

Well Plan Details

Grynborg Petroleum Co.

Helmer Directional Drilling, Inc. AFE

Well: Fed 24-12-65-4-JH Build&Hold Job

Rig:

Weld County, CO

St. Plane - NAD83

3/3/2016

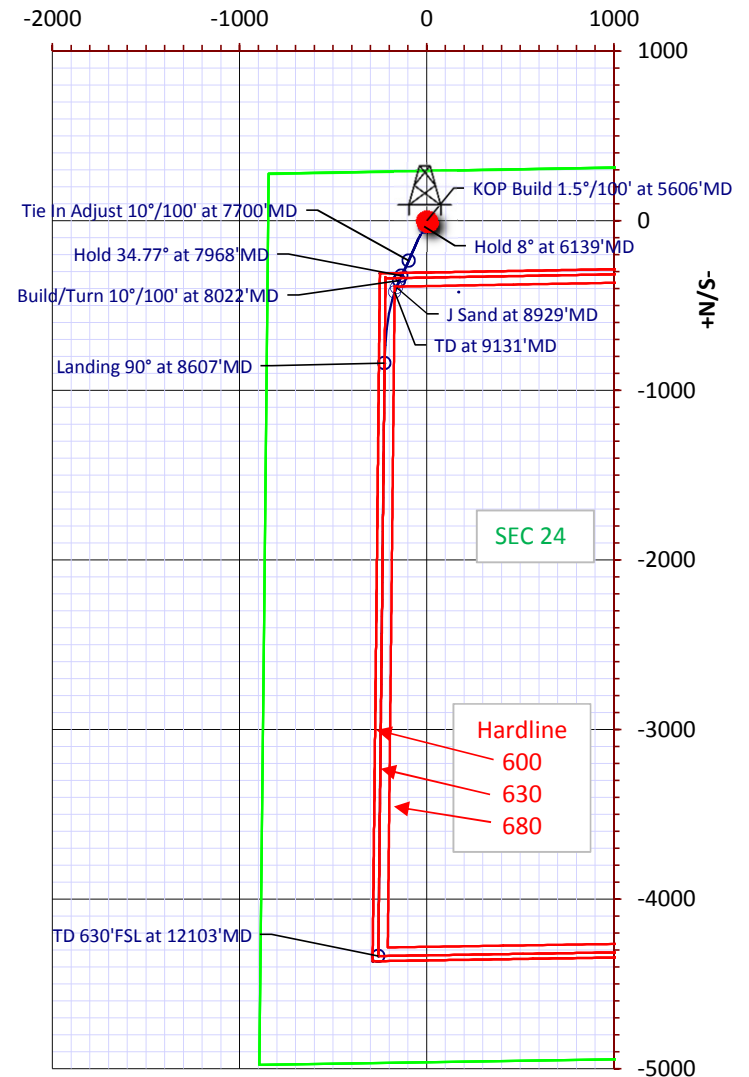
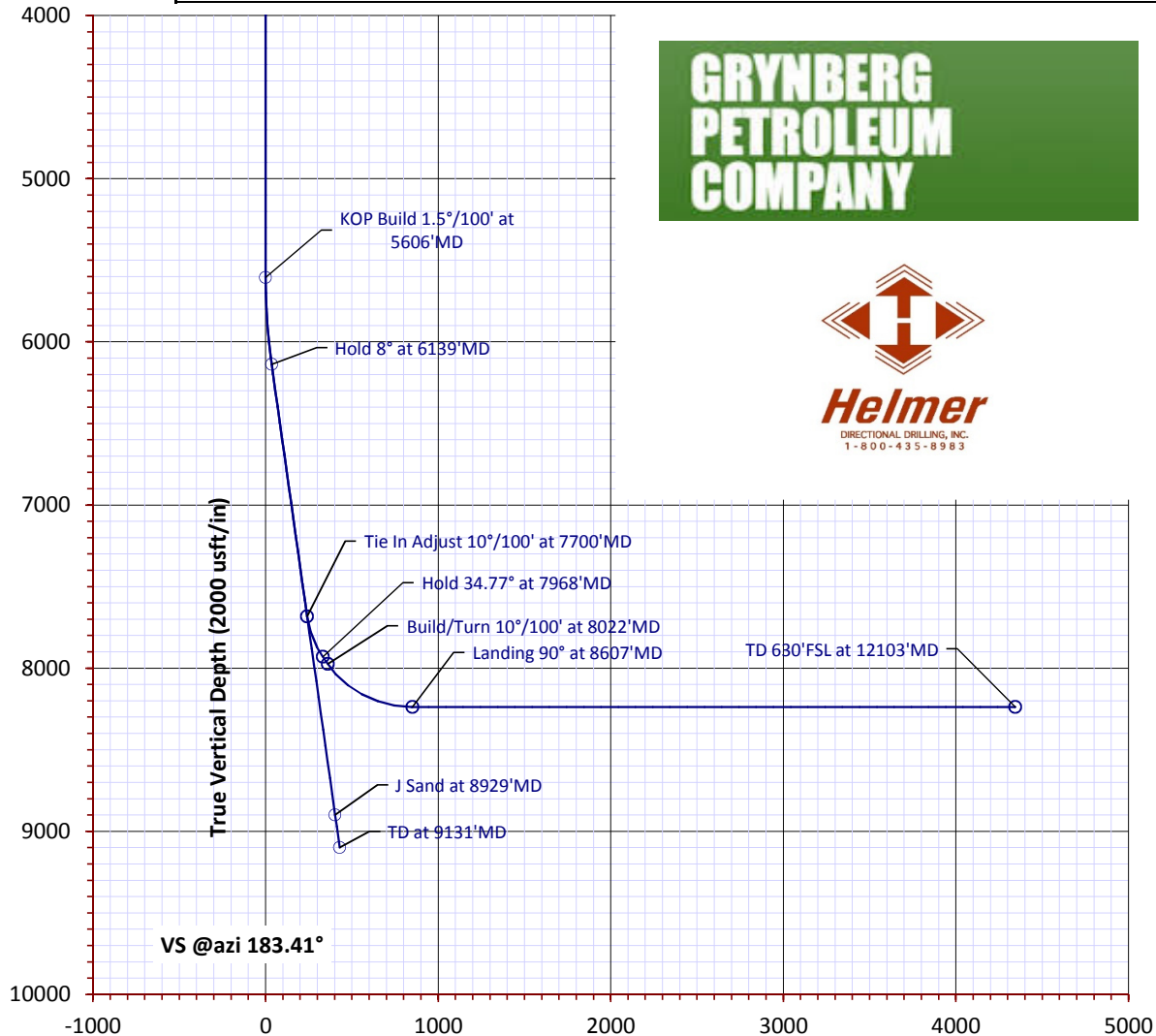
Well Information										
Rig:		Well: Fed 24-12-65-4-JH Build&Hold				Map Details			Magnetics	
Northing	1608083.691	Northing	1608083.690	System	2 - St. Plane		Decl., °	8.314		
Easting	3244109.493	Easting	3244109.490	Datum	1983 - NAD83		Dip, °	67.384		
Elevation	0.000	Elevation	0.000	Zone	0501 - Colorado North		True N	-0.571		
Latitude	40.999203	Latitude	40.999203	Scale. Fac	1.000042		Mag N	7.742		
Longitude	104.615686	Longitude	104.615686	Converg.	0.571385		Field, nT	52.908.1		
Units	Feet	TVD Ref	Mean Sea Level							
Target Information										
Type	TVD	+N/S-	+E/W-	Latitude	Longitude	Northing	Easting	Description		
Radius:1	0.00	0.00	0.00	40.999203	104.615686	1608083.691	3244109.493	Surface		
Radius:1	8238.00	-310.39	-249.78	40.998358	104.616602	1607773.298	3243859.712	Heel		
Radius:1	8238.00	-4366.35	-288.62	40.987228	104.616889	1603717.342	3243820.876	PBHL		
Radius:1	8900.00	-394.10	-160.27	40.998126	104.616281	1607689.591	3243949.223	J Sand		
Radius:1	9100.00	-420.13	170.86	40.998045	104.615082	1607663.561	3244280.353	B&H TD 680'FWL		
Radius:1	8238.00	-840.16	-224.77	40.996903	104.616531	1607243.531	3243884.723	Landing 630 FWL		
Radius:1	8238.00	-4336.00	-258.33	40.987310	104.616778	1603747.691	3243851.163	TD 630'FSL, 630' FWL		
Section Details: Fed 24-12-65-4-JH Build&Hold										
MD	INC	AZI	TVD	NS	EW	VS183.41	BR	TR	DLS	Comments
0.00	0.00	0.00	0.00	0.00	0.00	0.00				Surface
5605.72	0.00	202.13	5605.72	0.01	0.00	-0.01	0.00	-2758.04	0.00	KOP Build 1.5°/100' at 5606'MD
6139.06	8.00	202.13	6137.33	-34.43	-14.00	35.20	1.50	0.00	1.50	Hold 8° at 6139'MD
8928.88	8.00	202.13	8900.00	-394.10	-160.27	402.93	0.00	0.00	0.00	J Sand at 8929'MD
9130.85	8.00	202.13	9100.00	-420.13	-170.86	429.55	0.00	0.00	0.00	TD 680'FWL at 9131'MD

Grynberg Petroleum Co.

Well Grynberg Stateline Fed 24-12-65-4-JH

Rig

JOB #			Northing, ft	1,608,083.691	Latitude	40.999203	Vert. Sect, °	183.41
DD COMPANY Helmer Directional Drilling, Inc.			Easting, ft	3,244,109.493	Longitude	104.615686	Convergence	0.571385
LOCATION Weld County, CO			Elevation, ft	-	TVD Ref	Mean Sea Level	Scale Factor	1.000042
AFE/API #			Mag Date	3-Mar-2016	Decl., °	8.31	Map System	St. Plane - NAD83 Grid North
DATE 3-Mar-2016			Field Str, nT	52.908.1	Dip Angle, °	67.38	Map Zone	0501 - Colorado North
Description	Type	TVD	+N/S-	+E/W-	Latitude	Longitude	Northing	Easting
Surface	Radius	0.00	0.00	0.00	40.999203	104.615686	1,608,083.691	3,244,109.493
Heel	Radius	8238.00	-310.39	-249.78	40.998358	104.616602	1,607,773.298	3,243,859.712
PBHL	Radius	8238.00	-4366.35	-288.62	40.987228	104.616889	1,603,717.342	3,243,820.876
J Sand	Radius	8900.00	-394.10	-160.27	40.998126	104.616281	1,607,689.591	3,243,949.223
B&H TD 680'FWL	Radius	9100.00	-420.13	170.86	40.998045	104.615082	1,607,663.561	3,244,280.353
Landing 630' FWL	Radius	8238.00	-840.16	-224.77	40.996903	104.616531	1,607,243.531	3,243,884.723
TD 630'FSL, 630' FWL	Radius	8238.00	-4336.00	-258.33	40.987310	104.616778	1,603,747.691	3,243,851.163



Survey Report: Fed 24-12-65-4-JH Build&Hold

Operator	Grynberg Petroleum Co.	Northing	1608083.690	Date	3-Mar-16
Dir. Co.	Helmer Directional Drilling, Inc.	Easting	3244109.490	System	2 - St. Plane
Well Name	Fed 24-12-65-4-JH Build&Hold	Elevation	0.00	Datum	1983 - NAD83
Location	Weld County, CO	Latitude	40.999203	Zone	0501 - Colorado North
Rig		Longitude	104.615686	Scale Fac.	1.000042
Job		Units	Feet	Converg.	0.571385

MD	INC	AZI	TVD	+N/S-	+E/W-	VS@183.41°	BR	TR	DLS
0	0	0	0	0	0	0	0	0	0
0: Surface									
100	0	360	100	0	0	0	0	0	0
200	0	360	200	0	0	0	0	0	0
300	0	360	300	0	0	0	0	0	0
400	0	360	400	0	0	0	0	0	0
500	0	360	500	0	0	0	0	0	0
600	0	360	600	0	0	0	0	0	0
700	0	360	700	0	0	0	0	0	0
800	0	360	800	0	0	0	0	0	0
900	0	360	900	0	0	0	0	0	0
1000	0	360	1000	0	0	0	0	0	0
1100	0	360	1100	0	0	0	0	0	0
1200	0	360	1200	0	0	0	0	0	0
1300	0	360	1300	0	0	0	0	0	0
1400	0	360	1400	0	0	0	0	0	0
1500	0	360	1500	0	0	0	0	0	0
1600	0	360	1600	0	0	0	0	0	0
1700	0	360	1700	0	0	0	0	0	0
1800	0	360	1800	0	0	0	0	0	0
1900	0	360	1900	0	0	0	0	0	0
2000	0	360	2000	0	0	0	0	0	0
2100	0	360	2100	0	0	0	0	0	0
2200	0	360	2200	0	0	0	0	0	0
2300	0	360	2300	0	0	0	0	0	0
2400	0	360	2400	0	0	0	0	0	0
2500	0	360	2500	0	0	0	0	0	0
2600	0	360	2600	0	0	0	0	0	0
2700	0	360	2700	0	0	0	0	0	0
2800	0	360	2800	0	0	0	0	0	0
2900	0	360	2900	0	0	0	0	0	0
3000	0	360	3000	0	0	0	0	0	0
3100	0	360	3100	0	0	0	0	0	0
3200	0	360	3200	0	0	0	0	0	0
3300	0	360	3300	0	0	0	0	0	0
3400	0	360	3400	0	0	0	0	0	0
3500	0	360	3500	0	0	0	0	0	0
3600	0	360	3600	0	0	0	0	0	0
3700	0	360	3700	0	0	0	0	0	0
3800	0	360	3800	0	0	0	0	0	0
3900	0	360	3900	0	0	0	0	0	0
4000	0	360	4000	0	0	0	0	0	0
4100	0	360	4100	0	0	0	0	0	0
4200	0	360	4200	0	0	0	0	0	0

Survey Report: Fed 24-12-65-4-JH Build&Hold

Operator Dir. Co. Well Name Location Rig Job	Grynberg Petroleum Co. Helmer Directional Drilling, Inc.			Northing Easting Elevation Latitude Longitude Units	1608083.690 3244109.490 0.00 40.999203 104.615686 Feet		Date System Datum Zone Scale Fac. Converg.	3-Mar-16	
	Fed 24-12-65-4-JH Build&Hold Weld County, CO							2 - St. Plane	
								1983 - NAD83	
								0501 - Colorado North	
1.000042									
0.571385									
MD	INC	AZI	TVD	+N/S-	+E/W-	VS@183.41°	BR	TR	DLS
4300	0	360	4300	0	0	0	0	0	0
4400	0	360	4400	0	0	0	0	0	0
4500	0	360	4500	0	0	0	0	0	0
4600	0	360	4600	0	0	0	0	0	0
4700	0	360	4700	0	0	0	0	0	0
4800	0	360	4800	0	0	0	0	0	0
4900	0	360	4900	0	0	0	0	0	0
5000	0	360	5000	0	0	0	0	0	0
5100	0	360	5100	0	0	0	0	0	0
5200	0	360	5200	0.01	0	-0.01	0	0	0
5300	0	360	5300	0.01	0	-0.01	0	0	0
5400	0	360	5400	0.01	0	-0.01	0	0	0
5500	0	360	5500	0.01	0	-0.01	0	0	0
5600	0	360	5600	0.01	0	-0.01	0	0	0
5605.72	0	202.13	5605.72	0.01	0	-0.01	0	-2758.04	0
5605.72: KOP Build 1.5°/100' at 5606'MD									
5700	1.41	202.13	5699.99	-1.07	-0.44	1.1	1.5	0	1.5
5800	2.91	202.13	5799.92	-4.57	-1.86	4.67	1.5	0	1.5
5900	4.41	202.13	5899.71	-10.49	-4.27	10.73	1.5	0	1.5
6000	5.91	202.13	5999.3	-18.83	-7.66	19.25	1.5	0	1.5
6100	7.41	202.13	6098.62	-29.58	-12.03	30.24	1.5	0	1.5
6139.06	8	202.13	6137.33	-34.43	-14	35.2	1.5	0	1.5
6139.06: Hold 8° at 6139'MD									
6200	8	202.13	6197.68	-42.29	-17.2	43.23	0	0	0
6300	8	202.13	6296.7	-55.18	-22.44	56.42	0	0	0
6400	8	202.13	6395.73	-68.07	-27.68	69.6	0	0	0
6500	8	202.13	6494.76	-80.96	-32.93	82.78	0	0	0
6600	8	202.13	6593.78	-93.85	-38.17	95.96	0	0	0
6700	8	202.13	6692.81	-106.75	-43.41	109.14	0	0	0
6800	8	202.13	6791.84	-119.64	-48.66	122.32	0	0	0
6900	8	202.13	6890.86	-132.53	-53.9	135.5	0	0	0
7000	8	202.13	6989.89	-145.42	-59.14	148.68	0	0	0
7100	8	202.13	7088.92	-158.32	-64.38	161.86	0	0	0
7200	8	202.13	7187.94	-171.21	-69.63	175.05	0	0	0
7300	8	202.13	7286.97	-184.1	-74.87	188.23	0	0	0
7400	8	202.13	7386	-196.99	-80.11	201.41	0	0	0
7500	8	202.13	7485.02	-209.88	-85.35	214.59	0	0	0
7600	8	202.13	7584.05	-222.78	-90.6	227.77	0	0	0
7700	8	202.13	7683.08	-235.67	-95.84	240.95	0	0	0
7800	8	202.13	7782.1	-248.56	-101.08	254.13	0	0	0
7900	8	202.13	7881.13	-261.45	-106.33	267.31	0	0	0
8000	8	202.13	7980.16	-274.34	-111.57	280.49	0	0	0
8100	8	202.13	8079.18	-287.24	-116.81	293.68	0	0	0
8200	8	202.13	8178.21	-300.13	-122.05	306.86	0	0	0

Survey Report: Fed 24-12-65-4-JH Build&Hold

Operator	Grynberg Petroleum Co.			Northing	1608083.690		Date	3-Mar-16	
Dir. Co.	Helmer Directional Drilling, Inc.			Easting	3244109.490		System	2 - St. Plane	
Well Name	Fed 24-12-65-4-JH Build&Hold			Elevation	0.00		Datum	1983 - NAD83	
Location	Weld County, CO			Latitude	40.999203		Zone	0501 - Colorado North	
Rig				Longitude	104.615686		Scale Fac.	1.000042	
Job				Units	Feet		Converg.	0.571385	
MD	INC	AZI	TVD	+N/S-	+E/W-	VS@183.41°	BR	TR	DLS
8300	8	202.13	8277.24	-313.02	-127.3	320.04	0	0	0
8400	8	202.13	8376.27	-325.91	-132.54	333.22	0	0	0
8500	8	202.13	8475.29	-338.8	-137.78	346.4	0	0	0
8600	8	202.13	8574.32	-351.7	-143.03	359.58	0	0	0
8700	8	202.13	8673.35	-364.59	-148.27	372.76	0	0	0
8800	8	202.13	8772.37	-377.48	-153.51	385.94	0	0	0
8900	8	202.13	8871.4	-390.37	-158.75	399.12	0	0	0
8928.88	8	202.13	8900	-394.1	-160.27	402.93	0	0	0
8928.88: J Sand at 8929'MD									
9000	8	202.13	8970.43	-403.27	-164	412.31	0	0	0
9100	8	202.13	9069.45	-416.16	-169.24	425.49	0	0	0
9130.85	8	202.13	9100	-420.13	-170.86	429.55	0	0	0
9130.85: TD 680'FWL at 9131'MD									