

US ROCKIES WATTENBERG PLANNING

WELD-NAD83-UTMFT13N

1N-66W-08 Gabel 37-8HZ Pad

Gabel 36C-8HZ

Plan A

Plan: Permit Rev-1

Standard Planning Report

15 July, 2016



Azimuths to True North
Magnetic North: 8.17°

Magnetic Field
Strength: 52421.5snT
Dip Angle: 66.60°
Date: 7/5/2016
Model: IGRF2010

SITE: 1N-66W-08 Gabel 37-8HZ Pad

Well: Gabel 36C-8HZ
Wellbore: Plan A
Design: Permit Rev-1

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
1400.00	1405.71	Fox Hills
4206.00	4436.73	Parkman
4632.00	4899.21	Sussex
7105.00	7477.73	Sharon Springs
7150.00	7529.27	Niobrara
7262.00	7671.43	Nio B
7326.00	7768.34	Nio C
7423.00	7979.16	Fort Hayes
7445.00	8070.66	Codell

WELL DETAILS: Gabel 36C-8HZ

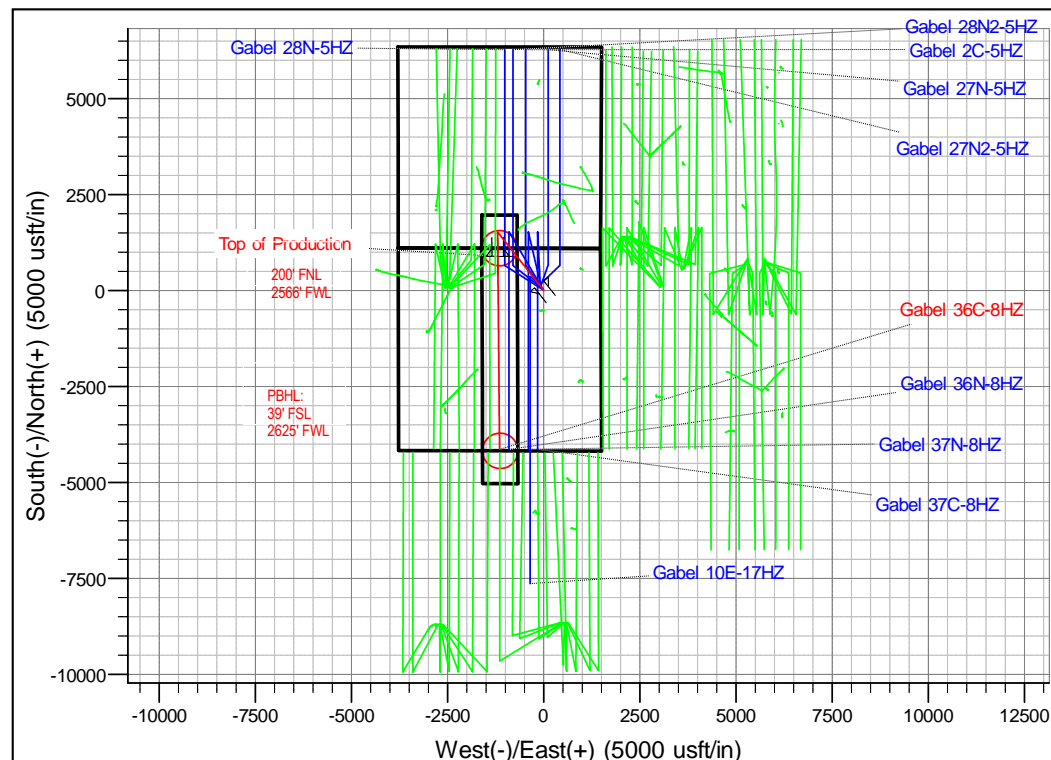
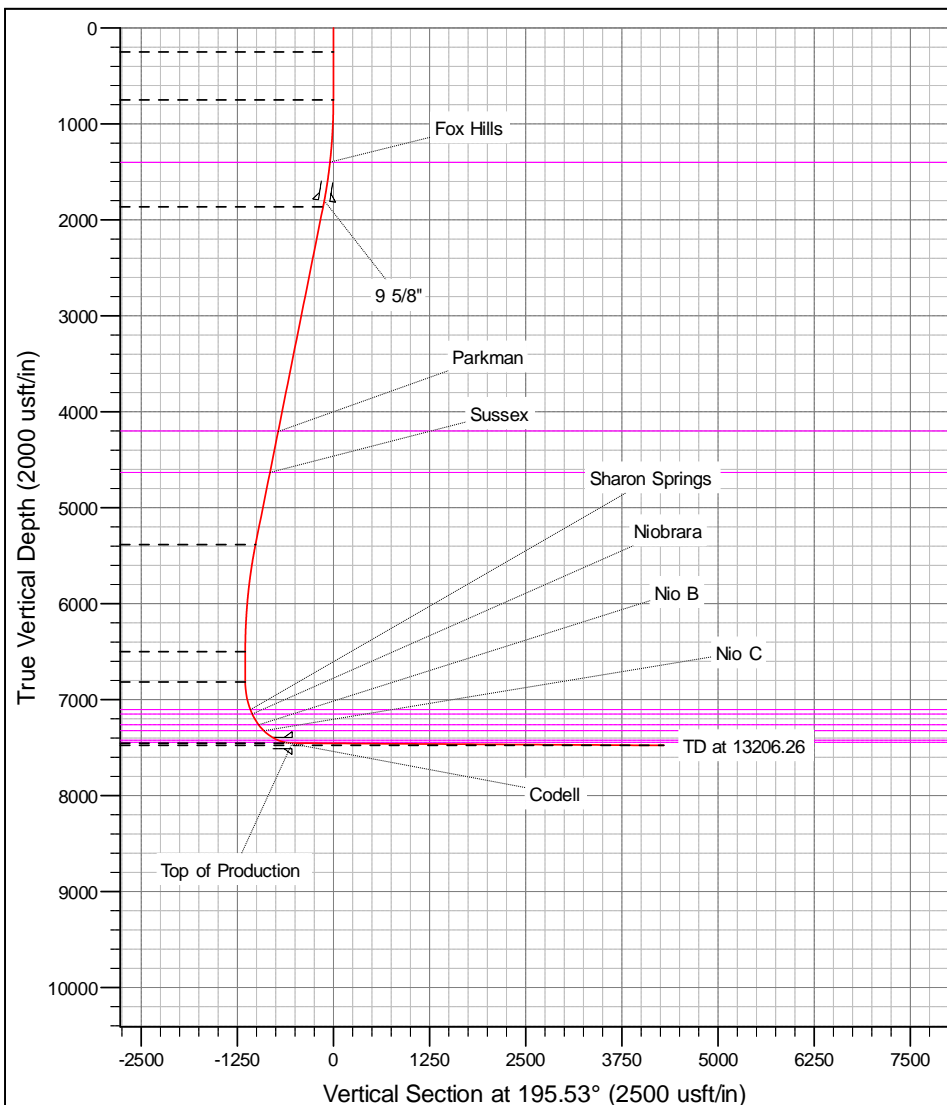
+N/-S	+E/-W	GL: 4941.00 Northing	RKB @ 4958.00usft (Original Well Elev) Easting	Latitude 40.069935	Longitude -104.796967	Slot
0.00	0.00	14552264.57	1697218.22			

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
750.00	0.00	0.00	750.00	0.00	0.00	0.00	0.00
1895.47	22.91	321.75	1895.19	177.46	-139.90	2.00	-133.51
5716.48	22.91	321.75	5384.81	1345.54	-1060.77	0.00	1012.34
6861.95	0.00	0.00	6500.00	1523.00	-1200.67	2.00	1145.85
7179.64	0.00	0.00	6817.69	1523.00	-1200.67	0.00	1145.85
8176.64	89.73	179.49	7454.30	889.40	-1195.08	9.00	-536.89
13206.26	89.73	179.49	7478.00	-4139.96	-1150.67	0.00	4296.89

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
GABEL 36C-8HZ_PBHL	7478.00	-4139.96	-1150.67	14548122.00	1696077.00	40.068566	-104.801079



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Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well Gabel 36C-8HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB @ 4958.00usft (Original Well Elev)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB @ 4958.00usft (Original Well Elev)
Site:	1N-66W-08 Gabel 37-8HZ Pad	North Reference:	True
Well:	Gabel 36C-8HZ	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-66W-08 Gabel 37-8HZ Pad			
Site Position:		Northing:	14,552,276.56 usft	Latitude:	40.069968
From:	Lat/Long	Easting:	1,697,208.96 usft	Longitude:	-104.797000
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.13

Well	Gabel 36C-8HZ					
Well Position	+N/-S	-12.02 usft	Northing:	14,552,264.57 usft	Latitude:	40.069935
	+E/-W	9.23 usft	Easting:	1,697,218.22 usft	Longitude:	-104.796967
Position Uncertainty		3.28 usft	Wellhead Elevation:	0.00 usft	Ground Level:	4,941.00 usft

Wellbore	Plan A				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	7/5/2016	8.17	66.60	52,422

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	195.53

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	
750.00	0.00	0.00	750.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,895.47	22.91	321.75	1,865.19	177.46	-139.90	2.00	2.00	0.00	321.75	
5,716.48	22.91	321.75	5,384.81	1,345.54	-1,060.77	0.00	0.00	0.00	0.00	
6,861.95	0.00	0.00	6,500.00	1,523.00	-1,200.67	2.00	-2.00	0.00	180.00	
7,179.64	0.00	0.00	6,817.69	1,523.00	-1,200.67	0.00	0.00	0.00	0.00	
8,176.64	89.73	179.49	7,454.30	889.40	-1,195.08	9.00	9.00	0.00	179.49	
13,206.26	89.73	179.49	7,478.00	-4,139.96	-1,150.67	0.00	0.00	0.00	0.00	GABEL 36C-8HZ_P

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Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well Gabel 36C-8HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB @ 4958.00usft (Original Well Elev)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB @ 4958.00usft (Original Well Elev)
Site:	1N-66W-08 Gabel 37-8HZ Pad	North Reference:	True
Well:	Gabel 36C-8HZ	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	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00
750.00	0.00	0.00	750.00	0.00	0.00	0.00	0.00	0.00	0.00
800.00	1.00	321.75	800.00	0.34	-0.27	-0.26	2.00	2.00	0.00
900.00	3.00	321.75	899.93	3.08	-2.43	-2.32	2.00	2.00	0.00
1,000.00	5.00	321.75	999.68	8.56	-6.75	-6.44	2.00	2.00	0.00
1,100.00	7.00	321.75	1,099.13	16.77	-13.22	-12.62	2.00	2.00	0.00
1,200.00	9.00	321.75	1,198.15	27.70	-21.84	-20.84	2.00	2.00	0.00
1,300.00	11.00	321.75	1,296.63	41.33	-32.59	-31.10	2.00	2.00	0.00
1,400.00	13.00	321.75	1,394.44	57.66	-45.46	-43.38	2.00	2.00	0.00
1,405.71	13.11	321.75	1,400.00	58.67	-46.26	-44.14	2.00	2.00	0.00
Fox Hills									
1,500.00	15.00	321.75	1,491.46	76.66	-60.43	-57.67	2.00	2.00	0.00
1,600.00	17.00	321.75	1,587.58	98.30	-77.50	-73.96	2.00	2.00	0.00
1,700.00	19.00	321.75	1,682.68	122.57	-96.63	-92.22	2.00	2.00	0.00
1,800.00	21.00	321.75	1,776.65	149.43	-117.80	-112.42	2.00	2.00	0.00
1,825.06	21.50	321.75	1,800.00	156.56	-123.42	-117.79	2.00	2.00	0.00
9 5/8"									
1,895.47	22.91	321.75	1,865.19	177.46	-139.90	-133.51	2.00	2.00	0.00
1,900.00	22.91	321.75	1,869.36	178.84	-140.99	-134.55	0.00	0.00	0.00
2,000.00	22.91	321.75	1,961.48	209.41	-165.09	-157.55	0.00	0.00	0.00
2,100.00	22.91	321.75	2,053.59	239.98	-189.19	-180.55	0.00	0.00	0.00
2,200.00	22.91	321.75	2,145.70	270.55	-213.29	-203.55	0.00	0.00	0.00
2,300.00	22.91	321.75	2,237.81	301.12	-237.39	-226.55	0.00	0.00	0.00
2,400.00	22.91	321.75	2,329.92	331.69	-261.49	-249.55	0.00	0.00	0.00
2,500.00	22.91	321.75	2,422.04	362.26	-285.59	-272.55	0.00	0.00	0.00
2,600.00	22.91	321.75	2,514.15	392.83	-309.69	-295.55	0.00	0.00	0.00
2,700.00	22.91	321.75	2,606.26	423.40	-333.79	-318.55	0.00	0.00	0.00
2,800.00	22.91	321.75	2,698.37	453.97	-357.89	-341.55	0.00	0.00	0.00
2,900.00	22.91	321.75	2,790.49	484.54	-381.99	-364.55	0.00	0.00	0.00
3,000.00	22.91	321.75	2,882.60	515.11	-406.09	-387.55	0.00	0.00	0.00
3,100.00	22.91	321.75	2,974.71	545.68	-430.19	-410.55	0.00	0.00	0.00
3,200.00	22.91	321.75	3,066.82	576.25	-454.29	-433.55	0.00	0.00	0.00
3,300.00	22.91	321.75	3,158.93	606.82	-478.39	-456.55	0.00	0.00	0.00
3,400.00	22.91	321.75	3,251.05	637.39	-502.49	-479.55	0.00	0.00	0.00
3,500.00	22.91	321.75	3,343.16	667.96	-526.59	-502.55	0.00	0.00	0.00
3,600.00	22.91	321.75	3,435.27	698.53	-550.69	-525.55	0.00	0.00	0.00
3,700.00	22.91	321.75	3,527.38	729.10	-574.79	-548.55	0.00	0.00	0.00
3,800.00	22.91	321.75	3,619.49	759.67	-598.89	-571.55	0.00	0.00	0.00
3,900.00	22.91	321.75	3,711.61	790.24	-622.99	-594.55	0.00	0.00	0.00
4,000.00	22.91	321.75	3,803.72	820.81	-647.09	-617.55	0.00	0.00	0.00
4,100.00	22.91	321.75	3,895.83	851.38	-671.20	-640.55	0.00	0.00	0.00
4,200.00	22.91	321.75	3,987.94	881.95	-695.30	-663.55	0.00	0.00	0.00
4,300.00	22.91	321.75	4,080.06	912.52	-719.40	-686.55	0.00	0.00	0.00
4,400.00	22.91	321.75	4,172.17	943.09	-743.50	-709.55	0.00	0.00	0.00
4,436.73	22.91	321.75	4,206.00	954.32	-752.35	-718.00	0.00	0.00	0.00

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Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well Gabel 36C-8HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB @ 4958.00usft (Original Well Elev)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB @ 4958.00usft (Original Well Elev)
Site:	1N-66W-08 Gabel 37-8HZ Pad	North Reference:	True
Well:	Gabel 36C-8HZ	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)
Parkman									
4,500.00	22.91	321.75	4,264.28	973.66	-767.60	-732.55	0.00	0.00	0.00
4,600.00	22.91	321.75	4,356.39	1,004.23	-791.70	-755.55	0.00	0.00	0.00
4,700.00	22.91	321.75	4,448.50	1,034.80	-815.80	-778.55	0.00	0.00	0.00
4,800.00	22.91	321.75	4,540.62	1,065.37	-839.90	-801.55	0.00	0.00	0.00
4,899.21	22.91	321.75	4,632.00	1,095.70	-863.81	-824.36	0.00	0.00	0.00
Sussex									
4,900.00	22.91	321.75	4,632.73	1,095.94	-864.00	-824.55	0.00	0.00	0.00
5,000.00	22.91	321.75	4,724.84	1,126.51	-888.10	-847.55	0.00	0.00	0.00
5,100.00	22.91	321.75	4,816.95	1,157.08	-912.20	-870.55	0.00	0.00	0.00
5,200.00	22.91	321.75	4,909.06	1,187.65	-936.30	-893.55	0.00	0.00	0.00
5,300.00	22.91	321.75	5,001.18	1,218.22	-960.40	-916.55	0.00	0.00	0.00
5,400.00	22.91	321.75	5,093.29	1,248.79	-984.50	-939.55	0.00	0.00	0.00
5,500.00	22.91	321.75	5,185.40	1,279.36	-1,008.60	-962.54	0.00	0.00	0.00
5,600.00	22.91	321.75	5,277.51	1,309.93	-1,032.70	-985.54	0.00	0.00	0.00
5,700.00	22.91	321.75	5,369.63	1,340.50	-1,056.80	-1,008.54	0.00	0.00	0.00
5,716.48	22.91	321.75	5,384.81	1,345.54	-1,060.77	-1,012.34	0.00	0.00	0.00
5,800.00	21.24	321.75	5,462.20	1,370.19	-1,080.20	-1,030.88	2.00	-2.00	0.00
5,900.00	19.24	321.75	5,556.02	1,397.36	-1,101.62	-1,051.32	2.00	-2.00	0.00
6,000.00	17.24	321.75	5,650.99	1,421.93	-1,120.99	-1,069.81	2.00	-2.00	0.00
6,100.00	15.24	321.75	5,747.00	1,443.89	-1,138.31	-1,086.33	2.00	-2.00	0.00
6,200.00	13.24	321.75	5,843.92	1,463.21	-1,153.53	-1,100.86	2.00	-2.00	0.00
6,300.00	11.24	321.75	5,941.64	1,479.86	-1,166.66	-1,113.39	2.00	-2.00	0.00
6,400.00	9.24	321.75	6,040.05	1,493.81	-1,177.66	-1,123.89	2.00	-2.00	0.00
6,500.00	7.24	321.75	6,139.01	1,505.07	-1,186.53	-1,132.36	2.00	-2.00	0.00
6,600.00	5.24	321.75	6,238.41	1,513.60	-1,193.26	-1,138.78	2.00	-2.00	0.00
6,700.00	3.24	321.75	6,338.13	1,519.41	-1,197.84	-1,143.14	2.00	-2.00	0.00
6,800.00	1.24	321.75	6,438.05	1,522.47	-1,200.26	-1,145.45	2.00	-2.00	0.00
6,861.95	0.00	0.00	6,500.00	1,523.00	-1,200.67	-1,145.85	2.00	-2.00	0.00
6,900.00	0.00	0.00	6,538.05	1,523.00	-1,200.67	-1,145.85	0.00	0.00	0.00
7,000.00	0.00	0.00	6,638.05	1,523.00	-1,200.67	-1,145.85	0.00	0.00	0.00
7,100.00	0.00	0.00	6,738.05	1,523.00	-1,200.67	-1,145.85	0.00	0.00	0.00
7,179.64	0.00	0.00	6,817.69	1,523.00	-1,200.67	-1,145.85	0.00	0.00	0.00
7,200.00	1.83	179.49	6,838.04	1,522.67	-1,200.67	-1,145.53	9.00	9.00	0.00
7,300.00	10.83	179.49	6,937.33	1,511.66	-1,200.57	-1,134.94	9.00	9.00	0.00
7,400.00	19.83	179.49	7,033.67	1,485.24	-1,200.34	-1,109.56	9.00	9.00	0.00
7,477.73	26.83	179.49	7,105.00	1,454.48	-1,200.07	-1,079.99	9.00	9.00	0.00
Sharon Springs									
7,500.00	28.83	179.49	7,124.70	1,444.08	-1,199.97	-1,070.00	9.00	9.00	0.00
7,529.27	31.47	179.49	7,150.00	1,429.39	-1,199.84	-1,055.87	9.00	9.00	0.00
Niobrara									
7,600.00	37.83	179.49	7,208.16	1,389.19	-1,199.49	-1,017.24	9.00	9.00	0.00
7,671.43	44.26	179.49	7,262.00	1,342.31	-1,199.07	-972.19	9.00	9.00	0.00
Nio B									
7,700.00	46.83	179.49	7,282.01	1,321.92	-1,198.89	-952.59	9.00	9.00	0.00
7,768.34	52.98	179.49	7,326.00	1,269.67	-1,198.43	-902.37	9.00	9.00	0.00
Nio C									
7,800.00	55.83	179.49	7,344.42	1,243.93	-1,198.21	-877.63	9.00	9.00	0.00
7,900.00	64.83	179.49	7,393.87	1,157.13	-1,197.44	-794.20	9.00	9.00	0.00
7,979.16	71.96	179.49	7,423.00	1,083.58	-1,196.79	-723.51	9.00	9.00	0.00
Fort Hayes									
8,000.00	73.83	179.49	7,429.13	1,063.66	-1,196.61	-704.37	9.00	9.00	0.00
8,070.66	80.19	179.49	7,445.00	994.85	-1,196.01	-638.24	9.00	9.00	0.00

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Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well Gabel 36C-8HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB @ 4958.00usft (Original Well Elev)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB @ 4958.00usft (Original Well Elev)
Site:	1N-66W-08 Gabel 37-8HZ Pad	North Reference:	True
Well:	Gabel 36C-8HZ	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)
Codell									
8,100.00	82.83	179.49	7,449.33	965.83	-1,195.75	-610.35	9.00	9.00	0.00
8,176.64	89.73	179.49	7,454.30	889.40	-1,195.08	-536.89	9.00	9.00	0.00
Top of Production - GABEL 36C-8HZ_PHL									
8,200.00	89.73	179.49	7,454.41	866.05	-1,194.87	-514.44	0.00	0.00	0.00
8,300.00	89.73	179.49	7,454.88	766.05	-1,193.99	-418.33	0.00	0.00	0.00
8,400.00	89.73	179.49	7,455.35	666.06	-1,193.10	-322.23	0.00	0.00	0.00
8,500.00	89.73	179.49	7,455.82	566.06	-1,192.22	-226.12	0.00	0.00	0.00
8,600.00	89.73	179.49	7,456.29	466.07	-1,191.34	-130.01	0.00	0.00	0.00
8,700.00	89.73	179.49	7,456.77	366.07	-1,190.46	-33.91	0.00	0.00	0.00
8,800.00	89.73	179.49	7,457.24	266.08	-1,189.57	62.20	0.00	0.00	0.00
8,900.00	89.73	179.49	7,457.71	166.08	-1,188.69	158.31	0.00	0.00	0.00
9,000.00	89.73	179.49	7,458.18	66.09	-1,187.81	254.41	0.00	0.00	0.00
9,100.00	89.73	179.49	7,458.65	-33.91	-1,186.92	350.52	0.00	0.00	0.00
9,200.00	89.73	179.49	7,459.12	-133.90	-1,186.04	446.62	0.00	0.00	0.00
9,300.00	89.73	179.49	7,459.59	-233.90	-1,185.16	542.73	0.00	0.00	0.00
9,400.00	89.73	179.49	7,460.06	-333.89	-1,184.27	638.84	0.00	0.00	0.00
9,500.00	89.73	179.49	7,460.53	-433.89	-1,183.39	734.94	0.00	0.00	0.00
9,600.00	89.73	179.49	7,461.01	-533.88	-1,182.51	831.05	0.00	0.00	0.00
9,700.00	89.73	179.49	7,461.48	-633.88	-1,181.63	927.16	0.00	0.00	0.00
9,800.00	89.73	179.49	7,461.95	-733.87	-1,180.74	1,023.26	0.00	0.00	0.00
9,900.00	89.73	179.49	7,462.42	-833.87	-1,179.86	1,119.37	0.00	0.00	0.00
10,000.00	89.73	179.49	7,462.89	-933.86	-1,178.98	1,215.48	0.00	0.00	0.00
10,100.00	89.73	179.49	7,463.36	-1,033.86	-1,178.09	1,311.58	0.00	0.00	0.00
10,200.00	89.73	179.49	7,463.83	-1,133.85	-1,177.21	1,407.69	0.00	0.00	0.00
10,300.00	89.73	179.49	7,464.30	-1,233.85	-1,176.33	1,503.80	0.00	0.00	0.00
10,400.00	89.73	179.49	7,464.78	-1,333.84	-1,175.45	1,599.90	0.00	0.00	0.00
10,500.00	89.73	179.49	7,465.25	-1,433.84	-1,174.56	1,696.01	0.00	0.00	0.00
10,600.00	89.73	179.49	7,465.72	-1,533.83	-1,173.68	1,792.12	0.00	0.00	0.00
10,700.00	89.73	179.49	7,466.19	-1,633.83	-1,172.80	1,888.22	0.00	0.00	0.00
10,800.00	89.73	179.49	7,466.66	-1,733.82	-1,171.91	1,984.33	0.00	0.00	0.00
10,900.00	89.73	179.49	7,467.13	-1,833.82	-1,171.03	2,080.43	0.00	0.00	0.00
11,000.00	89.73	179.49	7,467.60	-1,933.81	-1,170.15	2,176.54	0.00	0.00	0.00
11,100.00	89.73	179.49	7,468.07	-2,033.81	-1,169.27	2,272.65	0.00	0.00	0.00
11,200.00	89.73	179.49	7,468.55	-2,133.80	-1,168.38	2,368.75	0.00	0.00	0.00
11,300.00	89.73	179.49	7,469.02	-2,233.80	-1,167.50	2,464.86	0.00	0.00	0.00
11,400.00	89.73	179.49	7,469.49	-2,333.79	-1,166.62	2,560.97	0.00	0.00	0.00
11,500.00	89.73	179.49	7,469.96	-2,433.79	-1,165.73	2,657.07	0.00	0.00	0.00
11,600.00	89.73	179.49	7,470.43	-2,533.78	-1,164.85	2,753.18	0.00	0.00	0.00
11,700.00	89.73	179.49	7,470.90	-2,633.78	-1,163.97	2,849.29	0.00	0.00	0.00
11,800.00	89.73	179.49	7,471.37	-2,733.77	-1,163.09	2,945.39	0.00	0.00	0.00
11,900.00	89.73	179.49	7,471.84	-2,833.77	-1,162.20	3,041.50	0.00	0.00	0.00
12,000.00	89.73	179.49	7,472.32	-2,933.76	-1,161.32	3,137.61	0.00	0.00	0.00
12,100.00	89.73	179.49	7,472.79	-3,033.76	-1,160.44	3,233.71	0.00	0.00	0.00
12,200.00	89.73	179.49	7,473.26	-3,133.75	-1,159.55	3,329.82	0.00	0.00	0.00
12,300.00	89.73	179.49	7,473.73	-3,233.75	-1,158.67	3,425.92	0.00	0.00	0.00
12,400.00	89.73	179.49	7,474.20	-3,333.74	-1,157.79	3,522.03	0.00	0.00	0.00
12,500.00	89.73	179.49	7,474.67	-3,433.74	-1,156.91	3,618.14	0.00	0.00	0.00
12,600.00	89.73	179.49	7,475.14	-3,533.73	-1,156.02	3,714.24	0.00	0.00	0.00
12,700.00	89.73	179.49	7,475.61	-3,633.73	-1,155.14	3,810.35	0.00	0.00	0.00
12,800.00	89.73	179.49	7,476.09	-3,733.72	-1,154.26	3,906.46	0.00	0.00	0.00
12,900.00	89.73	179.49	7,476.56	-3,833.72	-1,153.37	4,002.56	0.00	0.00	0.00
13,000.00	89.73	179.49	7,477.03	-3,933.71	-1,152.49	4,098.67	0.00	0.00	0.00
13,100.00	89.73	179.49	7,477.50	-4,033.71	-1,151.61	4,194.78	0.00	0.00	0.00

Anadarko

Planning Report

Database:	PLANNING	Local Co-ordinate Reference:	Well Gabel 36C-8HZ
Company:	US ROCKIES WATTENBERG PLANNING	TVD Reference:	RKB @ 4958.00usft (Original Well Elev)
Project:	WELD-NAD83-UTMFT13N	MD Reference:	RKB @ 4958.00usft (Original Well Elev)
Site:	1N-66W-08 Gabel 37-8HZ Pad	North Reference:	True
Well:	Gabel 36C-8HZ	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)
13,200.00	89.73	179.49	7,477.97	-4,133.70	-1,150.72	4,290.88	0.00	0.00	0.00
13,206.26	89.73	179.49	7,478.00	-4,139.96	-1,150.67	4,296.89	0.00	0.00	0.00
GABEL 36C-8HZ_PBHL									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
GABEL 36C-8HZ_PHI	0.00	0.00	7,454.30	889.40	-1,195.08	14,553,151.24	1,696,021.12	40.072377	-104.801239
- plan hits target center									
- Point									
GABEL 36C-8HZ_PBI	0.00	0.00	7,478.00	-4,139.96	-1,150.67	14,548,122.00	1,696,077.00	40.058566	-104.801080
- plan hits target center									
- Point									

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")	
1,825.06	1,800.00	9 5/8"	9-5/8	13-1/2	
8,176.64	7,454.30	Top of Production	5-1/2	8-1/2	

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
1,405.71	1,400.00	Fox Hills		0.00		
4,436.73	4,206.00	Parkman		0.00		
4,899.21	4,632.00	Sussex		0.00		
7,477.73	7,105.00	Sharon Springs		0.00		
7,529.27	7,150.00	Niobrara		0.00		
7,671.43	7,262.00	Nio B		0.00		
7,768.34	7,326.00	Nio C		0.00		
7,979.16	7,423.00	Fort Hayes		0.00		
8,070.66	7,445.00	Codell		0.00		