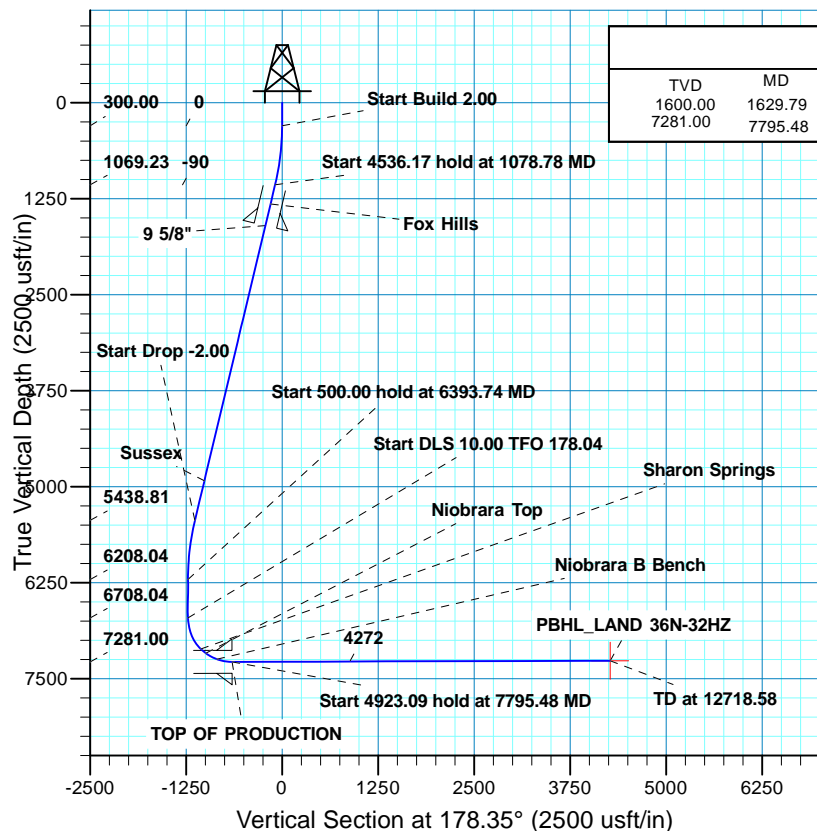




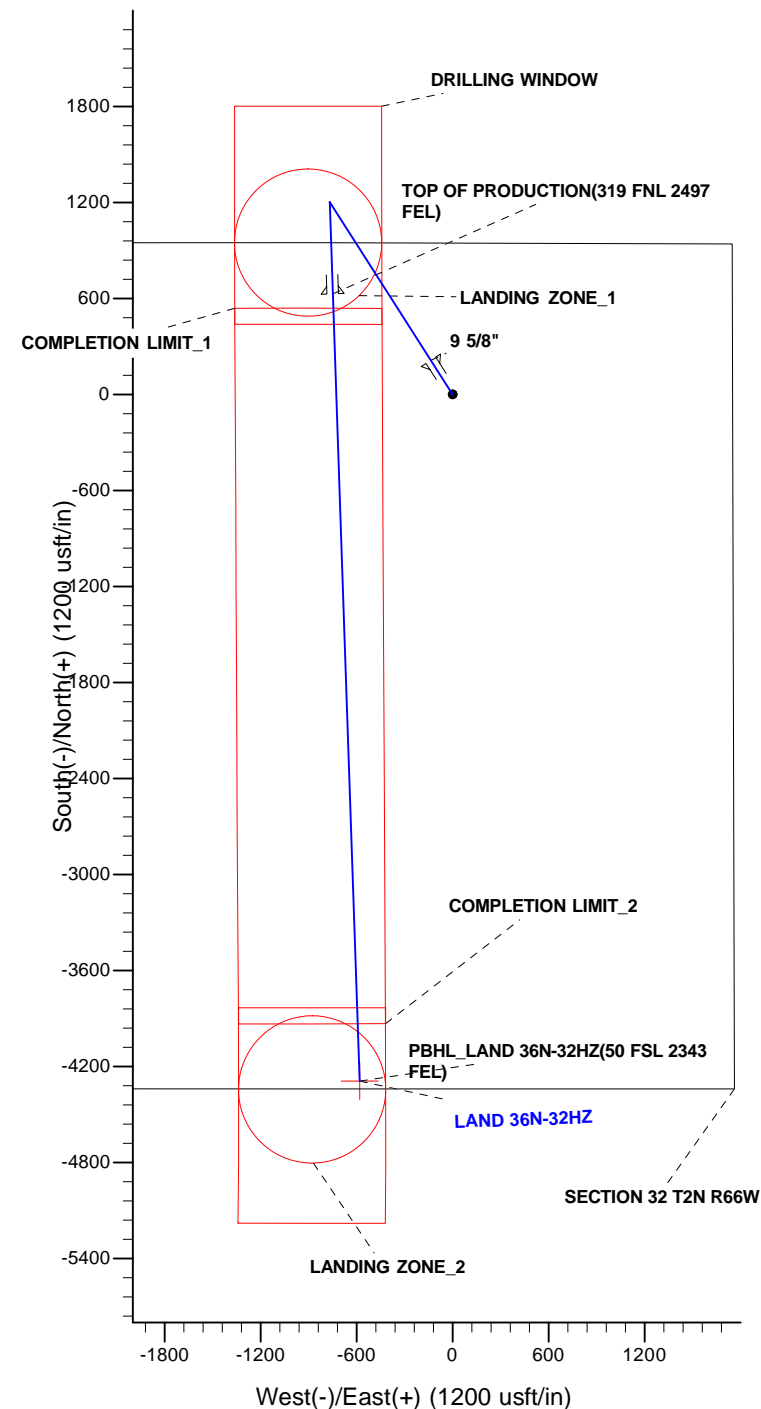
Project: WELD-NAD83-UTMFT13N  
Site: 2N-66W-32 LAND 17-32HZ PAD  
Well: LAND 36N-32HZ  
Wellbore: PLAN A  
Design: PERMIT REV-3



WELL DETAILS: LAND 36N-32HZ										
GL 4908 & KB 17 @ 4925.00usft (ASSUMED)										
+N-S		+E-W		Northing		Easting		Latitude		Longitude
0.00		0.00		14562948.04		1696937.41		40.099275		-104.797884
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		
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00		
1078.78	15.58	327.43	1069.23	88.66	-56.63	2.00	327.43	-90.26		
5614.95	15.58	327.43	5438.81	1115.16	-712.26	0.00	0.00	1135.20		
6393.74	0.00	0.00	6208.04	1203.82	-768.89	2.00	180.00	1225.46		
6893.74	0.00	0.00	6708.04	1203.82	-768.89	0.00	0.00	1225.46		
7795.48	90.17	178.04	7281.00	629.45	-749.25	10.00	178.04	-650.77		
12718.58	90.17	178.04	7266.00	-4290.74	-580.99	0.00	0.00	4272.23	PBHL_LAND 36N-32HZ	
DESIGN TARGET DETAILS										
Name		TVD		+N-S		+E-W		Northing		Easting
PBHL		7266.00		-4290.74		-580.99		14558655.98		1696366.17
								40.087492		-104.799961
										Shape Point
FORMATION TOP DETAILS										
		TVDPATH		MDPATH		FORMATION		DIPDIRINC		
		1319.00		1338.08		FOX HILLS		15.58		
		4923.00		5079.47		SUSSEX		15.58		
		7114.62		7345.78		SHARON SPRINGS		45.20		
		7167.62		7427.07		NIOBRARA TOP		53.33		
		7246.38		7593.56		NIOBRARA B BENCH		69.98		



CASING DETAILS			
TVD	MD	Name	Size
1600.00	1629.79	9 5/8"	9.625
7281.00	7795.48	TOP OF PRODUCTION	0.000



# **US ROCKIES WATTENBERG PLANNING**

**WELD-NAD83-UTMFT13N**

**2N-66W-32 LAND 17-32HZ PAD**

**LAND 36N-32HZ**

**PLAN A**

**Plan: PERMIT REV-3**

## **Standard Planning Report**

**26 May, 2015**

<b>Database:</b>	Denver Sales	<b>Local Co-ordinate Reference:</b>	Well LAND 36N-32HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	GL 4908 & KB 17 @ 4925.00usft (ASSUMED)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	GL 4908 & KB 17 @ 4925.00usft (ASSUMED)
<b>Site:</b>	2N-66W-32 LAND 17-32HZ PAD	<b>North Reference:</b>	True
<b>Well:</b>	LAND 36N-32HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	PLAN A		
<b>Design:</b>	PERMIT REV-3		

<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-66W-32 LAND 17-32HZ PAD											
Site Position:			Northing:			14,562,947.99 usft			Latitude:			40.099275					
From:			Lat/Long			Easting:			1,696,922.31 usft			Longitude:			-104.797938		
Position Uncertainty:			0.00 usft			Slot Radius:			13.200 in			Grid Convergence:			0.13		

Well	LAND 36N-32HZ, 947 FNL 1750 FEL					
Well Position	+N/-S	0.01 usft	Northing:	14,562,948.03 usft	Latitude:	40.099275
	+E/-W	15.10 usft	Easting:	1,696,937.41 usft	Longitude:	-104.797884
Position Uncertainty		3.20 usft	Wellhead Elevation:	0.00 usft	Ground Level:	4,908.00 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	5/14/2015	8.33	66.67	52,557

<b>Design</b>	PERMIT REV-3			
<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	178.35

<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	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,078.78	15.58	327.43	1,069.23	88.66	-56.63	2.00	2.00	0.00	327.43	
5,614.95	15.58	327.43	5,438.82	1,115.16	-712.26	0.00	0.00	0.00	0.00	
6,393.74	0.00	0.00	6,208.04	1,203.82	-768.89	2.00	-2.00	0.00	180.00	
6,893.74	0.00	0.00	6,708.04	1,203.82	-768.89	0.00	0.00	0.00	0.00	
7,795.48	90.17	178.04	7,281.00	629.45	-749.25	10.00	10.00	19.74	178.04	
12,718.58	90.17	178.04	7,266.00	-4,290.74	-580.99	0.00	0.00	0.00	0.00	PBHL_LAND 36N-32I

<b>Database:</b>	Denver Sales	<b>Local Co-ordinate Reference:</b>	Well LAND 36N-32HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	GL 4908 & KB 17 @ 4925.00usft (ASSUMED)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	GL 4908 & KB 17 @ 4925.00usft (ASSUMED)
<b>Site:</b>	2N-66W-32 LAND 17-32HZ PAD	<b>North Reference:</b>	True
<b>Well:</b>	LAND 36N-32HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	PLAN A		
<b>Design:</b>	PERMIT REV-3		

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
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 2.00									
400.00	2.00	327.43	399.98	1.47	-0.94	-1.50	2.00	2.00	0.00
500.00	4.00	327.43	499.84	5.88	-3.76	-5.99	2.00	2.00	0.00
600.00	6.00	327.43	599.45	13.23	-8.45	-13.46	2.00	2.00	0.00
700.00	8.00	327.43	698.70	23.50	-15.01	-23.92	2.00	2.00	0.00
800.00	10.00	327.43	797.47	36.68	-23.43	-37.34	2.00	2.00	0.00
900.00	12.00	327.43	895.62	52.76	-33.70	-53.71	2.00	2.00	0.00
1,000.00	14.00	327.43	993.06	71.72	-45.81	-73.01	2.00	2.00	0.00
1,078.78	15.58	327.43	1,069.23	88.66	-56.63	-90.26	2.00	2.00	0.00
Start 4536.17 hold at 1078.78 MD									
1,100.00	15.58	327.43	1,089.66	93.46	-59.70	-95.14	0.00	0.00	0.00
1,200.00	15.58	327.43	1,185.99	116.09	-74.15	-118.18	0.00	0.00	0.00
1,300.00	15.58	327.43	1,282.32	138.72	-88.60	-141.22	0.00	0.00	0.00
1,338.08	15.58	327.43	1,319.00	147.34	-94.11	-149.99	0.00	0.00	0.00
Fox Hills									
1,400.00	15.58	327.43	1,378.65	161.35	-103.06	-164.25	0.00	0.00	0.00
1,500.00	15.58	327.43	1,474.97	183.98	-117.51	-187.29	0.00	0.00	0.00
1,600.00	15.58	327.43	1,571.30	206.61	-131.96	-210.32	0.00	0.00	0.00
1,629.79	15.58	327.43	1,600.00	213.35	-136.27	-217.19	0.00	0.00	0.00
9 5/8"									
1,700.00	15.58	327.43	1,667.63	229.24	-146.42	-233.36	0.00	0.00	0.00
1,800.00	15.58	327.43	1,763.96	251.87	-160.87	-256.40	0.00	0.00	0.00
1,900.00	15.58	327.43	1,860.29	274.50	-175.32	-279.43	0.00	0.00	0.00
2,000.00	15.58	327.43	1,956.61	297.13	-189.78	-302.47	0.00	0.00	0.00
2,100.00	15.58	327.43	2,052.94	319.75	-204.23	-325.50	0.00	0.00	0.00
2,200.00	15.58	327.43	2,149.27	342.38	-218.68	-348.54	0.00	0.00	0.00
2,300.00	15.58	327.43	2,245.60	365.01	-233.14	-371.57	0.00	0.00	0.00
2,400.00	15.58	327.43	2,341.92	387.64	-247.59	-394.61	0.00	0.00	0.00
2,500.00	15.58	327.43	2,438.25	410.27	-262.04	-417.65	0.00	0.00	0.00
2,600.00	15.58	327.43	2,534.58	432.90	-276.50	-440.68	0.00	0.00	0.00
2,700.00	15.58	327.43	2,630.91	455.53	-290.95	-463.72	0.00	0.00	0.00
2,800.00	15.58	327.43	2,727.23	478.16	-305.40	-486.75	0.00	0.00	0.00
2,900.00	15.58	327.43	2,823.56	500.79	-319.86	-509.79	0.00	0.00	0.00
3,000.00	15.58	327.43	2,919.89	523.42	-334.31	-532.83	0.00	0.00	0.00
3,100.00	15.58	327.43	3,016.22	546.05	-348.76	-555.86	0.00	0.00	0.00
3,200.00	15.58	327.43	3,112.55	568.68	-363.22	-578.90	0.00	0.00	0.00
3,300.00	15.58	327.43	3,208.87	591.30	-377.67	-601.93	0.00	0.00	0.00
3,400.00	15.58	327.43	3,305.20	613.93	-392.12	-624.97	0.00	0.00	0.00
3,500.00	15.58	327.43	3,401.53	636.56	-406.58	-648.01	0.00	0.00	0.00
3,600.00	15.58	327.43	3,497.86	659.19	-421.03	-671.04	0.00	0.00	0.00
3,700.00	15.58	327.43	3,594.18	681.82	-435.48	-694.08	0.00	0.00	0.00
3,800.00	15.58	327.43	3,690.51	704.45	-449.94	-717.11	0.00	0.00	0.00
3,900.00	15.58	327.43	3,786.84	727.08	-464.39	-740.15	0.00	0.00	0.00
4,000.00	15.58	327.43	3,883.17	749.71	-478.84	-763.18	0.00	0.00	0.00
4,100.00	15.58	327.43	3,979.49	772.34	-493.30	-786.22	0.00	0.00	0.00
4,200.00	15.58	327.43	4,075.82	794.97	-507.75	-809.26	0.00	0.00	0.00
4,300.00	15.58	327.43	4,172.15	817.60	-522.21	-832.29	0.00	0.00	0.00
4,400.00	15.58	327.43	4,268.48	840.22	-536.66	-855.33	0.00	0.00	0.00

<b>Database:</b>	Denver Sales	<b>Local Co-ordinate Reference:</b>	Well LAND 36N-32HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	GL 4908 & KB 17 @ 4925.00usft (ASSUMED)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	GL 4908 & KB 17 @ 4925.00usft (ASSUMED)
<b>Site:</b>	2N-66W-32 LAND 17-32HZ PAD	<b>North Reference:</b>	True
<b>Well:</b>	LAND 36N-32HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	PLAN A		
<b>Design:</b>	PERMIT REV-3		

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	15.58	327.43	4,364.81	862.85	-551.11	-878.36	0.00	0.00	0.00	
4,600.00	15.58	327.43	4,461.13	885.48	-565.57	-901.40	0.00	0.00	0.00	
4,700.00	15.58	327.43	4,557.46	908.11	-580.02	-924.44	0.00	0.00	0.00	
4,800.00	15.58	327.43	4,653.79	930.74	-594.47	-947.47	0.00	0.00	0.00	
4,900.00	15.58	327.43	4,750.12	953.37	-608.93	-970.51	0.00	0.00	0.00	
5,000.00	15.58	327.43	4,846.44	976.00	-623.38	-993.54	0.00	0.00	0.00	
5,079.47	15.58	327.43	4,923.00	993.98	-634.87	-1,011.85	0.00	0.00	0.00	
<b>Sussex</b>										
5,100.00	15.58	327.43	4,942.77	998.63	-637.83	-1,016.58	0.00	0.00	0.00	
5,200.00	15.58	327.43	5,039.10	1,021.26	-652.29	-1,039.62	0.00	0.00	0.00	
5,300.00	15.58	327.43	5,135.43	1,043.89	-666.74	-1,062.65	0.00	0.00	0.00	
5,400.00	15.58	327.43	5,231.75	1,066.52	-681.19	-1,085.69	0.00	0.00	0.00	
5,500.00	15.58	327.43	5,328.08	1,089.14	-695.65	-1,108.72	0.00	0.00	0.00	
5,600.00	15.58	327.43	5,424.41	1,111.77	-710.10	-1,131.76	0.00	0.00	0.00	
5,614.95	15.58	327.43	5,438.82	1,115.16	-712.26	-1,135.20	0.00	0.00	0.00	
<b>Start Drop -2.00</b>										
5,700.00	13.87	327.43	5,521.06	1,133.38	-723.90	-1,153.75	2.00	-2.00	0.00	
5,800.00	11.87	327.43	5,618.55	1,152.15	-735.89	-1,172.86	2.00	-2.00	0.00	
5,900.00	9.87	327.43	5,716.74	1,168.05	-746.04	-1,189.05	2.00	-2.00	0.00	
6,000.00	7.87	327.43	5,815.54	1,181.05	-754.35	-1,202.28	2.00	-2.00	0.00	
6,100.00	5.87	327.43	5,914.82	1,191.14	-760.79	-1,212.55	2.00	-2.00	0.00	
6,200.00	3.87	327.43	6,014.45	1,198.30	-765.37	-1,219.84	2.00	-2.00	0.00	
6,300.00	1.87	327.43	6,114.32	1,202.53	-768.06	-1,224.14	2.00	-2.00	0.00	
6,393.74	0.00	0.00	6,208.04	1,203.82	-768.89	-1,225.46	2.00	-2.00	0.00	
<b>Start 500.00 hold at 6393.74 MD</b>										
6,400.00	0.00	0.00	6,214.30	1,203.82	-768.89	-1,225.46	0.00	0.00	0.00	
6,500.00	0.00	0.00	6,314.30	1,203.82	-768.89	-1,225.46	0.00	0.00	0.00	
6,600.00	0.00	0.00	6,414.30	1,203.82	-768.89	-1,225.46	0.00	0.00	0.00	
6,700.00	0.00	0.00	6,514.30	1,203.82	-768.89	-1,225.46	0.00	0.00	0.00	
6,800.00	0.00	0.00	6,614.30	1,203.82	-768.89	-1,225.46	0.00	0.00	0.00	
6,893.74	0.00	0.00	6,708.04	1,203.82	-768.89	-1,225.46	0.00	0.00	0.00	
<b>Start DLS 10.00 TFO 178.04</b>										
6,900.00	0.63	178.04	6,714.30	1,203.79	-768.89	-1,225.43	10.00	10.00	0.00	
7,000.00	10.63	178.04	6,813.70	1,194.00	-768.55	-1,215.63	10.00	10.00	0.00	
7,100.00	20.63	178.04	6,909.88	1,167.11	-767.63	-1,188.73	10.00	10.00	0.00	
7,200.00	30.63	178.04	6,999.93	1,123.94	-766.16	-1,145.54	10.00	10.00	0.00	
7,300.00	40.63	178.04	7,081.11	1,065.80	-764.17	-1,087.36	10.00	10.00	0.00	
7,345.78	45.20	178.04	7,114.62	1,034.66	-763.11	-1,056.20	10.00	10.00	0.00	
<b>Sharon Springs</b>										
7,400.00	50.63	178.04	7,150.95	994.45	-761.73	-1,015.98	10.00	10.00	0.00	
7,427.07	53.33	178.04	7,167.62	973.14	-761.00	-994.65	10.00	10.00	0.00	
<b>Niobrara Top</b>										
7,500.00	60.63	178.04	7,207.34	912.07	-758.91	-933.54	10.00	10.00	0.00	
7,593.56	69.98	178.04	7,246.38	827.21	-756.01	-848.64	10.00	10.00	0.00	
<b>Niobrara B Bench</b>										
7,600.00	70.63	178.04	7,248.55	821.15	-755.80	-842.57	10.00	10.00	0.00	
7,700.00	80.63	178.04	7,273.35	724.46	-752.50	-745.83	10.00	10.00	0.00	
7,795.48	90.17	178.04	7,281.00	629.45	-749.25	-650.77	10.00	10.00	0.00	
<b>Start 4923.09 hold at 7795.48 MD - TOP OF PRODUCTION</b>										
7,800.00	90.17	178.04	7,280.98	624.94	-749.09	-646.25	0.00	0.00	0.00	
7,900.00	90.17	178.04	7,280.68	525.00	-745.68	-546.25	0.00	0.00	0.00	

<b>Database:</b>	Denver Sales	<b>Local Co-ordinate Reference:</b>	Well LAND 36N-32HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	GL 4908 & KB 17 @ 4925.00usft (ASSUMED)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	GL 4908 & KB 17 @ 4925.00usft (ASSUMED)
<b>Site:</b>	2N-66W-32 LAND 17-32HZ PAD	<b>North Reference:</b>	True
<b>Well:</b>	LAND 36N-32HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	PLAN A		
<b>Design:</b>	PERMIT REV-3		

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)	
8,000.00	90.17	178.04	7,280.37	425.05	-742.26	-446.25	0.00	0.00	0.00	
8,100.00	90.17	178.04	7,280.07	325.11	-738.84	-346.25	0.00	0.00	0.00	
8,200.00	90.17	178.04	7,279.76	225.17	-735.42	-246.25	0.00	0.00	0.00	
8,300.00	90.17	178.04	7,279.46	125.23	-732.01	-146.26	0.00	0.00	0.00	
8,400.00	90.17	178.04	7,279.15	25.29	-728.59	-46.26	0.00	0.00	0.00	
8,500.00	90.17	178.04	7,278.85	-74.65	-725.17	53.74	0.00	0.00	0.00	
8,600.00	90.17	178.04	7,278.54	-174.59	-721.75	153.74	0.00	0.00	0.00	
8,700.00	90.17	178.04	7,278.24	-274.53	-718.33	253.74	0.00	0.00	0.00	
8,800.00	90.17	178.04	7,277.94	-374.47	-714.92	353.73	0.00	0.00	0.00	
8,900.00	90.17	178.04	7,277.63	-474.42	-711.50	453.73	0.00	0.00	0.00	
9,000.00	90.17	178.04	7,277.33	-574.36	-708.08	553.73	0.00	0.00	0.00	
9,100.00	90.17	178.04	7,277.02	-674.30	-704.66	653.73	0.00	0.00	0.00	
9,200.00	90.17	178.04	7,276.72	-774.24	-701.25	753.73	0.00	0.00	0.00	
9,300.00	90.17	178.04	7,276.41	-874.18	-697.83	853.72	0.00	0.00	0.00	
9,400.00	90.17	178.04	7,276.11	-974.12	-694.41	953.72	0.00	0.00	0.00	
9,500.00	90.17	178.04	7,275.80	-1,074.06	-690.99	1,053.72	0.00	0.00	0.00	
9,600.00	90.17	178.04	7,275.50	-1,174.00	-687.57	1,153.72	0.00	0.00	0.00	
9,700.00	90.17	178.04	7,275.19	-1,273.94	-684.16	1,253.72	0.00	0.00	0.00	
9,800.00	90.17	178.04	7,274.89	-1,373.89	-680.74	1,353.71	0.00	0.00	0.00	
9,900.00	90.17	178.04	7,274.59	-1,473.83	-677.32	1,453.71	0.00	0.00	0.00	
10,000.00	90.17	178.04	7,274.28	-1,573.77	-673.90	1,553.71	0.00	0.00	0.00	
10,100.00	90.17	178.04	7,273.98	-1,673.71	-670.49	1,653.71	0.00	0.00	0.00	
10,200.00	90.17	178.04	7,273.67	-1,773.65	-667.07	1,753.71	0.00	0.00	0.00	
10,300.00	90.17	178.04	7,273.37	-1,873.59	-663.65	1,853.71	0.00	0.00	0.00	
10,400.00	90.17	178.04	7,273.06	-1,973.53	-660.23	1,953.70	0.00	0.00	0.00	
10,500.00	90.17	178.04	7,272.76	-2,073.47	-656.81	2,053.70	0.00	0.00	0.00	
10,600.00	90.17	178.04	7,272.45	-2,173.41	-653.40	2,153.70	0.00	0.00	0.00	
10,700.00	90.17	178.04	7,272.15	-2,273.36	-649.98	2,253.70	0.00	0.00	0.00	
10,800.00	90.17	178.04	7,271.84	-2,373.30	-646.56	2,353.70	0.00	0.00	0.00	
10,900.00	90.17	178.04	7,271.54	-2,473.24	-643.14	2,453.69	0.00	0.00	0.00	
11,000.00	90.17	178.04	7,271.23	-2,573.18	-639.73	2,553.69	0.00	0.00	0.00	
11,100.00	90.17	178.04	7,270.93	-2,673.12	-636.31	2,653.69	0.00	0.00	0.00	
11,200.00	90.17	178.04	7,270.63	-2,773.06	-632.89	2,753.69	0.00	0.00	0.00	
11,300.00	90.17	178.04	7,270.32	-2,873.00	-629.47	2,853.69	0.00	0.00	0.00	
11,400.00	90.17	178.04	7,270.02	-2,972.94	-626.06	2,953.68	0.00	0.00	0.00	
11,500.00	90.17	178.04	7,269.71	-3,072.88	-622.64	3,053.68	0.00	0.00	0.00	
11,600.00	90.17	178.04	7,269.41	-3,172.83	-619.22	3,153.68	0.00	0.00	0.00	
11,700.00	90.17	178.04	7,269.10	-3,272.77	-615.80	3,253.68	0.00	0.00	0.00	
11,800.00	90.17	178.04	7,268.80	-3,372.71	-612.38	3,353.68	0.00	0.00	0.00	
11,900.00	90.17	178.04	7,268.49	-3,472.65	-608.97	3,453.67	0.00	0.00	0.00	
12,000.00	90.17	178.04	7,268.19	-3,572.59	-605.55	3,553.67	0.00	0.00	0.00	
12,100.00	90.17	178.04	7,267.88	-3,672.53	-602.13	3,653.67	0.00	0.00	0.00	
12,200.00	90.17	178.04	7,267.58	-3,772.47	-598.71	3,753.67	0.00	0.00	0.00	
12,300.00	90.17	178.04	7,267.28	-3,872.41	-595.30	3,853.67	0.00	0.00	0.00	
12,400.00	90.17	178.04	7,266.97	-3,972.35	-591.88	3,953.67	0.00	0.00	0.00	
12,500.00	90.17	178.04	7,266.67	-4,072.30	-588.46	4,053.66	0.00	0.00	0.00	
12,600.00	90.17	178.04	7,266.36	-4,172.24	-585.04	4,153.66	0.00	0.00	0.00	
12,700.00	90.17	178.04	7,266.06	-4,272.18	-581.62	4,253.66	0.00	0.00	0.00	
12,718.58	90.17	178.04	7,266.00	-4,290.74	-580.99	4,272.24	0.00	0.00	0.00	
TD at 12718.58 - PBHL LAND 36N-32HZ										

<b>Database:</b>	Denver Sales	<b>Local Co-ordinate Reference:</b>	Well LAND 36N-32HZ
<b>Company:</b>	US ROCKIES WATTENBERG PLANNING	<b>TVD Reference:</b>	GL 4908 & KB 17 @ 4925.00usft (ASSUMED)
<b>Project:</b>	WELD-NAD83-UTMFT13N	<b>MD Reference:</b>	GL 4908 & KB 17 @ 4925.00usft (ASSUMED)
<b>Site:</b>	2N-66W-32 LAND 17-32HZ PAD	<b>North Reference:</b>	True
<b>Well:</b>	LAND 36N-32HZ	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	PLAN A		
<b>Design:</b>	PERMIT REV-3		

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									
PBHL_LAND 36N-32HZ	0.00	0.00	7,266.00	-4,290.74	-580.99	14,558,655.98	1,696,366.17	40.087492	-104.799961
- plan hits target center									
- Point									

Casing Points					
Measured Depth	Vertical Depth	Name		Casing Diameter	Hole Diameter
(usft)	(usft)			(in)	(in)
1,629.79	1,600.00	9 5/8"		9.625	13.500
7,795.48	7,281.00	TOP OF PRODUCTION		0.000	8.500

Formations						
Measured Depth	Vertical Depth	Name		Lithology	Dip	Dip Direction
(usft)	(usft)				(°)	(°)
1,338.08	1,319.00	Fox Hills				
5,079.47	4,923.00	Sussex				
7,345.78	7,114.62	Sharon Springs				
7,427.07	7,167.62	Niobrara Top				
7,593.56	7,246.38	Niobrara B Bench				

Plan Annotations					
Measured Depth	Vertical Depth	Local Coordinates		Comment	
(usft)	(usft)	+N/-S	+E/-W		
(usft)	(usft)	(usft)	(usft)		
300.00	300.00	0.00	0.00	Start Build 2.00	
1,078.78	1,069.23	88.66	-56.63	Start 4536.17 hold at 1078.78 MD	
5,614.95	5,438.82	1,115.16	-712.26	Start Drop -2.00	
6,393.74	6,208.04	1,203.82	-768.89	Start 500.00 hold at 6393.74 MD	
6,893.74	6,708.04	1,203.82	-768.89	Start DLS 10.00 TFO 178.04	
7,795.48	7,281.00	629.45	-749.25	Start 4923.09 hold at 7795.48 MD	
12,718.58	7,266.00	-4,290.74	-580.99	TD at 12718.58	