

US ROCKIES REGION PLANNING

COLORADO NORTHERN ZONE - 83

WELD_POWER PAD

POWERS 1N-23HZ

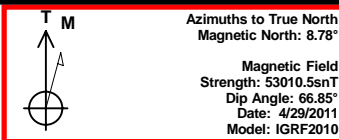
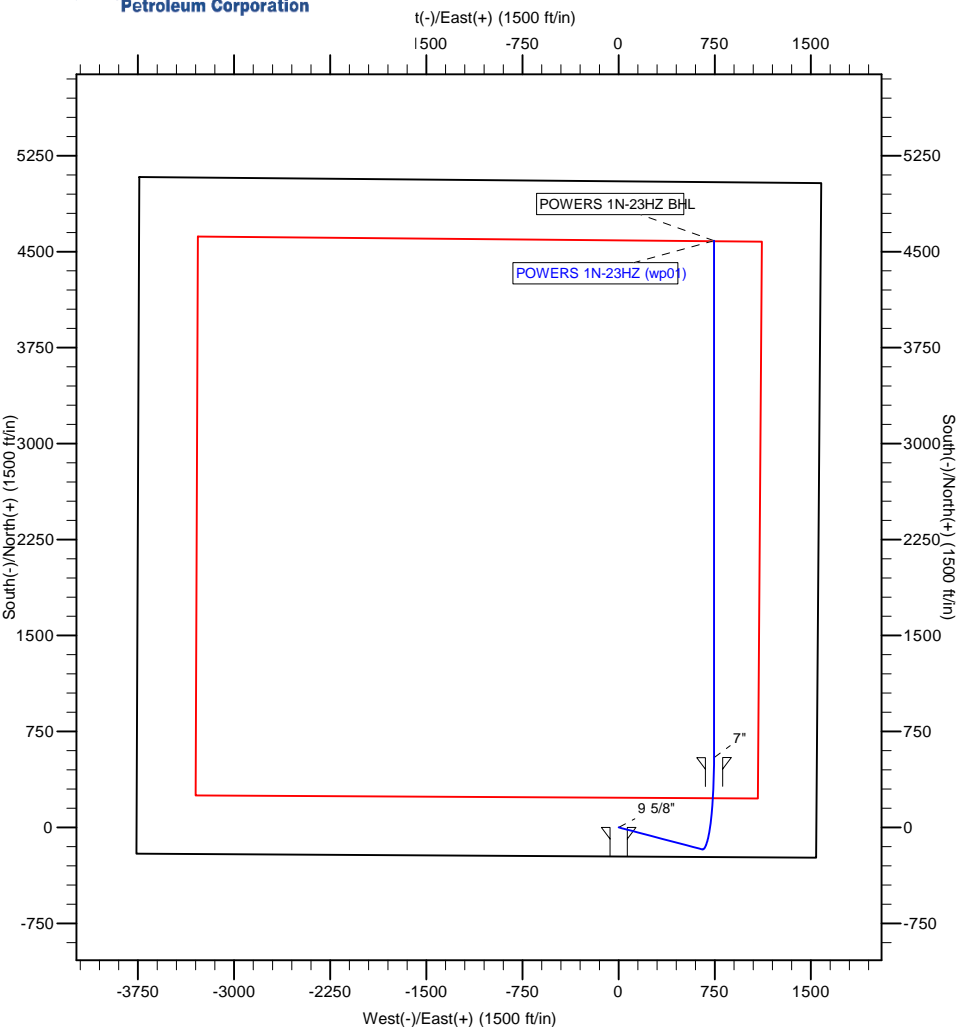
POWERS 1N-23HZ

Plan: POWERS 1N-23HZ (wp01)

Standard Planning Report

29 April, 2011





Project: COLORADO NORTHERN ZONE - 83
Site: WELD POWERS PAD
Well: POWERS 1N-23HZ
Wellbore: POWERS 1N-23HZ
Section:
SHL:
Design: POWERS 1N-23HZ (wp01)
Latitude: 40.117417
Longitude: -104.627290
GL: 4909.00
KB: 17' RKB + 4909' GL @ 4926.00ft

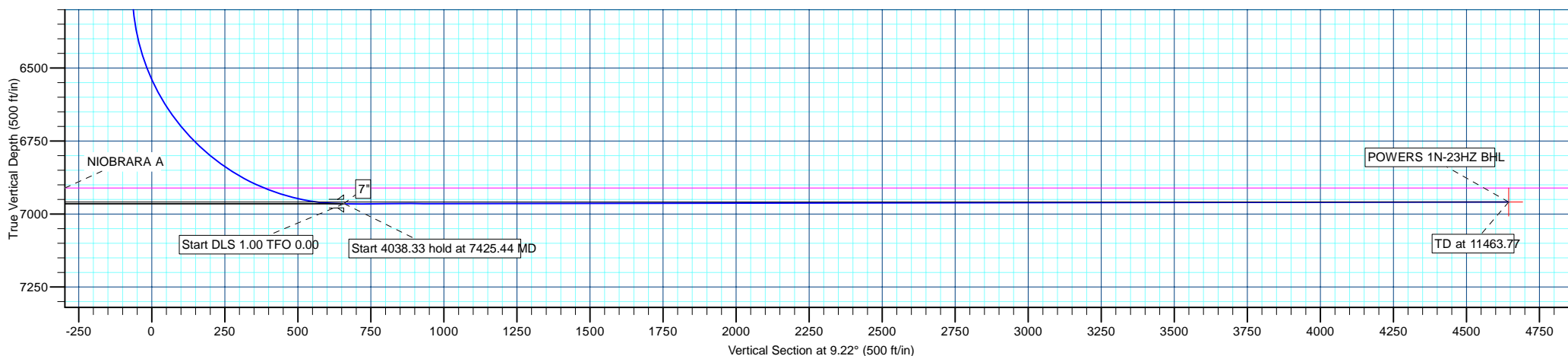
WELL DETAILS: POWERS 1N-23HZ						
+N/-S	+E/-W	Northing	Ground Level: Easting	4909.00 Latitude	40.117417	Longitude
0.00	0.00	1286820.07	3244067.95			-104.627290

WELLBORE TARGET DETAILS (MAP CO-ORDINATES AND LAT/LONG)						
Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
POWERS 1N-23HZ BHL	6959.00	4584.84	744.35	40.130003	-104.624628	Point

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	
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	
1272.97	7.46	104.77	1271.92	-6.18	23.44	2.00	104.77	-2.34	
6274.36	7.46	104.77	6230.98	-171.67	651.30	0.00	0.00	-65.08	
7423.93	90.07	360.00	6965.00	545.00	744.35	8.00	-104.64	657.24	
7425.44	90.09	360.00	6965.00	546.51	744.35	1.00	0.00	658.73	
11463.77	90.09	360.00	6959.00	4584.84	744.35	0.00	0.00	4644.87	POWERS 1N-23HZ BHL

FORMATION TOP DETAILS		
TVDPath	MDPath	Formation
706.00	706.00	BASE FOX
3956.00	3979.96	PARKMAN
4322.00	4349.09	SUSSEX
6911.00	7142.02	NIOBRARA A

CASING DETAILS			
TVD	MD	Name	Size
750.00	750.00	9 5/8"	9-5/8
6965.00	7423.93	7"	7



Database:	edm5000p	Local Co-ordinate Reference:	Well POWERS 1N-23HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	17' RKB + 4909' GL @ 4926.00ft
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	17' RKB + 4909' GL @ 4926.00ft
Site:	WELD_POWERS PAD	North Reference:	True
Well:	POWERS 1N-23HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	POWERS 1N-23HZ		
Design:	POWERS 1N-23HZ (wp01)		

Project	COLORADO NORTHERN ZONE - 83		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		

Site		WELD_POWERS PAD			
Site Position:		Northing:	1,286,819.50 ft	Latitude:	40.117418
From:	Lat/Long	Easting:	3,243,972.03 ft	Longitude:	-104.627633
Position Uncertainty:	0.00 ft	Slot Radius:	0 "	Grid Convergence:	0.56

Well	POWERS 1N-23HZ					
Well Position	+N-S	-0.37 ft	Northing:	1,286,820.07 ft	Latitude:	40.117417
	+E-W	95.93 ft	Easting:	3,244,067.95 ft	Longitude:	-104.627290
Position Uncertainty		0.00 ft	Wellhead Elevation:		Ground Level:	4,909.00 ft

Wellbore	POWERS 1N-23HZ				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	4/29/2011	8.78	66.85	53,011

Design	POWERS 1N-23HZ (wp01)			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	9.22

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,272.97	7.46	104.77	1,271.92	-6.18	23.44	2.00	2.00	0.00	104.77	
6,274.36	7.46	104.77	6,230.98	-171.67	651.30	0.00	0.00	0.00	0.00	
7,423.93	90.07	360.00	6,965.00	545.00	744.35	8.00	7.19	-9.11	-104.64	
7,425.44	90.09	360.00	6,965.00	546.51	744.35	1.00	1.00	0.00	0.00	
11,463.77	90.09	360.00	6,959.00	4,584.84	744.35	0.00	0.00	0.00	0.00	POWERS 1N-23HZ

Database:	edm5000p	Local Co-ordinate Reference:	Well POWERS 1N-23HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	17' RKB + 4909' GL @ 4926.00ft
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	17' RKB + 4909' GL @ 4926.00ft
Site:	WELD_POWERS PAD	North Reference:	True
Well:	POWERS 1N-23HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	POWERS 1N-23HZ		
Design:	POWERS 1N-23HZ (wp01)		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
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
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
706.00	0.00	0.00	706.00	0.00	0.00	0.00	0.00	0.00	0.00
BASE FOX									
750.00	0.00	0.00	750.00	0.00	0.00	0.00	0.00	0.00	0.00
9 5/8"									
800.00	0.00	0.00	800.00	0.00	0.00	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	0.00	0.00	0.00	0.00
1,000.00	2.00	104.77	999.98	-0.44	1.69	-0.17	2.00	2.00	0.00
1,100.00	4.00	104.77	1,099.84	-1.78	6.75	-0.67	2.00	2.00	0.00
1,200.00	6.00	104.77	1,199.45	-4.00	15.18	-1.52	2.00	2.00	0.00
1,272.97	7.46	104.77	1,271.92	-6.18	23.44	-2.34	2.00	2.00	0.00
1,300.00	7.46	104.77	1,298.72	-7.07	26.84	-2.68	0.00	0.00	0.00
1,400.00	7.46	104.77	1,397.87	-10.38	39.39	-3.94	0.00	0.00	0.00
1,500.00	7.46	104.77	1,497.03	-13.69	51.94	-5.19	0.00	0.00	0.00
1,600.00	7.46	104.77	1,596.18	-17.00	64.50	-6.45	0.00	0.00	0.00
1,700.00	7.46	104.77	1,695.33	-20.31	77.05	-7.70	0.00	0.00	0.00
1,800.00	7.46	104.77	1,794.49	-23.62	89.61	-8.95	0.00	0.00	0.00
1,900.00	7.46	104.77	1,893.64	-26.93	102.16	-10.21	0.00	0.00	0.00
2,000.00	7.46	104.77	1,992.79	-30.24	114.71	-11.46	0.00	0.00	0.00
2,100.00	7.46	104.77	2,091.95	-33.55	127.27	-12.72	0.00	0.00	0.00
2,200.00	7.46	104.77	2,191.10	-36.85	139.82	-13.97	0.00	0.00	0.00
2,300.00	7.46	104.77	2,290.26	-40.16	152.37	-15.23	0.00	0.00	0.00
2,400.00	7.46	104.77	2,389.41	-43.47	164.93	-16.48	0.00	0.00	0.00
2,500.00	7.46	104.77	2,488.56	-46.78	177.48	-17.74	0.00	0.00	0.00
2,600.00	7.46	104.77	2,587.72	-50.09	190.03	-18.99	0.00	0.00	0.00
2,700.00	7.46	104.77	2,686.87	-53.40	202.59	-20.24	0.00	0.00	0.00
2,800.00	7.46	104.77	2,786.02	-56.71	215.14	-21.50	0.00	0.00	0.00
2,900.00	7.46	104.77	2,885.18	-60.02	227.70	-22.75	0.00	0.00	0.00
3,000.00	7.46	104.77	2,984.33	-63.33	240.25	-24.01	0.00	0.00	0.00
3,100.00	7.46	104.77	3,083.49	-66.64	252.80	-25.26	0.00	0.00	0.00
3,200.00	7.46	104.77	3,182.64	-69.94	265.36	-26.52	0.00	0.00	0.00
3,300.00	7.46	104.77	3,281.79	-73.25	277.91	-27.77	0.00	0.00	0.00
3,400.00	7.46	104.77	3,380.95	-76.56	290.46	-29.03	0.00	0.00	0.00
3,500.00	7.46	104.77	3,480.10	-79.87	303.02	-30.28	0.00	0.00	0.00
3,600.00	7.46	104.77	3,579.25	-83.18	315.57	-31.53	0.00	0.00	0.00
3,700.00	7.46	104.77	3,678.41	-86.49	328.12	-32.79	0.00	0.00	0.00
3,800.00	7.46	104.77	3,777.56	-89.80	340.68	-34.04	0.00	0.00	0.00
3,900.00	7.46	104.77	3,876.71	-93.11	353.23	-35.30	0.00	0.00	0.00
3,979.96	7.46	104.77	3,956.00	-95.75	363.27	-36.30	0.00	0.00	0.00
PARKMAN									
4,000.00	7.46	104.77	3,975.87	-96.42	365.79	-36.55	0.00	0.00	0.00
4,100.00	7.46	104.77	4,075.02	-99.72	378.34	-37.81	0.00	0.00	0.00
4,200.00	7.46	104.77	4,174.18	-103.03	390.89	-39.06	0.00	0.00	0.00
4,300.00	7.46	104.77	4,273.33	-106.34	403.45	-40.32	0.00	0.00	0.00
4,349.09	7.46	104.77	4,322.00	-107.97	409.61	-40.93	0.00	0.00	0.00
SUSSEX									
4,400.00	7.46	104.77	4,372.48	-109.65	416.00	-41.57	0.00	0.00	0.00

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Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	17' RKB + 4909' GL @ 4926.00ft
Site:	WELD_POWERS PAD	North Reference:	True
Well:	POWERS 1N-23HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	POWERS 1N-23HZ		
Design:	POWERS 1N-23HZ (wp01)		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
4,500.00	7.46	104.77	4,471.64	-112.96	428.55	-42.82	0.00	0.00	0.00
4,600.00	7.46	104.77	4,570.79	-116.27	441.11	-44.08	0.00	0.00	0.00
4,700.00	7.46	104.77	4,669.94	-119.58	453.66	-45.33	0.00	0.00	0.00
4,800.00	7.46	104.77	4,769.10	-122.89	466.21	-46.59	0.00	0.00	0.00
4,900.00	7.46	104.77	4,868.25	-126.20	478.77	-47.84	0.00	0.00	0.00
5,000.00	7.46	104.77	4,967.41	-129.51	491.32	-49.10	0.00	0.00	0.00
5,100.00	7.46	104.77	5,066.56	-132.81	503.88	-50.35	0.00	0.00	0.00
5,200.00	7.46	104.77	5,165.71	-136.12	516.43	-51.61	0.00	0.00	0.00
5,300.00	7.46	104.77	5,264.87	-139.43	528.98	-52.86	0.00	0.00	0.00
5,400.00	7.46	104.77	5,364.02	-142.74	541.54	-54.11	0.00	0.00	0.00
5,500.00	7.46	104.77	5,463.17	-146.05	554.09	-55.37	0.00	0.00	0.00
5,600.00	7.46	104.77	5,562.33	-149.36	566.64	-56.62	0.00	0.00	0.00
5,700.00	7.46	104.77	5,661.48	-152.67	579.20	-57.88	0.00	0.00	0.00
5,800.00	7.46	104.77	5,760.64	-155.98	591.75	-59.13	0.00	0.00	0.00
5,900.00	7.46	104.77	5,859.79	-159.29	604.30	-60.39	0.00	0.00	0.00
6,000.00	7.46	104.77	5,958.94	-162.59	616.86	-61.64	0.00	0.00	0.00
6,100.00	7.46	104.77	6,058.10	-165.90	629.41	-62.90	0.00	0.00	0.00
6,200.00	7.46	104.77	6,157.25	-169.21	641.97	-64.15	0.00	0.00	0.00
6,274.36	7.46	104.77	6,230.98	-171.67	651.30	-65.08	0.00	0.00	0.00
6,300.00	7.22	88.77	6,256.41	-172.06	654.52	-64.95	8.00	-0.94	-62.40
6,400.00	10.87	41.24	6,355.28	-164.82	667.04	-55.80	8.00	3.66	-47.52
6,500.00	17.66	23.45	6,452.18	-143.78	679.31	-33.07	8.00	6.78	-17.79
6,600.00	25.15	15.65	6,545.24	-109.36	691.10	2.81	8.00	7.49	-7.80
6,700.00	32.87	11.31	6,632.64	-62.21	702.17	51.12	8.00	7.72	-4.35
6,800.00	40.69	8.48	6,712.67	-3.26	712.31	110.93	8.00	7.82	-2.83
6,900.00	48.56	6.43	6,783.79	66.35	721.33	181.08	8.00	7.87	-2.05
7,000.00	56.46	4.82	6,844.61	145.25	729.04	260.20	8.00	7.90	-1.60
7,100.00	64.38	3.49	6,893.94	231.92	735.30	346.75	8.00	7.92	-1.33
7,142.02	67.71	2.98	6,911.00	270.25	737.47	384.94	8.00	7.92	-1.20
NIORARA A									
7,200.00	72.30	2.32	6,930.82	324.66	739.99	439.05	8.00	7.93	-1.14
7,300.00	80.23	1.26	6,954.54	421.68	743.00	535.29	8.00	7.93	-1.07
7,400.00	88.17	0.24	6,964.63	521.07	744.30	633.62	8.00	7.94	-1.02
7,423.93	90.07	360.00	6,965.00	545.00	744.35	657.24	8.00	7.94	-1.01
7"									
7,425.44	90.09	360.00	6,965.00	546.51	744.35	658.73	1.00	1.00	0.00
7,500.00	90.09	360.00	6,964.89	621.07	744.35	732.33	0.00	0.00	0.00
7,600.00	90.09	360.00	6,964.74	721.07	744.35	831.03	0.00	0.00	0.00
7,700.00	90.09	360.00	6,964.59	821.07	744.35	929.74	0.00	0.00	0.00
7,800.00	90.09	360.00	6,964.44	921.07	744.35	1,028.45	0.00	0.00	0.00
7,900.00	90.09	360.00	6,964.29	1,021.07	744.35	1,127.16	0.00	0.00	0.00
8,000.00	90.09	360.00	6,964.14	1,121.07	744.35	1,225.86	0.00	0.00	0.00
8,100.00	90.09	360.00	6,964.00	1,221.07	744.35	1,324.57	0.00	0.00	0.00
8,200.00	90.09	360.00	6,963.85	1,321.07	744.35	1,423.28	0.00	0.00	0.00
8,300.00	90.09	360.00	6,963.70	1,421.07	744.35	1,521.99	0.00	0.00	0.00
8,400.00	90.09	360.00	6,963.55	1,521.07	744.35	1,620.69	0.00	0.00	0.00
8,500.00	90.09	360.00	6,963.40	1,621.07	744.35	1,719.40	0.00	0.00	0.00
8,600.00	90.09	360.00	6,963.25	1,721.07	744.35	1,818.11	0.00	0.00	0.00
8,700.00	90.09	360.00	6,963.11	1,821.07	744.35	1,916.82	0.00	0.00	0.00
8,800.00	90.09	360.00	6,962.96	1,921.07	744.35	2,015.52	0.00	0.00	0.00
8,900.00	90.09	360.00	6,962.81	2,021.07	744.35	2,114.23	0.00	0.00	0.00
9,000.00	90.09	360.00	6,962.66	2,121.07	744.35	2,212.94	0.00	0.00	0.00
9,100.00	90.09	360.00	6,962.51	2,221.07	744.35	2,311.65	0.00	0.00	0.00

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Company:	US ROCKIES REGION PLANNING	TVD Reference:	17' RKB + 4909' GL @ 4926.00ft
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	17' RKB + 4909' GL @ 4926.00ft
Site:	WELD_POWERS PAD	North Reference:	True
Well:	POWERS 1N-23HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	POWERS 1N-23HZ		
Design:	POWERS 1N-23HZ (wp01)		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
9,200.00	90.09	360.00	6,962.36	2,321.07	744.35	2,410.35	0.00	0.00	0.00
9,300.00	90.09	360.00	6,962.21	2,421.07	744.35	2,509.06	0.00	0.00	0.00
9,400.00	90.09	360.00	6,962.07	2,521.07	744.35	2,607.77	0.00	0.00	0.00
9,500.00	90.09	360.00	6,961.92	2,621.07	744.35	2,706.48	0.00	0.00	0.00
9,600.00	90.09	360.00	6,961.77	2,721.07	744.35	2,805.18	0.00	0.00	0.00
9,700.00	90.09	360.00	6,961.62	2,821.07	744.35	2,903.89	0.00	0.00	0.00
9,800.00	90.09	360.00	6,961.47	2,921.07	744.35	3,002.60	0.00	0.00	0.00
9,900.00	90.09	360.00	6,961.32	3,021.07	744.35	3,101.31	0.00	0.00	0.00
10,000.00	90.09	360.00	6,961.17	3,121.07	744.35	3,200.02	0.00	0.00	0.00
10,100.00	90.09	360.00	6,961.03	3,221.07	744.35	3,298.72	0.00	0.00	0.00
10,200.00	90.09	360.00	6,960.88	3,321.07	744.35	3,397.43	0.00	0.00	0.00
10,300.00	90.09	360.00	6,960.73	3,421.07	744.35	3,496.14	0.00	0.00	0.00
10,400.00	90.09	360.00	6,960.58	3,521.07	744.35	3,594.85	0.00	0.00	0.00
10,500.00	90.09	360.00	6,960.43	3,621.07	744.35	3,693.55	0.00	0.00	0.00
10,600.00	90.09	360.00	6,960.28	3,721.07	744.35	3,792.26	0.00	0.00	0.00
10,700.00	90.09	360.00	6,960.13	3,821.07	744.35	3,890.97	0.00	0.00	0.00
10,800.00	90.09	360.00	6,959.99	3,921.07	744.35	3,989.68	0.00	0.00	0.00
10,900.00	90.09	360.00	6,959.84	4,021.07	744.35	4,088.38	0.00	0.00	0.00
11,000.00	90.09	360.00	6,959.69	4,121.07	744.35	4,187.09	0.00	0.00	0.00
11,100.00	90.09	360.00	6,959.54	4,221.07	744.35	4,285.80	0.00	0.00	0.00
11,200.00	90.09	360.00	6,959.39	4,321.07	744.35	4,384.51	0.00	0.00	0.00
11,300.00	90.09	360.00	6,959.24	4,421.07	744.35	4,483.21	0.00	0.00	0.00
11,400.00	90.09	360.00	6,959.09	4,521.07	744.35	4,581.92	0.00	0.00	0.00
11,463.77	90.09	360.00	6,959.00	4,584.84	744.35	4,644.87	0.00	0.00	0.00
POWERS 1N-23HZ BHL									

Design Targets									
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (ft)	Easting (ft)	Latitude	Longitude
POWERS 1N-23HZ B	0.00	0.00	6,959.00	4,584.84	744.35	1,291,412.01	3,244,767.14	40.130003	-104.624628
- hit/miss target									
- Shape									
- plan hits target center									
- Point									

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")	
750.00	750.00	9 5/8"	9-5/8	12-1/4	
7,423.93	6,965.00	7"	7	8-3/4	

Database:	edm5000p	Local Co-ordinate Reference:	Well POWERS 1N-23HZ
Company:	US ROCKIES REGION PLANNING	TVD Reference:	17' RKB + 4909' GL @ 4926.00ft
Project:	COLORADO NORTHERN ZONE - 83	MD Reference:	17' RKB + 4909' GL @ 4926.00ft
Site:	WELD_POWERS PAD	North Reference:	True
Well:	POWERS 1N-23HZ	Survey Calculation Method:	Minimum Curvature
Wellbore:	POWERS 1N-23HZ		
Design:	POWERS 1N-23HZ (wp01)		

Formations						
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)	
706.00	706.00	BASE FOX		0.00		
3,979.96	3,956.00	PARKMAN		0.00		
4,349.09	4,322.00	SUSSEX		0.00		
7,142.02	6,911.00	NIOBRARA A		0.00		

US ROCKIES REGION PLANNING

**COLORADO NORTHERN ZONE - 83
WELD_POWER PAD
POWERS 1N-23HZ**

**POWERS 1N-23HZ
POWERS 1N-23HZ (wp01)**

Anticollision Summary Report

29 April, 2011



APC

Anticollision Summary Report



Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well POWERS 1N-23HZ
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	17' RKB + 4909' GL @ 4926.00ft
Reference Site:	WELD_POWERS PAD	MD Reference:	17' RKB + 4909' GL @ 4926.00ft
Site Error:	0.00 ft	North Reference:	True
Reference Well:	POWERS 1N-23HZ	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	POWERS 1N-23HZ	Database:	edm5000p
Reference Design:	POWERS 1N-23HZ (wp01)	Offset TVD Reference:	Offset Datum

Reference	POWERS 1N-23HZ (wp01)		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	MD + Stations Interval 25.00ft	Error Model:	ISCWSA
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum center-center distance of 1,000.00 ft	Error Surface:	Elliptical Conic
Warning Levels Evaluated at:	2.00 Sigma		

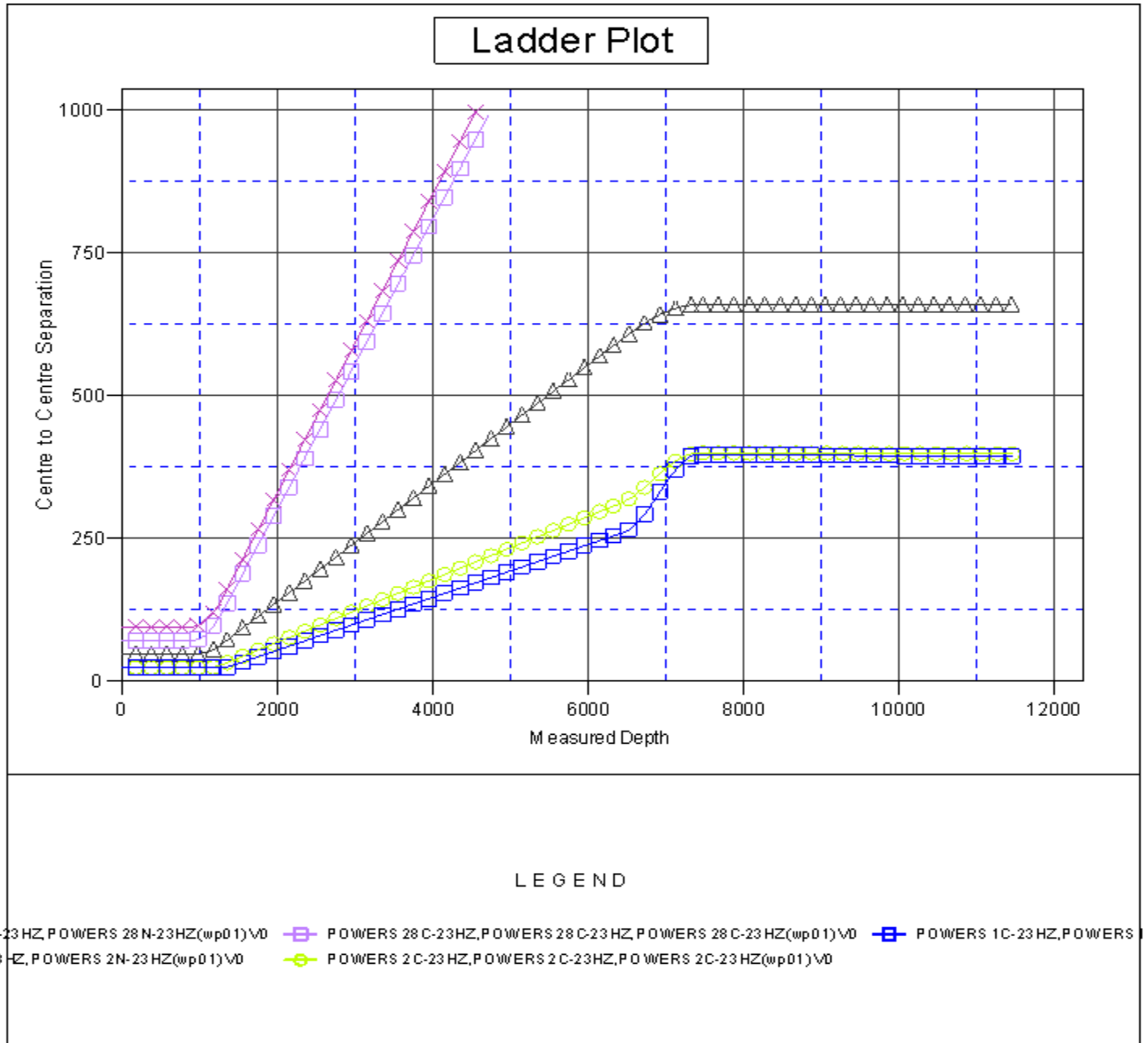
Survey Tool Program	Date 4/29/2011			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description
0.00	11,463.77	POWERS 1N-23HZ (wp01) (POWERS 1N	MWD	MWD - Standard

Summary						
Site Name Offset Well - Wellbore - Design	Reference Measured Depth (ft)	Offset Measured Depth (ft)	Distance Between Centres (ft)	Distance Between Ellipses (ft)	Separation Factor	Warning
WELD_POWERS PAD						
POWERS 1C-23HZ - POWERS 1C-23HZ - POWERS 1C	900.00	900.00	24.05	20.27	6.359	CC
POWERS 1C-23HZ - POWERS 1C-23HZ - POWERS 1C	1,275.00	1,271.92	24.30	19.03	4.609	ES
POWERS 1C-23HZ - POWERS 1C-23HZ - POWERS 1C	11,463.77	11,724.44	393.83	242.15	2.596	SF
POWERS 28C-23HZ - POWERS 28C-23HZ - POWERS	900.00	900.00	71.88	68.09	19.001	CC, ES
POWERS 28C-23HZ - POWERS 28C-23HZ - POWERS	1,000.00	997.52	75.22	71.03	17.953	SF
POWERS 28N-23HZ - POWERS 28N-23HZ - POWERS	900.00	900.00	95.93	92.15	25.359	CC, ES
POWERS 28N-23HZ - POWERS 28N-23HZ - POWERS	1,025.00	1,020.85	101.13	96.85	23.613	SF
POWERS 2C-23HZ - POWERS 2C-23HZ - POWERS 2C	900.00	900.00	24.05	20.27	6.358	CC
POWERS 2C-23HZ - POWERS 2C-23HZ - POWERS 2C	1,100.00	1,101.54	24.39	19.81	5.330	ES
POWERS 2C-23HZ - POWERS 2C-23HZ - POWERS 2C	11,463.77	11,658.86	398.81	243.81	2.573	SF
POWERS 2N-23HZ - POWERS 2N-23HZ - POWERS 2N	900.00	900.00	48.10	44.32	12.717	CC
POWERS 2N-23HZ - POWERS 2N-23HZ - POWERS 2N	925.00	925.24	48.15	44.26	12.395	ES
POWERS 2N-23HZ - POWERS 2N-23HZ - POWERS 2N	11,463.77	11,422.99	659.99	480.77	3.683	SF

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well POWERS 1N-23HZ
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	17' RKB + 4909' GL @ 4926.00ft
Reference Site:	WELD_POWERS PAD	MD Reference:	17' RKB + 4909' GL @ 4926.00ft
Site Error:	0.00 ft	North Reference:	True
Reference Well:	POWERS 1N-23HZ	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	POWERS 1N-23HZ	Database:	edm5000p
Reference Design:	POWERS 1N-23HZ (wp01)	Offset TVD Reference:	Offset Datum

Reference Depths are relative to 17' RKB + 4909' GL @ 4926.00ft
Offset Depths are relative to Offset Datum
Central Meridian is -105.500000

Coordinates are relative to: POWERS 1N-23HZ
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 0.56°



Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well POWERS 1N-23HZ
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	17' RKB + 4909' GL @ 4926.00ft
Reference Site:	WELD_POWERS PAD	MD Reference:	17' RKB + 4909' GL @ 4926.00ft
Site Error:	0.00 ft	North Reference:	True
Reference Well:	POWERS 1N-23HZ	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 ft	Output errors are at	2.00 sigma
Reference Wellbore	POWERS 1N-23HZ	Database:	edm5000p
Reference Design:	POWERS 1N-23HZ (wp01)	Offset TVD Reference:	Offset Datum

Reference Depths are relative to 17' RKB + 4909' GL @ 4926.00ft
Offset Depths are relative to Offset Datum
Central Meridian is -105.500000

Coordinates are relative to: POWERS 1N-23HZ
Coordinate System is US State Plane 1983, Colorado Northern Zone
Grid Convergence at Surface is: 0.56°

