

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

If Indian, Allottee or Tribe Name

SUBMIT IN TRIPLICATE - Other instructions on page7. If Unit or CA/Agreement, Name and/or No.
891000326X

1. Type of Well

☒ Oil Well ☐ Gas Well ☐ Other8. Well Name and No.
BIG EDDY UNIT 29W VADER 105H

2. Name of Operator

XTO PERMIAN OPERATING LLC

Contact: KELLY KARDOS

E-Mail: kelly_kardos@xtoenergy.com

9. API Well No.

30-025-46654-00-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 16 T20S R32E SWSW 124FSL 265FWL
32.567135 N Lat, 103.778931 W Lon

11. County or Parish, State

LEA 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 Plans	☐ Plug and Abandon	☐ Temporarily Abandon	Change to Original A
	☐ Convert to Injection	☐ Plug Back	☐ Water Disposal	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 recomple 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 well name to Big Eddy Unit 29W Vader 105H. (726994)

Change SHL from 420'FSL & 280'FWL to 124'FSL & 265'FWL. No surface disturbance.

Change BHL from 660'FNL & 50'FWL in Sec. 18-T20S-R32E to 1980'FNL & 50'FWL in Sec. 19-T20S-R32E

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

Electronic Submission #498280 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 (20JAS0117SE)

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 **

Revisions to Operator-Submitted EC Data for Sundry Notice #498280

	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 366H Sec 16 T20S R32E Mer NMP SWSW 420FSL 280FWL	BIG EDDY UNIT 29W VADER 105H Sec 16 T20S R32E SWSW 124FSL 265FWL 32.567135 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- 46654	² Pool Code 53560	³ Pool Name SALT LAKE; BONE SPRING
⁴ Property Code 32699K	⁵ Property Name BIG EDDY UNIT 29W VADER	⁶ Well Number 105H
⁷ OGRID No. 373075	⁸ Operator Name XTO PERMIAN OPERATING, LLC.	⁹ Elevation 3,516'

¹⁰ Surface Location

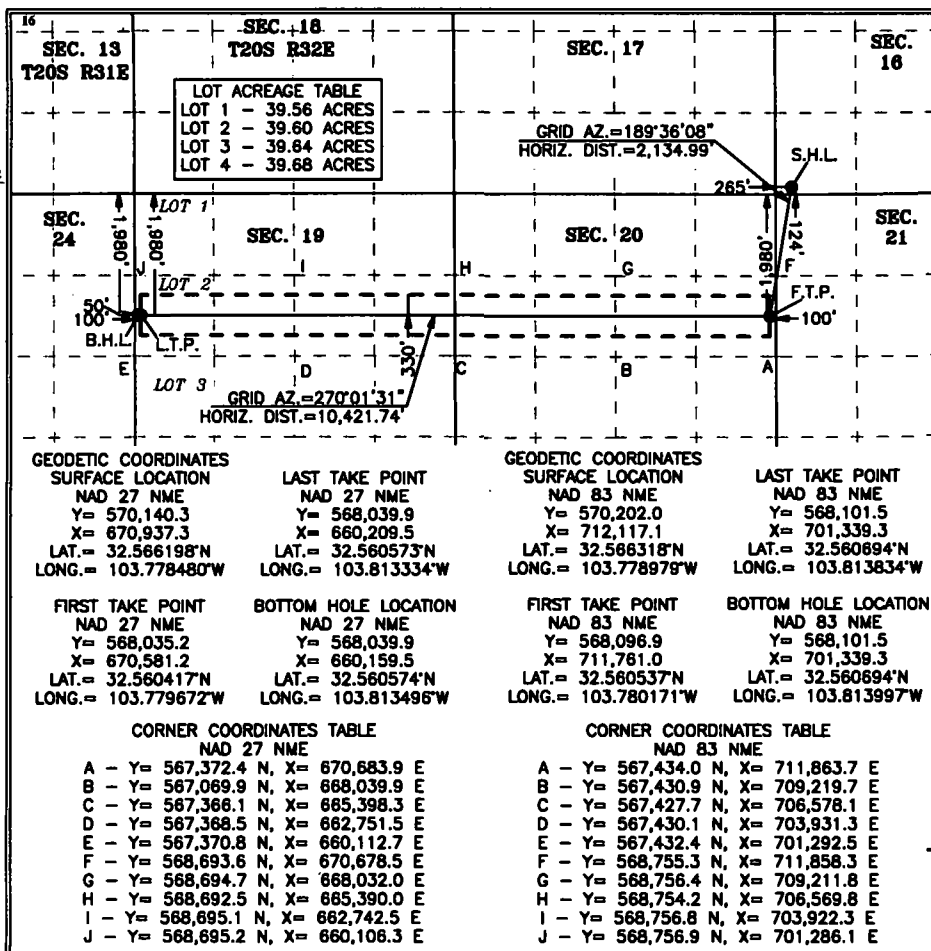
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	16	20 S	32 E		124	SOUTH	265	WEST	LEA

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
2	19	20 S	32 E		1,980	NORTH	50	WEST	LEA

¹² Dedicated Acres 319.60	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.



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

2019072123

Intent ☒ As Drilled ☐

API # 30-025-46654			
Operator Name: XTO PERMIAN OPERATING, LLC		Property Name: BIG EDDY UNIT 29W VADER	Well Number 105H

Kick Off Point (KOP)

UL M	Section 16	Township 20S	Range 32E	Lot	Feet 124	From N/S SOUTH	Feet 265	From E/W WEST	County LEA
Latitude 32.566318					Longitude -103.778979				NAD 83

First Take Point (FTP)

UL H	Section 20S	Township 20S	Range 32E	Lot	Feet 1980	From N/S SOUTH	Feet 100	From E/W EAST	County LEA
Latitude 32.560537					Longitude -103.780171				NAD 83

Last Take Point (LTP)

UL	Section 19	Township 20S	Range 32E	Lot 2	Feet 1980	From N/S NORTH	Feet 100	From E/W WEST	County LEA
Latitude 32.560694					Longitude -103.813834				NAD 83

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

Is this well an infill well? ☒

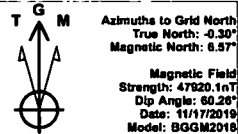
If infill is yes please provide API if available, Operator Name and well number for Defining well for Horizontal Spacing Unit.

API # 30-025-46515			
Operator Name: XTO PERMIAN OPERATING, LLC		Property Name: Big Eddy Unit DI 29 [AKA Big Eddy Unit 29W Vader 100H]	Well Number 363H

KZ 06/29/2018



XTO Energy Inc.



RKB (Precision 595) 25' + GL(3516') @ 3541.00usf
3516.00

WELL DETAILS

3516.00
 +N/-S 0.00 +E/-W 0.00 Northing 570140.30 Easting 670937.30 Latitude 32.56619805 Longitude -103.77848032

Plan 1

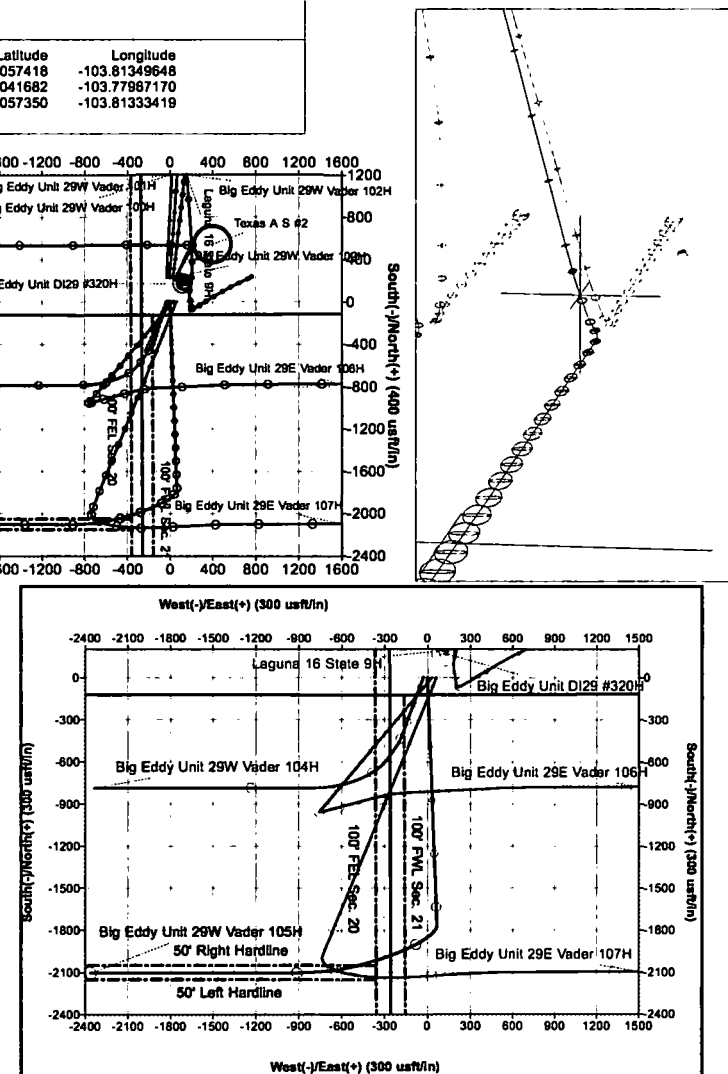
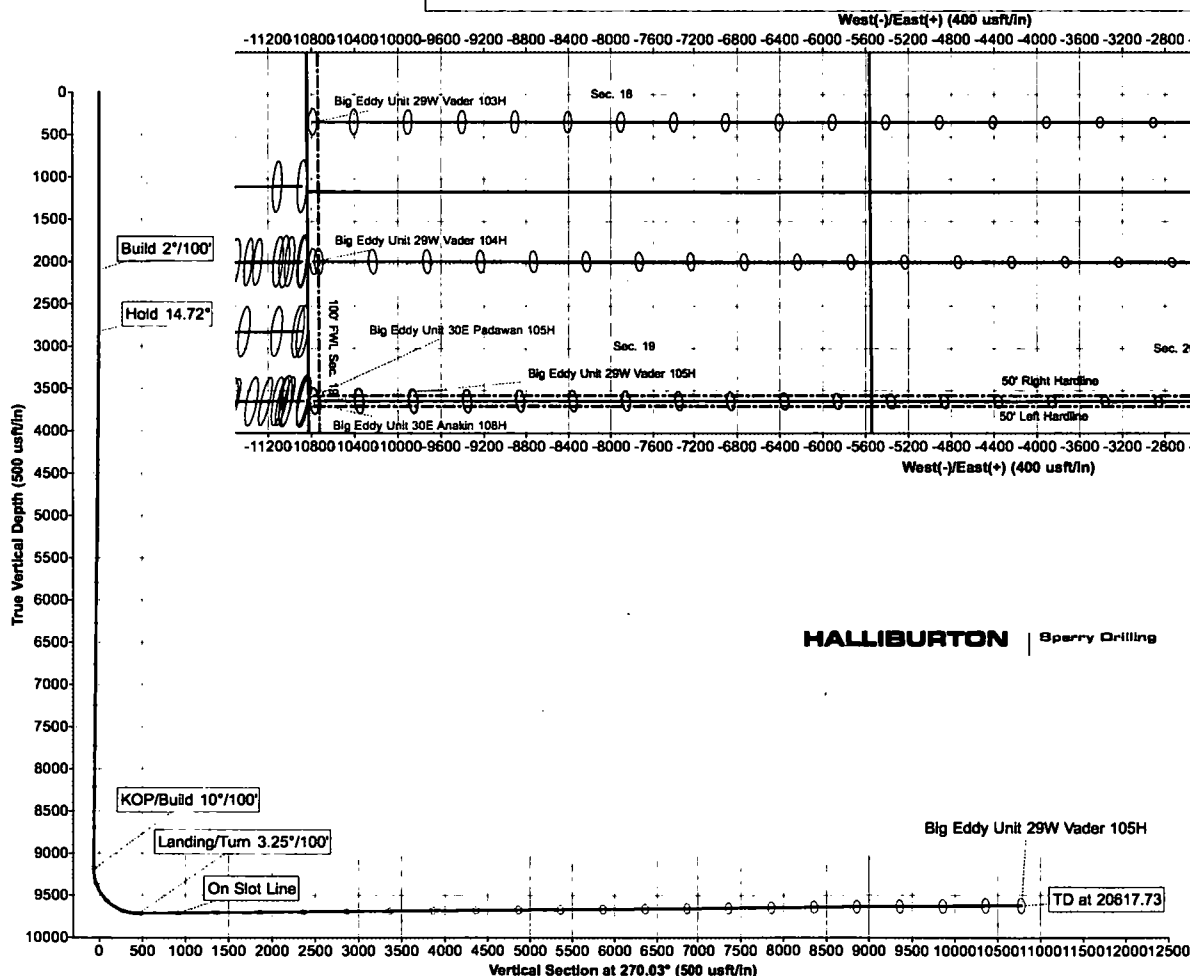
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Annotation
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2100.00	0.00	0.00	2100.00	0.00	0.00	0.00	0.00	0.00	Build 2°/100'
2835.95	14.72	177.85	2827.88	-93.94	3.53	2.00	177.85	-3.58	Hold 14.72°
9417.70	14.72	177.85	9193.65	-1765.04	66.29	0.00	0.00	-67.22	KOP/Build 10°/100'
10290.35	90.52	255.00	9717.00	-2045.10	-456.10	10.00	77.43	455.03	Landing/Turn 3.25°/100'
10752.79	90.52	270.03	9712.78	-2105.17	-913.27	3.25	89.93	912.17	On Slot Line
20617.73	90.52	270.03	9623.00	-2100.40	-10777.80	0.00	-58.08	10776.70	TD at 20617.73

DESIGN TARGET DETAILS

Name	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
Vader 105H BHL (1980' FENL - 50' FWL)	-2100.40	-10777.80	568039.90	660159.50	32.56057418	-103.81349648
Vader 105H FTP (1980' FNL - 100' FEL)	-2105.10	-356.10	568035.20	670581.20	32.56041682	-103.77987170
Vader 105H LTP (1980' FNL - 100' FWL)	-2100.40	-10727.80	568039.90	660209.50	32.56057350	-103.81333419

Project: Lea County, NM (NAD27)
 Site: Big Eddy Unit 29 Pad (Grid)
 Well: Big Eddy Unit 29W Vader 105H
 Wellbore: Wellbore #1
 Design: Plan 1
 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 29W Vader 105H

SHL: (124' FSL - 265' FWL)

Wellbore #1

Plan: Plan 1

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

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

Sperry Drilling Services Combo Report

18 December, 2019

Well Coordinates:

32.56619805
-103.77848033

NAD 1927 (NADCON CONUS)

New Mexico East 3001

570,140.30 N

670,937.30 E

Ground Level: 3,516.00 usft

Local Coordinate Origin:

Centered on Well Big Eddy Unit 29W Vader 105H

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 29W Vader 105H - Plan 1**

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	570,140.30	670,937.30	0.00	0.00	0.00	
100.00	0.00	0.00	100.00	0.00 N	0.00 E	570,140.30	670,937.30	0.00	0.00	0.00	
200.00	0.00	0.00	200.00	0.00 N	0.00 E	570,140.30	670,937.30	0.00	0.00	0.00	
300.00	0.00	0.00	300.00	0.00 N	0.00 E	570,140.30	670,937.30	0.00	0.00	0.00	
400.00	0.00	0.00	400.00	0.00 N	0.00 E	570,140.30	670,937.30	0.00	0.00	0.00	
500.00	0.00	0.00	500.00	0.00 N	0.00 E	570,140.30	670,937.30	0.00	0.00	0.00	
600.00	0.00	0.00	600.00	0.00 N	0.00 E	570,140.30	670,937.30	0.00	0.00	0.00	
700.00	0.00	0.00	700.00	0.00 N	0.00 E	570,140.30	670,937.30	0.00	0.00	0.00	
800.00	0.00	0.00	800.00	0.00 N	0.00 E	570,140.30	670,937.30	0.00	0.00	0.00	
900.00	0.00	0.00	900.00	0.00 N	0.00 E	570,140.30	670,937.30	0.00	0.00	0.00	
1,000.00	0.00	0.00	1,000.00	0.00 N	0.00 E	570,140.30	670,937.30	0.00	0.00	0.00	
1,100.00	0.00	0.00	1,100.00	0.00 N	0.00 E	570,140.30	670,937.30	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	570,140.30	670,937.30	0.00	0.00	0.00	
1,300.00	0.00	0.00	1,300.00	0.00 N	0.00 E	570,140.30	670,937.30	0.00	0.00	0.00	
1,400.00	0.00	0.00	1,400.00	0.00 N	0.00 E	570,140.30	670,937.30	0.00	0.00	0.00	
1,500.00	0.00	0.00	1,500.00	0.00 N	0.00 E	570,140.30	670,937.30	0.00	0.00	0.00	
1,600.00	0.00	0.00	1,600.00	0.00 N	0.00 E	570,140.30	670,937.30	0.00	0.00	0.00	
1,700.00	0.00	0.00	1,700.00	0.00 N	0.00 E	570,140.30	670,937.30	0.00	0.00	0.00	
1,800.00	0.00	0.00	1,800.00	0.00 N	0.00 E	570,140.30	670,937.30	0.00	0.00	0.00	
1,900.00	0.00	0.00	1,900.00	0.00 N	0.00 E	570,140.30	670,937.30	0.00	0.00	0.00	
2,000.00	0.00	0.00	2,000.00	0.00 N	0.00 E	570,140.30	670,937.30	0.00	0.00	0.00	
2,100.00	0.00	0.00	2,100.00	0.00 N	0.00 E	570,140.30	670,937.30	0.00	0.00	0.00	Build 2°/100'
2,200.00	2.00	177.85	2,199.98	1.74 S	0.07 E	570,138.56	670,937.37	2.00	-0.07	177.85	
2,300.00	4.00	177.85	2,299.84	6.97 S	0.26 E	570,133.33	670,937.56	2.00	-0.27	0.00	
2,400.00	6.00	177.85	2,399.45	15.68 S	0.59 E	570,124.62	670,937.89	2.00	-0.60	0.00	
2,500.00	8.00	177.85	2,498.70	27.86 S	1.05 E	570,112.44	670,938.35	2.00	-1.06	0.00	
2,501.31	8.03	177.85	2,500.00	28.04 S	1.05 E	570,112.26	670,938.35	2.00	-1.07	0.00	13 3/8"
2,600.00	10.00	177.85	2,597.47	43.49 S	1.63 E	570,096.81	670,938.93	2.00	-1.66	0.00	
2,700.00	12.00	177.85	2,695.62	62.56 S	2.35 E	570,077.74	670,939.65	2.00	-2.38	0.00	
2,800.00	14.00	177.85	2,793.06	85.04 S	3.19 E	570,055.26	670,940.49	2.00	-3.24	0.00	
2,835.95	14.72	177.85	2,827.88	93.94 S	3.53 E	570,046.36	670,940.83	2.00	-3.58	0.00	Hold 14.72°
2,900.00	14.72	177.85	2,889.83	110.21 S	4.14 E	570,030.09	670,941.44	0.00	-4.20	0.00	
3,000.00	14.72	177.85	2,986.55	135.60 S	5.09 E	570,004.70	670,942.39	0.00	-5.16	0.00	
3,100.00	14.72	177.85	3,083.27	160.99 S	6.05 E	569,979.31	670,943.35	0.00	-6.13	0.00	
3,200.00	14.72	177.85	3,179.99	186.38 S	7.00 E	569,953.92	670,944.30	0.00	-7.10	0.00	
3,300.00	14.72	177.85	3,276.70	211.77 S	7.95 E	569,928.53	670,945.25	0.00	-8.06	0.00	

Plan Report for Big Eddy Unit 29W Vader 105H - Plan 1

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)				
3,400.00	14.72	177.85	3,373.42	237.16 S	8.91 E	569,903.14	670,946.21	0.00	-9.03	0.00	
3,500.00	14.72	177.85	3,470.14	262.55 S	9.86 E	569,877.75	670,947.16	0.00	-10.00	0.00	
3,600.00	14.72	177.85	3,566.86	287.94 S	10.81 E	569,852.36	670,948.11	0.00	-10.97	0.00	
3,700.00	14.72	177.85	3,663.58	313.33 S	11.77 E	569,826.97	670,949.07	0.00	-11.93	0.00	
3,800.00	14.72	177.85	3,760.30	338.72 S	12.72 E	569,801.58	670,950.02	0.00	-12.90	0.00	
3,900.00	14.72	177.85	3,857.01	364.11 S	13.68 E	569,776.19	670,950.98	0.00	-13.87	0.00	
4,000.00	14.72	177.85	3,953.73	389.50 S	14.63 E	569,750.80	670,951.93	0.00	-14.83	0.00	
4,100.00	14.72	177.85	4,050.45	414.89 S	15.58 E	569,725.41	670,952.88	0.00	-15.80	0.00	
4,200.00	14.72	177.85	4,147.17	440.28 S	16.54 E	569,700.02	670,953.84	0.00	-16.77	0.00	
4,300.00	14.72	177.85	4,243.89	465.67 S	17.49 E	569,674.63	670,954.79	0.00	-17.73	0.00	
4,400.00	14.72	177.85	4,340.61	491.06 S	18.44 E	569,649.24	670,955.74	0.00	-18.70	0.00	
4,500.00	14.72	177.85	4,437.32	516.45 S	19.40 E	569,623.85	670,956.70	0.00	-19.67	0.00	
4,600.00	14.72	177.85	4,534.04	541.84 S	20.35 E	569,598.46	670,957.65	0.00	-20.63	0.00	
4,700.00	14.72	177.85	4,630.76	567.22 S	21.30 E	569,573.08	670,958.60	0.00	-21.60	0.00	
4,800.00	14.72	177.85	4,727.48	592.61 S	22.26 E	569,547.69	670,959.56	0.00	-22.57	0.00	
4,900.00	14.72	177.85	4,824.20	618.00 S	23.21 E	569,522.30	670,960.51	0.00	-23.54	0.00	
5,000.00	14.72	177.85	4,920.92	643.39 S	24.17 E	569,496.91	670,961.47	0.00	-24.50	0.00	
5,081.77	14.72	177.85	5,000.00	664.15 S	24.95 E	569,476.15	670,962.25	0.00	-25.29	0.00	958°
5,100.00	14.72	177.85	5,017.63	668.78 S	25.12 E	569,471.52	670,962.42	0.00	-25.47	0.00	
5,200.00	14.72	177.85	5,114.35	694.17 S	26.07 E	569,446.13	670,963.37	0.00	-26.44	0.00	
5,300.00	14.72	177.85	5,211.07	719.56 S	27.03 E	569,420.74	670,964.33	0.00	-27.40	0.00	
5,400.00	14.72	177.85	5,307.79	744.95 S	27.98 E	569,395.35	670,965.28	0.00	-28.37	0.00	
5,500.00	14.72	177.85	5,404.51	770.34 S	28.93 E	569,369.96	670,966.23	0.00	-29.34	0.00	
5,600.00	14.72	177.85	5,501.23	795.73 S	29.89 E	569,344.57	670,967.19	0.00	-30.30	0.00	
5,700.00	14.72	177.85	5,597.94	821.12 S	30.84 E	569,319.18	670,968.14	0.00	-31.27	0.00	
5,800.00	14.72	177.85	5,694.66	846.51 S	31.79 E	569,293.79	670,969.09	0.00	-32.24	0.00	
5,900.00	14.72	177.85	5,791.38	871.90 S	32.75 E	569,268.40	670,970.05	0.00	-33.20	0.00	
6,000.00	14.72	177.85	5,888.10	897.29 S	33.70 E	569,243.01	670,971.00	0.00	-34.17	0.00	
6,100.00	14.72	177.85	5,984.82	922.68 S	34.66 E	569,217.62	670,971.96	0.00	-35.14	0.00	
6,200.00	14.72	177.85	6,081.54	948.07 S	35.61 E	569,192.23	670,972.91	0.00	-36.11	0.00	
6,300.00	14.72	177.85	6,178.26	973.46 S	36.56 E	569,166.84	670,973.86	0.00	-37.07	0.00	
6,400.00	14.72	177.85	6,274.97	998.85 S	37.52 E	569,141.45	670,974.82	0.00	-38.04	0.00	
6,500.00	14.72	177.85	6,371.69	1,024.24 S	38.47 E	569,116.06	670,975.77	0.00	-39.01	0.00	
6,600.00	14.72	177.85	6,468.41	1,049.63 S	39.42 E	569,090.67	670,976.72	0.00	-39.97	0.00	
6,700.00	14.72	177.85	6,565.13	1,075.02 S	40.38 E	569,065.28	670,977.68	0.00	-40.94	0.00	
6,800.00	14.72	177.85	6,661.85	1,100.41 S	41.33 E	569,039.89	670,978.63	0.00	-41.91	0.00	
6,900.00	14.72	177.85	6,758.57	1,125.80 S	42.28 E	569,014.50	670,979.58	0.00	-42.87	0.00	

Plan Report for Big Eddy Unit 29W Vader 105H - Plan 1

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)				
7,000.00	14.72	177.85	6,855.28	1,151.19 S	43.24 E	568,989.11	670,980.54	0.00	-43.84	0.00	
7,100.00	14.72	177.85	6,952.00	1,176.58 S	44.19 E	568,963.72	670,981.49	0.00	-44.81	0.00	
7,200.00	14.72	177.85	7,048.72	1,201.97 S	45.15 E	568,938.33	670,982.45	0.00	-45.77	0.00	
7,300.00	14.72	177.85	7,145.44	1,227.36 S	46.10 E	568,912.94	670,983.40	0.00	-46.74	0.00	
7,400.00	14.72	177.85	7,242.16	1,252.75 S	47.05 E	568,887.55	670,984.35	0.00	-47.71	0.00	
7,500.00	14.72	177.85	7,338.88	1,278.14 S	48.01 E	568,862.16	670,985.31	0.00	-48.68	0.00	
7,600.00	14.72	177.85	7,435.59	1,303.53 S	48.96 E	568,836.77	670,986.26	0.00	-49.64	0.00	
7,700.00	14.72	177.85	7,532.31	1,328.92 S	49.91 E	568,811.38	670,987.21	0.00	-50.61	0.00	
7,800.00	14.72	177.85	7,629.03	1,354.31 S	50.87 E	568,785.99	670,988.17	0.00	-51.58	0.00	
7,900.00	14.72	177.85	7,725.75	1,379.70 S	51.82 E	568,760.60	670,989.12	0.00	-52.54	0.00	
8,000.00	14.72	177.85	7,822.47	1,405.09 S	52.77 E	568,735.21	670,990.07	0.00	-53.51	0.00	
8,100.00	14.72	177.85	7,919.19	1,430.48 S	53.73 E	568,709.82	670,991.03	0.00	-54.48	0.00	
8,200.00	14.72	177.85	8,015.90	1,455.87 S	54.68 E	568,684.43	670,991.98	0.00	-55.44	0.00	
8,300.00	14.72	177.85	8,112.62	1,481.26 S	55.64 E	568,659.04	670,992.94	0.00	-56.41	0.00	
8,400.00	14.72	177.85	8,209.34	1,506.65 S	56.59 E	568,633.65	670,993.89	0.00	-57.38	0.00	
8,500.00	14.72	177.85	8,306.06	1,532.04 S	57.54 E	568,608.26	670,994.84	0.00	-58.34	0.00	
8,600.00	14.72	177.85	8,402.78	1,557.43 S	58.50 E	568,582.87	670,995.80	0.00	-59.31	0.00	
8,700.00	14.72	177.85	8,499.50	1,582.82 S	59.45 E	568,557.48	670,996.75	0.00	-60.28	0.00	
8,800.00	14.72	177.85	8,596.22	1,608.21 S	60.40 E	568,532.09	670,997.70	0.00	-61.25	0.00	
8,900.00	14.72	177.85	8,692.93	1,633.60 S	61.36 E	568,506.70	670,998.66	0.00	-62.21	0.00	
9,000.00	14.72	177.85	8,789.65	1,658.99 S	62.31 E	568,481.31	670,999.61	0.00	-63.18	0.00	
9,100.00	14.72	177.85	8,886.37	1,684.38 S	63.26 E	568,455.92	671,000.56	0.00	-64.15	0.00	
9,200.00	14.72	177.85	8,983.09	1,709.77 S	64.22 E	568,430.53	671,001.52	0.00	-65.11	0.00	
9,300.00	14.72	177.85	9,079.81	1,735.16 S	65.17 E	568,405.14	671,002.47	0.00	-66.08	0.00	
9,400.00	14.72	177.85	9,176.53	1,760.55 S	66.13 E	568,379.75	671,003.43	0.00	-67.05	0.00	
9,417.70	14.72	177.85	9,193.65	1,765.04 S	66.29 E	568,375.26	671,003.59	0.00	-67.22	0.00	KOP/Build 10°/100'
9,450.00	15.73	189.55	9,224.82	1,773.46 S	65.72 E	568,366.84	671,003.02	10.00	-66.65	77.43	
9,500.00	18.32	204.24	9,272.64	1,787.32 S	61.37 E	568,352.98	670,998.67	10.00	-62.30	66.14	
9,550.00	21.74	214.93	9,319.63	1,802.09 S	52.83 E	568,338.21	670,990.13	10.00	-53.78	52.08	
9,600.00	25.66	222.68	9,365.41	1,817.65 S	40.18 E	568,322.65	670,977.48	10.00	-41.13	42.03	
9,650.00	29.89	228.42	9,409.65	1,833.89 S	23.51 E	568,306.41	670,960.81	10.00	-24.47	34.93	
9,700.00	34.31	232.84	9,452.00	1,850.68 S	2.95 E	568,289.62	670,940.25	10.00	-3.92	29.84	
9,750.00	38.86	236.34	9,492.14	1,867.90 S	21.35 W	568,272.40	670,915.95	10.00	20.37	26.10	
9,800.00	43.49	239.21	9,529.77	1,885.41 S	49.20 W	568,254.89	670,888.10	10.00	48.22	23.28	
9,850.00	48.18	241.63	9,564.60	1,903.08 S	80.40 W	568,237.22	670,856.90	10.00	79.40	21.12	
9,900.00	52.91	243.71	9,596.37	1,920.78 S	114.69 W	568,219.52	670,822.61	10.00	113.68	19.44	
9,950.00	57.68	245.55	9,624.83	1,938.37 S	151.82 W	568,201.93	670,785.48	10.00	150.81	18.11	

HALLIBURTON**Plan Report for Big Eddy Unit 29W Vader 105H - Plan 1**

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)				
10,000.00	62.47	247.20	9,649.77	1,955.72 S	191.52 W	568,184.58	670,745.78	10.00	190.49	17.06	
10,050.00	67.28	248.71	9,671.00	1,972.69 S	233.47 W	568,167.61	670,703.83	10.00	232.43	16.24	
10,100.00	72.10	250.12	9,688.35	1,989.16 S	277.35 W	568,151.14	670,659.95	10.00	276.31	15.60	
10,150.00	76.93	251.46	9,701.69	2,005.00 S	322.84 W	568,135.30	670,614.46	10.00	321.79	15.11	
10,200.00	81.77	252.74	9,710.93	2,020.10 S	369.59 W	568,120.20	670,567.71	10.00	368.53	14.75	
10,250.00	86.61	254.00	9,715.99	2,034.32 S	417.24 W	568,105.98	670,520.06	10.00	416.17	14.51	
10,299.36	90.52	255.00	9,717.00	2,045.10 S	456.10 W	568,095.20	670,481.20	10.00	455.03	14.38	Landing/Turn 3.25°/100'
10,300.00	90.52	255.31	9,716.91	2,047.57 S	465.43 W	568,092.73	670,471.87	3.25	464.36	89.93	
10,400.00	90.52	258.56	9,716.00	2,070.17 S	562.83 W	568,070.13	670,374.47	3.25	561.74	89.93	
10,500.00	90.52	261.81	9,715.09	2,087.20 S	661.35 W	568,053.10	670,275.95	3.25	660.25	89.96	
10,600.00	90.52	265.06	9,714.17	2,098.63 S	760.67 W	568,041.67	670,176.63	3.25	759.57	89.99	
10,700.00	90.52	268.31	9,713.26	2,104.40 S	860.49 W	568,035.90	670,076.81	3.25	859.39	90.02	
10,752.79	90.52	270.03	9,712.78	2,105.17 S	913.27 W	568,035.13	670,024.03	3.25	912.17	90.05	On Slot Line
10,800.00	90.52	270.03	9,712.35	2,105.14 S	960.48 W	568,035.16	669,976.82	0.00	959.38	0.00	
10,900.00	90.52	270.03	9,711.44	2,105.09 S	1,060.47 W	568,035.21	669,876.83	0.00	1,059.37	-58.08	
11,000.00	90.52	270.03	9,710.54	2,105.04 S	1,160.47 W	568,035.26	669,776.83	0.00	1,159.37	-58.08	
11,100.00	90.52	270.03	9,709.63	2,104.98 S	1,260.47 W	568,035.32	669,676.83	0.00	1,259.36	-58.08	
11,200.00	90.52	270.03	9,708.72	2,104.93 S	1,360.46 W	568,035.37	669,576.84	0.00	1,359.36	-58.08	
11,300.00	90.52	270.03	9,707.81	2,104.88 S	1,460.46 W	568,035.42	669,476.84	0.00	1,459.35	-58.08	
11,400.00	90.52	270.03	9,706.90	2,104.83 S	1,560.45 W	568,035.47	669,376.85	0.00	1,559.35	-58.08	
11,500.00	90.52	270.03	9,706.00	2,104.78 S	1,660.45 W	568,035.52	669,276.85	0.00	1,659.35	-58.08	
11,600.00	90.52	270.03	9,705.09	2,104.73 S	1,760.44 W	568,035.57	669,176.86	0.00	1,759.34	-58.08	
11,700.00	90.52	270.03	9,704.18	2,104.67 S	1,860.44 W	568,035.63	669,076.86	0.00	1,859.34	-58.08	
11,800.00	90.52	270.03	9,703.27	2,104.62 S	1,960.44 W	568,035.68	668,976.86	0.00	1,959.33	-58.08	
11,900.00	90.52	270.03	9,702.36	2,104.57 S	2,060.43 W	568,035.73	668,876.87	0.00	2,059.33	-58.08	
12,000.00	90.52	270.03	9,701.46	2,104.52 S	2,160.43 W	568,035.78	668,776.87	0.00	2,159.33	-58.08	
12,100.00	90.52	270.03	9,700.55	2,104.47 S	2,260.42 W	568,035.83	668,676.88	0.00	2,259.32	-58.08	
12,200.00	90.52	270.03	9,699.64	2,104.42 S	2,360.42 W	568,035.88	668,576.88	0.00	2,359.32	-58.08	
12,300.00	90.52	270.03	9,698.73	2,104.37 S	2,460.42 W	568,035.93	668,476.88	0.00	2,459.31	-58.08	
12,400.00	90.52	270.03	9,697.82	2,104.31 S	2,560.41 W	568,035.99	668,376.89	0.00	2,559.31	-58.08	
12,500.00	90.52	270.03	9,696.91	2,104.26 S	2,660.41 W	568,036.04	668,276.89	0.00	2,659.31	-58.08	
12,600.00	90.52	270.03	9,696.01	2,104.21 S	2,760.40 W	568,036.09	668,176.90	0.00	2,759.30	-58.08	
12,700.00	90.52	270.03	9,695.10	2,104.16 S	2,860.40 W	568,036.14	668,076.90	0.00	2,859.30	-58.08	
12,800.00	90.52	270.03	9,694.19	2,104.11 S	2,960.39 W	568,036.19	667,976.91	0.00	2,959.29	-58.08	
12,900.00	90.52	270.03	9,693.28	2,104.06 S	3,060.39 W	568,036.24	667,876.91	0.00	3,059.29	-58.08	
13,000.00	90.52	270.03	9,692.37	2,104.01 S	3,160.39 W	568,036.29	667,776.91	0.00	3,159.28	-58.08	

Plan Report for Big Eddy Unit 29W Vader 105H - Plan 1

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)				
13,100.00	90.52	270.03	9,691.46	2,103.96 S	3,260.38 W	568,036.34	667,676.92	0.00	3,259.28	-58.08	
13,200.00	90.52	270.03	9,690.55	2,103.91 S	3,360.38 W	568,036.39	667,576.92	0.00	3,359.28	-58.08	
13,300.00	90.52	270.03	9,689.64	2,103.86 S	3,460.37 W	568,036.44	667,476.93	0.00	3,459.27	-58.08	
13,400.00	90.52	270.03	9,688.74	2,103.81 S	3,560.37 W	568,036.49	667,376.93	0.00	3,559.27	-58.08	
13,500.00	90.52	270.03	9,687.83	2,103.76 S	3,660.37 W	568,036.54	667,276.93	0.00	3,659.26	-58.08	
13,600.00	90.52	270.03	9,686.92	2,103.71 S	3,760.36 W	568,036.59	667,176.94	0.00	3,759.26	-58.08	
13,700.00	90.52	270.03	9,686.01	2,103.66 S	3,860.36 W	568,036.64	667,076.94	0.00	3,859.26	-58.08	
13,800.00	90.52	270.03	9,685.10	2,103.61 S	3,960.35 W	568,036.69	666,976.95	0.00	3,959.25	-58.08	
13,900.00	90.52	270.03	9,684.19	2,103.56 S	4,060.35 W	568,036.74	666,876.95	0.00	4,059.25	-58.08	
14,000.00	90.52	270.03	9,683.28	2,103.51 S	4,160.35 W	568,036.79	666,776.95	0.00	4,159.24	-58.08	
14,100.00	90.52	270.03	9,682.37	2,103.46 S	4,260.34 W	568,036.84	666,676.96	0.00	4,259.24	-58.08	
14,200.00	90.52	270.03	9,681.46	2,103.41 S	4,360.34 W	568,036.89	666,576.96	0.00	4,359.23	-58.08	
14,300.00	90.52	270.03	9,680.55	2,103.36 S	4,460.33 W	568,036.94	666,476.97	0.00	4,459.23	-58.08	
14,400.00	90.52	270.03	9,679.64	2,103.31 S	4,560.33 W	568,036.99	666,376.97	0.00	4,559.23	-58.08	
14,500.00	90.52	270.03	9,678.73	2,103.26 S	4,660.32 W	568,037.04	666,276.98	0.00	4,659.22	-58.08	
14,600.00	90.52	270.03	9,677.83	2,103.21 S	4,760.32 W	568,037.09	666,176.98	0.00	4,759.22	-58.08	
14,700.00	90.52	270.03	9,676.92	2,103.16 S	4,860.32 W	568,037.14	666,076.98	0.00	4,859.21	-58.08	
14,800.00	90.52	270.03	9,676.01	2,103.11 S	4,960.31 W	568,037.19	665,976.99	0.00	4,959.21	-58.08	
14,900.00	90.52	270.03	9,675.10	2,103.06 S	5,060.31 W	568,037.24	665,876.99	0.00	5,059.21	-58.08	
15,000.00	90.52	270.03	9,674.19	2,103.02 S	5,160.30 W	568,037.28	665,777.00	0.00	5,159.20	-58.08	
15,100.00	90.52	270.03	9,673.28	2,102.97 S	5,260.30 W	568,037.33	665,677.00	0.00	5,259.20	-58.08	
15,200.00	90.52	270.03	9,672.37	2,102.92 S	5,360.30 W	568,037.38	665,577.00	0.00	5,359.19	-58.08	
15,300.00	90.52	270.03	9,671.46	2,102.87 S	5,460.29 W	568,037.43	665,477.01	0.00	5,459.19	-58.08	
15,400.00	90.52	270.03	9,670.55	2,102.82 S	5,560.29 W	568,037.48	665,377.01	0.00	5,559.19	-58.08	
15,500.00	90.52	270.03	9,669.64	2,102.77 S	5,660.28 W	568,037.53	665,277.02	0.00	5,659.18	-58.08	
15,600.00	90.52	270.03	9,668.73	2,102.72 S	5,760.28 W	568,037.58	665,177.02	0.00	5,759.18	-58.08	
15,700.00	90.52	270.03	9,667.82	2,102.68 S	5,860.27 W	568,037.62	665,077.03	0.00	5,859.17	-58.08	
15,800.00	90.52	270.03	9,666.91	2,102.63 S	5,960.27 W	568,037.67	664,977.03	0.00	5,959.17	-58.08	
15,900.00	90.52	270.03	9,666.00	2,102.58 S	6,060.27 W	568,037.72	664,877.03	0.00	6,059.16	-58.08	
16,000.00	90.52	270.03	9,665.09	2,102.53 S	6,160.26 W	568,037.77	664,777.04	0.00	6,159.16	-58.08	
16,100.00	90.52	270.03	9,664.18	2,102.48 S	6,260.26 W	568,037.82	664,677.04	0.00	6,259.16	-58.08	
16,200.00	90.52	270.03	9,663.27	2,102.44 S	6,360.25 W	568,037.86	664,577.05	0.00	6,359.15	-58.08	
16,300.00	90.52	270.03	9,662.36	2,102.39 S	6,460.25 W	568,037.91	664,477.05	0.00	6,459.15	-58.08	
16,400.00	90.52	270.03	9,661.45	2,102.34 S	6,560.25 W	568,037.96	664,377.05	0.00	6,559.14	-58.08	
16,500.00	90.52	270.03	9,660.54	2,102.29 S	6,660.24 W	568,038.01	664,277.06	0.00	6,659.14	-58.08	
16,600.00	90.52	270.03	9,659.62	2,102.24 S	6,760.24 W	568,038.06	664,177.06	0.00	6,759.14	-58.08	
16,700.00	90.52	270.03	9,658.71	2,102.20 S	6,860.23 W	568,038.10	664,077.07	0.00	6,859.13	-58.08	

HALLIBURTON**Plan Report for Big Eddy Unit 29W Vader 105H - Plan 1**

Measured Depth (usft)	Inclination (°)	Grid Azimuth (°)	Vertical Depth (usft)	Local Coordinates		Map Coordinates		Dogleg Rate (°/100usft)	Vertical Section (usft)	Toolface Angle (°)	Comments
Depth (usft)	Inclination (°)	Azimuth (°)	Depth (usft)	Northing (usft)	Easting (usft)	Northing (usft)	Easting (usft)				
16,800.00	90.52	270.03	9,657.80	2,102.15 S	6,960.23 W	568,038.15	663,977.07	0.00	6,959.13	-58.08	
16,900.00	90.52	270.03	9,656.89	2,102.10 S	7,060.22 W	568,038.20	663,877.08	0.00	7,059.12	-58.08	
17,000.00	90.52	270.03	9,655.98	2,102.05 S	7,160.22 W	568,038.25	663,777.08	0.00	7,159.12	-58.08	
17,100.00	90.52	270.03	9,655.07	2,102.01 S	7,260.22 W	568,038.29	663,677.08	0.00	7,259.11	-58.08	
17,200.00	90.52	270.03	9,654.16	2,101.96 S	7,360.21 W	568,038.34	663,577.09	0.00	7,359.11	-58.08	
17,300.00	90.52	270.03	9,653.25	2,101.91 S	7,460.21 W	568,038.39	663,477.09	0.00	7,459.11	-58.08	
17,400.00	90.52	270.03	9,652.34	2,101.87 S	7,560.20 W	568,038.43	663,377.10	0.00	7,559.10	-58.08	
17,500.00	90.52	270.03	9,651.43	2,101.82 S	7,660.20 W	568,038.48	663,277.10	0.00	7,659.10	-58.08	
17,600.00	90.52	270.03	9,650.52	2,101.77 S	7,760.20 W	568,038.53	663,177.10	0.00	7,759.09	-58.08	
17,700.00	90.52	270.03	9,649.61	2,101.73 S	7,860.19 W	568,038.57	663,077.11	0.00	7,859.09	-58.08	
17,800.00	90.52	270.03	9,648.69	2,101.68 S	7,960.19 W	568,038.62	662,977.11	0.00	7,959.09	-58.08	
17,900.00	90.52	270.03	9,647.78	2,101.63 S	8,060.18 W	568,038.67	662,877.12	0.00	8,059.08	-58.08	
18,000.00	90.52	270.03	9,646.87	2,101.59 S	8,160.18 W	568,038.71	662,777.12	0.00	8,159.08	-58.08	
18,100.00	90.52	270.03	9,645.96	2,101.54 S	8,260.17 W	568,038.76	662,677.13	0.00	8,259.07	-58.08	
18,200.00	90.52	270.03	9,645.05	2,101.49 S	8,360.17 W	568,038.81	662,577.13	0.00	8,359.07	-58.08	
18,300.00	90.52	270.03	9,644.14	2,101.45 S	8,460.17 W	568,038.85	662,477.13	0.00	8,459.06	-58.08	
18,400.00	90.52	270.03	9,643.23	2,101.40 S	8,560.16 W	568,038.90	662,377.14	0.00	8,559.06	-58.08	
18,500.00	90.52	270.03	9,642.31	2,101.36 S	8,660.16 W	568,038.94	662,277.14	0.00	8,659.06	-58.08	
18,600.00	90.52	270.03	9,641.40	2,101.31 S	8,760.15 W	568,038.99	662,177.15	0.00	8,759.05	-58.08	
18,700.00	90.52	270.03	9,640.49	2,101.26 S	8,860.15 W	568,039.04	662,077.15	0.00	8,859.05	-58.08	
18,800.00	90.52	270.03	9,639.58	2,101.22 S	8,960.15 W	568,039.08	661,977.15	0.00	8,959.04	-58.08	
18,900.00	90.52	270.03	9,638.67	2,101.17 S	9,060.14 W	568,039.13	661,877.16	0.00	9,059.04	-58.08	
19,000.00	90.52	270.03	9,637.76	2,101.13 S	9,160.14 W	568,039.17	661,777.16	0.00	9,159.04	-58.08	
19,100.00	90.52	270.03	9,636.84	2,101.08 S	9,260.13 W	568,039.22	661,677.17	0.00	9,259.03	-58.08	
19,200.00	90.52	270.03	9,635.93	2,101.04 S	9,360.13 W	568,039.26	661,577.17	0.00	9,359.03	-58.08	
19,300.00	90.52	270.03	9,635.02	2,100.99 S	9,460.12 W	568,039.31	661,477.18	0.00	9,459.02	-58.08	
19,400.00	90.52	270.03	9,634.11	2,100.95 S	9,560.12 W	568,039.35	661,377.18	0.00	9,559.02	-58.08	
19,500.00	90.52	270.03	9,633.20	2,100.90 S	9,660.12 W	568,039.40	661,277.18	0.00	9,659.02	-58.08	
19,600.00	90.52	270.03	9,632.29	2,100.85 S	9,760.11 W	568,039.45	661,177.19	0.00	9,759.01	-58.08	
19,700.00	90.52	270.03	9,631.37	2,100.81 S	9,860.11 W	568,039.49	661,077.19	0.00	9,859.01	-58.08	
19,800.00	90.52	270.03	9,630.46	2,100.76 S	9,960.10 W	568,039.54	660,977.20	0.00	9,959.00	-58.08	
19,900.00	90.52	270.03	9,629.55	2,100.72 S	10,060.10 W	568,039.58	660,877.20	0.00	10,059.00	-58.08	
20,000.00	90.52	270.03	9,628.64	2,100.67 S	10,160.10 W	568,039.63	660,777.20	0.00	10,158.99	-58.08	
20,100.00	90.52	270.03	9,627.72	2,100.63 S	10,260.09 W	568,039.67	660,677.21	0.00	10,258.99	-58.08	
20,200.00	90.52	270.03	9,626.81	2,100.59 S	10,360.09 W	568,039.71	660,577.21	0.00	10,358.99	-58.08	
20,300.00	90.52	270.03	9,625.90	2,100.54 S	10,460.08 W	568,039.76	660,477.22	0.00	10,458.98	-58.08	
20,400.00	90.52	270.03	9,624.99	2,100.50 S	10,560.08 W	568,039.80	660,377.22	0.00	10,558.98	-58.08	

HALLIBURTON**Plan Report for Big Eddy Unit 29W Vader 105H - Plan 1**

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)				
20,500.00	90.52	270.03	9,624.07	2,100.45 S	10,660.07 W	568,039.85	660,277.23	0.00	10,658.97	-58.08	
20,600.00	90.52	270.03	9,623.16	2,100.41 S	10,760.07 W	568,039.89	660,177.23	0.00	10,758.97	-58.08	
20,617.73	90.52	270.03	9,623.00	2,100.40 S	10,777.80 W	568,039.90	660,159.50	0.00	10,776.70	0.00	TD at 20617.73 - 5 1/2"

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
2,100.00	2,100.00	0.00	0.00	Build 2°/100'
2,835.95	2,827.88	-93.94	3.53	Hold 14.72°
9,417.70	9,193.65	-1,765.04	66.29	KOP/Build 10°/100'
10,290.35	9,717.00	-2,045.10	-456.10	Landing/Turn 3.25°/100'
10,752.79	9,712.78	-2,105.17	-913.27	On Slot Line
20,617.73	9,623.00	-2,100.40	-10,777.80	TD at 20617.73

Vertical Section Information

Angle Type	Target	Azimuth (")	Origin Type	Origin +N/-S (usft)	Origin +E/-W (usft)	Start TVD (usft)
User	No Target (Freehand)	270.03	Slot	0.00	0.00	0.00

Survey tool program

From (usft)	To (usft)	Survey/Plan	Survey Tool
0.00	20,617.73	Plan 1	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
2,501.31	2,500.00	13 3/8"	13-3/8	17-1/2
5,081.77	5,000.00	9 5/8"	9-5/8	12-1/4
20,617.73	9,623.00	5 1/2"	5-1/2	8-1/2

Plan Report for Big Eddy Unit 29W Vader 105H - Plan 1

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 105H FTP (1980' FNL - 100' FEL) ()									
	0.00	0.00	0.00	-2,105.10	-356.10	568,035.20	670,581.20	32.56041682	-103.77967170
- plan misses target center by 2135.01usft at 0.00usft MD (0.00 TVD, 0.00 N, 0.00 E)									
- Point									
Vader 105H LTP (1980' FNL - 100' FWL) ()									
	0.00	0.00	0.00	-2,100.40	-10,727.80	568,039.90	660,209.50	32.56057350	-103.81333419
- plan misses target center by 9623.13usft at 20617.73usft MD (9623.00 TVD, -2100.40 N, -10777.80 E)									
- Point									
Vader 105H BHL (1980' FENL - 50' FWL) ()									
	0.00	0.00	0.00	-2,100.40	-10,777.80	568,039.90	660,159.50	32.56057418	-103.81349648
- plan misses target center by 9623.00usft at 20617.73usft MD (9623.00 TVD, -2100.40 N, -10777.80 E)									
- Point									

Directional Difficulty Index

Average Dogleg over Survey:	0.57 °/100usft	Maximum Dogleg over Survey:	10.00 °/100usft at 10,290.35 usft
Net Tortousity applicable to Plans:	0.57 °/100usft	Directional Difficulty Index:	6.637

Audit Info

North Reference Sheet for Big Eddy Unit 29 Pad (Grid) - Big Eddy Unit 29W Vader 105H - 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 W Vader 105H
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: 0.99994255

Grid Coordinates of Well: 570,140.30 usft N, 670,937.30 usft E
Geographical Coordinates of Well: 32.56619805, -103.77848033
Grid Convergence at Surface is: 0.30°

Based upon Minimum Curvature type calculations, at a Measured Depth of 20,617.73usft
the Bottom Hole Displacement is 10,980.56usft in the Direction of 258.97° (Grid).
Magnetic Convergence at surface is: -6.57° (17 November 2019, , BGGM2018)

