

EXTRACTION OIL & GAS

Weld County

Sec 18-T2N-R68W

RINN VALLEY EAST N17-20-10C

ORIGINAL WELLBORE

Plan: PROPOSAL 1

Standard Planning Report

19 March, 2018



Project: Weld County
Site: Sec 18-T2N-R68W
Well: RINN VALLEY EAST N17-20-10C
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 N17-20-10C

+N/-S	+E/-W	Northing	Easting	4937.00	Latitude	Longitude	Slot
0.00	0.00	1291283.11	3129103.16		40° 7' 55.355 N	105° 2' 17.786 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	200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	
3	1626.53	28.53	96.17	1568.30	-37.40	345.88	2.00	96.17	-86.68	
4	6168.49	28.53	96.17	5558.70	-270.60	2502.67	0.00	0.00	-627.20	
5	7595.02	0.00	0.00	6927.00	-308.00	2848.55	2.00	180.00	-713.89	
6	7625.02	0.00	0.00	6957.00	-308.00	2848.55	0.00	0.00	-713.89	
7	8525.09	90.00	0.04	7530.00	265.00	2848.93	10.00	0.04	-146.88	RVE N17-10C - LP
8	18190.90	90.00	0.04	7530.00	9930.82	2855.36	0.00	0.00	9417.82	RVE N17-10C - PBHL

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
3477.00	3799.05	PARKMAN
4047.00	4447.84	SUSSEX
4452.00	4908.82	SHANNON
7242.00	7923.31	NIORARA
7270.00	7956.14	NIO B TARGET
7510.00	8373.25	FORT HAYS
7530.00	8525.09	CODELL

ANNOTATIONS

MD	Inc	Azi	TVD	+N/-S	+E/-W	VSec	Departure	Annotation
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	Start Build 2.00
1626.53	28.53	96.17	1568.30	-37.40	345.88	-86.68	347.89	Start 4541.97 hold at 1626.53 MD
6168.49	28.53	96.17	5558.70	-270.60	2502.67	-627.20	2517.26	Start Drop -2.00
7595.02	0.00	0.00	6927.00	-308.00	2848.55	-713.89	2865.15	Start 30.00 hold at 7595.02 MD
7625.02	0.00	0.00	6957.00	-308.00	2848.55	-713.89	2865.15	Start DLS 10.00 TFO 0.04
8525.09	90.00	0.04	7530.00	265.00	2848.93	-146.88	3438.16	Start 9665.81 hold at 8525.09 MD
18190.90	90.00	0.04	7529.94	9930.82	2855.30	9417.83	13103.97	TD at 18190.90

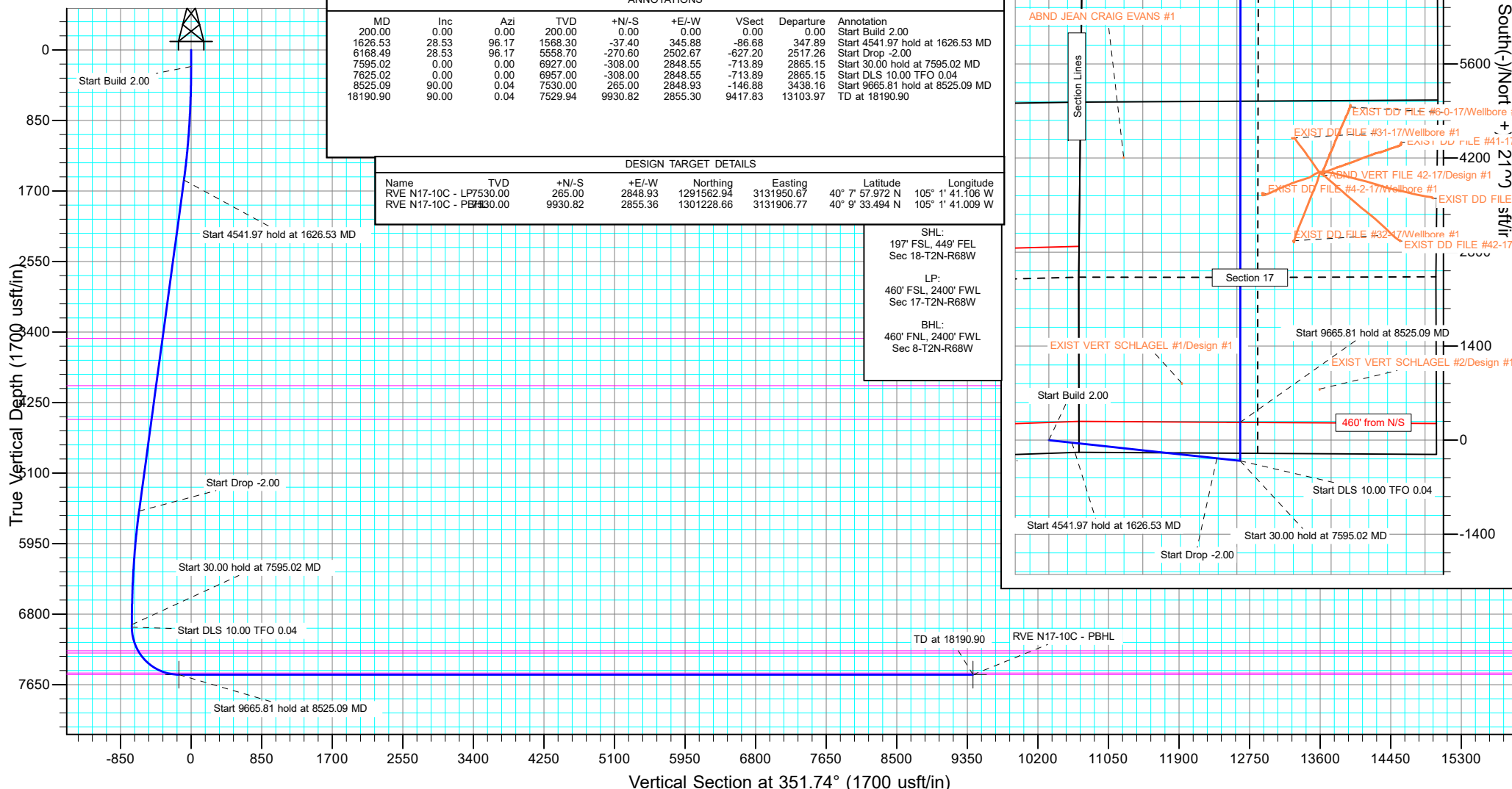
DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
RVE N17-10C - LP	7530.00	265.00	2848.93	1291562.94	3131950.67	40° 7' 57.972 N	105° 1' 41.106 W
RVE N17-10C - PBHL	7530.00	9930.82	2855.36	1301228.66	3131906.77	40° 9' 33.494 N	105° 1' 41.009 W

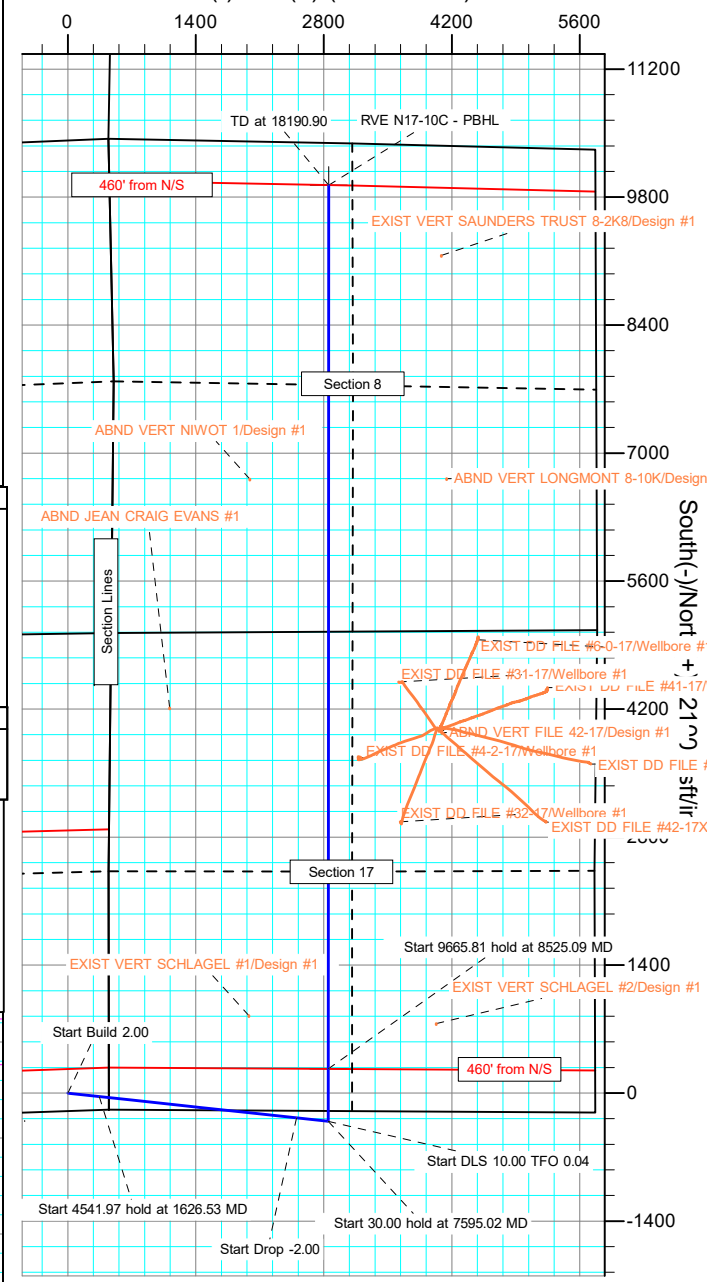
SHL:
197' FSL, 449' FEL
Sec 18-T2N-R68W

LP:
460' FSL, 2400' FWL
Sec 17-T2N-R68W

BHL:
460' FNL, 2400' FWL
Sec 8-T2N-R68W



West(-)/East(+) (2100 usft/in)



Planning Report

Database:	EDT_32Bit_ODBC	Local Co-ordinate Reference:	Well RINN VALLEY EAST N17-20-10C
Company:	EXTRACTION OIL & GAS	TVD Reference:	KB 25' @ 4962.00usft
Project:	Weld County	MD Reference:	KB 25' @ 4962.00usft
Site:	Sec 18-T2N-R68W	North Reference:	True
Well:	RINN VALLEY EAST N17-20-10C	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 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 N17-20-10C					
Well Position	+N/-S	181.04 usft	Northing:	1,291,283.11 usft	Latitude:	40° 7' 55.355 N
	+E/-W	-449.34 usft	Easting:	3,129,103.16 usft	Longitude:	105° 2' 17.786 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	52,224.16282326

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	351.74

Plan Survey Tool Program			Date	3/19/2018	
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks	
1	0.00	18,190.90	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	
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,626.53	28.53	96.17	1,568.30	-37.40	345.88	2.00	2.00	0.00	96.17	
6,168.49	28.53	96.17	5,558.70	-270.60	2,502.67	0.00	0.00	0.00	0.00	
7,595.02	0.00	0.00	6,927.00	-308.00	2,848.55	2.00	-2.00	0.00	180.00	
7,625.02	0.00	0.00	6,957.00	-308.00	2,848.55	0.00	0.00	0.00	0.00	
8,525.09	90.00	0.04	7,530.00	265.00	2,848.93	10.00	10.00	0.00	0.04	RVE N17-10C - LP
18,190.90	90.00	0.04	7,530.00	9,930.82	2,855.36	0.00	0.00	0.00	0.00	RVE N17-10C - PBHL

Planning Report

Database:	EDT_32Bit_ODBC	Local Co-ordinate Reference:	Well RINN VALLEY EAST N17-20-10C
Company:	EXTRACTION OIL & GAS	TVD Reference:	KB 25' @ 4962.00usft
Project:	Weld County	MD Reference:	KB 25' @ 4962.00usft
Site:	Sec 18-T2N-R68W	North Reference:	True
Well:	RINN VALLEY EAST N17-20-10C	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
Start Build 2.00									
300.00	2.00	96.17	299.98	-0.19	1.74	-0.43	2.00	2.00	0.00
400.00	4.00	96.17	399.84	-0.75	6.94	-1.74	2.00	2.00	0.00
500.00	6.00	96.17	499.45	-1.69	15.60	-3.91	2.00	2.00	0.00
600.00	8.00	96.17	598.70	-3.00	27.72	-6.95	2.00	2.00	0.00
700.00	10.00	96.17	697.47	-4.68	43.27	-10.84	2.00	2.00	0.00
800.00	12.00	96.17	795.62	-6.73	62.24	-15.60	2.00	2.00	0.00
900.00	14.00	96.17	893.06	-9.15	84.60	-21.20	2.00	2.00	0.00
1,000.00	16.00	96.17	989.64	-11.93	110.33	-27.65	2.00	2.00	0.00
1,100.00	18.00	96.17	1,085.27	-15.07	139.40	-34.94	2.00	2.00	0.00
1,200.00	20.00	96.17	1,179.82	-18.57	171.77	-43.05	2.00	2.00	0.00
1,300.00	22.00	96.17	1,273.17	-22.42	207.39	-51.98	2.00	2.00	0.00
1,400.00	24.00	96.17	1,365.21	-26.62	246.24	-61.71	2.00	2.00	0.00
1,500.00	26.00	96.17	1,455.84	-31.17	288.25	-72.24	2.00	2.00	0.00
1,600.00	28.00	96.17	1,544.94	-36.05	333.39	-83.55	2.00	2.00	0.00
1,626.53	28.53	96.17	1,568.30	-37.40	345.88	-86.68	2.00	2.00	0.00
Start 4541.97 hold at 1626.53 MD									
1,700.00	28.53	96.17	1,632.85	-41.17	380.77	-95.43	0.00	0.00	0.00
1,800.00	28.53	96.17	1,720.71	-46.30	428.25	-107.33	0.00	0.00	0.00
1,900.00	28.53	96.17	1,808.56	-51.44	475.74	-119.23	0.00	0.00	0.00
2,000.00	28.53	96.17	1,896.42	-56.57	523.22	-131.13	0.00	0.00	0.00
2,100.00	28.53	96.17	1,984.28	-61.71	570.71	-143.03	0.00	0.00	0.00
2,200.00	28.53	96.17	2,072.13	-66.84	618.20	-154.93	0.00	0.00	0.00
2,300.00	28.53	96.17	2,159.99	-71.98	665.68	-166.83	0.00	0.00	0.00
2,400.00	28.53	96.17	2,247.85	-77.11	713.17	-178.73	0.00	0.00	0.00
2,500.00	28.53	96.17	2,335.70	-82.25	760.65	-190.63	0.00	0.00	0.00
2,600.00	28.53	96.17	2,423.56	-87.38	808.14	-202.53	0.00	0.00	0.00
2,700.00	28.53	96.17	2,511.41	-92.51	855.63	-214.43	0.00	0.00	0.00
2,800.00	28.53	96.17	2,599.27	-97.65	903.11	-226.33	0.00	0.00	0.00
2,900.00	28.53	96.17	2,687.13	-102.78	950.60	-238.23	0.00	0.00	0.00
3,000.00	28.53	96.17	2,774.98	-107.92	998.08	-250.13	0.00	0.00	0.00
3,100.00	28.53	96.17	2,862.84	-113.05	1,045.57	-262.03	0.00	0.00	0.00
3,200.00	28.53	96.17	2,950.70	-118.19	1,093.06	-273.93	0.00	0.00	0.00
3,300.00	28.53	96.17	3,038.55	-123.32	1,140.54	-285.84	0.00	0.00	0.00
3,400.00	28.53	96.17	3,126.41	-128.46	1,188.03	-297.74	0.00	0.00	0.00
3,500.00	28.53	96.17	3,214.26	-133.59	1,235.51	-309.64	0.00	0.00	0.00
3,600.00	28.53	96.17	3,302.12	-138.72	1,283.00	-321.54	0.00	0.00	0.00
3,700.00	28.53	96.17	3,389.98	-143.86	1,330.49	-333.44	0.00	0.00	0.00
3,799.05	28.53	96.17	3,477.00	-148.94	1,377.52	-345.23	0.00	0.00	0.00
PARKMAN									
3,800.00	28.53	96.17	3,477.83	-148.99	1,377.97	-345.34	0.00	0.00	0.00
3,900.00	28.53	96.17	3,565.69	-154.13	1,425.46	-357.24	0.00	0.00	0.00
4,000.00	28.53	96.17	3,653.54	-159.26	1,472.94	-369.14	0.00	0.00	0.00
4,100.00	28.53	96.17	3,741.40	-164.40	1,520.43	-381.04	0.00	0.00	0.00
4,200.00	28.53	96.17	3,829.26	-169.53	1,567.92	-392.94	0.00	0.00	0.00
4,300.00	28.53	96.17	3,917.11	-174.67	1,615.40	-404.84	0.00	0.00	0.00
4,400.00	28.53	96.17	4,004.97	-179.80	1,662.89	-416.74	0.00	0.00	0.00
4,447.84	28.53	96.17	4,047.00	-182.26	1,685.61	-422.44	0.00	0.00	0.00
SUSSEX									
4,500.00	28.53	96.17	4,092.83	-184.93	1,710.37	-428.64	0.00	0.00	0.00

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Well:	RINN VALLEY EAST N17-20-10C	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)	
4,600.00	28.53	96.17	4,180.68	-190.07	1,757.86	-440.54	0.00	0.00	0.00	
4,700.00	28.53	96.17	4,268.54	-195.20	1,805.35	-452.44	0.00	0.00	0.00	
4,800.00	28.53	96.17	4,356.39	-200.34	1,852.83	-464.35	0.00	0.00	0.00	
4,900.00	28.53	96.17	4,444.25	-205.47	1,900.32	-476.25	0.00	0.00	0.00	
4,908.82	28.53	96.17	4,452.00	-205.93	1,904.51	-477.30	0.00	0.00	0.00	
SHANNON										
5,000.00	28.53	96.17	4,532.11	-210.61	1,947.80	-488.15	0.00	0.00	0.00	
5,100.00	28.53	96.17	4,619.96	-215.74	1,995.29	-500.05	0.00	0.00	0.00	
5,200.00	28.53	96.17	4,707.82	-220.88	2,042.78	-511.95	0.00	0.00	0.00	
5,300.00	28.53	96.17	4,795.68	-226.01	2,090.26	-523.85	0.00	0.00	0.00	
5,400.00	28.53	96.17	4,883.53	-231.14	2,137.75	-535.75	0.00	0.00	0.00	
5,500.00	28.53	96.17	4,971.39	-236.28	2,185.23	-547.65	0.00	0.00	0.00	
5,600.00	28.53	96.17	5,059.24	-241.41	2,232.72	-559.55	0.00	0.00	0.00	
5,700.00	28.53	96.17	5,147.10	-246.55	2,280.21	-571.45	0.00	0.00	0.00	
5,800.00	28.53	96.17	5,234.96	-251.68	2,327.69	-583.35	0.00	0.00	0.00	
5,900.00	28.53	96.17	5,322.81	-256.82	2,375.18	-595.25	0.00	0.00	0.00	
6,000.00	28.53	96.17	5,410.67	-261.95	2,422.66	-607.15	0.00	0.00	0.00	
6,100.00	28.53	96.17	5,498.53	-267.09	2,470.15	-619.05	0.00	0.00	0.00	
6,168.49	28.53	96.17	5,558.70	-270.60	2,502.67	-627.20	0.00	0.00	0.00	
Start Drop -2.00										
6,200.00	27.90	96.17	5,586.46	-272.20	2,517.48	-630.92	2.00	-2.00	0.00	
6,300.00	25.90	96.17	5,675.64	-277.07	2,562.46	-642.19	2.00	-2.00	0.00	
6,400.00	23.90	96.17	5,766.34	-281.59	2,604.32	-652.68	2.00	-2.00	0.00	
6,500.00	21.90	96.17	5,858.45	-285.78	2,643.01	-662.37	2.00	-2.00	0.00	
6,600.00	19.90	96.17	5,951.87	-289.61	2,678.47	-671.26	2.00	-2.00	0.00	
6,700.00	17.90	96.17	6,046.47	-293.09	2,710.68	-679.33	2.00	-2.00	0.00	
6,800.00	15.90	96.17	6,142.15	-296.22	2,739.58	-686.58	2.00	-2.00	0.00	
6,900.00	13.90	96.17	6,238.78	-298.98	2,765.14	-692.98	2.00	-2.00	0.00	
7,000.00	11.90	96.17	6,336.25	-301.38	2,787.34	-698.54	2.00	-2.00	0.00	
7,100.00	9.90	96.17	6,434.44	-303.41	2,806.14	-703.26	2.00	-2.00	0.00	
7,200.00	7.90	96.17	6,533.23	-305.08	2,821.52	-707.11	2.00	-2.00	0.00	
7,300.00	5.90	96.17	6,632.50	-306.37	2,833.46	-710.10	2.00	-2.00	0.00	
7,400.00	3.90	96.17	6,732.13	-307.29	2,841.95	-712.23	2.00	-2.00	0.00	
7,500.00	1.90	96.17	6,832.00	-307.83	2,846.98	-713.49	2.00	-2.00	0.00	
7,595.02	0.00	0.00	6,927.00	-308.00	2,848.55	-713.89	2.00	-2.00	0.00	
Start 30.00 hold at 7595.02 MD										
7,600.00	0.00	0.00	6,931.98	-308.00	2,848.55	-713.89	0.00	0.00	0.00	
7,625.02	0.00	0.00	6,957.00	-308.00	2,848.55	-713.89	0.00	0.00	0.00	
Start DLS 10.00 TFO 0.04										
7,650.00	2.50	0.04	6,981.97	-307.46	2,848.55	-713.35	10.00	10.00	0.00	
7,700.00	7.50	0.04	7,031.77	-303.10	2,848.55	-709.04	10.00	10.00	0.00	
7,750.00	12.50	0.04	7,080.99	-294.42	2,848.56	-700.45	10.00	10.00	0.00	
7,800.00	17.50	0.04	7,129.28	-281.49	2,848.57	-687.65	10.00	10.00	0.00	
7,850.00	22.50	0.04	7,176.25	-264.40	2,848.58	-670.74	10.00	10.00	0.00	
7,900.00	27.50	0.04	7,221.55	-243.27	2,848.59	-649.84	10.00	10.00	0.00	
7,923.31	29.83	0.04	7,242.00	-232.10	2,848.60	-638.78	10.00	10.00	0.00	
NIOBRARA										
7,950.00	32.50	0.04	7,264.84	-218.29	2,848.61	-625.11	10.00	10.00	0.00	
7,956.14	33.11	0.04	7,270.00	-214.96	2,848.61	-621.82	10.00	10.00	0.00	
NIO B TARGET										
8,000.00	37.50	0.04	7,305.78	-189.62	2,848.63	-596.74	10.00	10.00	0.00	
8,050.00	42.50	0.04	7,344.08	-157.49	2,848.65	-564.95	10.00	10.00	0.00	
8,100.00	47.49	0.04	7,379.42	-122.15	2,848.67	-529.98	10.00	10.00	0.00	

Planning Report

Database:	EDT_32Bit_ODBC	Local Co-ordinate Reference:	Well RINN VALLEY EAST N17-20-10C
Company:	EXTRACTION OIL & GAS	TVD Reference:	KB 25' @ 4962.00usft
Project:	Weld County	MD Reference:	KB 25' @ 4962.00usft
Site:	Sec 18-T2N-R68W	North Reference:	True
Well:	RINN VALLEY EAST N17-20-10C	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)	
8,150.00	52.49	0.04	7,411.56	-83.87	2,848.70	-492.10	10.00	10.00	0.00	
8,200.00	57.49	0.04	7,440.23	-42.92	2,848.72	-451.58	10.00	10.00	0.00	
8,250.00	62.49	0.04	7,465.23	0.36	2,848.75	-408.75	10.00	10.00	0.00	
8,300.00	67.49	0.04	7,486.36	45.66	2,848.78	-363.93	10.00	10.00	0.00	
8,350.00	72.49	0.04	7,503.46	92.63	2,848.81	-317.45	10.00	10.00	0.00	
8,373.25	74.82	0.04	7,510.00	114.93	2,848.83	-295.38	10.00	10.00	0.00	
FORT HAYS										
8,400.00	77.49	0.04	7,516.40	140.91	2,848.85	-269.67	10.00	10.00	0.00	
8,450.00	82.49	0.04	7,525.09	190.13	2,848.88	-220.97	10.00	10.00	0.00	
8,500.00	87.49	0.04	7,529.45	239.92	2,848.91	-171.69	10.00	10.00	0.00	
8,525.09	90.00	0.04	7,530.00	265.00	2,848.93	-146.88	10.00	10.00	0.00	
Start 9665.81 hold at 8525.09 MD - CODELL										
8,600.00	90.00	0.04	7,530.00	339.92	2,848.98	-72.75	0.00	0.00	0.00	
8,700.00	90.00	0.04	7,530.00	439.92	2,849.04	26.21	0.00	0.00	0.00	
8,800.00	90.00	0.04	7,530.00	539.92	2,849.11	125.16	0.00	0.00	0.00	
8,900.00	90.00	0.04	7,530.00	639.92	2,849.17	224.11	0.00	0.00	0.00	
9,000.00	90.00	0.04	7,530.00	739.92	2,849.24	323.07	0.00	0.00	0.00	
9,100.00	90.00	0.04	7,530.00	839.92	2,849.31	422.02	0.00	0.00	0.00	
9,200.00	90.00	0.04	7,530.00	939.92	2,849.37	520.98	0.00	0.00	0.00	
9,300.00	90.00	0.04	7,530.00	1,039.92	2,849.44	619.93	0.00	0.00	0.00	
9,400.00	90.00	0.04	7,530.00	1,139.92	2,849.50	718.88	0.00	0.00	0.00	
9,500.00	90.00	0.04	7,529.99	1,239.92	2,849.57	817.84	0.00	0.00	0.00	
9,600.00	90.00	0.04	7,529.99	1,339.92	2,849.64	916.79	0.00	0.00	0.00	
9,700.00	90.00	0.04	7,529.99	1,439.92	2,849.70	1,015.75	0.00	0.00	0.00	
9,800.00	90.00	0.04	7,529.99	1,539.92	2,849.77	1,114.70	0.00	0.00	0.00	
9,900.00	90.00	0.04	7,529.99	1,639.92	2,849.83	1,213.65	0.00	0.00	0.00	
10,000.00	90.00	0.04	7,529.99	1,739.92	2,849.90	1,312.61	0.00	0.00	0.00	
10,100.00	90.00	0.04	7,529.99	1,839.92	2,849.97	1,411.56	0.00	0.00	0.00	
10,200.00	90.00	0.04	7,529.99	1,939.92	2,850.03	1,510.52	0.00	0.00	0.00	
10,300.00	90.00	0.04	7,529.99	2,039.92	2,850.10	1,609.47	0.00	0.00	0.00	
10,400.00	90.00	0.04	7,529.99	2,139.92	2,850.16	1,708.42	0.00	0.00	0.00	
10,500.00	90.00	0.04	7,529.99	2,239.92	2,850.23	1,807.38	0.00	0.00	0.00	
10,600.00	90.00	0.04	7,529.99	2,339.92	2,850.30	1,906.33	0.00	0.00	0.00	
10,700.00	90.00	0.04	7,529.99	2,439.92	2,850.36	2,005.29	0.00	0.00	0.00	
10,800.00	90.00	0.04	7,529.99	2,539.92	2,850.43	2,104.24	0.00	0.00	0.00	
10,900.00	90.00	0.04	7,529.99	2,639.92	2,850.49	2,203.19	0.00	0.00	0.00	
11,000.00	90.00	0.04	7,529.99	2,739.92	2,850.56	2,302.15	0.00	0.00	0.00	
11,100.00	90.00	0.04	7,529.99	2,839.92	2,850.62	2,401.10	0.00	0.00	0.00	
11,200.00	90.00	0.04	7,529.98	2,939.92	2,850.69	2,500.06	0.00	0.00	0.00	
11,300.00	90.00	0.04	7,529.98	3,039.92	2,850.76	2,599.01	0.00	0.00	0.00	
11,400.00	90.00	0.04	7,529.98	3,139.92	2,850.82	2,697.96	0.00	0.00	0.00	
11,500.00	90.00	0.04	7,529.98	3,239.92	2,850.89	2,796.92	0.00	0.00	0.00	
11,600.00	90.00	0.04	7,529.98	3,339.92	2,850.95	2,895.87	0.00	0.00	0.00	
11,700.00	90.00	0.04	7,529.98	3,439.92	2,851.02	2,994.83	0.00	0.00	0.00	
11,800.00	90.00	0.04	7,529.98	3,539.92	2,851.09	3,093.78	0.00	0.00	0.00	
11,900.00	90.00	0.04	7,529.98	3,639.92	2,851.15	3,192.73	0.00	0.00	0.00	
12,000.00	90.00	0.04	7,529.98	3,739.92	2,851.22	3,291.69	0.00	0.00	0.00	
12,100.00	90.00	0.04	7,529.98	3,839.92	2,851.28	3,390.64	0.00	0.00	0.00	
12,200.00	90.00	0.04	7,529.98	3,939.92	2,851.35	3,489.60	0.00	0.00	0.00	
12,300.00	90.00	0.04	7,529.98	4,039.92	2,851.42	3,588.55	0.00	0.00	0.00	
12,400.00	90.00	0.04	7,529.98	4,139.92	2,851.48	3,687.50	0.00	0.00	0.00	
12,500.00	90.00	0.04	7,529.98	4,239.92	2,851.55	3,786.46	0.00	0.00	0.00	
12,600.00	90.00	0.04	7,529.98	4,339.92	2,851.61	3,885.41	0.00	0.00	0.00	
12,700.00	90.00	0.04	7,529.98	4,439.92	2,851.68	3,984.37	0.00	0.00	0.00	

Planning Report

Database:	EDT_32Bit_ODBC	Local Co-ordinate Reference:	Well RINN VALLEY EAST N17-20-10C
Company:	EXTRACTION OIL & GAS	TVD Reference:	KB 25' @ 4962.00usft
Project:	Weld County	MD Reference:	KB 25' @ 4962.00usft
Site:	Sec 18-T2N-R68W	North Reference:	True
Well:	RINN VALLEY EAST N17-20-10C	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)	
12,800.00	90.00	0.04	7,529.98	4,539.92	2,851.75	4,083.32	0.00	0.00	0.00	
12,900.00	90.00	0.04	7,529.97	4,639.92	2,851.81	4,182.27	0.00	0.00	0.00	
13,000.00	90.00	0.04	7,529.97	4,739.92	2,851.88	4,281.23	0.00	0.00	0.00	
13,100.00	90.00	0.04	7,529.97	4,839.92	2,851.94	4,380.18	0.00	0.00	0.00	
13,200.00	90.00	0.04	7,529.97	4,939.92	2,852.01	4,479.13	0.00	0.00	0.00	
13,300.00	90.00	0.04	7,529.97	5,039.92	2,852.07	4,578.09	0.00	0.00	0.00	
13,400.00	90.00	0.04	7,529.97	5,139.92	2,852.14	4,677.04	0.00	0.00	0.00	
13,500.00	90.00	0.04	7,529.97	5,239.91	2,852.21	4,776.00	0.00	0.00	0.00	
13,600.00	90.00	0.04	7,529.97	5,339.91	2,852.27	4,874.95	0.00	0.00	0.00	
13,700.00	90.00	0.04	7,529.97	5,439.91	2,852.34	4,973.90	0.00	0.00	0.00	
13,800.00	90.00	0.04	7,529.97	5,539.91	2,852.40	5,072.86	0.00	0.00	0.00	
13,900.00	90.00	0.04	7,529.97	5,639.91	2,852.47	5,171.81	0.00	0.00	0.00	
14,000.00	90.00	0.04	7,529.97	5,739.91	2,852.54	5,270.77	0.00	0.00	0.00	
14,100.00	90.00	0.04	7,529.97	5,839.91	2,852.60	5,369.72	0.00	0.00	0.00	
14,200.00	90.00	0.04	7,529.97	5,939.91	2,852.67	5,468.67	0.00	0.00	0.00	
14,300.00	90.00	0.04	7,529.97	6,039.91	2,852.73	5,567.63	0.00	0.00	0.00	
14,400.00	90.00	0.04	7,529.97	6,139.91	2,852.80	5,666.58	0.00	0.00	0.00	
14,500.00	90.00	0.04	7,529.97	6,239.91	2,852.87	5,765.54	0.00	0.00	0.00	
14,600.00	90.00	0.04	7,529.96	6,339.91	2,852.93	5,864.49	0.00	0.00	0.00	
14,700.00	90.00	0.04	7,529.96	6,439.91	2,853.00	5,963.44	0.00	0.00	0.00	
14,800.00	90.00	0.04	7,529.96	6,539.91	2,853.06	6,062.40	0.00	0.00	0.00	
14,900.00	90.00	0.04	7,529.96	6,639.91	2,853.13	6,161.35	0.00	0.00	0.00	
15,000.00	90.00	0.04	7,529.96	6,739.91	2,853.20	6,260.31	0.00	0.00	0.00	
15,100.00	90.00	0.04	7,529.96	6,839.91	2,853.26	6,359.26	0.00	0.00	0.00	
15,200.00	90.00	0.04	7,529.96	6,939.91	2,853.33	6,458.21	0.00	0.00	0.00	
15,300.00	90.00	0.04	7,529.96	7,039.91	2,853.39	6,557.17	0.00	0.00	0.00	
15,400.00	90.00	0.04	7,529.96	7,139.91	2,853.46	6,656.12	0.00	0.00	0.00	
15,500.00	90.00	0.04	7,529.96	7,239.91	2,853.52	6,755.08	0.00	0.00	0.00	
15,600.00	90.00	0.04	7,529.96	7,339.91	2,853.59	6,854.03	0.00	0.00	0.00	
15,700.00	90.00	0.04	7,529.96	7,439.91	2,853.66	6,952.98	0.00	0.00	0.00	
15,800.00	90.00	0.04	7,529.96	7,539.91	2,853.72	7,051.94	0.00	0.00	0.00	
15,900.00	90.00	0.04	7,529.96	7,639.91	2,853.79	7,150.89	0.00	0.00	0.00	
16,000.00	90.00	0.04	7,529.96	7,739.91	2,853.85	7,249.85	0.00	0.00	0.00	
16,100.00	90.00	0.04	7,529.96	7,839.91	2,853.92	7,348.80	0.00	0.00	0.00	
16,200.00	90.00	0.04	7,529.96	7,939.91	2,853.99	7,447.75	0.00	0.00	0.00	
16,300.00	90.00	0.04	7,529.95	8,039.91	2,854.05	7,546.71	0.00	0.00	0.00	
16,400.00	90.00	0.04	7,529.95	8,139.91	2,854.12	7,645.66	0.00	0.00	0.00	
16,500.00	90.00	0.04	7,529.95	8,239.91	2,854.18	7,744.62	0.00	0.00	0.00	
16,600.00	90.00	0.04	7,529.95	8,339.91	2,854.25	7,843.57	0.00	0.00	0.00	
16,700.00	90.00	0.04	7,529.95	8,439.91	2,854.32	7,942.52	0.00	0.00	0.00	
16,800.00	90.00	0.04	7,529.95	8,539.91	2,854.38	8,041.48	0.00	0.00	0.00	
16,900.00	90.00	0.04	7,529.95	8,639.91	2,854.45	8,140.43	0.00	0.00	0.00	
17,000.00	90.00	0.04	7,529.95	8,739.91	2,854.51	8,239.39	0.00	0.00	0.00	
17,100.00	90.00	0.04	7,529.95	8,839.91	2,854.58	8,338.34	0.00	0.00	0.00	
17,200.00	90.00	0.04	7,529.95	8,939.91	2,854.65	8,437.29	0.00	0.00	0.00	
17,300.00	90.00	0.04	7,529.95	9,039.91	2,854.71	8,536.25	0.00	0.00	0.00	
17,400.00	90.00	0.04	7,529.95	9,139.91	2,854.78	8,635.20	0.00	0.00	0.00	
17,500.00	90.00	0.04	7,529.95	9,239.91	2,854.84	8,734.16	0.00	0.00	0.00	
17,600.00	90.00	0.04	7,529.95	9,339.91	2,854.91	8,833.11	0.00	0.00	0.00	
17,700.00	90.00	0.04	7,529.95	9,439.91	2,854.97	8,932.06	0.00	0.00	0.00	
17,800.00	90.00	0.04	7,529.95	9,539.91	2,855.04	9,031.02	0.00	0.00	0.00	
17,900.00	90.00	0.04	7,529.95	9,639.91	2,855.11	9,129.97	0.00	0.00	0.00	
18,000.00	90.00	0.04	7,529.94	9,739.91	2,855.17	9,228.92	0.00	0.00	0.00	
18,100.00	90.00	0.04	7,529.94	9,839.91	2,855.24	9,327.88	0.00	0.00	0.00	

Planning Report

Database:	EDT_32Bit_ODBC	Local Co-ordinate Reference:	Well RINN VALLEY EAST N17-20-10C
Company:	EXTRACTION OIL & GAS	TVD Reference:	KB 25' @ 4962.00usft
Project:	Weld County	MD Reference:	KB 25' @ 4962.00usft
Site:	Sec 18-T2N-R68W	North Reference:	True
Well:	RINN VALLEY EAST N17-20-10C	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)
18,190.90	90.00	0.04	7,530.00	9,930.82	2,855.36	9,417.82	0.00	0.00	0.00
TD at 18190.90									

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 N17-10C - LP - plan hits target center - Point	0.00	0.00	7,530.00	265.00	2,848.93	1,291,562.94	3,131,950.67	40° 7' 57.972 N	105° 1' 41.106 W
RVE N17-10C - PBHL - plan hits target center - Point	0.00	0.00	7,530.00	9,930.82	2,855.36	1,301,228.65	3,131,906.77	40° 9' 33.494 N	105° 1' 41.009 W

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
3,799.05	3,477.00	PARKMAN				
4,447.84	4,047.00	SUSSEX				
4,908.82	4,452.00	SHANNON				
7,923.31	7,242.00	NIOBRARA				
7,956.14	7,270.00	NIO B TARGET				
8,373.25	7,510.00	FORT HAYS				
8,525.09	7,530.00	CODELL				

Plan Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
200.00	200.00	0.00	0.00	Start Build 2.00
1,626.53	1,568.30	-37.40	345.88	Start 4541.97 hold at 1626.53 MD
6,168.49	5,558.70	-270.60	2,502.67	Start Drop -2.00
7,595.02	6,927.00	-308.00	2,848.55	Start 30.00 hold at 7595.02 MD
7,625.02	6,957.00	-308.00	2,848.55	Start DLS 10.00 TFO 0.04
8,525.09	7,530.00	265.00	2,848.93	Start 9665.81 hold at 8525.09 MD
18,190.90	7,530.00	9,930.82	2,855.36	TD at 18190.90