

US ROCKIES WATTENBERG PLANNING

WELD-NAD83-UTMFT13N

1N-65W-09 Robin 2 Pad

ROBIN 9-18HZ

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 9-18HZ
Wellbore: Plan A
Design: Permit Rev-1

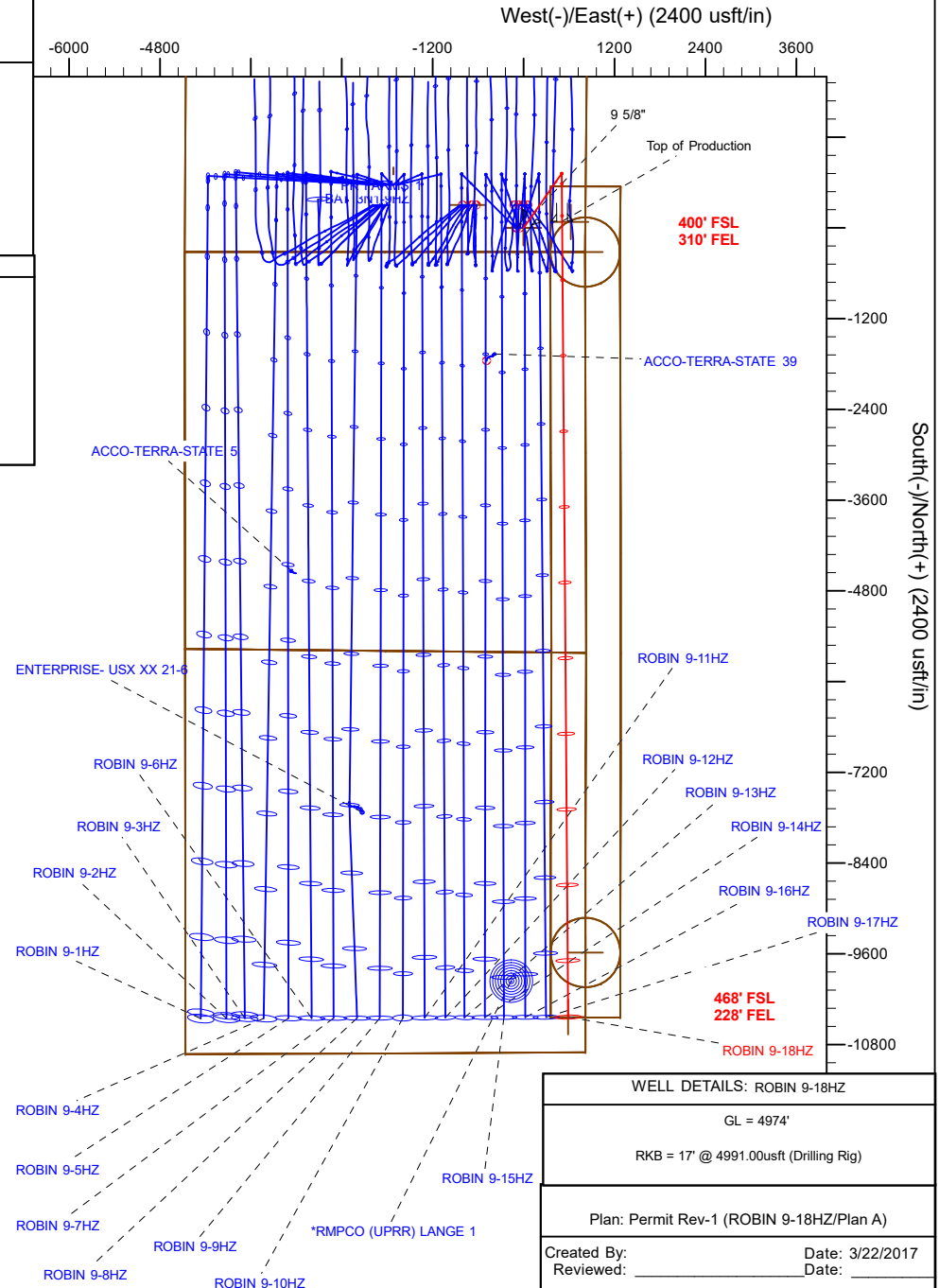
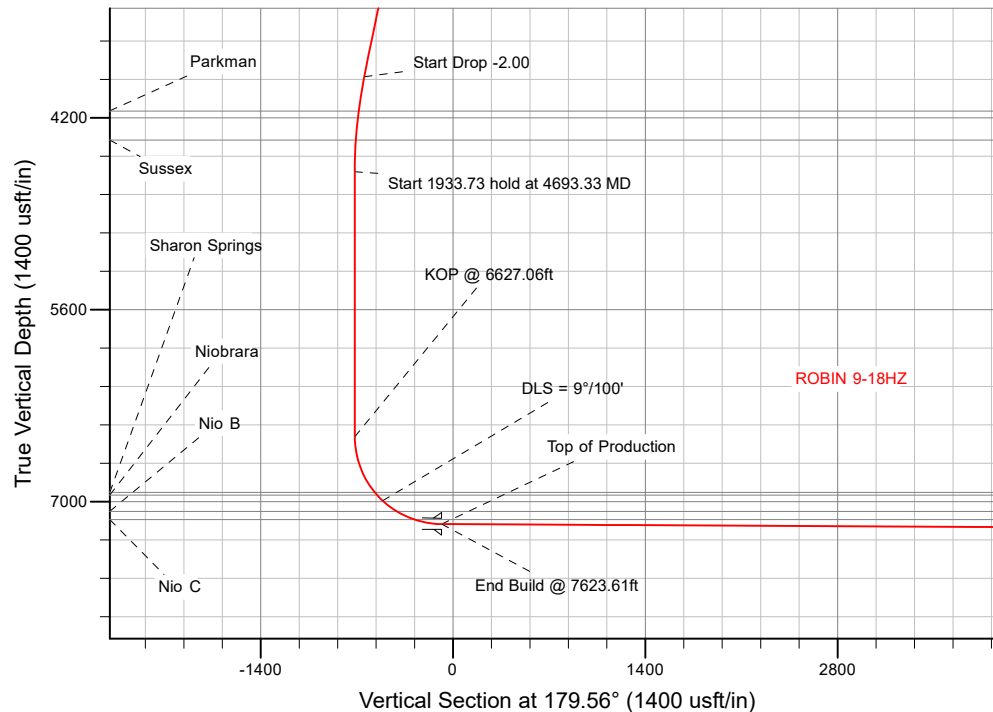
US ROCKIES WATTENBERG PLANNING

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	1183.33	14.00	35.00	1174.07	92.94	65.08	1.50	35.00	-92.44	
4	3993.33	14.00	35.00	3900.60	649.80	455.00	0.00	0.00	-646.29	
5	4693.33	0.00	0.00	4593.66	719.51	503.81	2.00	180.00	-715.62	
6	6627.06	0.00	0.00	6527.39	719.51	503.81	0.00	0.00	-715.62	
7	7623.61	89.69	179.56	7164.00	86.36	508.65	9.00	179.56	-82.45	
8	18146.25	89.69	179.56	7221.00	-10435.82	589.16	0.00	0.00	10440.04	ROBIN 9-18HZ_BHL

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
ROBIN 9-18HZ_SHL	0.00	0.00	0.00	40.059611	-104.662509	Point
ROBIN 9-18HZ_BHL	7221.00	-10435.82	589.16	40.030953	-104.660404	Point



Corporate Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well ROBIN 9-18HZ
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 9-18HZ	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 9-18HZ					
Well Position	+N/-S	-0.23 usft	Northing:	14,548,619.51 usft	Latitude:	40.059612
	+E/-W	104.96 usft	Easting:	1,734,849.28 usft	Longitude:	-104.662509
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	52,357.83149914

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	179.56	

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	18,146.25	Permit Rev-1 (Plan A)	APC_ISCWSA REV 2 MWD+I Fixed:v2:crustal field declinatio	

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Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 4991.00usft (Drilling Rig)
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Well:	ROBIN 9-18HZ	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	
1,183.33	14.00	35.00	1,174.07	92.94	65.08	1.50	1.50	0.00	35.00	
3,993.33	14.00	35.00	3,900.60	649.80	455.00	0.00	0.00	0.00	0.00	
4,693.33	0.00	0.00	4,593.66	719.51	503.81	2.00	-2.00	0.00	180.00	
6,627.06	0.00	0.00	6,527.39	719.51	503.81	0.00	0.00	0.00	0.00	
7,623.61	89.69	179.56	7,164.00	86.36	508.65	9.00	9.00	18.02	179.56	
18,146.25	89.69	179.56	7,221.00	-10,435.82	589.16	0.00	0.00	0.00	0.00	ROBIN 9-18HZ_BHL

Corporate Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well ROBIN 9-18HZ
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 9-18HZ	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	35.00	300.00	0.27	0.19	-0.27	1.50	1.50	0.00
400.00	2.25	35.00	399.96	2.41	1.69	-2.40	1.50	1.50	0.00
500.00	3.75	35.00	499.82	6.70	4.69	-6.66	1.50	1.50	0.00
600.00	5.25	35.00	599.51	13.13	9.19	-13.06	1.50	1.50	0.00
700.00	6.75	35.00	698.96	21.69	15.19	-21.57	1.50	1.50	0.00
800.00	8.25	35.00	798.10	32.38	22.67	-32.21	1.50	1.50	0.00
828.21	8.67	35.00	826.00	35.78	25.05	-35.59	1.50	1.50	0.00
Fox Hills									
900.00	9.75	35.00	896.87	45.19	31.65	-44.95	1.50	1.50	0.00
1,000.00	11.25	35.00	995.19	60.12	42.10	-59.80	1.50	1.50	0.00
1,100.00	12.75	35.00	1,093.00	77.15	54.02	-76.74	1.50	1.50	0.00
1,183.33	14.00	35.00	1,174.07	92.94	65.08	-92.44	1.50	1.50	0.00
Start 2810.00 hold at 1183.33 MD									
1,200.00	14.00	35.00	1,190.25	96.25	67.39	-95.73	0.00	0.00	0.00
1,300.00	14.00	35.00	1,287.27	116.06	81.27	-115.44	0.00	0.00	0.00
1,400.00	14.00	35.00	1,384.30	135.88	95.14	-135.14	0.00	0.00	0.00
1,500.00	14.00	35.00	1,481.33	155.70	109.02	-154.85	0.00	0.00	0.00
1,519.24	14.00	35.00	1,500.00	159.51	111.69	-158.65	0.00	0.00	0.00
9 5/8"									
1,600.00	14.00	35.00	1,578.36	175.51	122.90	-174.56	0.00	0.00	0.00
1,700.00	14.00	35.00	1,675.39	195.33	136.77	-194.27	0.00	0.00	0.00
1,800.00	14.00	35.00	1,772.42	215.15	150.65	-213.98	0.00	0.00	0.00
1,900.00	14.00	35.00	1,869.45	234.97	164.52	-233.69	0.00	0.00	0.00
2,000.00	14.00	35.00	1,966.48	254.78	178.40	-253.40	0.00	0.00	0.00
2,100.00	14.00	35.00	2,063.51	274.60	192.28	-273.11	0.00	0.00	0.00
2,200.00	14.00	35.00	2,160.54	294.42	206.15	-292.82	0.00	0.00	0.00
2,300.00	14.00	35.00	2,257.57	314.23	220.03	-312.53	0.00	0.00	0.00
2,400.00	14.00	35.00	2,354.60	334.05	233.90	-332.24	0.00	0.00	0.00
2,500.00	14.00	35.00	2,451.63	353.87	247.78	-351.95	0.00	0.00	0.00
2,600.00	14.00	35.00	2,548.66	373.68	261.66	-371.66	0.00	0.00	0.00
2,700.00	14.00	35.00	2,645.69	393.50	275.53	-391.37	0.00	0.00	0.00
2,800.00	14.00	35.00	2,742.72	413.32	289.41	-411.08	0.00	0.00	0.00
2,900.00	14.00	35.00	2,839.75	433.14	303.28	-430.79	0.00	0.00	0.00
3,000.00	14.00	35.00	2,936.78	452.95	317.16	-450.50	0.00	0.00	0.00
3,100.00	14.00	35.00	3,033.81	472.77	331.04	-470.21	0.00	0.00	0.00
3,200.00	14.00	35.00	3,130.84	492.59	344.91	-489.92	0.00	0.00	0.00
3,300.00	14.00	35.00	3,227.87	512.40	358.79	-509.63	0.00	0.00	0.00
3,400.00	14.00	35.00	3,324.90	532.22	372.67	-529.34	0.00	0.00	0.00
3,500.00	14.00	35.00	3,421.93	552.04	386.54	-549.05	0.00	0.00	0.00
3,600.00	14.00	35.00	3,518.95	571.86	400.42	-568.76	0.00	0.00	0.00
3,700.00	14.00	35.00	3,615.98	591.67	414.29	-588.47	0.00	0.00	0.00
3,800.00	14.00	35.00	3,713.01	611.49	428.17	-608.18	0.00	0.00	0.00
3,900.00	14.00	35.00	3,810.04	631.31	442.05	-627.89	0.00	0.00	0.00
3,993.33	14.00	35.00	3,900.60	649.80	455.00	-646.29	0.00	0.00	0.00
Start Drop -2.00									
4,000.00	13.87	35.00	3,907.08	651.12	455.92	-647.60	2.00	-2.00	0.00
4,100.00	11.87	35.00	4,004.56	669.36	468.69	-665.74	2.00	-2.00	0.00
4,200.00	9.87	35.00	4,102.76	684.80	479.50	-681.10	2.00	-2.00	0.00
4,248.89	8.89	35.00	4,151.00	691.33	484.07	-687.59	2.00	-2.00	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)
Parkman									
4,300.00	7.87	35.00	4,201.56	697.43	488.34	-693.65	2.00	-2.00	0.00
4,400.00	5.87	35.00	4,300.84	707.22	495.20	-703.39	2.00	-2.00	0.00
4,461.42	4.64	35.00	4,362.00	711.82	498.42	-707.98	2.00	-2.00	0.00
Sussex									
4,500.00	3.87	35.00	4,400.47	714.17	500.07	-710.31	2.00	-2.00	0.00
4,600.00	1.87	35.00	4,500.34	718.26	502.93	-714.38	2.00	-2.00	0.00
4,693.33	0.00	0.00	4,593.66	719.51	503.81	-715.62	2.00	-2.00	0.00
Start 1933.73 hold at 4693.33 MD									
4,700.00	0.00	0.00	4,600.33	719.51	503.81	-715.62	0.00	0.00	0.00
4,800.00	0.00	0.00	4,700.33	719.51	503.81	-715.62	0.00	0.00	0.00
4,900.00	0.00	0.00	4,800.33	719.51	503.81	-715.62	0.00	0.00	0.00
5,000.00	0.00	0.00	4,900.33	719.51	503.81	-715.62	0.00	0.00	0.00
5,100.00	0.00	0.00	5,000.33	719.51	503.81	-715.62	0.00	0.00	0.00
5,200.00	0.00	0.00	5,100.33	719.51	503.81	-715.62	0.00	0.00	0.00
5,300.00	0.00	0.00	5,200.33	719.51	503.81	-715.62	0.00	0.00	0.00
5,400.00	0.00	0.00	5,300.33	719.51	503.81	-715.62	0.00	0.00	0.00
5,500.00	0.00	0.00	5,400.33	719.51	503.81	-715.62	0.00	0.00	0.00
5,600.00	0.00	0.00	5,500.33	719.51	503.81	-715.62	0.00	0.00	0.00
5,700.00	0.00	0.00	5,600.33	719.51	503.81	-715.62	0.00	0.00	0.00
5,800.00	0.00	0.00	5,700.33	719.51	503.81	-715.62	0.00	0.00	0.00
5,900.00	0.00	0.00	5,800.33	719.51	503.81	-715.62	0.00	0.00	0.00
6,000.00	0.00	0.00	5,900.33	719.51	503.81	-715.62	0.00	0.00	0.00
6,100.00	0.00	0.00	6,000.33	719.51	503.81	-715.62	0.00	0.00	0.00
6,200.00	0.00	0.00	6,100.33	719.51	503.81	-715.62	0.00	0.00	0.00
6,300.00	0.00	0.00	6,200.33	719.51	503.81	-715.62	0.00	0.00	0.00
6,400.00	0.00	0.00	6,300.33	719.51	503.81	-715.62	0.00	0.00	0.00
6,500.00	0.00	0.00	6,400.33	719.51	503.81	-715.62	0.00	0.00	0.00
6,600.00	0.00	0.00	6,500.33	719.51	503.81	-715.62	0.00	0.00	0.00
6,627.06	0.00	0.00	6,527.39	719.51	503.81	-715.62	0.00	0.00	0.00
KOP @ 6627.06ft									
6,700.00	6.56	179.56	6,600.17	715.34	503.84	-711.45	9.00	9.00	0.00
6,800.00	15.56	179.56	6,698.21	696.16	503.98	-692.27	9.00	9.00	0.00
6,900.00	24.56	179.56	6,792.04	661.89	504.25	-658.00	9.00	9.00	0.00
7,000.00	33.56	179.56	6,879.36	613.36	504.62	-609.47	9.00	9.00	0.00
7,066.82	39.58	179.56	6,933.00	573.57	504.92	-569.68	9.00	9.00	0.00
Sharon Springs									
7,091.89	41.83	179.56	6,952.00	557.22	505.05	-553.33	9.00	9.00	0.00
Niobrara									
7,100.00	42.56	179.56	6,958.01	551.77	505.09	-547.88	9.00	9.00	0.00
7,150.00	47.06	179.56	6,993.47	516.54	505.36	-512.65	9.00	9.00	0.00
DLS = 9°/100'									
7,200.00	51.56	179.56	7,026.06	478.64	505.65	-474.74	9.00	9.00	0.00
7,280.53	58.81	179.56	7,072.00	412.57	506.15	-408.67	9.00	9.00	0.00
Nio B									
7,300.00	60.56	179.56	7,081.83	395.76	506.28	-391.86	9.00	9.00	0.00
7,400.00	69.56	179.56	7,123.94	305.18	506.98	-301.28	9.00	9.00	0.00
7,424.33	71.75	179.56	7,132.00	282.22	507.15	-278.32	9.00	9.00	0.00
Nio C									
7,500.00	78.56	179.56	7,151.37	209.12	507.71	-205.22	9.00	9.00	0.00
7,600.00	87.56	179.56	7,163.43	109.96	508.47	-106.05	9.00	9.00	0.00
7,623.61	89.69	179.56	7,164.00	86.36	508.65	-82.45	9.00	9.00	0.00

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Well:	ROBIN 9-18HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
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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 @ 7623.61ft - Top of Production									
7,700.00	89.69	179.56	7,164.41	9.97	509.23	-6.06	0.00	0.00	0.00
7,800.00	89.69	179.56	7,164.95	-90.02	510.00	93.94	0.00	0.00	0.00
7,900.00	89.69	179.56	7,165.49	-190.02	510.77	193.94	0.00	0.00	0.00
8,000.00	89.69	179.56	7,166.04	-290.02	511.53	293.93	0.00	0.00	0.00
8,100.00	89.69	179.56	7,166.58	-390.01	512.30	393.93	0.00	0.00	0.00
8,200.00	89.69	179.56	7,167.12	-490.01	513.06	493.93	0.00	0.00	0.00
8,300.00	89.69	179.56	7,167.66	-590.00	513.83	593.93	0.00	0.00	0.00
8,400.00	89.69	179.56	7,168.20	-690.00	514.59	693.93	0.00	0.00	0.00
8,500.00	89.69	179.56	7,168.74	-789.99	515.36	793.93	0.00	0.00	0.00
8,600.00	89.69	179.56	7,169.29	-889.99	516.12	893.93	0.00	0.00	0.00
8,700.00	89.69	179.56	7,169.83	-989.98	516.89	993.92	0.00	0.00	0.00
8,800.00	89.69	179.56	7,170.37	-1,089.98	517.65	1,093.92	0.00	0.00	0.00
8,900.00	89.69	179.56	7,170.91	-1,189.98	518.42	1,193.92	0.00	0.00	0.00
9,000.00	89.69	179.56	7,171.45	-1,289.97	519.18	1,293.92	0.00	0.00	0.00
9,100.00	89.69	179.56	7,171.99	-1,389.97	519.95	1,393.92	0.00	0.00	0.00
9,200.00	89.69	179.56	7,172.54	-1,489.96	520.71	1,493.92	0.00	0.00	0.00
9,300.00	89.69	179.56	7,173.08	-1,589.96	521.48	1,593.92	0.00	0.00	0.00
9,400.00	89.69	179.56	7,173.62	-1,689.95	522.24	1,693.91	0.00	0.00	0.00
9,500.00	89.69	179.56	7,174.16	-1,789.95	523.01	1,793.91	0.00	0.00	0.00
9,600.00	89.69	179.56	7,174.70	-1,889.94	523.77	1,893.91	0.00	0.00	0.00
9,700.00	89.69	179.56	7,175.25	-1,989.94	524.54	1,993.91	0.00	0.00	0.00
9,800.00	89.69	179.56	7,175.79	-2,089.94	525.30	2,093.91	0.00	0.00	0.00
9,900.00	89.69	179.56	7,176.33	-2,189.93	526.07	2,193.91	0.00	0.00	0.00
10,000.00	89.69	179.56	7,176.87	-2,289.93	526.83	2,293.91	0.00	0.00	0.00
10,100.00	89.69	179.56	7,177.41	-2,389.92	527.60	2,393.90	0.00	0.00	0.00
10,200.00	89.69	179.56	7,177.95	-2,489.92	528.36	2,493.90	0.00	0.00	0.00
10,300.00	89.69	179.56	7,178.50	-2,589.91	529.13	2,593.90	0.00	0.00	0.00
10,400.00	89.69	179.56	7,179.04	-2,689.91	529.89	2,693.90	0.00	0.00	0.00
10,500.00	89.69	179.56	7,179.58	-2,789.91	530.66	2,793.90	0.00	0.00	0.00
10,600.00	89.69	179.56	7,180.12	-2,889.90	531.42	2,893.90	0.00	0.00	0.00
10,700.00	89.69	179.56	7,180.66	-2,989.90	532.19	2,993.90	0.00	0.00	0.00
10,800.00	89.69	179.56	7,181.20	-3,089.89	532.95	3,093.89	0.00	0.00	0.00
10,900.00	89.69	179.56	7,181.75	-3,189.89	533.72	3,193.89	0.00	0.00	0.00
11,000.00	89.69	179.56	7,182.29	-3,289.88	534.48	3,293.89	0.00	0.00	0.00
11,100.00	89.69	179.56	7,182.83	-3,389.88	535.25	3,393.89	0.00	0.00	0.00
11,200.00	89.69	179.56	7,183.37	-3,489.87	536.01	3,493.89	0.00	0.00	0.00
11,300.00	89.69	179.56	7,183.91	-3,589.87	536.78	3,593.89	0.00	0.00	0.00
11,400.00	89.69	179.56	7,184.45	-3,689.87	537.54	3,693.89	0.00	0.00	0.00
11,500.00	89.69	179.56	7,185.00	-3,789.86	538.31	3,793.88	0.00	0.00	0.00
11,600.00	89.69	179.56	7,185.54	-3,889.86	539.07	3,893.88	0.00	0.00	0.00
11,700.00	89.69	179.56	7,186.08	-3,989.85	539.84	3,993.88	0.00	0.00	0.00
11,800.00	89.69	179.56	7,186.62	-4,089.85	540.60	4,093.88	0.00	0.00	0.00
11,900.00	89.69	179.56	7,187.16	-4,189.84	541.37	4,193.88	0.00	0.00	0.00
12,000.00	89.69	179.56	7,187.70	-4,289.84	542.13	4,293.88	0.00	0.00	0.00
12,100.00	89.69	179.56	7,188.25	-4,389.84	542.90	4,393.87	0.00	0.00	0.00
12,200.00	89.69	179.56	7,188.79	-4,489.83	543.66	4,493.87	0.00	0.00	0.00
12,300.00	89.69	179.56	7,189.33	-4,589.83	544.43	4,593.87	0.00	0.00	0.00
12,400.00	89.69	179.56	7,189.87	-4,689.82	545.19	4,693.87	0.00	0.00	0.00
12,500.00	89.69	179.56	7,190.41	-4,789.82	545.96	4,793.87	0.00	0.00	0.00
12,600.00	89.69	179.56	7,190.96	-4,889.81	546.72	4,893.87	0.00	0.00	0.00
12,700.00	89.69	179.56	7,191.50	-4,989.81	547.49	4,993.87	0.00	0.00	0.00
12,800.00	89.69	179.56	7,192.04	-5,089.80	548.26	5,093.86	0.00	0.00	0.00
12,900.00	89.69	179.56	7,192.58	-5,189.80	549.02	5,193.86	0.00	0.00	0.00

Corporate Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well ROBIN 9-18HZ
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 9-18HZ	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	89.69	179.56	7,193.12	-5,289.80	549.79	5,293.86	0.00	0.00	0.00
13,100.00	89.69	179.56	7,193.66	-5,389.79	550.55	5,393.86	0.00	0.00	0.00
13,200.00	89.69	179.56	7,194.21	-5,489.79	551.32	5,493.86	0.00	0.00	0.00
13,300.00	89.69	179.56	7,194.75	-5,589.78	552.08	5,593.86	0.00	0.00	0.00
13,400.00	89.69	179.56	7,195.29	-5,689.78	552.85	5,693.86	0.00	0.00	0.00
13,500.00	89.69	179.56	7,195.83	-5,789.77	553.61	5,793.85	0.00	0.00	0.00
13,600.00	89.69	179.56	7,196.37	-5,889.77	554.38	5,893.85	0.00	0.00	0.00
13,700.00	89.69	179.56	7,196.91	-5,989.76	555.14	5,993.85	0.00	0.00	0.00
13,800.00	89.69	179.56	7,197.46	-6,089.76	555.91	6,093.85	0.00	0.00	0.00
13,900.00	89.69	179.56	7,198.00	-6,189.76	556.67	6,193.85	0.00	0.00	0.00
14,000.00	89.69	179.56	7,198.54	-6,289.75	557.44	6,293.85	0.00	0.00	0.00
14,100.00	89.69	179.56	7,199.08	-6,389.75	558.20	6,393.85	0.00	0.00	0.00
14,200.00	89.69	179.56	7,199.62	-6,489.74	558.97	6,493.84	0.00	0.00	0.00
14,300.00	89.69	179.56	7,200.16	-6,589.74	559.73	6,593.84	0.00	0.00	0.00
14,400.00	89.69	179.56	7,200.71	-6,689.73	560.50	6,693.84	0.00	0.00	0.00
14,500.00	89.69	179.56	7,201.25	-6,789.73	561.26	6,793.84	0.00	0.00	0.00
14,600.00	89.69	179.56	7,201.79	-6,889.73	562.03	6,893.84	0.00	0.00	0.00
14,700.00	89.69	179.56	7,202.33	-6,989.72	562.79	6,993.84	0.00	0.00	0.00
14,800.00	89.69	179.56	7,202.87	-7,089.72	563.56	7,093.84	0.00	0.00	0.00
14,900.00	89.69	179.56	7,203.41	-7,189.71	564.32	7,193.83	0.00	0.00	0.00
15,000.00	89.69	179.56	7,203.96	-7,289.71	565.09	7,293.83	0.00	0.00	0.00
15,100.00	89.69	179.56	7,204.50	-7,389.70	565.85	7,393.83	0.00	0.00	0.00
15,200.00	89.69	179.56	7,205.04	-7,489.70	566.62	7,493.83	0.00	0.00	0.00
15,300.00	89.69	179.56	7,205.58	-7,589.69	567.38	7,593.83	0.00	0.00	0.00
15,400.00	89.69	179.56	7,206.12	-7,689.69	568.15	7,693.83	0.00	0.00	0.00
15,500.00	89.69	179.56	7,206.66	-7,789.69	568.91	7,793.82	0.00	0.00	0.00
15,600.00	89.69	179.56	7,207.21	-7,889.68	569.68	7,893.82	0.00	0.00	0.00
15,700.00	89.69	179.56	7,207.75	-7,989.68	570.44	7,993.82	0.00	0.00	0.00
15,800.00	89.69	179.56	7,208.29	-8,089.67	571.21	8,093.82	0.00	0.00	0.00
15,900.00	89.69	179.56	7,208.83	-8,189.67	571.97	8,193.82	0.00	0.00	0.00
16,000.00	89.69	179.56	7,209.37	-8,289.66	572.74	8,293.82	0.00	0.00	0.00
16,100.00	89.69	179.56	7,209.92	-8,389.66	573.50	8,393.82	0.00	0.00	0.00
16,200.00	89.69	179.56	7,210.46	-8,489.66	574.27	8,493.81	0.00	0.00	0.00
16,300.00	89.69	179.56	7,211.00	-8,589.65	575.03	8,593.81	0.00	0.00	0.00
16,400.00	89.69	179.56	7,211.54	-8,689.65	575.80	8,693.81	0.00	0.00	0.00
16,500.00	89.69	179.56	7,212.08	-8,789.64	576.56	8,793.81	0.00	0.00	0.00
16,600.00	89.69	179.56	7,212.62	-8,889.64	577.33	8,893.81	0.00	0.00	0.00
16,700.00	89.69	179.56	7,213.17	-8,989.63	578.09	8,993.81	0.00	0.00	0.00
16,800.00	89.69	179.56	7,213.71	-9,089.63	578.86	9,093.81	0.00	0.00	0.00
16,900.00	89.69	179.56	7,214.25	-9,189.62	579.62	9,193.80	0.00	0.00	0.00
17,000.00	89.69	179.56	7,214.79	-9,289.62	580.39	9,293.80	0.00	0.00	0.00
17,100.00	89.69	179.56	7,215.33	-9,389.62	581.15	9,393.80	0.00	0.00	0.00
17,200.00	89.69	179.56	7,215.87	-9,489.61	581.92	9,493.80	0.00	0.00	0.00
17,300.00	89.69	179.56	7,216.42	-9,589.61	582.68	9,593.80	0.00	0.00	0.00
17,400.00	89.69	179.56	7,216.96	-9,689.60	583.45	9,693.80	0.00	0.00	0.00
17,500.00	89.69	179.56	7,217.50	-9,789.60	584.21	9,793.80	0.00	0.00	0.00
17,600.00	89.69	179.56	7,218.04	-9,889.59	584.98	9,893.79	0.00	0.00	0.00
17,700.00	89.69	179.56	7,218.58	-9,989.59	585.75	9,993.79	0.00	0.00	0.00
17,800.00	89.69	179.56	7,219.12	-10,089.58	586.51	10,093.79	0.00	0.00	0.00
17,900.00	89.69	179.56	7,219.67	-10,189.58	587.28	10,193.79	0.00	0.00	0.00
18,000.00	89.69	179.56	7,220.21	-10,289.58	588.04	10,293.79	0.00	0.00	0.00
18,100.00	89.69	179.56	7,220.75	-10,389.57	588.81	10,393.79	0.00	0.00	0.00
18,146.25	89.69	179.56	7,221.00	-10,435.82	589.16	10,440.04	0.00	0.00	0.00

Corporate Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well ROBIN 9-18HZ
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 9-18HZ	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 @ 18146.25ft									

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")	
1,519.24	1,500.00	9 5/8"	9-5/8	13-1/2	
7,623.61	7,164.00	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				
4,248.89	4,151.00	Parkman				
4,461.42	4,362.00	Sussex				
7,066.82	6,933.00	Sharon Springs				
7,091.89	6,952.00	Niobrara				
7,280.53	7,072.00	Nio B				
7,424.33	7,132.00	Nio C				

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
250.00	250.00	0.00	0.00	Start Build 1.50	
1,183.33	1,174.07	92.94	65.08	Start 2810.00 hold at 1183.33 MD	
3,993.33	3,900.60	649.80	455.00	Start Drop -2.00	
4,693.33	4,593.66	719.51	503.81	Start 1933.73 hold at 4693.33 MD	
6,627.06	6,527.39	719.51	503.81	KOP @ 6627.06ft	
7,150.00	6,993.47	516.54	505.36	DLS = 9°/100'	
7,623.61	7,164.00	86.36	508.65	End Build @ 7623.61ft	
18,146.25	7,221.00	-10,435.82	589.16	TD Well @ 18146.25ft	