

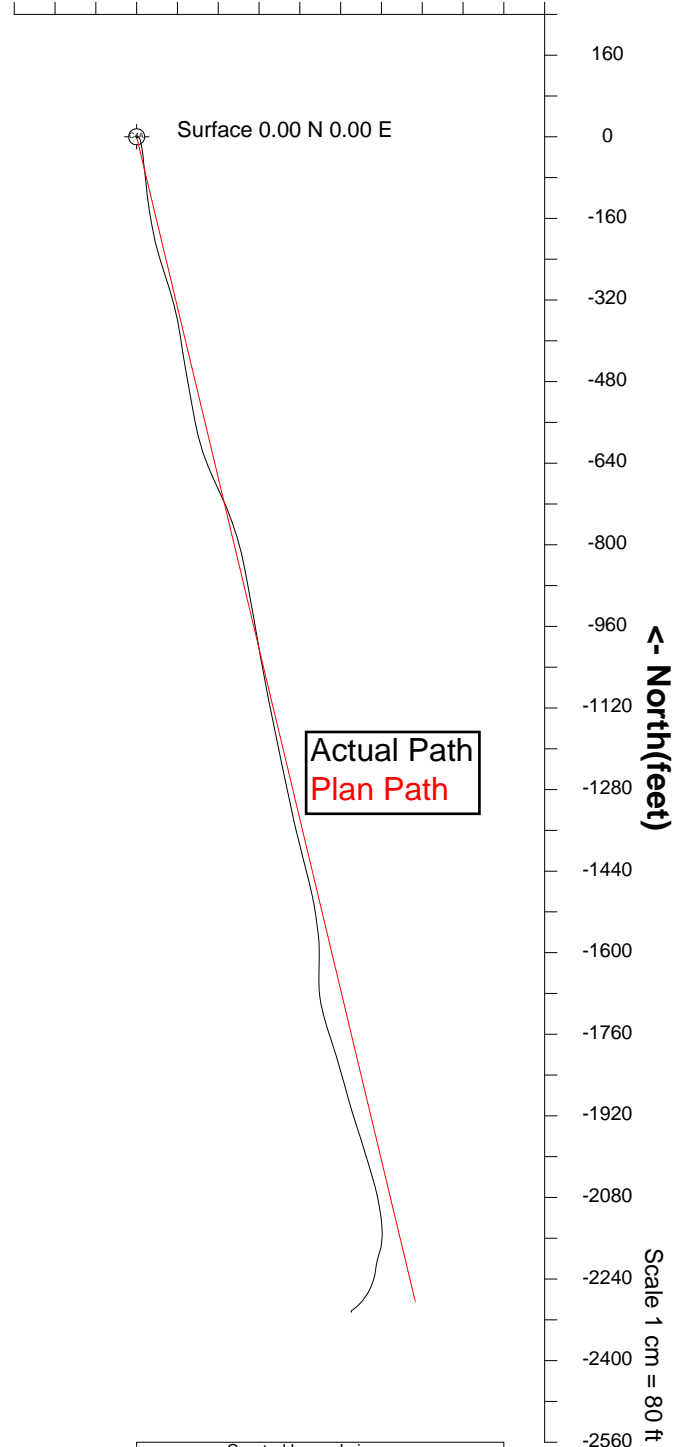
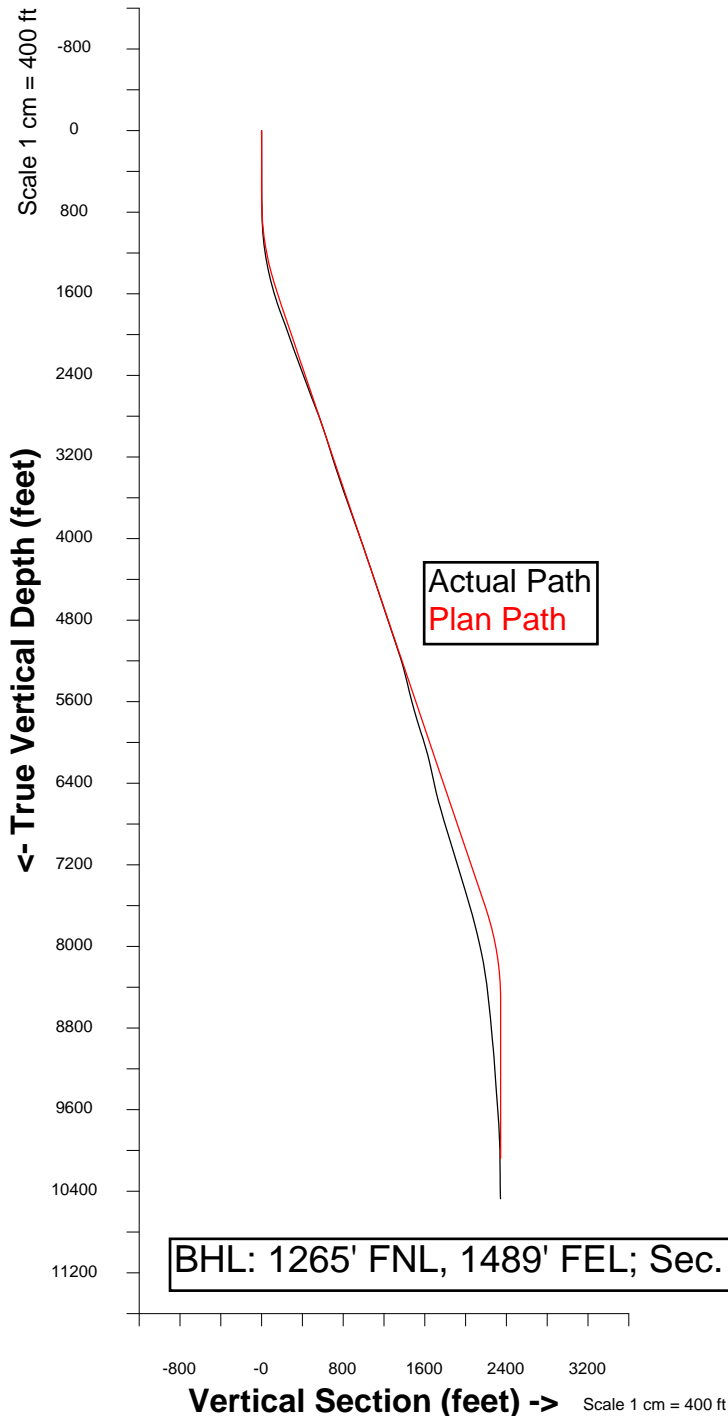
HIGH SIERRA WATER SERVICES

Location Weld County, CO, USA
Field Wattenberg
Installation C4

Slot C4A
Well C4A
Wellbore C4A (AWB)

Scale 1 cm = 80 ft **East (feet) ->**

-160 0 160 320 480 640 800



Created by admin
Date plotted 10-Jan-2013
Plot reference is C4A (AWB).
Ref wellpath is C4A (AWP#1).
Coordinates are in feet reference C4A.
True Vertical Depths are reference Rig Datum.
Measured Depths are reference Rig Datum.
Rig Datum: Actual Datum #1
Rig Datum to Mean Sea Level: 4682.00 ft.
Plot North is aligned to GRID North.



SYSDRILL
Wellpath Report
Wellbore: C4A (AWB)
Wellpath: C4A (AWP#1)

Wellbore

Name	Created	Last Revised
C4A (AWB)	28-Nov-2012	26-Dec-2012

Well

Name	Government ID	Last Revised
C4A		28-Nov-2012

Slot

Name	Grid Northing	Grid Easting	Latitude	Longitude	North	East
C4A	1408891.1229	3224065.1100	N40 27 10.8557	W104 41 41.4479	0.00N	18699.17W

Installation

Name	Easting	Northing	Coord System Name	North Alignment
C4	3242763.5516	1408891.1229	CO83-NF on NAD83 datum	Grid

Field

Name	Easting	Northing	Coord System Name	North Alignment
Wattenberg	3224065.1116	1343637.7116	CO83-NF on NAD83 datum	Grid

Wellpath Report

MD[ft]	Inc[deg]	Azi[deg]	TVD[ft]	North[ft]	East[ft]	Dogleg [deg/100ft]	Vertical Section[ft]
0.00	0.00	0.000	0.00	0.00N	0.00E		0.00
553.00	0.53	111.870	552.99	0.95S	2.37E	0.10	1.36
646.00	0.88	126.110	645.98	1.53S	3.35E	0.42	2.11
737.00	0.96	117.140	736.97	2.29S	4.59E	0.18	3.08
827.00	1.23	147.600	826.96	3.45S	5.78E	0.70	4.44
918.00	2.85	163.200	917.90	6.44S	6.96E	1.87	7.59
1009.00	4.53	168.400	1008.71	12.13S	8.34E	1.88	13.43
1104.00	6.15	170.230	1103.29	20.82S	9.95E	1.71	22.27
1200.00	8.39	172.690	1198.51	32.84S	11.72E	2.36	34.41
1295.00	10.50	174.190	1292.22	48.32S	13.48E	2.24	49.96
1390.00	12.48	173.220	1385.31	67.13S	15.56E	2.09	68.84
1485.00	14.37	174.270	1477.71	89.06S	17.95E	2.01	90.83
1581.00	16.12	173.480	1570.33	114.15S	20.66E	1.84	116.01
1676.00	18.02	171.200	1661.14	141.78S	24.40E	2.12	143.86
1772.00	19.95	169.870	1751.92	172.58S	29.55E	2.06	175.08
1867.00	20.21	167.060	1841.14	204.53S	36.08E	1.05	207.68
1962.00	19.77	163.020	1930.42	235.89S	44.45E	1.53	240.03
2058.00	18.94	161.960	2021.00	266.23S	54.01E	0.94	271.60
2153.00	19.90	162.580	2110.59	296.32S	63.63E	1.03	302.93
2248.00	20.61	165.740	2199.72	327.95S	72.59E	1.37	335.66
2344.00	19.95	168.120	2289.77	360.35S	80.12E	1.10	368.89
2439.00	20.74	171.830	2378.85	392.86S	85.85E	1.59	401.90
2534.00	20.83	171.370	2467.66	426.21S	90.77E	0.20	435.59
2630.00	20.56	169.350	2557.47	459.66S	96.45E	0.79	469.51
2725.00	20.61	169.700	2646.40	492.50S	102.52E	0.14	502.91
2821.00	21.22	170.140	2736.08	526.24S	108.52E	0.66	537.18
2916.00	21.04	168.730	2824.69	559.91S	114.80E	0.57	571.42
3011.00	17.71	166.180	2914.30	590.67S	121.58E	3.62	602.91
3106.00	18.23	161.440	3004.67	618.79S	129.76E	1.63	632.04
3202.00	17.75	157.570	3095.98	646.55S	140.13E	1.34	661.21
3297.00	17.97	155.730	3186.40	673.30S	151.68E	0.64	689.60
3392.00	18.28	154.410	3276.69	700.10S	164.14E	0.54	718.20
3487.00	18.63	157.310	3366.81	727.53S	176.42E	1.03	747.40
3583.00	18.76	161.090	3457.74	756.29S	187.34E	1.27	777.65
3678.00	19.33	162.930	3547.54	785.77S	196.91E	0.87	808.37
3774.00	19.59	166.450	3638.06	816.60S	205.34E	1.25	840.22
3869.00	19.64	169.440	3727.55	847.78S	212.00E	1.06	872.09
3964.00	19.86	169.700	3816.96	879.35S	217.81E	0.25	904.19
4060.00	19.55	169.440	3907.34	911.19S	223.67E	0.34	936.56
4154.00	19.16	170.070	3996.03	941.84S	229.21E	0.47	967.71
4249.00	19.12	170.320	4085.78	972.54S	234.52E	0.10	998.86
4345.00	18.81	170.850	4176.57	1003.32S	239.62E	0.37	1030.05
4440.00	18.63	168.640	4266.54	1033.31S	245.05E	0.77	1060.54
4535.00	18.14	169.610	4356.69	1062.74S	250.70E	0.61	1090.50
4630.00	18.72	168.380	4446.82	1092.22S	256.44E	0.74	1120.53
4726.00	18.67	168.820	4537.76	1122.38S	262.52E	0.16	1151.29
4821.00	18.28	168.470	4627.86	1151.89S	268.45E	0.43	1181.39
4917.00	18.58	168.380	4718.94	1181.63S	274.54E	0.31	1211.74
5012.00	18.45	168.380	4809.02	1211.18S	280.62E	0.14	1241.90
5107.00	18.55	168.910	4899.11	1240.73S	286.55E	0.21	1272.03

All data is in Feet unless otherwise stated
Coordinates are from Slot MD's are from Rig and TVD's are from Rig (Actual Datum #1 4682.0ft above Mean Sea Level)
Vertical Section is from 0.00N 0.00E on azimuth 169.640 degrees
Bottom hole distance is 2343.01 Feet on azimuth 169.64 degrees from Wellhead
Calculation method uses Minimum Curvature method
Prepared by Peterson Energy
Date Printed: 11-Jan-2013



SYSDRILL
Wellpath Report
Wellbore: C4A (AWB)
Wellpath: C4A (AWP#1)

Wellpath Report

MD[ft]	Inc[deg]	Azi[deg]	TVD[ft]	North[ft]	East[ft]	Dogleg [deg/100ft]	Vertical Section[ft]
5200.00	18.76	168.030	4987.22	1269.88S	292.50E	0.38	1301.78
5296.00	18.14	166.800	5078.29	1299.53S	299.11E	0.76	1332.13
5391.00	17.88	168.200	5168.63	1328.20S	305.47E	0.53	1361.48
5486.00	15.82	167.240	5259.55	1355.11S	311.31E	2.19	1389.00
5549.00	13.79	164.430	5320.46	1370.72S	315.23E	3.42	1405.06
5644.00	13.79	166.270	5412.72	1392.63S	320.95E	0.46	1427.64
5740.00	13.57	166.270	5506.00	1414.68S	326.34E	0.23	1450.30
5835.00	14.37	165.390	5598.19	1436.91S	331.96E	0.87	1473.19
5931.00	16.08	166.360	5690.81	1461.36S	338.10E	1.80	1498.34
6026.00	16.61	167.850	5781.97	1487.42S	344.06E	0.71	1525.05
6168.00	18.70	172.000	5917.28	1529.81S	351.50E	1.72	1568.09
6200.00	17.90	172.300	5947.66	1539.77S	352.88E	2.52	1578.12
6295.00	15.90	173.200	6038.56	1567.16S	356.37E	2.12	1605.70
6391.00	15.20	179.900	6131.05	1592.80S	357.95E	2.01	1631.21
6486.00	13.30	180.400	6223.12	1616.19S	357.90E	2.00	1654.20
6567.00	11.90	181.500	6302.17	1633.85S	357.61E	1.75	1671.53
6662.00	12.20	180.900	6395.08	1653.68S	357.20E	0.34	1690.96
6758.00	13.60	176.000	6488.65	1675.08S	357.83E	1.85	1712.13
6853.00	15.70	169.200	6580.57	1698.86S	361.02E	2.85	1736.08
6948.00	15.50	165.600	6672.07	1723.78S	366.58E	1.04	1761.60
7043.00	16.00	161.400	6763.51	1748.48S	373.91E	1.31	1787.22
7139.00	16.80	162.000	6855.60	1774.22S	382.42E	0.85	1814.07
7243.00	18.10	163.400	6954.81	1804.00S	391.68E	1.31	1845.02
7338.00	18.30	163.700	7045.06	1832.45S	400.08E	0.23	1874.53
7433.00	16.60	165.100	7135.68	1859.88S	407.76E	1.84	1902.89
7529.00	15.00	164.900	7228.05	1885.13S	414.52E	1.67	1928.94
7624.00	16.80	162.500	7319.42	1910.10S	421.85E	2.02	1954.82
7719.00	17.90	162.100	7410.09	1937.08S	430.47E	1.16	1982.92
7814.00	17.80	162.500	7500.52	1964.83S	439.32E	0.17	2011.80
7910.00	16.50	163.000	7592.25	1991.86S	447.72E	1.36	2039.90
8005.00	14.50	163.700	7683.79	2016.18S	455.01E	2.11	2065.13
8100.00	14.40	163.700	7775.79	2038.93S	461.66E	0.11	2088.71
8195.00	13.70	165.100	7867.94	2061.14S	467.87E	0.82	2111.68
8291.00	12.70	168.500	7961.41	2082.47S	472.89E	1.32	2133.56
8386.00	11.70	170.700	8054.26	2102.21S	476.53E	1.16	2153.63
8481.00	10.80	172.000	8147.43	2120.53S	479.33E	0.98	2172.16
8576.00	9.20	176.500	8240.99	2136.92S	481.03E	1.87	2188.59
8672.00	8.30	180.800	8335.87	2151.51S	481.40E	1.16	2203.01
8686.00	7.71	181.830	8349.74	2153.46S	481.36E	4.34	2204.92
8780.00	7.13	184.680	8442.95	2165.58S	480.68E	0.73	2216.72
8874.00	6.73	190.240	8536.26	2176.81S	479.23E	0.83	2227.50
8968.00	6.40	200.380	8629.65	2187.14S	476.42E	1.28	2237.16
9061.00	5.27	194.650	8722.17	2196.13S	473.54E	1.37	2245.49
9155.00	5.73	193.250	8815.73	2204.88S	471.37E	0.51	2253.70
9250.00	5.82	189.240	8910.25	2214.25S	469.51E	0.44	2262.58
9344.00	5.22	186.720	9003.82	2223.20S	468.24E	0.69	2271.16
9438.00	4.76	187.990	9097.46	2231.31S	467.20E	0.50	2278.95
9533.00	4.30	199.530	9192.16	2238.57S	465.46E	1.07	2285.78
9627.00	4.94	200.920	9285.86	2245.67S	462.84E	0.69	2292.29
9721.00	4.82	196.100	9379.52	2253.25S	460.30E	0.45	2299.29
9815.00	5.82	210.250	9473.12	2261.16S	456.80E	1.75	2306.44
9910.00	6.59	210.440	9567.56	2270.02S	451.61E	0.81	2314.23
10004.00	6.00	220.360	9660.99	2278.41S	445.70E	1.31	2321.42
10098.00	4.64	220.690	9754.59	2285.04S	440.04E	1.45	2326.92
10192.00	3.38	220.680	9848.36	2290.02S	435.75E	1.34	2331.05
10286.00	2.84	227.670	9942.22	2293.69S	432.23E	0.70	2334.03
10380.00	2.29	228.760	10036.12	2296.50S	429.09E	0.59	2336.23
10475.00	2.09	237.140	10131.05	2298.69S	426.21E	0.40	2337.86
10570.00	1.71	236.660	10226.00	2300.41S	423.57E	0.40	2339.08
10664.00	1.52	242.130	10319.96	2301.76S	421.30E	0.26	2340.00
10758.00	1.46	154.460	10413.94	2303.43S	420.71E	2.20	2341.53
10818.00	1.46	154.460	10473.92	2304.81S	421.37E	==>	2343.01

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SYSDRILL
Wellpath Report
Wellbore: C4A (AWB)
Wellpath: C4A (AWP#1)

Formations

Formation Name	MD[ft]	TVD[ft]	Dip Angle[deg]	Dip Azimuth[deg]	Incidence Angle[deg]	Remarks
Entrada			0.00	0.00		
Lykins			0.00	0.00		

Survey Tool Program

Reference	Survey Name	MD[ft]	TVD[ft]	Survey Tool	Error Model
12583	Actual	8672.00	8335.87	ISCWSA MWD	Rev 0
18850	Actual - Gyro	10758.00	10413.94	WdW Rate Gyro	Standard
18849	Projection	10818.00	10473.92	No Tool	No Model

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