

US ROCKIES WATTENBERG PLANNING

**WELD-NAD83-UTMFT13N
3N-65W-29 RW 15-29HZ Pad
RW 36N-32HZ**

Plan A

Plan: Permit Rev-1

Standard Planning Report

12 December, 2016



Azimuths to True North
Magnetic North: 8.06°

Magnetic Field
Strength: 52452.7snT
Dip Angle: 66.70°
Date: 12/6/2016
Model: IGRF2010

SITE: 3N-65W-29 RW 15-29HZ Pad

Well: RW 36N-32HZ
Wellbore: Plan A
Design: Permit Rev-1

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
1202.00	1209.65	Fox Hills Mkr
3918.00	3965.87	Parkman
4611.00	4667.78	Sussex
6877.00	6981.54	Sharon Springs
6944.00	7083.20	Niobrara
6987.00	7161.83	Nio B
7056.00	7356.06	Nio C

WELL DETAILS: RW 36N-32HZ

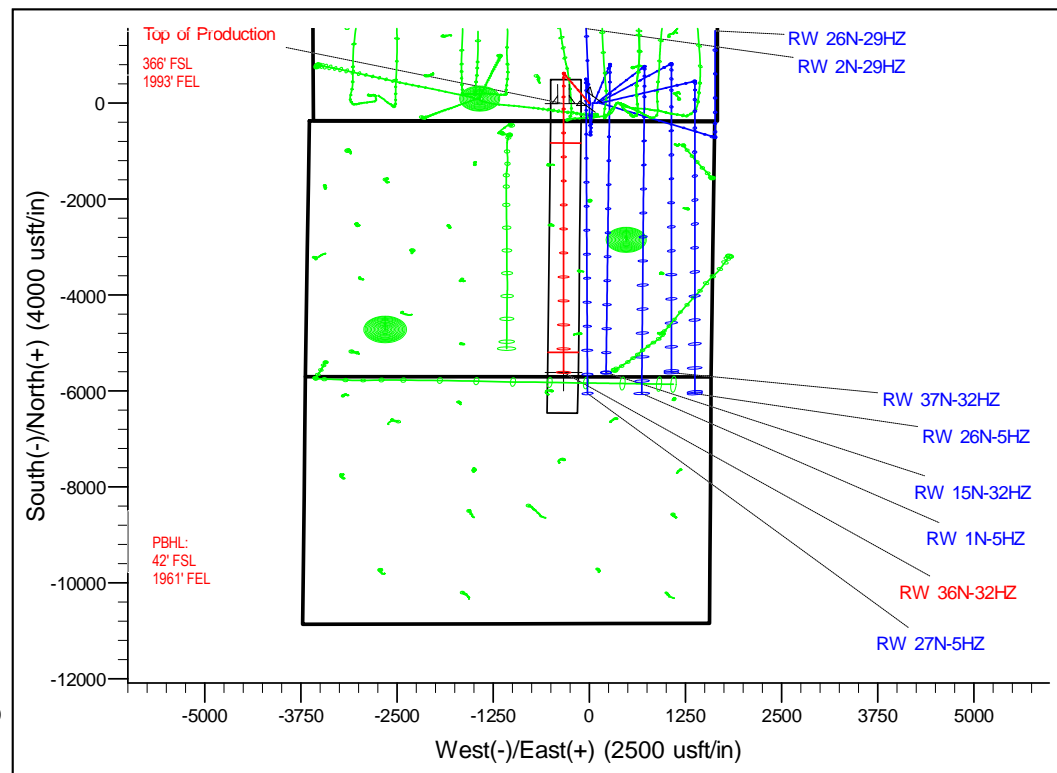
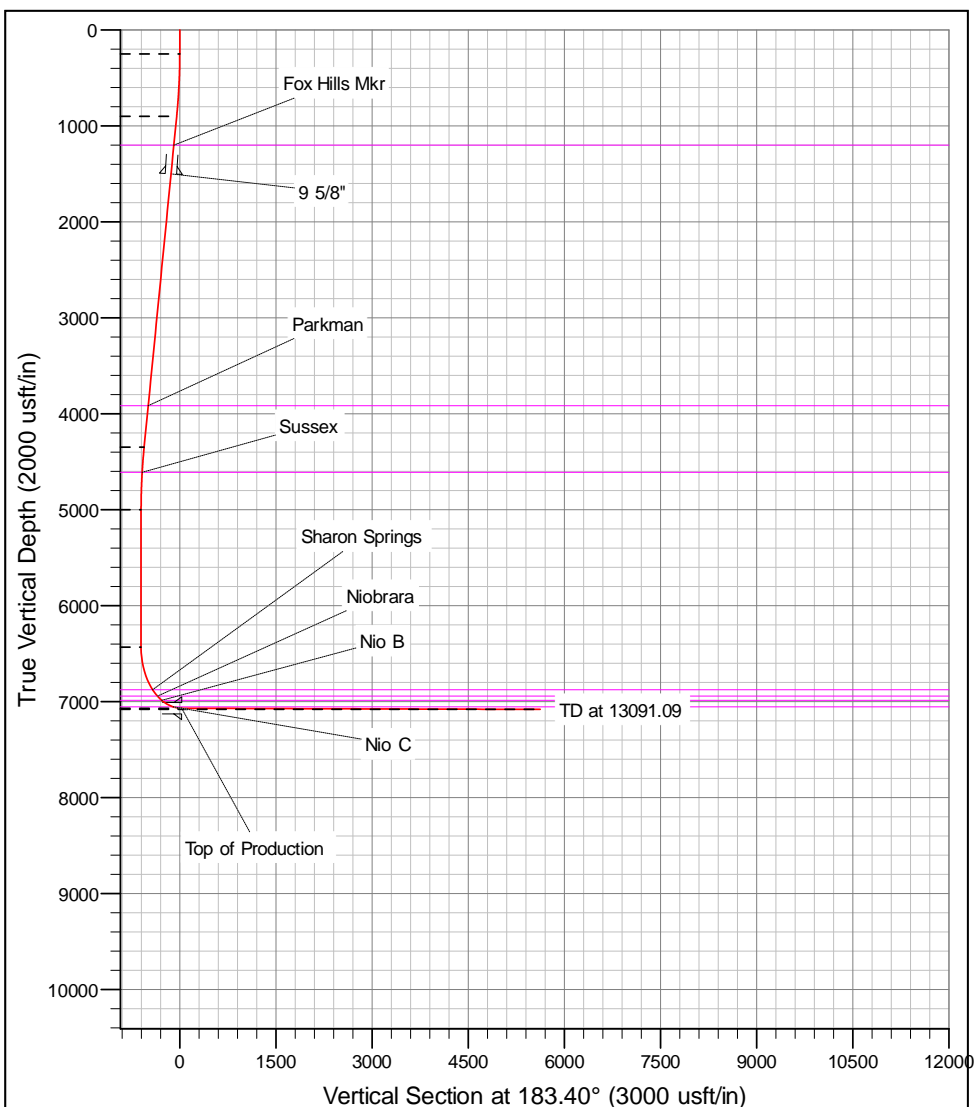
+N/-S	+E/-W	GL: 4867.00 Northing	RKB @ 4884.00usft (D Rig) Easting	Latitude	Longitude	Slot
0.00	0.00	14596148.74	1728701.18	40.190193	-104.683877	

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	VSect
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
903.37	9.80	331.90	900.19	49.17	-26.26	1.50	-47.53
4404.08	9.80	331.90	4349.81	574.83	-306.91	0.00	-555.63
5057.45	0.00	0.00	5000.00	624.00	-333.17	1.50	-603.16
6491.10	0.00	0.00	6433.65	624.00	-333.17	0.00	-603.16
7489.77	89.88	180.00	7070.27	-11.29	-333.17	9.00	31.01
13091.09	89.88	180.00	7082.00	-5612.59	-333.17	0.00	5622.47

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
RW 36N-32HZ_PBHL	7082.00	-5612.59	-333.17	14590535.00	1728388.00	40.174780	-104.685070



Corporate Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well RW 36N-32HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB @ 4884.00usft (D Rig)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB @ 4884.00usft (D Rig)
Site:	3N-65W-29 RW 15-29HZ Pad	North Reference:	True
Well:	RW 36N-32HZ	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						3N-65W-29 RW 15-29HZ Pad											
Site Position:						Northing:			14,596,148.74 usft			Latitude:			40.190193		
From:			Lat/Long			Easting:			1,728,701.18 usft			Longitude:			-104.683877		
Position Uncertainty:			0.00 usft			Slot Radius:			13-3/16 "			Grid Convergence:			0.20		

Well	RW 36N-32HZ					
Well Position	+N/-S	0.00 usft	Northing:	14,596,148.74 usft	Latitude:	40.190193
	+E/-W	0.00 usft	Easting:	1,728,701.18 usft	Longitude:	-104.683877
Position Uncertainty		3.28 usft	Wellhead Elevation:		Ground Level:	4,867.00 usft

Wellbore	Plan A				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	12/6/2016	8.07	66.70	52,452.70917366

Design	Permit Rev-1			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	183.40

Plan Survey Tool Program	Date	12/12/2016		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	13,091.09	Permit Rev-1 (Plan A)	APC_ISCWSA REV 2 MWI Fixed:v2:crustal field declinat

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	
903.37	9.80	331.90	900.19	49.17	-26.26	1.50	1.50	0.00	331.90	
4,404.08	9.80	331.90	4,349.81	574.83	-306.91	0.00	0.00	0.00	0.00	
5,057.45	0.00	0.00	5,000.00	624.00	-333.17	1.50	-1.50	0.00	180.00	
6,491.10	0.00	0.00	6,433.65	624.00	-333.17	0.00	0.00	0.00	0.00	
7,489.77	89.88	180.00	7,070.27	-11.29	-333.17	9.00	9.00	0.00	180.00	
13,091.09	89.88	180.00	7,082.00	-5,612.59	-333.17	0.00	0.00	0.00	0.00	RW 36N-32HZ_PBI

Corporate Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well RW 36N-32HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB @ 4884.00usft (D Rig)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB @ 4884.00usft (D Rig)
Site:	3N-65W-29 RW 15-29HZ Pad	North Reference:	True
Well:	RW 36N-32HZ	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
300.00	0.75	331.90	300.00	0.29	-0.15	-0.28	1.50	1.50	0.00
400.00	2.25	331.90	399.96	2.60	-1.39	-2.51	1.50	1.50	0.00
500.00	3.75	331.90	499.82	7.21	-3.85	-6.97	1.50	1.50	0.00
600.00	5.25	331.90	599.51	14.14	-7.55	-13.66	1.50	1.50	0.00
700.00	6.75	331.90	698.96	23.36	-12.47	-22.58	1.50	1.50	0.00
800.00	8.25	331.90	798.10	34.87	-18.62	-33.71	1.50	1.50	0.00
900.00	9.75	331.90	896.87	48.67	-25.99	-47.04	1.50	1.50	0.00
903.37	9.80	331.90	900.19	49.17	-26.26	-47.53	1.50	1.50	0.00
1,000.00	9.80	331.90	995.41	63.68	-34.00	-61.56	0.00	0.00	0.00
1,100.00	9.80	331.90	1,093.95	78.70	-42.02	-76.07	0.00	0.00	0.00
1,200.00	9.80	331.90	1,192.49	93.71	-50.04	-90.58	0.00	0.00	0.00
1,209.65	9.80	331.90	1,202.00	95.16	-50.81	-91.99	0.00	0.00	0.00
Fox Hills Mkr									
1,300.00	9.80	331.90	1,291.03	108.73	-58.05	-105.10	0.00	0.00	0.00
1,400.00	9.80	331.90	1,389.57	123.75	-66.07	-119.61	0.00	0.00	0.00
1,500.00	9.80	331.90	1,488.11	138.76	-74.09	-134.13	0.00	0.00	0.00
1,512.06	9.80	331.90	1,500.00	140.57	-75.06	-135.88	0.00	0.00	0.00
9 5/8"									
1,600.00	9.80	331.90	1,586.65	153.78	-82.11	-148.64	0.00	0.00	0.00
1,700.00	9.80	331.90	1,685.19	168.79	-90.12	-163.16	0.00	0.00	0.00
1,800.00	9.80	331.90	1,783.73	183.81	-98.14	-177.67	0.00	0.00	0.00
1,900.00	9.80	331.90	1,882.27	198.82	-106.16	-192.18	0.00	0.00	0.00
2,000.00	9.80	331.90	1,980.81	213.84	-114.17	-206.70	0.00	0.00	0.00
2,100.00	9.80	331.90	2,079.36	228.85	-122.19	-221.21	0.00	0.00	0.00
2,200.00	9.80	331.90	2,177.90	243.87	-130.21	-235.73	0.00	0.00	0.00
2,300.00	9.80	331.90	2,276.44	258.89	-138.23	-250.24	0.00	0.00	0.00
2,400.00	9.80	331.90	2,374.98	273.90	-146.24	-264.75	0.00	0.00	0.00
2,500.00	9.80	331.90	2,473.52	288.92	-154.26	-279.27	0.00	0.00	0.00
2,600.00	9.80	331.90	2,572.06	303.93	-162.28	-293.78	0.00	0.00	0.00
2,700.00	9.80	331.90	2,670.60	318.95	-170.29	-308.30	0.00	0.00	0.00
2,800.00	9.80	331.90	2,769.14	333.96	-178.31	-322.81	0.00	0.00	0.00
2,900.00	9.80	331.90	2,867.68	348.98	-186.33	-337.33	0.00	0.00	0.00
3,000.00	9.80	331.90	2,966.22	364.00	-194.35	-351.84	0.00	0.00	0.00
3,100.00	9.80	331.90	3,064.76	379.01	-202.36	-366.35	0.00	0.00	0.00
3,200.00	9.80	331.90	3,163.30	394.03	-210.38	-380.87	0.00	0.00	0.00
3,300.00	9.80	331.90	3,261.84	409.04	-218.40	-395.38	0.00	0.00	0.00
3,400.00	9.80	331.90	3,360.38	424.06	-226.42	-409.90	0.00	0.00	0.00
3,500.00	9.80	331.90	3,458.92	439.07	-234.43	-424.41	0.00	0.00	0.00
3,600.00	9.80	331.90	3,557.46	454.09	-242.45	-438.92	0.00	0.00	0.00
3,700.00	9.80	331.90	3,656.01	469.10	-250.47	-453.44	0.00	0.00	0.00
3,800.00	9.80	331.90	3,754.55	484.12	-258.48	-467.95	0.00	0.00	0.00
3,900.00	9.80	331.90	3,853.09	499.14	-266.50	-482.47	0.00	0.00	0.00
3,965.87	9.80	331.90	3,918.00	509.03	-271.78	-492.03	0.00	0.00	0.00
Parkman									
4,000.00	9.80	331.90	3,951.63	514.15	-274.52	-496.98	0.00	0.00	0.00
4,100.00	9.80	331.90	4,050.17	529.17	-282.54	-511.49	0.00	0.00	0.00
4,200.00	9.80	331.90	4,148.71	544.18	-290.55	-526.01	0.00	0.00	0.00
4,300.00	9.80	331.90	4,247.25	559.20	-298.57	-540.52	0.00	0.00	0.00
4,400.00	9.80	331.90	4,345.79	574.21	-306.59	-555.04	0.00	0.00	0.00

Corporate Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well RW 36N-32HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB @ 4884.00usft (D Rig)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB @ 4884.00usft (D Rig)
Site:	3N-65W-29 RW 15-29HZ Pad	North Reference:	True
Well:	RW 36N-32HZ	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)
4,404.08	9.80	331.90	4,349.81	574.83	-306.91	-555.63	0.00	0.00	0.00
4,500.00	8.36	331.90	4,444.53	588.18	-314.05	-568.54	1.50	-1.50	0.00
4,600.00	6.86	331.90	4,543.64	599.87	-320.28	-579.83	1.50	-1.50	0.00
4,667.78	5.85	331.90	4,611.00	606.48	-323.82	-586.23	1.50	-1.50	0.00
Sussex									
4,700.00	5.36	331.90	4,643.07	609.26	-325.30	-588.91	1.50	-1.50	0.00
4,800.00	3.86	331.90	4,742.74	616.35	-329.09	-595.77	1.50	-1.50	0.00
4,900.00	2.36	331.90	4,842.59	621.14	-331.64	-600.39	1.50	-1.50	0.00
5,000.00	0.86	331.90	4,942.55	623.62	-332.97	-602.79	1.50	-1.50	0.00
5,057.45	0.00	0.00	5,000.00	624.00	-333.17	-603.16	1.50	-1.50	0.00
5,100.00	0.00	0.00	5,042.55	624.00	-333.17	-603.16	0.00	0.00	0.00
5,200.00	0.00	0.00	5,142.55	624.00	-333.17	-603.16	0.00	0.00	0.00
5,300.00	0.00	0.00	5,242.55	624.00	-333.17	-603.16	0.00	0.00	0.00
5,400.00	0.00	0.00	5,342.55	624.00	-333.17	-603.16	0.00	0.00	0.00
5,500.00	0.00	0.00	5,442.55	624.00	-333.17	-603.16	0.00	0.00	0.00
5,600.00	0.00	0.00	5,542.55	624.00	-333.17	-603.16	0.00	0.00	0.00
5,700.00	0.00	0.00	5,642.55	624.00	-333.17	-603.16	0.00	0.00	0.00
5,800.00	0.00	0.00	5,742.55	624.00	-333.17	-603.16	0.00	0.00	0.00
5,900.00	0.00	0.00	5,842.55	624.00	-333.17	-603.16	0.00	0.00	0.00
6,000.00	0.00	0.00	5,942.55	624.00	-333.17	-603.16	0.00	0.00	0.00
6,100.00	0.00	0.00	6,042.55	624.00	-333.17	-603.16	0.00	0.00	0.00
6,200.00	0.00	0.00	6,142.55	624.00	-333.17	-603.16	0.00	0.00	0.00
6,300.00	0.00	0.00	6,242.55	624.00	-333.17	-603.16	0.00	0.00	0.00
6,400.00	0.00	0.00	6,342.55	624.00	-333.17	-603.16	0.00	0.00	0.00
6,491.10	0.00	0.00	6,433.65	624.00	-333.17	-603.16	0.00	0.00	0.00
6,500.00	0.80	180.00	6,442.55	623.94	-333.17	-603.10	9.00	9.00	0.00
6,600.00	9.80	180.00	6,542.02	614.71	-333.17	-593.89	9.00	9.00	0.00
6,700.00	18.80	180.00	6,638.82	590.03	-333.17	-569.25	9.00	9.00	0.00
6,800.00	27.80	180.00	6,730.57	550.52	-333.17	-529.81	9.00	9.00	0.00
6,900.00	36.80	180.00	6,815.01	497.14	-333.17	-476.52	9.00	9.00	0.00
6,981.54	44.14	180.00	6,877.00	444.25	-333.17	-423.72	9.00	9.00	0.00
Sharon Springs									
7,000.00	45.80	180.00	6,890.06	431.20	-333.17	-410.70	9.00	9.00	0.00
7,083.20	53.29	180.00	6,944.00	367.94	-333.17	-347.55	9.00	9.00	0.00
Niobrara									
7,100.00	54.80	180.00	6,953.87	354.34	-333.17	-333.98	9.00	9.00	0.00
7,161.83	60.37	180.00	6,987.00	302.16	-333.17	-281.89	9.00	9.00	0.00
Nio B									
7,200.00	63.80	180.00	7,004.87	268.44	-333.17	-248.23	9.00	9.00	0.00
7,300.00	72.80	180.00	7,041.80	175.62	-333.17	-155.57	9.00	9.00	0.00
7,356.06	77.85	180.00	7,056.00	121.42	-333.17	-101.46	9.00	9.00	0.00
Nio C									
7,400.00	81.80	180.00	7,063.76	78.17	-333.17	-58.29	9.00	9.00	0.00
7,489.77	89.88	180.00	7,070.27	-11.29	-333.17	31.01	9.00	9.00	0.00
Top of Production - RW 36N-32HZ_PHL									
7,500.00	89.88	180.00	7,070.29	-21.52	-333.17	41.22	0.00	0.00	0.00
7,600.00	89.88	180.00	7,070.50	-121.52	-333.17	141.05	0.00	0.00	0.00
7,700.00	89.88	180.00	7,070.71	-221.52	-333.17	240.87	0.00	0.00	0.00
7,800.00	89.88	180.00	7,070.92	-321.52	-333.17	340.69	0.00	0.00	0.00
7,900.00	89.88	180.00	7,071.13	-421.52	-333.17	440.52	0.00	0.00	0.00
8,000.00	89.88	180.00	7,071.34	-521.52	-333.17	540.34	0.00	0.00	0.00
8,100.00	89.88	180.00	7,071.55	-621.52	-333.17	640.17	0.00	0.00	0.00
8,200.00	89.88	180.00	7,071.76	-721.52	-333.17	739.99	0.00	0.00	0.00

Corporate Planning Report

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Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB @ 4884.00usft (D Rig)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB @ 4884.00usft (D Rig)
Site:	3N-65W-29 RW 15-29HZ Pad	North Reference:	True
Well:	RW 36N-32HZ	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)	
8,300.00	89.88	180.00	7,071.97	-821.52	-333.17	839.82	0.00	0.00	0.00	
8,400.00	89.88	180.00	7,072.18	-921.52	-333.17	939.64	0.00	0.00	0.00	
8,500.00	89.88	180.00	7,072.38	-1,021.52	-333.17	1,039.46	0.00	0.00	0.00	
8,600.00	89.88	180.00	7,072.59	-1,121.52	-333.17	1,139.29	0.00	0.00	0.00	
8,700.00	89.88	180.00	7,072.80	-1,221.52	-333.17	1,239.11	0.00	0.00	0.00	
8,800.00	89.88	180.00	7,073.01	-1,321.52	-333.17	1,338.94	0.00	0.00	0.00	
8,900.00	89.88	180.00	7,073.22	-1,421.52	-333.17	1,438.76	0.00	0.00	0.00	
9,000.00	89.88	180.00	7,073.43	-1,521.52	-333.17	1,538.58	0.00	0.00	0.00	
9,100.00	89.88	180.00	7,073.64	-1,621.51	-333.17	1,638.41	0.00	0.00	0.00	
9,200.00	89.88	180.00	7,073.85	-1,721.51	-333.17	1,738.23	0.00	0.00	0.00	
9,300.00	89.88	180.00	7,074.06	-1,821.51	-333.17	1,838.06	0.00	0.00	0.00	
9,400.00	89.88	180.00	7,074.27	-1,921.51	-333.17	1,937.88	0.00	0.00	0.00	
9,500.00	89.88	180.00	7,074.48	-2,021.51	-333.17	2,037.70	0.00	0.00	0.00	
9,600.00	89.88	180.00	7,074.69	-2,121.51	-333.17	2,137.53	0.00	0.00	0.00	
9,700.00	89.88	180.00	7,074.90	-2,221.51	-333.17	2,237.35	0.00	0.00	0.00	
9,800.00	89.88	180.00	7,075.11	-2,321.51	-333.17	2,337.18	0.00	0.00	0.00	
9,900.00	89.88	180.00	7,075.32	-2,421.51	-333.17	2,437.00	0.00	0.00	0.00	
10,000.00	89.88	180.00	7,075.53	-2,521.51	-333.17	2,536.82	0.00	0.00	0.00	
10,100.00	89.88	180.00	7,075.74	-2,621.51	-333.17	2,636.65	0.00	0.00	0.00	
10,200.00	89.88	180.00	7,075.95	-2,721.51	-333.17	2,736.47	0.00	0.00	0.00	
10,300.00	89.88	180.00	7,076.15	-2,821.51	-333.17	2,836.30	0.00	0.00	0.00	
10,400.00	89.88	180.00	7,076.36	-2,921.51	-333.17	2,936.12	0.00	0.00	0.00	
10,500.00	89.88	180.00	7,076.57	-3,021.51	-333.17	3,035.94	0.00	0.00	0.00	
10,600.00	89.88	180.00	7,076.78	-3,121.51	-333.17	3,135.77	0.00	0.00	0.00	
10,700.00	89.88	180.00	7,076.99	-3,221.51	-333.17	3,235.59	0.00	0.00	0.00	
10,800.00	89.88	180.00	7,077.20	-3,321.51	-333.17	3,335.42	0.00	0.00	0.00	
10,900.00	89.88	180.00	7,077.41	-3,421.51	-333.17	3,435.24	0.00	0.00	0.00	
11,000.00	89.88	180.00	7,077.62	-3,521.51	-333.17	3,535.06	0.00	0.00	0.00	
11,100.00	89.88	180.00	7,077.83	-3,621.51	-333.17	3,634.89	0.00	0.00	0.00	
11,200.00	89.88	180.00	7,078.04	-3,721.51	-333.17	3,734.71	0.00	0.00	0.00	
11,300.00	89.88	180.00	7,078.25	-3,821.51	-333.17	3,834.54	0.00	0.00	0.00	
11,400.00	89.88	180.00	7,078.46	-3,921.51	-333.17	3,934.36	0.00	0.00	0.00	
11,500.00	89.88	180.00	7,078.67	-4,021.51	-333.17	4,034.19	0.00	0.00	0.00	
11,600.00	89.88	180.00	7,078.88	-4,121.51	-333.17	4,134.01	0.00	0.00	0.00	
11,700.00	89.88	180.00	7,079.09	-4,221.51	-333.17	4,233.83	0.00	0.00	0.00	
11,800.00	89.88	180.00	7,079.30	-4,321.51	-333.17	4,333.66	0.00	0.00	0.00	
11,900.00	89.88	180.00	7,079.51	-4,421.51	-333.17	4,433.48	0.00	0.00	0.00	
12,000.00	89.88	180.00	7,079.71	-4,521.51	-333.17	4,533.31	0.00	0.00	0.00	
12,100.00	89.88	180.00	7,079.92	-4,621.51	-333.17	4,633.13	0.00	0.00	0.00	
12,200.00	89.88	180.00	7,080.13	-4,721.51	-333.17	4,732.95	0.00	0.00	0.00	
12,300.00	89.88	180.00	7,080.34	-4,821.51	-333.17	4,832.78	0.00	0.00	0.00	
12,400.00	89.88	180.00	7,080.55	-4,921.51	-333.17	4,932.60	0.00	0.00	0.00	
12,500.00	89.88	180.00	7,080.76	-5,021.51	-333.17	5,032.43	0.00	0.00	0.00	
12,600.00	89.88	180.00	7,080.97	-5,121.51	-333.17	5,132.25	0.00	0.00	0.00	
12,700.00	89.88	180.00	7,081.18	-5,221.51	-333.17	5,232.07	0.00	0.00	0.00	
12,800.00	89.88	180.00	7,081.39	-5,321.51	-333.17	5,331.90	0.00	0.00	0.00	
12,900.00	89.88	180.00	7,081.60	-5,421.51	-333.17	5,431.72	0.00	0.00	0.00	
13,000.00	89.88	180.00	7,081.81	-5,521.51	-333.17	5,531.55	0.00	0.00	0.00	
13,091.09	89.88	180.00	7,082.00	-5,612.59	-333.17	5,622.47	0.00	0.00	0.00	
RW 36N-32HZ_PBHL										

Corporate Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well RW 36N-32HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB @ 4884.00usft (D Rig)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB @ 4884.00usft (D Rig)
Site:	3N-65W-29 RW 15-29HZ Pad	North Reference:	True
Well:	RW 36N-32HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	Permit Rev-1		

Design Targets									
Target Name									
- hit/miss target	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- Shape	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)		
RW 36N-32HZ_PHL	0.00	0.00	7,070.27	-11.29	-333.17	14,596,136.26	1,728,368.05	40.190162	-104.685070
- plan hits target center									
- Point									
RW 36N-32HZ_PBHL	0.00	0.00	7,082.00	-5,612.59	-333.17	14,590,535.00	1,728,388.00	40.174780	-104.685070
- plan hits target center									
- Point									

Casing Points					
	Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
	1,512.06	1,500.00	9 5/8"	9-5/8	13-1/2
	7,489.77	7,070.27	Top of Production	5-1/2	8-1/2

Formations						
	Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
	1,209.65	1,202.00	Fox Hills Mkr			
	3,965.87	3,918.00	Parkman			
	4,667.78	4,611.00	Sussex			
	6,981.54	6,877.00	Sharon Springs			
	7,083.20	6,944.00	Niobrara			
	7,161.83	6,987.00	Nio B			
	7,356.06	7,056.00	Nio C			