

Great Western Operating Company, LLC

Location	Colorado	Slot	Slot 13 - Schneider HD 11-392HN
Field	Wattenburg	Well	Schneider HD 11-392HN
Installation	Schneider - South	Wellbore	Schneider HD 11-392HN (AWB)

Created by: admin

Date plotted: 25-Apr-2018

Plot reference is Schneider HD 11-392HN (AWB).

Ref wellpath is Schneider HD 11-392HN (AWP#1).

Coordinates are in Feet reference Slot 13 - Schneider HD 11-392HN.

True Vertical Depths are reference Rig Datum.

Measured Depths are reference Rig Datum.

Rig Datum: Actual Datum #1

Rig Datum to Mean Sea Level: 4751.30 ft.

Plot North is aligned to TRUE North.

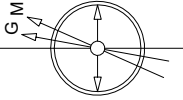
Scale 1 cm = 400 ft

East (Feet) ->

E

N

TRUE



W

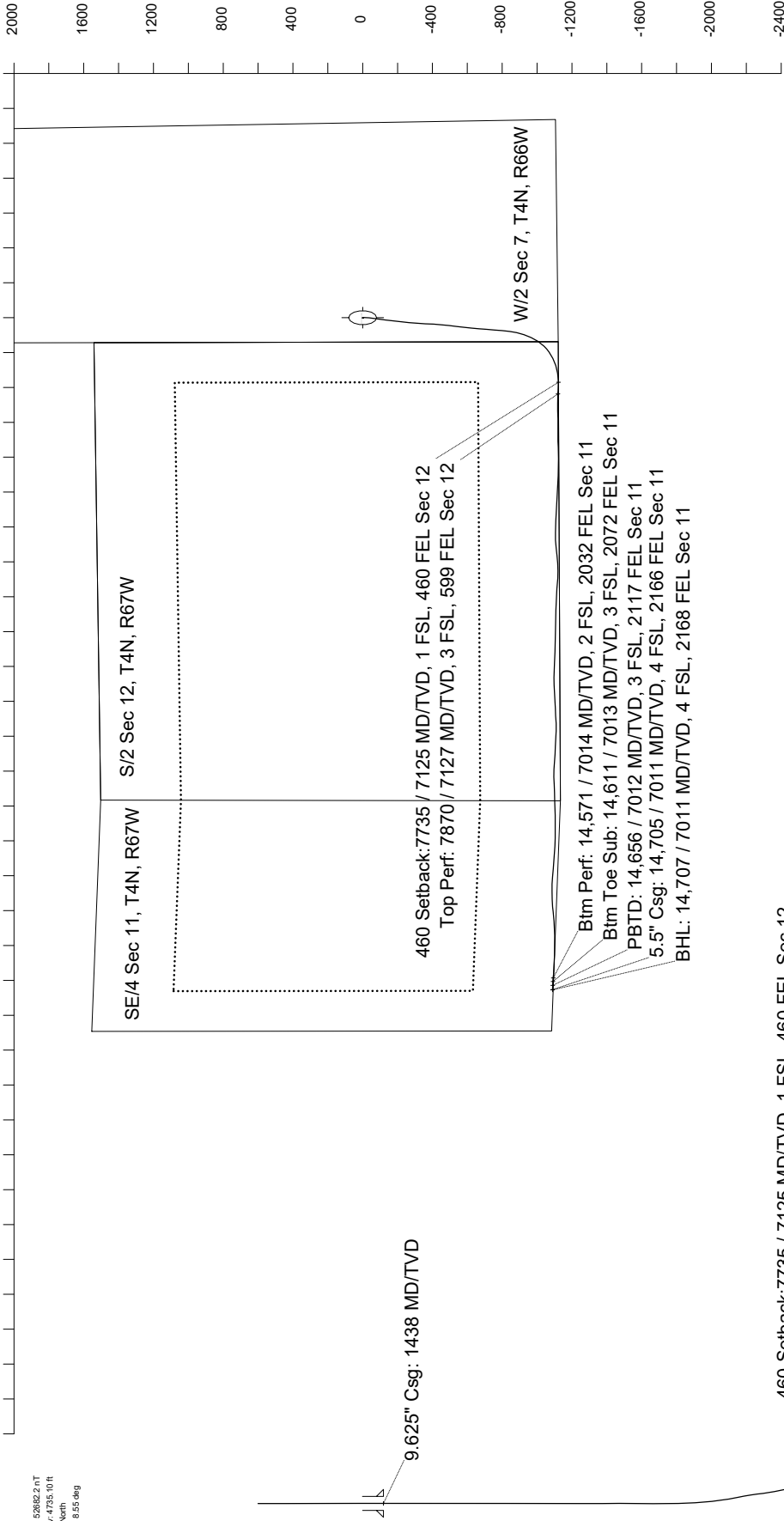
July 22, 2014  
IGRF Model [1900.0-2020.0] Dip: 66.86 deg Field: 52652.2 nT  
Lat: N40 19 21.9792 Long: W104 49 43.4100 Elev: 4735.10 ft  
Magnetic North is 6.55 deg East of TRUE North  
To correct azimuth from Magnetic to TRUE add 6.55 deg

Scale 1 cm = 400 ft

<- True Vertical Depth (Feet)

<- North(Feet)

Scale 1 cm = 200 ft



Scale 1 cm = 400 ft

Vertical Section (Feet) ->

Azimuth 261.96 with reference 0.00 N, 0.00 E from Slot 13 - Schneider HD 11-392HN

Great Western Operating Co, LLC  
Wellbore Survey Report  
Wellpath: Schneider HD 11-392HN (AWP#1)  
MDs and TVDs are from Rig ( Actual Datum #1 4751.3ft above Mean Sea Level )

**Wellbore Information**

Date Created	Date Revised	API #	Name
Apr-24-2018	Apr-25-2018	05-123-41747	Schneider HD 11-392HN (AWB)

**Slot Coordinates**

Latitude	Longitude
40.32227803	-104.82871711

**Pad Information**

Name	Ground Elev
Schneider - South	4735.10

**Field**

Name
Wattenburg

**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	0.00	0.00		0.00
137.00	0.21	201.950	137.00	-0.23	-0.09	0.15	0.13
228.00	0.52	183.850	228.00	-0.80	-0.18	0.36	0.29
319.00	0.40	228.060	319.00	-1.42	-0.45	0.40	0.64
409.00	0.65	209.420	408.99	-2.08	-0.93	0.33	1.21
500.00	0.35	217.700	499.99	-2.75	-1.36	0.34	1.73
590.00	0.75	232.980	589.98	-3.32	-1.99	0.47	2.44
680.00	0.44	178.490	679.98	-4.02	-2.46	0.68	2.99
770.00	0.44	127.340	769.98	-4.58	-2.17	0.42	2.79
861.00	0.22	98.420	860.98	-4.81	-1.72	0.30	2.38
951.00	0.79	318.740	950.97	-4.37	-1.96	1.08	2.55
1041.00	0.52	27.400	1040.97	-3.54	-2.18	0.86	2.65
1132.00	0.75	37.400	1131.96	-2.70	-1.63	0.28	1.99
1222.00	0.70	30.480	1221.96	-1.76	-0.99	0.11	1.23
1312.00	0.75	276.700	1311.95	-1.22	-1.30	1.35	1.46
1385.00	0.44	323.510	1384.95	-0.94	-1.94	0.76	2.05
1396.20	0.44	323.510	1396.15	-0.87	-1.99	==>	2.09
1438.20	0.24	310.660	1438.15	-0.68	-2.15	0.51	2.23
1500.00	0.15	204.450	1499.95	-0.67	-2.28	0.51	2.36
1588.00	0.15	12.110	1587.95	-0.66	-2.31	0.34	2.38
1674.00	0.10	295.980	1673.95	-0.52	-2.35	0.18	2.40
1760.00	0.06	190.160	1759.95	-0.53	-2.43	0.15	2.48
1847.00	0.12	73.350	1846.95	-0.55	-2.35	0.18	2.40
1935.00	0.07	198.670	1934.95	-0.58	-2.28	0.19	2.33
2022.00	0.06	276.260	2021.95	-0.62	-2.34	0.09	2.40
2109.00	0.10	52.710	2108.95	-0.57	-2.32	0.17	2.38
2197.00	0.15	294.760	2196.95	-0.48	-2.37	0.25	2.41
2285.00	0.25	132.660	2284.95	-0.56	-2.33	0.45	2.39
2371.00	0.07	38.840	2370.95	-0.64	-2.16	0.31	2.23
2458.00	0.26	205.070	2457.95	-0.78	-2.21	0.38	2.30
2546.00	0.19	125.980	2545.94	-1.05	-2.18	0.33	2.30
2634.00	0.19	247.350	2633.94	-1.19	-2.19	0.38	2.34
2721.00	0.26	41.710	2720.94	-1.10	-2.19	0.50	2.33
2809.00	0.21	222.220	2808.94	-1.07	-2.17	0.53	2.30
2897.00	0.14	129.720	2896.94	-1.26	-2.20	0.29	2.35
2985.00	0.03	135.990	2984.94	-1.34	-2.10	0.13	2.26
3073.00	0.34	46.940	3072.94	-1.18	-1.89	0.39	2.04
3161.00	0.14	64.860	3160.94	-0.96	-1.60	0.24	1.72
3248.00	0.22	14.100	3247.94	-0.75	-1.47	0.20	1.56
3336.00	0.50	69.680	3335.94	-0.45	-1.06	0.47	1.12
3424.00	0.34	20.000	3423.94	-0.07	-0.61	0.43	0.62
3511.00	0.14	194.320	3510.94	0.07	-0.55	0.55	0.54
3599.00	0.13	303.090	3598.94	0.02	-0.66	0.25	0.65
3687.00	0.03	304.270	3686.94	0.08	-0.77	0.11	0.75
3776.00	0.13	85.750	3775.94	0.11	-0.68	0.17	0.66
3864.00	0.22	292.740	3863.94	0.18	-0.74	0.39	0.71
3951.00	0.25	230.370	3950.94	0.12	-1.04	0.28	1.01
4038.00	0.17	260.340	4037.94	-0.02	-1.31	0.15	1.30
4125.00	0.35	95.380	4124.94	-0.07	-1.18	0.59	1.17
4213.00	0.47	9.990	4212.93	0.26	-0.85	0.64	0.80
4300.00	0.14	50.440	4299.93	0.68	-0.70	0.43	0.60
4387.00	0.26	270.410	4386.93	0.75	-0.82	0.43	0.71
4476.00	0.34	299.980	4475.93	0.88	-1.25	0.19	1.11
4563.00	0.48	169.230	4562.93	0.66	-1.40	0.86	1.30
4651.00	0.68	53.290	4650.93	0.61	-0.92	1.12	0.82
4738.00	3.09	157.130	4737.89	-1.25	0.41	3.81	-0.23
4827.00	6.86	178.590	4826.54	-8.77	1.47	4.65	-0.23
4914.00	9.57	186.440	4912.64	-21.16	0.79	3.36	2.18
5002.00	10.77	191.030	4999.26	-36.50	-1.60	1.64	6.69
5089.00	13.90	193.170	5084.24	-54.66	-5.54	3.64	13.13
5177.00	17.38	196.090	5168.97	-77.58	-11.59	4.05	22.33
5264.00	18.26	195.350	5251.80	-103.21	-18.80	1.04	33.06
5351.00	20.84	194.530	5333.77	-131.34	-26.30	2.98	44.41
5439.00	22.60	193.800	5415.52	-162.92	-34.26	2.02	56.71
5526.00	26.38	194.090	5494.68	-197.91	-42.95	4.35	70.21
5614.00	27.79	192.380	5573.03	-236.91	-52.11	1.83	84.74
5701.00	28.91	187.720	5649.60	-277.57	-59.29	2.85	97.53
5788.00	30.39	185.880	5725.21	-320.30	-64.37	2.00	108.54
5876.00	29.16	185.500	5801.59	-363.78	-68.70	1.41	118.91

MD[ft]	Inc[deg]	Azi[deg]	TVD[ft]	North[ft]	East[ft]	Dogleg [deg/100ft]	Vertical Section[ft]
5963.00	30.38	188.640	5877.12	-406.64	-74.04	2.28	130.19
6051.00	30.42	190.690	5953.02	-450.53	-81.51	1.18	143.73
6138.00	30.57	192.030	6027.98	-493.81	-90.21	0.80	158.40
6226.00	30.23	193.440	6103.89	-537.24	-100.02	0.90	174.19
6313.00	30.75	193.340	6178.86	-580.19	-110.25	0.60	190.32
6401.00	30.54	190.420	6254.57	-624.07	-119.48	1.71	205.60
6488.00	30.52	189.440	6329.51	-667.60	-127.10	0.57	219.24
6576.00	30.48	189.040	6405.33	-711.68	-134.27	0.24	232.50
6663.00	30.64	189.240	6480.25	-755.36	-141.30	0.22	245.57
6750.00	29.90	189.960	6555.39	-798.60	-148.61	0.95	258.86
6837.00	30.42	193.180	6630.61	-841.40	-157.38	1.95	273.53
6926.00	30.13	203.800	6707.53	-883.81	-171.55	6.02	293.49
7015.00	34.82	214.250	6782.65	-925.31	-194.89	8.20	322.41
7102.00	39.24	223.400	6852.14	-965.88	-227.82	8.11	360.69
7190.00	44.75	232.610	6917.58	-1004.98	-271.63	9.38	409.54
7279.00	51.51	242.180	6977.03	-1040.35	-327.46	11.02	469.77
7366.00	60.06	250.520	7025.96	-1068.90	-393.31	12.61	538.96
7453.00	67.87	256.370	7064.14	-1091.01	-468.18	10.82	616.19
7540.00	75.21	260.970	7091.69	-1107.14	-549.03	9.81	698.50
7628.00	79.28	264.800	7111.12	-1117.74	-634.16	6.28	784.28
7714.00	84.36	268.880	7123.36	-1122.41	-719.11	7.55	869.05
7735.00	85.78	269.650	7125.16	-1122.68	-740.03	7.68	889.80
7803.00	90.37	272.140	7127.45	-1121.62	-807.96	7.68	956.91
7870.00	90.63	271.520	7126.86	-1119.48	-874.93	1.01	1022.92
7890.00	90.71	271.330	7126.63	-1118.98	-894.92	1.01	1042.64
7978.00	91.05	269.910	7125.27	-1118.03	-982.90	1.66	1129.63
8065.00	90.55	269.370	7124.06	-1118.58	-1069.89	0.85	1215.84
8153.00	90.49	269.410	7123.26	-1119.51	-1157.88	0.08	1303.09
8238.00	90.25	269.660	7122.71	-1120.20	-1242.88	0.41	1387.35
8326.00	90.25	270.570	7122.33	-1120.03	-1330.87	1.03	1474.46
8413.00	90.09	269.890	7122.07	-1119.68	-1417.87	0.80	1560.55
8500.00	90.09	269.310	7121.93	-1120.28	-1504.87	0.67	1646.78
8587.00	89.94	268.590	7121.91	-1121.88	-1591.86	0.85	1733.13
8676.00	89.88	269.930	7122.05	-1123.03	-1680.85	1.51	1821.41
8763.00	89.97	270.940	7122.16	-1122.37	-1767.84	1.17	1907.46
8850.00	90.31	271.600	7121.95	-1120.44	-1854.82	0.85	1993.31
8937.00	90.49	271.680	7121.34	-1117.95	-1941.78	0.23	2079.07
9025.00	90.80	271.630	7120.35	-1115.41	-2029.74	0.36	2165.81
9112.00	89.57	271.620	7120.07	-1112.94	-2116.70	1.41	2251.57
9199.00	89.14	271.740	7121.05	-1110.39	-2203.66	0.51	2337.31
9286.00	89.41	270.870	7122.15	-1108.41	-2290.63	1.05	2423.15
9372.00	90.12	270.590	7122.51	-1107.31	-2376.62	0.89	2508.14
9460.00	90.83	271.200	7121.78	-1105.94	-2464.61	1.06	2595.07
9547.00	90.68	268.760	7120.63	-1105.97	-2551.59	2.81	2681.21
9636.00	90.83	266.690	7119.46	-1109.50	-2640.51	2.33	2769.74
9723.00	90.89	266.900	7118.15	-1114.37	-2727.36	0.25	2856.43
9810.00	90.86	268.220	7116.82	-1118.07	-2814.27	1.52	2943.00
9898.00	90.86	269.040	7115.50	-1120.17	-2902.24	0.93	3030.39
9984.00	90.71	272.910	7114.32	-1118.71	-2988.20	4.50	3115.30
10071.00	90.71	272.210	7113.24	-1114.82	-3075.11	0.80	3200.81
10159.00	90.65	271.360	7112.20	-1112.08	-3163.06	0.97	3287.52
10247.00	90.77	271.260	7111.11	-1110.07	-3251.03	0.18	3374.34
10334.00	90.71	271.030	7109.99	-1108.33	-3338.00	0.27	3460.22
10421.00	90.12	270.830	7109.36	-1106.92	-3424.99	0.72	3546.15
10509.00	90.43	270.300	7108.93	-1106.05	-3512.98	0.70	3633.16
10597.00	90.59	270.030	7108.15	-1105.80	-3600.98	0.36	3720.25
10685.00	90.49	271.060	7107.32	-1104.96	-3688.97	1.18	3807.26
10773.00	90.06	271.350	7106.90	-1103.11	-3776.95	0.59	3894.12
10860.00	90.12	270.930	7106.76	-1101.38	-3863.93	0.49	3980.00
10949.00	90.46	270.890	7106.31	-1099.97	-3952.92	0.38	4067.92
11037.00	90.18	271.160	7105.82	-1098.39	-4040.90	0.44	4154.82
11123.00	90.37	270.300	7105.41	-1097.30	-4126.89	1.02	4239.81
11210.00	90.37	268.850	7104.85	-1097.94	-4213.89	1.67	4326.04
11298.00	91.57	268.570	7103.36	-1099.92	-4301.85	1.40	4413.41
11387.00	91.57	268.240	7100.92	-1102.40	-4390.78	0.37	4501.82
11473.00	91.69	268.920	7098.47	-1104.53	-4476.72	0.80	4587.21
11561.00	91.73	268.120	7095.84	-1106.80	-4564.65	0.91	4674.59
11649.00	91.79	268.420	7093.14	-1109.46	-4652.57	0.35	4762.02
11737.00	91.85	271.050	7090.35	-1109.86	-4740.52	2.99	4849.16
11825.00	91.63	272.010	7087.67	-1107.52	-4828.44	1.12	4935.89
11913.00	91.45	271.160	7085.31	-1105.08	-4916.38	0.99	5022.62
12001.00	91.45	271.560	7083.08	-1102.99	-5004.32	0.45	5109.41
12087.00	91.42	272.200	7080.93	-1100.17	-5090.25	0.74	5194.10
12176.00	91.63	271.740	7078.56	-1097.12	-5179.17	0.57	5281.71
12265.00	91.57	269.080	7076.08	-1096.48	-5268.12	2.99	5369.70
12354.00	91.63	268.450	7073.59	-1098.40	-5357.06	0.71	5458.04
12442.00	91.72	269.330	7071.02	-1100.10	-5445.01	1.00	5545.36
12529.00	91.88	269.780	7068.29	-1100.78	-5531.96	0.55	5631.55
12616.00	91.97	268.460	7065.36	-1102.11	-5618.90	1.52	5717.82
12704.00	91.85	269.300	7062.43	-1103.83	-5706.84	0.96	5805.13
12792.00	92.22	270.190	7059.30	-1104.22	-5794.78	1.09	5892.27
12879.00	91.94	269.940	7056.15	-1104.12	-5881.72	0.43	5978.34
12967.00	91.60	270.490	7053.43	-1103.79	-5969.68	0.73	6065.39
13056.00	91.60	271.460	7050.94	-1102.28	-6058.63	1.09	6153.25
13143.00	91.79	272.430	7048.37	-1099.33	-6145.54	1.14	6238.89
13230.00	92.09	271.790	7045.42	-1096.13	-6232.43	0.81	6324.48
13318.00	91.51	271.800	7042.66	-1093.37	-6320.34	0.66	6411.15
13405.00	91.57	273.910	7040.32	-1089.04	-6407.20	2.43	6496.54
13494.00	91.20	270.360	7038.17	-1085.73	-6496.10	4.01	6584.10
13581.00	91.39	269.590	7036.20	-1085.76	-6583.07	0.91	6670.23
13668.00	91.17	269.320	7034.26	-1086.59	-6670.05	0.40	6756.46
13756.00	91.05	267.800	7032.56	-1088.80	-6758.00	1.73	6843.86

MD[ft]	Inc[deg]	Azi[deg]	TVD[ft]	North[ft]	East[ft]	Dogleg [deg/100ft]	Vertical Section[ft]
13843.00	91.20	266.360	7030.85	-1093.23	-6844.87	1.66	6930.50
13932.00	91.11	267.120	7029.05	-1098.29	-6933.71	0.86	7019.17
14019.00	91.02	269.210	7027.44	-1101.08	-7020.64	2.40	7105.64
14107.00	91.51	270.750	7025.49	-1101.11	-7108.62	1.84	7192.75
14194.00	91.48	270.600	7023.22	-1100.09	-7195.58	0.18	7278.72
14282.00	91.39	270.060	7021.02	-1099.58	-7283.55	0.62	7365.75
14371.00	91.42	270.550	7018.84	-1099.10	-7372.52	0.55	7453.78
14459.00	91.39	271.720	7016.68	-1097.36	-7460.48	1.33	7540.63
14544.00	91.35	272.540	7014.65	-1094.20	-7545.40	0.97	7624.27
14571.00	91.35	272.350	7014.01	-1093.05	-7572.36	0.71	7650.81
14610.92	91.36	272.070	7013.07	-1091.52	-7612.24	0.71	7690.08
14630.00	91.36	271.930	7012.61	-1090.85	-7631.31	0.71	7708.87
14656.22	91.22	271.550	7012.02	-1090.05	-7657.51	1.53	7734.70
14683.00	91.08	271.170	7011.49	-1089.42	-7684.27	1.53	7761.11
14705.00	91.08	271.170	7011.07	-1088.97	-7706.27	==>	7782.83
14707.00	91.08	271.170	7011.03	-1088.93	-7708.26	==>	7784.80

Comments

MD[ft]	TVD[ft]	North[ft]	East[ft]	Comment			
1438.20	1438.15	-0.68	-2.15	9.625" Csg: 1438 MD/TVD			
7735.00	7125.16	-1122.68	-740.03	460 Setback:7735 / 7125 MD/TVD, 1 FSL, 460 FEL Sec 12			
7870.00	7126.86	-1119.48	-874.93	Top Perf: 7870 / 7127 MD/TVD, 3 FSL, 599 FEL Sec 12			
14571.00	7014.01	-1093.05	-7572.36	Btm Perf: 14,571 / 7014 MD/TVD, 2 FSL, 2032 FEL Sec 11			
14610.92	7013.07	-1091.52	-7612.24	Btm Toe Sub: 14,611 / 7013 MD/TVD, 3 FSL, 2072 FEL Sec 11			
14656.22	7012.02	-1090.05	-7657.51	PBTD: 14,656 / 7012 MD/TVD, 3 FSL, 2117 FEL Sec 11			
14705.00	7011.07	-1088.97	-7706.27	5.5" Csg: 14,705 / 7011 MD/TVD, 4 FSL, 2166 FEL Sec 11			
14707.00	7011.03	-1088.93	-7708.26	BHL: 14,707 / 7011 MD/TVD, 4 FSL, 2168 FEL Sec 11			

Hole Sections

Diameter [in]	Start MD[ft]	Start TVD[ft]	Start North[ft]	Start East[ft]	End MD[ft]	End TVD[ft]	End North[ft]	End East[ft]
13.500	0.00	0.00	0.00	0.00	1446.20	1446.15	-0.66	-2.18
8.500	1446.20	1446.15	-0.66	-2.18	14707.00	7011.03	-1088.93	-7708.26

Casings

Name	Top MD[ft]	Top TVD[ft]	Top North[ft]	Top East[ft]	Shoe MD[ft]	Shoe TVD[ft]	Shoe North[ft]	Shoe East[ft]
9 5/8in Casing	0.00	0.00	0.00	0.00	1438.20	1438.15	-0.68	-2.15
5 1/2in Casing	0.00	0.00	0.00	0.00	14705.00	7011.07	-1088.97	-7706.27

Survey Tool Program

Reference	Survey Name	MD[ft]	TVD[ft]	Survey Tool	Error Model
354883	As Drilled - 20180424	14707.00	7011.03	MWD	

Coordinates are from Slot MD's are from Rig and TVD's are from Rig ( Actual Datum #1 4751.3ft above Mean Sea Level )  
Vertical Section is from 0.00 0.00 on azimuth 261.960 degrees  
Bottom hole distance is 7784.80 Feet on azimuth 261.96 degrees from Wellhead  
Calculation method uses Minimum Curvature method  
Prepared by Great Western Operating Co.  
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