

US ROCKIES WATTENBERG PLANNING

WELD-NAD83-UTMFT13N

1N-65W-09 Robin 1 Pad

ROBIN 9-8HZ

Plan A

Plan: Permit Rev-2

Standard Planning Report

23 March, 2017

Project: WELD-NAD83-UTMFT13N
Site: 1N-65W-09 Robin 1 Pad
Well: ROBIN 9-8HZ
Wellbore: Plan A
Design: Permit Rev-2

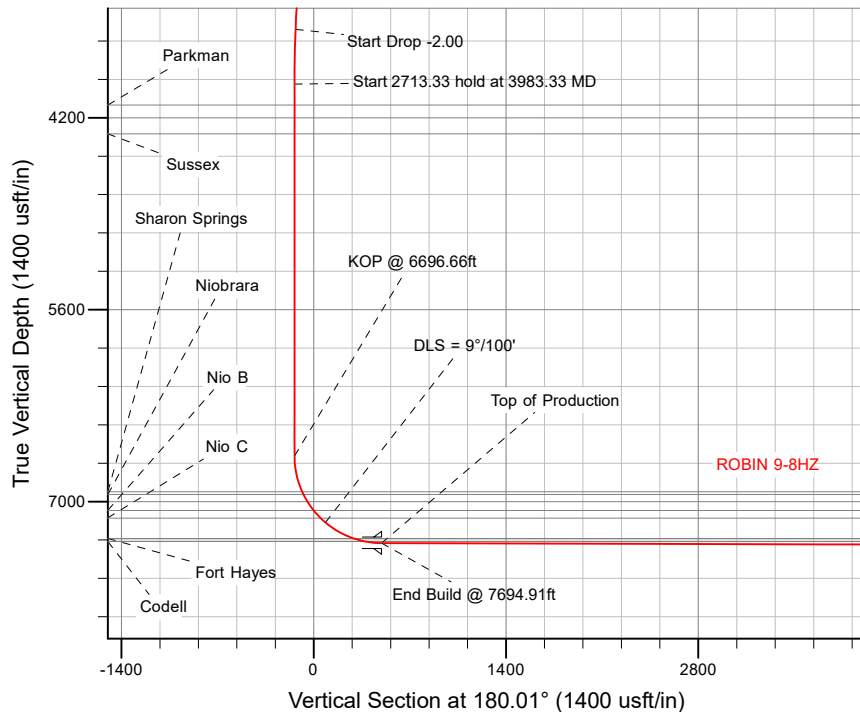
US ROCKIES WATTENBERG PLANNING

SECTION DETAILS

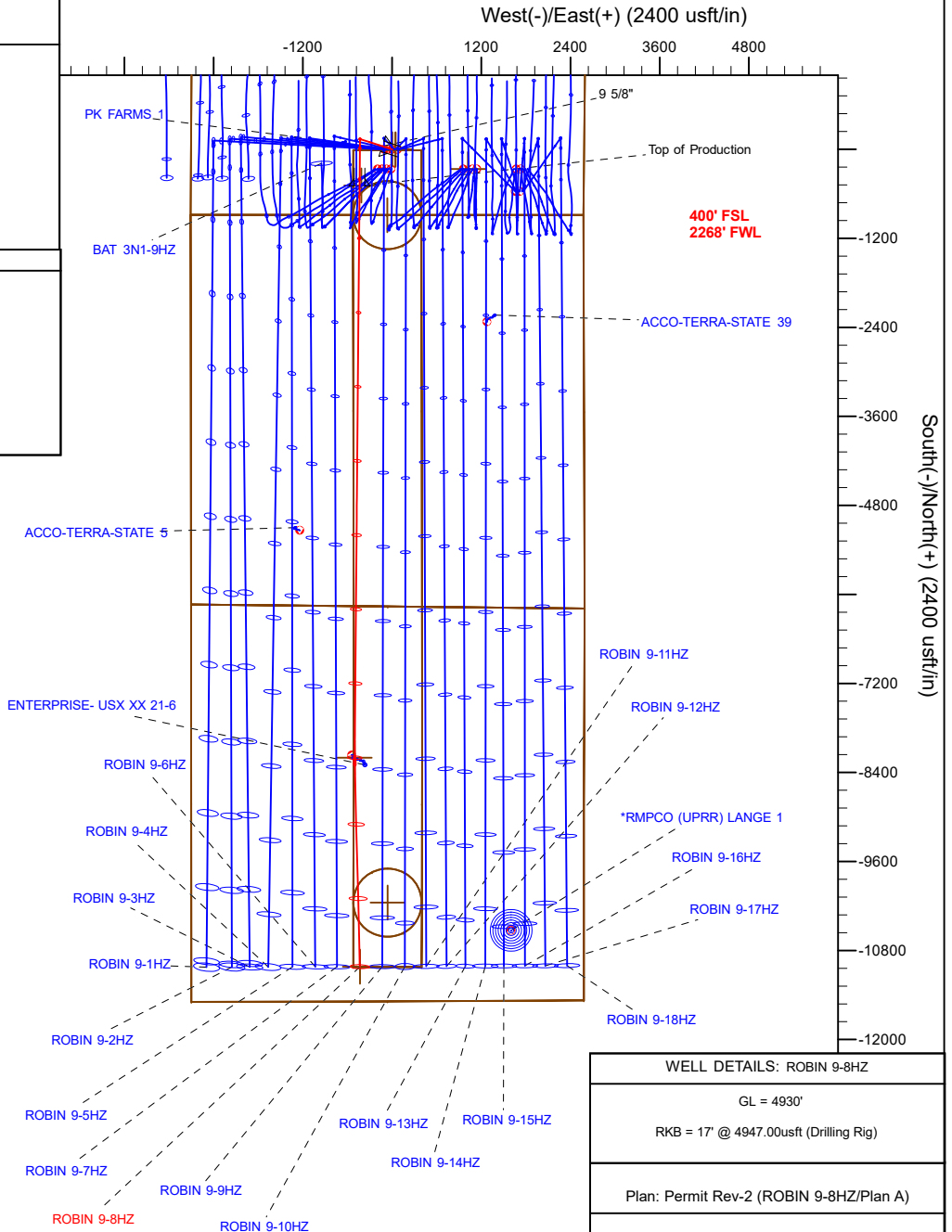
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	250.00	0.00	0.00	250.00	0.00	0.00	0.00	0.00	0.00	
3	783.33	8.00	288.00	781.60	11.49	-35.35	1.50	288.00	-11.48	
4	3583.33	8.00	288.00	3554.35	131.91	-405.97	0.00	0.00	-131.84	
5	3983.33	0.00	0.00	3953.05	140.52	-432.48	2.00	180.00	-140.45	
6	6696.66	0.00	0.00	6666.38	140.52	-432.48	0.00	0.00	-140.45	
7	7694.91	89.84	180.49	7303.00	-494.32	-437.87	9.00	180.49	494.40	
8	15400.31	89.84	180.49	7324.24	-8199.41	-503.31	0.00	0.00	8199.50	ROBIN 9-8HZ_TGT
9	15497.18	89.84	178.55	7324.51	-8296.28	-502.49	2.00	-90.00	8296.37	
10	18218.47	89.84	178.55	7332.00	-11016.68	-433.59	0.00	0.00	11016.76	ROBIN 9-8HZ_BHL

WELLBORE TARGET DETAILS (LAT/LONG)

Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
ROBIN 9-8HZ_SHL	0.00	0.00	0.00	40.061169	-104.668812	Point
ROBIN 9-8HZ_BHL	7332.00	-11016.68	-433.59	40.030916	-104.670360	Point



468' FSL
2267' FWL



WELL DETAILS: ROBIN 9-8HZ

GL = 4930'

RKB = 17' @ 4947.00usft (Drilling Rig)

Plan: Permit Rev-2 (ROBIN 9-8HZ/Plan A)

Date: 3/23/2017

Corporate Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well ROBIN 9-8HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB = 17' @ 4947.00usft (Drilling Rig)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 4947.00usft (Drilling Rig)
Site:	1N-65W-09 Robin 1 Pad	North Reference:	True
Well:	ROBIN 9-8HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	Permit Rev-2		

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 1 Pad			
Site Position:		Northing:	14,549,180.70 usft	Latitude:	40.061172
From:	Lat/Long	Easting:	1,732,933.64 usft	Longitude:	-104.669348
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.21 °

Well	ROBIN 9-8HZ					
Well Position	+N/-S	-1.04 usft	Northing:	14,549,180.21 usft	Latitude:	40.061170
	+E/-W	149.95 usft	Easting:	1,733,083.59 usft	Longitude:	-104.668812
Position Uncertainty		3.28 usft	Wellhead Elevation:		Ground Level:	4,930.00 usft

Wellbore	Plan A				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	3/12/2017	8.01	66.59	52,358.36567644

Design	Permit Rev-2				
Audit Notes:					
Version:		Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	7,332.00	0.00	0.00	180.01	

Plan Survey Tool Program	Date	3/23/2017			
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks	
1	0.00	1,500.00	Permit Rev-2 (Plan A)	APC_ISCWSA REV 2 MWD+I Fixed:v2:crustal field declinatio	
2	1,500.00	18,218.47	Permit Rev-2 (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' @ 4947.00usft (Drilling Rig)
Site:	1N-65W-09 Robin 1 Pad	North Reference:	True
Well:	ROBIN 9-8HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	Permit Rev-2		

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	
783.33	8.00	288.00	781.60	11.49	-35.35	1.50	1.50	0.00	288.00	
3,583.33	8.00	288.00	3,554.35	131.91	-405.97	0.00	0.00	0.00	0.00	
3,983.33	0.00	0.00	3,953.05	140.52	-432.48	2.00	-2.00	0.00	180.00	
6,696.66	0.00	0.00	6,666.38	140.52	-432.48	0.00	0.00	0.00	0.00	
7,694.91	89.84	180.49	7,303.00	-494.32	-437.87	9.00	9.00	-17.98	180.49	
15,400.31	89.84	180.49	7,324.24	-8,199.41	-503.31	0.00	0.00	0.00	0.00	ROBIN 9-8HZ_TGT
15,497.18	89.84	178.55	7,324.51	-8,296.28	-502.49	2.00	0.00	-2.00	-90.00	
18,218.47	89.84	178.55	7,332.00	-11,016.68	-433.59	0.00	0.00	0.00	0.00	ROBIN 9-8HZ_BHL

Corporate Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well ROBIN 9-8HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB = 17' @ 4947.00usft (Drilling Rig)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 4947.00usft (Drilling Rig)
Site:	1N-65W-09 Robin 1 Pad	North Reference:	True
Well:	ROBIN 9-8HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	Permit Rev-2		

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	288.00	300.00	0.10	-0.31	-0.10	1.50	1.50	0.00
400.00	2.25	288.00	399.96	0.91	-2.80	-0.91	1.50	1.50	0.00
500.00	3.75	288.00	499.82	2.53	-7.78	-2.53	1.50	1.50	0.00
600.00	5.25	288.00	599.51	4.95	-15.24	-4.95	1.50	1.50	0.00
700.00	6.75	288.00	698.96	8.18	-25.18	-8.18	1.50	1.50	0.00
783.33	8.00	288.00	781.60	11.49	-35.35	-11.48	1.50	1.50	0.00
Start 2800.00 hold at 783.33 MD									
783.74	8.00	288.00	782.00	11.50	-35.41	-11.50	0.00	0.00	0.00
Fox Hills									
800.00	8.00	288.00	798.11	12.20	-37.56	-12.20	0.00	0.00	0.00
900.00	8.00	288.00	897.13	16.50	-50.80	-16.50	0.00	0.00	0.00
1,000.00	8.00	288.00	996.16	20.81	-64.03	-20.79	0.00	0.00	0.00
1,100.00	8.00	288.00	1,095.19	25.11	-77.27	-25.09	0.00	0.00	0.00
1,200.00	8.00	288.00	1,194.21	29.41	-90.50	-29.39	0.00	0.00	0.00
1,300.00	8.00	288.00	1,293.24	33.71	-103.74	-33.69	0.00	0.00	0.00
1,400.00	8.00	288.00	1,392.27	38.01	-116.98	-37.99	0.00	0.00	0.00
1,500.00	8.00	288.00	1,491.29	42.31	-130.21	-42.29	0.00	0.00	0.00
1,508.79	8.00	288.00	1,500.00	42.69	-131.38	-42.66	0.00	0.00	0.00
9 5/8"									
1,600.00	8.00	288.00	1,590.32	46.61	-143.45	-46.58	0.00	0.00	0.00
1,700.00	8.00	288.00	1,689.35	50.91	-156.69	-50.88	0.00	0.00	0.00
1,800.00	8.00	288.00	1,788.37	55.21	-169.92	-55.18	0.00	0.00	0.00
1,900.00	8.00	288.00	1,887.40	59.51	-183.16	-59.48	0.00	0.00	0.00
2,000.00	8.00	288.00	1,986.43	63.81	-196.39	-63.78	0.00	0.00	0.00
2,100.00	8.00	288.00	2,085.46	68.11	-209.63	-68.08	0.00	0.00	0.00
2,200.00	8.00	288.00	2,184.48	72.41	-222.87	-72.37	0.00	0.00	0.00
2,300.00	8.00	288.00	2,283.51	76.71	-236.10	-76.67	0.00	0.00	0.00
2,400.00	8.00	288.00	2,382.54	81.01	-249.34	-80.97	0.00	0.00	0.00
2,500.00	8.00	288.00	2,481.56	85.32	-262.57	-85.27	0.00	0.00	0.00
2,600.00	8.00	288.00	2,580.59	89.62	-275.81	-89.57	0.00	0.00	0.00
2,700.00	8.00	288.00	2,679.62	93.92	-289.05	-93.87	0.00	0.00	0.00
2,800.00	8.00	288.00	2,778.64	98.22	-302.28	-98.16	0.00	0.00	0.00
2,900.00	8.00	288.00	2,877.67	102.52	-315.52	-102.46	0.00	0.00	0.00
3,000.00	8.00	288.00	2,976.70	106.82	-328.76	-106.76	0.00	0.00	0.00
3,100.00	8.00	288.00	3,075.72	111.12	-341.99	-111.06	0.00	0.00	0.00
3,200.00	8.00	288.00	3,174.75	115.42	-355.23	-115.36	0.00	0.00	0.00
3,300.00	8.00	288.00	3,273.78	119.72	-368.46	-119.66	0.00	0.00	0.00
3,400.00	8.00	288.00	3,372.80	124.02	-381.70	-123.96	0.00	0.00	0.00
3,500.00	8.00	288.00	3,471.83	128.32	-394.94	-128.25	0.00	0.00	0.00
3,583.33	8.00	288.00	3,554.35	131.91	-405.97	-131.84	0.00	0.00	0.00
Start Drop -2.00									
3,600.00	7.67	288.00	3,570.86	132.61	-408.13	-132.54	2.00	-2.00	0.00
3,700.00	5.67	288.00	3,670.18	136.20	-419.17	-136.12	2.00	-2.00	0.00
3,800.00	3.67	288.00	3,769.85	138.71	-426.90	-138.64	2.00	-2.00	0.00
3,900.00	1.67	288.00	3,869.73	140.15	-431.33	-140.07	2.00	-2.00	0.00
3,983.33	0.00	0.00	3,953.05	140.52	-432.48	-140.45	2.00	-2.00	0.00
Start 2713.33 hold at 3983.33 MD									
4,000.00	0.00	0.00	3,969.72	140.52	-432.48	-140.45	0.00	0.00	0.00

Corporate
Planning Report

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Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB = 17' @ 4947.00usft (Drilling Rig)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 4947.00usft (Drilling Rig)
Site:	1N-65W-09 Robin 1 Pad	North Reference:	True
Well:	ROBIN 9-8HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	Permit Rev-2		

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)
4,100.00	0.00	0.00	4,069.72	140.52	-432.48	-140.45	0.00	0.00	0.00
4,137.28	0.00	0.00	4,107.00	140.52	-432.48	-140.45	0.00	0.00	0.00
Parkman									
4,200.00	0.00	0.00	4,169.72	140.52	-432.48	-140.45	0.00	0.00	0.00
4,300.00	0.00	0.00	4,269.72	140.52	-432.48	-140.45	0.00	0.00	0.00
4,348.28	0.00	0.00	4,318.00	140.52	-432.48	-140.45	0.00	0.00	0.00
Sussex									
4,400.00	0.00	0.00	4,369.72	140.52	-432.48	-140.45	0.00	0.00	0.00
4,500.00	0.00	0.00	4,469.72	140.52	-432.48	-140.45	0.00	0.00	0.00
4,600.00	0.00	0.00	4,569.72	140.52	-432.48	-140.45	0.00	0.00	0.00
4,700.00	0.00	0.00	4,669.72	140.52	-432.48	-140.45	0.00	0.00	0.00
4,800.00	0.00	0.00	4,769.72	140.52	-432.48	-140.45	0.00	0.00	0.00
4,900.00	0.00	0.00	4,869.72	140.52	-432.48	-140.45	0.00	0.00	0.00
5,000.00	0.00	0.00	4,969.72	140.52	-432.48	-140.45	0.00	0.00	0.00
5,100.00	0.00	0.00	5,069.72	140.52	-432.48	-140.45	0.00	0.00	0.00
5,200.00	0.00	0.00	5,169.72	140.52	-432.48	-140.45	0.00	0.00	0.00
5,300.00	0.00	0.00	5,269.72	140.52	-432.48	-140.45	0.00	0.00	0.00
5,400.00	0.00	0.00	5,369.72	140.52	-432.48	-140.45	0.00	0.00	0.00
5,500.00	0.00	0.00	5,469.72	140.52	-432.48	-140.45	0.00	0.00	0.00
5,600.00	0.00	0.00	5,569.72	140.52	-432.48	-140.45	0.00	0.00	0.00
5,700.00	0.00	0.00	5,669.72	140.52	-432.48	-140.45	0.00	0.00	0.00
5,800.00	0.00	0.00	5,769.72	140.52	-432.48	-140.45	0.00	0.00	0.00
5,900.00	0.00	0.00	5,869.72	140.52	-432.48	-140.45	0.00	0.00	0.00
6,000.00	0.00	0.00	5,969.72	140.52	-432.48	-140.45	0.00	0.00	0.00
6,100.00	0.00	0.00	6,069.72	140.52	-432.48	-140.45	0.00	0.00	0.00
6,200.00	0.00	0.00	6,169.72	140.52	-432.48	-140.45	0.00	0.00	0.00
6,300.00	0.00	0.00	6,269.72	140.52	-432.48	-140.45	0.00	0.00	0.00
6,400.00	0.00	0.00	6,369.72	140.52	-432.48	-140.45	0.00	0.00	0.00
6,500.00	0.00	0.00	6,469.72	140.52	-432.48	-140.45	0.00	0.00	0.00
6,600.00	0.00	0.00	6,569.72	140.52	-432.48	-140.45	0.00	0.00	0.00
6,696.66	0.00	0.00	6,666.38	140.52	-432.48	-140.45	0.00	0.00	0.00
KOP @ 6696.66ft									
6,700.00	0.30	180.49	6,669.72	140.51	-432.48	-140.44	9.00	9.00	0.00
6,800.00	9.30	180.49	6,769.27	132.15	-432.55	-132.08	9.00	9.00	0.00
6,900.00	18.30	180.49	6,866.28	108.33	-432.75	-108.25	9.00	9.00	0.00
6,967.36	24.36	180.49	6,929.00	83.83	-432.96	-83.76	9.00	9.00	0.00
Sharon Springs									
6,988.38	26.25	180.49	6,948.00	74.85	-433.04	-74.77	9.00	9.00	0.00
Niobrara									
7,000.00	27.30	180.49	6,958.37	69.61	-433.08	-69.54	9.00	9.00	0.00
7,100.00	36.30	180.49	7,043.27	16.97	-433.53	-16.90	9.00	9.00	0.00
7,126.12	38.65	180.49	7,064.00	1.09	-433.67	-1.01	9.00	9.00	0.00
Nio B									
7,200.00	45.30	180.49	7,118.90	-48.30	-434.09	48.37	9.00	9.00	0.00
7,201.57	45.44	180.49	7,120.00	-49.42	-434.09	49.49	9.00	9.00	0.00
Nio C									
7,250.00	49.80	180.49	7,152.63	-85.18	-434.40	85.26	9.00	9.00	0.00
DLS = 9°/100'									
7,300.00	54.30	180.49	7,183.37	-124.60	-434.73	124.67	9.00	9.00	0.00
7,400.00	63.30	180.49	7,235.12	-210.04	-435.46	210.12	9.00	9.00	0.00
7,487.65	71.19	180.49	7,269.00	-290.80	-436.14	290.88	9.00	9.00	0.00
Fort Hayes									
7,500.00	72.30	180.49	7,272.87	-302.53	-436.24	302.61	9.00	9.00	0.00

Corporate Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well ROBIN 9-8HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB = 17' @ 4947.00usft (Drilling Rig)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 4947.00usft (Drilling Rig)
Site:	1N-65W-09 Robin 1 Pad	North Reference:	True
Well:	ROBIN 9-8HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	Permit Rev-2		

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)
7,572.84	78.86	180.49	7,291.00	-373.04	-436.84	373.11	9.00	9.00	0.00
Codell									
7,600.00	81.30	180.49	7,295.68	-399.79	-437.07	399.86	9.00	9.00	0.00
7,694.91	89.84	180.49	7,303.00	-494.32	-437.87	494.40	9.00	9.00	0.00
End Build @ 7694.91ft - Top of Production									
7,700.00	89.84	180.49	7,303.02	-499.41	-437.92	499.49	0.00	0.00	0.00
7,800.00	89.84	180.49	7,303.29	-599.41	-438.77	599.48	0.00	0.00	0.00
7,900.00	89.84	180.49	7,303.57	-699.40	-439.61	699.48	0.00	0.00	0.00
8,000.00	89.84	180.49	7,303.84	-799.40	-440.46	799.48	0.00	0.00	0.00
8,100.00	89.84	180.49	7,304.12	-899.40	-441.31	899.47	0.00	0.00	0.00
8,200.00	89.84	180.49	7,304.39	-999.39	-442.16	999.47	0.00	0.00	0.00
8,300.00	89.84	180.49	7,304.67	-1,099.39	-443.01	1,099.47	0.00	0.00	0.00
8,400.00	89.84	180.49	7,304.95	-1,199.38	-443.86	1,199.46	0.00	0.00	0.00
8,500.00	89.84	180.49	7,305.22	-1,299.38	-444.71	1,299.46	0.00	0.00	0.00
8,600.00	89.84	180.49	7,305.50	-1,399.38	-445.56	1,399.45	0.00	0.00	0.00
8,700.00	89.84	180.49	7,305.77	-1,499.37	-446.41	1,499.45	0.00	0.00	0.00
8,800.00	89.84	180.49	7,306.05	-1,599.37	-447.26	1,599.45	0.00	0.00	0.00
8,900.00	89.84	180.49	7,306.32	-1,699.36	-448.11	1,699.44	0.00	0.00	0.00
9,000.00	89.84	180.49	7,306.60	-1,799.36	-448.96	1,799.44	0.00	0.00	0.00
9,100.00	89.84	180.49	7,306.87	-1,899.36	-449.81	1,899.43	0.00	0.00	0.00
9,200.00	89.84	180.49	7,307.15	-1,999.35	-450.65	1,999.43	0.00	0.00	0.00
9,300.00	89.84	180.49	7,307.43	-2,099.35	-451.50	2,099.43	0.00	0.00	0.00
9,400.00	89.84	180.49	7,307.70	-2,199.34	-452.35	2,199.42	0.00	0.00	0.00
9,500.00	89.84	180.49	7,307.98	-2,299.34	-453.20	2,299.42	0.00	0.00	0.00
9,600.00	89.84	180.49	7,308.25	-2,399.34	-454.05	2,399.42	0.00	0.00	0.00
9,700.00	89.84	180.49	7,308.53	-2,499.33	-454.90	2,499.41	0.00	0.00	0.00
9,800.00	89.84	180.49	7,308.80	-2,599.33	-455.75	2,599.41	0.00	0.00	0.00
9,900.00	89.84	180.49	7,309.08	-2,699.32	-456.60	2,699.40	0.00	0.00	0.00
10,000.00	89.84	180.49	7,309.36	-2,799.32	-457.45	2,799.40	0.00	0.00	0.00
10,100.00	89.84	180.49	7,309.63	-2,899.32	-458.30	2,899.40	0.00	0.00	0.00
10,200.00	89.84	180.49	7,309.91	-2,999.31	-459.15	2,999.39	0.00	0.00	0.00
10,300.00	89.84	180.49	7,310.18	-3,099.31	-460.00	3,099.39	0.00	0.00	0.00
10,400.00	89.84	180.49	7,310.46	-3,199.30	-460.85	3,199.38	0.00	0.00	0.00
10,500.00	89.84	180.49	7,310.73	-3,299.30	-461.69	3,299.38	0.00	0.00	0.00
10,600.00	89.84	180.49	7,311.01	-3,399.30	-462.54	3,399.38	0.00	0.00	0.00
10,700.00	89.84	180.49	7,311.28	-3,499.29	-463.39	3,499.37	0.00	0.00	0.00
10,800.00	89.84	180.49	7,311.56	-3,599.29	-464.24	3,599.37	0.00	0.00	0.00
10,900.00	89.84	180.49	7,311.84	-3,699.28	-465.09	3,699.37	0.00	0.00	0.00
11,000.00	89.84	180.49	7,312.11	-3,799.28	-465.94	3,799.36	0.00	0.00	0.00
11,100.00	89.84	180.49	7,312.39	-3,899.28	-466.79	3,899.36	0.00	0.00	0.00
11,200.00	89.84	180.49	7,312.66	-3,999.27	-467.64	3,999.35	0.00	0.00	0.00
11,300.00	89.84	180.49	7,312.94	-4,099.27	-468.49	4,099.35	0.00	0.00	0.00
11,400.00	89.84	180.49	7,313.21	-4,199.26	-469.34	4,199.35	0.00	0.00	0.00
11,500.00	89.84	180.49	7,313.49	-4,299.26	-470.19	4,299.34	0.00	0.00	0.00
11,600.00	89.84	180.49	7,313.77	-4,399.26	-471.04	4,399.34	0.00	0.00	0.00
11,700.00	89.84	180.49	7,314.04	-4,499.25	-471.89	4,499.33	0.00	0.00	0.00
11,800.00	89.84	180.49	7,314.32	-4,599.25	-472.73	4,599.33	0.00	0.00	0.00
11,900.00	89.84	180.49	7,314.59	-4,699.24	-473.58	4,699.33	0.00	0.00	0.00
12,000.00	89.84	180.49	7,314.87	-4,799.24	-474.43	4,799.32	0.00	0.00	0.00
12,100.00	89.84	180.49	7,315.14	-4,899.24	-475.28	4,899.32	0.00	0.00	0.00
12,200.00	89.84	180.49	7,315.42	-4,999.23	-476.13	4,999.32	0.00	0.00	0.00
12,300.00	89.84	180.49	7,315.69	-5,099.23	-476.98	5,099.31	0.00	0.00	0.00
12,400.00	89.84	180.49	7,315.97	-5,199.22	-477.83	5,199.31	0.00	0.00	0.00
12,500.00	89.84	180.49	7,316.25	-5,299.22	-478.68	5,299.30	0.00	0.00	0.00

Corporate Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well ROBIN 9-8HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB = 17' @ 4947.00usft (Drilling Rig)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 4947.00usft (Drilling Rig)
Site:	1N-65W-09 Robin 1 Pad	North Reference:	True
Well:	ROBIN 9-8HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	Permit Rev-2		

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)	
12,600.00	89.84	180.49	7,316.52	-5,399.22	-479.53	5,399.30	0.00	0.00	0.00	
12,700.00	89.84	180.49	7,316.80	-5,499.21	-480.38	5,499.30	0.00	0.00	0.00	
12,800.00	89.84	180.49	7,317.07	-5,599.21	-481.23	5,599.29	0.00	0.00	0.00	
12,900.00	89.84	180.49	7,317.35	-5,699.20	-482.08	5,699.29	0.00	0.00	0.00	
13,000.00	89.84	180.49	7,317.62	-5,799.20	-482.93	5,799.28	0.00	0.00	0.00	
13,100.00	89.84	180.49	7,317.90	-5,899.20	-483.77	5,899.28	0.00	0.00	0.00	
13,200.00	89.84	180.49	7,318.18	-5,999.19	-484.62	5,999.28	0.00	0.00	0.00	
13,300.00	89.84	180.49	7,318.45	-6,099.19	-485.47	6,099.27	0.00	0.00	0.00	
13,400.00	89.84	180.49	7,318.73	-6,199.18	-486.32	6,199.27	0.00	0.00	0.00	
13,500.00	89.84	180.49	7,319.00	-6,299.18	-487.17	6,299.27	0.00	0.00	0.00	
13,600.00	89.84	180.49	7,319.28	-6,399.18	-488.02	6,399.26	0.00	0.00	0.00	
13,700.00	89.84	180.49	7,319.55	-6,499.17	-488.87	6,499.26	0.00	0.00	0.00	
13,800.00	89.84	180.49	7,319.83	-6,599.17	-489.72	6,599.25	0.00	0.00	0.00	
13,900.00	89.84	180.49	7,320.10	-6,699.16	-490.57	6,699.25	0.00	0.00	0.00	
14,000.00	89.84	180.49	7,320.38	-6,799.16	-491.42	6,799.25	0.00	0.00	0.00	
14,100.00	89.84	180.49	7,320.66	-6,899.16	-492.27	6,899.24	0.00	0.00	0.00	
14,200.00	89.84	180.49	7,320.93	-6,999.15	-493.12	6,999.24	0.00	0.00	0.00	
14,300.00	89.84	180.49	7,321.21	-7,099.15	-493.97	7,099.23	0.00	0.00	0.00	
14,400.00	89.84	180.49	7,321.48	-7,199.14	-494.82	7,199.23	0.00	0.00	0.00	
14,500.00	89.84	180.49	7,321.76	-7,299.14	-495.66	7,299.23	0.00	0.00	0.00	
14,600.00	89.84	180.49	7,322.03	-7,399.14	-496.51	7,399.22	0.00	0.00	0.00	
14,700.00	89.84	180.49	7,322.31	-7,499.13	-497.36	7,499.22	0.00	0.00	0.00	
14,800.00	89.84	180.49	7,322.59	-7,599.13	-498.21	7,599.22	0.00	0.00	0.00	
14,900.00	89.84	180.49	7,322.86	-7,699.12	-499.06	7,699.21	0.00	0.00	0.00	
15,000.00	89.84	180.49	7,323.14	-7,799.12	-499.91	7,799.21	0.00	0.00	0.00	
15,100.00	89.84	180.49	7,323.41	-7,899.12	-500.76	7,899.20	0.00	0.00	0.00	
15,200.00	89.84	180.49	7,323.69	-7,999.11	-501.61	7,999.20	0.00	0.00	0.00	
15,300.00	89.84	180.49	7,323.96	-8,099.11	-502.46	8,099.20	0.00	0.00	0.00	
15,400.00	89.84	180.49	7,324.24	-8,199.10	-503.31	8,199.19	0.00	0.00	0.00	
15,400.31	89.84	180.49	7,324.24	-8,199.41	-503.31	8,199.50	0.00	0.00	0.00	
Begin Turn to BHL @ 15400.31ft										
15,497.18	89.84	178.55	7,324.51	-8,296.28	-502.49	8,296.36	2.00	0.00	-2.00	
End Turn @ 15497.18ft										
15,500.00	89.84	178.55	7,324.51	-8,299.10	-502.42	8,299.18	0.00	0.00	0.00	
15,600.00	89.84	178.55	7,324.79	-8,399.06	-499.89	8,399.15	0.00	0.00	0.00	
15,700.00	89.84	178.55	7,325.07	-8,499.03	-497.36	8,499.12	0.00	0.00	0.00	
15,800.00	89.84	178.55	7,325.34	-8,599.00	-494.83	8,599.08	0.00	0.00	0.00	
15,900.00	89.84	178.55	7,325.62	-8,698.97	-492.29	8,699.05	0.00	0.00	0.00	
16,000.00	89.84	178.55	7,325.89	-8,798.93	-489.76	8,799.02	0.00	0.00	0.00	
16,100.00	89.84	178.55	7,326.17	-8,898.90	-487.23	8,898.99	0.00	0.00	0.00	
16,200.00	89.84	178.55	7,326.44	-8,998.87	-484.70	8,998.95	0.00	0.00	0.00	
16,300.00	89.84	178.55	7,326.72	-9,098.84	-482.17	9,098.92	0.00	0.00	0.00	
16,400.00	89.84	178.55	7,326.99	-9,198.80	-479.63	9,198.89	0.00	0.00	0.00	
16,500.00	89.84	178.55	7,327.27	-9,298.77	-477.10	9,298.85	0.00	0.00	0.00	
16,600.00	89.84	178.55	7,327.54	-9,398.74	-474.57	9,398.82	0.00	0.00	0.00	
16,700.00	89.84	178.55	7,327.82	-9,498.71	-472.04	9,498.79	0.00	0.00	0.00	
16,800.00	89.84	178.55	7,328.09	-9,598.67	-469.50	9,598.76	0.00	0.00	0.00	
16,900.00	89.84	178.55	7,328.37	-9,698.64	-466.97	9,698.72	0.00	0.00	0.00	
17,000.00	89.84	178.55	7,328.65	-9,798.61	-464.44	9,798.69	0.00	0.00	0.00	
17,100.00	89.84	178.55	7,328.92	-9,898.58	-461.91	9,898.66	0.00	0.00	0.00	
17,200.00	89.84	178.55	7,329.20	-9,998.54	-459.38	9,998.62	0.00	0.00	0.00	
17,300.00	89.84	178.55	7,329.47	-10,098.51	-456.84	10,098.59	0.00	0.00	0.00	
17,400.00	89.84	178.55	7,329.75	-10,198.48	-454.31	10,198.56	0.00	0.00	0.00	
17,500.00	89.84	178.55	7,330.02	-10,298.45	-451.78	10,298.53	0.00	0.00	0.00	

Corporate Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well ROBIN 9-8HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB = 17' @ 4947.00usft (Drilling Rig)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB = 17' @ 4947.00usft (Drilling Rig)
Site:	1N-65W-09 Robin 1 Pad	North Reference:	True
Well:	ROBIN 9-8HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	Permit Rev-2		

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)
17,600.00	89.84	178.55	7,330.30	-10,398.41	-449.25	10,398.49	0.00	0.00	0.00
17,700.00	89.84	178.55	7,330.57	-10,498.38	-446.71	10,498.46	0.00	0.00	0.00
17,800.00	89.84	178.55	7,330.85	-10,598.35	-444.18	10,598.43	0.00	0.00	0.00
17,900.00	89.84	178.55	7,331.12	-10,698.32	-441.65	10,698.39	0.00	0.00	0.00
18,000.00	89.84	178.55	7,331.40	-10,798.28	-439.12	10,798.36	0.00	0.00	0.00
18,100.00	89.84	178.55	7,331.67	-10,898.25	-436.59	10,898.33	0.00	0.00	0.00
18,200.00	89.84	178.55	7,331.95	-10,998.22	-434.05	10,998.30	0.00	0.00	0.00
18,218.47	89.84	178.55	7,332.00	-11,016.68	-433.59	11,016.76	0.00	0.00	0.00
TD Well @ 18218.47ft									

Casing Points				
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
1,508.79	1,500.00	9 5/8"	9-5/8	13-1/2
7,694.91	7,303.00	Top of Production	5-1/2	7-7/8

Formations					
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
783.74	782.00	Fox Hills			
4,137.28	4,107.00	Parkman			
4,348.28	4,318.00	Sussex			
6,967.36	6,929.00	Sharon Springs			
6,988.38	6,948.00	Niobrara			
7,126.12	7,064.00	Nio B			
7,201.57	7,120.00	Nio C			
7,487.65	7,269.00	Fort Hayes			
7,572.84	7,291.00	Codell			

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
783.33	781.60	11.49	-35.35	Start 2800.00 hold at 783.33 MD
3,583.33	3,554.35	131.91	-405.97	Start Drop -2.00
3,983.33	3,953.05	140.52	-432.48	Start 2713.33 hold at 3983.33 MD
6,696.66	6,666.38	140.52	-432.48	KOP @ 6696.66ft
7,250.00	7,152.63	-85.18	-434.40	DLS = 9°/100'
7,694.91	7,303.00	-494.32	-437.87	End Build @ 7694.91ft
15,400.31	7,324.24	-8,199.41	-503.31	Begin Turn to BHL @ 15400.31ft
15,497.18	7,324.51	-8,296.28	-502.49	End Turn @ 15497.18ft
18,218.47	7,332.00	-11,016.68	-433.59	TD Well @ 18218.47ft