

# **US ROCKIES WATTENBERG PLANNING**

**WELD-NAD83-UTMFT13N  
5N-67W-18 PROWANT 4-18HZ PAD  
PROWANT 18-2HZ**

**Plan A**

**Plan: Permit Rev-1**

SHL Lat/Long: 40.405058/-104.941992  
Survey Program: MWD+IFR+MSA

## **Standard Planning Report**

**27 September, 2018**

Project: WELD-NAD83-UTMFT13N  
 Site: 5N-67W-18 PROWANT 4-18HZ PAD  
 Well: PROWANT 18-2HZ  
 Wellbore: Plan A  
 Design: Permit Rev-1

# US ROCKIES WATTENBERG PLANNING

CASING DETAILS		
TVD	MD	Size
1500.00	1517.64	9-5/8
7094.00	7749.56	5-1/2

WELL DETAILS: PROWANT 18-2HZ  
 GL = 4939.00  
 RKB = 17' @ 4956.00usft (Drilling Rig)

SECTION DETAILS										
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	360.00	0.00	0.00	360.00	0.00	0.00	0.00	0.00	0.00	
3	1776.67	21.25	291.60	1744.41	95.61	-241.47	1.50	291.60	-240.56	
4	4576.67	21.25	291.60	4354.03	469.19	-1185.03	0.00	0.00	-1180.56	
5	5639.17	0.00	0.00	5392.34	540.89	-1366.14	2.00	180.00	-1360.98	
6	6624.63	0.00	0.00	6377.81	540.89	-1366.14	0.00	0.00	-1360.98	
7	7749.56	89.99	89.46	7094.00	547.59	-650.04	8.00	89.46	-644.85	
8	18037.98	89.99	89.46	7095.00	643.74	9637.92	0.00	0.00	9643.56	PROWANT 18-2HZ_BHL

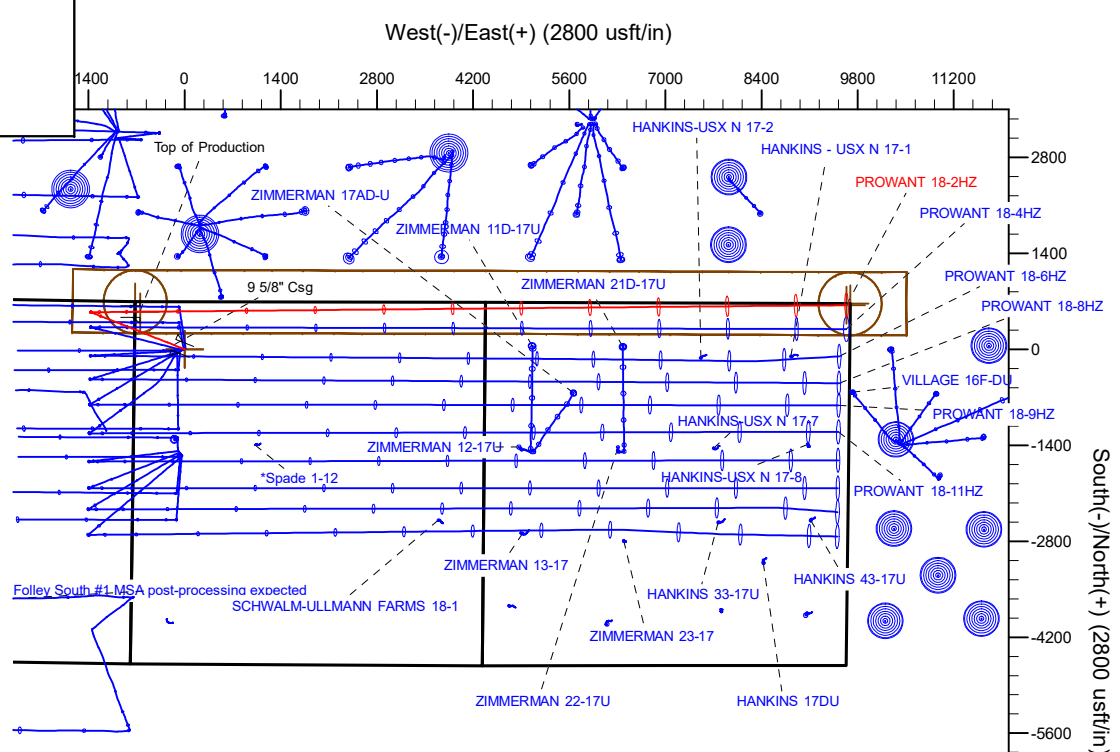
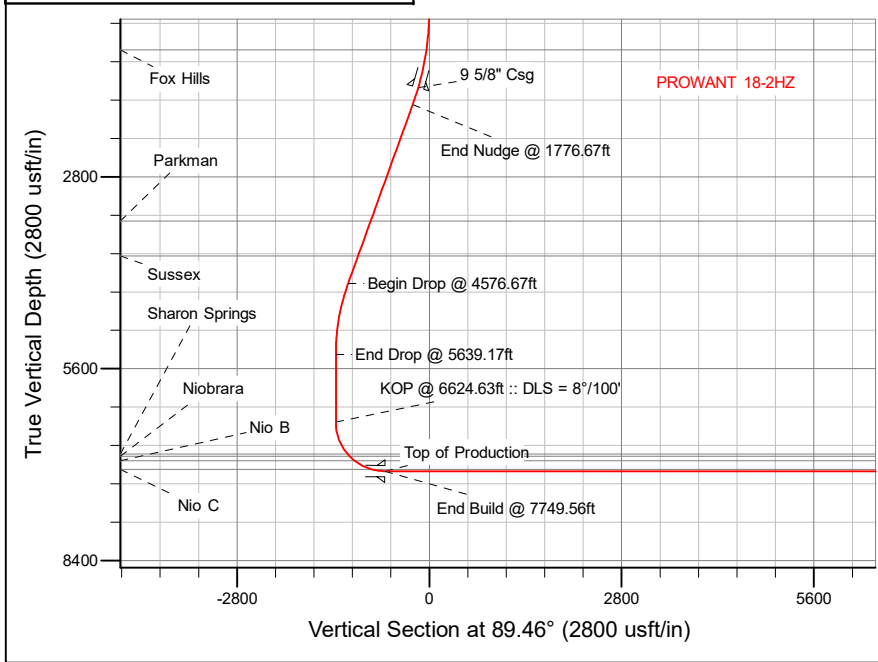
WELLBORE TARGET DETAILS (LAT/LONG)					
Name	TVD	+N/-S	+E/-W	Latitude	Longitude
PROWANT 18-2HZ_SHL	0.00	0.00	0.00	40.405058	-104.941992
PROWANT 18-2HZ_BHL	7095.00	643.74	9637.92	40.406821	-104.907371

FORMATION TOP DETAILS		
TVDPATH	MDPATH	FORMATION
949.00	951.36	Fox Hills
3445.00	3601.32	Parkman
3956.00	4149.60	Sussex
6844.00	7132.28	Sharon Springs
6880.00	7181.17	Niobrara
6942.00	7274.34	Nio B
7071.00	7567.62	Nio C

**SHL**  
693' FNL  
731' FWL

**HEEL**  
149' FNL  
75' FWL

**TOE**  
21' FNL  
51' FEL



Plan: Permit Rev-1 (PROWANT 18-2HZ/Plan A)  
 Date: 10/25/2018

## Corporate Planning Report

<b>Database:</b>	PLANNING	<b>Local Co-ordinate Reference:</b>	Well PROWANT 18-2HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	RKB = 17' @ 4956.00usft (Drilling Rig)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	RKB = 17' @ 4956.00usft (Drilling Rig)
<b>Site:</b>	5N-67W-18 PROWANT 4-18HZ PAD	<b>North Reference:</b>	True
<b>Well:</b>	PROWANT 18-2HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Plan A		
<b>Design:</b>	Permit Rev-1		

<b>Project</b>	WELD-NAD83-UTMFT13N		
<b>Map System:</b>	Universal Transverse Mercator (US Survey Feet)	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		
<b>Map Zone:</b>	Zone 13N (108 W to 102 W)		

<b>Site</b>	5N-67W-18 PROWANT 4-18HZ PAD				
<b>Site Position:</b>		<b>Northing:</b>	14,674,247.77 usft	<b>Latitude:</b>	40.405074
<b>From:</b>	Lat/Long	<b>Easting:</b>	1,656,579.10 usft	<b>Longitude:</b>	-104.941943
<b>Position Uncertainty:</b>	0.00 usft	<b>Slot Radius:</b>	13-3/16 "	<b>Grid Convergence:</b>	0.04 °

<b>Well</b>	PROWANT 18-2HZ					
<b>Well Position</b>	<b>+N-S</b>	-5.83 usft	<b>Northing:</b>	14,674,241.93 usft	<b>Latitude:</b>	40.405058
	<b>+E-W</b>	-13.64 usft	<b>Easting:</b>	1,656,565.46 usft	<b>Longitude:</b>	-104.941992
<b>Position Uncertainty</b>		3.28 usft	<b>Wellhead Elevation:</b>		<b>Ground Level:</b>	4,939.00 usft

<b>Wellbore</b>	Plan A				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2015	9/21/2018	8.17	66.80	52,231.27699983

<b>Design</b>	Permit Rev-1			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PLAN	<b>Tie On Depth:</b>	0.00
<b>Vertical Section:</b>	<b>Depth From (TVD) (usft)</b>	<b>+N-S (usft)</b>	<b>+E-W (usft)</b>	<b>Direction (°)</b>
	0.00	0.00	0.00	89.46

<b>Plan Survey Tool Program</b>	<b>Date</b>	9/27/2018			
<b>Depth From (usft)</b>	<b>Depth To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Remarks</b>	
1	0.00	1,500.00	Permit Rev-1 (Plan A)	APC_ISCWSA REV 2 MWD+II Fixed:v2:crustal field declinatio	
2	1,500.00	18,037.98	Permit Rev-1 (Plan A)	APC_ISCWSA REV 2 MWD+II Fixed:v2:Rockies, crustal dec +	

## Corporate Planning Report

<b>Database:</b>	PLANNING	<b>Local Co-ordinate Reference:</b>	Well PROWANT 18-2HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	RKB = 17' @ 4956.00usft (Drilling Rig)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	RKB = 17' @ 4956.00usft (Drilling Rig)
<b>Site:</b>	5N-67W-18 PROWANT 4-18HZ PAD	<b>North Reference:</b>	True
<b>Well:</b>	PROWANT 18-2HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Plan A		
<b>Design:</b>	Permit Rev-1		

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
360.00	0.00	0.00	360.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,776.67	21.25	291.60	1,744.41	95.61	-241.47	1.50	1.50	0.00	291.60	
4,576.67	21.25	291.60	4,354.03	469.19	-1,185.03	0.00	0.00	0.00	0.00	
5,639.17	0.00	0.00	5,392.34	540.89	-1,366.14	2.00	-2.00	6.44	180.00	
6,624.63	0.00	0.00	6,377.81	540.89	-1,366.14	0.00	0.00	0.00	0.00	
7,749.56	89.99	89.46	7,094.00	547.59	-650.04	8.00	8.00	7.95	89.46	
18,037.98	89.99	89.46	7,095.00	643.74	9,637.92	0.00	0.00	0.00	0.00	PROWANT 18-2HZ_E

## Corporate Planning Report

<b>Database:</b>	PLANNING	<b>Local Co-ordinate Reference:</b>	Well PROWANT 18-2HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	RKB = 17' @ 4956.00usft (Drilling Rig)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	RKB = 17' @ 4956.00usft (Drilling Rig)
<b>Site:</b>	5N-67W-18 PROWANT 4-18HZ PAD	<b>North Reference:</b>	True
<b>Well:</b>	PROWANT 18-2HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Plan A		
<b>Design:</b>	Permit Rev-1		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
0.00	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	0.00
200.00	0.00	0.00	200.00	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	0.00
360.00	0.00	0.00	360.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<b>Begin Nudge @ 360.00ft</b>										
400.00	0.60	291.60	400.00	0.08	-0.19	-0.19	1.50	1.50	0.00	0.00
500.00	2.10	291.60	499.97	0.94	-2.39	-2.38	1.50	1.50	0.00	0.00
600.00	3.60	291.60	599.84	2.77	-7.01	-6.98	1.50	1.50	0.00	0.00
700.00	5.10	291.60	699.55	5.57	-14.06	-14.01	1.50	1.50	0.00	0.00
800.00	6.60	291.60	799.03	9.32	-23.54	-23.45	1.50	1.50	0.00	0.00
900.00	8.10	291.60	898.20	14.03	-35.43	-35.30	1.50	1.50	0.00	0.00
951.36	8.87	291.60	949.00	16.82	-42.48	-42.32	1.50	1.50	0.00	0.00
<b>Fox Hills</b>										
1,000.00	9.60	291.60	997.01	19.69	-49.73	-49.55	1.50	1.50	0.00	0.00
1,100.00	11.10	291.60	1,095.38	26.30	-66.44	-66.19	1.50	1.50	0.00	0.00
1,200.00	12.60	291.60	1,193.25	33.86	-85.53	-85.21	1.50	1.50	0.00	0.00
1,300.00	14.10	291.60	1,290.54	42.36	-107.00	-106.60	1.50	1.50	0.00	0.00
1,400.00	15.60	291.60	1,387.20	51.80	-130.83	-130.33	1.50	1.50	0.00	0.00
1,500.00	17.10	291.60	1,483.15	62.16	-157.00	-156.41	1.50	1.50	0.00	0.00
1,517.64	17.36	291.60	1,500.00	64.08	-161.86	-161.25	1.50	1.50	0.00	0.00
<b>9 5/8" Csg</b>										
1,600.00	18.60	291.60	1,578.33	73.44	-185.50	-184.80	1.50	1.50	0.00	0.00
1,700.00	20.10	291.60	1,672.68	85.64	-216.31	-215.49	1.50	1.50	0.00	0.00
1,776.67	21.25	291.60	1,744.41	95.61	-241.47	-240.56	1.50	1.50	0.00	0.00
<b>End Nudge @ 1776.67ft</b>										
1,800.00	21.25	291.60	1,766.16	98.72	-249.34	-248.39	0.00	0.00	0.00	0.00
1,900.00	21.25	291.60	1,859.36	112.06	-283.03	-281.97	0.00	0.00	0.00	0.00
2,000.00	21.25	291.60	1,952.56	125.40	-316.73	-315.54	0.00	0.00	0.00	0.00
2,100.00	21.25	291.60	2,045.76	138.75	-350.43	-349.11	0.00	0.00	0.00	0.00
2,200.00	21.25	291.60	2,138.96	152.09	-384.13	-382.68	0.00	0.00	0.00	0.00
2,300.00	21.25	291.60	2,232.16	165.43	-417.83	-416.25	0.00	0.00	0.00	0.00
2,400.00	21.25	291.60	2,325.36	178.77	-451.53	-449.82	0.00	0.00	0.00	0.00
2,500.00	21.25	291.60	2,418.56	192.11	-485.23	-483.39	0.00	0.00	0.00	0.00
2,600.00	21.25	291.60	2,511.76	205.46	-518.93	-516.97	0.00	0.00	0.00	0.00
2,700.00	21.25	291.60	2,604.97	218.80	-552.62	-550.54	0.00	0.00	0.00	0.00
2,800.00	21.25	291.60	2,698.17	232.14	-586.32	-584.11	0.00	0.00	0.00	0.00
2,900.00	21.25	291.60	2,791.37	245.48	-620.02	-617.68	0.00	0.00	0.00	0.00
3,000.00	21.25	291.60	2,884.57	258.83	-653.72	-651.25	0.00	0.00	0.00	0.00
3,100.00	21.25	291.60	2,977.77	272.17	-687.42	-684.82	0.00	0.00	0.00	0.00
3,200.00	21.25	291.60	3,070.97	285.51	-721.12	-718.39	0.00	0.00	0.00	0.00
3,300.00	21.25	291.60	3,164.17	298.85	-754.82	-751.97	0.00	0.00	0.00	0.00
3,400.00	21.25	291.60	3,257.37	312.19	-788.51	-785.54	0.00	0.00	0.00	0.00
3,500.00	21.25	291.60	3,350.57	325.54	-822.21	-819.11	0.00	0.00	0.00	0.00
3,600.00	21.25	291.60	3,443.77	338.88	-855.91	-852.68	0.00	0.00	0.00	0.00
3,601.32	21.25	291.60	3,445.00	339.06	-856.36	-853.12	0.00	0.00	0.00	0.00
<b>Parkman</b>										
3,700.00	21.25	291.60	3,536.97	352.22	-889.61	-886.25	0.00	0.00	0.00	0.00
3,800.00	21.25	291.60	3,630.17	365.56	-923.31	-919.82	0.00	0.00	0.00	0.00
3,900.00	21.25	291.60	3,723.37	378.91	-957.01	-953.39	0.00	0.00	0.00	0.00
4,000.00	21.25	291.60	3,816.58	392.25	-990.71	-986.97	0.00	0.00	0.00	0.00
4,100.00	21.25	291.60	3,909.78	405.59	-1,024.40	-1,020.54	0.00	0.00	0.00	0.00
4,149.60	21.25	291.60	3,956.00	412.21	-1,041.12	-1,037.19	0.00	0.00	0.00	0.00

## Corporate Planning Report

<b>Database:</b>	PLANNING	<b>Local Co-ordinate Reference:</b>	Well PROWANT 18-2HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	RKB = 17' @ 4956.00usft (Drilling Rig)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	RKB = 17' @ 4956.00usft (Drilling Rig)
<b>Site:</b>	5N-67W-18 PROWANT 4-18HZ PAD	<b>North Reference:</b>	True
<b>Well:</b>	PROWANT 18-2HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Plan A		
<b>Design:</b>	Permit Rev-1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
<b>Sussex</b>									
4,200.00	21.25	291.60	4,002.98	418.93	-1,058.10	-1,054.11	0.00	0.00	0.00
4,300.00	21.25	291.60	4,096.18	432.27	-1,091.80	-1,087.68	0.00	0.00	0.00
4,400.00	21.25	291.60	4,189.38	445.62	-1,125.50	-1,121.25	0.00	0.00	0.00
4,500.00	21.25	291.60	4,282.58	458.96	-1,159.20	-1,154.82	0.00	0.00	0.00
4,576.67	21.25	291.60	4,354.03	469.19	-1,185.03	-1,180.56	0.00	0.00	0.00
<b>Begin Drop @ 4576.67ft</b>									
4,600.00	20.78	291.60	4,375.81	472.27	-1,192.82	-1,188.31	2.00	-2.00	0.00
4,700.00	18.78	291.60	4,469.91	484.73	-1,224.28	-1,219.66	2.00	-2.00	0.00
4,800.00	16.78	291.60	4,565.12	495.97	-1,252.68	-1,247.95	2.00	-2.00	0.00
4,900.00	14.78	291.60	4,661.35	505.98	-1,277.97	-1,273.14	2.00	-2.00	0.00
5,000.00	12.78	291.60	4,758.46	514.75	-1,300.12	-1,295.21	2.00	-2.00	0.00
5,100.00	10.78	291.60	4,856.35	522.27	-1,319.10	-1,314.12	2.00	-2.00	0.00
5,200.00	8.78	291.60	4,954.89	528.53	-1,334.90	-1,329.86	2.00	-2.00	0.00
5,300.00	6.78	291.60	5,053.97	533.51	-1,347.49	-1,342.41	2.00	-2.00	0.00
5,400.00	4.78	291.60	5,153.45	537.22	-1,356.86	-1,351.74	2.00	-2.00	0.00
5,500.00	2.78	291.60	5,253.23	539.65	-1,363.00	-1,357.85	2.00	-2.00	0.00
5,600.00	0.78	291.60	5,353.18	540.79	-1,365.89	-1,360.73	2.00	-2.00	0.00
5,639.17	0.00	0.00	5,392.34	540.89	-1,366.14	-1,360.98	2.00	-2.00	174.64
<b>End Drop @ 5639.17ft</b>									
5,700.00	0.00	0.00	5,453.18	540.89	-1,366.14	-1,360.98	0.00	0.00	0.00
5,800.00	0.00	0.00	5,553.18	540.89	-1,366.14	-1,360.98	0.00	0.00	0.00
5,900.00	0.00	0.00	5,653.18	540.89	-1,366.14	-1,360.98	0.00	0.00	0.00
6,000.00	0.00	0.00	5,753.18	540.89	-1,366.14	-1,360.98	0.00	0.00	0.00
6,100.00	0.00	0.00	5,853.18	540.89	-1,366.14	-1,360.98	0.00	0.00	0.00
6,200.00	0.00	0.00	5,953.18	540.89	-1,366.14	-1,360.98	0.00	0.00	0.00
6,300.00	0.00	0.00	6,053.18	540.89	-1,366.14	-1,360.98	0.00	0.00	0.00
6,400.00	0.00	0.00	6,153.18	540.89	-1,366.14	-1,360.98	0.00	0.00	0.00
6,500.00	0.00	0.00	6,253.18	540.89	-1,366.14	-1,360.98	0.00	0.00	0.00
6,600.00	0.00	0.00	6,353.18	540.89	-1,366.14	-1,360.98	0.00	0.00	0.00
6,624.63	0.00	0.00	6,377.81	540.89	-1,366.14	-1,360.98	0.00	0.00	0.00
<b>KOP @ 6624.63ft :: DLS = 8°/100'</b>									
6,700.00	6.03	89.46	6,453.04	540.93	-1,362.18	-1,357.02	8.00	8.00	118.70
6,800.00	14.03	89.46	6,551.43	541.09	-1,344.78	-1,339.62	8.00	8.00	0.00
6,900.00	22.03	89.46	6,646.44	541.38	-1,313.85	-1,308.69	8.00	8.00	0.00
7,000.00	30.03	89.46	6,736.22	541.79	-1,270.01	-1,264.84	8.00	8.00	0.00
7,100.00	38.03	89.46	6,819.03	542.31	-1,214.09	-1,208.93	8.00	8.00	0.00
7,132.28	40.61	89.46	6,844.00	542.51	-1,193.64	-1,188.48	8.00	8.00	0.00
<b>Sharon Springs</b>									
7,181.17	44.52	89.46	6,880.00	542.81	-1,160.58	-1,155.41	8.00	8.00	0.00
<b>Niobrara</b>									
7,200.00	46.03	89.46	6,893.25	542.94	-1,147.20	-1,142.03	8.00	8.00	0.00
7,274.34	51.98	89.46	6,942.00	543.46	-1,091.11	-1,085.94	8.00	8.00	0.00
<b>Nio B</b>									
7,300.00	54.03	89.46	6,957.44	543.65	-1,070.63	-1,065.45	8.00	8.00	0.00
7,400.00	62.03	89.46	7,010.34	544.45	-985.87	-980.69	8.00	8.00	0.00
7,500.00	70.03	89.46	7,050.94	545.30	-894.57	-889.39	8.00	8.00	0.00
7,567.62	75.44	89.46	7,071.00	545.90	-830.02	-824.84	8.00	8.00	0.00
<b>Nio C</b>									
7,600.00	78.03	89.46	7,078.43	546.20	-798.51	-793.33	8.00	8.00	0.00
7,700.00	86.03	89.46	7,092.28	547.12	-699.56	-694.37	8.00	8.00	0.00
7,749.56	89.99	89.46	7,094.00	547.59	-650.04	-644.85	8.00	8.00	0.00
<b>End Build @ 7749.56ft - Top of Production</b>									

## Corporate Planning Report

<b>Database:</b>	PLANNING	<b>Local Co-ordinate Reference:</b>	Well PROWANT 18-2HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	RKB = 17' @ 4956.00usft (Drilling Rig)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	RKB = 17' @ 4956.00usft (Drilling Rig)
<b>Site:</b>	5N-67W-18 PROWANT 4-18HZ PAD	<b>North Reference:</b>	True
<b>Well:</b>	PROWANT 18-2HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Plan A		
<b>Design:</b>	Permit Rev-1		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
7,800.00	89.99	89.46	7,094.01	548.06	-599.61	-594.41	0.00	0.00	0.00	
7,900.00	89.99	89.46	7,094.02	548.99	-499.61	-494.41	0.00	0.00	0.00	
8,000.00	89.99	89.46	7,094.03	549.93	-399.61	-394.41	0.00	0.00	0.00	
8,100.00	89.99	89.46	7,094.04	550.86	-299.62	-294.41	0.00	0.00	0.00	
8,200.00	89.99	89.46	7,094.05	551.80	-199.62	-194.41	0.00	0.00	0.00	
8,300.00	89.99	89.46	7,094.06	552.73	-99.63	-94.41	0.00	0.00	0.00	
8,400.00	89.99	89.46	7,094.07	553.66	0.37	5.59	0.00	0.00	0.00	
8,500.00	89.99	89.46	7,094.08	554.60	100.36	105.59	0.00	0.00	0.00	
8,600.00	89.99	89.46	7,094.09	555.53	200.36	205.59	0.00	0.00	0.00	
8,700.00	89.99	89.46	7,094.09	556.47	300.35	305.59	0.00	0.00	0.00	
8,800.00	89.99	89.46	7,094.10	557.40	400.35	405.59	0.00	0.00	0.00	
8,900.00	89.99	89.46	7,094.11	558.34	500.35	505.59	0.00	0.00	0.00	
9,000.00	89.99	89.46	7,094.12	559.27	600.34	605.59	0.00	0.00	0.00	
9,100.00	89.99	89.46	7,094.13	560.21	700.34	705.59	0.00	0.00	0.00	
9,200.00	89.99	89.46	7,094.14	561.14	800.33	805.59	0.00	0.00	0.00	
9,300.00	89.99	89.46	7,094.15	562.08	900.33	905.59	0.00	0.00	0.00	
9,400.00	89.99	89.46	7,094.16	563.01	1,000.32	1,005.59	0.00	0.00	0.00	
9,500.00	89.99	89.46	7,094.17	563.95	1,100.32	1,105.59	0.00	0.00	0.00	
9,600.00	89.99	89.46	7,094.18	564.88	1,200.32	1,205.59	0.00	0.00	0.00	
9,700.00	89.99	89.46	7,094.19	565.81	1,300.31	1,305.59	0.00	0.00	0.00	
9,800.00	89.99	89.46	7,094.20	566.75	1,400.31	1,405.59	0.00	0.00	0.00	
9,900.00	89.99	89.46	7,094.21	567.68	1,500.30	1,505.59	0.00	0.00	0.00	
10,000.00	89.99	89.46	7,094.22	568.62	1,600.30	1,605.59	0.00	0.00	0.00	
10,100.00	89.99	89.46	7,094.23	569.55	1,700.29	1,705.59	0.00	0.00	0.00	
10,200.00	89.99	89.46	7,094.24	570.49	1,800.29	1,805.59	0.00	0.00	0.00	
10,300.00	89.99	89.46	7,094.25	571.42	1,900.29	1,905.59	0.00	0.00	0.00	
10,400.00	89.99	89.46	7,094.26	572.36	2,000.28	2,005.59	0.00	0.00	0.00	
10,500.00	89.99	89.46	7,094.27	573.29	2,100.28	2,105.59	0.00	0.00	0.00	
10,600.00	89.99	89.46	7,094.28	574.23	2,200.27	2,205.59	0.00	0.00	0.00	
10,700.00	89.99	89.46	7,094.29	575.16	2,300.27	2,305.59	0.00	0.00	0.00	
10,800.00	89.99	89.46	7,094.30	576.09	2,400.26	2,405.59	0.00	0.00	0.00	
10,900.00	89.99	89.46	7,094.31	577.03	2,500.26	2,505.59	0.00	0.00	0.00	
11,000.00	89.99	89.46	7,094.32	577.96	2,600.25	2,605.59	0.00	0.00	0.00	
11,100.00	89.99	89.46	7,094.33	578.90	2,700.25	2,705.59	0.00	0.00	0.00	
11,200.00	89.99	89.46	7,094.34	579.83	2,800.25	2,805.59	0.00	0.00	0.00	
11,300.00	89.99	89.46	7,094.35	580.77	2,900.24	2,905.59	0.00	0.00	0.00	
11,400.00	89.99	89.46	7,094.36	581.70	3,000.24	3,005.59	0.00	0.00	0.00	
11,500.00	89.99	89.46	7,094.37	582.64	3,100.23	3,105.59	0.00	0.00	0.00	
11,600.00	89.99	89.46	7,094.38	583.57	3,200.23	3,205.59	0.00	0.00	0.00	
11,700.00	89.99	89.46	7,094.39	584.51	3,300.22	3,305.59	0.00	0.00	0.00	
11,800.00	89.99	89.46	7,094.40	585.44	3,400.22	3,405.59	0.00	0.00	0.00	
11,900.00	89.99	89.46	7,094.41	586.38	3,500.22	3,505.59	0.00	0.00	0.00	
12,000.00	89.99	89.46	7,094.41	587.31	3,600.21	3,605.59	0.00	0.00	0.00	
12,100.00	89.99	89.46	7,094.42	588.24	3,700.21	3,705.59	0.00	0.00	0.00	
12,200.00	89.99	89.46	7,094.43	589.18	3,800.20	3,805.59	0.00	0.00	0.00	
12,300.00	89.99	89.46	7,094.44	590.11	3,900.20	3,905.59	0.00	0.00	0.00	
12,400.00	89.99	89.46	7,094.45	591.05	4,000.19	4,005.59	0.00	0.00	0.00	
12,500.00	89.99	89.46	7,094.46	591.98	4,100.19	4,105.59	0.00	0.00	0.00	
12,600.00	89.99	89.46	7,094.47	592.92	4,200.18	4,205.59	0.00	0.00	0.00	
12,700.00	89.99	89.46	7,094.48	593.85	4,300.18	4,305.59	0.00	0.00	0.00	
12,800.00	89.99	89.46	7,094.49	594.79	4,400.18	4,405.59	0.00	0.00	0.00	
12,900.00	89.99	89.46	7,094.50	595.72	4,500.17	4,505.59	0.00	0.00	0.00	
13,000.00	89.99	89.46	7,094.51	596.66	4,600.17	4,605.59	0.00	0.00	0.00	
13,100.00	89.99	89.46	7,094.52	597.59	4,700.16	4,705.59	0.00	0.00	0.00	

## Corporate Planning Report

<b>Database:</b>	PLANNING	<b>Local Co-ordinate Reference:</b>	Well PROWANT 18-2HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	RKB = 17' @ 4956.00usft (Drilling Rig)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	RKB = 17' @ 4956.00usft (Drilling Rig)
<b>Site:</b>	5N-67W-18 PROWANT 4-18HZ PAD	<b>North Reference:</b>	True
<b>Well:</b>	PROWANT 18-2HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Plan A		
<b>Design:</b>	Permit Rev-1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
13,200.00	89.99	89.46	7,094.53	598.52	4,800.16	4,805.59	0.00	0.00	0.00
13,300.00	89.99	89.46	7,094.54	599.46	4,900.15	4,905.59	0.00	0.00	0.00
13,400.00	89.99	89.46	7,094.55	600.39	5,000.15	5,005.59	0.00	0.00	0.00
13,500.00	89.99	89.46	7,094.56	601.33	5,100.15	5,105.59	0.00	0.00	0.00
13,600.00	89.99	89.46	7,094.57	602.26	5,200.14	5,205.59	0.00	0.00	0.00
13,700.00	89.99	89.46	7,094.58	603.20	5,300.14	5,305.59	0.00	0.00	0.00
13,800.00	89.99	89.46	7,094.59	604.13	5,400.13	5,405.59	0.00	0.00	0.00
13,900.00	89.99	89.46	7,094.60	605.07	5,500.13	5,505.59	0.00	0.00	0.00
14,000.00	89.99	89.46	7,094.61	606.00	5,600.12	5,605.59	0.00	0.00	0.00
14,100.00	89.99	89.46	7,094.62	606.94	5,700.12	5,705.59	0.00	0.00	0.00
14,200.00	89.99	89.46	7,094.63	607.87	5,800.11	5,805.59	0.00	0.00	0.00
14,300.00	89.99	89.46	7,094.64	608.81	5,900.11	5,905.59	0.00	0.00	0.00
14,400.00	89.99	89.46	7,094.65	609.74	6,000.11	6,005.59	0.00	0.00	0.00
14,500.00	89.99	89.46	7,094.66	610.67	6,100.10	6,105.59	0.00	0.00	0.00
14,600.00	89.99	89.46	7,094.67	611.61	6,200.10	6,205.59	0.00	0.00	0.00
14,700.00	89.99	89.46	7,094.68	612.54	6,300.09	6,305.59	0.00	0.00	0.00
14,800.00	89.99	89.46	7,094.69	613.48	6,400.09	6,405.59	0.00	0.00	0.00
14,900.00	89.99	89.46	7,094.70	614.41	6,500.08	6,505.59	0.00	0.00	0.00
15,000.00	89.99	89.46	7,094.71	615.35	6,600.08	6,605.59	0.00	0.00	0.00
15,100.00	89.99	89.46	7,094.72	616.28	6,700.08	6,705.59	0.00	0.00	0.00
15,200.00	89.99	89.46	7,094.72	617.22	6,800.07	6,805.59	0.00	0.00	0.00
15,300.00	89.99	89.46	7,094.73	618.15	6,900.07	6,905.59	0.00	0.00	0.00
15,400.00	89.99	89.46	7,094.74	619.09	7,000.06	7,005.59	0.00	0.00	0.00
15,500.00	89.99	89.46	7,094.75	620.02	7,100.06	7,105.59	0.00	0.00	0.00
15,600.00	89.99	89.46	7,094.76	620.95	7,200.05	7,205.59	0.00	0.00	0.00
15,700.00	89.99	89.46	7,094.77	621.89	7,300.05	7,305.59	0.00	0.00	0.00
15,800.00	89.99	89.46	7,094.78	622.82	7,400.04	7,405.59	0.00	0.00	0.00
15,900.00	89.99	89.46	7,094.79	623.76	7,500.04	7,505.59	0.00	0.00	0.00
16,000.00	89.99	89.46	7,094.80	624.69	7,600.04	7,605.59	0.00	0.00	0.00
16,100.00	89.99	89.46	7,094.81	625.63	7,700.03	7,705.59	0.00	0.00	0.00
16,200.00	89.99	89.46	7,094.82	626.56	7,800.03	7,805.59	0.00	0.00	0.00
16,300.00	89.99	89.46	7,094.83	627.50	7,900.02	7,905.59	0.00	0.00	0.00
16,400.00	89.99	89.46	7,094.84	628.43	8,000.02	8,005.59	0.00	0.00	0.00
16,500.00	89.99	89.46	7,094.85	629.37	8,100.01	8,105.59	0.00	0.00	0.00
16,600.00	89.99	89.46	7,094.86	630.30	8,200.01	8,205.59	0.00	0.00	0.00
16,700.00	89.99	89.46	7,094.87	631.24	8,300.01	8,305.59	0.00	0.00	0.00
16,800.00	89.99	89.46	7,094.88	632.17	8,400.00	8,405.59	0.00	0.00	0.00
16,900.00	89.99	89.46	7,094.89	633.10	8,500.00	8,505.59	0.00	0.00	0.00
17,000.00	89.99	89.46	7,094.90	634.04	8,599.99	8,605.59	0.00	0.00	0.00
17,100.00	89.99	89.46	7,094.91	634.97	8,699.99	8,705.59	0.00	0.00	0.00
17,200.00	89.99	89.46	7,094.92	635.91	8,799.98	8,805.59	0.00	0.00	0.00
17,300.00	89.99	89.46	7,094.93	636.84	8,899.98	8,905.59	0.00	0.00	0.00
17,400.00	89.99	89.46	7,094.94	637.78	8,999.98	9,005.59	0.00	0.00	0.00
17,500.00	89.99	89.46	7,094.95	638.71	9,099.97	9,105.59	0.00	0.00	0.00
17,600.00	89.99	89.46	7,094.96	639.65	9,199.97	9,205.59	0.00	0.00	0.00
17,700.00	89.99	89.46	7,094.97	640.58	9,299.96	9,305.59	0.00	0.00	0.00
17,800.00	89.99	89.46	7,094.98	641.52	9,399.96	9,405.59	0.00	0.00	0.00
17,900.00	89.99	89.46	7,094.99	642.45	9,499.95	9,505.59	0.00	0.00	0.00
18,000.00	89.99	89.46	7,095.00	643.39	9,599.95	9,605.59	0.00	0.00	0.00
18,037.98	89.99	89.46	7,095.00	643.74	9,637.92	9,643.56	0.00	0.00	0.00
<b>TD Well @ 18037.98ft</b>									

## Corporate Planning Report

<b>Database:</b>	PLANNING	<b>Local Co-ordinate Reference:</b>	Well PROWANT 18-2HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	RKB = 17' @ 4956.00usft (Drilling Rig)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	RKB = 17' @ 4956.00usft (Drilling Rig)
<b>Site:</b>	5N-67W-18 PROWANT 4-18HZ PAD	<b>North Reference:</b>	True
<b>Well:</b>	PROWANT 18-2HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	Plan A		
<b>Design:</b>	Permit Rev-1		

Casing Points					
	Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
	1,517.64	1,500.00	9 5/8" Csg	9-5/8	13-1/2
	7,749.56	7,094.00	Top of Production	5-1/2	7-7/8

Formations						
	Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
	951.36	949.00	Fox Hills			
	3,601.32	3,445.00	Parkman			
	4,149.60	3,956.00	Sussex			
	7,132.28	6,844.00	Sharon Springs			
	7,181.17	6,880.00	Niobrara			
	7,274.34	6,942.00	Nio B			
	7,567.62	7,071.00	Nio C			

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
		+N/-S (usft)	+E/-W (usft)		
360.00	360.00	0.00	0.00	Begin Nudge @ 360.00ft	
1,776.67	1,744.41	95.61	-241.47	End Nudge @ 1776.67ft	
4,576.67	4,354.03	469.19	-1,185.03	Begin Drop @ 4576.67ft	
5,639.17	5,392.34	540.89	-1,366.14	End Drop @ 5639.17ft	
6,624.63	6,377.81	540.89	-1,366.14	KOP @ 6624.63ft :: DLS = 8°/100'	
7,749.56	7,094.00	547.59	-650.04	End Build @ 7749.56ft	
18,037.98	7,095.00	643.74	9,637.92	TD Well @ 18037.98ft	