

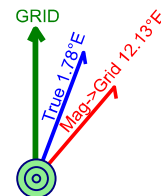


Job Number: 12xxx
Company: Black Hills Plateau Production Co.
Lease/Well: HDU 9-41BH
Location: Garfield County, CO
Rig Name:
State/Country: CO/ Garfield
Country: USA
API Number:

Elevation (To MSL): 5484.80 ft
RKB: 0.00 ft
Projection System: US State Plane 1927 (Exact solution)
Projection Group: Colorado Central 502
Projection Datum: CLARKE 1866
Magnetic Declination: 10.35
Grid Convergence: -1.78016 W
Date: Thursday, June 28, 2012

Calculated by HawkEye Software
 Minimum Curvature Method
 Vertical Section Plane 146.37°

Northing (US ft): 575647.45 **Easting (US ft):** 1202007.93
Latitude: 39°22'47.6200" N **Longitude:** -108°19'24.5047" W
Well Location: 395.45 FNL, 497.44 FEL, 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
Surface	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Nudge - Build @ 2.50°/ 100 Ft									
500.00	0.00	0.00	500.00	0.00	0.00	0.00	0.00	0.00	0.00
530.00	0.75	99.99	530.00	0.20	-0.03	0.13	0.20	98.34	2.50
560.00	1.50	100.00	559.99	0.77	-0.14	0.54	0.79	99.96	2.50
590.00	2.25	100.00	589.97	1.74	-0.30	1.21	1.76	99.95	2.50
620.00	3.00	100.00	619.95	3.09	-0.54	2.17	3.14	99.99	2.50
650.00	3.75	100.00	649.89	4.83	-0.85	3.38	4.91	99.97	2.50
680.00	4.50	100.00	679.82	6.96	-1.23	4.87	7.06	100.00	2.50
Begin Hold @ 5.00°, 100.00° Azm									
700.00	5.00	100.00	699.75	8.59	-1.51	6.02	8.72	100.00	2.50
1200.00	5.00	100.00	1197.85	51.51	-9.08	36.08	52.30	99.99	0.00
1700.00	5.00	100.00	1695.94	94.42	-16.64	66.15	95.88	100.00	0.00
Begin Drop @ -2.00°/ 100 Ft									
1900.00	5.00	100.00	1895.18	111.59	-19.68	78.18	113.31	100.00	0.00
1930.00	4.40	100.00	1925.08	114.00	-20.11	79.88	115.76	100.00	2.00
1960.00	3.80	100.00	1955.00	116.12	-20.47	81.36	117.91	100.00	2.00
1990.00	3.20	100.00	1984.94	117.93	-20.79	82.62	119.75	100.00	2.00
2020.00	2.60	100.00	2014.91	119.42	-21.06	83.67	121.26	100.00	2.00
2050.00	2.00	100.00	2044.88	120.60	-21.26	84.50	122.46	100.00	2.00
2080.00	1.40	100.00	2074.87	121.48	-21.42	85.11	123.35	100.00	2.00
2110.00	0.80	99.99	2104.87	122.04	-21.52	85.51	123.93	100.00	2.00
2140.00	0.20	99.97	2134.86	122.31	-21.56	85.69	124.19	100.00	2.00
Hold Vertical									
2150.00	0.00	0.00	2144.86	122.32	-21.57	85.70	124.21	100.00	2.00
2650.00	0.00	0.00	2644.86	122.32	-21.57	85.70	124.21	100.00	0.00
3150.00	0.00	0.00	3144.86	122.32	-21.57	85.70	124.21	100.00	0.00
3650.00	0.00	0.00	3644.86	122.32	-21.57	85.70	124.21	100.00	0.00
4150.00	0.00	0.00	4144.86	122.32	-21.57	85.70	124.21	100.00	0.00
4650.00	0.00	0.00	4644.86	122.32	-21.57	85.70	124.21	100.00	0.00
5150.00	0.00	0.00	5144.86	122.32	-21.56	85.70	124.21	100.00	0.00
5650.00	0.00	0.00	5644.86	122.32	-21.56	85.70	124.21	100.00	0.00
6150.00	0.00	0.00	6144.86	122.32	-21.56	85.70	124.21	100.00	0.00
KOP - Build @ 8.00°/ 100 Ft									
6529.00	0.00	0.00	6523.86	122.32	-21.56	85.70	124.21	100.00	0.00
6559.00	2.40	147.00	6553.85	122.66	-22.09	86.33	124.63	100.21	8.00
6589.00	4.80	147.00	6583.79	123.69	-23.67	88.21	125.93	100.83	8.00
6619.00	7.20	147.00	6613.63	125.39	-26.30	91.35	128.12	101.85	8.00
6649.00	9.60	147.00	6643.30	127.78	-29.97	95.73	131.25	103.20	8.00
6679.00	12.00	147.00	6672.77	130.84	-34.69	101.35	135.36	104.85	8.00
6709.00	14.40	147.00	6701.97	134.58	-40.43	108.19	140.52	106.72	8.00
6739.00	16.80	147.00	6730.86	138.97	-47.19	116.25	146.76	108.76	8.00

Measured Depth (Ft)	INC Deg	AZM Deg	TVD (Ft)	EW (Ft)	NS (Ft)	VS (Ft)	Closure (Ft)	Closure Dir Deg	DLS %/100Ft
6769.00	19.19	147.00	6759.40	144.02	-54.96	125.52	154.15	110.89	8.00
6799.00	21.59	147.00	6787.51	149.71	-63.73	135.98	162.71	113.06	8.00
6829.00	23.99	147.00	6815.17	156.04	-73.48	147.60	172.47	115.22	8.00
6859.00	26.39	147.00	6842.32	163.00	-84.19	160.37	183.45	117.32	8.00
6889.00	28.79	147.00	6868.90	170.56	-95.84	174.26	195.65	119.33	8.00
6919.00	31.19	147.00	6894.88	178.73	-108.41	189.25	209.04	121.24	8.00
6949.00	33.59	147.00	6920.21	187.49	-121.89	205.32	223.62	123.03	8.00
6979.00	35.99	147.00	6944.85	196.81	-136.24	222.44	239.37	124.69	8.00
7009.00	38.39	147.00	6968.75	206.69	-151.45	240.57	256.23	126.23	8.00
7039.00	40.79	147.00	6991.87	217.10	-167.48	259.69	274.20	127.65	8.00
7069.00	43.19	147.00	7014.16	228.03	-184.31	279.75	293.20	128.95	8.00
7099.00	45.59	147.00	7035.60	239.46	-201.91	300.74	313.23	130.14	8.00
7129.00	47.99	147.00	7056.14	251.37	-220.25	322.60	334.21	131.22	8.00
7159.00	50.39	147.00	7075.74	263.73	-239.28	345.30	356.11	132.22	8.00
7189.00	52.79	147.00	7094.38	276.54	-259.00	368.80	378.88	133.12	8.00
7219.00	55.19	147.00	7112.02	289.75	-279.34	393.06	402.48	133.95	8.00
7249.00	57.58	147.00	7128.63	303.36	-300.30	418.05	426.86	134.71	8.00
7279.00	59.98	147.00	7144.17	317.34	-321.81	443.70	451.96	135.40	8.00
7309.00	62.38	147.00	7158.63	331.65	-343.85	469.98	477.73	136.03	8.00
7339.00	64.78	147.00	7171.97	346.29	-366.38	496.85	504.14	136.61	8.00
7369.00	67.18	147.00	7184.19	361.21	-389.36	524.24	531.11	137.15	8.00
7399.00	69.58	147.00	7195.24	376.40	-412.75	552.13	558.60	137.64	8.00
7429.00	71.98	147.00	7205.11	391.83	-436.50	580.45	586.57	138.09	8.00
7459.00	74.38	147.00	7213.79	407.48	-460.59	609.17	614.96	138.50	8.00
7489.00	76.78	147.00	7221.26	423.30	-484.95	638.22	643.71	138.88	8.00
7519.00	79.18	147.00	7227.52	439.28	-509.56	667.56	672.77	139.24	8.00
7549.00	81.58	147.00	7232.53	455.39	-534.36	697.13	702.08	139.56	8.00
7579.00	83.98	147.00	7236.30	471.60	-559.31	726.89	731.60	139.86	8.00
7609.00	86.38	147.00	7238.82	487.88	-584.38	756.78	761.27	140.14	8.00
7639.00	88.78	147.00	7240.08	504.20	-609.52	786.75	791.04	140.40	8.00
Target - Hold @ 91.15°,147.00° Azm									
7668.68	91.15	147.00	7240.11	520.37	-634.41	816.42	820.52	140.64	8.00
8168.68	91.15	147.00	7230.08	792.67	-1053.64	1316.29	1318.51	143.05	0.00
8668.68	91.15	147.00	7220.04	1064.96	-1472.87	1816.16	1817.55	144.13	0.00
9168.68	91.15	147.00	7210.01	1337.26	-1892.10	2316.03	2316.96	144.75	0.00
9668.68	91.15	147.00	7199.97	1609.55	-2311.33	2815.90	2816.54	145.15	0.00
10168.68	91.15	147.00	7189.94	1881.85	-2730.56	3315.77	3316.22	145.43	0.00
10668.68	91.15	147.00	7179.90	2154.14	-3149.79	3815.64	3815.96	145.63	0.00
11168.68	91.15	147.00	7169.87	2426.44	-3569.02	4315.51	4315.73	145.79	0.00
11668.68	91.15	147.00	7159.83	2698.74	-3988.26	4815.38	4815.53	145.91	0.00
12168.68	91.15	147.00	7149.80	2971.03	-4407.49	5315.25	5315.35	146.02	0.00
12668.68	91.15	147.00	7139.77	3243.33	-4826.72	5815.12	5815.18	146.10	0.00
13168.68	91.15	147.00	7129.73	3515.62	-5245.95	6314.99	6315.03	146.17	0.00
13668.68	91.15	147.00	7119.70	3787.92	-5665.18	6814.86	6814.88	146.23	0.00
14168.68	91.15	147.00	7109.66	4060.21	-6084.41	7314.73	7314.74	146.28	0.00
14668.68	91.15	147.00	7099.63	4332.51	-6503.64	7814.60	7814.60	146.33	0.00
15168.68	91.15	147.00	7089.59	4604.80	-6922.87	8314.47	8314.47	146.37	0.00
15668.68	91.15	147.00	7079.56	4877.10	-7342.10	8814.34	8814.34	146.41	0.00
16168.68	91.15	147.00	7069.52	5149.40	-7761.33	9314.21	9314.21	146.44	0.00
16668.68	91.15	147.00	7059.49	5421.69	-8180.56	9814.08	9814.09	146.47	0.00
Proposed End of 9-41BH Lateral									
17151.23	91.15	147.00	7049.80	5684.48	-8585.16	10296.50	10296.52	146.49	0.00

TARGET DATA									
Name	Shape	Latitude	Longitude	Subsea TVD (Ft)	NS (Ft)	EW (Ft)	Side A (Ft)	Side B (Ft)	Diameter (Ft)
9-41B BHL	CYLINDER	39°21'24.5434" N	-108°18'8.7717" W	1565.00	-8585.15	5684.49	100.00	200.00	100.00
9-41B Landing	CYLINDER	39°22'45.5379" N	-108°19'22.5718" W	1765.00	-215.26	145.15	100.00	200.00	100.00