	376.40 W	569,291.49	670,590.90	10.00	-380.84	0.00	Build & Turn
10,050.00	76.12	75.95	9,699.56	845.88 S	362.79 W	569,295.02	670,604.51	10.00	-367.21	39.60	
10,100.00	80.01	79.17	9,709.90	835.36 S	315.03 W	569,305.54	670,652.27	10.00	-319.40	39.36	
10,150.00	83.92	82.31	9,716.89	827.41 S	266.18 W	569,313.49	670,701.12	10.00	-270.51	38.70	
10,200.00	87.85	85.41	9,720.47	822.08 S	216.61 W	569,318.82	670,750.69	10.00	-220.91	38.26	
10,226.84	89.89	87.00	9,720.98	820.37 S	190.83 W	569,320.53	670,776.47	10.00	-195.13	38.04	Landing 89.89°
10,300.00	89.89	87.00	9,721.13	816.49 S	116.78 W	569,324.41	670,850.52	0.00	-121.05	0.00	
10,400.00	89.89	87.00	9,721.32	811.25 S	16.92 W	569,329.65	670,950.38	0.00	-21.16	0.00	
10,500.00	89.89	87.00	9,721.51	806.02 S	82.95 E	569,334.88	671,050.25	0.00	78.73	0.00	
10,600.00	89.89	87.00	9,721.70	800.78 S	182.81 E	569,340.12	671,150.11	0.00	178.61	0.00	
10,700.00	89.89	87.00	9,721.89	795.55 S	282.67 E	569,345.35	671,249.97	0.00	278.50	0.00	
10,800.00	89.89	87.00	9,722.09	790.32 S	382.54 E	569,350.58	671,349.84	0.00	378.39	0.00	
10,900.00	89.89	87.00	9,722.16	788.18 S	423.32 E	569,352.72	671,390.62	0.00	419.19	0.00	Turn
10,950.00	89.89	87.59	9,722.28	785.39 S	482.41 E	569,355.51	671,449.71	1.00	478.29	90.00	
11,000.00	89.89	88.59	9,722.47	782.06 S	582.36 E	569,358.84	671,549.66	1.00	578.25	90.00	
11,100.00	89.89	89.59	9,722.66	780.47 S	682.34 E	569,360.43	671,649.64	1.00	678.25	90.00	
11,150.84	89.89	89.70	9,722.68	780.41 S	693.18 E	569,360.49	671,660.48	1.00	689.09	90.00	On Slot Line
11,200.00	89.89	89.70	9,722.85	779.94 S	782.34 E	569,360.96	671,749.64	0.00	778.25	-125.86	
11,300.00	89.89	89.70	9,723.05	779.42 S	882.34 E	569,361.48	671,849.64	0.00	878.25	-125.86	
11,400.00	89.89	89.70	9,723.24	778.89 S	982.34 E	569,362.01	671,949.64	0.00	978.25	-125.86	
11,500.00	89.89	89.70	9,723.43	778.37 S	1,082.34 E	569,362.53	672,049.64	0.00	1,078.25	-125.86	
11,600.00	89.89	89.70	9,723.62	777.84 S	1,182.33 E	569,363.06	672,149.63	0.00	1,178.25	-125.86	
11,700.00	89.89	89.70	9,723.82	777.32 S	1,282.33 E	569,363.58	672,249.63	0.00	1,278.25	-125.86	
11,800.00	89.89	89.70	9,724.01	776.79 S	1,382.33 E	569,364.11	672,349.63	0.00	1,378.25	-125.86	
11,900.00	89.89	89.70	9,724.20	776.27 S	1,482.33 E	569,364.63	672,449.63	0.00	1,478.24	-125.86	
12,000.00	89.89	89.70	9,724.39	775.74 S	1,582.33 E	569,365.16	672,549.63	0.00	1,578.24	-125.86	
12,100.00	89.89	89.70	9,724.59	775.22 S	1,682.33 E	569,365.68	672,649.63	0.00	1,678.24	-125.86	
12,200.00	89.89	89.70	9,724.78	774.69 S	1,782.33 E	569,366.21	672,749.63	0.00	1,778.24	-125.86	
12,300.00	89.89	89.70	9,724.98	774.17 S	1,882.32 E	569,366.73	672,849.62	0.00	1,878.24	-125.86	
12,400.00	89.89	89.70	9,725.17	773.64 S	1,982.32 E	569,367.26	672,949.62	0.00	1,978.24	-125.86	
12,500.00	89.89	89.70	9,725.36	773.11 S	2,082.32 E	569,367.79	673,049.62	0.00	2,078.24	-125.86	
12,600.00	89.89	89.70	9,725.56	772.59 S	2,182.32 E	569,368.31	673,149.62	0.00	2,178.24	-125.86	
12,700.00	89.89	89.70	9,725.75	772.06 S	2,282.32 E	569,368.84	673,249.62	0.00	2,278.24	-125.86	

HALLIBURTON**Plan Report for Big Eddy Unit 29E Vader 106H - Plan 2**

Measured Depth (usft)	Inclination (°)	Grid Azimuth (°)	Vertical Depth (usft)	Local Coordinates		Map Coordinates		Dogleg Rate (°/100usft)	Vertical Section (usft)	Toolface Angle (°)	Comments
				Northing (usft)	Easting (usft)	Northing (usft)	Easting (usft)				
12,800.00	89.89	89.70	9,725.95	771.53 S	2,382.32 E	569,369.37	673,349.62	0.00	2,378.24	-125.86	
12,900.00	89.89	89.70	9,726.14	771.01 S	2,482.31 E	569,369.89	673,449.61	0.00	2,478.24	-125.86	
13,000.00	89.89	89.70	9,726.34	770.48 S	2,582.31 E	569,370.42	673,549.61	0.00	2,578.24	-125.86	
13,100.00	89.89	89.70	9,726.53	769.95 S	2,682.31 E	569,370.95	673,649.61	0.00	2,678.24	-125.86	
13,200.00	89.89	89.70	9,726.72	769.42 S	2,782.31 E	569,371.48	673,749.61	0.00	2,778.24	-125.86	
13,300.00	89.89	89.70	9,726.92	768.90 S	2,882.31 E	569,372.00	673,849.61	0.00	2,878.24	-125.86	
13,400.00	89.89	89.70	9,727.12	768.37 S	2,982.31 E	569,372.53	673,949.61	0.00	2,978.24	-125.86	
13,500.00	89.89	89.70	9,727.31	767.84 S	3,082.30 E	569,373.06	674,049.60	0.00	3,078.24	-125.86	
13,600.00	89.89	89.70	9,727.51	767.31 S	3,182.30 E	569,373.59	674,149.60	0.00	3,178.24	-125.86	
13,700.00	89.89	89.70	9,727.70	766.78 S	3,282.30 E	569,374.12	674,249.60	0.00	3,278.24	-125.86	
13,800.00	89.89	89.70	9,727.90	766.25 S	3,382.30 E	569,374.65	674,349.60	0.00	3,378.24	-125.86	
13,900.00	89.89	89.70	9,728.09	765.72 S	3,482.30 E	569,375.18	674,449.60	0.00	3,478.24	-125.86	
14,000.00	89.89	89.70	9,728.29	765.19 S	3,582.30 E	569,375.71	674,549.60	0.00	3,578.24	-125.86	
14,100.00	89.89	89.70	9,728.49	764.66 S	3,682.29 E	569,376.24	674,649.59	0.00	3,678.24	-125.86	
14,200.00	89.89	89.70	9,728.68	764.13 S	3,782.29 E	569,376.77	674,749.59	0.00	3,778.24	-125.86	
14,300.00	89.89	89.70	9,728.88	763.60 S	3,882.29 E	569,377.30	674,849.59	0.00	3,878.24	-125.86	
14,400.00	89.89	89.70	9,729.08	763.07 S	3,982.29 E	569,377.83	674,949.59	0.00	3,978.24	-125.86	
14,500.00	89.89	89.70	9,729.27	762.54 S	4,082.29 E	569,378.36	675,049.59	0.00	4,078.24	-125.86	
14,600.00	89.89	89.70	9,729.47	762.01 S	4,182.29 E	569,378.89	675,149.59	0.00	4,178.24	-125.86	
14,700.00	89.89	89.70	9,729.67	761.48 S	4,282.29 E	569,379.42	675,249.59	0.00	4,278.24	-125.86	
14,800.00	89.89	89.70	9,729.86	760.95 S	4,382.28 E	569,379.95	675,349.58	0.00	4,378.24	-125.86	
14,900.00	89.89	89.70	9,730.06	760.42 S	4,482.28 E	569,380.48	675,449.58	0.00	4,478.24	-125.86	
15,000.00	89.89	89.70	9,730.26	759.89 S	4,582.28 E	569,381.01	675,549.58	0.00	4,578.24	-125.86	
15,100.00	89.89	89.70	9,730.46	759.36 S	4,682.28 E	569,381.54	675,649.58	0.00	4,678.24	-125.86	
15,200.00	89.89	89.70	9,730.66	758.83 S	4,782.28 E	569,382.07	675,749.58	0.00	4,778.24	-125.86	
15,300.00	89.89	89.70	9,730.85	758.29 S	4,882.28 E	569,382.61	675,849.58	0.00	4,878.24	-125.86	
15,374.03	89.89	89.70	9,731.00	757.90 S	4,956.30 E	569,383.00	675,923.60	0.00	4,952.26	-125.86	TD at 15374.03

Plan Report for Big Eddy Unit 29E Vader 106H - Plan 2

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
2,700.00	2,700.00	0.00	0.00	Build 1.5°/100'
3,633.33	3,624.07	-87.74	-71.94	Hold 14°
7,823.33	7,689.61	-871.58	-714.65	Drop 1.5°/100'
8,756.67	8,613.69	-959.32	-786.60	Vertical
9,285.48	9,142.50	-959.32	-786.60	KOP/Build 10°/100'
10,035.48	9,695.93	-849.41	-376.40	Build & Turn
10,225.84	9,720.98	-820.37	-190.83	Landing 89.89°
10,840.84	9,722.16	-788.18	423.32	Turn
11,110.84	9,722.68	-780.41	693.18	On Slot Line
15,374.03	9,731.00	-757.90	4,956.30	TD at 15374.03

Vertical Section Information

Angle Type	Target	Azimuth (°)	Origin Type	Origin +N/-S (usft)	Origin +E/-W (usft)	Start TVD (usft)
User	No Target (Freehand)	89.70	Slot	0.00	0.00	0.00

Survey tool program

From (usft)	To (usft)	Survey/Plan	Survey Tool
0.00	9,285.48	Plan 2	3_MWD
9,285.48	15,374.03	Plan 2	3_MWD+IFR1+MS

Casing Details

Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
1,100.00	1,100.00	18 3/4"	18-5/8	24
2,500.00	2,500.00	13 3/8"	13-3/8	17-1/2
5,051.38	5,000.00	9 5/8"	9-5/8	12-1/4
15,374.03	9,731.00	5 1/2"	5-1/2	8-1/2

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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
Vader 106H BHL (660' FNL - 50' FEL) ()									
	0.00	0.00	0.00	-757.90	4,956.30	569,383.00	675,923.60	32.56404397	-103.76230894
- plan misses target center by 5013.91usft at 0.00usft MD (0.00 TVD, 0.00 N, 0.00 E)									
- Point									
Vader 106H FTP (660' FNL - 100' FWL) ()									
	0.00	0.00	0.00	-785.30	-191.50	569,355.60	670,775.80	32.56404345	-103.77901779
- plan misses target center by 808.31usft at 0.00usft MD (0.00 TVD, 0.00 N, 0.00 E)									
- Point									
Vader 106H LTP (660' FNL - 100' FEL) ()									
	0.00	0.00	0.00	-758.10	4,906.30	569,382.80	675,873.60	32.56404415	-103.76247123
- plan misses target center by 4964.52usft at 0.00usft MD (0.00 TVD, 0.00 N, 0.00 E)									
- Point									

Directional Difficulty Index

Average Dogleg over Survey:	0.81 °/100usft	Maximum Dogleg over Survey:	10.00 °/100usft at 10,035.48 usft
Net Tortousity applicable to Plans:	0.81 °/100usft	Directional Difficulty Index:	6.261

Audit Info

HALLIBURTON**North Reference Sheet for Big Eddy Unit 29 Pad (Grid) - Big Eddy Unit 29E Vader 106H - Wellbore #1**

All data is in US Feet unless otherwise stated. Directions and Coordinates are relative to Grid North Reference.

Vertical Depths are relative to RKB (Precision 595) 25' + GL(3516') @ 3541.00usft. Northing and Easting are relative to Big Eddy Unit 29 E Vader 106H

Coordinate System is US State Plane 1927 (Exact solution), New Mexico East 3001 using datum NAD 1927 (NADCON CONUS), ellipsoid Clarke 1866

Projection method is Transverse Mercator (Gauss-Kruger)

Central Meridian is -104.33333333°, Longitude Origin:0.00000000°, Latitude Origin:0.00000000°

False Easting: 500,000.00usft, False Northing: 0.00usft, Scale Reduction: 0.99994257

Grid Coordinates of Well: 570,140.90 usft N, 670,967.30 usft E

Geographical Coordinates of Well: 32.56619927, -103.77838294

Grid Convergence at Surface is: 0.30°

Based upon Minimum Curvature type calculations, at a Measured Depth of 15,374.03usft

the Bottom Hole Displacement is 5,013.91usft in the Direction of 98.69° (Grid).

Magnetic Convergence at surface is: -6.57° (17 November 2019, , BGGM2018)

