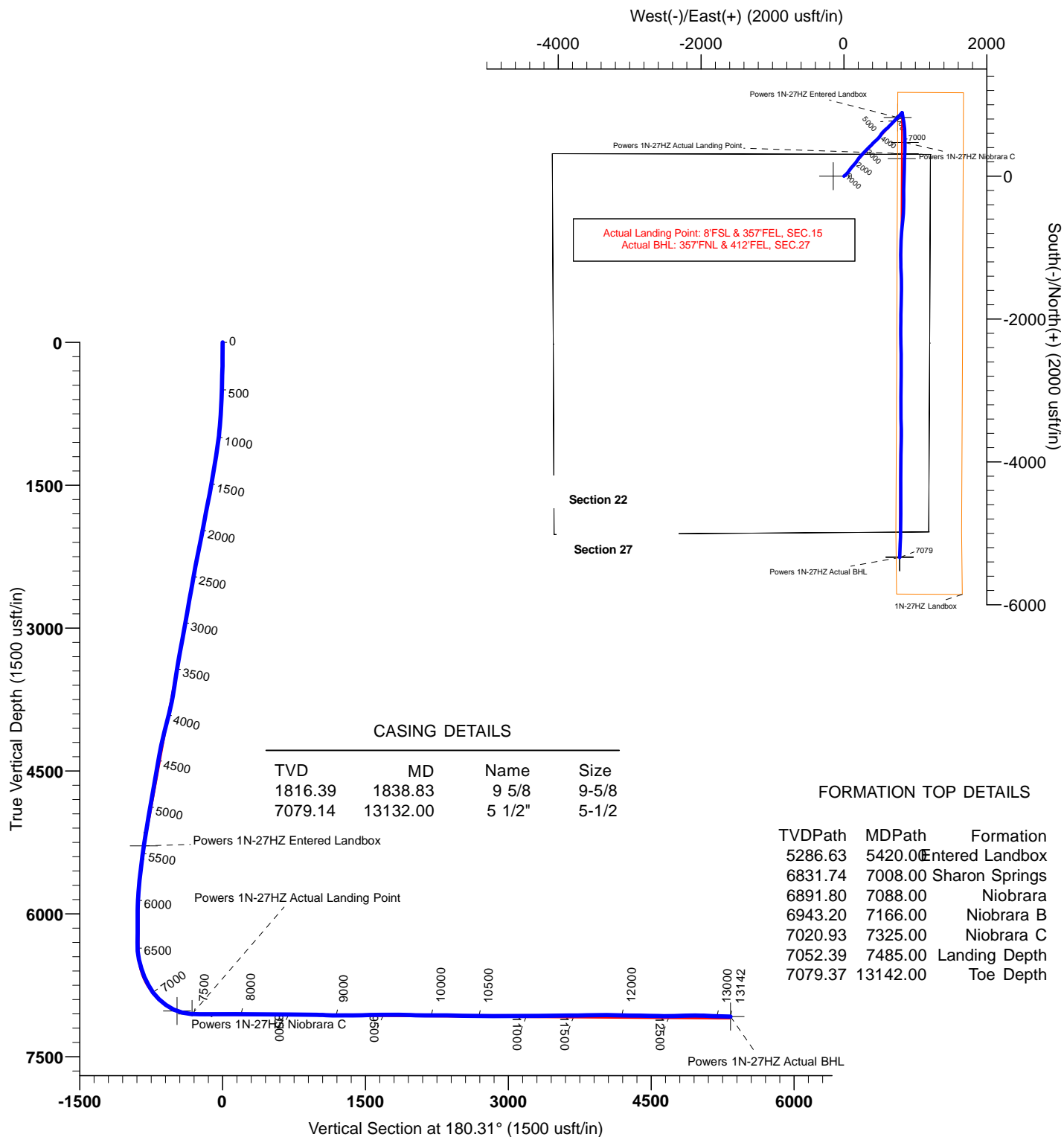


US ROCKIES WATTENBERG PLANNING



Project: WELD-NAD83-UTMFT13N
Site: 2N-65W-22 Powers 2-22 Pad
Well: POWERS 1N-27HZ
Wellbore: POWERS 1N-27HZ
Design: PDD Actual Surveys



TARGET DETAILS							
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
Powers 1N-27HZ Entered Landbox	5286.63	822.22	753.80	14575288.65	1740403.36	40.132788	-104.642276
Powers 1N-27HZ Niobrara C	7020.93	472.53	853.90	14574939.36	1740504.85	40.131828	-104.641918
Powers 1N-27HZ Actual Landing Point	7052.39	316.33	853.29	14574783.16	1740504.87	40.131399	-104.641920
Powers 1N-27HZ Actual BHL	7079.37	-5337.03	781.18	14569129.56	1740455.34	40.115874	-104.642179

PREMIER DIRECTIONAL DRILLING

12941 North Freeway Suite 400, Houston, TX, 77060

Phone: 281-673-4000



US ROCKIES WATTENBERG PLANNING

**WELD-NAD83-UTMFT13N
2N-65W-22 Powers 2-22 Pad
POWERS 1N-27HZ**

POWERS 1N-27HZ

Design: PDD Actual Surveys

Standard Survey Report

11 November, 2015

PDD

Survey Report

Company:	US ROCKIES WATTENBERG PLANNING	Local Co-ordinate Reference:	Well POWERS 1N-27HZ
Project:	WELD-NAD83-UTMFT13N	TVD Reference:	4894'+25' @ 4919.00usft (H&P 307)
Site:	2N-65W-22 Powers 2-22 Pad	MD Reference:	4894'+25' @ 4919.00usft (H&P 307)
Well:	POWERS 1N-27HZ	North Reference:	True
Wellbore:	POWERS 1N-27HZ	Survey Calculation Method:	Minimum Curvature
Design:	PDD Actual Surveys	Database:	EDM 5000.1 Single User Db

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	2N-65W-22 Powers 2-22 Pad, centered on 2N-27HZ				
Site Position:		Northing:	14,574,462.82 usft	Latitude:	40.130530
From:	Lat/Long	Easting:	1,739,503.03 usft	Longitude:	-104.645509
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.23 °

Well	POWERS 1N-27HZ					
Well Position	+N/-S	0.00 usft	Northing:	14,574,463.42 usft	Latitude:	40.130530
	+E/-W	0.00 usft	Easting:	1,739,652.85 usft	Longitude:	-104.644973
Position Uncertainty		3.28 usft	Wellhead Elevation:	0.00 usft	Ground Level:	4,894.00 usft

Wellbore	POWERS 1N-27HZ				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	1/12/2015	8.30	66.73	52,625

Design	PDD Actual Surveys				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.00	0.00	0.00	180.31	

Survey Program	Date	11/11/2015			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
164.00	1,812.00	SDI MWD Surveys (POWERS 1N-27HZ)	APC_ISCWSA REV 2 MWD	Fixed:v2:standard declination	
1,963.00	13,049.00	PDD MWD+IFR Surveys (POWERS 1N-2	APC_ISCWSA REV 2 MWD+	Fixed:v2:crustal field declination	

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	
164.00	0.52	36.40	164.00	0.60	0.44	-0.60	0.32	0.32	0.00	
252.00	1.18	57.30	251.99	1.41	1.44	-1.42	0.82	0.75	23.75	
345.00	1.68	30.15	344.96	3.11	2.93	-3.12	0.89	0.54	-29.19	
480.00	2.61	50.03	479.87	6.79	6.28	-6.83	0.87	0.69	14.73	
570.00	3.56	53.98	569.73	9.75	10.11	-9.81	1.08	1.06	4.39	
660.00	4.72	52.83	659.50	13.63	15.32	-13.71	1.29	1.29	-1.28	
750.00	5.89	53.82	749.11	18.60	22.00	-18.71	1.30	1.30	1.10	
840.00	6.64	51.46	838.57	24.56	29.80	-24.72	0.88	0.83	-2.62	
986.00	9.25	42.35	983.16	38.50	44.31	-38.74	1.98	1.79	-6.24	

PDD Survey Report

Company:	US ROCKIES WATTENBERG PLANNING	Local Co-ordinate Reference:	Well POWERS 1N-27HZ
Project:	WELD-NAD83-UTMFT13N	TVD Reference:	4894'+25' @ 4919.00usft (H&P 307)
Site:	2N-65W-22 Powers 2-22 Pad	MD Reference:	4894'+25' @ 4919.00usft (H&P 307)
Well:	POWERS 1N-27HZ	North Reference:	True
Wellbore:	POWERS 1N-27HZ	Survey Calculation Method:	Minimum Curvature
Design:	PDD Actual Surveys	Database:	EDM 5000.1 Single User Db

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)
1,066.00	10.18	38.11	1,062.02	48.81	53.00	-49.10	1.47	1.16	-5.30
1,156.00	10.67	35.43	1,150.53	61.86	62.74	-62.20	0.77	0.54	-2.98
1,246.00	10.05	35.53	1,239.06	75.04	72.14	-75.43	0.69	-0.69	0.11
1,336.00	11.56	33.93	1,327.47	88.91	81.73	-89.35	1.71	1.68	-1.78
1,426.00	12.93	36.35	1,415.42	104.51	92.74	-105.01	1.63	1.52	2.69
1,516.00	12.69	41.06	1,503.18	120.07	105.20	-120.64	1.19	-0.27	5.23
1,606.00	13.70	42.46	1,590.80	135.39	118.89	-136.03	1.18	1.12	1.56
1,696.00	14.70	41.18	1,678.05	151.85	133.60	-152.57	1.16	1.11	-1.42
1,786.00	14.37	40.84	1,765.17	168.89	148.42	-169.69	0.38	-0.37	-0.38
1,812.00	14.22	40.33	1,790.37	173.76	152.60	-174.59	0.75	-0.58	-1.96
1,963.00	12.39	35.73	1,937.31	201.06	174.06	-202.00	1.40	-1.21	-3.05
2,057.00	14.11	34.41	2,028.81	218.70	186.43	-219.70	1.86	1.83	-1.40
2,181.00	14.11	34.81	2,149.06	243.58	203.60	-244.67	0.08	0.00	0.32
2,276.00	14.11	39.51	2,241.20	262.02	217.58	-263.19	1.21	0.00	4.95
2,370.00	14.11	43.12	2,332.37	279.22	232.70	-280.48	0.94	0.00	3.84
2,465.00	13.21	41.93	2,424.68	295.75	247.87	-297.09	0.99	-0.95	-1.25
2,559.00	13.91	41.31	2,516.06	312.23	262.50	-313.64	0.76	0.74	-0.66
2,654.00	13.91	44.13	2,608.27	329.00	277.99	-330.50	0.71	0.00	2.97
2,748.00	14.31	44.70	2,699.44	345.37	294.03	-346.95	0.45	0.43	0.61
2,843.00	12.79	42.41	2,791.79	361.48	309.38	-363.15	1.70	-1.60	-2.41
2,937.00	13.69	44.70	2,883.29	377.07	324.22	-378.82	1.11	0.96	2.44
3,032.00	15.21	46.02	2,975.28	393.71	341.10	-395.55	1.64	1.60	1.39
3,126.00	14.31	44.92	3,066.18	410.50	358.18	-412.43	1.00	-0.96	-1.17
3,221.00	15.01	45.53	3,158.09	427.43	375.25	-429.46	0.75	0.74	0.64
3,315.00	13.49	42.94	3,249.19	443.99	391.40	-446.10	1.75	-1.62	-2.76
3,410.00	13.49	44.04	3,341.57	460.07	406.65	-462.26	0.27	0.00	1.16
3,504.00	13.01	44.70	3,433.07	475.47	421.72	-477.74	0.54	-0.51	0.70
3,599.00	12.31	48.22	3,525.76	489.82	436.79	-492.17	1.10	-0.74	3.71
3,694.00	13.21	48.92	3,618.42	503.70	452.53	-506.14	0.96	0.95	0.74
3,788.00	14.70	46.11	3,709.64	519.02	469.22	-521.56	1.74	1.59	-2.99
3,883.00	15.80	42.41	3,801.29	536.93	486.63	-539.56	1.55	1.16	-3.89
3,977.00	16.59	34.50	3,891.58	557.44	502.86	-560.15	2.49	0.84	-8.41
4,072.00	16.70	33.62	3,982.59	579.99	518.10	-582.78	0.29	0.12	-0.93
4,166.00	17.91	37.80	4,072.34	602.65	534.44	-605.54	1.84	1.29	4.45
4,261.00	18.20	43.73	4,162.67	624.92	553.65	-627.91	1.96	0.31	6.24
4,355.00	16.39	49.53	4,252.42	644.14	573.89	-647.23	2.66	-1.93	6.17
4,450.00	15.91	48.70	4,343.68	661.43	593.87	-664.63	0.56	-0.51	-0.87
4,544.00	14.70	47.60	4,434.34	677.98	612.36	-681.28	1.32	-1.29	-1.17
4,639.00	14.00	46.02	4,526.38	694.08	629.53	-697.48	0.84	-0.74	-1.66
4,734.00	13.21	43.03	4,618.71	710.00	645.20	-713.48	1.11	-0.83	-3.15
4,828.00	14.00	45.40	4,710.07	725.83	660.63	-729.40	1.03	0.84	2.52
4,922.00	12.90	39.91	4,801.50	741.87	675.46	-745.51	1.79	-1.17	-5.84
5,017.00	13.60	43.51	4,893.97	758.10	689.95	-761.83	1.14	0.74	3.79

PDD Survey Report

Company:	US ROCKIES WATTENBERG PLANNING	Local Co-ordinate Reference:	Well POWERS 1N-27HZ
Project:	WELD-NAD83-UTMFT13N	TVD Reference:	4894'+25' @ 4919.00usft (H&P 307)
Site:	2N-65W-22 Powers 2-22 Pad	MD Reference:	4894'+25' @ 4919.00usft (H&P 307)
Well:	POWERS 1N-27HZ	North Reference:	True
Wellbore:	POWERS 1N-27HZ	Survey Calculation Method:	Minimum Curvature
Design:	PDD Actual Surveys	Database:	EDM 5000.1 Single User Db

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)	
5,111.00	14.11	48.43	4,985.24	773.72	706.13	-777.53	1.37	0.54	5.23	
5,206.00	13.21	45.01	5,077.55	789.08	722.47	-792.98	1.27	-0.95	-3.60	
5,301.00	12.20	41.80	5,170.22	804.24	736.84	-808.21	1.30	-1.06	-3.38	
5,395.00	11.91	44.44	5,262.15	818.57	750.25	-822.61	0.66	-0.31	2.81	
5,490.00	10.70	41.80	5,355.31	832.14	762.99	-836.26	1.38	-1.27	-2.78	
5,584.00	9.91	43.91	5,447.79	844.47	774.42	-848.65	0.93	-0.84	2.24	
5,679.00	8.39	39.73	5,541.58	855.69	784.52	-859.93	1.75	-1.60	-4.40	
5,773.00	7.89	43.82	5,634.63	865.62	793.37	-869.90	0.81	-0.53	4.35	
5,868.00	6.59	36.52	5,728.88	874.71	801.13	-879.03	1.67	-1.37	-7.68	
5,962.00	4.90	47.12	5,822.40	881.78	807.28	-886.13	2.12	-1.80	11.28	
6,057.00	2.11	46.94	5,917.22	885.73	811.54	-890.11	2.94	-2.94	-0.19	
6,152.00	0.59	84.12	6,012.19	886.98	813.30	-891.36	1.77	-1.60	39.14	
6,246.00	0.40	47.60	6,106.19	887.25	814.02	-891.64	0.38	-0.20	-38.85	
6,341.00	0.51	29.32	6,201.18	887.84	814.48	-892.23	0.19	0.12	-19.24	
6,435.00	0.59	12.13	6,295.18	888.68	814.78	-893.07	0.19	0.09	-18.29	
6,530.00	3.01	154.53	6,390.14	886.90	815.96	-891.31	3.68	2.55	149.89	
6,624.00	13.91	169.74	6,482.98	873.52	819.04	-877.94	11.74	11.60	16.18	
6,719.00	17.40	169.30	6,574.45	848.32	823.71	-852.76	3.68	3.67	-0.46	
6,813.00	22.81	172.02	6,662.69	816.44	828.86	-820.91	5.84	5.76	2.89	
6,908.00	29.01	171.63	6,748.10	775.37	834.77	-779.87	6.53	6.53	-0.41	
7,002.00	36.81	171.10	6,826.95	724.92	842.46	-729.47	8.30	8.30	-0.56	
7,096.00	45.99	174.53	6,897.39	663.31	850.05	-667.90	10.06	9.77	3.65	
7,191.00	54.50	180.11	6,958.12	590.46	853.24	-595.07	10.03	8.96	5.87	
7,285.00	64.89	179.63	7,005.49	509.42	853.45	-514.03	11.06	11.05	-0.51	
7,380.00	76.30	178.13	7,037.00	419.99	855.24	-424.61	12.10	12.01	-1.58	
7,474.00	85.79	183.41	7,051.63	327.28	853.93	-331.90	11.52	10.10	5.62	
7,569.00	89.51	182.70	7,055.52	232.51	848.88	-237.10	3.99	3.92	-0.75	
7,663.00	91.11	180.51	7,055.01	138.56	846.24	-143.14	2.89	1.70	-2.33	
7,758.00	91.11	181.43	7,053.17	43.59	844.64	-48.16	0.97	0.00	0.97	
7,852.00	89.59	181.91	7,052.60	-50.36	841.90	45.81	1.70	-1.62	0.51	
7,947.00	89.51	180.42	7,053.34	-145.34	839.97	140.79	1.57	-0.08	-1.57	
8,041.00	88.89	179.80	7,054.66	-239.33	839.79	234.78	0.93	-0.66	-0.66	
8,136.00	89.51	181.21	7,055.98	-334.31	838.95	329.77	1.62	0.65	1.48	
8,230.00	89.00	181.74	7,057.20	-428.27	836.53	423.74	0.78	-0.54	0.56	
8,325.00	89.20	183.10	7,058.70	-523.17	832.52	518.66	1.45	0.21	1.43	
8,419.00	90.49	185.82	7,058.95	-616.88	825.21	612.40	3.20	1.37	2.89	
8,514.00	91.00	185.43	7,057.72	-711.41	815.90	706.99	0.68	0.54	-0.41	
8,608.00	89.70	184.81	7,057.14	-805.03	807.51	800.65	1.53	-1.38	-0.66	
8,703.00	88.49	182.00	7,058.64	-899.84	801.87	895.49	3.22	-1.27	-2.96	
8,797.00	88.41	182.31	7,061.19	-993.74	798.33	989.41	0.34	-0.09	0.33	
8,892.00	87.11	179.80	7,064.90	-1,088.64	796.59	1,084.32	2.97	-1.37	-2.64	
8,986.00	89.90	179.32	7,067.35	-1,182.60	797.31	1,178.27	3.01	2.97	-0.51	
9,081.00	90.21	178.13	7,067.26	-1,277.57	799.42	1,273.23	1.29	0.33	-1.25	

PDD
Survey Report

Company:	US ROCKIES WATTENBERG PLANNING	Local Co-ordinate Reference:	Well POWERS 1N-27HZ
Project:	WELD-NAD83-UTMFT13N	TVD Reference:	4894'+25' @ 4919.00usft (H&P 307)
Site:	2N-65W-22 Powers 2-22 Pad	MD Reference:	4894'+25' @ 4919.00usft (H&P 307)
Well:	POWERS 1N-27HZ	North Reference:	True
Wellbore:	POWERS 1N-27HZ	Survey Calculation Method:	Minimum Curvature
Design:	PDD Actual Surveys	Database:	EDM 5000.1 Single User Db

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)
9,175.00	90.69	177.30	7,066.52	-1,371.49	803.17	1,367.13	1.02	0.51	-0.88
9,269.00	90.80	178.44	7,065.30	-1,465.42	806.66	1,461.03	1.22	0.12	1.21
9,364.00	91.51	180.81	7,063.38	-1,560.39	807.28	1,556.00	2.60	0.75	2.49
9,458.00	91.20	181.61	7,061.16	-1,654.34	805.30	1,649.96	0.91	-0.33	0.85
9,553.00	89.20	180.81	7,060.83	-1,749.32	803.29	1,744.94	2.27	-2.11	-0.84
9,647.00	90.10	180.90	7,061.40	-1,843.30	801.89	1,838.94	0.96	0.96	0.10
9,742.00	88.21	181.43	7,062.80	-1,938.27	799.96	1,933.91	2.07	-1.99	0.56
9,836.00	88.80	180.64	7,065.26	-2,032.22	798.26	2,027.87	1.05	0.63	-0.84
9,931.00	89.11	180.20	7,066.99	-2,127.20	797.57	2,122.85	0.57	0.33	-0.46
10,025.00	89.70	179.94	7,067.97	-2,221.19	797.45	2,216.85	0.69	0.63	-0.28
10,120.00	91.11	179.32	7,067.29	-2,316.19	798.07	2,311.84	1.62	1.48	-0.65
10,214.00	88.30	177.83	7,067.78	-2,410.15	800.40	2,405.78	3.38	-2.99	-1.59
10,309.00	88.10	180.20	7,070.76	-2,505.08	802.04	2,500.70	2.50	-0.21	2.49
10,403.00	88.80	179.32	7,073.31	-2,599.04	802.43	2,594.66	1.20	0.74	-0.94
10,498.00	89.51	179.63	7,074.71	-2,694.03	803.30	2,689.64	0.82	0.75	0.33
10,592.00	90.49	181.21	7,074.71	-2,788.02	802.61	2,783.64	1.98	1.04	1.68
10,687.00	91.20	180.81	7,073.31	-2,882.99	800.94	2,878.62	0.86	0.75	-0.42
10,781.00	89.79	181.12	7,072.49	-2,976.97	799.35	2,972.61	1.54	-1.50	0.33
10,876.00	89.90	180.33	7,072.75	-3,071.97	798.15	3,067.60	0.84	0.12	-0.83
10,970.00	90.21	179.54	7,072.66	-3,165.96	798.26	3,161.60	0.90	0.33	-0.84
11,065.00	91.00	178.62	7,071.66	-3,260.94	799.78	3,256.57	1.28	0.83	-0.97
11,159.00	89.51	179.54	7,071.24	-3,354.93	801.29	3,350.54	1.86	-1.59	0.98
11,254.00	90.41	178.70	7,071.30	-3,449.92	802.75	3,445.52	1.30	0.95	-0.88
11,348.00	91.20	179.10	7,069.98	-3,543.89	804.56	3,539.48	0.94	0.84	0.43
11,443.00	90.30	180.64	7,068.74	-3,638.88	804.77	3,634.47	1.88	-0.95	1.62
11,537.00	90.60	181.21	7,068.00	-3,732.86	803.25	3,728.46	0.69	0.32	0.61
11,632.00	91.51	181.52	7,066.25	-3,827.82	800.99	3,823.43	1.01	0.96	0.33
11,726.00	91.31	180.81	7,063.94	-3,921.77	799.08	3,917.39	0.78	-0.21	-0.76
11,821.00	89.51	179.23	7,063.26	-4,016.76	799.05	4,012.38	2.52	-1.89	-1.66
11,915.00	88.30	180.73	7,065.06	-4,110.74	799.08	4,106.35	2.05	-1.29	1.60
12,010.00	89.11	180.20	7,067.20	-4,205.71	798.31	4,201.33	1.02	0.85	-0.56
12,104.00	88.69	181.21	7,069.01	-4,299.68	797.15	4,295.31	1.16	-0.45	1.07
12,199.00	89.11	181.03	7,070.83	-4,394.65	795.30	4,390.28	0.48	0.44	-0.19
12,293.00	89.00	179.63	7,072.38	-4,488.63	794.76	4,484.26	1.49	-0.12	-1.49
12,388.00	89.20	177.83	7,073.87	-4,583.59	796.86	4,579.21	1.91	0.21	-1.89
12,483.00	90.41	179.94	7,074.20	-4,678.56	798.71	4,674.17	2.56	1.27	2.22
12,577.00	91.00	180.02	7,073.04	-4,772.56	798.74	4,768.17	0.63	0.63	0.09
12,672.00	91.70	181.12	7,070.80	-4,867.52	797.80	4,863.14	1.37	0.74	1.16
12,766.00	90.30	181.12	7,069.16	-4,961.49	795.96	4,957.11	1.49	-1.49	0.00
12,860.00	87.70	182.53	7,070.80	-5,055.42	792.97	5,051.05	3.15	-2.77	1.50
12,955.00	87.90	182.92	7,074.45	-5,150.24	788.45	5,145.90	0.46	0.21	0.41
13,049.00	88.69	182.00	7,077.25	-5,244.11	784.42	5,239.79	1.29	0.84	-0.98
13,142.00	88.69	182.00	7,079.37	-5,337.03	781.18	5,332.72	0.00	0.00	0.00

PDD
Survey Report

Company:	US ROCKIES WATTENBERG PLANNING	Local Co-ordinate Reference:	Well POWERS 1N-27HZ
Project:	WELD-NAD83-UTMFT13N	TVD Reference:	4894'+25' @ 4919.00usft (H&P 307)
Site:	2N-65W-22 Powers 2-22 Pad	MD Reference:	4894'+25' @ 4919.00usft (H&P 307)
Well:	POWERS 1N-27HZ	North Reference:	True
Wellbore:	POWERS 1N-27HZ	Survey Calculation Method:	Minimum Curvature
Design:	PDD Actual Surveys	Database:	EDM 5000.1 Single User Db

Design Targets									
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
Powers 1N-27HZ Entere - actual wellpath hits target center - Point	0.00	0.00	5,286.63	822.22	753.80	14,575,288.65	1,740,403.35	40.132788	-104.642276
Powers 1N-27HZ Niobra - actual wellpath misses target center by 0.01usft at 7324.99usft MD (7020.92 TVD, 472.55 N, 853.90 E) - Point	0.00	0.00	7,020.93	472.53	853.90	14,574,939.36	1,740,504.85	40.131828	-104.641918
Powers 1N-27HZ Actual - actual wellpath hits target center - Point	0.00	0.00	7,052.39	316.33	853.29	14,574,783.15	1,740,504.87	40.131399	-104.641921
Powers 1N-27HZ Actual - actual wellpath hits target center - Point	0.00	0.00	7,079.37	-5,337.03	781.18	14,569,129.55	1,740,455.33	40.115874	-104.642179

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")	
1,838.83	1,816.39	9 5/8	9-5/8	13-1/2	
13,132.00	7,079.14	5 1/2"	5-1/2	8-1/2	

Formations						
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
5,420.00	5,286.63	Entered Landbox		0.00		
7,008.00	6,831.74	Sharon Springs		0.00		
7,088.00	6,891.80	Niobrara		0.00		
7,166.00	6,943.20	Niobrara B		0.00		
7,325.00	7,020.93	Niobrara C		0.00		
7,485.00	7,052.39	Landing Depth		0.00		
13,142.00	7,079.37	Toe Depth		0.00		

Design Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
		+N/-S (usft)	+E/-W (usft)		
13,142.00	7,079.37	-5,337.03	781.18	Projection to Bit	

Checked By: _____ Approved By: _____ Date: _____