

EXTRACTION OIL & GAS

Weld County

Sec 21-T5N-R65W

AD-LIBRARY 2-20-24

ORIGINAL WELLBORE

Plan: PROPOSAL #1

Standard Planning Report

13 February, 2017



Project: Weld County
Site: Sec 21-T5N-R65W
Well: AD-LIBRARY 2-20-24
Wellbore: ORIGINAL WELLBORE
Design: PROPOSAL #1



Azimuths to True North
Magnetic North: 8.28°

Magnetic Field
Strength: 52516.0nT
Dip Angle: 66.88°
Date: 5/22/2016
Model: IGRF2015

WELL DETAILS: AD-LIBRARY 2-20-24

+N/-S	+E/-W	Northing	Ground Level:	4639.0	Latitude	Longitude	Slot
0.0	0.0	1383210.39	Easting	3229412.34	40° 22' 56.604 N	104° 40' 35.364 W	

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	100.0	0.00	0.00	100.0	0.0	0.0	0.00	0.00	0.0	
3	897.0	15.94	188.37	886.7	-109.0	-16.0	2.00	188.37	30.4	
4	6713.7	15.94	188.37	6479.9	-1689.3	-248.5	0.00	0.00	471.5	
5	7591.7	90.00	270.32	7010.0	-1836.0	-821.9	10.00	82.26	1059.4	HZ LANDING PNT -
6	19903.3	90.00	270.32	7010.0	-1767.0	-13133.3	0.00	0.00	13251.7	BHL - AD-LIBRARY

ANNOTATIONS

MD	Inc	Azi	TVD	+N/-S	+E/-W	VSec	Departure	Annotation
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.0	Build 2"/100'
897.0	15.94	188.37	886.7	-109.0	-16.0	-109.0	110.1	Hold 15.94° Inc
6713.7	15.94	188.37	6479.9	-1689.3	-248.5	-1689.3	1707.5	KOP, Build 10"/100'
7591.7	90.00	270.32	7010.0	-1836.0	-821.9	-1836.0	2322.1	LP @ 90° Inc, 270.32° Azm Hold
19903.3	90.00	270.32	7010.0	-1767.0	-13133.3	-1767.0	14633.7	TD at 19903.3' MD

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
BHL - AD-LIBRARY 2-20-24	7010.0	-1767.0	-13133.3	1381321.53	3216295.99	40° 22' 39.108 N	104° 43' 25.068 W	Point
HZ LANDING PNT - AD-LIBRARY 2-20-24	7010.0	-1836.0	-821.9	1381366.81	3228607.55	40° 22' 38.460 N	104° 40' 45.984 W	Point

FORMATION TOP DETAILS

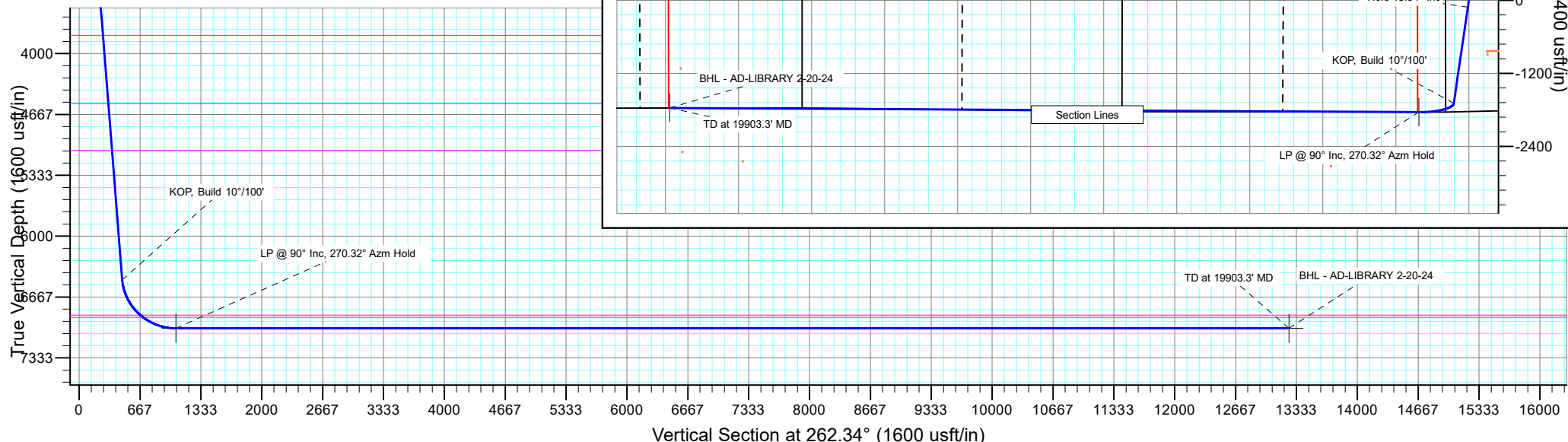
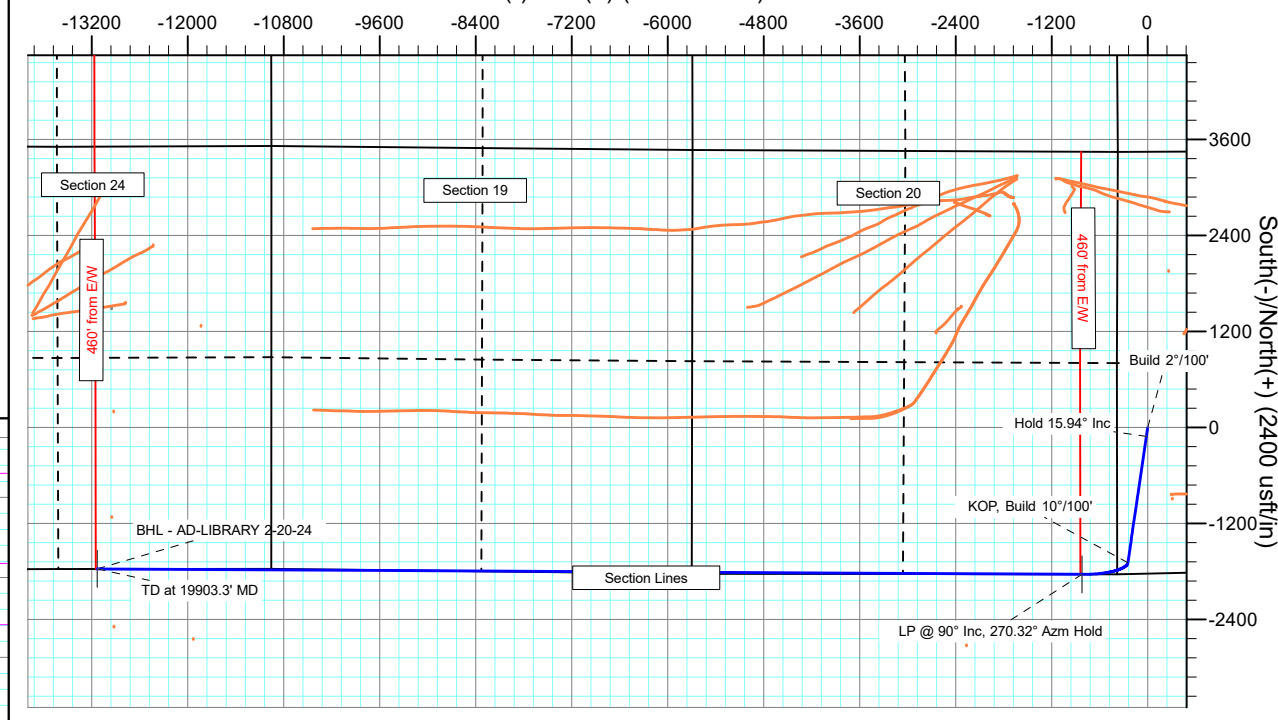
TVDPath	MDPath	Formation
3800.0	3926.7	PARKMAN
4550.0	4706.7	SUSSEX
5060.0	5237.1	SHANNON
6865.0	7166.5	SHARON SPRINGS
6890.0	7206.5	NIOBRARA

PROJECT DETAILS: Weld County

Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: Colorado Northern Zone
System Datum: Mean Sea Level

SHL:
367' FWL, 1828' FSL
Sec 21-T5N-R65W
LP:
0' FSL, 460' FEL
Sec 20-T5N-R65W
BHL:
0' FSL, 2201' FEL
Sec 24-T5N-R66W

West(-)/East(+) (2400 usft/in)



Planning Report

Database:	EDT_32Bit_ODBC	Local Co-ordinate Reference:	Well AD-LIBRARY 2-20-24
Company:	EXTRACTION OIL & GAS	TVD Reference:	KB-EST @ 4655.0usft (Original Well Elev)
Project:	Weld County	MD Reference:	KB-EST @ 4655.0usft (Original Well Elev)
Site:	Sec 21-T5N-R65W	North Reference:	True
Well:	AD-LIBRARY 2-20-24	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL #1		

Project	Weld County		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		

Site		Sec 21-T5N-R65W			
Site Position:		Northing:	1,383,619.20 usft	Latitude:	40° 23' 0.636 N
From:	Lat/Long	Easting:	3,229,494.91 usft	Longitude:	104° 40' 34.248 W
Position Uncertainty:	0.0 usft	Slot Radius:	13.200 in	Grid Convergence:	0.53

Well	AD-LIBRARY 2-20-24					
Well Position	+N/-S	-408.0 usft	Northing:	1,383,210.40 usft	Latitude:	40° 22' 56.604 N
	+E/-W	-86.4 usft	Easting:	3,229,412.35 usft	Longitude:	104° 40' 35.364 W
Position Uncertainty		0.0 usft	Wellhead Elevation:		Ground Level:	4,639.0 usft

Wellbore	ORIGINAL WELLBORE				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	5/22/2016	8.28	66.88	52,516.03164633

Design	PROPOSAL #1			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	0.00

Plan Survey Tool Program			Date	2/13/2017	
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks	
1	0.0	19,903.3	PROPOSAL #1 (ORIGINAL WEL	MWD OWSG Rev 2	
				OWSG MWD - Standard	

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
100.0	0.00	0.00	100.0	0.0	0.0	0.00	0.00	0.00	0.00	
897.0	15.94	188.37	886.7	-109.0	-16.0	2.00	2.00	0.00	188.37	
6,713.7	15.94	188.37	6,479.9	-1,689.3	-248.5	0.00	0.00	0.00	0.00	
7,591.7	90.00	270.32	7,010.0	-1,836.0	-821.9	10.00	8.44	9.33	82.26	HZ LANDING PNT - A
19,903.3	90.00	270.32	7,010.0	-1,767.0	-13,133.3	0.00	0.00	0.00	0.00	BHL - AD-LIBRARY 2

Planning Report

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Company:	EXTRACTION OIL & GAS	TVD Reference:	KB-EST @ 4655.0usft (Original Well Elev)
Project:	Weld County	MD Reference:	KB-EST @ 4655.0usft (Original Well Elev)
Site:	Sec 21-T5N-R65W	North Reference:	True
Well:	AD-LIBRARY 2-20-24	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
Build 2°/100'									
200.0	2.00	188.37	200.0	-1.7	-0.3	-1.7	2.00	2.00	0.00
300.0	4.00	188.37	299.8	-6.9	-1.0	-6.9	2.00	2.00	0.00
400.0	6.00	188.37	399.5	-15.5	-2.3	-15.5	2.00	2.00	0.00
500.0	8.00	188.37	498.7	-27.6	-4.1	-27.6	2.00	2.00	0.00
600.0	10.00	188.37	597.5	-43.1	-6.3	-43.1	2.00	2.00	0.00
700.0	12.00	188.37	695.6	-61.9	-9.1	-61.9	2.00	2.00	0.00
800.0	14.00	188.37	793.1	-84.2	-12.4	-84.2	2.00	2.00	0.00
897.0	15.94	188.37	886.7	-109.0	-16.0	-109.0	2.00	2.00	0.00
Hold 15.94° Inc									
900.0	15.94	188.37	889.6	-109.8	-16.2	-109.8	0.00	0.00	0.00
1,000.0	15.94	188.37	985.8	-137.0	-20.1	-137.0	0.00	0.00	0.00
1,100.0	15.94	188.37	1,082.0	-164.1	-24.1	-164.1	0.00	0.00	0.00
1,200.0	15.94	188.37	1,178.1	-191.3	-28.1	-191.3	0.00	0.00	0.00
1,300.0	15.94	188.37	1,274.3	-218.5	-32.1	-218.5	0.00	0.00	0.00
1,400.0	15.94	188.37	1,370.4	-245.6	-36.1	-245.6	0.00	0.00	0.00
1,500.0	15.94	188.37	1,466.6	-272.8	-40.1	-272.8	0.00	0.00	0.00
1,600.0	15.94	188.37	1,562.7	-300.0	-44.1	-300.0	0.00	0.00	0.00
1,700.0	15.94	188.37	1,658.9	-327.1	-48.1	-327.1	0.00	0.00	0.00
1,800.0	15.94	188.37	1,755.0	-354.3	-52.1	-354.3	0.00	0.00	0.00
1,900.0	15.94	188.37	1,851.2	-381.5	-56.1	-381.5	0.00	0.00	0.00
2,000.0	15.94	188.37	1,947.4	-408.7	-60.1	-408.7	0.00	0.00	0.00
2,100.0	15.94	188.37	2,043.5	-435.8	-64.1	-435.8	0.00	0.00	0.00
2,200.0	15.94	188.37	2,139.7	-463.0	-68.1	-463.0	0.00	0.00	0.00
2,300.0	15.94	188.37	2,235.8	-490.2	-72.1	-490.2	0.00	0.00	0.00
2,400.0	15.94	188.37	2,332.0	-517.3	-76.1	-517.3	0.00	0.00	0.00
2,500.0	15.94	188.37	2,428.1	-544.5	-80.1	-544.5	0.00	0.00	0.00
2,600.0	15.94	188.37	2,524.3	-571.7	-84.1	-571.7	0.00	0.00	0.00
2,700.0	15.94	188.37	2,620.4	-598.8	-88.1	-598.8	0.00	0.00	0.00
2,800.0	15.94	188.37	2,716.6	-626.0	-92.1	-626.0	0.00	0.00	0.00
2,900.0	15.94	188.37	2,812.8	-653.2	-96.1	-653.2	0.00	0.00	0.00
3,000.0	15.94	188.37	2,908.9	-680.3	-100.1	-680.3	0.00	0.00	0.00
3,100.0	15.94	188.37	3,005.1	-707.5	-104.1	-707.5	0.00	0.00	0.00
3,200.0	15.94	188.37	3,101.2	-734.7	-108.1	-734.7	0.00	0.00	0.00
3,300.0	15.94	188.37	3,197.4	-761.9	-112.1	-761.9	0.00	0.00	0.00
3,400.0	15.94	188.37	3,293.5	-789.0	-116.1	-789.0	0.00	0.00	0.00
3,500.0	15.94	188.37	3,389.7	-816.2	-120.1	-816.2	0.00	0.00	0.00
3,600.0	15.94	188.37	3,485.8	-843.4	-124.1	-843.4	0.00	0.00	0.00
3,700.0	15.94	188.37	3,582.0	-870.5	-128.1	-870.5	0.00	0.00	0.00
3,800.0	15.94	188.37	3,678.2	-897.7	-132.1	-897.7	0.00	0.00	0.00
3,900.0	15.94	188.37	3,774.3	-924.9	-136.1	-924.9	0.00	0.00	0.00
3,926.7	15.94	188.37	3,800.0	-932.1	-137.1	-932.1	0.00	0.00	0.00
PARKMAN									
4,000.0	15.94	188.37	3,870.5	-952.0	-140.1	-952.0	0.00	0.00	0.00
4,100.0	15.94	188.37	3,966.6	-979.2	-144.0	-979.2	0.00	0.00	0.00
4,200.0	15.94	188.37	4,062.8	-1,006.4	-148.0	-1,006.4	0.00	0.00	0.00
4,300.0	15.94	188.37	4,158.9	-1,033.5	-152.0	-1,033.5	0.00	0.00	0.00
4,400.0	15.94	188.37	4,255.1	-1,060.7	-156.0	-1,060.7	0.00	0.00	0.00
4,500.0	15.94	188.37	4,351.2	-1,087.9	-160.0	-1,087.9	0.00	0.00	0.00
4,600.0	15.94	188.37	4,447.4	-1,115.0	-164.0	-1,115.0	0.00	0.00	0.00
4,700.0	15.94	188.37	4,543.6	-1,142.2	-168.0	-1,142.2	0.00	0.00	0.00

Planning Report

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Company:	EXTRACTION OIL & GAS	TVD Reference:	KB-EST @ 4655.0usft (Original Well Elev)
Project:	Weld County	MD Reference:	KB-EST @ 4655.0usft (Original Well Elev)
Site:	Sec 21-T5N-R65W	North Reference:	True
Well:	AD-LIBRARY 2-20-24	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL #1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
4,706.7	15.94	188.37	4,550.0	-1,144.0	-168.3	-1,144.0	0.00	0.00	0.00
SUSSEX									
4,800.0	15.94	188.37	4,639.7	-1,169.4	-172.0	-1,169.4	0.00	0.00	0.00
4,900.0	15.94	188.37	4,735.9	-1,196.6	-176.0	-1,196.6	0.00	0.00	0.00
5,000.0	15.94	188.37	4,832.0	-1,223.7	-180.0	-1,223.7	0.00	0.00	0.00
5,100.0	15.94	188.37	4,928.2	-1,250.9	-184.0	-1,250.9	0.00	0.00	0.00
5,200.0	15.94	188.37	5,024.3	-1,278.1	-188.0	-1,278.1	0.00	0.00	0.00
5,237.1	15.94	188.37	5,060.0	-1,288.1	-189.5	-1,288.1	0.00	0.00	0.00
SHANNON									
5,300.0	15.94	188.37	5,120.5	-1,305.2	-192.0	-1,305.2	0.00	0.00	0.00
5,400.0	15.94	188.37	5,216.6	-1,332.4	-196.0	-1,332.4	0.00	0.00	0.00
5,500.0	15.94	188.37	5,312.8	-1,359.6	-200.0	-1,359.6	0.00	0.00	0.00
5,600.0	15.94	188.37	5,408.9	-1,386.7	-204.0	-1,386.7	0.00	0.00	0.00
5,700.0	15.94	188.37	5,505.1	-1,413.9	-208.0	-1,413.9	0.00	0.00	0.00
5,800.0	15.94	188.37	5,601.3	-1,441.1	-212.0	-1,441.1	0.00	0.00	0.00
5,900.0	15.94	188.37	5,697.4	-1,468.2	-216.0	-1,468.2	0.00	0.00	0.00
6,000.0	15.94	188.37	5,793.6	-1,495.4	-220.0	-1,495.4	0.00	0.00	0.00
6,100.0	15.94	188.37	5,889.7	-1,522.6	-224.0	-1,522.6	0.00	0.00	0.00
6,200.0	15.94	188.37	5,985.9	-1,549.8	-228.0	-1,549.8	0.00	0.00	0.00
6,300.0	15.94	188.37	6,082.0	-1,576.9	-232.0	-1,576.9	0.00	0.00	0.00
6,400.0	15.94	188.37	6,178.2	-1,604.1	-236.0	-1,604.1	0.00	0.00	0.00
6,500.0	15.94	188.37	6,274.3	-1,631.3	-240.0	-1,631.3	0.00	0.00	0.00
6,600.0	15.94	188.37	6,370.5	-1,658.4	-244.0	-1,658.4	0.00	0.00	0.00
6,700.0	15.94	188.37	6,466.7	-1,685.6	-248.0	-1,685.6	0.00	0.00	0.00
6,713.7	15.94	188.37	6,479.9	-1,689.3	-248.5	-1,689.3	0.00	0.00	0.00
KOP, Build 10°/100'									
6,750.0	16.81	200.89	6,514.7	-1,699.2	-251.1	-1,699.2	10.00	2.39	34.52
6,800.0	19.07	215.43	6,562.3	-1,712.6	-258.4	-1,712.6	10.00	4.53	29.08
6,850.0	22.22	226.50	6,609.1	-1,725.7	-270.0	-1,725.7	10.00	6.29	22.14
6,900.0	25.92	234.75	6,654.7	-1,738.6	-285.8	-1,738.6	10.00	7.42	16.50
6,950.0	29.99	240.98	6,698.9	-1,750.9	-305.7	-1,750.9	10.00	8.13	12.46
7,000.0	34.28	245.81	6,741.2	-1,762.8	-329.5	-1,762.8	10.00	8.58	9.66
7,050.0	38.72	249.67	6,781.4	-1,774.0	-357.0	-1,774.0	10.00	8.89	7.72
7,100.0	43.27	252.84	6,819.1	-1,784.5	-388.1	-1,784.5	10.00	9.10	6.34
7,150.0	47.90	255.51	6,854.1	-1,794.2	-422.4	-1,794.2	10.00	9.24	5.35
7,166.5	49.43	256.31	6,865.0	-1,797.2	-434.4	-1,797.2	10.00	9.32	4.83
SHARON SPRINGS									
7,200.0	52.57	257.82	6,886.1	-1,803.0	-459.8	-1,803.0	10.00	9.37	4.51
7,206.5	53.18	258.10	6,890.0	-1,804.1	-464.8	-1,804.1	10.00	9.40	4.28
NIOBRARA									
7,250.0	57.29	259.86	6,914.8	-1,810.9	-499.9	-1,810.9	10.00	9.43	4.04
7,300.0	62.03	261.69	6,940.1	-1,817.8	-542.5	-1,817.8	10.00	9.49	3.66
7,350.0	66.80	263.36	6,961.7	-1,823.7	-587.2	-1,823.7	10.00	9.53	3.35
7,400.0	71.58	264.92	6,979.4	-1,828.4	-633.7	-1,828.4	10.00	9.57	3.12
7,450.0	76.38	266.39	6,993.2	-1,832.1	-681.6	-1,832.1	10.00	9.59	2.95
7,500.0	81.18	267.81	7,003.0	-1,834.5	-730.6	-1,834.5	10.00	9.61	2.83
7,550.0	85.99	269.19	7,008.5	-1,835.8	-780.2	-1,835.8	10.00	9.62	2.76
7,591.7	90.00	270.32	7,010.0	-1,836.0	-821.9	-1,836.0	10.00	9.62	2.73
LP @ 90° Inc, 270.32° Azm Hold									
7,600.0	90.00	270.32	7,010.0	-1,836.0	-830.2	-1,836.0	0.00	0.00	0.00
7,700.0	90.00	270.32	7,010.0	-1,835.4	-930.2	-1,835.4	0.00	0.00	0.00
7,800.0	90.00	270.32	7,010.0	-1,834.9	-1,030.2	-1,834.9	0.00	0.00	0.00
7,900.0	90.00	270.32	7,010.0	-1,834.3	-1,130.2	-1,834.3	0.00	0.00	0.00

Planning Report

Database:	EDT_32Bit_ODBC	Local Co-ordinate Reference:	Well AD-LIBRARY 2-20-24
Company:	EXTRACTION OIL & GAS	TVD Reference:	KB-EST @ 4655.0usft (Original Well Elev)
Project:	Weld County	MD Reference:	KB-EST @ 4655.0usft (Original Well Elev)
Site:	Sec 21-T5N-R65W	North Reference:	True
Well:	AD-LIBRARY 2-20-24	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL #1		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
8,000.0	90.00	270.32	7,010.0	-1,833.7	-1,230.2	-1,833.7	0.00	0.00	0.00	
8,100.0	90.00	270.32	7,010.0	-1,833.2	-1,330.2	-1,833.2	0.00	0.00	0.00	
8,200.0	90.00	270.32	7,010.0	-1,832.6	-1,430.2	-1,832.6	0.00	0.00	0.00	
8,300.0	90.00	270.32	7,010.0	-1,832.1	-1,530.2	-1,832.1	0.00	0.00	0.00	
8,400.0	90.00	270.32	7,010.0	-1,831.5	-1,630.2	-1,831.5	0.00	0.00	0.00	
8,500.0	90.00	270.32	7,010.0	-1,830.9	-1,730.2	-1,830.9	0.00	0.00	0.00	
8,600.0	90.00	270.32	7,010.0	-1,830.4	-1,830.2	-1,830.4	0.00	0.00	0.00	
8,700.0	90.00	270.32	7,010.0	-1,829.8	-1,930.2	-1,829.8	0.00	0.00	0.00	
8,800.0	90.00	270.32	7,010.0	-1,829.2	-2,030.2	-1,829.2	0.00	0.00	0.00	
8,900.0	90.00	270.32	7,010.0	-1,828.7	-2,130.2	-1,828.7	0.00	0.00	0.00	
9,000.0	90.00	270.32	7,010.0	-1,828.1	-2,230.2	-1,828.1	0.00	0.00	0.00	
9,100.0	90.00	270.32	7,010.0	-1,827.6	-2,330.2	-1,827.6	0.00	0.00	0.00	
9,200.0	90.00	270.32	7,010.0	-1,827.0	-2,430.2	-1,827.0	0.00	0.00	0.00	
9,300.0	90.00	270.32	7,010.0	-1,826.4	-2,530.2	-1,826.4	0.00	0.00	0.00	
9,400.0	90.00	270.32	7,010.0	-1,825.9	-2,630.2	-1,825.9	0.00	0.00	0.00	
9,500.0	90.00	270.32	7,010.0	-1,825.3	-2,730.2	-1,825.3	0.00	0.00	0.00	
9,600.0	90.00	270.32	7,010.0	-1,824.8	-2,830.2	-1,824.8	0.00	0.00	0.00	
9,700.0	90.00	270.32	7,010.0	-1,824.2	-2,930.2	-1,824.2	0.00	0.00	0.00	
9,800.0	90.00	270.32	7,010.0	-1,823.6	-3,030.2	-1,823.6	0.00	0.00	0.00	
9,900.0	90.00	270.32	7,010.0	-1,823.1	-3,130.1	-1,823.1	0.00	0.00	0.00	
10,000.0	90.00	270.32	7,010.0	-1,822.5	-3,230.1	-1,822.5	0.00	0.00	0.00	
10,100.0	90.00	270.32	7,010.0	-1,822.0	-3,330.1	-1,822.0	0.00	0.00	0.00	
10,200.0	90.00	270.32	7,010.0	-1,821.4	-3,430.1	-1,821.4	0.00	0.00	0.00	
10,300.0	90.00	270.32	7,010.0	-1,820.8	-3,530.1	-1,820.8	0.00	0.00	0.00	
10,400.0	90.00	270.32	7,010.0	-1,820.3	-3,630.1	-1,820.3	0.00	0.00	0.00	
10,500.0	90.00	270.32	7,010.0	-1,819.7	-3,730.1	-1,819.7	0.00	0.00	0.00	
10,600.0	90.00	270.32	7,010.0	-1,819.1	-3,830.1	-1,819.1	0.00	0.00	0.00	
10,700.0	90.00	270.32	7,010.0	-1,818.6	-3,930.1	-1,818.6	0.00	0.00	0.00	
10,800.0	90.00	270.32	7,010.0	-1,818.0	-4,030.1	-1,818.0	0.00	0.00	0.00	
10,900.0	90.00	270.32	7,010.0	-1,817.5	-4,130.1	-1,817.5	0.00	0.00	0.00	
11,000.0	90.00	270.32	7,010.0	-1,816.9	-4,230.1	-1,816.9	0.00	0.00	0.00	
11,100.0	90.00	270.32	7,010.0	-1,816.3	-4,330.1	-1,816.3	0.00	0.00	0.00	
11,200.0	90.00	270.32	7,010.0	-1,815.8	-4,430.1	-1,815.8	0.00	0.00	0.00	
11,300.0	90.00	270.32	7,010.0	-1,815.2	-4,530.1	-1,815.2	0.00	0.00	0.00	
11,400.0	90.00	270.32	7,010.0	-1,814.7	-4,630.1	-1,814.7	0.00	0.00	0.00	
11,500.0	90.00	270.32	7,010.0	-1,814.1	-4,730.1	-1,814.1	0.00	0.00	0.00	
11,600.0	90.00	270.32	7,010.0	-1,813.5	-4,830.1	-1,813.5	0.00	0.00	0.00	
11,700.0	90.00	270.32	7,010.0	-1,813.0	-4,930.1	-1,813.0	0.00	0.00	0.00	
11,800.0	90.00	270.32	7,010.0	-1,812.4	-5,030.1	-1,812.4	0.00	0.00	0.00	
11,900.0	90.00	270.32	7,010.0	-1,811.8	-5,130.1	-1,811.8	0.00	0.00	0.00	
12,000.0	90.00	270.32	7,010.0	-1,811.3	-5,230.1	-1,811.3	0.00	0.00	0.00	
12,100.0	90.00	270.32	7,010.0	-1,810.7	-5,330.1	-1,810.7	0.00	0.00	0.00	
12,200.0	90.00	270.32	7,010.0	-1,810.2	-5,430.1	-1,810.2	0.00	0.00	0.00	
12,300.0	90.00	270.32	7,010.0	-1,809.6	-5,530.1	-1,809.6	0.00	0.00	0.00	
12,400.0	90.00	270.32	7,010.0	-1,809.0	-5,630.1	-1,809.0	0.00	0.00	0.00	
12,500.0	90.00	270.32	7,010.0	-1,808.5	-5,730.1	-1,808.5	0.00	0.00	0.00	
12,600.0	90.00	270.32	7,010.0	-1,807.9	-5,830.1	-1,807.9	0.00	0.00	0.00	
12,700.0	90.00	270.32	7,010.0	-1,807.4	-5,930.1	-1,807.4	0.00	0.00	0.00	
19,903.3	90.00	270.32	7,010.0	-1,767.0	-13,133.3	-1,767.0	0.00	0.00	0.00	
TD at 19903.3' MD										

Planning Report

Database:	EDT_32Bit_ODBC	Local Co-ordinate Reference:	Well AD-LIBRARY 2-20-24
Company:	EXTRACTION OIL & GAS	TVD Reference:	KB-EST @ 4655.0usft (Original Well Elev)
Project:	Weld County	MD Reference:	KB-EST @ 4655.0usft (Original Well Elev)
Site:	Sec 21-T5N-R65W	North Reference:	True
Well:	AD-LIBRARY 2-20-24	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL #1		

Design Targets									
Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)		
- Shape									
HZ LANDING PNT - AD-	0.00	0.00	7,010.0	-1,836.0	-821.9	1,381,366.82	3,228,607.55	40° 22' 38.460 N	104° 40' 45.984 W
- plan hits target center									
- Point									
BHL - AD-LIBRARY 2-20-	0.00	0.00	7,010.0	-1,767.0	-13,133.3	1,381,321.53	3,216,295.99	40° 22' 39.108 N	104° 43' 25.068 W
- plan hits target center									
- Point									

Formations						
Measured Depth	Vertical Depth	Name	Lithology	Dip	Dip Direction	
(usft)	(usft)			(°)	(°)	
3,926.7	3,800.0	PARKMAN				
4,706.7	4,550.0	SUSSEX				
5,237.1	5,060.0	SHANNON				
7,166.5	6,865.0	SHARON SPRINGS				
7,206.5	6,890.0	NIOBRARA				

Plan Annotations					
Measured Depth	Vertical Depth	Local Coordinates			
(usft)	(usft)	+N/-S	+E/-W	Comment	
(usft)	(usft)	(usft)	(usft)		
100.0	100.0	0.0	0.0	Build 2°/100'	
897.0	886.7	-109.0	-16.0	Hold 15.94° Inc	
6,713.7	6,479.9	-1,689.3	-248.5	KOP, Build 10°/100'	
7,591.7	7,010.0	-1,836.0	-821.9	LP @ 90° Inc, 270.32° Azm Hold	
19,903.3	7,010.0	-1,767.0	-13,133.3	TD at 19903.3' MD	