

EXTRACTION OIL & GAS

Weld County

Sec 21-T5N-R65W

AD-LIBRARY 1-20-24

ORIGINAL WELLBORE

Plan: PROPOSAL #1

Standard Planning Report

13 February, 2017



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



Azimuths to True North
Magnetic North: 8.28°
Magnetic Field
Strength: 52516.1nT
Dip Angle: 66.88°
Date: 5/22/2016
Model: IGRF2015

WELL DETAILS: AD-LIBRARY 1-20-24

+N/-S	+E/-W	Northing	Ground Level:	4639.0	Latitude	Longitude	Slot
0.0	0.0	1383235.89	Easting	3229412.11	40° 22' 56.856 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	200.0	0.00	0.00	200.0	0.0	0.0	0.00	0.00	0.0	
3	900.1	14.00	189.66	893.1	-83.9	-14.3	2.00	189.66	23.3	
4	6652.5	14.00	189.66	6474.7	-1456.0	-247.8	0.00	0.00	404.5	
5	7530.9	90.00	270.68	7010.0	-1581.0	-821.9	10.00	81.28	988.8	HZ LANDING PNT -
6	19845.8	90.00	270.68	7010.0	-1435.5	-13135.9	0.00	0.00	13214.1	BHL - AD-LIBRARY

ANNOTATIONS

MD	Inc	Azi	TVD	+N/-S	+E/-W	VSec	Departure	Annotation
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.0	Build 2°/100'
900.1	14.00	189.66	893.1	-83.9	-14.3	-83.9	85.1	Hold 14° Inc
6652.5	14.00	189.66	6474.7	-1456.0	-247.8	-1456.0	1476.9	KOP, Build 10°/100'
7530.9	90.00	270.68	7010.0	-1581.0	-821.9	-1581.0	2083.5	LP @ 90° Inc, 270.68° Azm Hold
19845.8	90.00	270.68	7010.0	-1435.5	-13135.9	-1435.5	14398.4	TD at 19845.8' MD

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
BHL - AD-LIBRARY 1-20-24	7010.0	-1435.5	-13135.9	1381678.50	3216290.08	40° 22' 42.636 N	104° 43' 25.104 W	Point
HZ LANDING PNT - AD-LIBRARY 1-20-24	7010.0	-1581.0	-821.9	1381647.31	3228604.95	40° 22' 41.232 N	104° 40' 45.984 W	Point

FORMATION TOP DETAILS

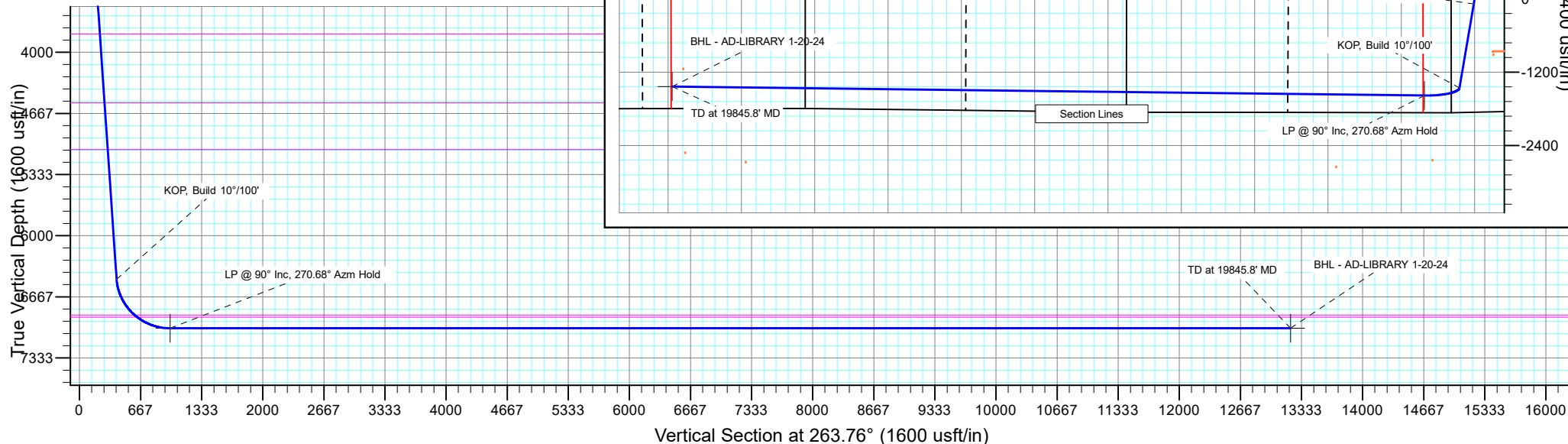
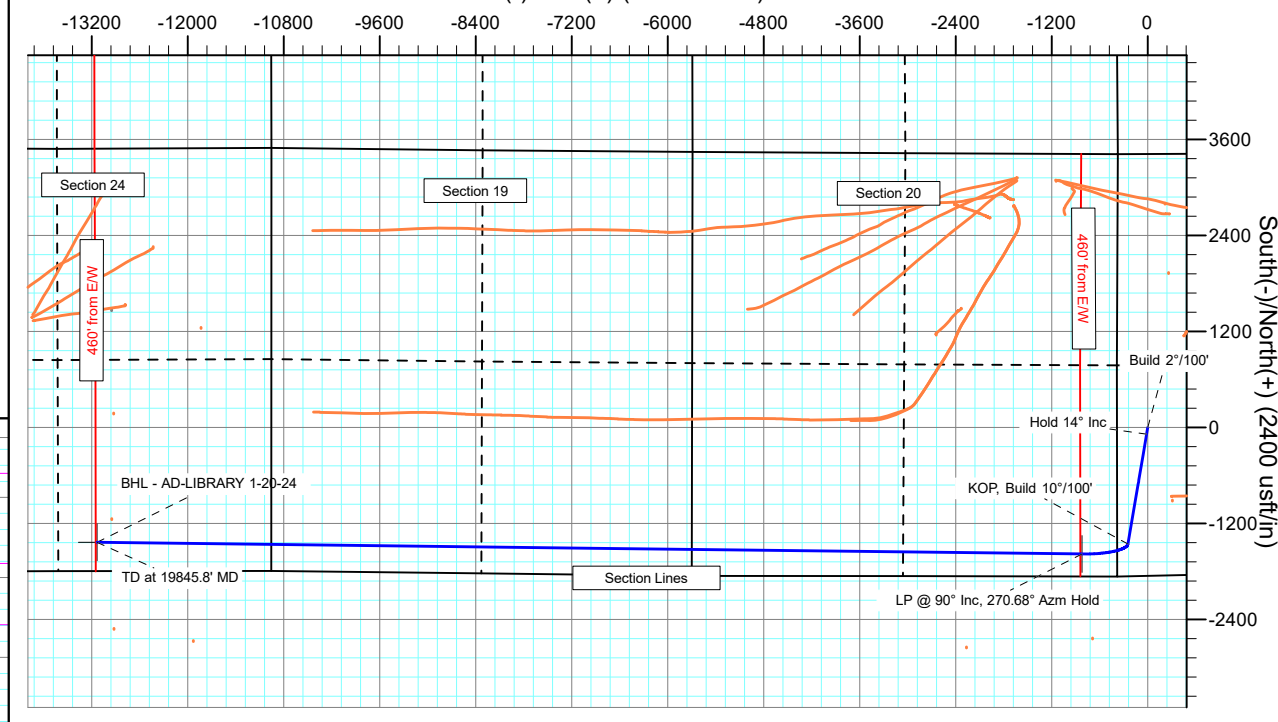
TVDPath	MDPath	Formation
3800.0	3896.0	PARKMAN
4550.0	4668.9	SUSSEX
5060.0	5194.5	SHANNON
6865.0	7107.7	SHARON SPRINGS
6890.0	7147.4	NIOBRARA

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, 1852' FSL
Sec 21-T5N-R65W
LP:
278' FSL, 460' FEL
Sec 20-T5N-R65W
BHL:
358' FSL, 2203' FEL
Sec 24-T5N-R66W

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



Planning Report

Database:	EDT_32Bit_ODBC	Local Co-ordinate Reference:	Well AD-LIBRARY 1-20-24
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 1-20-24	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 1-20-24					
Well Position	+N/-S	-382.5 usft	Northing:	1,383,235.89 usft	Latitude:	40° 22' 56.856 N
	+E/-W	-86.4 usft	Easting:	3,229,412.11 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	52,516.06806345

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	19,845.8	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	
200.0	0.00	0.00	200.0	0.0	0.0	0.00	0.00	0.00	0.00	
900.1	14.00	189.66	893.1	-83.9	-14.3	2.00	2.00	0.00	189.66	
6,652.5	14.00	189.66	6,474.7	-1,456.0	-247.8	0.00	0.00	0.00	0.00	
7,530.9	90.00	270.68	7,010.0	-1,581.0	-821.9	10.00	8.65	9.22	81.28	HZ LANDING PNT - F
19,845.8	90.00	270.68	7,010.0	-1,435.5	-13,135.9	0.00	0.00	0.00	0.00	BHL - AD-LIBRARY 1

Planning Report

Database:	EDT_32Bit_ODBC	Local Co-ordinate Reference:	Well AD-LIBRARY 1-20-24
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 1-20-24	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
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
Build 2°/100'									
300.0	2.00	189.66	300.0	-1.7	-0.3	-1.7	2.00	2.00	0.00
400.0	4.00	189.66	399.8	-6.9	-1.2	-6.9	2.00	2.00	0.00
500.0	6.00	189.66	499.5	-15.5	-2.6	-15.5	2.00	2.00	0.00
600.0	8.00	189.66	598.7	-27.5	-4.7	-27.5	2.00	2.00	0.00
700.0	10.00	189.66	697.5	-42.9	-7.3	-42.9	2.00	2.00	0.00
800.0	12.00	189.66	795.6	-61.7	-10.5	-61.7	2.00	2.00	0.00
900.1	14.00	189.66	893.1	-83.9	-14.3	-83.9	2.00	2.00	0.00
Hold 14° Inc									
1,000.0	14.00	189.66	990.1	-107.7	-18.3	-107.7	0.00	0.00	0.00
1,100.0	14.00	189.66	1,087.1	-131.6	-22.4	-131.6	0.00	0.00	0.00
1,200.0	14.00	189.66	1,184.1	-155.4	-26.5	-155.4	0.00	0.00	0.00
1,300.0	14.00	189.66	1,281.2	-179.3	-30.5	-179.3	0.00	0.00	0.00
1,400.0	14.00	189.66	1,378.2	-203.1	-34.6	-203.1	0.00	0.00	0.00
1,500.0	14.00	189.66	1,475.2	-227.0	-38.6	-227.0	0.00	0.00	0.00
1,600.0	14.00	189.66	1,572.3	-250.9	-42.7	-250.9	0.00	0.00	0.00
1,700.0	14.00	189.66	1,669.3	-274.7	-46.8	-274.7	0.00	0.00	0.00
1,800.0	14.00	189.66	1,766.3	-298.6	-50.8	-298.6	0.00	0.00	0.00
1,900.0	14.00	189.66	1,863.3	-322.4	-54.9	-322.4	0.00	0.00	0.00
2,000.0	14.00	189.66	1,960.4	-346.3	-58.9	-346.3	0.00	0.00	0.00
2,100.0	14.00	189.66	2,057.4	-370.1	-63.0	-370.1	0.00	0.00	0.00
2,200.0	14.00	189.66	2,154.4	-394.0	-67.1	-394.0	0.00	0.00	0.00
2,300.0	14.00	189.66	2,251.5	-417.8	-71.1	-417.8	0.00	0.00	0.00
2,400.0	14.00	189.66	2,348.5	-441.7	-75.2	-441.7	0.00	0.00	0.00
2,500.0	14.00	189.66	2,445.5	-465.5	-79.2	-465.5	0.00	0.00	0.00
2,600.0	14.00	189.66	2,542.5	-489.4	-83.3	-489.4	0.00	0.00	0.00
2,700.0	14.00	189.66	2,639.6	-513.2	-87.3	-513.2	0.00	0.00	0.00
2,800.0	14.00	189.66	2,736.6	-537.1	-91.4	-537.1	0.00	0.00	0.00
2,900.0	14.00	189.66	2,833.6	-560.9	-95.5	-560.9	0.00	0.00	0.00
3,000.0	14.00	189.66	2,930.7	-584.8	-99.5	-584.8	0.00	0.00	0.00
3,100.0	14.00	189.66	3,027.7	-608.6	-103.6	-608.6	0.00	0.00	0.00
3,200.0	14.00	189.66	3,124.7	-632.5	-107.6	-632.5	0.00	0.00	0.00
3,300.0	14.00	189.66	3,221.8	-656.3	-111.7	-656.3	0.00	0.00	0.00
3,400.0	14.00	189.66	3,318.8	-680.2	-115.8	-680.2	0.00	0.00	0.00
3,500.0	14.00	189.66	3,415.8	-704.0	-119.8	-704.0	0.00	0.00	0.00
3,600.0	14.00	189.66	3,512.8	-727.9	-123.9	-727.9	0.00	0.00	0.00
3,700.0	14.00	189.66	3,609.9	-751.7	-127.9	-751.7	0.00	0.00	0.00
3,800.0	14.00	189.66	3,706.9	-775.6	-132.0	-775.6	0.00	0.00	0.00
3,896.0	14.00	189.66	3,800.0	-798.5	-135.9	-798.5	0.00	0.00	0.00
PARKMAN									
3,900.0	14.00	189.66	3,803.9	-799.4	-136.1	-799.4	0.00	0.00	0.00
4,000.0	14.00	189.66	3,901.0	-823.3	-140.1	-823.3	0.00	0.00	0.00
4,100.0	14.00	189.66	3,998.0	-847.1	-144.2	-847.1	0.00	0.00	0.00
4,200.0	14.00	189.66	4,095.0	-871.0	-148.2	-871.0	0.00	0.00	0.00
4,300.0	14.00	189.66	4,192.0	-894.8	-152.3	-894.8	0.00	0.00	0.00
4,400.0	14.00	189.66	4,289.1	-918.7	-156.4	-918.7	0.00	0.00	0.00
4,500.0	14.00	189.66	4,386.1	-942.5	-160.4	-942.5	0.00	0.00	0.00
4,600.0	14.00	189.66	4,483.1	-966.4	-164.5	-966.4	0.00	0.00	0.00
4,668.9	14.00	189.66	4,550.0	-982.8	-167.3	-982.8	0.00	0.00	0.00
SUSSEX									

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 1-20-24	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)
4,700.0	14.00	189.66	4,580.2	-990.2	-168.5	-990.2	0.00	0.00	0.00
4,800.0	14.00	189.66	4,677.2	-1,014.1	-172.6	-1,014.1	0.00	0.00	0.00
4,900.0	14.00	189.66	4,774.2	-1,037.9	-176.7	-1,037.9	0.00	0.00	0.00
5,000.0	14.00	189.66	4,871.2	-1,061.8	-180.7	-1,061.8	0.00	0.00	0.00
5,100.0	14.00	189.66	4,968.3	-1,085.7	-184.8	-1,085.7	0.00	0.00	0.00
5,194.5	14.00	189.66	5,060.0	-1,108.2	-188.6	-1,108.2	0.00	0.00	0.00
SHANNON									
5,200.0	14.00	189.66	5,065.3	-1,109.5	-188.8	-1,109.5	0.00	0.00	0.00
5,300.0	14.00	189.66	5,162.3	-1,133.4	-192.9	-1,133.4	0.00	0.00	0.00
5,400.0	14.00	189.66	5,259.4	-1,157.2	-197.0	-1,157.2	0.00	0.00	0.00
5,500.0	14.00	189.66	5,356.4	-1,181.1	-201.0	-1,181.1	0.00	0.00	0.00
5,600.0	14.00	189.66	5,453.4	-1,204.9	-205.1	-1,204.9	0.00	0.00	0.00
5,700.0	14.00	189.66	5,550.4	-1,228.8	-209.1	-1,228.8	0.00	0.00	0.00
5,800.0	14.00	189.66	5,647.5	-1,252.6	-213.2	-1,252.6	0.00	0.00	0.00
5,900.0	14.00	189.66	5,744.5	-1,276.5	-217.3	-1,276.5	0.00	0.00	0.00
6,000.0	14.00	189.66	5,841.5	-1,300.3	-221.3	-1,300.3	0.00	0.00	0.00
6,100.0	14.00	189.66	5,938.6	-1,324.2	-225.4	-1,324.2	0.00	0.00	0.00
6,200.0	14.00	189.66	6,035.6	-1,348.0	-229.4	-1,348.0	0.00	0.00	0.00
6,300.0	14.00	189.66	6,132.6	-1,371.9	-233.5	-1,371.9	0.00	0.00	0.00
6,400.0	14.00	189.66	6,229.7	-1,395.7	-237.6	-1,395.7	0.00	0.00	0.00
6,500.0	14.00	189.66	6,326.7	-1,419.6	-241.6	-1,419.6	0.00	0.00	0.00
6,600.0	14.00	189.66	6,423.7	-1,443.4	-245.7	-1,443.4	0.00	0.00	0.00
6,652.5	14.00	189.66	6,474.7	-1,456.0	-247.8	-1,456.0	0.00	0.00	0.00
KOP, Build 10°/100'									
6,700.0	15.44	207.56	6,520.6	-1,467.2	-251.7	-1,467.2	10.00	3.02	37.70
6,750.0	18.18	222.09	6,568.5	-1,478.9	-260.0	-1,478.9	10.00	5.49	29.07
6,800.0	21.72	232.49	6,615.5	-1,490.3	-272.6	-1,490.3	10.00	7.08	20.80
6,850.0	25.73	239.94	6,661.3	-1,501.4	-289.3	-1,501.4	10.00	8.02	14.91
6,900.0	30.02	245.45	6,705.5	-1,512.1	-310.1	-1,512.1	10.00	8.58	11.01
6,950.0	34.49	249.67	6,747.7	-1,522.2	-334.8	-1,522.2	10.00	8.93	8.44
7,000.0	39.07	253.02	6,787.8	-1,531.7	-363.1	-1,531.7	10.00	9.16	6.70
7,050.0	43.73	255.76	6,825.3	-1,540.6	-395.0	-1,540.6	10.00	9.32	5.48
7,100.0	48.45	258.07	6,860.0	-1,548.7	-430.1	-1,548.7	10.00	9.43	4.62
7,107.7	49.17	258.39	6,865.0	-1,549.9	-435.7	-1,549.9	10.00	9.48	4.22
SHARON SPRINGS									
7,147.4	52.96	259.97	6,890.0	-1,555.7	-466.1	-1,555.7	10.00	9.52	3.96
NIOBRARA									
7,150.0	53.20	260.06	6,891.5	-1,556.0	-468.1	-1,556.0	10.00	9.54	3.74
7,200.0	57.99	261.82	6,919.8	-1,562.5	-508.8	-1,562.5	10.00	9.57	3.52
7,250.0	62.80	263.40	6,944.5	-1,568.1	-551.9	-1,568.1	10.00	9.61	3.17
7,300.0	67.62	264.86	6,965.4	-1,572.7	-597.1	-1,572.7	10.00	9.65	2.90
7,350.0	72.45	266.21	6,982.5	-1,576.4	-643.9	-1,576.4	10.00	9.67	2.71
7,400.0	77.30	267.49	6,995.5	-1,579.0	-692.1	-1,579.0	10.00	9.69	2.57
7,450.0	82.15	268.73	7,004.5	-1,580.6	-741.2	-1,580.6	10.00	9.70	2.47
7,500.0	87.00	269.94	7,009.2	-1,581.2	-791.0	-1,581.2	10.00	9.71	2.41
7,530.9	90.00	270.68	7,010.0	-1,581.0	-821.9	-1,581.0	10.00	9.71	2.39
LP @ 90° Inc, 270.68° Azm Hold									
7,600.0	90.00	270.68	7,010.0	-1,580.2	-891.0	-1,580.2	0.00	0.00	0.00
7,700.0	90.00	270.68	7,010.0	-1,579.0	-991.0	-1,579.0	0.00	0.00	0.00
7,800.0	90.00	270.68	7,010.0	-1,577.8	-1,091.0	-1,577.8	0.00	0.00	0.00
7,900.0	90.00	270.68	7,010.0	-1,576.7	-1,191.0	-1,576.7	0.00	0.00	0.00
8,000.0	90.00	270.68	7,010.0	-1,575.5	-1,291.0	-1,575.5	0.00	0.00	0.00
8,100.0	90.00	270.68	7,010.0	-1,574.3	-1,390.9	-1,574.3	0.00	0.00	0.00

Planning Report

Database:	EDT_32Bit_ODBC	Local Co-ordinate Reference:	Well AD-LIBRARY 1-20-24
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 1-20-24	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)	
8,200.0	90.00	270.68	7,010.0	-1,573.1	-1,490.9	-1,573.1	0.00	0.00	0.00	
8,300.0	90.00	270.68	7,010.0	-1,571.9	-1,590.9	-1,571.9	0.00	0.00	0.00	
8,400.0	90.00	270.68	7,010.0	-1,570.7	-1,690.9	-1,570.7	0.00	0.00	0.00	
8,500.0	90.00	270.68	7,010.0	-1,569.6	-1,790.9	-1,569.6	0.00	0.00	0.00	
8,600.0	90.00	270.68	7,010.0	-1,568.4	-1,890.9	-1,568.4	0.00	0.00	0.00	
8,700.0	90.00	270.68	7,010.0	-1,567.2	-1,990.9	-1,567.2	0.00	0.00	0.00	
8,800.0	90.00	270.68	7,010.0	-1,566.0	-2,090.9	-1,566.0	0.00	0.00	0.00	
8,900.0	90.00	270.68	7,010.0	-1,564.8	-2,190.9	-1,564.8	0.00	0.00	0.00	
9,000.0	90.00	270.68	7,010.0	-1,563.7	-2,290.9	-1,563.7	0.00	0.00	0.00	
9,100.0	90.00	270.68	7,010.0	-1,562.5	-2,390.9	-1,562.5	0.00	0.00	0.00	
9,200.0	90.00	270.68	7,010.0	-1,561.3	-2,490.9	-1,561.3	0.00	0.00	0.00	
9,300.0	90.00	270.68	7,010.0	-1,560.1	-2,590.9	-1,560.1	0.00	0.00	0.00	
9,400.0	90.00	270.68	7,010.0	-1,558.9	-2,690.9	-1,558.9	0.00	0.00	0.00	
9,500.0	90.00	270.68	7,010.0	-1,557.7	-2,790.8	-1,557.7	0.00	0.00	0.00	
9,600.0	90.00	270.68	7,010.0	-1,556.6	-2,890.8	-1,556.6	0.00	0.00	0.00	
9,700.0	90.00	270.68	7,010.0	-1,555.4	-2,990.8	-1,555.4	0.00	0.00	0.00	
9,800.0	90.00	270.68	7,010.0	-1,554.2	-3,090.8	-1,554.2	0.00	0.00	0.00	
9,900.0	90.00	270.68	7,010.0	-1,553.0	-3,190.8	-1,553.0	0.00	0.00	0.00	
10,000.0	90.00	270.68	7,010.0	-1,551.8	-3,290.8	-1,551.8	0.00	0.00	0.00	
10,100.0	90.00	270.68	7,010.0	-1,550.6	-3,390.8	-1,550.6	0.00	0.00	0.00	
10,200.0	90.00	270.68	7,010.0	-1,549.5	-3,490.8	-1,549.5	0.00	0.00	0.00	
10,300.0	90.00	270.68	7,010.0	-1,548.3	-3,590.8	-1,548.3	0.00	0.00	0.00	
10,400.0	90.00	270.68	7,010.0	-1,547.1	-3,690.8	-1,547.1	0.00	0.00	0.00	
10,500.0	90.00	270.68	7,010.0	-1,545.9	-3,790.8	-1,545.9	0.00	0.00	0.00	
10,600.0	90.00	270.68	7,010.0	-1,544.7	-3,890.8	-1,544.7	0.00	0.00	0.00	
10,700.0	90.00	270.68	7,010.0	-1,543.6	-3,990.8	-1,543.6	0.00	0.00	0.00	
10,800.0	90.00	270.68	7,010.0	-1,542.4	-4,090.8	-1,542.4	0.00	0.00	0.00	
10,900.0	90.00	270.68	7,010.0	-1,541.2	-4,190.7	-1,541.2	0.00	0.00	0.00	
11,000.0	90.00	270.68	7,010.0	-1,540.0	-4,290.7	-1,540.0	0.00	0.00	0.00	
11,100.0	90.00	270.68	7,010.0	-1,538.8	-4,390.7	-1,538.8	0.00	0.00	0.00	
11,200.0	90.00	270.68	7,010.0	-1,537.6	-4,490.7	-1,537.6	0.00	0.00	0.00	
11,300.0	90.00	270.68	7,010.0	-1,536.5	-4,590.7	-1,536.5	0.00	0.00	0.00	
11,400.0	90.00	270.68	7,010.0	-1,535.3	-4,690.7	-1,535.3	0.00	0.00	0.00	
11,500.0	90.00	270.68	7,010.0	-1,534.1	-4,790.7	-1,534.1	0.00	0.00	0.00	
11,600.0	90.00	270.68	7,010.0	-1,532.9	-4,890.7	-1,532.9	0.00	0.00	0.00	
11,700.0	90.00	270.68	7,010.0	-1,531.7	-4,990.7	-1,531.7	0.00	0.00	0.00	
11,800.0	90.00	270.68	7,010.0	-1,530.5	-5,090.7	-1,530.5	0.00	0.00	0.00	
11,900.0	90.00	270.68	7,010.0	-1,529.4	-5,190.7	-1,529.4	0.00	0.00	0.00	
12,000.0	90.00	270.68	7,010.0	-1,528.2	-5,290.7	-1,528.2	0.00	0.00	0.00	
12,100.0	90.00	270.68	7,010.0	-1,527.0	-5,390.7	-1,527.0	0.00	0.00	0.00	
12,200.0	90.00	270.68	7,010.0	-1,525.8	-5,490.7	-1,525.8	0.00	0.00	0.00	
12,300.0	90.00	270.68	7,010.0	-1,524.6	-5,590.7	-1,524.6	0.00	0.00	0.00	
12,400.0	90.00	270.68	7,010.0	-1,523.5	-5,690.6	-1,523.5	0.00	0.00	0.00	
12,500.0	90.00	270.68	7,010.0	-1,522.3	-5,790.6	-1,522.3	0.00	0.00	0.00	
12,600.0	90.00	270.68	7,010.0	-1,521.1	-5,890.6	-1,521.1	0.00	0.00	0.00	
12,700.0	90.00	270.68	7,010.0	-1,519.9	-5,990.6	-1,519.9	0.00	0.00	0.00	
19,845.8	90.00	270.68	7,010.0	-1,435.5	-13,135.9	-1,435.5	0.00	0.00	0.00	
TD at 19845.8' MD										

Planning Report

Database:	EDT_32Bit_ODBC	Local Co-ordinate Reference:	Well AD-LIBRARY 1-20-24
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 1-20-24	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	-1,581.0	-821.9	1,381,647.31	3,228,604.96	40° 22' 41.232 N	104° 40' 45.984 W
- plan hits target center									
- Point									
BHL - AD-LIBRARY 1-20-	0.00	0.00	7,010.0	-1,435.5	-13,135.9	1,381,678.50	3,216,290.08	40° 22' 42.636 N	104° 43' 25.104 W
- plan hits target center									
- Point									

Formations						
Measured Depth	Vertical Depth	Name	Lithology	Dip	Dip Direction	
(usft)	(usft)			(°)	(°)	
3,896.0	3,800.0	PARKMAN				
4,668.9	4,550.0	SUSSEX				
5,194.5	5,060.0	SHANNON				
7,107.7	6,865.0	SHARON SPRINGS				
7,147.4	6,890.0	NIOBRARA				

Plan Annotations					
Measured Depth	Vertical Depth	Local Coordinates			
(usft)	(usft)	+N/-S	+E/-W	Comment	
(usft)	(usft)	(usft)	(usft)		
200.0	200.0	0.0	0.0	Build 2°/100'	
900.1	893.1	-83.9	-14.3	Hold 14° Inc	
6,652.5	6,474.7	-1,456.0	-247.8	KOP, Build 10°/100'	
7,530.9	7,010.0	-1,581.0	-821.9	LP @ 90° Inc, 270.68° Azm Hold	
19,845.8	7,010.0	-1,435.5	-13,135.9	TD at 19845.8' MD	