

EXTRACTION OIL & GAS

Weld County

Sec 17-T2N-R68W

RINN VALLEY EAST N17-20-5N

ORIGINAL WELLBORE

Plan: PROPOSAL 1

Standard Planning Report

14 March, 2018



Project: Weld County
Site: Sec 17-T2N-R68W
Well: RINN VALLEY EAST N17-20-5N
Wellbore: ORIGINAL WELLBORE
Design: PROPOSAL 1

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



Azimuths to True North
Magnetic North: 8.33°

Magnetic Field
Strength: 52226.8snT
Dip Angle: 66.60°
Date: 6/12/2017
Model: IGRF2015

WELL DETAILS: RINN VALLEY EAST N17-20-5N

+N/-S	+E/-W	Northing	Easting	4920.00	Latitude	Longitude	Slot
0.00	0.00	1291943.89	3133094.19		40° 8' 1.676 N	105° 1' 26.357 W	

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	
3	1041.01	10.82	152.74	1037.80	-45.28	23.33	2.00	152.74	-50.73	
4	6234.75	10.82	152.74	6139.20	-912.02	469.85	0.00	0.00	-1021.87	
5	6775.76	0.00	0.00	6677.00	-957.30	493.18	2.00	180.00	-1072.60	
6	6805.76	0.00	0.00	6707.00	-957.30	493.18	0.00	0.00	-1072.60	
7	7705.83	90.00	0.03	7280.00	-384.30	493.51	10.00	0.03	-588.77	RVE N17-5N - LP
8	11305.83	90.00	0.03	7279.98	3215.70	495.57	0.00	0.00	2451.00	
9	11804.18	90.00	10.00	7279.98	3711.52	539.10	2.00	90.00	2846.52	
10	12354.18	90.00	10.00	7279.98	4253.17	634.60	0.00	0.00	3252.91	
11	12969.68	90.00	357.69	7279.98	4866.10	675.80	2.00	-90.00	3748.60	RVE N17-5N - PBHL
12	17358.43	90.00	357.69	7280.00	9251.28					

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
3477.00	3524.36	PARKMAN
4047.00	4104.68	SUSSEX
4452.00	4517.01	SHANNON
7242.00	7495.97	NIOBRARA
7270.00	7598.62	NIO B TARGET

ANNOTATIONS

MD	Inc	Azi	TVD	+N/-S	+E/-W	VSec	Departure	Annotation
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	Start Build 2.00
1041.01	10.82	152.74	1037.80	-45.28	23.33	-50.73	50.93	Start 5193.74 hold at 1041.01 MD
6234.75	10.82	152.74	6139.20	-912.02	469.85	-1021.87	1025.94	Start Drop -2.00
6775.76	0.00	0.00	6677.00	-957.30	493.18	-1072.60	1076.87	Start 30.00 hold at 6775.76 MD
6805.76	0.00	0.00	6707.00	-957.30	493.18	-1072.60	1076.87	Start DLS 10.00 TFO 0.03
7705.83	90.00	0.03	7280.00	-384.30	493.51	-588.77	1649.87	Start 3600.00 hold at 7705.83 MD
11305.83	90.00	0.03	7279.98	3215.70	495.57	2451.00	5249.87	Start DLS 2.00 TFO 90.00
11804.18	90.00	10.00	7279.98	3711.52	539.10	2846.52	5748.23	Start 550.00 hold at 11804.18 MD
12354.18	90.00	10.00	7279.98	4253.17	634.60	3252.91	6298.23	Start Turn -2.00
12969.68	90.00	357.69	7279.98	4866.10	675.80	3748.60	6913.73	Start 4388.75 hold at 12969.68 MD
17358.43	90.00	357.69	7280.00	9251.28	498.91	7547.38	11302.47	TD at 17358.43

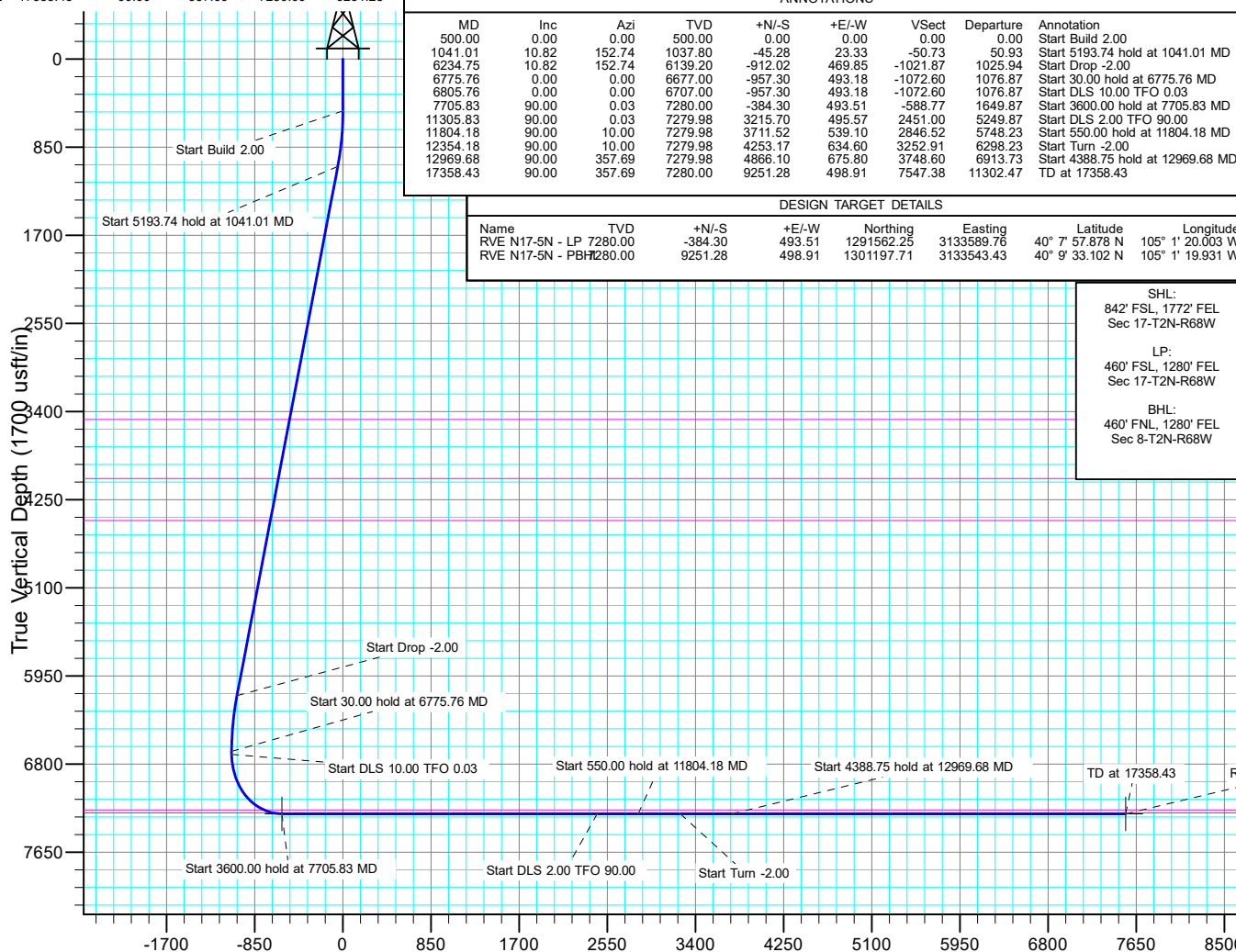
DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
RVE N17-5N - LP	7280.00	-384.30	493.51	1291562.25	3133589.76	40° 7' 57.878 N	105° 1' 20.003 W
RVE N17-5N - PBHL	7280.00	9251.28	498.91	1301197.71	3133543.43	40° 9' 33.102 N	105° 1' 19.931 W

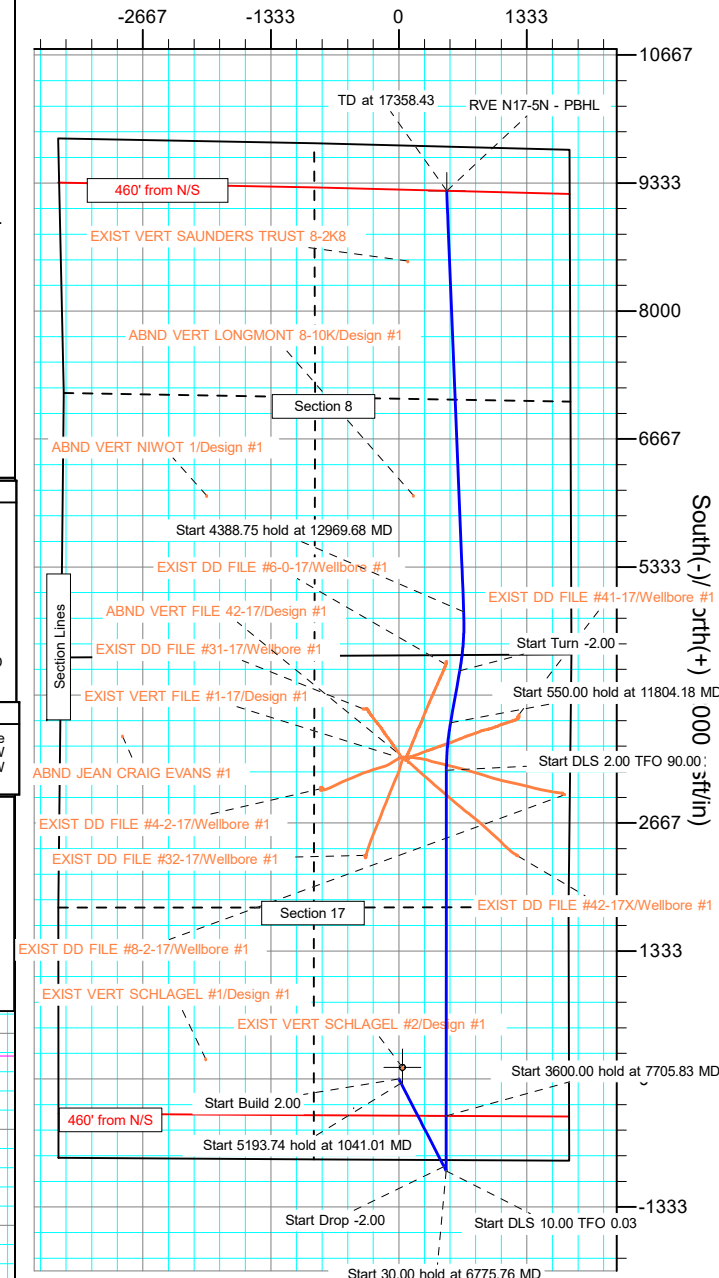
SHL:
842' FSL, 1772' FEL
Sec 17-T2N-R68W

LP:
460' FSL, 1280' FEL
Sec 17-T2N-R68W

BHL:
460' FNL, 1280' FEL
Sec 8-T2N-R68W



West(-)/East(+) (2000 usft/in)



Planning Report

Database:	EDT_32Bit_ODBC	Local Co-ordinate Reference:	Well RINN VALLEY EAST N17-20-5N
Company:	EXTRACTION OIL & GAS	TVD Reference:	KB 25' @ 4945.00usft
Project:	Weld County	MD Reference:	KB 25' @ 4945.00usft
Site:	Sec 17-T2N-R68W	North Reference:	True
Well:	RINN VALLEY EAST N17-20-5N	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 17-T2N-R68W			
Site Position:		Northing:	1,291,101.45 usft	Latitude: 40° 7' 53.256 N
From:	Lat/Long	Easting:	3,134,873.45 usft	Longitude: 105° 1' 3.508 W
Position Uncertainty:	0.00 usft	Slot Radius:	13.200 in	Grid Convergence: 0.31 °

Well	RINN VALLEY EAST N17-20-5N			
Well Position	+N/-S	852.10 usft	Northing:	1,291,943.89 usft
	+E/-W	-1,774.65 usft	Easting:	3,133,094.19 usft
Position Uncertainty		0.00 usft	Wellhead Elevation:	Latitude: 40° 8' 1.676 N
				Longitude: 105° 1' 26.357 W
				Ground Level: 4,920.00 usft

Wellbore	ORIGINAL WELLBORE				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	6/12/2017	8.33	66.60	52,226.75454478

Design	PROPOSAL 1			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	327.64

Plan Survey Tool Program	Date	2/15/2018		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	17,358.43	PROPOSAL 1 (ORIGINAL WELL	MWD OWSG
			OWSG MWD - Standard	

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Company:	EXTRACTION OIL & GAS	TVD Reference:	KB 25' @ 4945.00usft
Project:	Weld County	MD Reference:	KB 25' @ 4945.00usft
Site:	Sec 17-T2N-R68W	North Reference:	True
Well:	RINN VALLEY EAST N17-20-5N	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL 1		

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
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,041.01	10.82	152.74	1,037.80	-45.28	23.33	2.00	2.00	0.00	152.74	
6,234.75	10.82	152.74	6,139.20	-912.02	469.85	0.00	0.00	0.00	0.00	
6,775.76	0.00	0.00	6,677.00	-957.30	493.18	2.00	-2.00	0.00	180.00	
6,805.76	0.00	0.00	6,707.00	-957.30	493.18	0.00	0.00	0.00	0.00	
7,705.83	90.00	0.03	7,280.00	-384.30	493.51	10.00	10.00	0.00	0.03	RVE N17-5N - LP
11,305.83	90.00	0.03	7,279.98	3,215.70	495.57	0.00	0.00	0.00	0.00	
11,804.18	90.00	10.00	7,279.98	3,711.52	539.10	2.00	0.00	2.00	90.00	
12,354.18	90.00	10.00	7,279.98	4,253.17	634.60	0.00	0.00	0.00	0.00	
12,969.68	90.00	357.69	7,279.98	4,866.10	675.80	2.00	0.00	-2.00	-90.00	RVE N17-5N - PBHL
17,358.43	90.00	357.69	7,280.00	9,251.28	498.91	0.00	0.00	0.00	0.00	RVE N17-5N - PBHL

Planning Report

Database:	EDT_32Bit_ODBC	Local Co-ordinate Reference:	Well RINN VALLEY EAST N17-20-5N
Company:	EXTRACTION OIL & GAS	TVD Reference:	KB 25' @ 4945.00usft
Project:	Weld County	MD Reference:	KB 25' @ 4945.00usft
Site:	Sec 17-T2N-R68W	North Reference:	True
Well:	RINN VALLEY EAST N17-20-5N	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)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 2.00									
600.00	2.00	152.74	599.98	-1.55	0.80	-1.74	2.00	2.00	0.00
700.00	4.00	152.74	699.84	-6.20	3.20	-6.95	2.00	2.00	0.00
800.00	6.00	152.74	799.45	-13.95	7.19	-15.63	2.00	2.00	0.00
900.00	8.00	152.74	898.70	-24.78	12.77	-27.77	2.00	2.00	0.00
1,000.00	10.00	152.74	997.47	-38.69	19.93	-43.35	2.00	2.00	0.00
1,041.01	10.82	152.74	1,037.80	-45.28	23.33	-50.73	2.00	2.00	0.00
Start 5193.74 hold at 1041.01 MD									
1,100.00	10.82	152.74	1,095.74	-55.12	28.40	-61.76	0.00	0.00	0.00
1,200.00	10.82	152.74	1,193.96	-71.81	37.00	-80.46	0.00	0.00	0.00
1,300.00	10.82	152.74	1,292.19	-88.50	45.59	-99.16	0.00	0.00	0.00
1,400.00	10.82	152.74	1,390.41	-105.19	54.19	-117.86	0.00	0.00	0.00
1,500.00	10.82	152.74	1,488.63	-121.87	62.79	-136.55	0.00	0.00	0.00
1,600.00	10.82	152.74	1,586.85	-138.56	71.38	-155.25	0.00	0.00	0.00
1,700.00	10.82	152.74	1,685.07	-155.25	79.98	-173.95	0.00	0.00	0.00
1,800.00	10.82	152.74	1,783.30	-171.94	88.58	-192.65	0.00	0.00	0.00
1,900.00	10.82	152.74	1,881.52	-188.63	97.18	-211.35	0.00	0.00	0.00
2,000.00	10.82	152.74	1,979.74	-205.32	105.77	-230.04	0.00	0.00	0.00
2,100.00	10.82	152.74	2,077.96	-222.00	114.37	-248.74	0.00	0.00	0.00
2,200.00	10.82	152.74	2,176.18	-238.69	122.97	-267.44	0.00	0.00	0.00
2,300.00	10.82	152.74	2,274.41	-255.38	131.57	-286.14	0.00	0.00	0.00
2,400.00	10.82	152.74	2,372.63	-272.07	140.16	-304.84	0.00	0.00	0.00
2,500.00	10.82	152.74	2,470.85	-288.76	148.76	-323.54	0.00	0.00	0.00
2,600.00	10.82	152.74	2,569.07	-305.45	157.36	-342.23	0.00	0.00	0.00
2,700.00	10.82	152.74	2,667.30	-322.13	165.96	-360.93	0.00	0.00	0.00
2,800.00	10.82	152.74	2,765.52	-338.82	174.55	-379.63	0.00	0.00	0.00
2,900.00	10.82	152.74	2,863.74	-355.51	183.15	-398.33	0.00	0.00	0.00
3,000.00	10.82	152.74	2,961.96	-372.20	191.75	-417.03	0.00	0.00	0.00
3,100.00	10.82	152.74	3,060.18	-388.89	200.35	-435.73	0.00	0.00	0.00
3,200.00	10.82	152.74	3,158.41	-405.58	208.94	-454.42	0.00	0.00	0.00
3,300.00	10.82	152.74	3,256.63	-422.26	217.54	-473.12	0.00	0.00	0.00
3,400.00	10.82	152.74	3,354.85	-438.95	226.14	-491.82	0.00	0.00	0.00
3,500.00	10.82	152.74	3,453.07	-455.64	234.74	-510.52	0.00	0.00	0.00
3,524.36	10.82	152.74	3,477.00	-459.71	236.83	-515.07	0.00	0.00	0.00
PARKMAN									
3,600.00	10.82	152.74	3,551.29	-472.33	243.33	-529.22	0.00	0.00	0.00
3,700.00	10.82	152.74	3,649.52	-489.02	251.93	-547.91	0.00	0.00	0.00
3,800.00	10.82	152.74	3,747.74	-505.71	260.53	-566.61	0.00	0.00	0.00
3,900.00	10.82	152.74	3,845.96	-522.39	269.13	-585.31	0.00	0.00	0.00
4,000.00	10.82	152.74	3,944.18	-539.08	277.72	-604.01	0.00	0.00	0.00
4,100.00	10.82	152.74	4,042.41	-555.77	286.32	-622.71	0.00	0.00	0.00
4,104.68	10.82	152.74	4,047.00	-556.55	286.72	-623.58	0.00	0.00	0.00
SUSSEX									
4,200.00	10.82	152.74	4,140.63	-572.46	294.92	-641.41	0.00	0.00	0.00
4,300.00	10.82	152.74	4,238.85	-589.15	303.52	-660.10	0.00	0.00	0.00
4,400.00	10.82	152.74	4,337.07	-605.83	312.11	-678.80	0.00	0.00	0.00
4,500.00	10.82	152.74	4,435.29	-622.52	320.71	-697.50	0.00	0.00	0.00
4,517.01	10.82	152.74	4,452.00	-625.36	322.17	-700.68	0.00	0.00	0.00

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Company:	EXTRACTION OIL & GAS	TVD Reference:	KB 25' @ 4945.00usft
Project:	Weld County	MD Reference:	KB 25' @ 4945.00usft
Site:	Sec 17-T2N-R68W	North Reference:	True
Well:	RINN VALLEY EAST N17-20-5N	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)
SHANNON									
4,600.00	10.82	152.74	4,533.52	-639.21	329.31	-716.20	0.00	0.00	0.00
4,700.00	10.82	152.74	4,631.74	-655.90	337.91	-734.90	0.00	0.00	0.00
4,800.00	10.82	152.74	4,729.96	-672.59	346.50	-753.60	0.00	0.00	0.00
4,900.00	10.82	152.74	4,828.18	-689.28	355.10	-772.29	0.00	0.00	0.00
5,000.00	10.82	152.74	4,926.40	-705.96	363.70	-790.99	0.00	0.00	0.00
5,100.00	10.82	152.74	5,024.63	-722.65	372.29	-809.69	0.00	0.00	0.00
5,200.00	10.82	152.74	5,122.85	-739.34	380.89	-828.39	0.00	0.00	0.00
5,300.00	10.82	152.74	5,221.07	-756.03	389.49	-847.09	0.00	0.00	0.00
5,400.00	10.82	152.74	5,319.29	-772.72	398.09	-865.78	0.00	0.00	0.00
5,500.00	10.82	152.74	5,417.51	-789.41	406.68	-884.48	0.00	0.00	0.00
5,600.00	10.82	152.74	5,515.74	-806.09	415.28	-903.18	0.00	0.00	0.00
5,700.00	10.82	152.74	5,613.96	-822.78	423.88	-921.88	0.00	0.00	0.00
5,800.00	10.82	152.74	5,712.18	-839.47	432.48	-940.58	0.00	0.00	0.00
5,900.00	10.82	152.74	5,810.40	-856.16	441.07	-959.28	0.00	0.00	0.00
6,000.00	10.82	152.74	5,908.63	-872.85	449.67	-977.97	0.00	0.00	0.00
6,100.00	10.82	152.74	6,006.85	-889.54	458.27	-996.67	0.00	0.00	0.00
6,200.00	10.82	152.74	6,105.07	-906.22	466.87	-1,015.37	0.00	0.00	0.00
6,234.75	10.82	152.74	6,139.20	-912.02	469.85	-1,021.87	0.00	0.00	0.00
Start Drop -2.00									
6,300.00	9.52	152.74	6,203.43	-922.26	475.13	-1,033.34	2.00	-2.00	0.00
6,400.00	7.52	152.74	6,302.32	-935.42	481.91	-1,048.09	2.00	-2.00	0.00
6,500.00	5.52	152.74	6,401.67	-945.51	487.11	-1,059.39	2.00	-2.00	0.00
6,600.00	3.52	152.74	6,501.35	-952.51	490.71	-1,067.23	2.00	-2.00	0.00
6,700.00	1.52	152.74	6,601.25	-956.41	492.72	-1,071.60	2.00	-2.00	0.00
6,775.76	0.00	0.00	6,677.00	-957.30	493.18	-1,072.60	2.00	-2.00	-201.62
Start 30.00 hold at 6775.76 MD									
6,805.76	0.00	0.00	6,707.00	-957.30	493.18	-1,072.60	0.00	0.00	0.00
Start DLS 10.00 TFO 0.03									
6,850.00	4.42	0.03	6,751.20	-955.59	493.18	-1,071.16	10.00	10.00	0.00
6,900.00	9.42	0.03	6,800.82	-949.57	493.18	-1,066.07	10.00	10.00	0.00
6,950.00	14.42	0.03	6,849.72	-939.24	493.19	-1,057.35	10.00	10.00	0.00
7,000.00	19.42	0.03	6,897.54	-924.69	493.20	-1,045.06	10.00	10.00	0.00
7,050.00	24.42	0.03	6,943.91	-906.03	493.21	-1,029.31	10.00	10.00	0.00
7,100.00	29.42	0.03	6,988.48	-883.40	493.22	-1,010.20	10.00	10.00	0.00
7,150.00	34.42	0.03	7,030.90	-856.97	493.24	-987.88	10.00	10.00	0.00
7,200.00	39.42	0.03	7,070.87	-826.94	493.25	-962.53	10.00	10.00	0.00
7,250.00	44.42	0.03	7,108.06	-793.55	493.27	-934.33	10.00	10.00	0.00
7,300.00	49.42	0.03	7,142.20	-757.04	493.29	-903.50	10.00	10.00	0.00
7,350.00	54.42	0.03	7,173.02	-717.69	493.32	-870.28	10.00	10.00	0.00
7,400.00	59.42	0.03	7,200.31	-675.81	493.34	-834.91	10.00	10.00	0.00
7,450.00	64.42	0.03	7,223.83	-631.71	493.37	-797.68	10.00	10.00	0.00
7,495.97	69.02	0.03	7,242.00	-589.49	493.39	-762.03	10.00	10.00	0.00
NIOBRARA									
7,500.00	69.42	0.03	7,243.43	-585.73	493.39	-758.85	10.00	10.00	0.00
7,550.00	74.42	0.03	7,258.94	-538.21	493.42	-718.73	10.00	10.00	0.00
7,598.62	79.28	0.03	7,270.00	-490.88	493.45	-678.77	10.00	10.00	0.00
NIO B TARGET									
7,600.00	79.42	0.03	7,270.26	-489.52	493.45	-677.62	10.00	10.00	0.00
7,650.00	84.42	0.03	7,277.28	-440.04	493.48	-635.83	10.00	10.00	0.00
7,700.00	89.42	0.03	7,279.97	-390.12	493.51	-593.69	10.00	10.00	0.00
7,705.83	90.00	0.03	7,280.00	-384.30	493.51	-588.77	10.00	10.00	0.00
Start 3600.00 hold at 7705.83 MD									

Planning Report

Database:	EDT_32Bit_ODBC	Local Co-ordinate Reference:	Well RINN VALLEY EAST N17-20-5N
Company:	EXTRACTION OIL & GAS	TVD Reference:	KB 25' @ 4945.00usft
Project:	Weld County	MD Reference:	KB 25' @ 4945.00usft
Site:	Sec 17-T2N-R68W	North Reference:	True
Well:	RINN VALLEY EAST N17-20-5N	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)
7,800.00	90.00	0.03	7,280.00	-290.12	493.56	-509.25	0.00	0.00	0.00
7,900.00	90.00	0.03	7,280.00	-190.12	493.62	-424.81	0.00	0.00	0.00
8,000.00	90.00	0.03	7,280.00	-90.12	493.68	-340.37	0.00	0.00	0.00
8,100.00	90.00	0.03	7,280.00	9.88	493.73	-255.94	0.00	0.00	0.00
8,200.00	90.00	0.03	7,280.00	109.88	493.79	-171.50	0.00	0.00	0.00
8,300.00	90.00	0.03	7,280.00	209.88	493.85	-87.06	0.00	0.00	0.00
8,400.00	90.00	0.03	7,280.00	309.88	493.91	-2.62	0.00	0.00	0.00
8,500.00	90.00	0.03	7,280.00	409.88	493.96	81.82	0.00	0.00	0.00
8,600.00	90.00	0.03	7,280.00	509.88	494.02	166.25	0.00	0.00	0.00
8,700.00	90.00	0.03	7,280.00	609.88	494.08	250.69	0.00	0.00	0.00
8,800.00	90.00	0.03	7,280.00	709.88	494.14	335.13	0.00	0.00	0.00
8,900.00	90.00	0.03	7,279.99	809.88	494.19	419.57	0.00	0.00	0.00
9,000.00	90.00	0.03	7,279.99	909.88	494.25	504.01	0.00	0.00	0.00
9,100.00	90.00	0.03	7,279.99	1,009.88	494.31	588.44	0.00	0.00	0.00
9,200.00	90.00	0.03	7,279.99	1,109.88	494.37	672.88	0.00	0.00	0.00
9,300.00	90.00	0.03	7,279.99	1,209.88	494.42	757.32	0.00	0.00	0.00
9,400.00	90.00	0.03	7,279.99	1,309.88	494.48	841.76	0.00	0.00	0.00
9,500.00	90.00	0.03	7,279.99	1,409.88	494.54	926.19	0.00	0.00	0.00
9,600.00	90.00	0.03	7,279.99	1,509.88	494.59	1,010.63	0.00	0.00	0.00
9,700.00	90.00	0.03	7,279.99	1,609.88	494.65	1,095.07	0.00	0.00	0.00
9,800.00	90.00	0.03	7,279.99	1,709.88	494.71	1,179.51	0.00	0.00	0.00
9,900.00	90.00	0.03	7,279.99	1,809.88	494.77	1,263.95	0.00	0.00	0.00
10,000.00	90.00	0.03	7,279.99	1,909.88	494.82	1,348.38	0.00	0.00	0.00
10,100.00	90.00	0.03	7,279.99	2,009.88	494.88	1,432.82	0.00	0.00	0.00
10,200.00	90.00	0.03	7,279.99	2,109.88	494.94	1,517.26	0.00	0.00	0.00
10,300.00	90.00	0.03	7,279.99	2,209.88	495.00	1,601.70	0.00	0.00	0.00
10,400.00	90.00	0.03	7,279.99	2,309.88	495.05	1,686.14	0.00	0.00	0.00
10,500.00	90.00	0.03	7,279.99	2,409.88	495.11	1,770.57	0.00	0.00	0.00
10,600.00	90.00	0.03	7,279.99	2,509.87	495.17	1,855.01	0.00	0.00	0.00
10,700.00	90.00	0.03	7,279.99	2,609.87	495.23	1,939.45	0.00	0.00	0.00
10,800.00	90.00	0.03	7,279.99	2,709.87	495.28	2,023.89	0.00	0.00	0.00
10,900.00	90.00	0.03	7,279.99	2,809.87	495.34	2,108.33	0.00	0.00	0.00
11,000.00	90.00	0.03	7,279.99	2,909.87	495.40	2,192.76	0.00	0.00	0.00
11,100.00	90.00	0.03	7,279.98	3,009.87	495.46	2,277.20	0.00	0.00	0.00
11,200.00	90.00	0.03	7,279.98	3,109.87	495.51	2,361.64	0.00	0.00	0.00
11,305.83	90.00	0.03	7,279.98	3,215.70	495.57	2,451.00	0.00	0.00	0.00
Start DLS 2.00 TFO 90.00									
11,400.00	90.00	1.92	7,279.98	3,309.86	497.17	2,529.67	2.00	0.00	2.00
11,500.00	90.00	3.92	7,279.98	3,409.72	502.26	2,611.30	2.00	0.00	2.00
11,600.00	90.00	5.92	7,279.98	3,509.35	510.83	2,690.87	2.00	0.00	2.00
11,700.00	90.00	7.92	7,279.98	3,608.62	522.87	2,768.27	2.00	0.00	2.00
11,804.18	90.00	10.00	7,279.98	3,711.52	539.10	2,846.52	2.00	0.00	2.00
Start 550.00 hold at 11804.18 MD									
11,900.00	90.00	10.00	7,279.98	3,805.88	555.73	2,917.31	0.00	0.00	0.00
12,000.00	90.00	10.00	7,279.98	3,904.37	573.10	2,991.21	0.00	0.00	0.00
12,100.00	90.00	10.00	7,279.98	4,002.85	590.46	3,065.10	0.00	0.00	0.00
12,200.00	90.00	10.00	7,279.98	4,101.33	607.83	3,138.99	0.00	0.00	0.00
12,300.00	90.00	10.00	7,279.98	4,199.81	625.19	3,212.88	0.00	0.00	0.00
12,354.18	90.00	10.00	7,279.98	4,253.17	634.60	3,252.91	0.00	0.00	0.00
Start Turn -2.00									
12,400.00	90.00	9.08	7,279.98	4,298.35	642.20	3,287.01	2.00	0.00	-2.00
12,500.00	90.00	7.08	7,279.98	4,397.35	656.26	3,363.11	2.00	0.00	-2.00
12,600.00	90.00	5.08	7,279.98	4,496.78	666.86	3,441.43	2.00	0.00	-2.00

Planning Report

Database:	EDT_32Bit_ODBC	Local Co-ordinate Reference:	Well RINN VALLEY EAST N17-20-5N
Company:	EXTRACTION OIL & GAS	TVD Reference:	KB 25' @ 4945.00usft
Project:	Weld County	MD Reference:	KB 25' @ 4945.00usft
Site:	Sec 17-T2N-R68W	North Reference:	True
Well:	RINN VALLEY EAST N17-20-5N	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)
12,700.00	90.00	3.08	7,279.98	4,596.52	673.98	3,521.87	2.00	0.00	-2.00
12,800.00	90.00	1.08	7,279.98	4,696.45	677.61	3,604.33	2.00	0.00	-2.00
12,900.00	90.00	359.08	7,279.98	4,796.45	677.76	3,688.72	2.00	0.00	-2.00
12,969.68	90.00	357.69	7,279.98	4,866.10	675.80	3,748.60	2.00	0.00	-2.00
Start 4388.75 hold at 12969.68 MD									
13,000.00	90.00	357.69	7,279.98	4,896.39	674.57	3,774.84	0.00	0.00	0.00
13,100.00	90.00	357.69	7,279.98	4,996.31	670.54	3,861.40	0.00	0.00	0.00
13,200.00	90.00	357.69	7,279.98	5,096.23	666.51	3,947.96	0.00	0.00	0.00
13,300.00	90.00	357.69	7,279.98	5,196.15	662.48	4,034.51	0.00	0.00	0.00
13,400.00	90.00	357.69	7,279.98	5,296.07	658.45	4,121.07	0.00	0.00	0.00
13,500.00	90.00	357.69	7,279.98	5,395.99	654.42	4,207.63	0.00	0.00	0.00
13,600.00	90.00	357.69	7,279.98	5,495.91	650.39	4,294.19	0.00	0.00	0.00
13,700.00	90.00	357.69	7,279.98	5,595.83	646.36	4,380.74	0.00	0.00	0.00
13,800.00	90.00	357.69	7,279.98	5,695.74	642.33	4,467.30	0.00	0.00	0.00
13,900.00	90.00	357.69	7,279.98	5,795.66	638.30	4,553.86	0.00	0.00	0.00
14,000.00	90.00	357.69	7,279.98	5,895.58	634.27	4,640.42	0.00	0.00	0.00
14,100.00	90.00	357.69	7,279.98	5,995.50	630.24	4,726.97	0.00	0.00	0.00
14,200.00	90.00	357.69	7,279.98	6,095.42	626.21	4,813.53	0.00	0.00	0.00
14,300.00	90.00	357.69	7,279.98	6,195.34	622.18	4,900.09	0.00	0.00	0.00
14,400.00	90.00	357.69	7,279.98	6,295.26	618.15	4,986.65	0.00	0.00	0.00
14,500.00	90.00	357.69	7,279.98	6,395.18	614.12	5,073.20	0.00	0.00	0.00
14,600.00	90.00	357.69	7,279.98	6,495.09	610.09	5,159.76	0.00	0.00	0.00
14,700.00	90.00	357.69	7,279.98	6,595.01	606.06	5,246.32	0.00	0.00	0.00
14,800.00	90.00	357.69	7,279.98	6,694.93	602.02	5,332.87	0.00	0.00	0.00
14,900.00	90.00	357.69	7,279.98	6,794.85	597.99	5,419.43	0.00	0.00	0.00
15,000.00	90.00	357.69	7,279.98	6,894.77	593.96	5,505.99	0.00	0.00	0.00
15,100.00	90.00	357.69	7,279.98	6,994.69	589.93	5,592.55	0.00	0.00	0.00
15,200.00	90.00	357.69	7,279.98	7,094.61	585.90	5,679.10	0.00	0.00	0.00
15,300.00	90.00	357.69	7,279.98	7,194.53	581.87	5,765.66	0.00	0.00	0.00
15,400.00	90.00	357.69	7,279.98	7,294.44	577.84	5,852.22	0.00	0.00	0.00
15,500.00	90.00	357.69	7,279.98	7,394.36	573.81	5,938.78	0.00	0.00	0.00
15,600.00	90.00	357.69	7,279.98	7,494.28	569.78	6,025.33	0.00	0.00	0.00
15,700.00	90.00	357.69	7,279.98	7,594.20	565.75	6,111.89	0.00	0.00	0.00
15,800.00	90.00	357.69	7,279.98	7,694.12	561.72	6,198.45	0.00	0.00	0.00
15,900.00	90.00	357.69	7,279.98	7,794.04	557.69	6,285.01	0.00	0.00	0.00
16,000.00	90.00	357.69	7,279.98	7,893.96	553.66	6,371.56	0.00	0.00	0.00
16,100.00	90.00	357.69	7,279.98	7,993.88	549.63	6,458.12	0.00	0.00	0.00
16,200.00	90.00	357.69	7,279.98	8,093.79	545.60	6,544.68	0.00	0.00	0.00
16,300.00	90.00	357.69	7,279.98	8,193.71	541.57	6,631.24	0.00	0.00	0.00
16,400.00	90.00	357.69	7,279.98	8,293.63	537.54	6,717.79	0.00	0.00	0.00
16,500.00	90.00	357.69	7,279.98	8,393.55	533.51	6,804.35	0.00	0.00	0.00
16,600.00	90.00	357.69	7,279.98	8,493.47	529.48	6,890.91	0.00	0.00	0.00
16,700.00	90.00	357.69	7,279.98	8,593.39	525.44	6,977.46	0.00	0.00	0.00
16,800.00	90.00	357.69	7,279.98	8,693.31	521.41	7,064.02	0.00	0.00	0.00
16,900.00	90.00	357.69	7,279.98	8,793.23	517.38	7,150.58	0.00	0.00	0.00
17,000.00	90.00	357.69	7,279.98	8,893.14	513.35	7,237.14	0.00	0.00	0.00
17,100.00	90.00	357.69	7,279.98	8,993.06	509.32	7,323.69	0.00	0.00	0.00
17,200.00	90.00	357.69	7,279.98	9,092.98	505.29	7,410.25	0.00	0.00	0.00
17,300.00	90.00	357.69	7,279.98	9,192.90	501.26	7,496.81	0.00	0.00	0.00
17,358.43	90.00	357.69	7,280.00	9,251.28	498.91	7,547.38	0.00	0.00	0.00
TD at 17358.43									

Planning Report

Database:	EDT_32Bit_ODBC	Local Co-ordinate Reference:	Well RINN VALLEY EAST N17-20-5N
Company:	EXTRACTION OIL & GAS	TVD Reference:	KB 25' @ 4945.00usft
Project:	Weld County	MD Reference:	KB 25' @ 4945.00usft
Site:	Sec 17-T2N-R68W	North Reference:	True
Well:	RINN VALLEY EAST N17-20-5N	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL 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
RVE N17-5N - LP - plan hits target center - Point	0.00	0.00	7,280.00	-384.30	493.51	1,291,562.25	3,133,589.76	40° 7' 57.878 N	105° 1' 20.003 W
RVE N17-5N - PBHL - plan hits target center - Point	0.00	0.00	7,280.00	9,251.28	498.91	1,301,197.71	3,133,543.43	40° 9' 33.102 N	105° 1' 19.931 W

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
3,524.36	3,477.00	PARKMAN				
4,104.68	4,047.00	SUSSEX				
4,517.01	4,452.00	SHANNON				
7,495.97	7,242.00	NIOBRARA				
7,598.62	7,270.00	NIO B TARGET				

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
500.00	500.00	0.00	0.00	Start Build 2.00	
1,041.01	1,037.80	-45.28	23.33	Start 5193.74 hold at 1041.01 MD	
6,234.75	6,139.20	-912.02	469.85	Start Drop -2.00	
6,775.76	6,677.00	-957.30	493.18	Start 30.00 hold at 6775.76 MD	
6,805.76	6,707.00	-957.30	493.18	Start DLS 10.00 TFO 0.03	
7,705.83	7,280.00	-384.30	493.51	Start 3600.00 hold at 7705.83 MD	
11,305.83	7,279.98	3,215.70	495.57	Start DLS 2.00 TFO 90.00	
11,804.18	7,279.98	3,711.52	539.10	Start 550.00 hold at 11804.18 MD	
12,354.18	7,279.98	4,253.17	634.60	Start Turn -2.00	
12,969.68	7,279.98	4,866.10	675.80	Start 4388.75 hold at 12969.68 MD	
17,358.43	7,280.00	9,251.28	498.91	TD at 17358.43	