

# **EXTRACTION OIL & GAS**

**Weld County**

**Sec 18-T2N-R68W**

**RINN VALLEY EAST N17-20-11N**

**ORIGINAL WELLBORE**

**Plan: PROPOSAL 1**

## **Standard Planning Report**

**19 March, 2018**



Project: Weld County  
Site: Sec 18-T2N-R68W  
Well: RINN VALLEY EAST N17-20-11N  
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: 52224.2snT  
Dip Angle: 66.60°  
Date: 6/12/2017  
Model: IGRF2015

WELL DETAILS: RINN VALLEY EAST N17-20-11N

+N/-S	+E/-W	Northing	Easting	4937.00	Latitude	Longitude	Slot
0.00	0.00	1291283.33	3129075.20		40° 7' 55.358 N	105° 2' 18.146 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	300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	
3	1665.84	27.32	96.84	1614.68	-38.04	317.20	2.00	96.84	-74.53	
4	5883.92	27.32	96.84	5362.37	-268.53	2239.15	0.00	0.00	-526.14	
5	7249.76	0.00	0.00	6677.05	-306.57	2556.35	2.00	180.00	-600.67	
6	7279.76	0.00	0.00	6707.05	-306.57	2556.35	0.00	0.00	-600.67	
7	8179.79	90.00	0.04	7280.00	266.43	2556.74	10.00	0.04	-31.58	RVE N17-11N - LP
8	17849.98	90.00	0.04	7280.00	9936.61	2563.01	0.00	-162.42	9572.76	RVE N17-11N - PBHL

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
3477.00	3761.91	PARKMAN
4047.00	4403.45	SUSSEX
4452.00	4859.28	SHANNON
7242.00	7969.90	NIOBRARA
7270.00	8072.54	NIO B TARGET

ANNOTATIONS

MD	Inc	Azi	TVD	+N/-S	+E/-W	VSec	Departure	Annotation
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	Start Build 2.00
1665.84	27.32	96.84	1614.68	-38.04	317.20	-74.53	319.47	Start 4218.08 hold at 1665.84 MD
5883.92	27.32	96.84	5362.37	-268.53	2239.15	-526.14	2255.19	Start Drop -2.00
7249.76	0.00	0.00	6677.05	-306.57	2556.35	-600.67	2574.67	Start 30.00 hold at 7249.76 MD
7279.76	0.00	0.00	6707.05	-306.57	2556.35	-600.67	2574.67	Start DLS 10.00 TFO 0.04
8179.79	90.00	0.04	7280.00	266.43	2556.74	-31.58	3147.67	Start DLS 0.00 TFO -162.42
17849.98	90.00	0.04	7280.00	9936.61	2563.01	9572.76	12817.85	TD at 17849.98

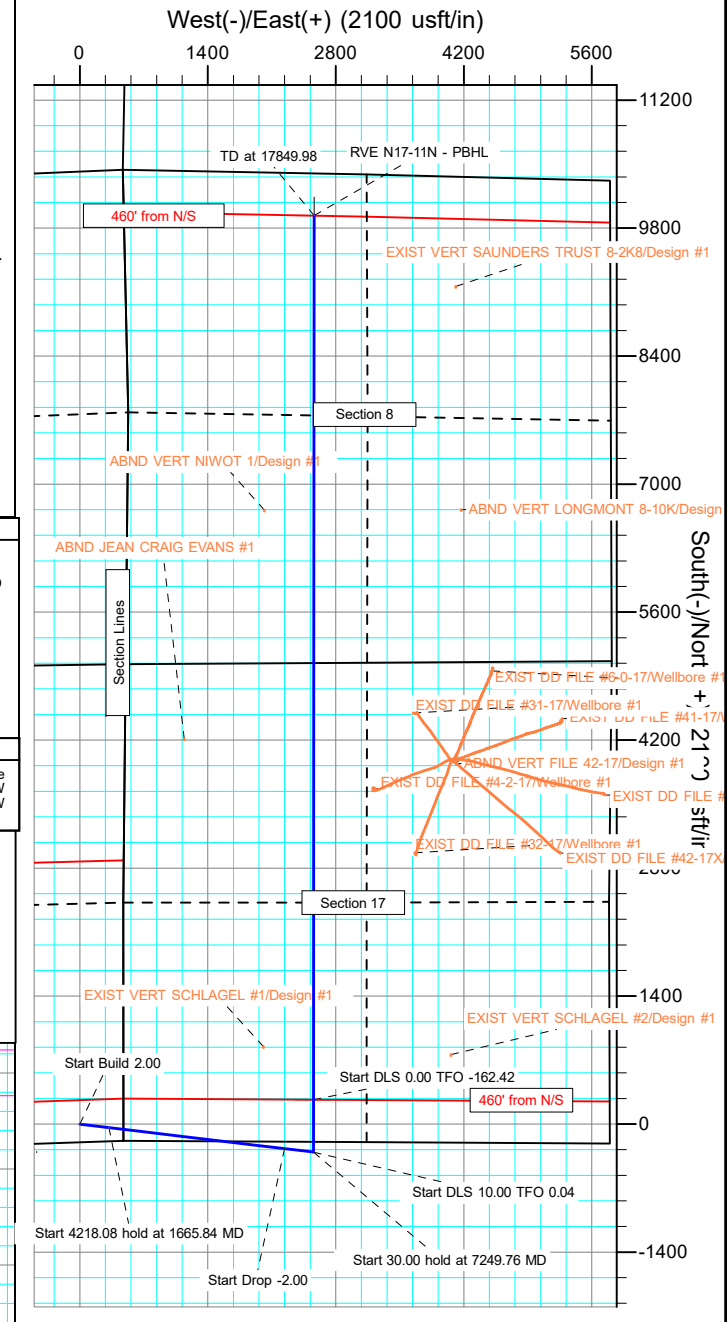
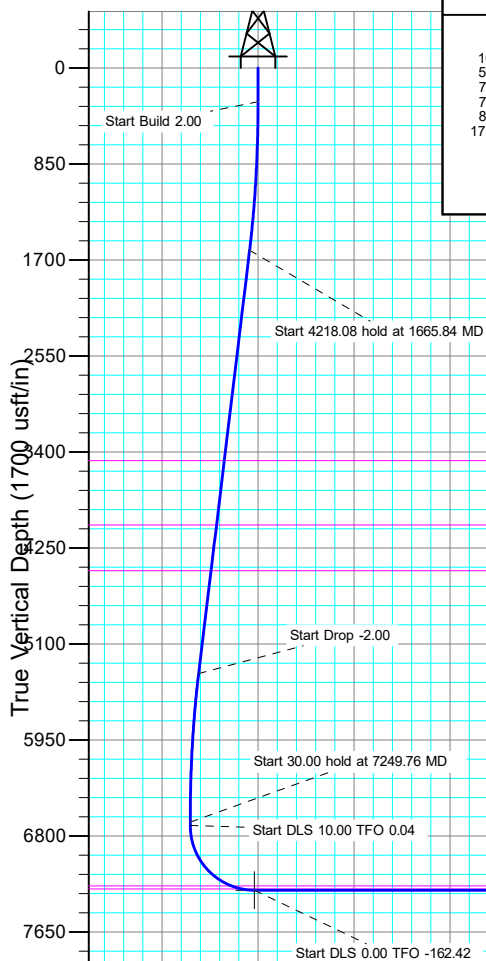
DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
RVE N17-11N - LP	7280.00	266.43	2556.74	1291563.08	3131630.51	40° 7' 57.990 N	105° 1' 45.228 W
RVE N17-11N - PBHL	7280.00	9936.61	2563.01	1301233.15	3131586.44	40° 9' 33.556 N	105° 1' 45.134 W

SHL:  
198' FSL, 477' FEL  
Sec 18-T2N-R68W

LP:  
460' FSL, 2080' FWL  
Sec 17-T2N-R68W

BHL:  
460' FNL, 2080' FWL  
Sec 8-T2N-R68W



Vertical Section at 353.35° (1700 usft/in)

## Planning Report

<b>Database:</b>	EDT_32Bit_ODBC	<b>Local Co-ordinate Reference:</b>	Well RINN VALLEY EAST N17-20-11N
<b>Company:</b>	EXTRACTION OIL & GAS	<b>TVD Reference:</b>	KB 25' @ 4962.00usft
<b>Project:</b>	Weld County	<b>MD Reference:</b>	KB 25' @ 4962.00usft
<b>Site:</b>	Sec 18-T2N-R68W	<b>North Reference:</b>	True
<b>Well:</b>	RINN VALLEY EAST N17-20-11N	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	ORIGINAL WELLBORE		
<b>Design:</b>	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 18-T2N-R68W			
Site Position:		Northing:	1,291,104.41 usft	Latitude:	40° 7' 53.566 N
From:	Lat/Long	Easting:	3,129,553.43 usft	Longitude:	105° 2' 12.001 W
Position Uncertainty:	0.00 usft	Slot Radius:	13.200 in	Grid Convergence:	0.30 °

Well	RINN VALLEY EAST N17-20-11N					
Well Position	+N/-S	181.41 usft	Northing:	1,291,283.32 usft	Latitude:	40° 7' 55.358 N
	+E/-W	-477.30 usft	Easting:	3,129,075.20 usft	Longitude:	105° 2' 18.146 W
Position Uncertainty	0.00 usft		Wellhead Elevation:		Ground Level:	4,937.00 usft

Wellbore	ORIGINAL WELLBORE				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	6/12/2017	8.33	66.60	52,224.15258877

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	353.35

Plan Survey Tool Program			Date	3/19/2018	
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks	
1	0.00	17,849.92	PROPOSAL 1 (ORIGINAL WELL	MWD OWSG	
			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
0.00	0.00	0.00	0.00	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	
1,665.84	27.32	96.84	1,614.68	-38.04	317.20	2.00	2.00	0.00	96.84	
5,883.92	27.32	96.84	5,362.37	-268.53	2,239.15	0.00	0.00	0.00	0.00	
7,249.76	0.00	0.00	6,677.05	-306.57	2,556.35	2.00	-2.00	0.00	180.00	
7,279.76	0.00	0.00	6,707.05	-306.57	2,556.35	0.00	0.00	0.00	0.00	
8,179.79	90.00	0.04	7,280.00	266.43	2,556.74	10.00	10.00	0.00	0.04	RVE N17-11N - LP
17,849.98	90.00	0.04	7,280.00	9,936.61	2,563.01	0.00	0.00	0.00	-162.42	RVE N17-11N - PBHL

# Planning Report

<b>Database:</b>	EDT_32Bit_ODBC	<b>Local Co-ordinate Reference:</b>	Well RINN VALLEY EAST N17-20-11N
<b>Company:</b>	EXTRACTION OIL & GAS	<b>TVD Reference:</b>	KB 25' @ 4962.00usft
<b>Project:</b>	Weld County	<b>MD Reference:</b>	KB 25' @ 4962.00usft
<b>Site:</b>	Sec 18-T2N-R68W	<b>North Reference:</b>	True
<b>Well:</b>	RINN VALLEY EAST N17-20-11N	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	ORIGINAL WELLBORE		
<b>Design:</b>	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
Start Build 2.00									
400.00	2.00	96.84	399.98	-0.21	1.73	-0.41	2.00	2.00	0.00
500.00	4.00	96.84	499.84	-0.83	6.93	-1.63	2.00	2.00	0.00
600.00	6.00	96.84	599.45	-1.87	15.58	-3.66	2.00	2.00	0.00
700.00	8.00	96.84	698.70	-3.32	27.68	-6.50	2.00	2.00	0.00
800.00	10.00	96.84	797.47	-5.18	43.21	-10.15	2.00	2.00	0.00
900.00	12.00	96.84	895.62	-7.45	62.16	-14.61	2.00	2.00	0.00
1,000.00	14.00	96.84	993.06	-10.13	84.49	-19.85	2.00	2.00	0.00
1,100.00	16.00	96.84	1,089.64	-13.21	110.19	-25.89	2.00	2.00	0.00
1,200.00	18.00	96.84	1,185.27	-16.70	139.22	-32.71	2.00	2.00	0.00
1,300.00	20.00	96.84	1,279.82	-20.57	171.54	-40.31	2.00	2.00	0.00
1,400.00	22.00	96.84	1,373.17	-24.84	207.12	-48.67	2.00	2.00	0.00
1,500.00	24.00	96.84	1,465.21	-29.49	245.91	-57.78	2.00	2.00	0.00
1,600.00	26.00	96.84	1,555.84	-34.52	287.87	-67.64	2.00	2.00	0.00
1,665.84	27.32	96.84	1,614.68	-38.04	317.20	-74.53	2.00	2.00	0.00
Start 4218.08 hold at 1665.84 MD									
1,700.00	27.32	96.84	1,645.03	-39.91	332.77	-78.19	0.00	0.00	0.00
1,800.00	27.32	96.84	1,733.88	-45.37	378.33	-88.90	0.00	0.00	0.00
1,900.00	27.32	96.84	1,822.73	-50.84	423.90	-99.60	0.00	0.00	0.00
2,000.00	27.32	96.84	1,911.58	-56.30	469.46	-110.31	0.00	0.00	0.00
2,100.00	27.32	96.84	2,000.42	-61.76	515.02	-121.02	0.00	0.00	0.00
2,200.00	27.32	96.84	2,089.27	-67.23	560.59	-131.72	0.00	0.00	0.00
2,300.00	27.32	96.84	2,178.12	-72.69	606.15	-142.43	0.00	0.00	0.00
2,400.00	27.32	96.84	2,266.97	-78.16	651.72	-153.14	0.00	0.00	0.00
2,500.00	27.32	96.84	2,355.82	-83.62	697.28	-163.84	0.00	0.00	0.00
2,600.00	27.32	96.84	2,444.67	-89.09	742.85	-174.55	0.00	0.00	0.00
2,700.00	27.32	96.84	2,533.51	-94.55	788.41	-185.26	0.00	0.00	0.00
2,800.00	27.32	96.84	2,622.36	-100.01	833.98	-195.96	0.00	0.00	0.00
2,900.00	27.32	96.84	2,711.21	-105.48	879.54	-206.67	0.00	0.00	0.00
3,000.00	27.32	96.84	2,800.06	-110.94	925.11	-217.38	0.00	0.00	0.00
3,100.00	27.32	96.84	2,888.91	-116.41	970.67	-228.08	0.00	0.00	0.00
3,200.00	27.32	96.84	2,977.76	-121.87	1,016.23	-238.79	0.00	0.00	0.00
3,300.00	27.32	96.84	3,066.60	-127.34	1,061.80	-249.49	0.00	0.00	0.00
3,400.00	27.32	96.84	3,155.45	-132.80	1,107.36	-260.20	0.00	0.00	0.00
3,500.00	27.32	96.84	3,244.30	-138.26	1,152.93	-270.91	0.00	0.00	0.00
3,600.00	27.32	96.84	3,333.15	-143.73	1,198.49	-281.61	0.00	0.00	0.00
3,700.00	27.32	96.84	3,422.00	-149.19	1,244.06	-292.32	0.00	0.00	0.00
3,761.91	27.32	96.84	3,477.00	-152.58	1,272.26	-298.95	0.00	0.00	0.00
PARKMAN									
3,800.00	27.32	96.84	3,510.84	-154.66	1,289.62	-303.03	0.00	0.00	0.00
3,900.00	27.32	96.84	3,599.69	-160.12	1,335.19	-313.73	0.00	0.00	0.00
4,000.00	27.32	96.84	3,688.54	-165.59	1,380.75	-324.44	0.00	0.00	0.00
4,100.00	27.32	96.84	3,777.39	-171.05	1,426.31	-335.15	0.00	0.00	0.00
4,200.00	27.32	96.84	3,866.24	-176.51	1,471.88	-345.85	0.00	0.00	0.00
4,300.00	27.32	96.84	3,955.09	-181.98	1,517.44	-356.56	0.00	0.00	0.00
4,400.00	27.32	96.84	4,043.93	-187.44	1,563.01	-367.27	0.00	0.00	0.00
4,403.45	27.32	96.84	4,047.00	-187.63	1,564.58	-367.63	0.00	0.00	0.00
SUSSEX									
4,500.00	27.32	96.84	4,132.78	-192.91	1,608.57	-377.97	0.00	0.00	0.00

# Planning Report

<b>Database:</b>	EDT_32Bit_ODBC	<b>Local Co-ordinate Reference:</b>	Well RINN VALLEY EAST N17-20-11N
<b>Company:</b>	EXTRACTION OIL & GAS	<b>TVD Reference:</b>	KB 25' @ 4962.00usft
<b>Project:</b>	Weld County	<b>MD Reference:</b>	KB 25' @ 4962.00usft
<b>Site:</b>	Sec 18-T2N-R68W	<b>North Reference:</b>	True
<b>Well:</b>	RINN VALLEY EAST N17-20-11N	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	ORIGINAL WELLBORE		
<b>Design:</b>	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)
4,600.00	27.32	96.84	4,221.63	-198.37	1,654.14	-388.68	0.00	0.00	0.00
4,700.00	27.32	96.84	4,310.48	-203.84	1,699.70	-399.38	0.00	0.00	0.00
4,800.00	27.32	96.84	4,399.33	-209.30	1,745.27	-410.09	0.00	0.00	0.00
4,859.28	27.32	96.84	4,452.00	-212.54	1,772.28	-416.44	0.00	0.00	0.00
<b>SHANNON</b>									
4,900.00	27.32	96.84	4,488.18	-214.77	1,790.83	-420.80	0.00	0.00	0.00
5,000.00	27.32	96.84	4,577.02	-220.23	1,836.40	-431.50	0.00	0.00	0.00
5,100.00	27.32	96.84	4,665.87	-225.69	1,881.96	-442.21	0.00	0.00	0.00
5,200.00	27.32	96.84	4,754.72	-231.16	1,927.52	-452.92	0.00	0.00	0.00
5,300.00	27.32	96.84	4,843.57	-236.62	1,973.09	-463.62	0.00	0.00	0.00
5,400.00	27.32	96.84	4,932.42	-242.09	2,018.65	-474.33	0.00	0.00	0.00
5,500.00	27.32	96.84	5,021.27	-247.55	2,064.22	-485.04	0.00	0.00	0.00
5,600.00	27.32	96.84	5,110.11	-253.02	2,109.78	-495.74	0.00	0.00	0.00
5,700.00	27.32	96.84	5,198.96	-258.48	2,155.35	-506.45	0.00	0.00	0.00
5,800.00	27.32	96.84	5,287.81	-263.94	2,200.91	-517.16	0.00	0.00	0.00
5,883.92	27.32	96.84	5,362.37	-268.53	2,239.15	-526.14	0.00	0.00	0.00
<b>Start Drop -2.00</b>									
5,900.00	27.00	96.84	5,376.68	-269.40	2,246.44	-527.85	2.00	-2.00	0.00
6,000.00	25.00	96.84	5,466.56	-274.62	2,289.95	-538.08	2.00	-2.00	0.00
6,100.00	23.00	96.84	5,557.91	-279.46	2,330.33	-547.56	2.00	-2.00	0.00
6,200.00	21.00	96.84	5,650.63	-283.92	2,367.51	-556.30	2.00	-2.00	0.00
6,300.00	19.00	96.84	5,744.59	-287.99	2,401.46	-564.28	2.00	-2.00	0.00
6,400.00	17.00	96.84	5,839.70	-291.67	2,432.13	-571.49	2.00	-2.00	0.00
6,500.00	15.00	96.84	5,935.82	-294.95	2,459.49	-577.91	2.00	-2.00	0.00
6,600.00	13.00	96.84	6,032.85	-297.83	2,483.50	-583.56	2.00	-2.00	0.00
6,700.00	11.00	96.84	6,130.66	-300.31	2,504.14	-588.41	2.00	-2.00	0.00
6,800.00	9.00	96.84	6,229.14	-302.37	2,521.37	-592.45	2.00	-2.00	0.00
6,900.00	7.00	96.84	6,328.16	-304.03	2,535.18	-595.70	2.00	-2.00	0.00
7,000.00	5.00	96.84	6,427.61	-305.27	2,545.55	-598.14	2.00	-2.00	0.00
7,100.00	3.00	96.84	6,527.36	-306.10	2,552.46	-599.76	2.00	-2.00	0.00
7,200.00	1.00	96.84	6,627.29	-306.52	2,555.92	-600.57	2.00	-2.00	0.00
7,249.76	0.00	0.00	6,677.05	-306.57	2,556.35	-600.67	2.00	-2.00	0.00
<b>Start 30.00 hold at 7249.76 MD</b>									
7,279.76	0.00	0.00	6,707.05	-306.57	2,556.35	-600.67	0.00	0.00	0.00
<b>Start DLS 10.00 TFO 0.04</b>									
7,300.00	2.02	0.04	6,727.29	-306.21	2,556.35	-600.32	10.00	10.00	0.00
7,350.00	7.02	0.04	6,777.12	-302.27	2,556.35	-596.40	10.00	10.00	0.00
7,400.00	12.02	0.04	6,826.41	-294.00	2,556.36	-588.19	10.00	10.00	0.00
7,450.00	17.02	0.04	6,874.80	-281.46	2,556.37	-575.74	10.00	10.00	0.00
7,500.00	22.02	0.04	6,921.91	-264.76	2,556.38	-559.15	10.00	10.00	0.00
7,550.00	27.02	0.04	6,967.38	-244.01	2,556.39	-538.54	10.00	10.00	0.00
7,600.00	32.02	0.04	7,010.88	-219.38	2,556.41	-514.08	10.00	10.00	0.00
7,650.00	37.02	0.04	7,052.06	-191.05	2,556.43	-485.94	10.00	10.00	0.00
7,700.00	42.02	0.04	7,090.61	-159.24	2,556.45	-454.35	10.00	10.00	0.00
7,750.00	47.02	0.04	7,126.25	-124.19	2,556.47	-419.54	10.00	10.00	0.00
7,800.00	52.02	0.04	7,158.69	-86.17	2,556.50	-381.77	10.00	10.00	0.00
7,850.00	57.02	0.04	7,187.70	-45.46	2,556.53	-341.34	10.00	10.00	0.00
7,900.00	62.03	0.04	7,213.05	-2.38	2,556.56	-298.56	10.00	10.00	0.00
7,950.00	67.03	0.04	7,234.55	42.74	2,556.59	-253.74	10.00	10.00	0.00
7,969.90	69.02	0.04	7,242.00	61.20	2,556.60	-235.41	10.00	10.00	0.00
<b>NIOBRARA</b>									
8,000.00	72.03	0.04	7,252.04	89.57	2,556.62	-207.23	10.00	10.00	0.00
8,050.00	77.03	0.04	7,265.37	137.74	2,556.65	-159.39	10.00	10.00	0.00

# Planning Report

<b>Database:</b>	EDT_32Bit_ODBC	<b>Local Co-ordinate Reference:</b>	Well RINN VALLEY EAST N17-20-11N
<b>Company:</b>	EXTRACTION OIL & GAS	<b>TVD Reference:</b>	KB 25' @ 4962.00usft
<b>Project:</b>	Weld County	<b>MD Reference:</b>	KB 25' @ 4962.00usft
<b>Site:</b>	Sec 18-T2N-R68W	<b>North Reference:</b>	True
<b>Well:</b>	RINN VALLEY EAST N17-20-11N	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	ORIGINAL WELLBORE		
<b>Design:</b>	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)	
8,072.54	79.28	0.04	7,270.00	159.80	2,556.66	-137.48	10.00	10.00	0.00	
<b>NIO B TARGET</b>										
8,100.00	82.03	0.04	7,274.46	186.89	2,556.68	-110.57	10.00	10.00	0.00	
8,150.00	87.03	0.04	7,279.23	236.65	2,556.72	-61.16	10.00	10.00	0.00	
8,179.79	90.00	0.04	7,280.00	266.43	2,556.74	-31.58	10.00	10.00	0.00	
<b>Start DLS 0.00 TFO -162.42</b>										
8,200.00	90.00	0.04	7,280.00	286.63	2,556.75	-11.51	0.00	0.00	0.00	
8,300.00	90.00	0.04	7,279.99	386.63	2,556.82	87.81	0.00	0.00	0.00	
8,400.00	90.00	0.04	7,279.98	486.63	2,556.89	187.13	0.00	0.00	0.00	
8,500.00	90.00	0.04	7,279.97	586.63	2,556.95	286.45	0.00	0.00	0.00	
8,600.00	90.00	0.04	7,279.97	686.63	2,557.02	385.76	0.00	0.00	0.00	
8,700.00	90.00	0.04	7,279.96	786.63	2,557.09	485.08	0.00	0.00	0.00	
8,800.00	90.00	0.04	7,279.95	886.63	2,557.15	584.40	0.00	0.00	0.00	
8,900.00	90.00	0.04	7,279.94	986.63	2,557.22	683.72	0.00	0.00	0.00	
9,000.00	90.00	0.04	7,279.94	1,086.63	2,557.29	783.04	0.00	0.00	0.00	
9,100.00	90.00	0.04	7,279.93	1,186.63	2,557.36	882.36	0.00	0.00	0.00	
9,200.00	90.00	0.04	7,279.92	1,286.63	2,557.42	981.68	0.00	0.00	0.00	
9,300.00	90.00	0.04	7,279.92	1,386.63	2,557.49	1,081.00	0.00	0.00	0.00	
9,400.00	90.00	0.04	7,279.91	1,486.63	2,557.56	1,180.31	0.00	0.00	0.00	
9,500.00	90.00	0.04	7,279.90	1,586.63	2,557.62	1,279.63	0.00	0.00	0.00	
9,600.00	90.00	0.04	7,279.90	1,686.63	2,557.69	1,378.95	0.00	0.00	0.00	
9,700.00	90.00	0.04	7,279.89	1,786.63	2,557.76	1,478.27	0.00	0.00	0.00	
9,800.00	90.00	0.04	7,279.89	1,886.63	2,557.82	1,577.59	0.00	0.00	0.00	
9,900.00	90.00	0.04	7,279.88	1,986.63	2,557.89	1,676.91	0.00	0.00	0.00	
10,000.00	90.00	0.04	7,279.87	2,086.63	2,557.96	1,776.23	0.00	0.00	0.00	
10,100.00	90.00	0.04	7,279.87	2,186.63	2,558.02	1,875.55	0.00	0.00	0.00	
10,200.00	90.00	0.04	7,279.86	2,286.63	2,558.09	1,974.87	0.00	0.00	0.00	
10,300.00	90.00	0.04	7,279.86	2,386.63	2,558.16	2,074.18	0.00	0.00	0.00	
10,400.00	90.00	0.04	7,279.85	2,486.63	2,558.22	2,173.50	0.00	0.00	0.00	
10,500.00	90.00	0.04	7,279.85	2,586.63	2,558.29	2,272.82	0.00	0.00	0.00	
10,600.00	90.00	0.04	7,279.85	2,686.63	2,558.35	2,372.14	0.00	0.00	0.00	
10,700.00	90.00	0.04	7,279.84	2,786.63	2,558.42	2,471.46	0.00	0.00	0.00	
10,800.00	90.00	0.04	7,279.84	2,886.63	2,558.49	2,570.78	0.00	0.00	0.00	
10,900.00	90.00	0.04	7,279.83	2,986.63	2,558.55	2,670.10	0.00	0.00	0.00	
11,000.00	90.00	0.04	7,279.83	3,086.63	2,558.62	2,769.42	0.00	0.00	0.00	
11,100.00	90.00	0.04	7,279.83	3,186.63	2,558.69	2,868.74	0.00	0.00	0.00	
11,200.00	90.00	0.04	7,279.82	3,286.63	2,558.75	2,968.05	0.00	0.00	0.00	
11,300.00	90.00	0.04	7,279.82	3,386.63	2,558.82	3,067.37	0.00	0.00	0.00	
11,400.00	90.00	0.04	7,279.82	3,486.63	2,558.88	3,166.69	0.00	0.00	0.00	
11,500.00	90.00	0.04	7,279.82	3,586.63	2,558.95	3,266.01	0.00	0.00	0.00	
11,600.00	90.00	0.04	7,279.81	3,686.63	2,559.01	3,365.33	0.00	0.00	0.00	
11,700.00	90.00	0.04	7,279.81	3,786.63	2,559.08	3,464.65	0.00	0.00	0.00	
11,800.00	90.00	0.04	7,279.81	3,886.63	2,559.15	3,563.97	0.00	0.00	0.00	
11,900.00	90.00	0.04	7,279.81	3,986.63	2,559.21	3,663.29	0.00	0.00	0.00	
12,000.00	90.00	0.04	7,279.80	4,086.63	2,559.28	3,762.61	0.00	0.00	0.00	
12,100.00	90.00	0.04	7,279.80	4,186.63	2,559.34	3,861.93	0.00	0.00	0.00	
12,200.00	90.00	0.04	7,279.80	4,286.63	2,559.41	3,961.24	0.00	0.00	0.00	
12,300.00	90.00	0.04	7,279.80	4,386.63	2,559.47	4,060.56	0.00	0.00	0.00	
12,400.00	90.00	0.04	7,279.80	4,486.63	2,559.54	4,159.88	0.00	0.00	0.00	
12,500.00	90.00	0.04	7,279.80	4,586.63	2,559.60	4,259.20	0.00	0.00	0.00	
12,600.00	90.00	0.04	7,279.80	4,686.63	2,559.67	4,358.52	0.00	0.00	0.00	
12,700.00	90.00	0.04	7,279.80	4,786.63	2,559.73	4,457.84	0.00	0.00	0.00	
12,800.00	90.00	0.04	7,279.80	4,886.63	2,559.80	4,557.16	0.00	0.00	0.00	
12,900.00	90.00	0.04	7,279.80	4,986.63	2,559.86	4,656.48	0.00	0.00	0.00	

# Planning Report

<b>Database:</b>	EDT_32Bit_ODBC	<b>Local Co-ordinate Reference:</b>	Well RINN VALLEY EAST N17-20-11N
<b>Company:</b>	EXTRACTION OIL & GAS	<b>TVD Reference:</b>	KB 25' @ 4962.00usft
<b>Project:</b>	Weld County	<b>MD Reference:</b>	KB 25' @ 4962.00usft
<b>Site:</b>	Sec 18-T2N-R68W	<b>North Reference:</b>	True
<b>Well:</b>	RINN VALLEY EAST N17-20-11N	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	ORIGINAL WELLBORE		
<b>Design:</b>	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)
13,000.00	90.00	0.04	7,279.79	5,086.63	2,559.93	4,755.80	0.00	0.00	0.00
13,100.00	90.00	0.04	7,279.79	5,186.63	2,559.99	4,855.12	0.00	0.00	0.00
13,200.00	90.00	0.04	7,279.80	5,286.63	2,560.06	4,954.43	0.00	0.00	0.00
13,300.00	90.00	0.04	7,279.80	5,386.63	2,560.12	5,053.75	0.00	0.00	0.00
13,400.00	90.00	0.04	7,279.80	5,486.63	2,560.19	5,153.07	0.00	0.00	0.00
13,500.00	90.00	0.04	7,279.80	5,586.63	2,560.25	5,252.39	0.00	0.00	0.00
13,600.00	90.00	0.04	7,279.80	5,686.63	2,560.32	5,351.71	0.00	0.00	0.00
13,700.00	90.00	0.04	7,279.80	5,786.63	2,560.38	5,451.03	0.00	0.00	0.00
13,800.00	90.00	0.04	7,279.80	5,886.63	2,560.44	5,550.35	0.00	0.00	0.00
13,900.00	90.00	0.04	7,279.80	5,986.63	2,560.51	5,649.67	0.00	0.00	0.00
14,000.00	90.00	0.04	7,279.80	6,086.63	2,560.57	5,748.99	0.00	0.00	0.00
14,100.00	90.00	0.04	7,279.81	6,186.63	2,560.64	5,848.31	0.00	0.00	0.00
14,200.00	90.00	0.04	7,279.81	6,286.63	2,560.70	5,947.63	0.00	0.00	0.00
14,300.00	90.00	0.04	7,279.81	6,386.63	2,560.77	6,046.95	0.00	0.00	0.00
14,400.00	90.00	0.04	7,279.81	6,486.63	2,560.83	6,146.26	0.00	0.00	0.00
14,500.00	90.00	0.04	7,279.81	6,586.63	2,560.89	6,245.58	0.00	0.00	0.00
14,600.00	90.00	0.04	7,279.82	6,686.63	2,560.96	6,344.90	0.00	0.00	0.00
14,700.00	90.00	0.04	7,279.82	6,786.63	2,561.02	6,444.22	0.00	0.00	0.00
14,800.00	90.00	0.04	7,279.82	6,886.63	2,561.09	6,543.54	0.00	0.00	0.00
14,900.00	90.00	0.04	7,279.83	6,986.63	2,561.15	6,642.86	0.00	0.00	0.00
15,000.00	90.00	0.04	7,279.83	7,086.63	2,561.21	6,742.18	0.00	0.00	0.00
15,100.00	90.00	0.04	7,279.83	7,186.63	2,561.28	6,841.50	0.00	0.00	0.00
15,200.00	90.00	0.04	7,279.84	7,286.63	2,561.34	6,940.82	0.00	0.00	0.00
15,300.00	90.00	0.04	7,279.84	7,386.63	2,561.40	7,040.14	0.00	0.00	0.00
15,400.00	90.00	0.04	7,279.84	7,486.63	2,561.47	7,139.46	0.00	0.00	0.00
15,500.00	90.00	0.04	7,279.85	7,586.63	2,561.53	7,238.78	0.00	0.00	0.00
15,600.00	90.00	0.04	7,279.85	7,686.63	2,561.59	7,338.09	0.00	0.00	0.00
15,700.00	90.00	0.04	7,279.86	7,786.63	2,561.66	7,437.41	0.00	0.00	0.00
15,800.00	90.00	0.04	7,279.86	7,886.63	2,561.72	7,536.73	0.00	0.00	0.00
15,900.00	90.00	0.04	7,279.87	7,986.63	2,561.78	7,636.05	0.00	0.00	0.00
16,000.00	90.00	0.04	7,279.87	8,086.63	2,561.85	7,735.37	0.00	0.00	0.00
16,100.00	90.00	0.04	7,279.88	8,186.63	2,561.91	7,834.69	0.00	0.00	0.00
16,200.00	90.00	0.04	7,279.88	8,286.63	2,561.97	7,934.01	0.00	0.00	0.00
16,300.00	90.00	0.04	7,279.89	8,386.63	2,562.04	8,033.33	0.00	0.00	0.00
16,400.00	90.00	0.04	7,279.90	8,486.63	2,562.10	8,132.65	0.00	0.00	0.00
16,500.00	90.00	0.04	7,279.90	8,586.63	2,562.16	8,231.97	0.00	0.00	0.00
16,600.00	90.00	0.04	7,279.91	8,686.63	2,562.23	8,331.29	0.00	0.00	0.00
16,700.00	90.00	0.04	7,279.91	8,786.63	2,562.29	8,430.61	0.00	0.00	0.00
16,800.00	90.00	0.04	7,279.92	8,886.63	2,562.35	8,529.93	0.00	0.00	0.00
16,900.00	90.00	0.04	7,279.93	8,986.63	2,562.41	8,629.25	0.00	0.00	0.00
17,000.00	90.00	0.04	7,279.93	9,086.63	2,562.48	8,728.56	0.00	0.00	0.00
17,100.00	90.00	0.04	7,279.94	9,186.63	2,562.54	8,827.88	0.00	0.00	0.00
17,200.00	90.00	0.04	7,279.95	9,286.63	2,562.60	8,927.20	0.00	0.00	0.00
17,300.00	90.00	0.04	7,279.96	9,386.63	2,562.66	9,026.52	0.00	0.00	0.00
17,400.00	90.00	0.04	7,279.96	9,486.63	2,562.73	9,125.84	0.00	0.00	0.00
17,500.00	90.00	0.04	7,279.97	9,586.63	2,562.79	9,225.16	0.00	0.00	0.00
17,600.00	90.00	0.04	7,279.98	9,686.63	2,562.85	9,324.48	0.00	0.00	0.00
17,700.00	90.00	0.04	7,279.99	9,786.63	2,562.91	9,423.80	0.00	0.00	0.00
17,800.00	90.00	0.04	7,280.00	9,886.63	2,562.98	9,523.12	0.00	0.00	0.00
17,849.98	90.00	0.04	7,280.00	9,936.61	2,563.01	9,572.76	0.00	0.00	0.00
TD at 17849.98									

## Planning Report

<b>Database:</b>	EDT_32Bit_ODBC	<b>Local Co-ordinate Reference:</b>	Well RINN VALLEY EAST N17-20-11N
<b>Company:</b>	EXTRACTION OIL & GAS	<b>TVD Reference:</b>	KB 25' @ 4962.00usft
<b>Project:</b>	Weld County	<b>MD Reference:</b>	KB 25' @ 4962.00usft
<b>Site:</b>	Sec 18-T2N-R68W	<b>North Reference:</b>	True
<b>Well:</b>	RINN VALLEY EAST N17-20-11N	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	ORIGINAL WELLBORE		
<b>Design:</b>	PROPOSAL 1		

Design Targets									
Target Name									
- hit/miss target	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- Shape	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)		
RVE N17-11N - LP	0.00	0.00	7,280.00	266.43	2,556.74	1,291,563.06	3,131,630.51	40° 7' 57.990 N	105° 1' 45.228 W
- plan hits target center									
- Point									
RVE N17-11N - PBHL	0.00	0.00	7,280.00	9,936.61	2,563.01	1,301,233.14	3,131,586.44	40° 9' 33.556 N	105° 1' 45.134 W
- plan hits target center									
- Point									

Formations						
Measured Depth	Vertical Depth					
(usft)	(usft)	Name	Lithology	Dip	Dip Direction	
				(°)	(°)	
3,761.91	3,477.00	PARKMAN				
4,403.45	4,047.00	SUSSEX				
4,859.28	4,452.00	SHANNON				
7,969.90	7,242.00	NIOBRARA				
8,072.54	7,270.00	NIO B TARGET				

Plan Annotations					
Measured Depth	Vertical Depth	Local Coordinates			
(usft)	(usft)	+N/-S	+E/-W	Comment	
		(usft)	(usft)		
300.00	300.00	0.00	0.00	Start Build 2.00	
1,665.84	1,614.68	-38.04	317.20	Start 4218.08 hold at 1665.84 MD	
5,883.92	5,362.37	-268.53	2,239.15	Start Drop -2.00	
7,249.76	6,677.05	-306.57	2,556.35	Start 30.00 hold at 7249.76 MD	
7,279.76	6,707.05	-306.57	2,556.35	Start DLS 10.00 TFO 0.04	
8,179.79	7,280.00	266.43	2,556.74	Start DLS 0.00 TFO -162.42	
17,849.98	7,280.00	9,936.61	2,563.01	TD at 17849.98	