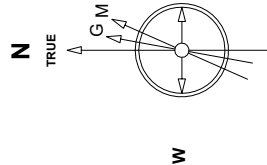
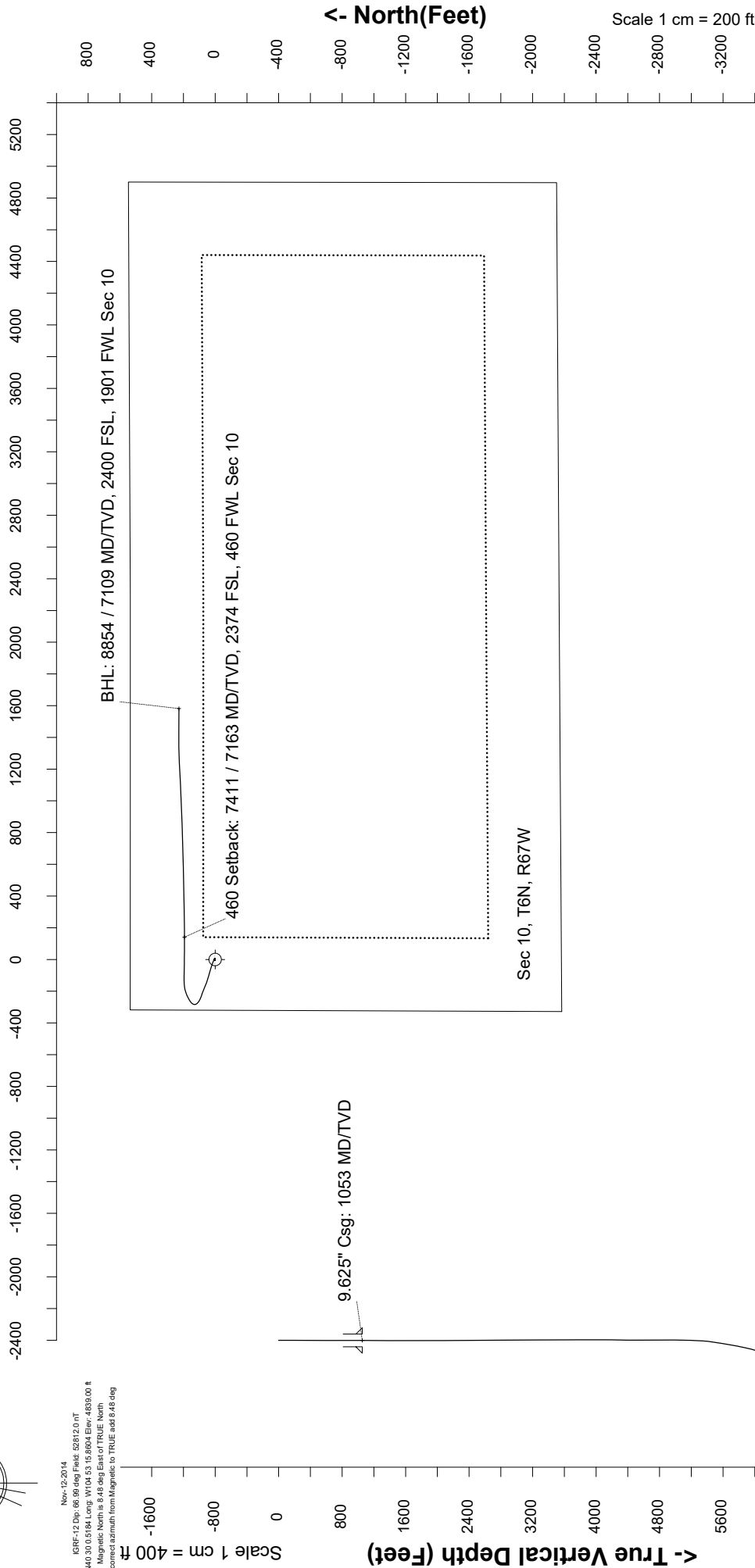


Created by amount  
Date plotted 18-Aug-2020  
Rid reference is Detienne FD 10-239HN-OH (AW B).  
Rid wellpath is Detienne FD 10-239HN (ANP4).  
Coordinates are in Feet reference Slot 02 - Detienne FD 10-239HN.  
True Vertical Depths are reference Rig Datum.  
Measured Depths are reference Rig Datum.  
Rig Datum: Actual Datum #1  
Rid Datum to Mean Sea Level: 4835.20 ft.  
Plot North is assigned to TRUE North.



Nov-12-2014  
IGRF-12 Dip: 66.99 deg Field: 52812.0 nT  
Lat: N40 30 0.5184 Long: W104 53 15.8604 Elev: 4839.00 ft  
Magnetic North is 8.48 deg East of TRUE North  
To correct azimuth from Magnetic to TRUE add 8.48 deg



Great Western Operating Co, LLC  
 Directional Survey Report  
 Wellpath: DeTienne FD 10-239HN-OH  
 MDs and TVDs are from Rig Floor 4855.2ft above Mean Sea Level

**Wellpath Report**

MD[ft]	Inc[deg]	Azi[deg]	TVD[ft]	North[ft]	East[ft]	DLS [deg/100ft]	Vertical Section[ft]
0.00	0.00	0.00	0.00	0.00	0.00		0.00
16.20	0.00	0.00	16.20	0.00	0.00	==>	0.00
142.00	1.30	327.20	141.99	1.20	-0.77	1.03	-0.59
173.00	0.90	320.50	172.98	1.68	-1.12	1.35	-0.87
204.00	0.50	308.80	203.98	1.96	-1.38	1.36	-1.09
238.00	0.30	189.90	237.98	1.96	-1.51	2.05	-1.21
268.00	0.20	228.00	267.98	1.85	-1.56	0.63	-1.28
298.00	0.30	243.70	297.98	1.78	-1.67	0.40	-1.40
328.00	0.20	244.50	327.98	1.72	-1.79	0.33	-1.52
358.00	0.20	213.60	357.98	1.66	-1.87	0.36	-1.61
388.00	0.10	243.50	387.98	1.60	-1.92	0.41	-1.67
418.00	0.20	249.00	417.98	1.57	-1.99	0.34	-1.75
448.00	0.10	196.00	447.98	1.53	-2.05	0.54	-1.81
478.00	0.10	247.70	477.98	1.49	-2.08	0.29	-1.84
508.00	0.00	101.70	507.98	1.48	-2.10	0.33	-1.87
538.00	0.20	225.10	537.98	1.44	-2.14	0.67	-1.91
568.00	0.30	208.40	567.98	1.34	-2.21	0.41	-2.00
598.00	0.10	129.00	597.98	1.25	-2.23	0.99	-2.03
628.00	0.30	145.30	627.98	1.17	-2.17	0.69	-1.98
658.00	0.30	125.60	657.98	1.06	-2.06	0.34	-1.88
688.00	0.60	104.80	687.98	0.97	-1.84	1.12	-1.68
718.00	0.20	26.00	717.98	0.98	-1.67	1.98	-1.51
748.00	0.60	291.90	747.98	1.09	-1.79	2.15	-1.62
778.00	0.70	272.90	777.97	1.16	-2.12	0.79	-1.93
808.00	0.40	271.50	807.97	1.17	-2.41	1.00	-2.21
838.00	0.10	217.20	837.97	1.15	-2.53	1.17	-2.34
868.00	0.10	248.30	867.97	1.12	-2.57	0.18	-2.38
898.00	0.10	352.10	897.97	1.13	-2.59	0.52	-2.41
928.00	0.10	166.70	927.97	1.14	-2.59	0.67	-2.40
958.00	0.10	260.10	957.97	1.11	-2.61	0.49	-2.43
988.00	0.10	265.50	987.97	1.10	-2.66	0.03	-2.48
1018.00	0.30	269.30	1017.97	1.10	-2.77	0.67	-2.58
1024.00	0.20	256.50	1023.97	1.09	-2.79	1.90	-2.61
1096.00	0.20	83.60	1095.97	1.08	-2.79	0.55	-2.61
1191.00	0.10	271.20	1190.97	1.10	-2.71	0.32	-2.52
1287.00	0.30	306.90	1286.97	1.25	-2.99	0.24	-2.78
1383.00	0.20	300.70	1382.97	1.49	-3.34	0.11	-3.09
1479.00	0.60	290.70	1478.97	1.75	-3.95	0.42	-3.66
1575.00	0.60	299.30	1574.96	2.17	-4.86	0.09	-4.50
1671.00	0.50	104.70	1670.96	2.31	-4.89	1.14	-4.51
1767.00	0.30	117.60	1766.96	2.09	-4.27	0.23	-3.92
1863.00	0.40	261.10	1862.96	1.92	-4.38	0.69	-4.06
1958.00	0.80	253.80	1957.95	1.69	-5.34	0.43	-5.04
2054.00	1.00	157.20	2053.94	0.73	-5.66	1.41	-5.50
2150.00	0.60	167.90	2149.94	-0.54	-5.23	0.44	-5.25
2245.00	1.10	91.40	2244.93	-1.05	-4.21	1.18	-4.32
2341.00	0.80	65.20	2340.91	-0.79	-2.68	0.54	-2.77
2436.00	0.70	55.00	2435.91	-0.18	-1.61	0.18	-1.61
2532.00	0.70	44.30	2531.90	0.58	-0.72	0.14	-0.63
2628.00	0.60	37.80	2627.89	1.40	0.00	0.13	0.20
2724.00	0.70	23.70	2723.89	2.33	0.55	0.20	0.87
2820.00	0.80	5.90	2819.88	3.53	0.85	0.26	1.35
2916.00	0.90	2.20	2915.87	4.95	0.95	0.12	1.65
3012.00	0.40	151.60	3011.86	5.41	1.14	1.31	1.90
3108.00	0.30	141.10	3107.86	4.92	1.45	0.12	2.14
3204.00	1.00	120.00	3203.86	4.31	2.34	0.76	2.93
3299.00	1.20	111.10	3298.84	3.54	3.98	0.28	4.45
3395.00	1.30	166.70	3394.82	2.11	5.17	1.22	5.42
3491.00	0.70	191.10	3490.80	0.48	5.31	0.75	5.32
3587.00	0.00	233.60	3586.80	-0.10	5.20	0.73	5.13
3683.00	0.30	359.80	3682.80	0.16	5.19	0.31	5.16
3778.00	0.10	348.60	3777.80	0.48	5.18	0.21	5.19

MD[ft]	Inc[deg]	Azi[deg]	TVD[ft]	North[ft]	East[ft]	DLS [deg/100ft]	Vertical Section[ft]
3874.00	0.30	95.80	3873.80	0.54	5.41	0.36	5.43
3970.00	0.40	31.70	3969.80	0.80	5.84	0.40	5.89
4066.00	1.00	351.50	4065.79	1.92	5.89	0.77	6.10
4161.00	1.30	312.70	4160.77	3.47	4.98	0.86	5.42
4258.00	1.20	293.30	4257.75	4.61	3.23	0.45	3.86
4353.00	0.80	291.40	4352.74	5.25	1.70	0.42	2.43
4449.00	0.40	213.60	4448.73	5.21	0.89	0.85	1.63
4545.00	0.30	125.50	4544.73	4.79	0.91	0.51	1.59
4640.00	0.40	63.20	4639.73	4.79	1.41	0.39	2.08
4736.00	0.40	43.50	4735.73	5.19	1.94	0.14	2.66
4836.00	0.40	1.20	4835.73	5.79	2.19	0.29	2.99
4929.00	0.70	297.10	4928.72	6.37	1.69	0.68	2.58
5025.00	0.60	260.60	5024.72	6.56	0.67	0.44	1.60
5121.00	0.90	288.40	5120.71	6.72	-0.54	0.48	0.42
5217.00	1.00	312.00	5216.69	7.51	-1.88	0.42	-0.79
5312.00	4.70	288.40	5311.56	9.30	-6.19	4.00	-4.80
5408.00	8.00	292.00	5406.96	13.04	-16.12	3.46	-14.09
5504.00	10.60	293.00	5501.69	19.00	-30.44	2.71	-27.42
5599.00	9.70	284.80	5595.21	24.46	-46.22	1.79	-42.26
5692.00	10.20	289.00	5686.81	29.14	-61.58	0.95	-56.79
5784.00	12.00	286.30	5777.09	34.47	-78.47	2.04	-72.74
5876.00	13.90	284.80	5866.74	39.98	-98.33	2.10	-91.61
5968.00	15.50	284.30	5955.73	45.84	-120.93	1.74	-113.14
6060.00	20.10	291.60	6043.31	54.70	-147.56	5.55	-138.23
6153.00	23.80	293.80	6129.56	68.16	-179.60	4.07	-168.02
6245.00	26.60	289.10	6212.80	82.40	-216.06	3.74	-202.07
6292.00	26.50	289.60	6254.84	89.36	-235.88	0.52	-220.70
6337.00	20.50	294.60	6296.10	96.01	-252.52	14.04	-236.21
6384.00	15.00	302.10	6340.85	102.68	-265.16	12.65	-247.78
6429.00	11.70	319.00	6384.64	109.22	-273.09	11.28	-254.70
6476.00	9.90	326.40	6430.81	116.18	-278.46	4.83	-259.01
6522.00	9.70	332.40	6476.14	122.91	-282.44	2.26	-261.99
6569.00	7.60	1.00	6522.62	129.53	-284.22	10.04	-262.81
6614.00	8.40	24.20	6567.20	135.51	-282.82	7.34	-260.57
6661.00	10.90	32.40	6613.53	142.39	-279.03	6.06	-255.84
6706.00	13.50	44.60	6657.52	149.73	-273.06	8.11	-248.88
6751.00	14.90	54.70	6701.15	156.81	-264.65	6.31	-239.54
6798.00	17.10	59.00	6746.33	163.86	-253.80	5.31	-227.79
6843.00	20.80	63.10	6788.88	170.89	-240.99	8.73	-214.12
6890.00	24.10	67.20	6832.32	178.38	-224.70	7.77	-196.92
6937.00	28.30	71.70	6874.48	185.60	-205.27	9.88	-176.65
6982.00	26.80	76.40	6914.38	191.34	-185.28	5.87	-156.05
7029.00	31.30	86.00	6955.48	194.69	-162.77	13.76	-133.30
7077.00	36.10	89.40	6995.41	195.70	-136.18	10.74	-106.83
7124.00	41.30	91.10	7032.08	195.55	-106.80	11.29	-77.78
7173.00	48.10	91.10	7066.89	194.89	-72.36	13.88	-43.79
7220.00	55.30	90.00	7096.00	194.55	-35.51	15.43	-7.36
7268.00	62.20	91.20	7120.88	194.11	5.50	14.53	33.17
7315.00	69.20	90.60	7140.21	193.44	48.30	14.94	75.44
7364.00	76.50	90.00	7154.65	193.20	95.09	14.94	121.71
7410.57	82.32	89.61	7163.21	193.36	140.85	12.52	167.02
7460.00	88.50	89.20	7167.16	193.87	190.09	12.53	215.84
7556.00	92.10	88.80	7166.66	195.55	286.06	3.77	311.06
7652.00	92.80	89.60	7162.56	196.89	381.96	1.11	406.17
7747.00	92.90	89.60	7157.83	197.55	476.84	0.11	500.17
7844.00	91.00	88.10	7154.53	199.50	573.76	2.50	596.37
7939.00	91.80	87.70	7152.21	202.98	668.67	0.94	690.80
8035.00	93.80	87.90	7147.52	206.66	764.48	2.09	786.16
8131.00	95.10	88.80	7140.07	209.41	860.15	1.65	881.24
8227.00	93.80	88.50	7132.62	211.67	955.83	1.39	976.26
8322.00	91.10	86.80	7128.56	215.56	1050.65	3.36	1070.66
8418.00	90.80	86.60	7126.97	221.09	1146.48	0.38	1166.30
8514.00	91.70	87.30	7124.88	226.19	1242.32	1.19	1261.89
8610.00	92.50	89.50	7121.36	228.87	1338.21	2.44	1357.18
8706.00	93.10	90.30	7116.67	229.04	1434.09	1.04	1452.10
8854.00	93.10	90.30	7108.67	228.27	1581.87	==>	1598.26