

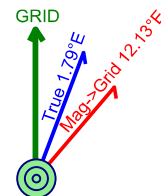


**Job Number:** 12xxx  
**Company:** Black Hills Plateau Productin Co.  
**Lease/Well:** Homer Deep Unit 9-11AH  
**Location:** Garfield County, CO  
**Rig Name:**  
**State/Country:** CCO/ Garfield  
**Country:** USA  
**API Number:**


**Elevation (To MSL):** 5521.00 ft  
**RKB:** 0.00 ft  
**Projection System:** US State Plane 1927 (Exact solution)  
**Projection Group:** Colorado Central 502  
**Projection Datum:** CLARKE 1866  
**Magnetic Declination:** 10.34  
**Grid Convergence:** -1.78999 W  
**Date:** Tuesday, August 21, 2012

Calculated by HawkEye Software  
 Minimum Curvature Method  
 Vertical Section Plane 155.15°

**Northing (US ft):** 575921.25 **Easting (US ft):** 1197605.63  
**Latitude:** 39°22'48.9691" N **Longitude:** -108°20'20.6520" W  
**Well Location:** 294.30 FNL, 366.83 FWL, Section 9, T8S, R98W, Meridian 06, Garfield County, CO  
**Direction Reference:** Grid North



Measured Depth (Ft)	INC Deg	AZM Deg	TVD (Ft)	EW (Ft)	NS (Ft)	VS (Ft)	Closure (Ft)	Closure Dir Deg	DLS %/100Ft
<b>Surface</b>									
0.00	0.00	0.00	0.00	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
1000.00	0.00	0.00	1000.00	0.00	0.00	0.00	0.00	0.04	0.00
1500.00	0.00	0.00	1500.00	0.00	0.00	0.00	0.00	0.03	0.00
2000.00	0.00	0.00	2000.00	0.00	0.00	0.00	0.00	0.02	0.00
2500.00	0.00	0.00	2500.00	0.00	0.00	0.00	0.00	0.01	0.00
3000.00	0.00	0.00	3000.00	0.00	0.00	0.00	0.00	0.01	0.00
3500.00	0.00	0.00	3500.00	0.00	0.01	-0.01	0.01	0.01	0.00
4000.00	0.00	0.00	4000.00	0.00	0.01	-0.01	0.01	0.01	0.00
4500.00	0.00	0.00	4500.00	0.00	0.01	-0.01	0.01	0.01	0.00
<b>Casing 9 5/8"</b>									
4750.00	0.00	0.00	4750.00	0.00	0.01	-0.01	0.01	0.01	0.00
5000.00	0.00	0.00	5000.00	0.00	0.01	-0.01	0.01	0.01	0.00
<b>KOP-Begin Build @ 8.00°/ 100 Ft</b>									
5248.00	0.00	0.00	5248.00	0.00	0.01	-0.01	0.01	0.01	0.00
5278.00	2.40	250.00	5277.99	-0.59	-0.21	-0.06	0.63	250.76	8.00
5308.00	4.80	250.00	5307.93	-2.36	-0.85	-0.22	2.51	250.19	8.00
5338.00	7.20	250.00	5337.76	-5.31	-1.92	-0.49	5.64	250.08	8.00
5368.00	9.60	250.00	5367.44	-9.42	-3.42	-0.86	10.03	250.05	8.00
5398.00	12.00	250.00	5396.91	-14.71	-5.34	-1.33	15.65	250.03	8.00
5428.00	14.40	250.00	5426.11	-21.14	-7.69	-1.91	22.50	250.02	8.00
5458.00	16.80	250.00	5455.00	-28.72	-10.45	-2.59	30.56	250.02	8.00
5488.00	19.20	250.00	5483.53	-37.44	-13.62	-3.38	39.83	250.01	8.00
5518.00	21.60	250.00	5511.65	-47.26	-17.19	-4.26	50.29	250.01	8.00
5548.00	24.00	250.00	5539.30	-58.18	-21.17	-5.24	61.92	250.01	8.00
5578.00	26.40	250.00	5566.45	-70.19	-25.54	-6.32	74.69	250.01	8.00
5608.00	28.80	250.00	5593.03	-83.25	-30.29	-7.50	88.59	250.01	8.00
5638.00	31.20	250.00	5619.01	-97.34	-35.42	-8.77	103.58	250.00	8.00
5668.00	33.60	250.00	5644.34	-112.44	-40.92	-10.13	119.66	250.00	8.00
5698.00	36.00	250.00	5668.97	-128.53	-46.77	-11.57	136.78	250.00	8.00
5728.00	38.40	250.00	5692.86	-145.58	-52.98	-13.11	154.91	250.00	8.00
5758.00	40.80	250.00	5715.98	-163.54	-59.52	-14.72	174.04	250.00	8.00
5788.00	43.20	250.00	5738.27	-182.41	-66.38	-16.42	194.11	250.00	8.00
<b>Begin Hold @ 45.00°,250.00° Azm</b>									
5810.50	45.00	250.00	5754.43	-197.12	-71.74	-17.74	209.77	250.00	8.00
6310.50	45.00	250.00	6107.98	-529.35	-192.66	-47.64	563.32	250.00	0.00
6810.50	45.00	250.00	6461.53	-861.58	-313.58	-77.53	916.87	250.00	0.00
<b>Build and Turn @ 8.00°/100 Ft</b>									
6927.50	45.00	250.00	6544.27	-939.32	-341.88	-84.52	999.60	250.00	0.00
6957.50	44.69	246.62	6565.54	-958.98	-349.69	-85.69	1020.75	249.97	8.00
6987.50	44.49	243.22	6586.91	-978.05	-358.61	-85.61	1041.72	249.86	8.00
7017.50	44.38	239.79	6608.33	-996.50	-368.63	-84.27	1062.50	249.70	8.00

Measured Depth (Ft)	INC Deg	AZM Deg	TVD (Ft)	EW (Ft)	NS (Ft)	VS (Ft)	Closure (Ft)	Closure Dir Deg	DLS %/100Ft
7047.50	44.38	236.36	6629.77	-1014.31	-379.72	-81.69	1083.05	249.48	8.00
7077.50	44.48	232.94	6651.20	-1031.43	-391.87	-77.86	1103.36	249.20	8.00
7107.50	44.69	229.53	6672.57	-1047.84	-405.05	-72.80	1123.41	248.87	8.00
7137.50	44.99	226.15	6693.85	-1063.52	-419.25	-66.51	1143.17	248.49	8.00
7167.50	45.39	222.82	6714.99	-1078.43	-434.43	-58.99	1162.64	248.06	8.00
7197.50	45.89	219.53	6735.97	-1092.54	-450.57	-50.28	1181.81	247.59	8.00
7227.50	46.48	216.31	6756.74	-1105.84	-467.65	-40.37	1200.66	247.08	8.00
7257.50	47.16	213.15	6777.28	-1118.30	-485.62	-29.30	1219.19	246.53	8.00
7287.50	47.92	210.07	6797.53	-1129.89	-504.47	-17.07	1237.39	245.94	8.00
7317.50	48.76	207.06	6817.47	-1140.60	-524.15	-3.71	1255.27	245.32	8.00
7347.50	49.68	204.13	6837.07	-1150.41	-544.64	10.76	1272.82	244.67	8.00
7377.50	50.68	201.29	6856.28	-1159.30	-565.89	26.31	1290.04	243.98	8.00
7407.50	51.74	198.52	6875.08	-1167.25	-587.87	42.91	1306.93	243.27	8.00
7437.50	52.86	195.84	6893.43	-1174.26	-610.55	60.54	1323.50	242.53	8.00
7467.50	54.04	193.24	6911.30	-1180.30	-633.87	79.17	1339.74	241.76	8.00
7497.50	55.27	190.72	6928.65	-1185.38	-657.81	98.75	1355.67	240.97	8.00
7527.50	56.56	188.27	6945.47	-1189.47	-682.31	119.27	1371.27	240.16	8.00
7557.50	57.89	185.89	6961.71	-1192.58	-707.34	140.67	1386.57	239.33	8.00
7587.50	59.27	183.59	6977.35	-1194.69	-732.85	162.93	1401.55	238.47	8.00
7617.50	60.68	181.35	6992.36	-1195.81	-758.80	186.01	1416.23	237.60	8.00
7647.50	62.13	179.17	7006.72	-1195.92	-785.13	209.86	1430.62	236.71	8.00
7677.50	63.62	177.05	7020.40	-1195.04	-811.82	234.44	1444.70	235.81	8.00
7707.50	65.13	174.99	7033.38	-1193.16	-838.80	259.71	1458.50	234.89	8.00
7737.50	66.67	172.98	7045.63	-1190.29	-866.03	285.63	1472.00	233.96	8.00
7767.50	68.24	171.01	7057.13	-1186.42	-893.46	312.15	1485.22	233.02	8.00
7797.50	69.83	169.08	7067.86	-1181.58	-921.05	339.22	1498.16	232.06	8.00
7827.50	71.44	167.20	7077.81	-1175.76	-948.75	366.80	1510.81	231.10	8.00
7857.50	73.07	165.35	7086.95	-1168.98	-976.50	394.83	1523.18	230.13	8.00
7887.50	74.72	163.53	7095.27	-1161.24	-1004.27	423.28	1535.27	229.15	8.00
7917.50	76.38	161.74	7102.76	-1152.57	-1031.99	452.08	1547.07	228.16	8.00
7947.50	78.05	159.97	7109.40	-1142.98	-1059.63	481.19	1558.59	227.17	8.00
7977.50	79.73	158.23	7115.18	-1132.48	-1087.12	510.55	1569.82	226.17	8.00
8007.50	81.43	156.51	7120.09	-1121.09	-1114.44	540.12	1580.76	225.17	8.00
8037.50	83.13	154.80	7124.12	-1108.83	-1141.52	569.85	1591.41	224.17	8.00
8067.50	84.83	153.10	7127.27	-1095.73	-1168.32	599.67	1601.75	223.16	8.00
8097.50	86.54	151.41	7129.52	-1081.80	-1194.79	629.55	1611.78	222.16	8.00
8127.50	88.26	149.73	7130.88	-1067.08	-1220.89	659.42	1621.49	221.15	8.00
8157.50	89.97	148.05	7131.35	-1051.58	-1246.57	689.23	1630.88	220.15	8.00
<b>Target - Hold @ 91.05°,147.00° Azm     Casing 7"</b>									
8176.25	91.05	147.00	7131.18	-1041.51	-1262.39	707.82	1636.58	219.52	8.00
8676.25	91.05	147.00	7122.05	-769.25	-1681.66	1202.69	1849.25	204.58	0.00
9176.25	91.05	147.00	7112.92	-496.99	-2100.94	1697.56	2158.92	193.31	0.00
9676.25	91.05	147.00	7103.79	-224.73	-2520.21	2192.43	2530.21	185.10	0.00
10176.25	91.05	147.00	7094.66	47.54	-2939.48	2687.30	2939.87	179.07	0.00
10676.25	91.05	147.00	7085.53	319.80	-3358.76	3182.17	3373.95	174.56	0.00
11176.25	91.05	147.00	7076.40	592.06	-3778.03	3677.04	3824.14	171.09	0.00
11676.25	91.05	147.00	7067.27	864.32	-4197.30	4171.91	4285.37	168.36	0.00
12176.25	91.05	147.00	7058.14	1136.58	-4616.58	4666.78	4754.43	166.17	0.00
12676.25	91.05	147.00	7049.01	1408.85	-5035.85	5161.64	5229.21	164.37	0.00
13176.25	91.05	147.00	7039.88	1681.11	-5455.12	5656.51	5708.28	162.87	0.00
13676.25	91.05	147.00	7030.75	1953.37	-5874.40	6151.38	6190.65	161.61	0.00
14176.25	91.05	147.00	7021.62	2225.63	-6293.67	6646.25	6675.61	160.52	0.00
14676.25	91.05	147.00	7012.49	2497.89	-6712.94	7141.12	7162.62	159.59	0.00
15176.25	91.05	147.00	7003.36	2770.16	-7132.21	7635.99	7651.29	158.77	0.00
15676.25	91.05	147.00	6994.23	3042.42	-7551.49	8130.86	8141.33	158.06	0.00
16176.25	91.05	147.00	6985.10	3314.68	-7970.76	8625.73	8632.51	157.42	0.00

Measured Depth (Ft)	INC Deg	AZM Deg	TVD (Ft)	EW (Ft)	NS (Ft)	VS (Ft)	Closure (Ft)	Closure Dir Deg	DLS °/100Ft	
16676.25	91.05	147.00	6975.97	3586.94	-8390.03	9120.60	9124.63	156.85	0.00	
17176.25	91.05	147.00	6966.84	3859.21	-8809.31	9615.47	9617.56	156.34	0.00	
17676.25	91.05	147.00	6957.72	4131.47	-9228.58	10110.34	10111.17	155.88	0.00	
18176.25	91.05	147.00	6948.59	4403.73	-9647.85	10605.21	10605.37	155.47	0.00	
Proposed End of 9-11AH Lateral										
18591.89	91.05	147.00	6941.00	4630.06	-9996.39	11016.59	11016.59	155.15	0.00	
TARGET DATA										
Name		Shape	Easting (Ft)	Northing (Ft)	Subsea TVD (Ft)	NS (Ft)	EW (Ft)	Side A (Ft)	Side B (Ft)	Diameter (Ft)
HDU9-11 BHL		CYLINDER	1202235.68	565924.86	1420.00	-9996.39	4630.05	100.00	200.00	100.00
HDU9-11 Landing		CYLINDER	1196689.65	574269.98	1610.00	-1651.27	-915.98	100.00	100.00	100.00
CASING DATA										
Size (in)		Weight (Lbs/Ft)	ID (in)	OD (in)	Top MD (Ft)		Set MD (Ft)			
9 5/8		40.00		8.84	10.63		4750.00		4780.00	
7		23.00		6.37	7.66		8176.25		8176.25	