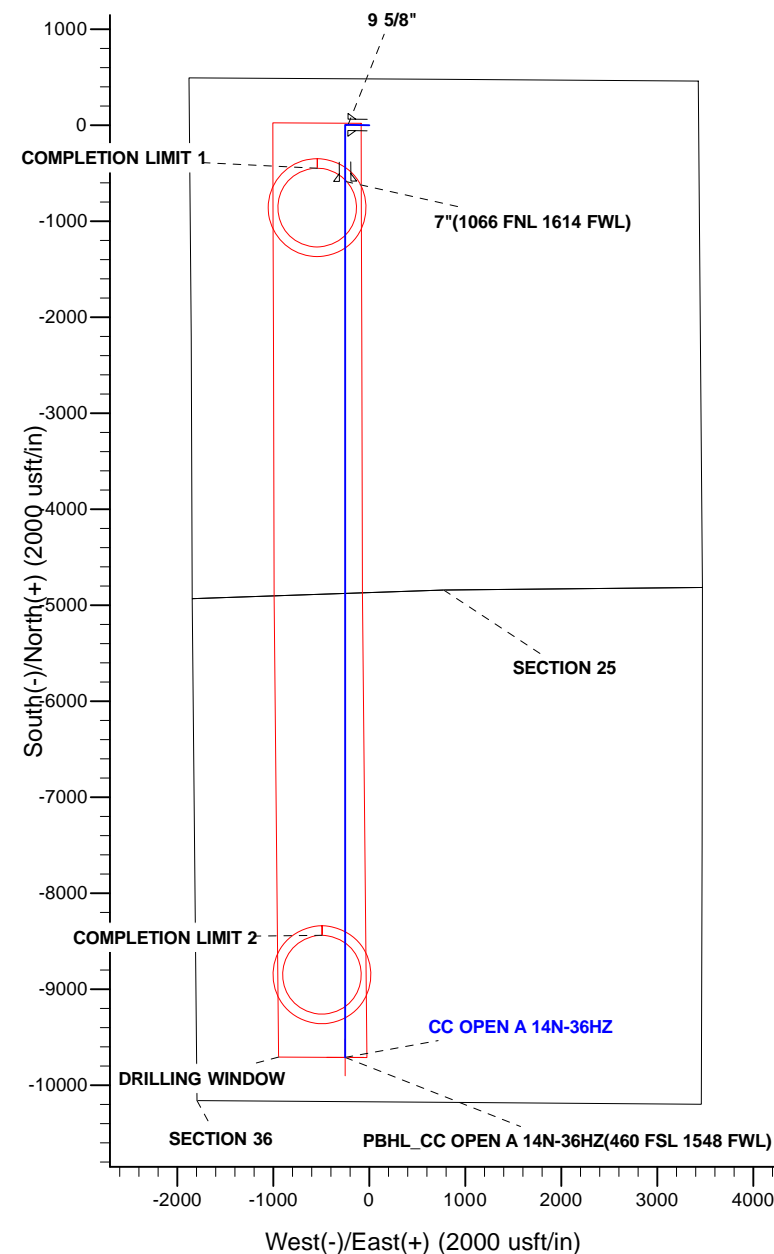
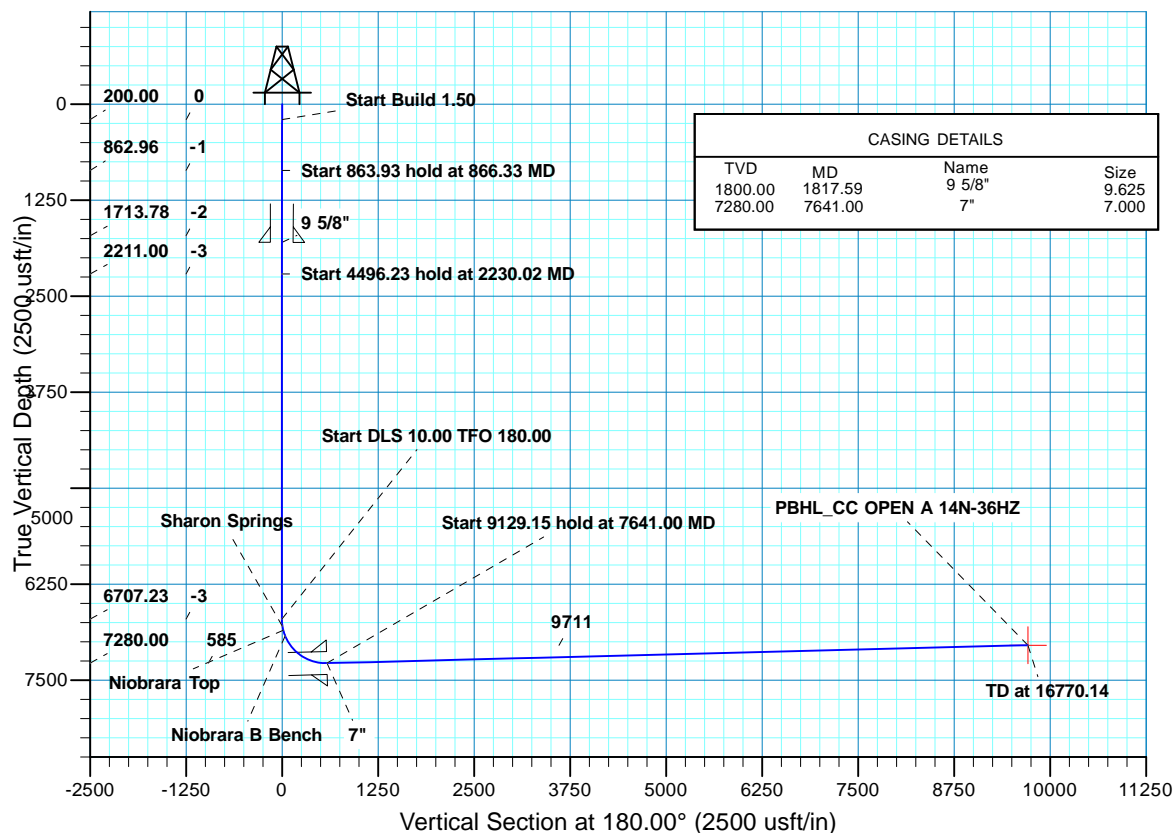




Project: WELD-NAD83-UTMFT13N  
Site: 2N-65W-25 CC Open A Pad #2  
Well: CC OPEN A 14N-36HZ  
Wellbore: PLAN A  
Design: PERMIT REV-2



WELL DETAILS: CC OPEN A 14N-36HZ										
GL 4895 & KB 17 @ 4912.00usft (ASSUMED)										
		+N/-S	+E/-W	Northing		Easting		Latitude		Longitude
		0.00	0.00	14568996.67		1748042.08		40.115422		-104.615045
SECTION DETAILS										
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target	
0.00	0.00	0.00	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		
866.33	10.00	270.68	862.96	0.69	-57.97	1.50	270.68	-0.69		
1730.27	10.00	270.68	1713.78	2.48	-207.90	0.00	0.00	-2.48		
2230.02	0.00	0.00	2211.00	3.00	-251.38	2.00	180.00	-3.00		
6726.25	0.00	0.00	6707.23	3.00	-251.38	0.00	0.00	-3.00		
7641.00	91.48	180.00	7280.00	-584.71	-251.38	10.00	180.00	584.71		
16770.14	91.48	180.00	7045.00	-9710.83	-251.38	0.00	0.009710.83	PBHL_CC OPEN A 14N-36HZ		
DESIGN TARGET DETAILS										
Name		TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape	
PBHL		7045.00	-9710.83	-251.38	14559284.84	1747832.75	40.088755	-104.615944	Point	
- plan hits target center										
FORMATION TOP DETAILS										
		TVDPath	MDPath	Formation		DipDirInc				
		6798.00	6817.40	Sharon Springs		9.12				
		6851.00	6871.57	Niobrara Top		14.53				
		6925.00	6949.63	Niobrara B Bench		22.34				



Plan: PERMIT REV-2 (CC OPEN A 14N-36HZ/PLAN A)

Created By: RobertScott Date: 11:22, July 17 2015

# **US ROCKIES WATTENBERG PLANNING**

**WELD-NAD83-UTMFT13N**

**2N-65W-25 CC Open A Pad #2**

**CC OPEN A 14N-36HZ**

**PLAN A**

**Plan: PERMIT REV-2**

## **Standard Planning Report**

**17 July, 2015**

<b>Database:</b>	Denver Sales	<b>Local Co-ordinate Reference:</b>	Well CC OPEN A 14N-36HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	GL 4895 & KB 17 @ 4912.00usft (ASSUMED)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	GL 4895 & KB 17 @ 4912.00usft (ASSUMED)
<b>Site:</b>	2N-65W-25 CC Open A Pad #2	<b>North Reference:</b>	True
<b>Well:</b>	CC OPEN A 14N-36HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	PLAN A		
<b>Design:</b>	PERMIT REV-2		

<b>Project</b>	WELD-NAD83-UTMFT13N		
<b>Map System:</b>	Universal Transverse Mercator (US Survey Feet)	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		
<b>Map Zone:</b>	Zone 13N (108 W to 102 W)		

Site	2N-65W-25 CC Open A Pad #2				
Site Position:		Northing:	14,568,996.67 usft	Latitude:	40.115422
From:	Lat/Long	Easting:	1,748,042.08 usft	Longitude:	-104.615045
Position Uncertainty:	0.00 usft	Slot Radius:	13.200 in	Grid Convergence:	0.25 °

Well	CC OPEN A 14N-36HZ					
Well Position	+N/-S	0.00 usft	Northing:	14,568,996.67 usft	Latitude:	40.115422
	+E/-W	0.00 usft	Easting:	1,748,042.08 usft	Longitude:	-104.615045
Position Uncertainty		0.00 usft	Wellhead Elevation:	0.00 usft	Ground Level:	4,895.00 usft

<b>Wellbore</b>	PLAN A				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2010	1/7/2015	8.28	66.72	52,622

<b>Design</b>	PERMIT REV-2			
<b>Audit Notes:</b>				
<b>Version:</b>	<b>Phase:</b>	PROTOTYPE	<b>Tie On Depth:</b>	0.00
<b>Vertical Section:</b>	<b>Depth From (TVD) (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Direction (°)</b>
	0.00	0.00	0.00	180.00

<b>Plan Sections</b>										
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	
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00	
866.33	10.00	270.68	862.96	0.69	-57.97	1.50	1.50	0.00	270.68	
1,730.27	10.00	270.68	1,713.78	2.48	-207.90	0.00	0.00	0.00	0.00	
2,230.02	0.00	0.00	2,211.00	3.00	-251.38	2.00	-2.00	0.00	180.00	
6,726.25	0.00	0.00	6,707.23	3.00	-251.38	0.00	0.00	0.00	0.00	
7,641.00	91.48	180.00	7,280.00	-584.71	-251.38	10.00	10.00	19.68	180.00	
16,770.14	91.48	180.00	7,045.00	-9,710.83	-251.38	0.00	0.00	0.00	0.00	PBHL_CC OPEN A 14

<b>Database:</b>	Denver Sales	<b>Local Co-ordinate Reference:</b>	Well CC OPEN A 14N-36HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	GL 4895 & KB 17 @ 4912.00usft (ASSUMED)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	GL 4895 & KB 17 @ 4912.00usft (ASSUMED)
<b>Site:</b>	2N-65W-25 CC Open A Pad #2	<b>North Reference:</b>	True
<b>Well:</b>	CC OPEN A 14N-36HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	PLAN A		
<b>Design:</b>	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	
Start Build 1.50										
300.00	1.50	270.68	299.99	0.02	-1.31	-0.02	1.50	1.50	0.00	
400.00	3.00	270.68	399.91	0.06	-5.23	-0.06	1.50	1.50	0.00	
500.00	4.50	270.68	499.69	0.14	-11.77	-0.14	1.50	1.50	0.00	
600.00	6.00	270.68	599.27	0.25	-20.92	-0.25	1.50	1.50	0.00	
700.00	7.50	270.68	698.57	0.39	-32.68	-0.39	1.50	1.50	0.00	
800.00	9.00	270.68	797.54	0.56	-47.02	-0.56	1.50	1.50	0.00	
866.33	10.00	270.68	862.96	0.69	-57.97	-0.69	1.50	1.50	0.00	
Start 863.93 hold at 866.33 MD										
900.00	10.00	270.68	896.11	0.76	-63.81	-0.76	0.00	0.00	0.00	
1,000.00	10.00	270.68	994.60	0.97	-81.17	-0.97	0.00	0.00	0.00	
1,100.00	10.00	270.68	1,093.08	1.18	-98.52	-1.18	0.00	0.00	0.00	
1,200.00	10.00	270.68	1,191.56	1.38	-115.88	-1.38	0.00	0.00	0.00	
1,300.00	10.00	270.68	1,290.04	1.59	-133.23	-1.59	0.00	0.00	0.00	
1,400.00	10.00	270.68	1,388.53	1.80	-150.59	-1.80	0.00	0.00	0.00	
1,500.00	10.00	270.68	1,487.01	2.00	-167.94	-2.00	0.00	0.00	0.00	
1,600.00	10.00	270.68	1,585.49	2.21	-185.30	-2.21	0.00	0.00	0.00	
1,700.00	10.00	270.68	1,683.97	2.42	-202.65	-2.42	0.00	0.00	0.00	
1,730.27	10.00	270.68	1,713.78	2.48	-207.90	-2.48	0.00	0.00	0.00	
Start Drop -2.00										
1,800.00	8.60	270.68	1,782.60	2.62	-219.17	-2.62	2.00	-2.00	0.00	
1,817.59	8.25	270.68	1,800.00	2.65	-221.75	-2.65	2.00	-2.00	0.00	
9 5/8"										
1,900.00	6.60	270.68	1,881.71	2.77	-232.39	-2.77	2.00	-2.00	0.00	
2,000.00	4.60	270.68	1,981.23	2.89	-242.15	-2.89	2.00	-2.00	0.00	
2,100.00	2.60	270.68	2,081.03	2.96	-248.43	-2.96	2.00	-2.00	0.00	
2,200.00	0.60	270.68	2,180.98	3.00	-251.22	-3.00	2.00	-2.00	0.00	
2,230.02	0.00	0.00	2,211.00	3.00	-251.38	-3.00	2.00	-2.00	0.00	
Start 4496.23 hold at 2230.02 MD										
2,300.00	0.00	0.00	2,280.98	3.00	-251.38	-3.00	0.00	0.00	0.00	
2,400.00	0.00	0.00	2,380.98	3.00	-251.38	-3.00	0.00	0.00	0.00	
2,500.00	0.00	0.00	2,480.98	3.00	-251.38	-3.00	0.00	0.00	0.00	
2,600.00	0.00	0.00	2,580.98	3.00	-251.38	-3.00	0.00	0.00	0.00	
2,700.00	0.00	0.00	2,680.98	3.00	-251.38	-3.00	0.00	0.00	0.00	
2,800.00	0.00	0.00	2,780.98	3.00	-251.38	-3.00	0.00	0.00	0.00	
2,900.00	0.00	0.00	2,880.98	3.00	-251.38	-3.00	0.00	0.00	0.00	
3,000.00	0.00	0.00	2,980.98	3.00	-251.38	-3.00	0.00	0.00	0.00	
3,100.00	0.00	0.00	3,080.98	3.00	-251.38	-3.00	0.00	0.00	0.00	
3,200.00	0.00	0.00	3,180.98	3.00	-251.38	-3.00	0.00	0.00	0.00	
3,300.00	0.00	0.00	3,280.98	3.00	-251.38	-3.00	0.00	0.00	0.00	
3,400.00	0.00	0.00	3,380.98	3.00	-251.38	-3.00	0.00	0.00	0.00	
3,500.00	0.00	0.00	3,480.98	3.00	-251.38	-3.00	0.00	0.00	0.00	
3,600.00	0.00	0.00	3,580.98	3.00	-251.38	-3.00	0.00	0.00	0.00	
3,700.00	0.00	0.00	3,680.98	3.00	-251.38	-3.00	0.00	0.00	0.00	
3,800.00	0.00	0.00	3,780.98	3.00	-251.38	-3.00	0.00	0.00	0.00	
3,900.00	0.00	0.00	3,880.98	3.00	-251.38	-3.00	0.00	0.00	0.00	
4,000.00	0.00	0.00	3,980.98	3.00	-251.38	-3.00	0.00	0.00	0.00	
4,100.00	0.00	0.00	4,080.98	3.00	-251.38	-3.00	0.00	0.00	0.00	

<b>Database:</b>	Denver Sales	<b>Local Co-ordinate Reference:</b>	Well CC OPEN A 14N-36HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	GL 4895 & KB 17 @ 4912.00usft (ASSUMED)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	GL 4895 & KB 17 @ 4912.00usft (ASSUMED)
<b>Site:</b>	2N-65W-25 CC Open A Pad #2	<b>North Reference:</b>	True
<b>Well:</b>	CC OPEN A 14N-36HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	PLAN A		
<b>Design:</b>	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)	
4,200.00	0.00	0.00	4,180.98	3.00	-251.38	-3.00	0.00	0.00	0.00	
4,300.00	0.00	0.00	4,280.98	3.00	-251.38	-3.00	0.00	0.00	0.00	
4,400.00	0.00	0.00	4,380.98	3.00	-251.38	-3.00	0.00	0.00	0.00	
4,500.00	0.00	0.00	4,480.98	3.00	-251.38	-3.00	0.00	0.00	0.00	
4,600.00	0.00	0.00	4,580.98	3.00	-251.38	-3.00	0.00	0.00	0.00	
4,700.00	0.00	0.00	4,680.98	3.00	-251.38	-3.00	0.00	0.00	0.00	
4,800.00	0.00	0.00	4,780.98	3.00	-251.38	-3.00	0.00	0.00	0.00	
4,900.00	0.00	0.00	4,880.98	3.00	-251.38	-3.00	0.00	0.00	0.00	
5,000.00	0.00	0.00	4,980.98	3.00	-251.38	-3.00	0.00	0.00	0.00	
5,100.00	0.00	0.00	5,080.98	3.00	-251.38	-3.00	0.00	0.00	0.00	
5,200.00	0.00	0.00	5,180.98	3.00	-251.38	-3.00	0.00	0.00	0.00	
5,300.00	0.00	0.00	5,280.98	3.00	-251.38	-3.00	0.00	0.00	0.00	
5,400.00	0.00	0.00	5,380.98	3.00	-251.38	-3.00	0.00	0.00	0.00	
5,500.00	0.00	0.00	5,480.98	3.00	-251.38	-3.00	0.00	0.00	0.00	
5,600.00	0.00	0.00	5,580.98	3.00	-251.38	-3.00	0.00	0.00	0.00	
5,700.00	0.00	0.00	5,680.98	3.00	-251.38	-3.00	0.00	0.00	0.00	
5,800.00	0.00	0.00	5,780.98	3.00	-251.38	-3.00	0.00	0.00	0.00	
5,900.00	0.00	0.00	5,880.98	3.00	-251.38	-3.00	0.00	0.00	0.00	
6,000.00	0.00	0.00	5,980.98	3.00	-251.38	-3.00	0.00	0.00	0.00	
6,100.00	0.00	0.00	6,080.98	3.00	-251.38	-3.00	0.00	0.00	0.00	
6,200.00	0.00	0.00	6,180.98	3.00	-251.38	-3.00	0.00	0.00	0.00	
6,300.00	0.00	0.00	6,280.98	3.00	-251.38	-3.00	0.00	0.00	0.00	
6,400.00	0.00	0.00	6,380.98	3.00	-251.38	-3.00	0.00	0.00	0.00	
6,500.00	0.00	0.00	6,480.98	3.00	-251.38	-3.00	0.00	0.00	0.00	
6,600.00	0.00	0.00	6,580.98	3.00	-251.38	-3.00	0.00	0.00	0.00	
6,700.00	0.00	0.00	6,680.98	3.00	-251.38	-3.00	0.00	0.00	0.00	
6,726.25	0.00	0.00	6,707.23	3.00	-251.38	-3.00	0.00	0.00	0.00	
Start DLS 10.00 TFO 180.00										
6,800.00	7.38	180.00	6,780.78	-1.74	-251.38	1.74	10.00	10.00	0.00	
6,817.40	9.12	180.00	6,798.00	-4.24	-251.38	4.24	10.00	10.00	0.00	
Sharon Springs										
6,871.57	14.53	180.00	6,851.00	-15.33	-251.38	15.33	10.00	10.00	0.00	
Niobrara Top										
6,900.00	17.38	180.00	6,878.33	-23.14	-251.38	23.14	10.00	10.00	0.00	
6,949.63	22.34	180.00	6,925.00	-40.00	-251.38	40.00	10.00	10.00	0.00	
Niobrara B Bench										
7,000.00	27.38	180.00	6,970.69	-61.16	-251.38	61.16	10.00	10.00	0.00	
7,100.00	37.38	180.00	7,055.03	-114.64	-251.38	114.64	10.00	10.00	0.00	
7,200.00	47.38	180.00	7,128.82	-181.95	-251.38	181.95	10.00	10.00	0.00	
7,300.00	57.38	180.00	7,189.79	-261.06	-251.38	261.06	10.00	10.00	0.00	
7,400.00	67.38	180.00	7,236.10	-349.54	-251.38	349.54	10.00	10.00	0.00	
7,500.00	77.38	180.00	7,266.34	-444.73	-251.38	444.73	10.00	10.00	0.00	
7,600.00	87.38	180.00	7,279.59	-543.72	-251.38	543.72	10.00	10.00	0.00	
7,641.00	91.48	180.00	7,280.00	-584.71	-251.38	584.71	10.00	10.00	0.00	
Start 9129.15 hold at 7641.00 MD - 7"(1066 FNL 1614 FWL)										
7,700.00	91.48	180.00	7,278.48	-643.69	-251.38	643.69	0.00	0.00	0.00	
7,800.00	91.48	180.00	7,275.91	-743.66	-251.38	743.66	0.00	0.00	0.00	
7,900.00	91.48	180.00	7,273.33	-843.62	-251.38	843.62	0.00	0.00	0.00	
8,000.00	91.48	180.00	7,270.76	-943.59	-251.38	943.59	0.00	0.00	0.00	
8,100.00	91.48	180.00	7,268.18	-1,043.56	-251.38	1,043.56	0.00	0.00	0.00	
8,200.00	91.48	180.00	7,265.61	-1,143.52	-251.38	1,143.52	0.00	0.00	0.00	

<b>Database:</b>	Denver Sales	<b>Local Co-ordinate Reference:</b>	Well CC OPEN A 14N-36HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	GL 4895 & KB 17 @ 4912.00usft (ASSUMED)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	GL 4895 & KB 17 @ 4912.00usft (ASSUMED)
<b>Site:</b>	2N-65W-25 CC Open A Pad #2	<b>North Reference:</b>	True
<b>Well:</b>	CC OPEN A 14N-36HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	PLAN A		
<b>Design:</b>	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)
8,300.00	91.48	180.00	7,263.03	-1,243.49	-251.38	1,243.49	0.00	0.00	0.00
8,400.00	91.48	180.00	7,260.46	-1,343.46	-251.38	1,343.46	0.00	0.00	0.00
8,500.00	91.48	180.00	7,257.89	-1,443.42	-251.38	1,443.42	0.00	0.00	0.00
8,600.00	91.48	180.00	7,255.31	-1,543.39	-251.38	1,543.39	0.00	0.00	0.00
8,700.00	91.48	180.00	7,252.74	-1,643.36	-251.38	1,643.36	0.00	0.00	0.00
8,800.00	91.48	180.00	7,250.16	-1,743.32	-251.38	1,743.32	0.00	0.00	0.00
8,900.00	91.48	180.00	7,247.59	-1,843.29	-251.38	1,843.29	0.00	0.00	0.00
9,000.00	91.48	180.00	7,245.02	-1,943.26	-251.38	1,943.26	0.00	0.00	0.00
9,100.00	91.48	180.00	7,242.44	-2,043.23	-251.38	2,043.23	0.00	0.00	0.00
9,200.00	91.48	180.00	7,239.87	-2,143.19	-251.38	2,143.19	0.00	0.00	0.00
9,300.00	91.48	180.00	7,237.29	-2,243.16	-251.38	2,243.16	0.00	0.00	0.00
9,400.00	91.48	180.00	7,234.72	-2,343.13	-251.38	2,343.13	0.00	0.00	0.00
9,500.00	91.48	180.00	7,232.14	-2,443.09	-251.38	2,443.09	0.00	0.00	0.00
9,600.00	91.48	180.00	7,229.57	-2,543.06	-251.38	2,543.06	0.00	0.00	0.00
9,700.00	91.48	180.00	7,227.00	-2,643.03	-251.38	2,643.03	0.00	0.00	0.00
9,800.00	91.48	180.00	7,224.42	-2,742.99	-251.38	2,742.99	0.00	0.00	0.00
9,900.00	91.48	180.00	7,221.85	-2,842.96	-251.38	2,842.96	0.00	0.00	0.00
10,000.00	91.48	180.00	7,219.27	-2,942.93	-251.38	2,942.93	0.00	0.00	0.00
10,100.00	91.48	180.00	7,216.70	-3,042.89	-251.38	3,042.89	0.00	0.00	0.00
10,200.00	91.48	180.00	7,214.13	-3,142.86	-251.38	3,142.86	0.00	0.00	0.00
10,300.00	91.48	180.00	7,211.55	-3,242.83	-251.38	3,242.83	0.00	0.00	0.00
10,400.00	91.48	180.00	7,208.98	-3,342.79	-251.38	3,342.79	0.00	0.00	0.00
10,500.00	91.48	180.00	7,206.40	-3,442.76	-251.38	3,442.76	0.00	0.00	0.00
10,600.00	91.48	180.00	7,203.83	-3,542.73	-251.38	3,542.73	0.00	0.00	0.00
10,700.00	91.48	180.00	7,201.25	-3,642.70	-251.38	3,642.70	0.00	0.00	0.00
10,800.00	91.48	180.00	7,198.68	-3,742.66	-251.38	3,742.66	0.00	0.00	0.00
10,900.00	91.48	180.00	7,196.11	-3,842.63	-251.38	3,842.63	0.00	0.00	0.00
11,000.00	91.48	180.00	7,193.53	-3,942.60	-251.38	3,942.60	0.00	0.00	0.00
11,100.00	91.48	180.00	7,190.96	-4,042.56	-251.38	4,042.56	0.00	0.00	0.00
11,200.00	91.48	180.00	7,188.38	-4,142.53	-251.38	4,142.53	0.00	0.00	0.00
11,300.00	91.48	180.00	7,185.81	-4,242.50	-251.38	4,242.50	0.00	0.00	0.00
11,400.00	91.48	180.00	7,183.24	-4,342.46	-251.38	4,342.46	0.00	0.00	0.00
11,500.00	91.48	180.00	7,180.66	-4,442.43	-251.38	4,442.43	0.00	0.00	0.00
11,600.00	91.48	180.00	7,178.09	-4,542.40	-251.38	4,542.40	0.00	0.00	0.00
11,700.00	91.48	180.00	7,175.51	-4,642.36	-251.38	4,642.36	0.00	0.00	0.00
11,800.00	91.48	180.00	7,172.94	-4,742.33	-251.38	4,742.33	0.00	0.00	0.00
11,900.00	91.48	180.00	7,170.36	-4,842.30	-251.38	4,842.30	0.00	0.00	0.00
12,000.00	91.48	180.00	7,167.79	-4,942.26	-251.38	4,942.26	0.00	0.00	0.00
12,100.00	91.48	180.00	7,165.22	-5,042.23	-251.38	5,042.23	0.00	0.00	0.00
12,200.00	91.48	180.00	7,162.64	-5,142.20	-251.38	5,142.20	0.00	0.00	0.00
12,300.00	91.48	180.00	7,160.07	-5,242.17	-251.38	5,242.17	0.00	0.00	0.00
12,400.00	91.48	180.00	7,157.49	-5,342.13	-251.38	5,342.13	0.00	0.00	0.00
12,500.00	91.48	180.00	7,154.92	-5,442.10	-251.38	5,442.10	0.00	0.00	0.00
12,600.00	91.48	180.00	7,152.35	-5,542.07	-251.38	5,542.07	0.00	0.00	0.00
12,700.00	91.48	180.00	7,149.77	-5,642.03	-251.38	5,642.03	0.00	0.00	0.00
12,800.00	91.48	180.00	7,147.20	-5,742.00	-251.38	5,742.00	0.00	0.00	0.00
12,900.00	91.48	180.00	7,144.62	-5,841.97	-251.38	5,841.97	0.00	0.00	0.00
13,000.00	91.48	180.00	7,142.05	-5,941.93	-251.38	5,941.93	0.00	0.00	0.00
13,100.00	91.48	180.00	7,139.48	-6,041.90	-251.38	6,041.90	0.00	0.00	0.00
13,200.00	91.48	180.00	7,136.90	-6,141.87	-251.38	6,141.87	0.00	0.00	0.00
13,300.00	91.48	180.00	7,134.33	-6,241.83	-251.38	6,241.83	0.00	0.00	0.00
13,400.00	91.48	180.00	7,131.75	-6,341.80	-251.38	6,341.80	0.00	0.00	0.00

<b>Database:</b>	Denver Sales	<b>Local Co-ordinate Reference:</b>	Well CC OPEN A 14N-36HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	GL 4895 & KB 17 @ 4912.00usft (ASSUMED)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	GL 4895 & KB 17 @ 4912.00usft (ASSUMED)
<b>Site:</b>	2N-65W-25 CC Open A Pad #2	<b>North Reference:</b>	True
<b>Well:</b>	CC OPEN A 14N-36HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	PLAN A		
<b>Design:</b>	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)
13,500.00	91.48	180.00	7,129.18	-6,441.77	-251.38	6,441.77	0.00	0.00	0.00
13,600.00	91.48	180.00	7,126.60	-6,541.73	-251.38	6,541.73	0.00	0.00	0.00
13,700.00	91.48	180.00	7,124.03	-6,641.70	-251.38	6,641.70	0.00	0.00	0.00
13,800.00	91.48	180.00	7,121.46	-6,741.67	-251.38	6,741.67	0.00	0.00	0.00
13,900.00	91.48	180.00	7,118.88	-6,841.63	-251.38	6,841.63	0.00	0.00	0.00
14,000.00	91.48	180.00	7,116.31	-6,941.60	-251.38	6,941.60	0.00	0.00	0.00
14,100.00	91.48	180.00	7,113.73	-7,041.57	-251.38	7,041.57	0.00	0.00	0.00
14,200.00	91.48	180.00	7,111.16	-7,141.54	-251.38	7,141.54	0.00	0.00	0.00
14,300.00	91.48	180.00	7,108.59	-7,241.50	-251.38	7,241.50	0.00	0.00	0.00
14,400.00	91.48	180.00	7,106.01	-7,341.47	-251.38	7,341.47	0.00	0.00	0.00
14,500.00	91.48	180.00	7,103.44	-7,441.44	-251.38	7,441.44	0.00	0.00	0.00
14,600.00	91.48	180.00	7,100.86	-7,541.40	-251.38	7,541.40	0.00	0.00	0.00
14,700.00	91.48	180.00	7,098.29	-7,641.37	-251.38	7,641.37	0.00	0.00	0.00
14,800.00	91.48	180.00	7,095.71	-7,741.34	-251.38	7,741.34	0.00	0.00	0.00
14,900.00	91.48	180.00	7,093.14	-7,841.30	-251.38	7,841.30	0.00	0.00	0.00
15,000.00	91.48	180.00	7,090.57	-7,941.27	-251.38	7,941.27	0.00	0.00	0.00
15,100.00	91.48	180.00	7,087.99	-8,041.24	-251.38	8,041.24	0.00	0.00	0.00
15,200.00	91.48	180.00	7,085.42	-8,141.20	-251.38	8,141.20	0.00	0.00	0.00
15,300.00	91.48	180.00	7,082.84	-8,241.17	-251.38	8,241.17	0.00	0.00	0.00
15,400.00	91.48	180.00	7,080.27	-8,341.14	-251.38	8,341.14	0.00	0.00	0.00
15,500.00	91.48	180.00	7,077.70	-8,441.10	-251.38	8,441.10	0.00	0.00	0.00
15,600.00	91.48	180.00	7,075.12	-8,541.07	-251.38	8,541.07	0.00	0.00	0.00
15,700.00	91.48	180.00	7,072.55	-8,641.04	-251.38	8,641.04	0.00	0.00	0.00
15,800.00	91.48	180.00	7,069.97	-8,741.01	-251.38	8,741.01	0.00	0.00	0.00
15,900.00	91.48	180.00	7,067.40	-8,840.97	-251.38	8,840.97	0.00	0.00	0.00
16,000.00	91.48	180.00	7,064.82	-8,940.94	-251.38	8,940.94	0.00	0.00	0.00
16,100.00	91.48	180.00	7,062.25	-9,040.91	-251.38	9,040.91	0.00	0.00	0.00
16,200.00	91.48	180.00	7,059.68	-9,140.87	-251.38	9,140.87	0.00	0.00	0.00
16,300.00	91.48	180.00	7,057.10	-9,240.84	-251.38	9,240.84	0.00	0.00	0.00
16,400.00	91.48	180.00	7,054.53	-9,340.81	-251.38	9,340.81	0.00	0.00	0.00
16,500.00	91.48	180.00	7,051.95	-9,440.77	-251.38	9,440.77	0.00	0.00	0.00
16,600.00	91.48	180.00	7,049.38	-9,540.74	-251.38	9,540.74	0.00	0.00	0.00
16,700.00	91.48	180.00	7,046.81	-9,640.71	-251.38	9,640.71	0.00	0.00	0.00
16,770.14	91.48	180.00	7,045.00	-9,710.83	-251.38	9,710.83	0.00	0.00	0.00
TD at 16770.14 - PBHL_CC OPEN A 14N-36HZ(460 FSL 1548 FWL)									

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									
PBHL_CC OPEN A 14N- - plan hits target center - Point	0.00	0.00	7,045.00	-9,710.83	-251.38	14,559,284.84	1,747,832.75	40.088755	-104.615944

<b>Database:</b>	Denver Sales	<b>Local Co-ordinate Reference:</b>	Well CC OPEN A 14N-36HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	GL 4895 & KB 17 @ 4912.00usft (ASSUMED)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	GL 4895 & KB 17 @ 4912.00usft (ASSUMED)
<b>Site:</b>	2N-65W-25 CC Open A Pad #2	<b>North Reference:</b>	True
<b>Well:</b>	CC OPEN A 14N-36HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	PLAN A		
<b>Design:</b>	PERMIT REV-2		

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (in)	Hole Diameter (in)	
1,817.59	1,800.00	9 5/8"	9.625	13.500	
7,641.00	7,280.00	7"(1066 FNL 1614 FWL)	7.000	8.750	

Formations					
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
6,817.40	6,798.00	Sharon Springs			
6,871.57	6,851.00	Niobrara Top			
6,949.63	6,925.00	Niobrara B Bench			

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
200.00	200.00	0.00	0.00	Start Build 1.50	
866.33	862.96	0.69	-57.97	Start 863.93 hold at 866.33 MD	
1,730.27	1,713.78	2.48	-207.90	Start Drop -2.00	
2,230.02	2,211.00	3.00	-251.38	Start 4496.23 hold at 2230.02 MD	
6,726.25	6,707.23	3.00	-251.38	Start DLS 10.00 TFO 180.00	
7,641.00	7,280.00	-584.71	-251.38	Start 9129.15 hold at 7641.00 MD	
16,770.14	7,045.00	-9,710.83	-251.38	TD at 16770.14	