

US ROCKIES WATTENBERG PLANNING

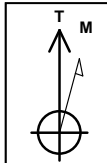
**WELD-NAD83-UTMFT13N
3N-65W-29 RW 35-29HZ Pad
RW 14N-32HZ**

Plan A

Plan: Permit Rev-1

Standard Planning Report

11 January, 2017



Azimuths to True North
Magnetic North: 8.06°

Magnetic Field
Strength: 52443.7snT
Dip Angle: 66.70°
Date: 1/4/2017
Model: IGRF2010

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

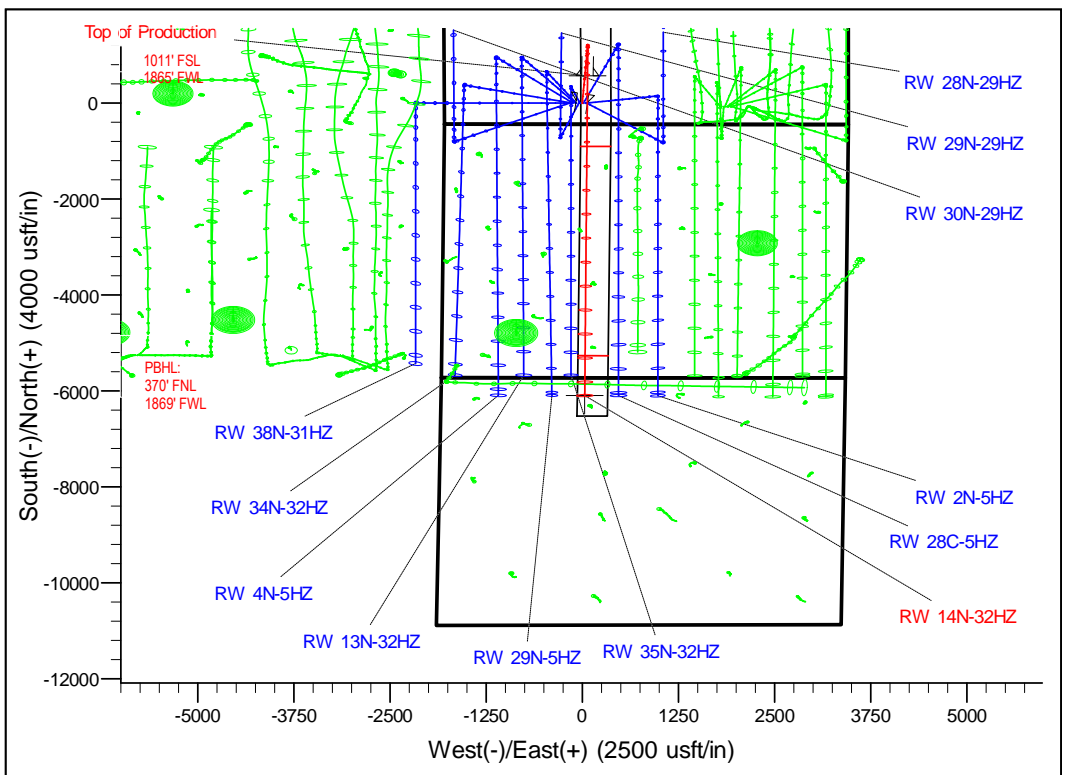
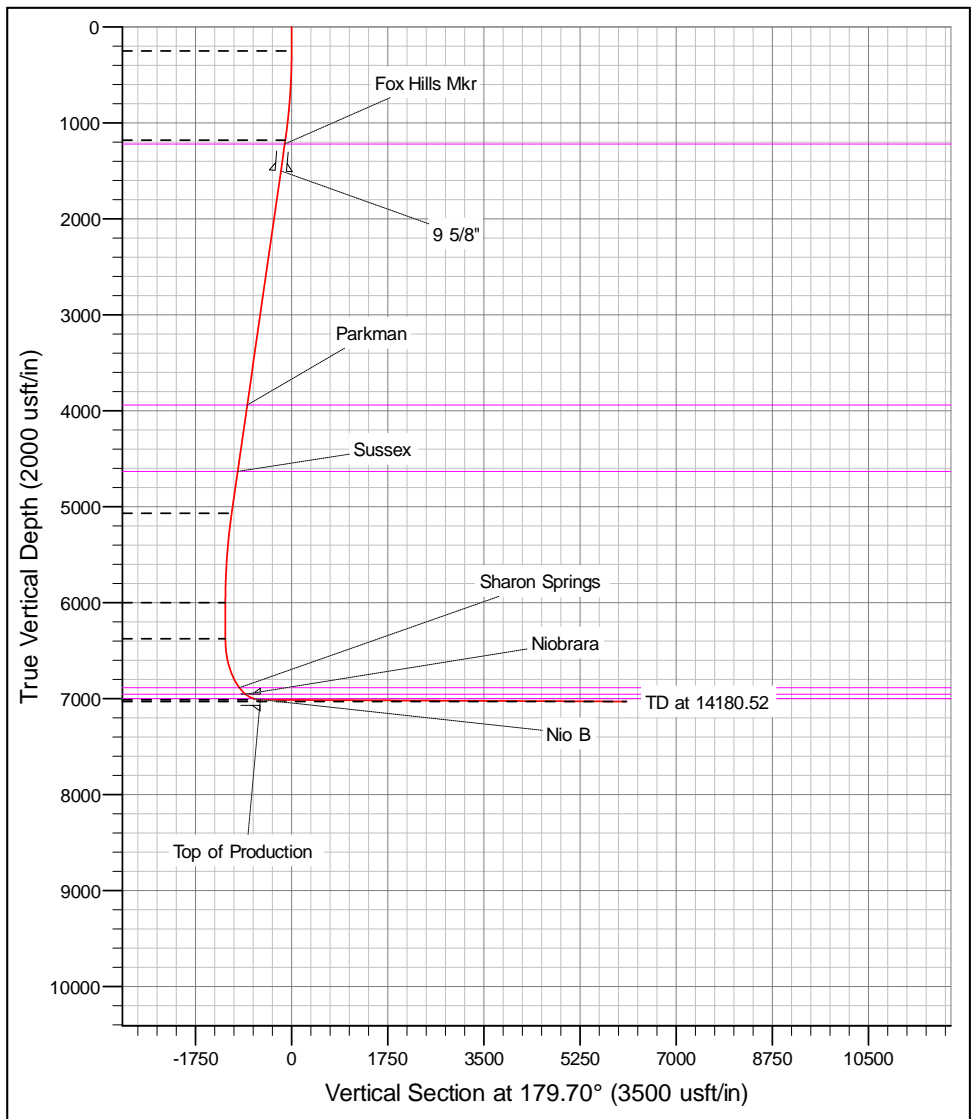
Well: RW 14N-32HZ
Wellbore: Plan A
Design: Permit Rev-1

FORMATION TOP DETAILS		
TVDPath	MDPath	Formation
1220.00	1230.69	Fox Hills Mkr
3940.00	4035.43	Parkman
4633.00	4750.02	Sussex
6887.00	7108.63	Sharon Springs
6954.00	7239.46	Niobrara
7003.00	7400.94	Nio B

WELL DETAILS: RW 14N-32HZ						
+N/-S	+E/-W	GL: 4885.00	RKB @ 4902.00usft (D Rig)	North	South	Slot
0.00	0.00	Northing	Easting	Latitude	Longitude	
		14596213.43	1726906.32	40.190388	-104.690303	

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
1191.35	14.12	3.44	1181.85	115.20	6.92	1.50	-115.16
5198.73	14.12	3.44	5068.15	1091.08	65.50	0.00	1090.71
6140.08	0.00	0.00	6000.00	1206.28	72.42	1.50	-1205.88
6517.01	0.00	0.00	6376.93	1206.28	72.42	0.00	-1205.88
7515.35	89.85	180.31	7013.55	571.34	68.94	9.00	-570.96
14180.52	89.85	180.31	7031.00	-6093.72	32.42	0.00	6093.80

DESIGN TARGET DETAILS							
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
RW 14N-32HZ_PBHL	7031.00	-6093.72	32.42	14590119.86	1726960.00	40.173654	-104.690187



Corporate Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well RW 14N-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 14N-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
From:	Lat/Long	Easting:	1,726,726.18 usft
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "
		Latitude:	40.190393
		Longitude:	-104.690948
		Grid Convergence:	0.20 °

Well	RW 14N-32HZ		
Well Position	+N-S	-1.82 usft	Northing: 14,596,213.42 usft
	+E-W	180.13 usft	Easting: 1,726,906.32 usft
Position Uncertainty		3.28 usft	Wellhead Elevation:
			Latitude: 40.190388
			Longitude: -104.690303
			Ground Level: 4,885.00 usft

Wellbore	Plan A		
Magnetics	Model Name	Sample Date	Declination (°)
	IGRF2010	1/4/2017	8.06
			Dip Angle (°)
			66.70
			Field Strength (nT)
			52,443.67760948

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)
	0.00	0.00	0.00
			Direction (°)
			179.70

Plan Survey Tool Program	Date	1/11/2017		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.00	14,180.52	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	0.00
250.00	0.00	0.00	250.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1,191.35	14.12	3.44	1,181.85	115.20	6.92	1.50	1.50	0.00	3.44	
5,198.73	14.12	3.44	5,068.15	1,091.08	65.50	0.00	0.00	0.00	0.00	
6,140.08	0.00	0.00	6,000.00	1,206.28	72.42	1.50	-1.50	0.00	180.00	
6,517.01	0.00	0.00	6,376.93	1,206.28	72.42	0.00	0.00	0.00	0.00	
7,515.35	89.85	180.31	7,013.55	571.34	68.94	9.00	9.00	0.00	180.31	
14,180.52	89.85	180.31	7,031.00	-6,093.72	32.42	0.00	0.00	0.00	0.00	RW 14N-32HZ_PBI

Corporate Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well RW 14N-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 14N-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	3.44	300.00	0.33	0.02	-0.33	1.50	1.50	0.00
400.00	2.25	3.44	399.96	2.94	0.18	-2.94	1.50	1.50	0.00
500.00	3.75	3.44	499.82	8.16	0.49	-8.16	1.50	1.50	0.00
600.00	5.25	3.44	599.51	16.00	0.96	-15.99	1.50	1.50	0.00
700.00	6.75	3.44	698.96	26.43	1.59	-26.42	1.50	1.50	0.00
800.00	8.25	3.44	798.10	39.46	2.37	-39.44	1.50	1.50	0.00
900.00	9.75	3.44	896.87	55.07	3.31	-55.05	1.50	1.50	0.00
1,000.00	11.25	3.44	995.19	73.26	4.40	-73.24	1.50	1.50	0.00
1,100.00	12.75	3.44	1,093.00	94.02	5.64	-93.98	1.50	1.50	0.00
1,191.35	14.12	3.44	1,181.85	115.20	6.92	-115.16	1.50	1.50	0.00
1,200.00	14.12	3.44	1,190.24	117.31	7.04	-117.27	0.00	0.00	0.00
1,230.69	14.12	3.44	1,220.00	124.78	7.49	-124.74	0.00	0.00	0.00
Fox Hills Mkr									
1,300.00	14.12	3.44	1,287.22	141.66	8.50	-141.61	0.00	0.00	0.00
1,400.00	14.12	3.44	1,384.20	166.01	9.97	-165.96	0.00	0.00	0.00
1,500.00	14.12	3.44	1,481.17	190.36	11.43	-190.30	0.00	0.00	0.00
1,519.41	14.12	3.44	1,500.00	195.09	11.71	-195.03	0.00	0.00	0.00
9 5/8"									
1,600.00	14.12	3.44	1,578.15	214.72	12.89	-214.64	0.00	0.00	0.00
1,700.00	14.12	3.44	1,675.13	239.07	14.35	-238.99	0.00	0.00	0.00
1,800.00	14.12	3.44	1,772.11	263.42	15.81	-263.33	0.00	0.00	0.00
1,900.00	14.12	3.44	1,869.09	287.77	17.28	-287.68	0.00	0.00	0.00
2,000.00	14.12	3.44	1,966.07	312.12	18.74	-312.02	0.00	0.00	0.00
2,100.00	14.12	3.44	2,063.05	336.48	20.20	-336.36	0.00	0.00	0.00
2,200.00	14.12	3.44	2,160.02	360.83	21.66	-360.71	0.00	0.00	0.00
2,300.00	14.12	3.44	2,257.00	385.18	23.12	-385.05	0.00	0.00	0.00
2,400.00	14.12	3.44	2,353.98	409.53	24.59	-409.40	0.00	0.00	0.00
2,500.00	14.12	3.44	2,450.96	433.88	26.05	-433.74	0.00	0.00	0.00
2,600.00	14.12	3.44	2,547.94	458.24	27.51	-458.08	0.00	0.00	0.00
2,700.00	14.12	3.44	2,644.92	482.59	28.97	-482.43	0.00	0.00	0.00
2,800.00	14.12	3.44	2,741.90	506.94	30.43	-506.77	0.00	0.00	0.00
2,900.00	14.12	3.44	2,838.87	531.29	31.90	-531.11	0.00	0.00	0.00
3,000.00	14.12	3.44	2,935.85	555.64	33.36	-555.46	0.00	0.00	0.00
3,100.00	14.12	3.44	3,032.83	580.00	34.82	-579.80	0.00	0.00	0.00
3,200.00	14.12	3.44	3,129.81	604.35	36.28	-604.15	0.00	0.00	0.00
3,300.00	14.12	3.44	3,226.79	628.70	37.74	-628.49	0.00	0.00	0.00
3,400.00	14.12	3.44	3,323.77	653.05	39.21	-652.83	0.00	0.00	0.00
3,500.00	14.12	3.44	3,420.75	677.40	40.67	-677.18	0.00	0.00	0.00
3,600.00	14.12	3.44	3,517.72	701.76	42.13	-701.52	0.00	0.00	0.00
3,700.00	14.12	3.44	3,614.70	726.11	43.59	-725.87	0.00	0.00	0.00
3,800.00	14.12	3.44	3,711.68	750.46	45.05	-750.21	0.00	0.00	0.00
3,900.00	14.12	3.44	3,808.66	774.81	46.52	-774.55	0.00	0.00	0.00
4,000.00	14.12	3.44	3,905.64	799.16	47.98	-798.90	0.00	0.00	0.00
4,035.43	14.12	3.44	3,940.00	807.79	48.50	-807.52	0.00	0.00	0.00
Parkman									
4,100.00	14.12	3.44	4,002.62	823.52	49.44	-823.24	0.00	0.00	0.00
4,200.00	14.12	3.44	4,099.60	847.87	50.90	-847.58	0.00	0.00	0.00
4,300.00	14.12	3.44	4,196.57	872.22	52.36	-871.93	0.00	0.00	0.00
4,400.00	14.12	3.44	4,293.55	896.57	53.83	-896.27	0.00	0.00	0.00

Corporate Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well RW 14N-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 14N-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	14.12	3.44	4,390.53	920.92	55.29	-920.62	0.00	0.00	0.00	
4,600.00	14.12	3.44	4,487.51	945.28	56.75	-944.96	0.00	0.00	0.00	
4,700.00	14.12	3.44	4,584.49	969.63	58.21	-969.30	0.00	0.00	0.00	
4,750.02	14.12	3.44	4,633.00	981.81	58.94	-981.48	0.00	0.00	0.00	
Sussex										
4,800.00	14.12	3.44	4,681.47	993.98	59.67	-993.65	0.00	0.00	0.00	
4,900.00	14.12	3.44	4,778.45	1,018.33	61.14	-1,017.99	0.00	0.00	0.00	
5,000.00	14.12	3.44	4,875.42	1,042.68	62.60	-1,042.34	0.00	0.00	0.00	
5,100.00	14.12	3.44	4,972.40	1,067.04	64.06	-1,066.68	0.00	0.00	0.00	
5,198.73	14.12	3.44	5,068.15	1,091.08	65.50	-1,090.71	0.00	0.00	0.00	
5,200.00	14.10	3.44	5,069.38	1,091.39	65.52	-1,091.02	1.50	-1.50	0.00	
5,300.00	12.60	3.44	5,166.68	1,114.44	66.91	-1,114.07	1.50	-1.50	0.00	
5,400.00	11.10	3.44	5,264.54	1,134.94	68.14	-1,134.56	1.50	-1.50	0.00	
5,500.00	9.60	3.44	5,362.91	1,152.87	69.21	-1,152.49	1.50	-1.50	0.00	
5,600.00	8.10	3.44	5,461.72	1,168.23	70.14	-1,167.84	1.50	-1.50	0.00	
5,700.00	6.60	3.44	5,560.89	1,181.00	70.90	-1,180.61	1.50	-1.50	0.00	
5,800.00	5.10	3.44	5,660.37	1,191.18	71.51	-1,190.78	1.50	-1.50	0.00	
5,900.00	3.60	3.44	5,760.08	1,198.75	71.97	-1,198.35	1.50	-1.50	0.00	
6,000.00	2.10	3.44	5,859.95	1,203.72	72.27	-1,203.31	1.50	-1.50	0.00	
6,100.00	0.60	3.44	5,959.92	1,206.07	72.41	-1,205.67	1.50	-1.50	0.00	
6,140.08	0.00	0.00	6,000.00	1,206.28	72.42	-1,205.88	1.50	-1.50	0.00	
6,200.00	0.00	0.00	6,059.92	1,206.28	72.42	-1,205.88	0.00	0.00	0.00	
6,300.00	0.00	0.00	6,159.92	1,206.28	72.42	-1,205.88	0.00	0.00	0.00	
6,400.00	0.00	0.00	6,259.92	1,206.28	72.42	-1,205.88	0.00	0.00	0.00	
6,500.00	0.00	0.00	6,359.92	1,206.28	72.42	-1,205.88	0.00	0.00	0.00	
6,517.01	0.00	0.00	6,376.93	1,206.28	72.42	-1,205.88	0.00	0.00	0.00	
6,600.00	7.47	180.31	6,459.69	1,200.88	72.39	-1,200.48	9.00	9.00	0.00	
6,700.00	16.47	180.31	6,557.41	1,180.16	72.28	-1,179.76	9.00	9.00	0.00	
6,800.00	25.47	180.31	6,650.69	1,144.41	72.08	-1,144.01	9.00	9.00	0.00	
6,900.00	34.47	180.31	6,737.23	1,094.51	71.81	-1,094.12	9.00	9.00	0.00	
7,000.00	43.47	180.31	6,814.90	1,031.69	71.46	-1,031.29	9.00	9.00	0.00	
7,100.00	52.47	180.31	6,881.79	957.49	71.06	-957.10	9.00	9.00	0.00	
7,108.63	53.25	180.31	6,887.00	950.61	71.02	-950.21	9.00	9.00	0.00	
Sharon Springs										
7,200.00	61.47	180.31	6,936.24	873.74	70.60	-873.35	9.00	9.00	0.00	
7,239.46	65.02	180.31	6,954.00	838.51	70.40	-838.13	9.00	9.00	0.00	
Niobrara										
7,300.00	70.47	180.31	6,976.92	782.50	70.10	-782.12	9.00	9.00	0.00	
7,400.00	79.47	180.31	7,002.83	686.02	69.57	-685.64	9.00	9.00	0.00	
7,400.94	79.55	180.31	7,003.00	685.10	69.56	-684.72	9.00	9.00	0.00	
Nio B										
7,500.00	88.47	180.31	7,013.33	586.68	69.02	-586.30	9.00	9.00	0.00	
7,515.35	89.85	180.31	7,013.55	571.33	68.94	-570.96	9.00	9.00	0.00	
Top of Production - RW 14N-32HZ_PHL										
7,600.00	89.85	180.31	7,013.77	486.68	68.48	-486.31	0.00	0.00	0.00	
7,700.00	89.85	180.31	7,014.03	386.69	67.93	-386.32	0.00	0.00	0.00	
7,800.00	89.85	180.31	7,014.30	286.69	67.38	-286.33	0.00	0.00	0.00	
7,900.00	89.85	180.31	7,014.56	186.69	66.83	-186.33	0.00	0.00	0.00	
8,000.00	89.85	180.31	7,014.82	86.69	66.29	-86.34	0.00	0.00	0.00	
8,100.00	89.85	180.31	7,015.08	-13.31	65.74	13.66	0.00	0.00	0.00	
8,200.00	89.85	180.31	7,015.34	-113.30	65.19	113.65	0.00	0.00	0.00	
8,300.00	89.85	180.31	7,015.61	-213.30	64.64	213.64	0.00	0.00	0.00	
8,400.00	89.85	180.31	7,015.87	-313.30	64.09	313.64	0.00	0.00	0.00	
8,500.00	89.85	180.31	7,016.13	-413.30	63.55	413.63	0.00	0.00	0.00	

Corporate Planning Report

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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 14N-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)
8,600.00	89.85	180.31	7,016.39	-513.30	63.00	513.63	0.00	0.00	0.00
8,700.00	89.85	180.31	7,016.65	-613.30	62.45	613.62	0.00	0.00	0.00
8,800.00	89.85	180.31	7,016.91	-713.29	61.90	713.61	0.00	0.00	0.00
8,900.00	89.85	180.31	7,017.18	-813.29	61.35	813.61	0.00	0.00	0.00
9,000.00	89.85	180.31	7,017.44	-913.29	60.81	913.60	0.00	0.00	0.00
9,100.00	89.85	180.31	7,017.70	-1,013.29	60.26	1,013.59	0.00	0.00	0.00
9,200.00	89.85	180.31	7,017.96	-1,113.29	59.71	1,113.59	0.00	0.00	0.00
9,300.00	89.85	180.31	7,018.22	-1,213.28	59.16	1,213.58	0.00	0.00	0.00
9,400.00	89.85	180.31	7,018.48	-1,313.28	58.61	1,313.58	0.00	0.00	0.00
9,500.00	89.85	180.31	7,018.75	-1,413.28	58.07	1,413.57	0.00	0.00	0.00
9,600.00	89.85	180.31	7,019.01	-1,513.28	57.52	1,513.56	0.00	0.00	0.00
9,700.00	89.85	180.31	7,019.27	-1,613.28	56.97	1,613.56	0.00	0.00	0.00
9,800.00	89.85	180.31	7,019.53	-1,713.28	56.42	1,713.55	0.00	0.00	0.00
9,900.00	89.85	180.31	7,019.79	-1,813.27	55.87	1,813.55	0.00	0.00	0.00
10,000.00	89.85	180.31	7,020.06	-1,913.27	55.33	1,913.54	0.00	0.00	0.00
10,100.00	89.85	180.31	7,020.32	-2,013.27	54.78	2,013.53	0.00	0.00	0.00
10,200.00	89.85	180.31	7,020.58	-2,113.27	54.23	2,113.53	0.00	0.00	0.00
10,300.00	89.85	180.31	7,020.84	-2,213.27	53.68	2,213.52	0.00	0.00	0.00
10,400.00	89.85	180.31	7,021.10	-2,313.26	53.13	2,313.51	0.00	0.00	0.00
10,500.00	89.85	180.31	7,021.36	-2,413.26	52.59	2,413.51	0.00	0.00	0.00
10,600.00	89.85	180.31	7,021.63	-2,513.26	52.04	2,513.50	0.00	0.00	0.00
10,700.00	89.85	180.31	7,021.89	-2,613.26	51.49	2,613.50	0.00	0.00	0.00
10,800.00	89.85	180.31	7,022.15	-2,713.26	50.94	2,713.49	0.00	0.00	0.00
10,900.00	89.85	180.31	7,022.41	-2,813.26	50.40	2,813.48	0.00	0.00	0.00
11,000.00	89.85	180.31	7,022.67	-2,913.25	49.85	2,913.48	0.00	0.00	0.00
11,100.00	89.85	180.31	7,022.94	-3,013.25	49.30	3,013.47	0.00	0.00	0.00
11,200.00	89.85	180.31	7,023.20	-3,113.25	48.75	3,113.46	0.00	0.00	0.00
11,300.00	89.85	180.31	7,023.46	-3,213.25	48.20	3,213.46	0.00	0.00	0.00
11,400.00	89.85	180.31	7,023.72	-3,313.25	47.66	3,313.45	0.00	0.00	0.00
11,500.00	89.85	180.31	7,023.98	-3,413.24	47.11	3,413.45	0.00	0.00	0.00
11,600.00	89.85	180.31	7,024.24	-3,513.24	46.56	3,513.44	0.00	0.00	0.00
11,700.00	89.85	180.31	7,024.51	-3,613.24	46.01	3,613.43	0.00	0.00	0.00
11,800.00	89.85	180.31	7,024.77	-3,713.24	45.46	3,713.43	0.00	0.00	0.00
11,900.00	89.85	180.31	7,025.03	-3,813.24	44.92	3,813.42	0.00	0.00	0.00
12,000.00	89.85	180.31	7,025.29	-3,913.23	44.37	3,913.42	0.00	0.00	0.00
12,100.00	89.85	180.31	7,025.55	-4,013.23	43.82	4,013.41	0.00	0.00	0.00
12,200.00	89.85	180.31	7,025.82	-4,113.23	43.27	4,113.40	0.00	0.00	0.00
12,300.00	89.85	180.31	7,026.08	-4,213.23	42.72	4,213.40	0.00	0.00	0.00
12,400.00	89.85	180.31	7,026.34	-4,313.23	42.18	4,313.39	0.00	0.00	0.00
12,500.00	89.85	180.31	7,026.60	-4,413.23	41.63	4,413.38	0.00	0.00	0.00
12,600.00	89.85	180.31	7,026.86	-4,513.22	41.08	4,513.38	0.00	0.00	0.00
12,700.00	89.85	180.31	7,027.12	-4,613.22	40.53	4,613.37	0.00	0.00	0.00
12,800.00	89.85	180.31	7,027.39	-4,713.22	39.98	4,713.37	0.00	0.00	0.00
12,900.00	89.85	180.31	7,027.65	-4,813.22	39.44	4,813.36	0.00	0.00	0.00
13,000.00	89.85	180.31	7,027.91	-4,913.22	38.89	4,913.35	0.00	0.00	0.00
13,100.00	89.85	180.31	7,028.17	-5,013.21	38.34	5,013.35	0.00	0.00	0.00
13,200.00	89.85	180.31	7,028.43	-5,113.21	37.79	5,113.34	0.00	0.00	0.00
13,300.00	89.85	180.31	7,028.69	-5,213.21	37.24	5,213.34	0.00	0.00	0.00
13,400.00	89.85	180.31	7,028.96	-5,313.21	36.70	5,313.33	0.00	0.00	0.00
13,500.00	89.85	180.31	7,029.22	-5,413.21	36.15	5,413.32	0.00	0.00	0.00
13,600.00	89.85	180.31	7,029.48	-5,513.21	35.60	5,513.32	0.00	0.00	0.00
13,700.00	89.85	180.31	7,029.74	-5,613.20	35.05	5,613.31	0.00	0.00	0.00
13,800.00	89.85	180.31	7,030.00	-5,713.20	34.51	5,713.30	0.00	0.00	0.00
13,900.00	89.85	180.31	7,030.27	-5,813.20	33.96	5,813.30	0.00	0.00	0.00

Corporate Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well RW 14N-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 14N-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)	
14,000.00	89.85	180.31	7,030.53	-5,913.20	33.41	5,913.29	0.00	0.00	0.00	
14,100.00	89.85	180.31	7,030.79	-6,013.20	32.86	6,013.29	0.00	0.00	0.00	
14,180.52	89.85	180.31	7,031.00	-6,093.72	32.42	6,093.80	0.00	0.00	0.00	
RW 14N-32HZ_PBHL										

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
RW 14N-32HZ_PHL - hit/miss target - Shape - Point	0.00	0.00	7,013.55	571.33	68.94	14,596,784.99	1,726,973.27	40.191957	-104.690056	
RW 14N-32HZ_PBHL - plan hits target center - Point	0.00	0.00	7,031.00	-6,093.72	32.42	14,590,119.86	1,726,960.00	40.173654	-104.690187	

Casing Points						
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")		
1,519.41	1,500.00	9 5/8"	9-5/8	13-1/2		
7,515.35	7,013.55	Top of Production	5-1/2	8-1/2		

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
1,230.69	1,220.00	Fox Hills Mkr				
4,035.43	3,940.00	Parkman				
4,750.02	4,633.00	Sussex				
7,108.63	6,887.00	Sharon Springs				
7,239.46	6,954.00	Niobrara				
7,400.94	7,003.00	Nio B				