

US ROCKIES WATTENBERG PLANNING

WELD-NAD83-UTMFT13N

1N-65W-09 Robin 2 Pad

ROBIN 9-15HZ

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 9-15HZ
Wellbore: Plan A
Design: Permit Rev-1

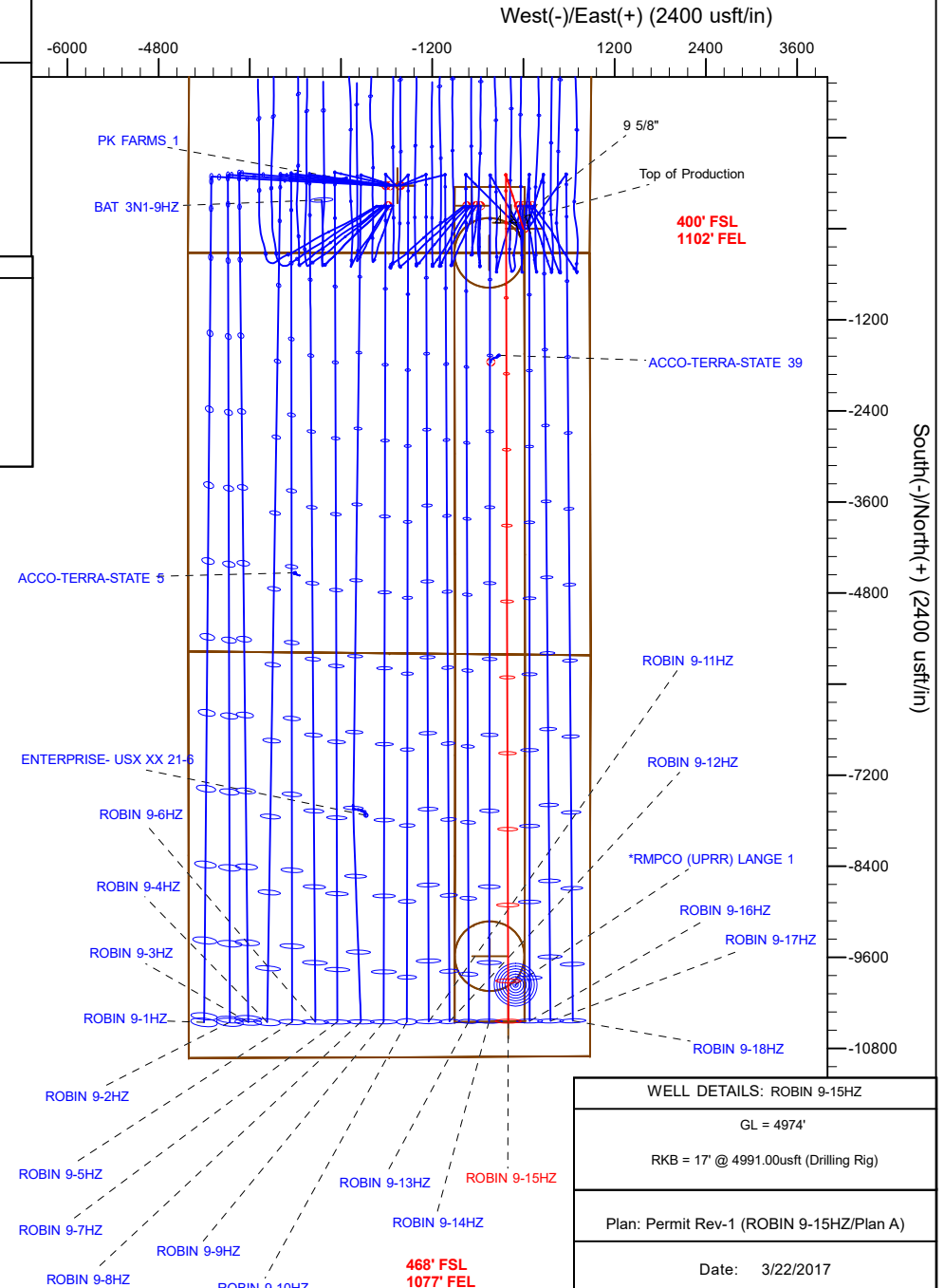
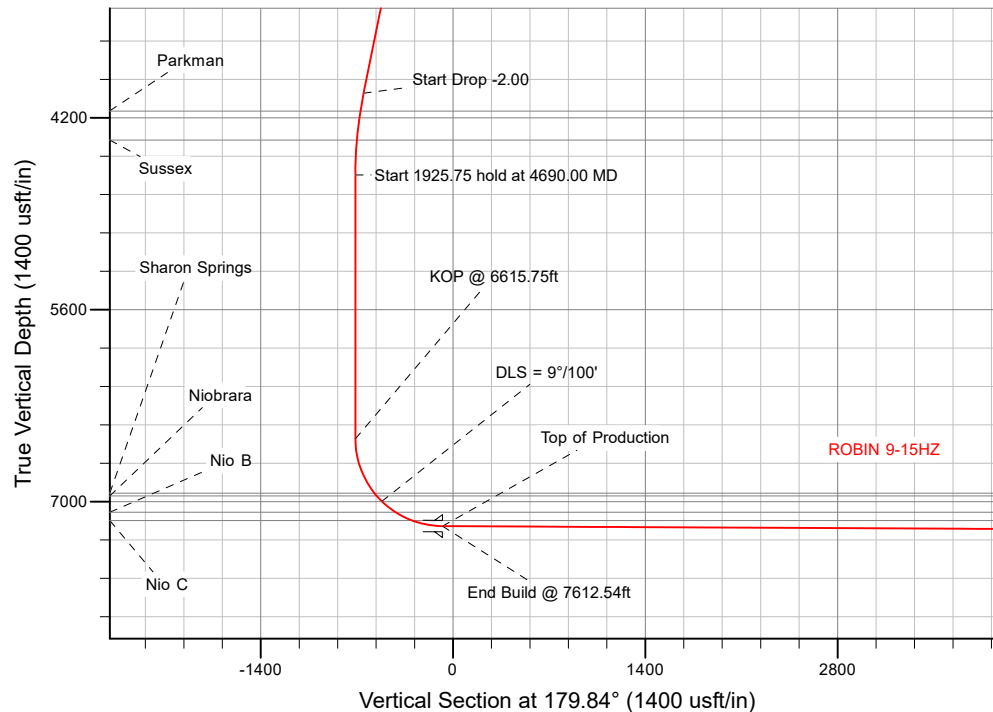
US ROCKIES WATTENBERG PLANNING

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	400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	
3	1200.00	12.00	342.00	1194.16	79.38	-25.79	1.50	342.00	-79.46	
4	4090.00	12.00	342.00	4021.01	650.84	-211.47	0.00	0.00	-651.43	
5	4690.00	0.00	0.00	4616.63	710.38	-230.82	2.00	180.00	-711.02	
6	6615.75	0.00	0.00	6542.38	710.38	-230.82	0.00	0.00	-711.02	
7	7612.54	89.71	179.84	7179.00	76.97	-229.06	9.00	179.84	-77.61	
8	18130.42	89.71	179.84	7232.00	-10440.73	-199.88	0.00	0.00	10440.13	ROBIN 9-15HZ_BHL

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
ROBIN 9-15HZ_SHL	0.00	0.00	0.00	40.059612	-104.662723	Point
ROBIN 9-15HZ_BHL	7232.00	-10440.73	-199.88	40.030940	-104.663437	Point



Corporate Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well ROBIN 9-15HZ
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 9-15HZ	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 9-15HZ			
Well Position	+N/-S	-0.10 usft	Northing:	14,548,619.41 usft
	+E/-W	44.99 usft	Easting:	1,734,789.32 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	52,357.80991108

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	179.84

Plan Survey Tool Program	Date	3/14/2017		
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	18,130.42	Permit Rev-1 (Plan A)	APC_ISCWSA REV 2 MWD+I Fixed:v2:crustal field declinatio

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 9-15HZ	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	
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,200.00	12.00	342.00	1,194.16	79.38	-25.79	1.50	1.50	0.00	342.00	
4,090.00	12.00	342.00	4,021.01	650.84	-211.47	0.00	0.00	0.00	0.00	
4,690.00	0.00	0.00	4,616.63	710.38	-230.82	2.00	-2.00	0.00	180.00	
6,615.75	0.00	0.00	6,542.38	710.38	-230.82	0.00	0.00	0.00	0.00	
7,612.54	89.71	179.84	7,179.00	76.97	-229.06	9.00	9.00	18.04	179.84	
18,130.42	89.71	179.84	7,232.00	-10,440.73	-199.88	0.00	0.00	0.00	0.00	ROBIN 9-15HZ_BHL

Corporate Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well ROBIN 9-15HZ
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 9-15HZ	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
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 1.50									
500.00	1.50	342.00	499.99	1.24	-0.40	-1.25	1.50	1.50	0.00
600.00	3.00	342.00	599.91	4.98	-1.62	-4.98	1.50	1.50	0.00
700.00	4.50	342.00	699.69	11.20	-3.64	-11.21	1.50	1.50	0.00
800.00	6.00	342.00	799.27	19.90	-6.47	-19.92	1.50	1.50	0.00
900.00	7.50	342.00	898.57	31.08	-10.10	-31.11	1.50	1.50	0.00
1,000.00	9.00	342.00	997.54	44.73	-14.53	-44.77	1.50	1.50	0.00
1,100.00	10.50	342.00	1,096.09	60.83	-19.77	-60.89	1.50	1.50	0.00
1,200.00	12.00	342.00	1,194.16	79.38	-25.79	-79.46	1.50	1.50	0.00
Start 2890.00 hold at 1200.00 MD									
1,300.00	12.00	342.00	1,291.98	99.16	-32.22	-99.25	0.00	0.00	0.00
1,400.00	12.00	342.00	1,389.79	118.93	-38.64	-119.04	0.00	0.00	0.00
1,500.00	12.00	342.00	1,487.61	138.71	-45.07	-138.83	0.00	0.00	0.00
1,512.67	12.00	342.00	1,500.00	141.21	-45.88	-141.34	0.00	0.00	0.00
9 5/8"									
1,600.00	12.00	342.00	1,585.42	158.48	-51.49	-158.62	0.00	0.00	0.00
1,700.00	12.00	342.00	1,683.24	178.25	-57.92	-178.41	0.00	0.00	0.00
1,800.00	12.00	342.00	1,781.05	198.03	-64.34	-198.21	0.00	0.00	0.00
1,900.00	12.00	342.00	1,878.87	217.80	-70.77	-218.00	0.00	0.00	0.00
1,990.10	12.00	342.00	1,967.00	235.62	-76.56	-235.83	0.00	0.00	0.00
Fox Hills									
2,000.00	12.00	342.00	1,976.68	237.57	-77.19	-237.79	0.00	0.00	0.00
2,092.34	12.00	342.00	2,067.00	255.83	-83.12	-256.06	0.00	0.00	0.00
Sussex									
2,100.00	12.00	342.00	2,074.50	257.35	-83.62	-257.58	0.00	0.00	0.00
2,111.76	12.00	342.00	2,086.00	259.67	-84.37	-259.91	0.00	0.00	0.00
Sharon Springs									
2,175.15	12.00	342.00	2,148.00	272.21	-88.45	-272.45	0.00	0.00	0.00
Niobrara									
2,200.00	12.00	342.00	2,172.31	277.12	-90.04	-277.37	0.00	0.00	0.00
2,205.82	12.00	342.00	2,178.00	278.27	-90.42	-278.52	0.00	0.00	0.00
Parkman									
2,237.51	12.00	342.00	2,209.00	284.54	-92.45	-284.79	0.00	0.00	0.00
Nio B									
2,300.00	12.00	342.00	2,270.13	296.89	-96.47	-297.16	0.00	0.00	0.00
2,386.77	12.00	342.00	2,355.00	314.05	-102.04	-314.34	0.00	0.00	0.00
Nio C									
2,400.00	12.00	342.00	2,367.94	316.67	-102.89	-316.95	0.00	0.00	0.00
2,409.26	12.00	342.00	2,377.00	318.50	-103.49	-318.79	0.00	0.00	0.00
Fort Hayes									
2,500.00	12.00	342.00	2,465.76	336.44	-109.32	-336.75	0.00	0.00	0.00
2,600.00	12.00	342.00	2,563.57	356.21	-115.74	-356.54	0.00	0.00	0.00
2,700.00	12.00	342.00	2,661.39	375.99	-122.17	-376.33	0.00	0.00	0.00
2,800.00	12.00	342.00	2,759.20	395.76	-128.59	-396.12	0.00	0.00	0.00
2,900.00	12.00	342.00	2,857.02	415.54	-135.02	-415.91	0.00	0.00	0.00
3,000.00	12.00	342.00	2,954.83	435.31	-141.44	-435.70	0.00	0.00	0.00
3,100.00	12.00	342.00	3,052.64	455.08	-147.87	-455.49	0.00	0.00	0.00
3,200.00	12.00	342.00	3,150.46	474.86	-154.29	-475.29	0.00	0.00	0.00

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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)
3,300.00	12.00	342.00	3,248.27	494.63	-160.71	-495.08	0.00	0.00	0.00
3,400.00	12.00	342.00	3,346.09	514.40	-167.14	-514.87	0.00	0.00	0.00
3,500.00	12.00	342.00	3,443.90	534.18	-173.56	-534.66	0.00	0.00	0.00
3,600.00	12.00	342.00	3,541.72	553.95	-179.99	-554.45	0.00	0.00	0.00
3,700.00	12.00	342.00	3,639.53	573.72	-186.41	-574.24	0.00	0.00	0.00
3,800.00	12.00	342.00	3,737.35	593.50	-192.84	-594.03	0.00	0.00	0.00
3,900.00	12.00	342.00	3,835.16	613.27	-199.26	-613.83	0.00	0.00	0.00
4,000.00	12.00	342.00	3,932.98	633.04	-205.69	-633.62	0.00	0.00	0.00
4,090.00	12.00	342.00	4,021.01	650.84	-211.47	-651.43	0.00	0.00	0.00
Start Drop -2.00									
4,100.00	11.80	342.00	4,030.80	652.80	-212.11	-653.39	2.00	-2.00	0.00
4,200.00	9.80	342.00	4,129.02	670.62	-217.90	-671.23	2.00	-2.00	0.00
4,300.00	7.80	342.00	4,227.84	685.17	-222.63	-685.79	2.00	-2.00	0.00
4,400.00	5.80	342.00	4,327.13	696.43	-226.28	-697.06	2.00	-2.00	0.00
4,500.00	3.80	342.00	4,426.77	704.39	-228.87	-705.03	2.00	-2.00	0.00
4,600.00	1.80	342.00	4,526.65	709.04	-230.38	-709.68	2.00	-2.00	0.00
4,690.00	0.00	0.00	4,616.63	710.38	-230.82	-711.02	2.00	-2.00	0.00
Start 1925.75 hold at 4690.00 MD									
4,700.00	0.00	0.00	4,626.63	710.38	-230.82	-711.02	0.00	0.00	0.00
4,800.00	0.00	0.00	4,726.63	710.38	-230.82	-711.02	0.00	0.00	0.00
4,900.00	0.00	0.00	4,826.63	710.38	-230.82	-711.02	0.00	0.00	0.00
5,000.00	0.00	0.00	4,926.63	710.38	-230.82	-711.02	0.00	0.00	0.00
5,100.00	0.00	0.00	5,026.63	710.38	-230.82	-711.02	0.00	0.00	0.00
5,200.00	0.00	0.00	5,126.63	710.38	-230.82	-711.02	0.00	0.00	0.00
5,300.00	0.00	0.00	5,226.63	710.38	-230.82	-711.02	0.00	0.00	0.00
5,400.00	0.00	0.00	5,326.63	710.38	-230.82	-711.02	0.00	0.00	0.00
5,500.00	0.00	0.00	5,426.63	710.38	-230.82	-711.02	0.00	0.00	0.00
5,600.00	0.00	0.00	5,526.63	710.38	-230.82	-711.02	0.00	0.00	0.00
5,700.00	0.00	0.00	5,626.63	710.38	-230.82	-711.02	0.00	0.00	0.00
5,800.00	0.00	0.00	5,726.63	710.38	-230.82	-711.02	0.00	0.00	0.00
5,900.00	0.00	0.00	5,826.63	710.38	-230.82	-711.02	0.00	0.00	0.00
6,000.00	0.00	0.00	5,926.63	710.38	-230.82	-711.02	0.00	0.00	0.00
6,100.00	0.00	0.00	6,026.63	710.38	-230.82	-711.02	0.00	0.00	0.00
6,200.00	0.00	0.00	6,126.63	710.38	-230.82	-711.02	0.00	0.00	0.00
6,300.00	0.00	0.00	6,226.63	710.38	-230.82	-711.02	0.00	0.00	0.00
6,400.00	0.00	0.00	6,326.63	710.38	-230.82	-711.02	0.00	0.00	0.00
6,500.00	0.00	0.00	6,426.63	710.38	-230.82	-711.02	0.00	0.00	0.00
6,600.00	0.00	0.00	6,526.63	710.38	-230.82	-711.02	0.00	0.00	0.00
6,615.75	0.00	0.00	6,542.38	710.38	-230.82	-711.02	0.00	0.00	0.00
KOP @ 6615.75ft									
6,700.00	7.58	179.84	6,626.39	704.81	-230.80	-705.45	9.00	9.00	0.00
6,800.00	16.58	179.84	6,724.07	683.90	-230.74	-684.54	9.00	9.00	0.00
6,900.00	25.58	179.84	6,817.28	647.97	-230.64	-648.61	9.00	9.00	0.00
7,000.00	34.58	179.84	6,903.72	597.90	-230.50	-598.54	9.00	9.00	0.00
7,100.00	43.58	179.84	6,981.27	534.92	-230.33	-535.56	9.00	9.00	0.00
7,125.00	45.83	179.84	6,999.04	517.33	-230.28	-517.97	9.00	9.00	0.00
DLS = 9°/100'									
7,200.00	52.58	179.84	7,048.01	460.58	-230.12	-461.22	9.00	9.00	0.00
7,300.00	61.58	179.84	7,102.29	376.72	-229.89	-377.36	9.00	9.00	0.00
7,400.00	70.58	179.84	7,142.79	285.41	-229.64	-286.05	9.00	9.00	0.00
7,500.00	79.58	179.84	7,168.51	188.88	-229.37	-189.51	9.00	9.00	0.00
7,600.00	88.58	179.84	7,178.81	89.51	-229.09	-90.15	9.00	9.00	0.00
7,612.54	89.71	179.84	7,179.00	76.97	-229.06	-77.61	9.00	9.00	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 9-15HZ	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)
End Build @ 7612.54ft - Top of Production									
7,700.00	89.71	179.84	7,179.44	-10.49	-228.82	9.85	0.00	0.00	0.00
7,800.00	89.71	179.84	7,179.94	-110.48	-228.54	109.85	0.00	0.00	0.00
7,900.00	89.71	179.84	7,180.44	-210.48	-228.26	209.84	0.00	0.00	0.00
8,000.00	89.71	179.84	7,180.95	-310.48	-227.98	309.84	0.00	0.00	0.00
8,100.00	89.71	179.84	7,181.45	-410.48	-227.71	409.84	0.00	0.00	0.00
8,200.00	89.71	179.84	7,181.96	-510.48	-227.43	509.84	0.00	0.00	0.00
8,300.00	89.71	179.84	7,182.46	-610.48	-227.15	609.84	0.00	0.00	0.00
8,400.00	89.71	179.84	7,182.96	-710.47	-226.87	709.84	0.00	0.00	0.00
8,500.00	89.71	179.84	7,183.47	-810.47	-226.60	809.84	0.00	0.00	0.00
8,600.00	89.71	179.84	7,183.97	-910.47	-226.32	909.84	0.00	0.00	0.00
8,700.00	89.71	179.84	7,184.48	-1,010.47	-226.04	1,009.83	0.00	0.00	0.00
8,800.00	89.71	179.84	7,184.98	-1,110.47	-225.76	1,109.83	0.00	0.00	0.00
8,900.00	89.71	179.84	7,185.48	-1,210.47	-225.49	1,209.83	0.00	0.00	0.00
9,000.00	89.71	179.84	7,185.99	-1,310.46	-225.21	1,309.83	0.00	0.00	0.00
9,100.00	89.71	179.84	7,186.49	-1,410.46	-224.93	1,409.83	0.00	0.00	0.00
9,200.00	89.71	179.84	7,187.00	-1,510.46	-224.65	1,509.83	0.00	0.00	0.00
9,300.00	89.71	179.84	7,187.50	-1,610.46	-224.38	1,609.83	0.00	0.00	0.00
9,400.00	89.71	179.84	7,188.00	-1,710.46	-224.10	1,709.83	0.00	0.00	0.00
9,500.00	89.71	179.84	7,188.51	-1,810.46	-223.82	1,809.82	0.00	0.00	0.00
9,600.00	89.71	179.84	7,189.01	-1,910.45	-223.54	1,909.82	0.00	0.00	0.00
9,700.00	89.71	179.84	7,189.52	-2,010.45	-223.27	2,009.82	0.00	0.00	0.00
9,800.00	89.71	179.84	7,190.02	-2,110.45	-222.99	2,109.82	0.00	0.00	0.00
9,900.00	89.71	179.84	7,190.52	-2,210.45	-222.71	2,209.82	0.00	0.00	0.00
10,000.00	89.71	179.84	7,191.03	-2,310.45	-222.43	2,309.82	0.00	0.00	0.00
10,100.00	89.71	179.84	7,191.53	-2,410.45	-222.16	2,409.82	0.00	0.00	0.00
10,200.00	89.71	179.84	7,192.04	-2,510.44	-221.88	2,509.82	0.00	0.00	0.00
10,300.00	89.71	179.84	7,192.54	-2,610.44	-221.60	2,609.81	0.00	0.00	0.00
10,400.00	89.71	179.84	7,193.04	-2,710.44	-221.32	2,709.81	0.00	0.00	0.00
10,500.00	89.71	179.84	7,193.55	-2,810.44	-221.05	2,809.81	0.00	0.00	0.00
10,600.00	89.71	179.84	7,194.05	-2,910.44	-220.77	2,909.81	0.00	0.00	0.00
10,700.00	89.71	179.84	7,194.55	-3,010.44	-220.49	3,009.81	0.00	0.00	0.00
10,800.00	89.71	179.84	7,195.06	-3,110.44	-220.22	3,109.81	0.00	0.00	0.00
10,900.00	89.71	179.84	7,195.56	-3,210.43	-219.94	3,209.81	0.00	0.00	0.00
11,000.00	89.71	179.84	7,196.07	-3,310.43	-219.66	3,309.81	0.00	0.00	0.00
11,100.00	89.71	179.84	7,196.57	-3,410.43	-219.38	3,409.80	0.00	0.00	0.00
11,200.00	89.71	179.84	7,197.07	-3,510.43	-219.11	3,509.80	0.00	0.00	0.00
11,300.00	89.71	179.84	7,197.58	-3,610.43	-218.83	3,609.80	0.00	0.00	0.00
11,400.00	89.71	179.84	7,198.08	-3,710.43	-218.55	3,709.80	0.00	0.00	0.00
11,500.00	89.71	179.84	7,198.59	-3,810.42	-218.27	3,809.80	0.00	0.00	0.00
11,600.00	89.71	179.84	7,199.09	-3,910.42	-218.00	3,909.80	0.00	0.00	0.00
11,700.00	89.71	179.84	7,199.59	-4,010.42	-217.72	4,009.80	0.00	0.00	0.00
11,800.00	89.71	179.84	7,200.10	-4,110.42	-217.44	4,109.80	0.00	0.00	0.00
11,900.00	89.71	179.84	7,200.60	-4,210.42	-217.16	4,209.79	0.00	0.00	0.00
12,000.00	89.71	179.84	7,201.11	-4,310.42	-216.89	4,309.79	0.00	0.00	0.00
12,100.00	89.71	179.84	7,201.61	-4,410.41	-216.61	4,409.79	0.00	0.00	0.00
12,200.00	89.71	179.84	7,202.11	-4,510.41	-216.33	4,509.79	0.00	0.00	0.00
12,300.00	89.71	179.84	7,202.62	-4,610.41	-216.05	4,609.79	0.00	0.00	0.00
12,400.00	89.71	179.84	7,203.12	-4,710.41	-215.78	4,709.79	0.00	0.00	0.00
12,500.00	89.71	179.84	7,203.63	-4,810.41	-215.50	4,809.79	0.00	0.00	0.00
12,600.00	89.71	179.84	7,204.13	-4,910.41	-215.22	4,909.79	0.00	0.00	0.00
12,700.00	89.71	179.84	7,204.63	-5,010.40	-214.94	5,009.78	0.00	0.00	0.00
12,800.00	89.71	179.84	7,205.14	-5,110.40	-214.67	5,109.78	0.00	0.00	0.00
12,900.00	89.71	179.84	7,205.64	-5,210.40	-214.39	5,209.78	0.00	0.00	0.00

Corporate Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well ROBIN 9-15HZ
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 9-15HZ	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)
13,000.00	89.71	179.84	7,206.15	-5,310.40	-214.11	5,309.78	0.00	0.00	0.00
13,100.00	89.71	179.84	7,206.65	-5,410.40	-213.83	5,409.78	0.00	0.00	0.00
13,200.00	89.71	179.84	7,207.15	-5,510.40	-213.56	5,509.78	0.00	0.00	0.00
13,300.00	89.71	179.84	7,207.66	-5,610.39	-213.28	5,609.78	0.00	0.00	0.00
13,400.00	89.71	179.84	7,208.16	-5,710.39	-213.00	5,709.78	0.00	0.00	0.00
13,500.00	89.71	179.84	7,208.67	-5,810.39	-212.72	5,809.77	0.00	0.00	0.00
13,600.00	89.71	179.84	7,209.17	-5,910.39	-212.45	5,909.77	0.00	0.00	0.00
13,700.00	89.71	179.84	7,209.67	-6,010.39	-212.17	6,009.77	0.00	0.00	0.00
13,800.00	89.71	179.84	7,210.18	-6,110.39	-211.89	6,109.77	0.00	0.00	0.00
13,900.00	89.71	179.84	7,210.68	-6,210.38	-211.61	6,209.77	0.00	0.00	0.00
14,000.00	89.71	179.84	7,211.19	-6,310.38	-211.34	6,309.77	0.00	0.00	0.00
14,100.00	89.71	179.84	7,211.69	-6,410.38	-211.06	6,409.77	0.00	0.00	0.00
14,200.00	89.71	179.84	7,212.19	-6,510.38	-210.78	6,509.76	0.00	0.00	0.00
14,300.00	89.71	179.84	7,212.70	-6,610.38	-210.50	6,609.76	0.00	0.00	0.00
14,400.00	89.71	179.84	7,213.20	-6,710.38	-210.23	6,709.76	0.00	0.00	0.00
14,500.00	89.71	179.84	7,213.70	-6,810.37	-209.95	6,809.76	0.00	0.00	0.00
14,600.00	89.71	179.84	7,214.21	-6,910.37	-209.67	6,909.76	0.00	0.00	0.00
14,700.00	89.71	179.84	7,214.71	-7,010.37	-209.39	7,009.76	0.00	0.00	0.00
14,800.00	89.71	179.84	7,215.22	-7,110.37	-209.12	7,109.76	0.00	0.00	0.00
14,900.00	89.71	179.84	7,215.72	-7,210.37	-208.84	7,209.76	0.00	0.00	0.00
15,000.00	89.71	179.84	7,216.22	-7,310.37	-208.56	7,309.75	0.00	0.00	0.00
15,100.00	89.71	179.84	7,216.73	-7,410.36	-208.28	7,409.75	0.00	0.00	0.00
15,200.00	89.71	179.84	7,217.23	-7,510.36	-208.01	7,509.75	0.00	0.00	0.00
15,300.00	89.71	179.84	7,217.74	-7,610.36	-207.73	7,609.75	0.00	0.00	0.00
15,400.00	89.71	179.84	7,218.24	-7,710.36	-207.45	7,709.75	0.00	0.00	0.00
15,500.00	89.71	179.84	7,218.74	-7,810.36	-207.17	7,809.75	0.00	0.00	0.00
15,600.00	89.71	179.84	7,219.25	-7,910.36	-206.90	7,909.75	0.00	0.00	0.00
15,700.00	89.71	179.84	7,219.75	-8,010.35	-206.62	8,009.75	0.00	0.00	0.00
15,800.00	89.71	179.84	7,220.26	-8,110.35	-206.34	8,109.74	0.00	0.00	0.00
15,900.00	89.71	179.84	7,220.76	-8,210.35	-206.06	8,209.74	0.00	0.00	0.00
16,000.00	89.71	179.84	7,221.26	-8,310.35	-205.79	8,309.74	0.00	0.00	0.00
16,100.00	89.71	179.84	7,221.77	-8,410.35	-205.51	8,409.74	0.00	0.00	0.00
16,200.00	89.71	179.84	7,222.27	-8,510.35	-205.23	8,509.74	0.00	0.00	0.00
16,300.00	89.71	179.84	7,222.78	-8,610.34	-204.96	8,609.74	0.00	0.00	0.00
16,400.00	89.71	179.84	7,223.28	-8,710.34	-204.68	8,709.74	0.00	0.00	0.00
16,500.00	89.71	179.84	7,223.78	-8,810.34	-204.40	8,809.74	0.00	0.00	0.00
16,600.00	89.71	179.84	7,224.29	-8,910.34	-204.12	8,909.73	0.00	0.00	0.00
16,700.00	89.71	179.84	7,224.79	-9,010.34	-203.85	9,009.73	0.00	0.00	0.00
16,800.00	89.71	179.84	7,225.30	-9,110.34	-203.57	9,109.73	0.00	0.00	0.00
16,900.00	89.71	179.84	7,225.80	-9,210.33	-203.29	9,209.73	0.00	0.00	0.00
17,000.00	89.71	179.84	7,226.30	-9,310.33	-203.01	9,309.73	0.00	0.00	0.00
17,100.00	89.71	179.84	7,226.81	-9,410.33	-202.74	9,409.73	0.00	0.00	0.00
17,200.00	89.71	179.84	7,227.31	-9,510.33	-202.46	9,509.73	0.00	0.00	0.00
17,300.00	89.71	179.84	7,227.82	-9,610.33	-202.18	9,609.73	0.00	0.00	0.00
17,400.00	89.71	179.84	7,228.32	-9,710.33	-201.90	9,709.72	0.00	0.00	0.00
17,500.00	89.71	179.84	7,228.82	-9,810.32	-201.63	9,809.72	0.00	0.00	0.00
17,600.00	89.71	179.84	7,229.33	-9,910.32	-201.35	9,909.72	0.00	0.00	0.00
17,700.00	89.71	179.84	7,229.83	-10,010.32	-201.07	10,009.72	0.00	0.00	0.00
17,800.00	89.71	179.84	7,230.34	-10,110.32	-200.79	10,109.72	0.00	0.00	0.00
17,900.00	89.71	179.84	7,230.84	-10,210.32	-200.52	10,209.72	0.00	0.00	0.00
18,000.00	89.71	179.84	7,231.34	-10,310.32	-200.24	10,309.72	0.00	0.00	0.00
18,100.00	89.71	179.84	7,231.85	-10,410.31	-199.96	10,409.72	0.00	0.00	0.00
18,130.42	89.71	179.84	7,232.00	-10,440.73	-199.88	10,440.13	0.00	0.00	0.00

Corporate Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well ROBIN 9-15HZ
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 9-15HZ	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)
TD Well @ 18130.42ft									

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")	
1,512.67	1,500.00	9 5/8"	9-5/8	13-1/2	
7,612.54	7,179.00	Top of Production	5-1/2	7-7/8	

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
1,990.10	1,967.00	Fox Hills				
2,092.34	2,067.00	Sussex				
2,111.76	2,086.00	Sharon Springs				
2,175.15	2,148.00	Niobrara				
2,205.82	2,178.00	Parkman				
2,237.51	2,209.00	Nio B				
2,386.77	2,355.00	Nio C				
2,409.26	2,377.00	Fort Hayes				

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
400.00	400.00	0.00	0.00	Start Build 1.50	
1,200.00	1,194.16	79.38	-25.79	Start 2890.00 hold at 1200.00 MD	
4,090.00	4,021.01	650.84	-211.47	Start Drop -2.00	
4,690.00	4,616.63	710.38	-230.82	Start 1925.75 hold at 4690.00 MD	
6,615.75	6,542.38	710.38	-230.82	KOP @ 6615.75ft	
7,125.00	6,999.04	517.33	-230.28	DLS = 9°/100'	
7,612.54	7,179.00	76.97	-229.06	End Build @ 7612.54ft	
18,130.42	7,232.00	-10,440.73	-199.88	TD Well @ 18130.42ft	