

US ROCKIES WATTENBERG PLANNING

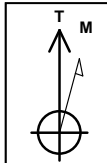
**WELD-NAD83-UTMFT13N
3N-65W-29 RW 35-29HZ Pad
RW 34N-32HZ**

Plan A

Plan: Permit Rev-1

Standard Planning Report

11 January, 2017



Azimuths to True North
Magnetic North: 8.06°

Magnetic Field
Strength: 52443.6snT
Dip Angle: 66.70°
Date: 1/4/2017
Model: IGRF2010

SITE: 3N-65W-29 RW 35-29HZ Pad

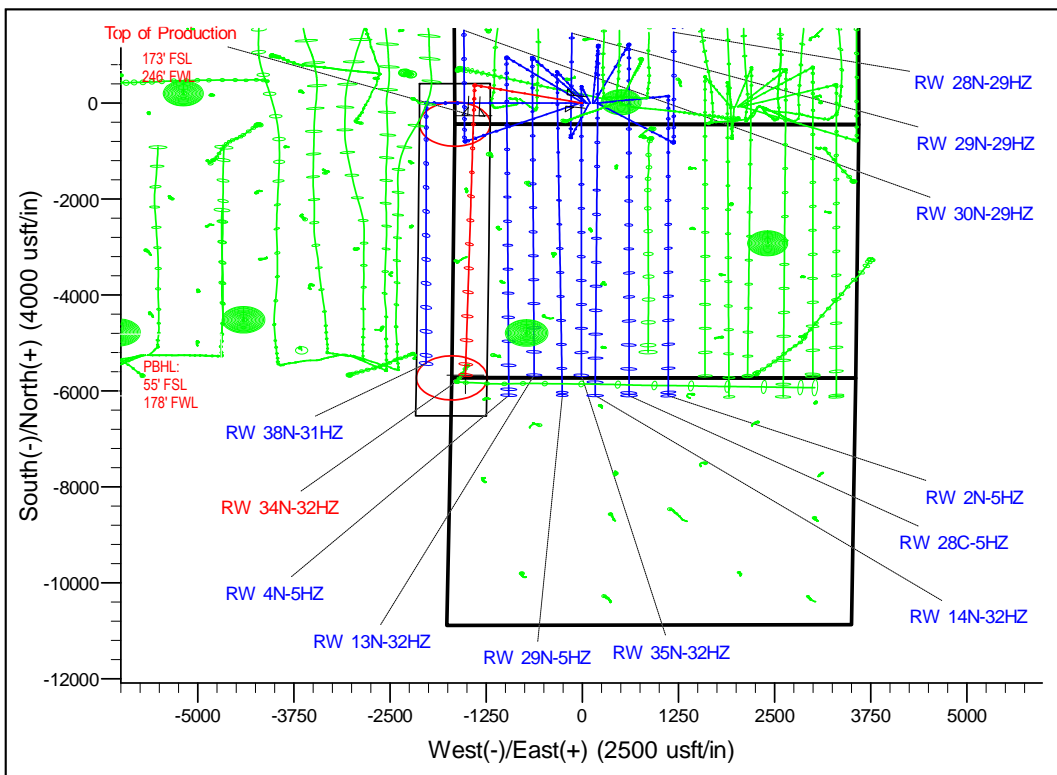
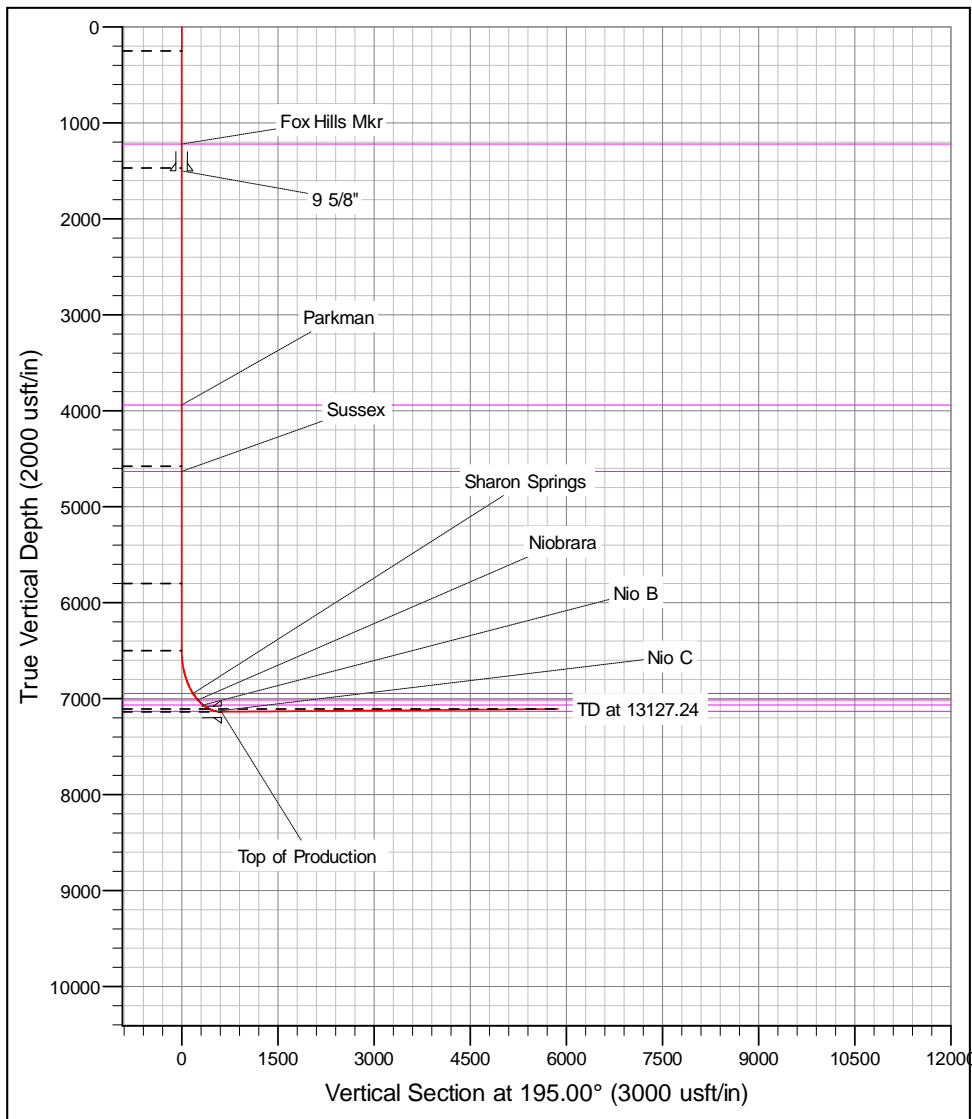
Well: RW 34N-32HZ
Wellbore: Plan A
Design: Permit Rev-1

FORMATION TOP DETAILS		
TVDPath	MDPath	Formation
1220.00	1230.74	Fox Hills Mkr
3940.00	4096.60	Parkman
4633.00	4829.85	Sussex
6947.00	7210.70	Sharon Springs
7014.00	7312.92	Niobrara
7068.00	7415.54	Nio B
7132.00	7628.10	Nio C

WELL DETAILS: RW 34N-32HZ						
+N/-S	+E/-W	GL: 4885.00	RKB @ 4902.00usft (D Rig)	Latitude	Longitude	Slot
0.00	0.00	Northing 14596214.41	Easting 1726771.15	40.190392	-104.690787	

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	0.00
250.00	0.00	0.00	250.00	0.00	0.00	0.00	0.00	0.00
1493.13	18.65	285.03	1471.30	52.01	-193.65	1.50	-0.12	
4772.68	18.65	285.03	4578.70	323.99	-1206.35	0.00	-0.75	
6015.81	0.00	0.00	5800.00	376.00	-1400.00	1.50	-0.88	
6717.45	0.00	0.00	6501.64	376.00	-1400.00	0.00	-0.88	
7720.90	90.31	181.13	7138.25	-263.94	-1412.59	9.00	620.52	
13127.24	90.31	181.13	7109.00	-5669.16	-1518.90	0.005869.11		

DESIGN TARGET DETAILS							
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
RW 34N-32HZ_PBL	7109.00	-5669.16	-1518.90	14590540.00	1725272.00	40.174824	-104.696224



Corporate Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well RW 34N-32HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB @ 4902.00usft (D Rig)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB @ 4902.00usft (D Rig)
Site:	3N-65W-29 RW 35-29HZ Pad	North Reference:	True
Well:	RW 34N-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 35-29HZ Pad				
Site Position:		Northing:	14,596,214.62 usft	Latitude:	40.190393
From:	Lat/Long	Easting:	1,726,726.18 usft	Longitude:	-104.690948
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.20 °

Well	RW 34N-32HZ					
Well Position	+N-S	-0.36 usft	Northing:	14,596,214.41 usft	Latitude:	40.190392
	+E/-W	44.96 usft	Easting:	1,726,771.15 usft	Longitude:	-104.690787
Position Uncertainty		3.28 usft	Wellhead Elevation:		Ground Level:	4,885.00 usft

Wellbore	Plan A				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	1/4/2017	8.06	66.70	52,443.63048167

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	195.00

Plan Survey Tool Program	Date	1/11/2017			
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks	
1	0.00	13,127.24	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	
1,493.13	18.65	285.03	1,471.30	52.01	-193.65	1.50	1.50	0.00	285.03	
4,772.68	18.65	285.03	4,578.70	323.99	-1,206.35	0.00	0.00	0.00	0.00	
6,015.81	0.00	0.00	5,800.00	376.00	-1,400.00	1.50	-1.50	0.00	180.00	
6,717.45	0.00	0.00	6,501.64	376.00	-1,400.00	0.00	0.00	0.00	0.00	
7,720.90	90.31	181.13	7,138.25	-263.94	-1,412.59	9.00	9.00	0.00	181.13	
13,127.24	90.31	181.13	7,109.00	-5,669.16	-1,518.90	0.00	0.00	0.00	0.00	RW 34N-32HZ_PBI

Corporate Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well RW 34N-32HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB @ 4902.00usft (D Rig)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB @ 4902.00usft (D Rig)
Site:	3N-65W-29 RW 35-29HZ Pad	North Reference:	True
Well:	RW 34N-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	285.03	300.00	0.08	-0.32	0.00	1.50	1.50	0.00
400.00	2.25	285.03	399.96	0.76	-2.84	0.00	1.50	1.50	0.00
500.00	3.75	285.03	499.82	2.12	-7.90	0.00	1.50	1.50	0.00
600.00	5.25	285.03	599.51	4.16	-15.48	-0.01	1.50	1.50	0.00
700.00	6.75	285.03	698.96	6.87	-25.57	-0.02	1.50	1.50	0.00
800.00	8.25	285.03	798.10	10.25	-38.18	-0.02	1.50	1.50	0.00
900.00	9.75	285.03	896.87	14.31	-53.28	-0.03	1.50	1.50	0.00
1,000.00	11.25	285.03	995.19	19.04	-70.88	-0.04	1.50	1.50	0.00
1,100.00	12.75	285.03	1,093.00	24.43	-90.96	-0.06	1.50	1.50	0.00
1,200.00	14.25	285.03	1,190.24	30.48	-113.51	-0.07	1.50	1.50	0.00
1,230.74	14.71	285.03	1,220.00	32.48	-120.93	-0.08	1.50	1.50	0.00
Fox Hills Mkr									
1,300.00	15.75	285.03	1,286.83	37.20	-138.50	-0.09	1.50	1.50	0.00
1,400.00	17.25	285.03	1,382.71	44.56	-165.93	-0.10	1.50	1.50	0.00
1,493.13	18.65	285.03	1,471.30	52.01	-193.65	-0.12	1.50	1.50	0.00
1,500.00	18.65	285.03	1,477.81	52.58	-195.77	-0.12	0.00	0.00	0.00
1,523.42	18.65	285.03	1,500.00	54.52	-203.00	-0.13	0.00	0.00	0.00
9 5/8"									
1,600.00	18.65	285.03	1,572.56	60.87	-226.65	-0.14	0.00	0.00	0.00
1,700.00	18.65	285.03	1,667.31	69.16	-257.53	-0.16	0.00	0.00	0.00
1,800.00	18.65	285.03	1,762.06	77.46	-288.41	-0.18	0.00	0.00	0.00
1,900.00	18.65	285.03	1,856.81	85.75	-319.29	-0.20	0.00	0.00	0.00
2,000.00	18.65	285.03	1,951.56	94.04	-350.17	-0.22	0.00	0.00	0.00
2,100.00	18.65	285.03	2,046.31	102.34	-381.04	-0.24	0.00	0.00	0.00
2,200.00	18.65	285.03	2,141.06	110.63	-411.92	-0.26	0.00	0.00	0.00
2,300.00	18.65	285.03	2,235.82	118.92	-442.80	-0.28	0.00	0.00	0.00
2,400.00	18.65	285.03	2,330.57	127.22	-473.68	-0.30	0.00	0.00	0.00
2,500.00	18.65	285.03	2,425.32	135.51	-504.56	-0.32	0.00	0.00	0.00
2,600.00	18.65	285.03	2,520.07	143.80	-535.44	-0.33	0.00	0.00	0.00
2,700.00	18.65	285.03	2,614.82	152.10	-566.32	-0.35	0.00	0.00	0.00
2,800.00	18.65	285.03	2,709.57	160.39	-597.20	-0.37	0.00	0.00	0.00
2,900.00	18.65	285.03	2,804.32	168.68	-628.08	-0.39	0.00	0.00	0.00
3,000.00	18.65	285.03	2,899.07	176.98	-658.96	-0.41	0.00	0.00	0.00
3,100.00	18.65	285.03	2,993.82	185.27	-689.84	-0.43	0.00	0.00	0.00
3,200.00	18.65	285.03	3,088.57	193.56	-720.72	-0.45	0.00	0.00	0.00
3,300.00	18.65	285.03	3,183.32	201.86	-751.60	-0.47	0.00	0.00	0.00
3,400.00	18.65	285.03	3,278.07	210.15	-782.48	-0.49	0.00	0.00	0.00
3,500.00	18.65	285.03	3,372.82	218.44	-813.36	-0.51	0.00	0.00	0.00
3,600.00	18.65	285.03	3,467.57	226.74	-844.24	-0.53	0.00	0.00	0.00
3,700.00	18.65	285.03	3,562.32	235.03	-875.11	-0.55	0.00	0.00	0.00
3,800.00	18.65	285.03	3,657.08	243.32	-905.99	-0.57	0.00	0.00	0.00
3,900.00	18.65	285.03	3,751.83	251.62	-936.87	-0.59	0.00	0.00	0.00
4,000.00	18.65	285.03	3,846.58	259.91	-967.75	-0.61	0.00	0.00	0.00
4,098.60	18.65	285.03	3,940.00	268.09	-998.20	-0.62	0.00	0.00	0.00
Parkman									
4,100.00	18.65	285.03	3,941.33	268.20	-998.63	-0.62	0.00	0.00	0.00
4,200.00	18.65	285.03	4,036.08	276.50	-1,029.51	-0.64	0.00	0.00	0.00
4,300.00	18.65	285.03	4,130.83	284.79	-1,060.39	-0.66	0.00	0.00	0.00
4,400.00	18.65	285.03	4,225.58	293.08	-1,091.27	-0.68	0.00	0.00	0.00

Corporate Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well RW 34N-32HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB @ 4902.00usft (D Rig)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB @ 4902.00usft (D Rig)
Site:	3N-65W-29 RW 35-29HZ Pad	North Reference:	True
Well:	RW 34N-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)
4,500.00	18.65	285.03	4,320.33	301.38	-1,122.15	-0.70	0.00	0.00	0.00
4,600.00	18.65	285.03	4,415.08	309.67	-1,153.03	-0.72	0.00	0.00	0.00
4,700.00	18.65	285.03	4,509.83	317.96	-1,183.91	-0.74	0.00	0.00	0.00
4,772.68	18.65	285.03	4,578.70	323.99	-1,206.35	-0.75	0.00	0.00	0.00
4,800.00	18.24	285.03	4,604.61	326.23	-1,214.70	-0.76	1.50	-1.50	0.00
4,829.85	17.79	285.03	4,633.00	328.63	-1,223.61	-0.77	1.50	-1.50	0.00
Sussex									
4,900.00	16.74	285.03	4,699.99	334.03	-1,243.72	-0.78	1.50	-1.50	0.00
5,000.00	15.24	285.03	4,796.12	341.17	-1,270.32	-0.79	1.50	-1.50	0.00
5,100.00	13.74	285.03	4,892.94	347.66	-1,294.48	-0.81	1.50	-1.50	0.00
5,200.00	12.24	285.03	4,990.37	353.49	-1,316.18	-0.82	1.50	-1.50	0.00
5,300.00	10.74	285.03	5,088.37	358.65	-1,335.41	-0.84	1.50	-1.50	0.00
5,400.00	9.24	285.03	5,186.85	363.15	-1,352.16	-0.85	1.50	-1.50	0.00
5,500.00	7.74	285.03	5,285.75	366.98	-1,366.42	-0.85	1.50	-1.50	0.00
5,600.00	6.24	285.03	5,385.01	370.14	-1,378.16	-0.86	1.50	-1.50	0.00
5,700.00	4.74	285.03	5,484.55	372.62	-1,387.40	-0.87	1.50	-1.50	0.00
5,800.00	3.24	285.03	5,584.30	374.42	-1,394.11	-0.87	1.50	-1.50	0.00
5,900.00	1.74	285.03	5,684.20	375.54	-1,398.30	-0.87	1.50	-1.50	0.00
6,000.00	0.24	285.03	5,784.19	375.99	-1,399.97	-0.88	1.50	-1.50	0.00
6,015.81	0.00	0.00	5,800.00	376.00	-1,400.00	-0.88	1.50	-1.50	0.00
6,100.00	0.00	0.00	5,884.19	376.00	-1,400.00	-0.88	0.00	0.00	0.00
6,200.00	0.00	0.00	5,984.19	376.00	-1,400.00	-0.88	0.00	0.00	0.00
6,300.00	0.00	0.00	6,084.19	376.00	-1,400.00	-0.88	0.00	0.00	0.00
6,400.00	0.00	0.00	6,184.19	376.00	-1,400.00	-0.88	0.00	0.00	0.00
6,500.00	0.00	0.00	6,284.19	376.00	-1,400.00	-0.88	0.00	0.00	0.00
6,600.00	0.00	0.00	6,384.19	376.00	-1,400.00	-0.88	0.00	0.00	0.00
6,700.00	0.00	0.00	6,484.19	376.00	-1,400.00	-0.88	0.00	0.00	0.00
6,717.45	0.00	0.00	6,501.64	376.00	-1,400.00	-0.88	0.00	0.00	0.00
6,800.00	7.43	181.13	6,583.96	370.66	-1,400.11	4.31	9.00	9.00	0.00
6,900.00	16.43	181.13	6,681.70	350.01	-1,400.51	24.36	9.00	9.00	0.00
7,000.00	25.43	181.13	6,775.00	314.33	-1,401.21	59.00	9.00	9.00	0.00
7,100.00	34.43	181.13	6,861.58	264.50	-1,402.19	107.39	9.00	9.00	0.00
7,200.00	43.43	181.13	6,939.29	201.74	-1,403.43	168.33	9.00	9.00	0.00
7,210.70	44.39	181.13	6,947.00	194.32	-1,403.57	175.54	9.00	9.00	0.00
Sharon Springs									
7,300.00	52.43	181.13	7,006.23	127.60	-1,404.89	240.32	9.00	9.00	0.00
7,312.92	53.59	181.13	7,014.00	117.28	-1,405.09	250.34	9.00	9.00	0.00
Niobrara									
7,400.00	61.43	181.13	7,060.74	43.90	-1,406.53	321.60	9.00	9.00	0.00
7,415.54	62.83	181.13	7,068.00	30.17	-1,406.80	334.93	9.00	9.00	0.00
Nio B									
7,500.00	70.43	181.13	7,101.48	-47.29	-1,408.33	410.15	9.00	9.00	0.00
7,600.00	79.43	181.13	7,127.46	-143.73	-1,410.22	503.79	9.00	9.00	0.00
7,628.10	81.96	181.13	7,132.00	-171.45	-1,410.77	530.71	9.00	9.00	0.00
Nio C									
7,700.00	88.43	181.13	7,138.02	-243.05	-1,412.18	600.23	9.00	9.00	0.00
7,720.90	90.31	181.13	7,138.25	-263.94	-1,412.59	620.52	9.00	9.00	0.00
Top of Production - RW 34N-32HZ_PHL									
7,800.00	90.31	181.13	7,137.82	-343.03	-1,414.14	697.31	0.00	0.00	0.00
7,900.00	90.31	181.13	7,137.28	-443.00	-1,416.11	794.40	0.00	0.00	0.00
8,000.00	90.31	181.13	7,136.74	-542.98	-1,418.08	891.48	0.00	0.00	0.00
8,100.00	90.31	181.13	7,136.20	-642.96	-1,420.04	988.56	0.00	0.00	0.00
8,200.00	90.31	181.13	7,135.66	-742.94	-1,422.01	1,085.64	0.00	0.00	0.00

Corporate Planning Report

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Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB @ 4902.00usft (D Rig)
Site:	3N-65W-29 RW 35-29HZ Pad	North Reference:	True
Well:	RW 34N-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	90.31	181.13	7,135.12	-842.92	-1,423.98	1,182.72	0.00	0.00	0.00	
8,400.00	90.31	181.13	7,134.58	-942.90	-1,425.94	1,279.81	0.00	0.00	0.00	
8,500.00	90.31	181.13	7,134.04	-1,042.88	-1,427.91	1,376.89	0.00	0.00	0.00	
8,600.00	90.31	181.13	7,133.49	-1,142.86	-1,429.87	1,473.97	0.00	0.00	0.00	
8,700.00	90.31	181.13	7,132.95	-1,242.84	-1,431.84	1,571.05	0.00	0.00	0.00	
8,800.00	90.31	181.13	7,132.41	-1,342.82	-1,433.81	1,668.13	0.00	0.00	0.00	
8,900.00	90.31	181.13	7,131.87	-1,442.80	-1,435.77	1,765.22	0.00	0.00	0.00	
9,000.00	90.31	181.13	7,131.33	-1,542.78	-1,437.74	1,862.30	0.00	0.00	0.00	
9,100.00	90.31	181.13	7,130.79	-1,642.76	-1,439.71	1,959.38	0.00	0.00	0.00	
9,200.00	90.31	181.13	7,130.25	-1,742.73	-1,441.67	2,056.46	0.00	0.00	0.00	
9,300.00	90.31	181.13	7,129.71	-1,842.71	-1,443.64	2,153.54	0.00	0.00	0.00	
9,400.00	90.31	181.13	7,129.17	-1,942.69	-1,445.61	2,250.63	0.00	0.00	0.00	
9,500.00	90.31	181.13	7,128.63	-2,042.67	-1,447.57	2,347.71	0.00	0.00	0.00	
9,600.00	90.31	181.13	7,128.08	-2,142.65	-1,449.54	2,444.79	0.00	0.00	0.00	
9,700.00	90.31	181.13	7,127.54	-2,242.63	-1,451.51	2,541.87	0.00	0.00	0.00	
9,800.00	90.31	181.13	7,127.00	-2,342.61	-1,453.47	2,638.95	0.00	0.00	0.00	
9,900.00	90.31	181.13	7,126.46	-2,442.59	-1,455.44	2,736.04	0.00	0.00	0.00	
10,000.00	90.31	181.13	7,125.92	-2,542.57	-1,457.41	2,833.12	0.00	0.00	0.00	
10,100.00	90.31	181.13	7,125.38	-2,642.55	-1,459.37	2,930.20	0.00	0.00	0.00	
10,200.00	90.31	181.13	7,124.84	-2,742.53	-1,461.34	3,027.28	0.00	0.00	0.00	
10,300.00	90.31	181.13	7,124.30	-2,842.51	-1,463.31	3,124.36	0.00	0.00	0.00	
10,400.00	90.31	181.13	7,123.76	-2,942.48	-1,465.27	3,221.45	0.00	0.00	0.00	
10,500.00	90.31	181.13	7,123.21	-3,042.46	-1,467.24	3,318.53	0.00	0.00	0.00	
10,600.00	90.31	181.13	7,122.67	-3,142.44	-1,469.20	3,415.61	0.00	0.00	0.00	
10,700.00	90.31	181.13	7,122.13	-3,242.42	-1,471.17	3,512.69	0.00	0.00	0.00	
10,800.00	90.31	181.13	7,121.59	-3,342.40	-1,473.14	3,609.77	0.00	0.00	0.00	
10,900.00	90.31	181.13	7,121.05	-3,442.38	-1,475.10	3,706.86	0.00	0.00	0.00	
11,000.00	90.31	181.13	7,120.51	-3,542.36	-1,477.07	3,803.94	0.00	0.00	0.00	
11,100.00	90.31	181.13	7,119.97	-3,642.34	-1,479.04	3,901.02	0.00	0.00	0.00	
11,200.00	90.31	181.13	7,119.43	-3,742.32	-1,481.00	3,998.10	0.00	0.00	0.00	
11,300.00	90.31	181.13	7,118.89	-3,842.30	-1,482.97	4,095.19	0.00	0.00	0.00	
11,400.00	90.31	181.13	7,118.35	-3,942.28	-1,484.94	4,192.27	0.00	0.00	0.00	
11,500.00	90.31	181.13	7,117.80	-4,042.26	-1,486.90	4,289.35	0.00	0.00	0.00	
11,600.00	90.31	181.13	7,117.26	-4,142.24	-1,488.87	4,386.43	0.00	0.00	0.00	
11,700.00	90.31	181.13	7,116.72	-4,242.21	-1,490.84	4,483.51	0.00	0.00	0.00	
11,800.00	90.31	181.13	7,116.18	-4,342.19	-1,492.80	4,580.60	0.00	0.00	0.00	
11,900.00	90.31	181.13	7,115.64	-4,442.17	-1,494.77	4,677.68	0.00	0.00	0.00	
12,000.00	90.31	181.13	7,115.10	-4,542.15	-1,496.74	4,774.76	0.00	0.00	0.00	
12,100.00	90.31	181.13	7,114.56	-4,642.13	-1,498.70	4,871.84	0.00	0.00	0.00	
12,200.00	90.31	181.13	7,114.02	-4,742.11	-1,500.67	4,968.92	0.00	0.00	0.00	
12,300.00	90.31	181.13	7,113.48	-4,842.09	-1,502.64	5,066.01	0.00	0.00	0.00	
12,400.00	90.31	181.13	7,112.93	-4,942.07	-1,504.60	5,163.09	0.00	0.00	0.00	
12,500.00	90.31	181.13	7,112.39	-5,042.05	-1,506.57	5,260.17	0.00	0.00	0.00	
12,600.00	90.31	181.13	7,111.85	-5,142.03	-1,508.53	5,357.25	0.00	0.00	0.00	
12,700.00	90.31	181.13	7,111.31	-5,242.01	-1,510.50	5,454.33	0.00	0.00	0.00	
12,800.00	90.31	181.13	7,110.77	-5,341.99	-1,512.47	5,551.42	0.00	0.00	0.00	
12,900.00	90.31	181.13	7,110.23	-5,441.96	-1,514.43	5,648.50	0.00	0.00	0.00	
13,000.00	90.31	181.13	7,109.69	-5,541.94	-1,516.40	5,745.58	0.00	0.00	0.00	
13,100.00	90.31	181.13	7,109.15	-5,641.92	-1,518.37	5,842.66	0.00	0.00	0.00	
13,127.24	90.31	181.13	7,109.00	-5,669.16	-1,518.90	5,869.11	0.00	0.00	0.00	
RW 34N-32HZ_PBHL										

Corporate Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well RW 34N-32HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB @ 4902.00usft (D Rig)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB @ 4902.00usft (D Rig)
Site:	3N-65W-29 RW 35-29HZ Pad	North Reference:	True
Well:	RW 34N-32HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	Plan A		
Design:	Permit Rev-1		

Design Targets									
Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)		
- Shape									
RW 34N-32HZ_PBHL - plan hits target center - Point	0.00	0.00	7,109.00	-5,669.16	-1,518.90	14,590,540.00	1,725,272.00	40.174824	-104.696225
RW 34N-32HZ_PHL - plan hits target center - Point	0.00	0.00	7,138.25	-263.94	-1,412.59	14,595,945.55	1,725,359.49	40.189667	-104.695845

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")	
1,523.42	1,500.00	9 5/8"	9-5/8	13-1/2	
7,720.90	7,138.25	Top of Production	5-1/2	8-1/2	

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
1,230.74	1,220.00	Fox Hills Mkr				
4,098.60	3,940.00	Parkman				
4,829.85	4,633.00	Sussex				
7,210.70	6,947.00	Sharon Springs				
7,312.92	7,014.00	Niobrara				
7,415.54	7,068.00	Nio B				
7,628.10	7,132.00	Nio C				