

US ROCKIES WATTENBERG PLANNING

WELD-NAD83-UTMFT13N

1N-65W-09 Robin 2 Pad

ROBIN 9-13HZ

Plan A

Plan: Permit Rev-1

Standard Planning Report

22 March, 2017

Project: WELD-NAD83-UTMFT13N
Site: 1N-65W-09 Robin 2 Pad
Well: ROBIN 9-13HZ
Wellbore: Plan A
Design: Permit Rev-1

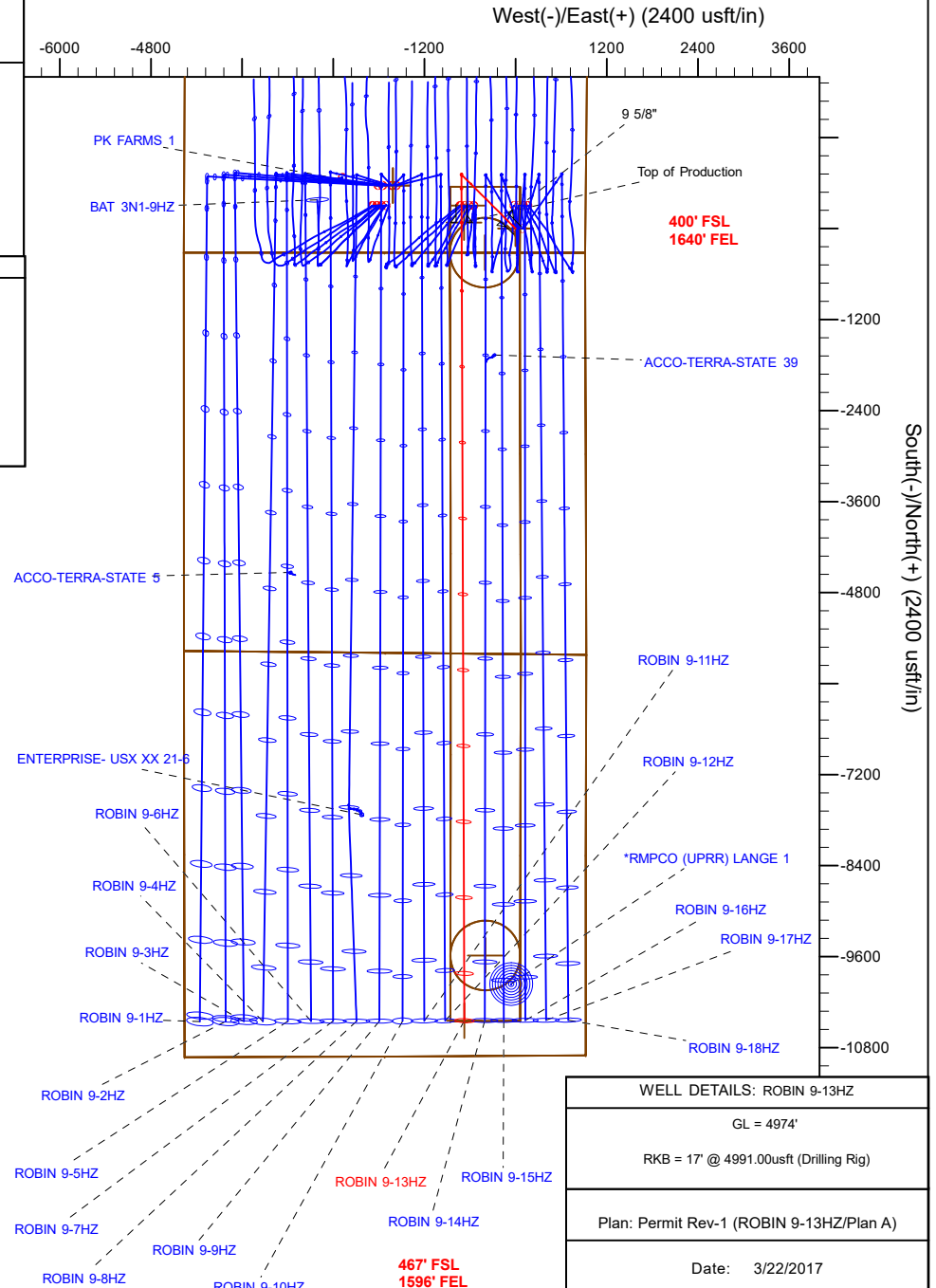
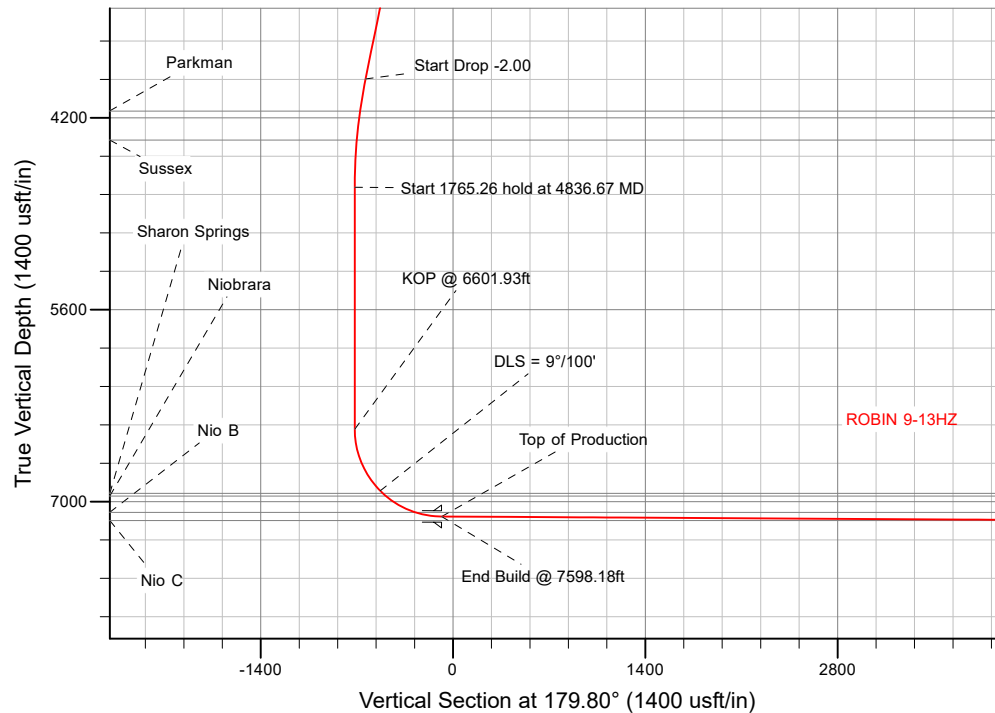
US ROCKIES WATTENBERG PLANNING

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	250.00	0.00	0.00	250.00	0.00	0.00	0.00	0.00	0.00	
3	1316.67	16.00	315.00	1302.86	104.63	-104.63	1.50	315.00	-104.99	
4	4036.67	16.00	315.00	3917.49	634.77	-634.77	0.00	0.00	-636.98	
5	4836.67	0.00	0.00	4707.13	713.24	-713.24	2.00	180.00	-715.73	
6	6601.93	0.00	0.00	6472.39	713.24	-713.24	0.00	0.00	-715.73	
7	7598.18	89.66	179.80	7109.00	80.38	-711.01	9.00	179.80	-82.86	
8	18122.59	89.66	179.80	7171.00	-10443.79	-673.88	0.00	0.00	10441.37	ROBIN 9-13HZ_TOE

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
ROBIN 9-13HZ_SHL	0.00	0.00	0.00	40.059612	-104.662884	Point
ROBIN 9-13HZ_TOE	7171.00	-10443.79	-673.88	40.030932	-104.665291	Point



Corporate Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well ROBIN 9-13HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB = 17' @ 4991.00usft (Drilling Rig)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 4991.00usft (Drilling Rig)
Site:	1N-65W-09 Robin 2 Pad	North Reference:	True
Well:	ROBIN 9-13HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	Permit Rev-1		

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

Site	1N-65W-09 Robin 2 Pad			
Site Position:		Northing:	14,548,619.34 usft	Latitude: 40.059612
From:	Lat/Long	Easting:	1,734,744.32 usft	Longitude: -104.662884
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence: 0.22 °

Well	ROBIN 9-13HZ			
Well Position	+N/-S	0.00 usft	Northing:	14,548,619.34 usft
	+E/-W	0.00 usft	Easting:	1,734,744.32 usft
Position Uncertainty	3.28 usft	Wellhead Elevation:		Ground Level: 4,974.00 usft

Wellbore	Plan A				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	3/12/2017	8.01	66.59	52,357.79371221

Design	Permit Rev-1			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	179.80

Plan Survey Tool Program	Date	3/22/2017		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	1,500.00	Permit Rev-1 (Plan A)	APC_ISCWSA REV 2 MWD+I Fixed:v2:crustal field declinatio
2	1,500.00	18,122.59	Permit Rev-1 (Plan A)	APC_ISCWSA REV 2 MWD+I Fixed:v2:Rockies, crustal dec +

Corporate Planning Report

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Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 4991.00usft (Drilling Rig)
Site:	1N-65W-09 Robin 2 Pad	North Reference:	True
Well:	ROBIN 9-13HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	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	
250.00	0.00	0.00	250.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,316.67	16.00	315.00	1,302.86	104.63	-104.63	1.50	1.50	0.00	315.00	
4,036.67	16.00	315.00	3,917.49	634.77	-634.77	0.00	0.00	0.00	0.00	
4,836.67	0.00	0.00	4,707.13	713.24	-713.24	2.00	-2.00	0.00	180.00	
6,601.93	0.00	0.00	6,472.39	713.24	-713.24	0.00	0.00	0.00	0.00	
7,598.18	89.66	179.80	7,109.00	80.38	-711.01	9.00	9.00	18.05	179.80	
18,122.59	89.66	179.80	7,171.00	-10,443.79	-673.88	0.00	0.00	0.00	0.00	ROBIN 9-13HZ_TOE

Corporate
Planning Report

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Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB = 17' @ 4991.00usft (Drilling Rig)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 4991.00usft (Drilling Rig)
Site:	1N-65W-09 Robin 2 Pad	North Reference:	True
Well:	ROBIN 9-13HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	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
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
250.00	0.00	0.00	250.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 1.50									
300.00	0.75	315.00	300.00	0.23	-0.23	-0.23	1.50	1.50	0.00
400.00	2.25	315.00	399.96	2.08	-2.08	-2.09	1.50	1.50	0.00
500.00	3.75	315.00	499.82	5.78	-5.78	-5.80	1.50	1.50	0.00
600.00	5.25	315.00	599.51	11.33	-11.33	-11.37	1.50	1.50	0.00
700.00	6.75	315.00	698.96	18.72	-18.72	-18.79	1.50	1.50	0.00
800.00	8.25	315.00	798.10	27.95	-27.95	-28.05	1.50	1.50	0.00
828.21	8.67	315.00	826.00	30.89	-30.89	-30.99	1.50	1.50	0.00
Fox Hills									
900.00	9.75	315.00	896.87	39.01	-39.01	-39.15	1.50	1.50	0.00
1,000.00	11.25	315.00	995.19	51.90	-51.90	-52.08	1.50	1.50	0.00
1,100.00	12.75	315.00	1,093.00	66.60	-66.60	-66.83	1.50	1.50	0.00
1,200.00	14.25	315.00	1,190.24	83.11	-83.11	-83.40	1.50	1.50	0.00
1,300.00	15.75	315.00	1,286.83	101.41	-101.41	-101.76	1.50	1.50	0.00
1,316.67	16.00	315.00	1,302.86	104.63	-104.63	-104.99	1.50	1.50	0.00
Start 2720.00 hold at 1316.67 MD									
1,400.00	16.00	315.00	1,382.96	120.87	-120.87	-121.29	0.00	0.00	0.00
1,500.00	16.00	315.00	1,479.09	140.36	-140.36	-140.85	0.00	0.00	0.00
1,521.75	16.00	315.00	1,500.00	144.60	-144.60	-145.11	0.00	0.00	0.00
9 5/8"									
1,600.00	16.00	315.00	1,575.21	159.85	-159.85	-160.41	0.00	0.00	0.00
1,700.00	16.00	315.00	1,671.34	179.34	-179.34	-179.97	0.00	0.00	0.00
1,800.00	16.00	315.00	1,767.47	198.83	-198.83	-199.53	0.00	0.00	0.00
1,900.00	16.00	315.00	1,863.59	218.32	-218.32	-219.09	0.00	0.00	0.00
2,000.00	16.00	315.00	1,959.72	237.82	-237.82	-238.64	0.00	0.00	0.00
2,100.00	16.00	315.00	2,055.85	257.31	-257.31	-258.20	0.00	0.00	0.00
2,200.00	16.00	315.00	2,151.97	276.80	-276.80	-277.76	0.00	0.00	0.00
2,300.00	16.00	315.00	2,248.10	296.29	-296.29	-297.32	0.00	0.00	0.00
2,400.00	16.00	315.00	2,344.22	315.78	-315.78	-316.88	0.00	0.00	0.00
2,500.00	16.00	315.00	2,440.35	335.27	-335.27	-336.44	0.00	0.00	0.00
2,600.00	16.00	315.00	2,536.48	354.76	-354.76	-355.99	0.00	0.00	0.00
2,700.00	16.00	315.00	2,632.60	374.25	-374.25	-375.55	0.00	0.00	0.00
2,800.00	16.00	315.00	2,728.73	393.74	-393.74	-395.11	0.00	0.00	0.00
2,900.00	16.00	315.00	2,824.85	413.23	-413.23	-414.67	0.00	0.00	0.00
3,000.00	16.00	315.00	2,920.98	432.72	-432.72	-434.23	0.00	0.00	0.00
3,100.00	16.00	315.00	3,017.11	452.21	-452.21	-453.79	0.00	0.00	0.00
3,200.00	16.00	315.00	3,113.23	471.70	-471.70	-473.35	0.00	0.00	0.00
3,300.00	16.00	315.00	3,209.36	491.19	-491.19	-492.90	0.00	0.00	0.00
3,400.00	16.00	315.00	3,305.49	510.68	-510.68	-512.46	0.00	0.00	0.00
3,500.00	16.00	315.00	3,401.61	530.17	-530.17	-532.02	0.00	0.00	0.00
3,600.00	16.00	315.00	3,497.74	549.66	-549.66	-551.58	0.00	0.00	0.00
3,700.00	16.00	315.00	3,593.86	569.15	-569.15	-571.14	0.00	0.00	0.00
3,800.00	16.00	315.00	3,689.99	588.64	-588.64	-590.70	0.00	0.00	0.00
3,900.00	16.00	315.00	3,786.12	608.13	-608.13	-610.25	0.00	0.00	0.00
4,000.00	16.00	315.00	3,882.24	627.63	-627.63	-629.81	0.00	0.00	0.00
4,036.67	16.00	315.00	3,917.49	634.77	-634.77	-636.98	0.00	0.00	0.00
Start Drop -2.00									
4,100.00	14.73	315.00	3,978.56	646.64	-646.64	-648.89	2.00	-2.00	0.00
4,200.00	12.73	315.00	4,075.69	663.43	-663.43	-665.74	2.00	-2.00	0.00
4,276.98	11.19	315.00	4,151.00	674.71	-674.71	-677.06	2.00	-2.00	0.00

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Planning Report

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Well:	ROBIN 9-13HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	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)
Parkman									
4,300.00	10.73	315.00	4,173.60	677.80	-677.80	-680.17	2.00	-2.00	0.00
4,400.00	8.73	315.00	4,272.15	689.76	-689.76	-692.16	2.00	-2.00	0.00
4,490.69	6.92	315.00	4,362.00	698.49	-698.49	-700.92	2.00	-2.00	0.00
Sussex									
4,500.00	6.73	315.00	4,371.24	699.27	-699.27	-701.71	2.00	-2.00	0.00
4,600.00	4.73	315.00	4,470.73	706.34	-706.34	-708.80	2.00	-2.00	0.00
4,700.00	2.73	315.00	4,570.52	710.94	-710.94	-713.42	2.00	-2.00	0.00
4,800.00	0.73	315.00	4,670.47	713.08	-713.08	-715.56	2.00	-2.00	0.00
4,836.67	0.00	0.00	4,707.13	713.24	-713.24	-715.73	2.00	-2.00	0.00
Start 1765.26 hold at 4836.67 MD									
4,900.00	0.00	0.00	4,770.47	713.24	-713.24	-715.73	0.00	0.00	0.00
5,000.00	0.00	0.00	4,870.47	713.24	-713.24	-715.73	0.00	0.00	0.00
5,100.00	0.00	0.00	4,970.47	713.24	-713.24	-715.73	0.00	0.00	0.00
5,200.00	0.00	0.00	5,070.47	713.24	-713.24	-715.73	0.00	0.00	0.00
5,300.00	0.00	0.00	5,170.47	713.24	-713.24	-715.73	0.00	0.00	0.00
5,400.00	0.00	0.00	5,270.47	713.24	-713.24	-715.73	0.00	0.00	0.00
5,500.00	0.00	0.00	5,370.47	713.24	-713.24	-715.73	0.00	0.00	0.00
5,600.00	0.00	0.00	5,470.47	713.24	-713.24	-715.73	0.00	0.00	0.00
5,700.00	0.00	0.00	5,570.47	713.24	-713.24	-715.73	0.00	0.00	0.00
5,800.00	0.00	0.00	5,670.47	713.24	-713.24	-715.73	0.00	0.00	0.00
5,900.00	0.00	0.00	5,770.47	713.24	-713.24	-715.73	0.00	0.00	0.00
6,000.00	0.00	0.00	5,870.47	713.24	-713.24	-715.73	0.00	0.00	0.00
6,100.00	0.00	0.00	5,970.47	713.24	-713.24	-715.73	0.00	0.00	0.00
6,200.00	0.00	0.00	6,070.47	713.24	-713.24	-715.73	0.00	0.00	0.00
6,300.00	0.00	0.00	6,170.47	713.24	-713.24	-715.73	0.00	0.00	0.00
6,400.00	0.00	0.00	6,270.47	713.24	-713.24	-715.73	0.00	0.00	0.00
6,500.00	0.00	0.00	6,370.47	713.24	-713.24	-715.73	0.00	0.00	0.00
6,600.00	0.00	0.00	6,470.47	713.24	-713.24	-715.73	0.00	0.00	0.00
6,601.93	0.00	0.00	6,472.39	713.24	-713.24	-715.73	0.00	0.00	0.00
KOP @ 6601.93ft									
6,700.00	8.83	179.80	6,570.08	705.71	-713.22	-708.19	9.00	9.00	0.00
6,800.00	17.83	179.80	6,667.29	682.68	-713.14	-685.16	9.00	9.00	0.00
6,900.00	26.83	179.80	6,759.69	644.73	-713.00	-647.21	9.00	9.00	0.00
7,000.00	35.83	179.80	6,845.03	592.79	-712.82	-595.28	9.00	9.00	0.00
7,100.00	44.83	179.80	6,921.19	528.14	-712.59	-530.63	9.00	9.00	0.00
DLS = 9°/100'									
7,127.11	47.27	179.80	6,940.00	508.63	-712.52	-511.11	9.00	9.00	0.00
Sharon Springs									
7,155.82	49.85	179.80	6,959.00	487.11	-712.45	-489.59	9.00	9.00	0.00
Niobrara									
7,200.00	53.83	179.80	6,986.29	452.38	-712.32	-454.86	9.00	9.00	0.00
7,300.00	62.83	179.80	7,038.75	367.36	-712.02	-369.84	9.00	9.00	0.00
7,400.00	71.83	179.80	7,077.26	275.19	-711.70	-277.67	9.00	9.00	0.00
7,402.40	72.04	179.80	7,078.00	272.90	-711.69	-275.38	9.00	9.00	0.00
Nio B									
7,500.00	80.83	179.80	7,100.87	178.12	-711.36	-180.60	9.00	9.00	0.00
7,598.18	89.66	179.80	7,109.00	80.38	-711.01	-82.86	9.00	9.00	0.00
End Build @ 7598.18ft - Top of Production									
7,600.00	89.66	179.80	7,109.01	78.56	-711.01	-81.04	0.00	0.00	0.00
7,700.00	89.66	179.80	7,109.60	-21.44	-710.65	18.96	0.00	0.00	0.00
7,800.00	89.66	179.80	7,110.19	-121.44	-710.30	118.96	0.00	0.00	0.00
7,900.00	89.66	179.80	7,110.78	-221.44	-709.95	218.96	0.00	0.00	0.00

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Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 4991.00usft (Drilling Rig)
Site:	1N-65W-09 Robin 2 Pad	North Reference:	True
Well:	ROBIN 9-13HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	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)
8,000.00	89.66	179.80	7,111.37	-321.44	-709.59	318.96	0.00	0.00	0.00
8,100.00	89.66	179.80	7,111.96	-421.43	-709.24	418.95	0.00	0.00	0.00
8,200.00	89.66	179.80	7,112.55	-521.43	-708.89	518.95	0.00	0.00	0.00
8,300.00	89.66	179.80	7,113.14	-621.43	-708.54	618.95	0.00	0.00	0.00
8,400.00	89.66	179.80	7,113.72	-721.43	-708.18	718.95	0.00	0.00	0.00
8,500.00	89.66	179.80	7,114.31	-821.42	-707.83	818.95	0.00	0.00	0.00
8,600.00	89.66	179.80	7,114.90	-921.42	-707.48	918.95	0.00	0.00	0.00
8,700.00	89.66	179.80	7,115.49	-1,021.42	-707.12	1,018.94	0.00	0.00	0.00
8,800.00	89.66	179.80	7,116.08	-1,121.42	-706.77	1,118.94	0.00	0.00	0.00
8,900.00	89.66	179.80	7,116.67	-1,221.41	-706.42	1,218.94	0.00	0.00	0.00
9,000.00	89.66	179.80	7,117.26	-1,321.41	-706.07	1,318.94	0.00	0.00	0.00
9,100.00	89.66	179.80	7,117.85	-1,421.41	-705.71	1,418.94	0.00	0.00	0.00
9,200.00	89.66	179.80	7,118.44	-1,521.41	-705.36	1,518.94	0.00	0.00	0.00
9,300.00	89.66	179.80	7,119.03	-1,621.40	-705.01	1,618.93	0.00	0.00	0.00
9,400.00	89.66	179.80	7,119.62	-1,721.40	-704.65	1,718.93	0.00	0.00	0.00
9,500.00	89.66	179.80	7,120.20	-1,821.40	-704.30	1,818.93	0.00	0.00	0.00
9,600.00	89.66	179.80	7,120.79	-1,921.40	-703.95	1,918.93	0.00	0.00	0.00
9,700.00	89.66	179.80	7,121.38	-2,021.40	-703.60	2,018.93	0.00	0.00	0.00
9,800.00	89.66	179.80	7,121.97	-2,121.39	-703.24	2,118.93	0.00	0.00	0.00
9,900.00	89.66	179.80	7,122.56	-2,221.39	-702.89	2,218.92	0.00	0.00	0.00
10,000.00	89.66	179.80	7,123.15	-2,321.39	-702.54	2,318.92	0.00	0.00	0.00
10,100.00	89.66	179.80	7,123.74	-2,421.39	-702.18	2,418.92	0.00	0.00	0.00
10,200.00	89.66	179.80	7,124.33	-2,521.38	-701.83	2,518.92	0.00	0.00	0.00
10,300.00	89.66	179.80	7,124.92	-2,621.38	-701.48	2,618.92	0.00	0.00	0.00
10,400.00	89.66	179.80	7,125.51	-2,721.38	-701.13	2,718.91	0.00	0.00	0.00
10,500.00	89.66	179.80	7,126.10	-2,821.38	-700.77	2,818.91	0.00	0.00	0.00
10,600.00	89.66	179.80	7,126.68	-2,921.37	-700.42	2,918.91	0.00	0.00	0.00
10,700.00	89.66	179.80	7,127.27	-3,021.37	-700.07	3,018.91	0.00	0.00	0.00
10,800.00	89.66	179.80	7,127.86	-3,121.37	-699.72	3,118.91	0.00	0.00	0.00
10,900.00	89.66	179.80	7,128.45	-3,221.37	-699.36	3,218.91	0.00	0.00	0.00
11,000.00	89.66	179.80	7,129.04	-3,321.36	-699.01	3,318.90	0.00	0.00	0.00
11,100.00	89.66	179.80	7,129.63	-3,421.36	-698.66	3,418.90	0.00	0.00	0.00
11,200.00	89.66	179.80	7,130.22	-3,521.36	-698.30	3,518.90	0.00	0.00	0.00
11,300.00	89.66	179.80	7,130.81	-3,621.36	-697.95	3,618.90	0.00	0.00	0.00
11,400.00	89.66	179.80	7,131.40	-3,721.36	-697.60	3,718.90	0.00	0.00	0.00
11,500.00	89.66	179.80	7,131.99	-3,821.35	-697.25	3,818.90	0.00	0.00	0.00
11,600.00	89.66	179.80	7,132.58	-3,921.35	-696.89	3,918.89	0.00	0.00	0.00
11,700.00	89.66	179.80	7,133.16	-4,021.35	-696.54	4,018.89	0.00	0.00	0.00
11,800.00	89.66	179.80	7,133.75	-4,121.35	-696.19	4,118.89	0.00	0.00	0.00
11,900.00	89.66	179.80	7,134.34	-4,221.34	-695.83	4,218.89	0.00	0.00	0.00
12,000.00	89.66	179.80	7,134.93	-4,321.34	-695.48	4,318.89	0.00	0.00	0.00
12,100.00	89.66	179.80	7,135.52	-4,421.34	-695.13	4,418.89	0.00	0.00	0.00
12,200.00	89.66	179.80	7,136.11	-4,521.34	-694.78	4,518.88	0.00	0.00	0.00
12,300.00	89.66	179.80	7,136.70	-4,621.33	-694.42	4,618.88	0.00	0.00	0.00
12,400.00	89.66	179.80	7,137.29	-4,721.33	-694.07	4,718.88	0.00	0.00	0.00
12,500.00	89.66	179.80	7,137.88	-4,821.33	-693.72	4,818.88	0.00	0.00	0.00
12,600.00	89.66	179.80	7,138.47	-4,921.33	-693.36	4,918.88	0.00	0.00	0.00
12,690.59	89.66	179.80	7,139.00	-5,011.91	-693.04	5,009.46	0.00	0.00	0.00
Nio C									
12,700.00	89.66	179.80	7,139.06	-5,021.32	-693.01	5,018.87	0.00	0.00	0.00
12,800.00	89.66	179.80	7,139.64	-5,121.32	-692.66	5,118.87	0.00	0.00	0.00
12,900.00	89.66	179.80	7,140.23	-5,221.32	-692.31	5,218.87	0.00	0.00	0.00
13,000.00	89.66	179.80	7,140.82	-5,321.32	-691.95	5,318.87	0.00	0.00	0.00

Corporate Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well ROBIN 9-13HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB = 17' @ 4991.00usft (Drilling Rig)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 4991.00usft (Drilling Rig)
Site:	1N-65W-09 Robin 2 Pad	North Reference:	True
Well:	ROBIN 9-13HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	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)	
13,100.00	89.66	179.80	7,141.41	-5,421.32	-691.60	5,418.87	0.00	0.00	0.00	
13,200.00	89.66	179.80	7,142.00	-5,521.31	-691.25	5,518.87	0.00	0.00	0.00	
13,300.00	89.66	179.80	7,142.59	-5,621.31	-690.89	5,618.86	0.00	0.00	0.00	
13,400.00	89.66	179.80	7,143.18	-5,721.31	-690.54	5,718.86	0.00	0.00	0.00	
13,500.00	89.66	179.80	7,143.77	-5,821.31	-690.19	5,818.86	0.00	0.00	0.00	
13,600.00	89.66	179.80	7,144.36	-5,921.30	-689.84	5,918.86	0.00	0.00	0.00	
13,700.00	89.66	179.80	7,144.95	-6,021.30	-689.48	6,018.86	0.00	0.00	0.00	
13,800.00	89.66	179.80	7,145.54	-6,121.30	-689.13	6,118.86	0.00	0.00	0.00	
13,900.00	89.66	179.80	7,146.12	-6,221.30	-688.78	6,218.85	0.00	0.00	0.00	
14,000.00	89.66	179.80	7,146.71	-6,321.29	-688.43	6,318.85	0.00	0.00	0.00	
14,100.00	89.66	179.80	7,147.30	-6,421.29	-688.07	6,418.85	0.00	0.00	0.00	
14,200.00	89.66	179.80	7,147.89	-6,521.29	-687.72	6,518.85	0.00	0.00	0.00	
14,300.00	89.66	179.80	7,148.48	-6,621.29	-687.37	6,618.85	0.00	0.00	0.00	
14,400.00	89.66	179.80	7,149.07	-6,721.28	-687.01	6,718.85	0.00	0.00	0.00	
14,500.00	89.66	179.80	7,149.66	-6,821.28	-686.66	6,818.84	0.00	0.00	0.00	
14,600.00	89.66	179.80	7,150.25	-6,921.28	-686.31	6,918.84	0.00	0.00	0.00	
14,700.00	89.66	179.80	7,150.84	-7,021.28	-685.96	7,018.84	0.00	0.00	0.00	
14,800.00	89.66	179.80	7,151.43	-7,121.28	-685.60	7,118.84	0.00	0.00	0.00	
14,900.00	89.66	179.80	7,152.02	-7,221.27	-685.25	7,218.84	0.00	0.00	0.00	
15,000.00	89.66	179.80	7,152.60	-7,321.27	-684.90	7,318.83	0.00	0.00	0.00	
15,100.00	89.66	179.80	7,153.19	-7,421.27	-684.54	7,418.83	0.00	0.00	0.00	
15,200.00	89.66	179.80	7,153.78	-7,521.27	-684.19	7,518.83	0.00	0.00	0.00	
15,300.00	89.66	179.80	7,154.37	-7,621.26	-683.84	7,618.83	0.00	0.00	0.00	
15,400.00	89.66	179.80	7,154.96	-7,721.26	-683.49	7,718.83	0.00	0.00	0.00	
15,500.00	89.66	179.80	7,155.55	-7,821.26	-683.13	7,818.83	0.00	0.00	0.00	
15,600.00	89.66	179.80	7,156.14	-7,921.26	-682.78	7,918.82	0.00	0.00	0.00	
15,700.00	89.66	179.80	7,156.73	-8,021.25	-682.43	8,018.82	0.00	0.00	0.00	
15,800.00	89.66	179.80	7,157.32	-8,121.25	-682.07	8,118.82	0.00	0.00	0.00	
15,900.00	89.66	179.80	7,157.91	-8,221.25	-681.72	8,218.82	0.00	0.00	0.00	
16,000.00	89.66	179.80	7,158.50	-8,321.25	-681.37	8,318.82	0.00	0.00	0.00	
16,100.00	89.66	179.80	7,159.09	-8,421.24	-681.02	8,418.82	0.00	0.00	0.00	
16,200.00	89.66	179.80	7,159.67	-8,521.24	-680.66	8,518.81	0.00	0.00	0.00	
16,300.00	89.66	179.80	7,160.26	-8,621.24	-680.31	8,618.81	0.00	0.00	0.00	
16,400.00	89.66	179.80	7,160.85	-8,721.24	-679.96	8,718.81	0.00	0.00	0.00	
16,500.00	89.66	179.80	7,161.44	-8,821.23	-679.60	8,818.81	0.00	0.00	0.00	
16,600.00	89.66	179.80	7,162.03	-8,921.23	-679.25	8,918.81	0.00	0.00	0.00	
16,700.00	89.66	179.80	7,162.62	-9,021.23	-678.90	9,018.81	0.00	0.00	0.00	
16,800.00	89.66	179.80	7,163.21	-9,121.23	-678.55	9,118.80	0.00	0.00	0.00	
16,900.00	89.66	179.80	7,163.80	-9,221.23	-678.19	9,218.80	0.00	0.00	0.00	
17,000.00	89.66	179.80	7,164.39	-9,321.22	-677.84	9,318.80	0.00	0.00	0.00	
17,100.00	89.66	179.80	7,164.98	-9,421.22	-677.49	9,418.80	0.00	0.00	0.00	
17,200.00	89.66	179.80	7,165.57	-9,521.22	-677.14	9,518.80	0.00	0.00	0.00	
17,300.00	89.66	179.80	7,166.15	-9,621.22	-676.78	9,618.80	0.00	0.00	0.00	
17,400.00	89.66	179.80	7,166.74	-9,721.21	-676.43	9,718.79	0.00	0.00	0.00	
17,500.00	89.66	179.80	7,167.33	-9,821.21	-676.08	9,818.79	0.00	0.00	0.00	
17,600.00	89.66	179.80	7,167.92	-9,921.21	-675.72	9,918.79	0.00	0.00	0.00	
17,700.00	89.66	179.80	7,168.51	-10,021.21	-675.37	10,018.79	0.00	0.00	0.00	
17,800.00	89.66	179.80	7,169.10	-10,121.20	-675.02	10,118.79	0.00	0.00	0.00	
17,900.00	89.66	179.80	7,169.69	-10,221.20	-674.67	10,218.78	0.00	0.00	0.00	
18,000.00	89.66	179.80	7,170.28	-10,321.20	-674.31	10,318.78	0.00	0.00	0.00	
18,100.00	89.66	179.80	7,170.87	-10,421.20	-673.96	10,418.78	0.00	0.00	0.00	
18,122.54	89.66	179.80	7,171.00	-10,443.74	-673.88	10,441.32	0.00	0.00	0.00	
TD Well @ 18122.54ft										
18,122.59	89.66	179.80	7,171.00	-10,443.79	-673.88	10,441.37	0.00	0.00	0.00	

Corporate Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well ROBIN 9-13HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB = 17' @ 4991.00usft (Drilling Rig)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 4991.00usft (Drilling Rig)
Site:	1N-65W-09 Robin 2 Pad	North Reference:	True
Well:	ROBIN 9-13HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	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)

Casing Points							
Measured Depth (usft)	Vertical Depth (usft)	Name		Casing Diameter (")	Hole Diameter (")		
1,521.75	1,500.00	9 5/8"		9-5/8	13-1/2		
7,598.18	7,109.00	Top of Production		5-1/2	7-7/8		

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
828.21	826.00	Fox Hills				
4,276.98	4,151.00	Parkman				
4,490.69	4,362.00	Sussex				
7,127.11	6,940.00	Sharon Springs				
7,155.82	6,959.00	Niobrara				
7,402.40	7,078.00	Nio B				
12,690.59	7,139.00	Nio C				

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
		+N/-S (usft)	+E/-W (usft)		
250.00	250.00	0.00	0.00	Start Build 1.50	
1,316.67	1,302.86	104.63	-104.63	Start 2720.00 hold at 1316.67 MD	
4,036.67	3,917.49	634.77	-634.77	Start Drop -2.00	
4,836.67	4,707.13	713.24	-713.24	Start 1765.26 hold at 4836.67 MD	
6,601.93	6,472.39	713.24	-713.24	KOP @ 6601.93ft	
7,100.00	6,921.19	528.14	-712.59	DLS = 9°/100'	
7,598.18	7,109.00	80.38	-711.01	End Build @ 7598.18ft	
18,122.54	7,171.00	-10,443.74	-673.88	TD Well @ 18122.54ft	