



Directional Survey Report

Company Name: PetroEdge Energy, LLC
 Well Name: Goodwin 3-2H
 Rig ID: Pioneer Drilling
 API/UWI: 47-033-05712
 Field: Sardis
 Location: Harrison County
 State/Prov: WV
 County: Harrison

Survey Company: Dynamic Down Hole Directional
 Job Number: DDHD 04-01-2013
 Start Date: 4/4/13
 End Date: 5/1/2013
 Declination: -8.91
 Proposed Azimuth: 166.33
 North Reference: Grid

33-05712

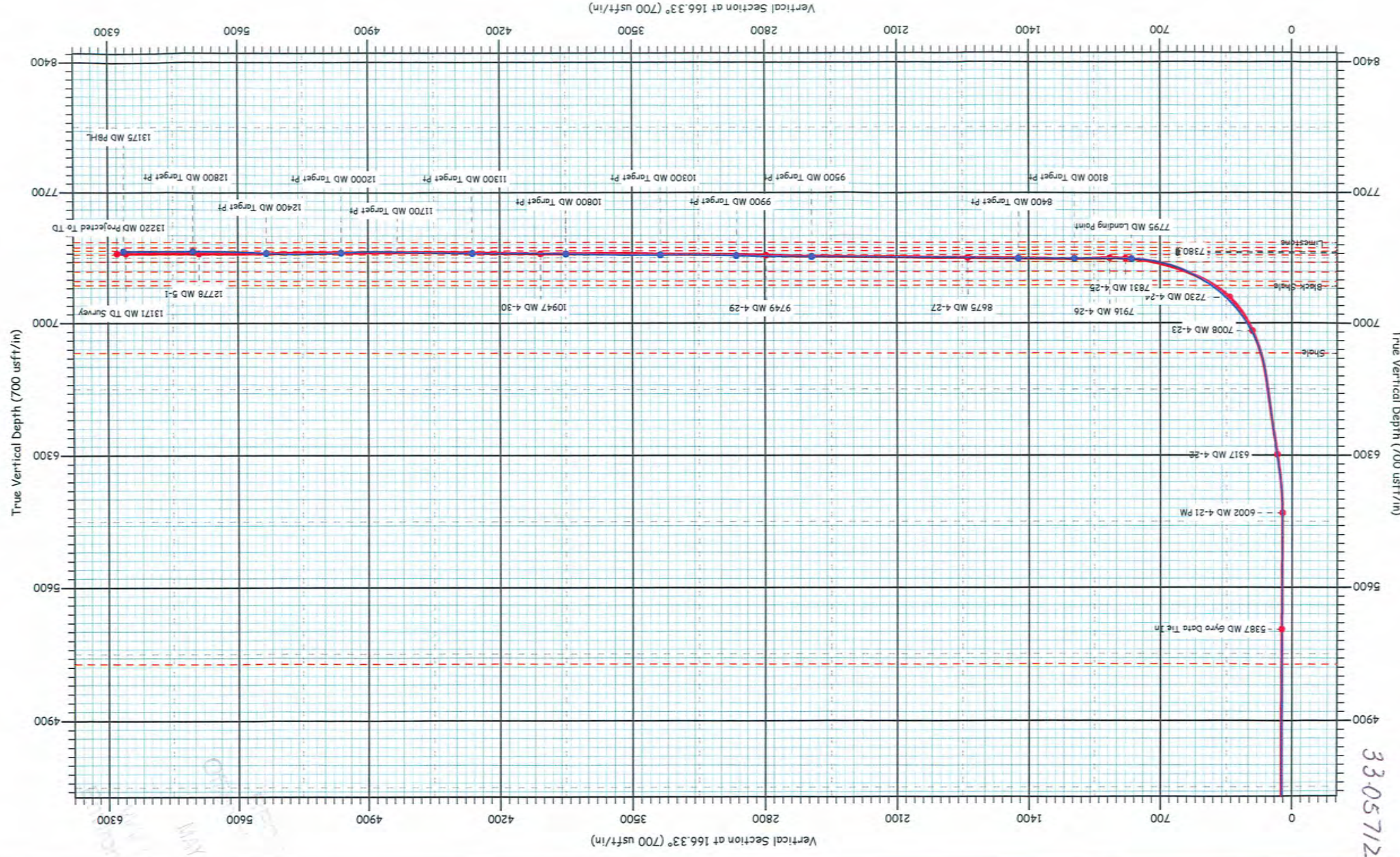
Svy	Depth	Incl	Azimuth	TVD	VS	NS	EW	CD	CA	DLS	Build	Walk	Temp
TieIn	5,387.00	0.31	320.28	5,378.52	53.75	-80.62	-104.03	131.6	52.2				0.0
1	5,566.00	0.40	326.00	5,557.52	52.73	-79.73	-104.69	131.6	232.7	0.05	0.05	3.20	95.6
2	5,769.00	0.50	315.10	5,760.51	51.31	-78.51	-105.71	131.7	233.4	0.06	0.05	-5.37	95.6
3	5,909.00	0.40	307.50	5,900.51	50.41	-77.78	-106.53	131.9	233.9	0.08	-0.07	-5.43	97.4
4	5,970.00	0.40	302.30	5,961.50	50.09	-77.54	-106.88	132.0	234.0	0.06	0.00	-8.52	97.4
5	6,002.00	0.80	228.00	5,993.50	50.11	-77.63	-107.14	132.3	234.1	2.47	1.25	-232.19	106.4
6	6,034.00	2.00	218.60	6,025.49	50.56	-78.22	-107.65	133.1	234.0	3.81	3.75	-29.38	109.1
7	6,065.00	3.70	214.30	6,056.45	51.56	-79.47	-108.55	134.5	233.8	5.52	5.48	-13.87	110.0
8	6,097.00	5.30	212.90	6,088.35	53.27	-81.56	-109.94	136.9	233.4	5.01	5.00	-4.38	110.0
9	6,129.00	6.90	214.20	6,120.17	55.57	-84.39	-111.82	140.1	233.0	5.02	5.00	4.06	110.0
10	6,159.00	7.70	215.70	6,149.93	58.09	-87.51	-114.01	143.7	232.5	2.74	2.67	5.00	110.0
11	6,191.00	9.80	217.50	6,181.55	61.19	-91.42	-116.92	148.4	232.0	6.62	6.56	5.63	110.0
12	6,223.00	11.60	217.70	6,213.00	64.91	-96.12	-120.54	154.2	231.4	5.63	5.63	0.63	110.0
13	6,254.00	13.10	218.60	6,243.28	69.01	-101.33	-124.64	160.6	230.9	4.88	4.84	2.90	111.0
14	6,286.00	14.30	220.10	6,274.37	73.56	-107.19	-129.45	168.1	230.4	3.91	3.75	4.69	110.9
15	6,317.00	15.40	224.30	6,304.33	78.01	-113.07	-134.79	175.9	230.0	4.96	3.55	13.55	110.0
16	6,348.00	16.70	226.40	6,334.12	82.41	-119.08	-140.89	184.5	229.8	4.59	4.19	6.77	117.2
17	6,380.00	17.70	225.30	6,364.69	87.22	-125.68	-147.68	193.9	229.6	3.29	3.13	-3.44	119.0
18	6,412.00	17.30	224.50	6,395.21	92.23	-132.49	-154.47	203.5	229.4	1.46	-1.25	-2.50	119.9
19	6,443.00	16.60	223.80	6,424.86	97.04	-138.98	-160.77	212.5	229.2	2.35	-2.26	-2.26	119.9
20	6,475.00	17.10	225.80	6,455.49	101.89	-145.55	-167.30	221.8	229.0	2.39	1.56	6.25	120.0
21	6,506.00	18.00	228.80	6,485.05	106.42	-151.89	-174.17	231.1	228.9	4.12	2.90	9.68	119.0
22	6,537.00	17.70	229.80	6,514.56	110.74	-158.08	-181.38	240.6	228.9	1.38	-0.97	3.23	120.0
23	6,568.00	16.60	229.40	6,544.18	114.85	-164.01	-188.34	249.7	229.0	3.57	-3.55	-1.29	118.0
24	6,599.00	15.30	228.40	6,573.98	118.77	-169.61	-194.76	258.3	228.9	4.29	-4.19	-3.23	120.0
25	6,631.00	15.80	228.80	6,604.81	122.76	-175.28	-201.20	266.8	228.9	1.60	1.56	1.25	121.0
26	6,663.00	16.60	229.50	6,635.54	126.84	-181.12	-207.95	275.8	228.9	2.57	2.50	2.19	122.5
27	6,695.00	17.80	230.00	6,666.11	131.07	-187.23	-215.17	285.2	229.0	3.78	3.75	1.56	123.0
28	6,725.00	17.50	229.30	6,694.70	135.16	-193.12	-222.10	294.3	229.0	1.22	-1.00	-2.33	122.0
29	6,788.00	18.60	221.60	6,754.60	145.19	-206.81	-235.96	313.8	228.8	4.17	1.75	-12.22	122.5
30	6,819.00	20.00	217.70	6,783.86	151.31	-214.70	-242.48	323.9	228.5	6.14	4.52	-12.58	122.0
31	6,851.00	21.60	214.20	6,813.78	158.68	-223.90	-249.14	335.0	228.1	6.33	5.00	-10.94	123.0
32	6,883.00	22.50	209.50	6,843.44	167.10	-234.11	-255.47	346.5	227.5	6.19	2.81	-14.69	123.0
33	6,914.00	23.10	204.10	6,872.02	176.23	-244.82	-260.87	357.8	226.8	7.02	1.94	-17.42	123.0
34	6,946.00	24.10	199.60	6,901.35	186.66	-256.71	-265.63	369.4	226.0	6.44	3.13	-14.06	124.0
35	6,977.00	25.00	195.70	6,929.54	197.66	-268.98	-269.52	380.8	225.1	5.98	2.90	-12.58	124.0
36	7,008.00	26.40	193.20	6,957.48	209.52	-281.99	-272.87	392.4	224.1	5.71	4.52	-8.06	124.0
37	7,040.00	27.50	191.80	6,986.00	222.54	-296.15	-276.01	404.8	223.0	3.97	3.44	-4.38	116.0
38	7,072.00	30.50	189.70	7,013.99	236.66	-311.39	-278.89	418.0	221.8	9.90	9.38	-6.56	119.0
39	7,104.00	33.80	186.60	7,041.08	252.47	-328.25	-281.28	432.3	220.6	11.53	10.31	-9.69	120.0
40	7,135.00	37.30	183.70	7,066.30	269.53	-346.19	-282.88	447.1	219.3	12.53	11.29	-9.35	122.0
41	7,167.00	40.20	181.90	7,091.25	288.74	-366.19	-283.84	463.3	217.8	9.72	9.06	-5.63	122.0
42	7,199.00	43.40	180.40	7,115.11	309.36	-387.51	-284.26	480.6	216.3	10.48	10.00	-4.69	124.0
43	7,230.00	46.70	177.20	7,137.01	330.77	-409.44	-283.79	498.2	214.7	12.91	10.65	-10.32	124.0
44	7,262.00	51.20	175.80	7,158.02	354.52	-433.52	-282.30	517.3	213.1	14.44	14.06	-4.38	124.3
45	7,294.00	55.00	175.00	7,177.23	379.79	-459.02	-280.25	537.8	211.4	12.04	11.88	-2.50	124.0
46	7,324.00	56.90	173.80	7,194.02	404.40	-483.76	-277.82	557.9	209.9	7.15	6.33	-4.00	127.9
47	7,356.00	59.10	173.60	7,210.98	431.31	-510.73	-274.84	580.0	208.3	6.90	6.88	-0.63	127.9
48	7,388.00	61.50	172.80	7,226.83	458.90	-538.33	-271.55	602.9	206.8	7.81	7.50	-2.50	129.0
49	7,419.00	63.70	172.90	7,241.10	486.25	-565.63	-268.12	626.0	205.4	7.10	7.10	0.32	129.0
50	7,451.00	67.10	172.30	7,254.42	515.16	-594.48	-264.37	650.6	204.0	10.76	10.63	-1.88	129.0

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51	7,483.00	68.90	171.90	7,266.41	544.68	-623.87	-260.30	676.0	202.6	5.74	5.63	-1.25	130.0
52	7,515.00	69.60	171.50	7,277.74	574.47	-653.48	-255.98	701.8	201.4	2.48	2.19	-1.25	129.0
53	7,546.00	71.60	170.70	7,288.04	603.61	-682.37	-251.45	727.2	200.2	6.90	6.45	-2.58	130.0
54	7,578.00	73.60	169.50	7,297.61	634.08	-712.44	-246.20	753.8	199.1	7.20	6.25	-3.75	131.0
55	7,610.00	74.00	169.20	7,306.54	664.76	-742.64	-240.52	780.6	197.9	1.54	1.25	-0.94	129.0
56	7,641.00	75.60	166.60	7,314.67	694.67	-771.89	-234.25	806.7	196.9	9.60	5.16	-8.39	129.7
57	7,673.00	78.10	165.90	7,321.95	725.82	-802.16	-226.84	833.6	195.8	8.10	7.81	-2.19	129.0
58	7,704.00	80.00	165.30	7,327.83	756.25	-831.63	-219.27	860.1	194.8	6.42	6.13	-1.94	129.7
59	7,736.00	81.10	164.70	7,333.09	787.81	-862.12	-211.10	887.6	193.8	3.90	3.44	-1.88	130.0
60	7,768.00	82.60	164.40	7,337.62	819.47	-892.65	-202.66	915.4	192.8	4.78	4.69	-0.94	130.0
61	7,799.00	84.90	163.30	7,341.00	850.26	-922.25	-194.09	942.5	191.9	8.22	7.42	-3.55	131.5
62	7,831.00	87.60	162.20	7,343.09	882.12	-952.74	-184.62	970.5	191.0	9.11	8.44	-3.44	131.0
63	7,853.00	88.00	161.10	7,343.94	904.03	-973.61	-177.70	989.7	190.3	5.32	1.82	-5.00	124.0
64	7,885.00	88.70	160.60	7,344.86	935.87	-1,003.82	-167.21	1,017.7	189.5	2.69	2.19	-1.56	124.0
65	7,916.00	90.40	159.80	7,345.10	966.69	-1,032.99	-156.71	1,044.8	188.6	6.06	5.48	-2.58	124.0
66	7,947.00	91.60	159.50	7,344.56	997.48	-1,062.05	-145.93	1,072.0	187.8	3.99	3.87	-0.97	124.0
67	7,979.00	92.70	159.30	7,343.36	1,029.22	-1,091.98	-134.68	1,100.3	187.0	3.49	3.44	-0.63	124.0
68	8,011.00	91.20	159.20	7,342.27	1,060.96	-1,121.89	-123.35	1,128.6	186.3	4.70	-4.69	-0.31	128.0
69	8,042.00	91.30	159.60	7,341.59	1,091.72	-1,150.90	-112.45	1,156.4	185.6	1.33	0.32	1.29	128.0
70	8,106.00	90.20	158.90	7,340.76	1,155.23	-1,210.74	-89.77	1,214.1	184.2	2.04	-1.72	-1.09	132.0
71	8,169.00	88.60	158.60	7,341.42	1,217.67	-1,269.45	-66.94	1,271.2	183.0	2.58	-2.54	-0.48	136.0
72	8,232.00	89.00	160.50	7,342.74	1,280.22	-1,328.47	-44.94	1,329.2	181.9	3.08	0.63	3.02	136.0
73	8,294.00	90.20	160.50	7,343.17	1,341.89	-1,386.91	-24.24	1,387.1	181.0	1.94	1.94	0.00	142.0
74	8,358.00	88.90	160.40	7,343.67	1,405.55	-1,447.21	-2.83	1,447.2	180.1	2.04	-2.03	-0.16	143.0
75	8,422.00	87.80	160.50	7,345.51	1,469.19	-1,507.50	18.58	1,507.6	179.3	1.73	-1.72	0.16	143.0
76	8,485.00	89.00	161.00	7,347.27	1,531.86	-1,566.95	39.34	1,567.4	178.6	2.06	1.90	0.79	144.0
77	8,548.00	89.90	161.20	7,347.88	1,594.60	-1,626.55	59.75	1,627.6	177.9	1.46	1.43	0.32	145.0
78	8,612.00	89.80	161.80	7,348.05	1,658.37	-1,687.24	80.06	1,689.1	177.3	0.95	-0.16	0.94	148.0
79	8,675.00	89.90	162.80	7,348.21	1,721.21	-1,747.26	99.21	1,750.1	176.8	1.60	0.16	1.59	147.0
80	8,738.00	89.80	163.30	7,348.37	1,784.11	-1,807.52	117.58	1,811.3	176.3	0.81	-0.16	0.79	147.0
81	8,801.00	89.80	162.90	7,348.59	1,847.01	-1,867.80	135.89	1,872.7	175.8	0.63	0.00	-0.63	150.0
82	8,864.00	89.30	162.60	7,349.09	1,909.88	-1,927.97	154.57	1,934.2	175.4	0.93	-0.79	-0.48	151.0
83	8,927.00	88.40	161.30	7,350.35	1,972.68	-1,987.85	174.09	1,995.5	175.0	2.51	-1.43	-2.06	151.0
84	8,991.00	88.10	161.20	7,352.31	2,036.40	-2,048.43	194.65	2,057.7	174.6	0.49	-0.47	-0.16	151.0
85	9,053.00	89.10	161.70	7,353.82	2,098.16	-2,107.19	214.37	2,118.1	174.2	1.80	1.61	0.81	159.0
86	9,119.00	90.20	161.90	7,354.23	2,163.95	-2,169.88	234.98	2,182.6	173.8	1.69	1.67	0.30	130.0
87	9,183.00	89.90	161.40	7,354.17	2,227.74	-2,230.63	255.13	2,245.2	173.5	0.91	-0.47	-0.78	132.0
88	9,245.00	90.50	161.90	7,353.95	2,289.53	-2,289.48	274.65	2,305.9	173.2	1.26	0.97	0.81	134.0
89	9,308.00	89.80	161.60	7,353.79	2,352.33	-2,349.31	294.38	2,367.7	172.9	1.21	-1.11	-0.48	133.0
90	9,371.00	89.10	162.70	7,354.39	2,415.16	-2,409.27	313.69	2,429.6	172.6	2.07	-1.11	1.75	134.0
91	9,434.00	89.60	163.10	7,355.11	2,478.04	-2,469.48	332.21	2,491.7	172.3	1.02	0.79	0.63	135.0
92	9,498.00	90.10	163.40	7,355.28	2,541.95	-2,530.76	350.66	2,554.9	172.1	0.91	0.78	0.47	139.0
93	9,561.00	88.80	162.60	7,355.88	2,604.83	-2,591.01	369.07	2,617.2	171.9	2.42	-2.06	-1.27	143.0
94	9,624.00	88.40	162.90	7,357.42	2,667.69	-2,651.16	387.75	2,679.4	171.7	0.79	-0.63	0.48	143.0
95	9,687.00	88.30	163.00	7,359.23	2,730.56	-2,711.36	406.21	2,741.6	171.5	0.22	-0.16	0.16	148.0
96	9,749.00	88.00	162.80	7,361.24	2,792.41	-2,770.59	424.44	2,802.9	171.3	0.58	-0.48	-0.32	150.0
97	9,812.00	89.10	163.50	7,362.83	2,855.30	-2,830.86	442.69	2,865.3	171.1	2.07	1.75	1.11	151.0
98	9,874.00	89.10	162.80	7,363.80	2,917.19	-2,890.19	460.66	2,926.7	170.9	1.13	0.00	-1.13	153.0
99	9,938.00	89.50	162.20	7,364.59	2,981.04	-2,951.23	479.90	2,990.0	170.8	1.13	0.63	-0.94	154.0
100	10,000.00	89.30	162.70	7,365.24	3,042.90	-3,010.34	498.60	3,051.4	170.6	0.87	-0.32	0.81	155.0
101	10,064.00	89.80	161.60	7,365.74	3,106.72	-3,071.25	518.21	3,114.7	170.4	1.89	0.78	-1.72	154.0

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102	10,127.00	89.80	160.90	7,365.96	3,169.48	-3,130.91	538.46	3,176.9	170.2	1.11	0.00	-1.11	155.0
103	10,190.00	89.60	161.40	7,366.29	3,232.22	-3,190.53	558.82	3,239.1	170.1	0.85	-0.32	0.79	157.0
104	10,253.00	89.50	160.70	7,366.78	3,294.95	-3,250.11	579.28	3,301.3	169.9	1.12	-0.16	-1.11	159.0
105	10,316.00	88.60	159.40	7,367.83	3,357.56	-3,309.32	600.77	3,363.4	169.7	2.51	-1.43	-2.06	158.0
106	10,379.00	89.70	159.50	7,368.76	3,420.10	-3,368.31	622.88	3,425.4	169.5	1.75	1.75	0.16	157.0
107	10,442.00	89.20	158.60	7,369.37	3,482.59	-3,427.14	645.41	3,487.4	169.3	1.63	-0.79	-1.43	157.0
108	10,505.00	89.10	157.60	7,370.30	3,544.93	-3,485.59	668.90	3,549.2	169.1	1.60	-0.16	-1.59	159.0
109	10,567.00	89.10	157.30	7,371.27	3,606.18	-3,542.84	692.67	3,609.9	168.9	0.48	0.00	-0.48	160.0
110	10,630.00	90.50	157.70	7,371.49	3,668.43	-3,601.04	716.78	3,671.7	168.7	2.31	2.22	0.63	160.0
111	10,693.00	91.00	157.90	7,370.67	3,730.73	-3,659.37	740.58	3,733.6	168.6	0.85	0.79	0.32	161.0
112	10,757.00	90.80	157.90	7,369.66	3,794.03	-3,718.66	764.66	3,796.5	168.4	0.31	-0.31	0.00	162.0
113	10,820.00	90.70	157.80	7,368.84	3,856.33	-3,777.00	788.41	3,858.4	168.2	0.22	-0.16	-0.16	162.0
114	10,884.00	90.50	157.20	7,368.17	3,919.57	-3,836.13	812.90	3,921.3	168.0	0.99	-0.31	-0.94	162.0
115	10,947.00	88.60	156.30	7,368.66	3,981.69	-3,894.00	837.77	3,983.1	167.9	3.34	-3.02	-1.43	162.0
116	11,010.00	88.80	156.60	7,370.09	4,043.74	-3,951.74	862.93	4,044.9	167.7	0.57	0.32	0.48	160.0
117	11,074.00	89.40	158.40	7,371.10	4,106.97	-4,010.86	887.42	4,107.9	167.5	2.96	0.94	2.81	161.0
118	11,137.00	89.50	160.20	7,371.70	4,169.49	-4,069.79	909.69	4,170.2	167.4	2.86	0.16	2.86	161.0
119	11,200.00	89.30	160.50	7,372.36	4,232.14	-4,129.12	930.87	4,232.7	167.3	0.57	-0.32	0.48	161.0
120	11,264.00	88.50	161.60	7,373.59	4,295.86	-4,189.64	951.65	4,296.4	167.2	2.12	-1.25	1.72	162.0
121	11,327.00	88.60	163.60	7,375.19	4,358.70	-4,249.73	970.48	4,359.1	167.1	3.18	0.16	3.17	163.0
122	11,390.00	89.40	164.90	7,376.29	4,421.65	-4,310.35	987.58	4,422.0	167.1	2.42	1.27	2.06	163.0
123	11,453.00	90.20	166.30	7,376.51	4,484.64	-4,371.37	1,003.25	4,485.0	167.1	2.56	1.27	2.22	163.0
124	11,516.00	90.20	167.00	7,376.29	4,547.64	-4,432.67	1,017.79	4,548.0	167.1	1.11	0.00	1.11	163.0
125	11,579.00	90.30	167.40	7,376.01	4,610.63	-4,494.10	1,031.75	4,611.0	167.1	0.65	0.16	0.63	165.0
126	11,642.00	90.10	166.50	7,375.79	4,673.63	-4,555.47	1,045.98	4,674.0	167.1	1.46	-0.32	-1.43	166.0
127	11,705.00	89.70	165.70	7,375.90	4,736.63	-4,616.63	1,061.11	4,737.0	167.1	1.42	-0.63	-1.27	167.0
128	11,767.00	90.00	165.90	7,376.06	4,798.62	-4,676.73	1,076.32	4,799.0	167.0	0.58	0.48	0.32	166.0
129	11,830.00	90.50	165.70	7,375.79	4,861.62	-4,737.81	1,091.77	4,862.0	167.0	0.85	0.79	-0.32	167.0
130	11,893.00	90.50	165.80	7,375.24	4,924.61	-4,798.87	1,107.28	4,925.0	167.0	0.16	0.00	0.16	168.0
131	11,957.00	90.40	165.60	7,374.74	4,988.61	-4,860.88	1,123.09	4,988.9	167.0	0.35	-0.16	-0.31	168.0
132	12,021.00	90.20	166.70	7,374.40	5,052.61	-4,923.02	1,138.41	5,052.9	167.0	1.75	-0.31	1.72	165.0
133	12,083.00	90.10	167.10	7,374.24	5,114.60	-4,983.41	1,152.46	5,114.9	167.0	0.67	-0.16	0.65	166.0
134	12,146.00	89.90	166.60	7,374.24	5,177.60	-5,044.75	1,166.79	5,177.9	167.0	0.85	-0.32	-0.79	167.0
135	12,210.00	89.90	167.00	7,374.35	5,241.60	-5,107.06	1,181.41	5,241.9	167.0	0.62	0.00	0.63	168.0
136	12,273.00	90.70	165.60	7,374.02	5,304.59	-5,168.27	1,196.33	5,304.9	167.0	2.56	1.27	-2.22	167.0
137	12,336.00	91.50	165.20	7,372.81	5,367.57	-5,229.22	1,212.20	5,367.9	166.9	1.42	1.27	-0.63	169.0
138	12,400.00	91.40	165.20	7,371.19	5,431.54	-5,291.08	1,228.55	5,431.8	166.9	0.16	-0.16	0.00	169.0
139	12,463.00	91.40	164.40	7,369.65	5,494.50	-5,351.86	1,245.06	5,494.8	166.9	1.27	0.00	-1.27	169.0
140	12,527.00	90.20	162.40	7,368.76	5,558.40	-5,413.18	1,263.34	5,558.6	166.9	3.64	-1.88	-3.13	168.0
141	12,589.00	89.60	161.90	7,368.87	5,620.24	-5,472.19	1,282.35	5,620.4	166.8	1.26	-0.97	-0.81	169.0
142	12,652.00	89.20	161.90	7,369.53	5,683.05	-5,532.07	1,301.92	5,683.2	166.8	0.63	-0.63	0.00	169.0
143	12,715.00	89.60	163.10	7,370.19	5,745.90	-5,592.15	1,320.86	5,746.0	166.7	2.01	0.63	1.90	169.0
144	12,778.00	89.80	163.30	7,370.52	5,808.81	-5,652.46	1,339.07	5,808.9	166.7	0.45	0.32	0.32	170.0
145	12,841.00	90.50	163.90	7,370.35	5,871.73	-5,712.90	1,356.86	5,871.8	166.6	1.46	1.11	0.95	168.0
146	12,904.00	90.50	164.10	7,369.80	5,934.68	-5,773.46	1,374.22	5,934.8	166.6	0.32	0.00	0.32	168.0
147	12,966.00	90.50	164.60	7,369.26	5,996.64	-5,833.15	1,390.95	5,996.7	166.6	0.81	0.00	0.81	168.0
148	13,028.00	90.10	165.40	7,368.94	6,058.62	-5,893.04	1,406.99	6,058.7	166.6	1.44	-0.65	1.29	171.0
149	13,092.00	89.90	165.00	7,368.94	6,122.61	-5,954.92	1,423.34	6,122.7	166.6	0.70	-0.31	-0.63	171.0
150	13,171.00	90.20	165.50	7,368.87	6,201.59	-6,031.31	1,443.45	6,201.6	166.5	0.74	0.38	0.63	169.0



33.05712



Company name: Petroedge Energy, LLC
 Project Name: UTM Nad 1927 Zone 17 North, West Virginia
 Site Name: Goodwin 3-2H
 Depth Reference: Pioneer Rig 59
 Ground Level: 1096.0
 Geodetic Datum: NAD 1927 - Eastern US
 Geodetic Zone: Zone 17N (84 W to 78 W)
 Rig Name: Pioneer rig 59 - RKB 19'

ddhd 04-01-2013



Azimuths to Grid North
 True North: -0.30°
 Magnetic North: -8.91°
 Magnetic Field
 Strength: 52459.8nT
 Dip Angle: 66.97°
 Date: 02/12/2013
 Model: IGRF2010

ddh Directional, LLC
 405 Guards Fort Road
 Carmichaels, PA 15320
 (724) 833-6099





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ddhD 04-01-2013



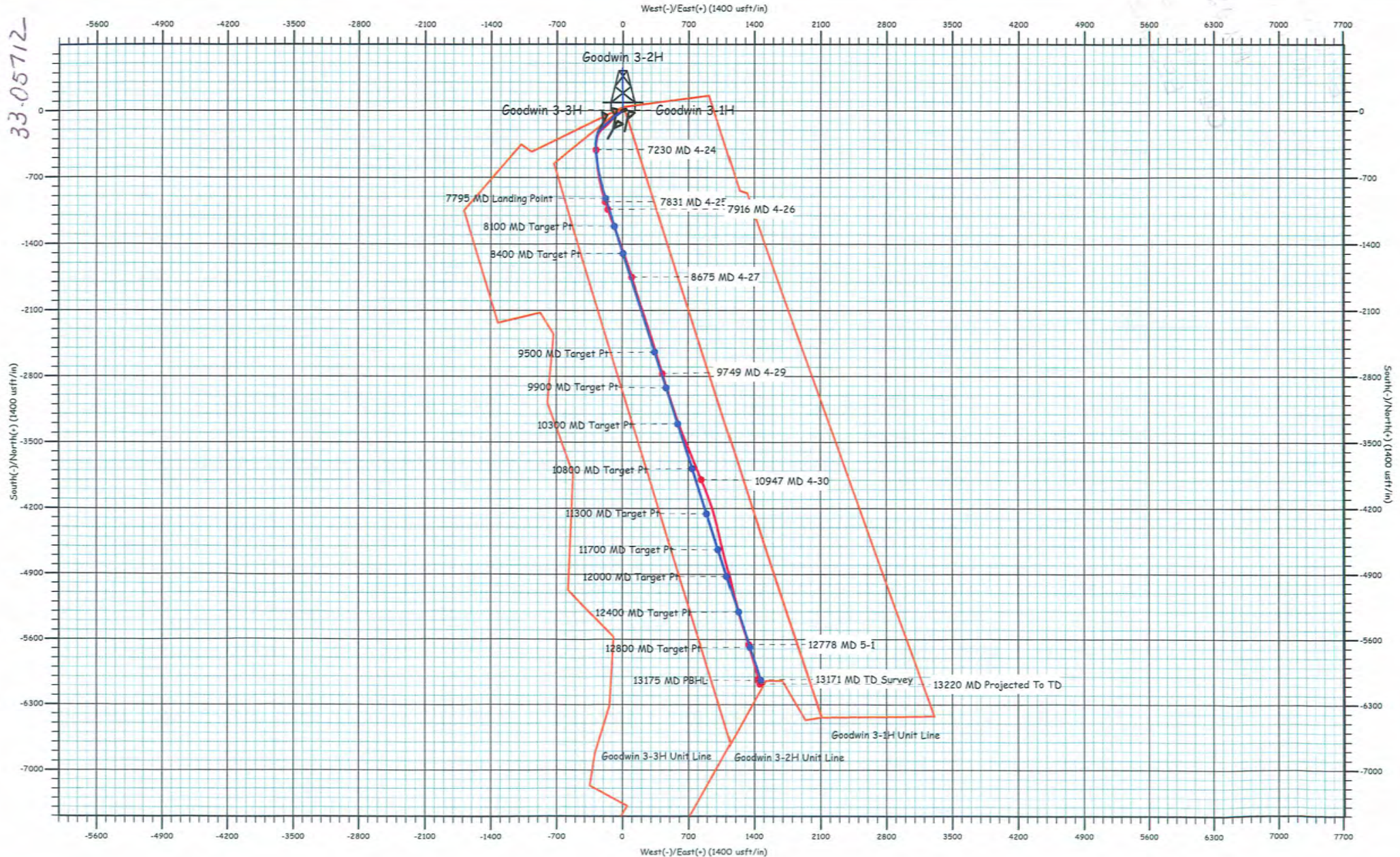
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33-05712



33-05712



ddh Directional, LLC
Goodwin 3-2H As Drilled



Company: PetroEdge Energy, LLC
Project: UTM Nad 1927 Zone 17 North, West Virginia
Site: Goodwin 3-2H
Well: Goodwin 3-2H
Wellbore: Goodwin 3-2H
Design: Goodwin 3-2H As Drilled

Local Co-ordinate Reference: Well Goodwin 3-2H
TVD Reference: Rig # @ 1115.0usft (59)
MD Reference: Rig # @ 1115.0usft (59)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: ddh Directional, LLC

Project	UTM Nad 1927 Zone 17 North, West Virginia		
Map System:	Universal Transverse Mercator (US Survey Fee)	System Datum:	Ground Level
Geo Datum:	NAD 1927 - Eastern US		
Map Zone:	Zone 17N (84 W to 78 W)		Using geodetic scale factor

Site	Goodwin 3-2H, Pioneer Rig 59				
Site Position:		Northing:	14,296,882.00 usft	Latitude:	39° 22' 10.872 N
From:	Map	Easting:	1,772,841.00 usft	Longitude:	80° 31' 53.166 W
Position Uncertainty:	0.0 usft	Slot Radius:	8-1/2 "	Grid Convergence:	0.30 °

Well	Goodwin 3-2H, Pioneer Rig 59					
Well Position	+N/-S	0.0 usft	Northing:	14,296,882.00 usft	Latitude:	39° 22' 10.872 N
	+E/-W	0.0 usft	Easting:	1,772,841.00 usft	Longitude:	80° 31' 53.166 W
Position Uncertainty		0.0 usft	Wellhead Elevation:	19.0 usft	Ground Level:	1,096.0 usft

Wellbore	Goodwin 3-2H				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	02/12/13	-8.61	66.97	52,460

Design	Goodwin 3-2H As Drilled				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.0
Vertical Section:		Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
		0.0	0.0	0.0	166.33

Survey Program	Date 05/02/13				
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
200.0	13,220.0	Goodwin 3-2H As Drilled Surveys (Goodw	MWD	ddhD MWD Ssystems	

33-0571Z



ddh Directional, LLC
Goodwin 3-2H As Drilled



Company: PetroEdge Energy, LLC
Project: UTM Nad 1927 Zone 17 North, West Virginia
Site: Goodwin 3-2H
Well: Goodwin 3-2H
Wellbore: Goodwin 3-2H
Design: Goodwin 3-2H As Drilled

Local Co-ordinate Reference: Well Goodwin 3-2H
TVD Reference: Rig # @ 1115.0usft (59)
MD Reference: Rig # @ 1115.0usft (59)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: ddh Directional, LLC

Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	V. Sec (usft)	N/S (usft)	E/W (usft)	Northing (usft)	Easting (usft)	DLeg (°/100usft)	
100.0	0.11	336.15	100.0	-0.1	0.1	0.0	14,296,882.09	1,772,840.96	0.00	
100 MD Gyro Tie In										
200.0	0.09	327.83	200.0	-0.3	0.2	-0.1	14,296,882.24	1,772,840.88	0.02	
300.0	0.17	9.28	300.0	-0.5	0.5	-0.1	14,296,882.45	1,772,840.86	0.12	
350.0	0.19	11.45	350.0	-0.6	0.6	-0.1	14,296,882.61	1,772,840.89	0.04	
13 3/8" Csg Pt.										
400.0	0.21	13.20	400.0	-0.8	0.8	-0.1	14,296,882.78	1,772,840.93	0.04	
500.0	0.24	18.23	500.0	-1.1	1.2	0.0	14,296,883.16	1,772,841.04	0.04	
600.0	0.24	283.24	600.0	-1.4	1.4	-0.1	14,296,883.40	1,772,840.90	0.35	
700.0	1.84	241.93	700.0	-1.1	0.7	-1.7	14,296,882.70	1,772,839.28	1.67	
800.0	3.77	231.70	799.9	0.7	-2.1	-5.7	14,296,879.90	1,772,835.28	1.99	
900.0	5.92	231.76	899.5	4.2	-7.3	-12.4	14,296,874.68	1,772,828.65	2.15	
1,000.0	8.28	231.11	998.7	9.4	-15.0	-22.0	14,296,866.97	1,772,819.00	2.36	
1,100.0	9.70	234.02	1,097.5	15.7	-24.5	-34.4	14,296,857.50	1,772,806.58	1.49	
1,200.0	9.89	233.97	1,196.0	22.1	-34.5	-48.2	14,296,847.50	1,772,792.83	0.19	
1,300.0	8.44	233.85	1,294.8	28.2	-43.9	-61.1	14,296,838.12	1,772,779.96	1.45	
1,400.0	7.17	233.81	1,393.8	33.4	-51.9	-72.0	14,296,830.11	1,772,769.00	1.27	
1,500.0	5.50	241.43	1,493.2	37.0	-57.9	-81.3	14,296,824.14	1,772,759.76	1.87	
1,600.0	5.13	247.54	1,592.8	39.0	-61.9	-89.6	14,296,820.14	1,772,751.42	0.68	
1,700.0	6.00	241.11	1,692.3	41.0	-66.1	-98.3	14,296,815.91	1,772,742.72	1.07	
1,800.0	4.60	244.48	1,791.9	43.2	-70.4	-106.5	14,296,811.66	1,772,734.52	1.43	
1,900.0	2.63	189.42	1,891.7	46.1	-74.4	-110.5	14,296,807.67	1,772,730.53	3.77	
2,000.0	2.98	169.85	1,991.6	50.8	-79.2	-110.4	14,296,802.84	1,772,730.61	1.01	
2,100.0	0.15	173.65	2,091.5	53.6	-81.9	-110.0	14,296,800.16	1,772,731.08	2.83	
2,200.0	0.23	14.86	2,191.5	53.5	-81.8	-109.9	14,296,800.22	1,772,731.15	0.37	
2,300.0	0.16	25.51	2,291.5	53.2	-81.5	-109.8	14,296,800.54	1,772,731.26	0.08	
2,345.0	0.12	29.44	2,336.5	53.2	-81.4	-109.7	14,296,800.64	1,772,731.31	0.09	

9 5/8" Csg Pt.

33-05712



ddh Directional, LLC
Goodwin 3-2H As Drilled



Company: PetroEdge Energy, LLC
Project: UTM Nad 1927 Zone 17 North, West Virginia
Site: Goodwin 3-2H
Well: Goodwin 3-2H
Wellbore: Goodwin 3-2H
Design: Goodwin 3-2H As Drilled

Local Co-ordinate Reference: Well Goodwin 3-2H
TVD Reference: Rig # @ 1115.0usft (59)
MD Reference: Rig # @ 1115.0usft (59)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: ddh Directional, LLC

Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	V. Sec (usft)	N/S (usft)	E/W (usft)	Northing (usft)	Easting (usft)	DLeg (°/100usft)
2,400.0	0.07	40.47	2,391.5	53.1	-81.3	-109.7	14,296,800.71	1,772,731.36	0.09
2,500.0	0.03	141.18	2,491.5	53.1	-81.3	-109.6	14,296,800.74	1,772,731.42	0.08
2,600.0	0.07	221.30	2,591.5	53.1	-81.4	-109.6	14,296,800.67	1,772,731.39	0.07
2,700.0	0.08	211.03	2,691.5	53.2	-81.5	-109.7	14,296,800.57	1,772,731.32	0.02
2,800.0	0.09	207.77	2,791.5	53.3	-81.6	-109.8	14,296,800.44	1,772,731.25	0.01
2,900.0	0.12	140.82	2,891.5	53.5	-81.7	-109.8	14,296,800.29	1,772,731.27	0.12
3,000.0	0.14	129.97	2,991.5	53.7	-81.9	-109.6	14,296,800.13	1,772,731.43	0.03
3,100.0	0.13	126.12	3,091.5	53.9	-82.0	-109.4	14,296,799.98	1,772,731.62	0.01
3,200.0	0.10	141.27	3,191.5	54.0	-82.2	-109.3	14,296,799.85	1,772,731.77	0.04
3,300.0	0.11	111.10	3,291.5	54.2	-82.3	-109.1	14,296,799.74	1,772,731.91	0.06
3,400.0	0.11	135.95	3,391.5	54.3	-82.4	-109.0	14,296,799.64	1,772,732.07	0.05
3,500.0	0.14	192.56	3,491.5	54.5	-82.6	-108.9	14,296,799.45	1,772,732.11	0.12
3,600.0	0.18	195.92	3,591.5	54.7	-82.8	-109.0	14,296,799.18	1,772,732.04	0.04
3,700.0	0.17	191.18	3,691.5	55.0	-83.1	-109.1	14,296,798.89	1,772,731.96	0.02
3,800.0	0.14	209.06	3,791.5	55.2	-83.4	-109.2	14,296,798.63	1,772,731.88	0.06
3,900.0	0.08	8.59	3,891.5	55.3	-83.4	-109.2	14,296,798.60	1,772,731.83	0.22
4,000.0	0.08	28.62	3,991.5	55.1	-83.3	-109.2	14,296,798.73	1,772,731.87	0.03
4,100.0	0.11	12.14	4,091.5	55.0	-83.2	-109.1	14,296,798.88	1,772,731.93	0.04
4,200.0	0.11	48.46	4,191.5	54.9	-83.0	-109.0	14,296,799.04	1,772,732.02	0.07
4,300.0	0.20	63.30	4,291.5	54.8	-82.9	-108.8	14,296,799.18	1,772,732.24	0.10
4,400.0	0.37	75.14	4,391.5	54.7	-82.7	-108.3	14,296,799.34	1,772,732.71	0.18
4,500.0	0.48	82.04	4,491.5	54.8	-82.5	-107.6	14,296,799.48	1,772,733.44	0.12
4,600.0	0.55	81.24	4,591.5	54.9	-82.4	-106.7	14,296,799.61	1,772,734.33	0.07
4,700.0	0.48	86.54	4,691.5	55.0	-82.3	-105.8	14,296,799.71	1,772,735.22	0.08
4,800.0	0.28	68.60	4,791.5	55.0	-82.2	-105.2	14,296,799.83	1,772,735.87	0.23
4,900.0	0.26	58.38	4,891.5	54.9	-82.0	-104.8	14,296,800.03	1,772,736.29	0.05
5,000.0	0.26	56.93	4,991.5	54.8	-81.8	-104.4	14,296,800.28	1,772,736.67	0.01

33-05712



ddh Directional, LLC
Goodwin 3-2H As Drilled



Company: PetroEdge Energy, LLC
Project: UTM Nad 1927 Zone 17 North, West Virginia
Site: Goodwin 3-2H
Well: Goodwin 3-2H
Wellbore: Goodwin 3-2H
Design: Goodwin 3-2H As Drilled

Local Co-ordinate Reference: Well Goodwin 3-2H
TVD Reference: Rig # @ 1115.0usft (59)
MD Reference: Rig # @ 1115.0usft (59)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: ddh Directional, LLC

Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	V. Sec (usft)	N/S (usft)	E/W (usft)	Northing (usft)	Easting (usft)	DLeg (°/100usft)
5,100.0	0.28	59.76	5,091.5	54.6	-81.5	-104.0	14,296,800.52	1,772,737.07	0.02
5,200.0	0.18	19.21	5,191.5	54.4	-81.2	-103.7	14,296,800.80	1,772,737.33	0.18
5,300.0	0.24	319.83	5,291.5	54.1	-80.9	-103.8	14,296,801.10	1,772,737.25	0.21
5,387.0	0.31	320.30	5,378.5	53.7	-80.6	-104.1	14,296,801.42	1,772,736.98	0.08
5387 MD Gyro TD Tie In									
5,566.0	0.40	326.00	5,557.5	52.7	-79.7	-104.7	14,296,802.31	1,772,736.32	0.05
5,769.0	0.50	315.10	5,760.5	51.3	-78.5	-105.7	14,296,803.53	1,772,735.30	0.06
5,909.0	0.40	307.50	5,900.5	50.4	-77.8	-106.6	14,296,804.26	1,772,734.48	0.08
5,970.0	0.40	302.30	5,961.5	50.1	-77.5	-106.9	14,296,804.50	1,772,734.14	0.06
6,002.0	0.80	228.00	5,993.5	50.1	-77.6	-107.2	14,296,804.41	1,772,733.87	2.47
6002 MD 4-21 PM									
6,034.0	2.00	218.60	6,025.5	50.5	-78.2	-107.7	14,296,803.83	1,772,733.36	3.81
6,065.0	3.70	214.30	6,056.4	51.5	-79.5	-108.6	14,296,802.58	1,772,732.46	5.52
6,097.0	5.30	212.90	6,088.3	53.2	-81.5	-110.0	14,296,800.48	1,772,731.08	5.01
6,129.0	6.90	214.20	6,120.2	55.6	-84.4	-111.8	14,296,797.65	1,772,729.19	5.02
6,159.0	7.70	215.70	6,149.9	58.1	-87.5	-114.0	14,296,794.53	1,772,727.01	2.74
6,191.0	9.80	217.50	6,181.5	61.2	-91.4	-116.9	14,296,790.63	1,772,724.10	6.62
6,223.0	11.60	217.70	6,213.0	64.9	-96.1	-120.6	14,296,785.93	1,772,720.48	5.63
6,254.0	13.10	218.60	6,243.3	69.0	-101.3	-124.7	14,296,780.72	1,772,716.38	4.88
6,286.0	14.30	220.10	6,274.4	73.5	-107.2	-129.5	14,296,774.86	1,772,711.57	3.91
6,317.0	15.40	224.30	6,304.3	78.0	-113.1	-134.8	14,296,768.99	1,772,706.23	4.96
6317 MD 4-22									
6,348.0	16.70	226.40	6,334.1	82.4	-119.1	-140.9	14,296,762.98	1,772,700.14	4.59
6,380.0	17.70	225.30	6,364.7	87.2	-125.7	-147.7	14,296,756.38	1,772,693.35	3.29
6,412.0	17.30	224.50	6,395.2	92.2	-132.5	-154.5	14,296,749.57	1,772,686.56	1.46
6,443.0	16.60	223.80	6,424.9	97.0	-139.0	-160.8	14,296,743.09	1,772,680.27	2.35
6,475.0	17.10	225.80	6,455.5	101.9	-145.5	-167.3	14,296,736.51	1,772,673.73	2.39

33-05712-



ddh Directional, LLC
Goodwin 3-2H As Drilled



Company: PetroEdge Energy, LLC
Project: UTM Nad 1927 Zone 17 North, West Virginia
Site: Goodwin 3-2H
Well: Goodwin 3-2H
Wellbore: Goodwin 3-2H
Design: Goodwin 3-2H As Drilled

Local Co-ordinate Reference: Well Goodwin 3-2H
TVD Reference: Rig # @ 1115.0usft (59)
MD Reference: Rig # @ 1115.0usft (59)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: ddh Directional, LLC

Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	V. Sec (usft)	N/S (usft)	E/W (usft)	Northing (usft)	Easting (usft)	DLeg (°/100usft)
6,506.0	18.00	228.80	6,485.0	106.4	-151.9	-174.2	14,296,730.18	1,772,666.86	4.12
6,537.0	17.70	229.80	6,514.5	110.7	-158.1	-181.4	14,296,723.99	1,772,659.66	1.38
6,568.0	16.60	229.40	6,544.2	114.8	-164.0	-188.4	14,296,718.07	1,772,652.70	3.57
6,599.0	15.30	228.40	6,574.0	118.8	-169.6	-194.8	14,296,712.47	1,772,646.29	4.29
6,631.0	15.80	228.80	6,604.8	122.7	-175.3	-201.2	14,296,706.80	1,772,639.85	1.60
6,663.0	16.60	229.50	6,635.5	126.8	-181.1	-208.0	14,296,700.97	1,772,633.10	2.57
6,695.0	17.80	230.00	6,666.1	131.1	-187.2	-215.2	14,296,694.86	1,772,625.88	3.78
6,725.0	17.50	229.30	6,694.7	135.1	-193.1	-222.1	14,296,688.97	1,772,618.95	1.22
6,788.0	18.60	221.60	6,754.6	145.2	-206.8	-236.0	14,296,675.28	1,772,605.10	4.17
6,819.0	20.00	217.70	6,783.9	151.3	-214.7	-242.5	14,296,667.39	1,772,598.58	6.14
6,851.0	21.60	214.20	6,813.8	158.7	-223.9	-249.2	14,296,658.19	1,772,591.93	6.33
6,883.0	22.50	209.50	6,843.4	167.1	-234.1	-255.5	14,296,648.00	1,772,585.60	6.19
6,914.0	23.10	204.10	6,872.0	176.2	-244.8	-260.9	14,296,637.29	1,772,580.20	7.02
6,946.0	24.10	199.60	6,901.3	186.6	-256.7	-265.7	14,296,625.40	1,772,575.45	6.44
6,977.0	25.00	195.70	6,929.5	197.6	-269.0	-269.6	14,296,613.14	1,772,571.55	5.98
7,008.0	26.40	193.20	6,957.5	209.5	-282.0	-272.9	14,296,600.13	1,772,568.21	5.71
7008 MD 4-23									
7,040.0	27.50	191.80	6,986.0	222.5	-296.1	-276.0	14,296,585.97	1,772,565.07	3.97
7,072.0	30.50	189.70	7,014.0	236.6	-311.4	-278.9	14,296,570.74	1,772,562.19	9.90
7,104.0	33.80	186.60	7,041.1	252.5	-328.2	-281.3	14,296,553.89	1,772,559.80	11.53
7,135.0	37.30	183.70	7,066.3	269.5	-346.2	-282.9	14,296,535.95	1,772,558.20	12.53
7,167.0	40.20	181.90	7,091.2	288.7	-366.2	-283.9	14,296,515.96	1,772,557.24	9.72
7,199.0	43.40	180.40	7,115.1	309.3	-387.5	-284.3	14,296,494.65	1,772,556.82	10.48
7,230.0	46.70	177.20	7,137.0	330.8	-409.4	-283.8	14,296,472.73	1,772,557.29	12.91
7230 MD 4-24									
7,262.0	51.20	175.80	7,158.0	354.5	-433.5	-282.3	14,296,448.66	1,772,558.78	14.44
7,294.0	55.00	175.00	7,177.2	379.8	-459.0	-280.3	14,296,423.17	1,772,560.83	12.04

33-05712-



ddh Directional, LLC
Goodwin 3-2H As Drilled



Company: PetroEdge Energy, LLC
Project: UTM Nad 1927 Zone 17 North, West Virginia
Site: Goodwin 3-2H
Well: Goodwin 3-2H
Wellbore: Goodwin 3-2H
Design: Goodwin 3-2H As Drilled

Local Co-ordinate Reference: Well Goodwin 3-2H
TVD Reference: Rig # @ 1115.0usft (59)
MD Reference: Rig # @ 1115.0usft (59)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: ddh Directional, LLC

Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	V. Sec (usft)	N/S (usft)	E/W (usft)	Northing (usft)	Easting (usft)	DLeg (°/100usft)
7,324.0	56.90	173.80	7,194.0	404.4	-483.7	-277.8	14,296,398.44	1,772,563.26	7.15
7,356.0	59.10	173.60	7,211.0	431.3	-510.7	-274.9	14,296,371.48	1,772,566.24	6.90
7,388.0	61.50	172.80	7,226.8	458.9	-538.3	-271.6	14,296,343.89	1,772,569.53	7.81
7,419.0	63.70	172.90	7,241.1	486.2	-565.6	-268.1	14,296,316.60	1,772,572.95	7.10
7,451.0	67.10	172.30	7,254.4	515.1	-594.5	-264.4	14,296,287.76	1,772,576.70	10.76
7,483.0	68.90	171.90	7,266.4	544.7	-623.9	-260.3	14,296,258.38	1,772,580.78	5.74
7,515.0	69.60	171.50	7,277.7	574.5	-653.5	-256.0	14,296,228.78	1,772,585.09	2.48
7,546.0	71.60	170.70	7,288.0	603.6	-682.4	-251.5	14,296,199.91	1,772,589.62	6.90
7,578.0	73.60	169.50	7,297.6	634.1	-712.4	-246.2	14,296,169.84	1,772,594.87	7.20
7,610.0	74.00	169.20	7,306.5	664.7	-742.6	-240.5	14,296,139.65	1,772,600.54	1.54
7,641.0	75.60	166.60	7,314.7	694.6	-771.9	-234.3	14,296,110.42	1,772,606.81	9.60
7,673.0	78.10	165.90	7,321.9	725.8	-802.1	-226.9	14,296,080.16	1,772,614.22	8.10
7,704.0	80.00	165.30	7,327.8	756.2	-831.6	-219.3	14,296,050.70	1,772,621.78	6.42
7,736.0	81.10	164.70	7,333.1	787.8	-862.1	-211.1	14,296,020.22	1,772,629.95	3.90
7,768.0	82.60	164.40	7,337.6	819.5	-892.6	-202.7	14,295,989.70	1,772,638.39	4.78
7,799.0	84.90	163.30	7,341.0	850.2	-922.2	-194.1	14,295,960.11	1,772,646.95	8.22
7,831.0	87.60	162.20	7,343.1	882.1	-952.7	-184.7	14,295,929.63	1,772,656.42	9.11
7831 MD 4-25									
7,853.0	88.00	161.10	7,343.9	904.0	-973.6	-177.7	14,295,908.78	1,772,663.34	5.32
7,885.0	88.70	160.60	7,344.8	935.9	-1,003.8	-167.2	14,295,878.57	1,772,673.83	2.69
7,916.0	90.40	159.80	7,345.1	966.7	-1,033.0	-156.7	14,295,849.42	1,772,684.32	6.06
7916 MD 4-26									
7,947.0	91.60	159.50	7,344.6	997.5	-1,062.0	-146.0	14,295,820.37	1,772,695.10	3.99
7,979.0	92.60	159.30	7,343.4	1,029.2	-1,092.0	-134.7	14,295,790.45	1,772,706.34	3.19
8,011.0	91.20	159.20	7,342.3	1,060.9	-1,121.9	-123.4	14,295,760.55	1,772,717.67	4.39
8,042.0	91.30	159.60	7,341.6	1,091.7	-1,150.9	-112.5	14,295,731.55	1,772,728.57	1.33
8,106.0	90.20	158.90	7,340.8	1,155.2	-1,210.7	-89.8	14,295,671.73	1,772,751.23	2.04

33.05712



ddh Directional, LLC
Goodwin 3-2H As Drilled



Company: PetroEdge Energy, LLC
Project: UTM Nad 1927 Zone 17 North, West Virginia
Site: Goodwin 3-2H
Well: Goodwin 3-2H
Wellbore: Goodwin 3-2H
Design: Goodwin 3-2H As Drilled

Local Co-ordinate Reference: Well Goodwin 3-2H
TVD Reference: Rig # @ 1115.0usft (59)
MD Reference: Rig # @ 1115.0usft (59)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: ddh Directional, LLC

Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	V. Sec (usft)	N/S (usft)	E/W (usft)	Northing (usft)	Easting (usft)	DLeg (°/100usft)
8,169.0	88.60	158.60	7,341.5	1,217.7	-1,269.4	-67.0	14,295,613.04	1,772,774.06	2.58
8,232.0	89.00	160.50	7,342.8	1,280.2	-1,328.5	-45.0	14,295,554.05	1,772,796.05	3.08
8,294.0	90.20	160.50	7,343.2	1,341.9	-1,386.9	-24.3	14,295,495.63	1,772,816.74	1.94
8,358.0	88.90	160.40	7,343.7	1,405.5	-1,447.2	-2.9	14,295,435.35	1,772,838.15	2.04
8,422.0	87.80	160.50	7,345.6	1,469.2	-1,507.5	18.6	14,295,375.08	1,772,859.55	1.73
8,485.0	89.00	161.00	7,347.3	1,531.8	-1,566.9	39.3	14,295,315.65	1,772,880.30	2.06
8,548.0	89.90	161.20	7,347.9	1,594.6	-1,626.5	59.7	14,295,256.08	1,772,900.70	1.46
8,612.0	89.80	161.80	7,348.1	1,658.4	-1,687.2	80.0	14,295,195.41	1,772,921.00	0.95
8,675.0	89.90	162.80	7,348.3	1,721.2	-1,747.2	99.2	14,295,135.41	1,772,940.15	1.60
8675 MD 4-27									
8,738.0	89.80	163.30	7,348.4	1,784.1	-1,807.5	117.6	14,295,075.17	1,772,958.51	0.81
8,801.0	89.80	162.90	7,348.6	1,847.0	-1,867.8	135.9	14,295,014.92	1,772,976.81	0.63
8,864.0	89.30	162.60	7,349.1	1,909.9	-1,928.0	154.5	14,294,954.78	1,772,995.49	0.93
8,927.0	88.40	161.30	7,350.4	1,972.7	-1,987.8	174.1	14,294,894.91	1,773,015.00	2.51
8,991.0	88.10	161.20	7,352.4	2,036.4	-2,048.4	194.6	14,294,834.36	1,773,035.55	0.49
9,053.0	89.10	161.70	7,353.9	2,098.1	-2,107.2	214.3	14,294,775.62	1,773,055.26	1.80
9,119.0	90.20	161.90	7,354.3	2,163.9	-2,169.9	235.0	14,294,712.95	1,773,075.87	1.69
9,183.0	89.90	161.40	7,354.2	2,227.7	-2,230.6	255.1	14,294,652.23	1,773,096.01	0.91
9,245.0	90.50	161.90	7,354.0	2,289.5	-2,289.5	274.6	14,294,593.41	1,773,115.52	1.26
9,308.0	89.80	161.60	7,353.8	2,352.3	-2,349.3	294.4	14,294,533.60	1,773,135.24	1.21
9,371.0	89.10	162.70	7,354.4	2,415.1	-2,409.3	313.7	14,294,473.66	1,773,154.54	2.07
9,434.0	89.60	163.10	7,355.2	2,478.0	-2,469.5	332.2	14,294,413.47	1,773,173.06	1.02
9,498.0	90.10	163.40	7,355.3	2,541.9	-2,530.8	350.6	14,294,352.21	1,773,191.50	0.91
9,561.0	88.80	162.60	7,355.9	2,604.8	-2,591.0	369.0	14,294,291.99	1,773,209.91	2.42
9,624.0	88.40	162.90	7,357.5	2,667.7	-2,651.1	387.7	14,294,231.86	1,773,228.58	0.79
9,687.0	88.30	163.00	7,359.3	2,730.5	-2,711.4	406.2	14,294,171.68	1,773,247.03	0.22

33-0571Z



ddh Directional, LLC
Goodwin 3-2H As Drilled



Company: PetroEdge Energy, LLC
Project: UTM Nad 1927 Zone 17 North, West Virginia
Site: Goodwin 3-2H
Well: Goodwin 3-2H
Wellbore: Goodwin 3-2H
Design: Goodwin 3-2H As Drilled

Local Co-ordinate Reference: Well Goodwin 3-2H
TVD Reference: Rig # @ 1115.0usft (59)
MD Reference: Rig # @ 1115.0usft (59)
North Reference: Grid
Survey Calculation Method: Minimum Curvature
Database: ddh Directional, LLC

Survey

MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	V. Sec (usft)	N/S (usft)	E/W (usft)	Northing (usft)	Easting (usft)	DLeg (°/100usft)
9,749.0	88.00	162.80	7,361.3	2,792.4	-2,770.6	424.4	14,294,112.47	1,773,265.25	0.58
9749 MD 4-29									
9,812.0	89.10	163.50	7,362.9	2,855.3	-2,830.9	442.7	14,294,052.22	1,773,283.50	2.07
9,874.0	89.10	162.80	7,363.9	2,917.2	-2,890.2	460.6	14,293,992.91	1,773,301.46	1.13
9,938.0	89.50	162.20	7,364.6	2,981.0	-2,951.2	479.9	14,293,931.90	1,773,320.69	1.13
10,000.0	89.30	162.70	7,365.3	3,042.9	-3,010.3	498.6	14,293,872.82	1,773,339.38	0.87
10,064.0	89.80	161.60	7,365.8	3,106.7	-3,071.2	518.2	14,293,811.92	1,773,358.99	1.89
10,127.0	89.80	160.90	7,366.0	3,169.5	-3,130.9	538.4	14,293,752.29	1,773,379.23	1.11
10,190.0	89.60	161.40	7,366.3	3,232.2	-3,190.5	558.8	14,293,692.69	1,773,399.58	0.85
10,253.0	89.50	160.70	7,366.8	3,294.9	-3,250.1	579.3	14,293,633.13	1,773,420.03	1.12
10,316.0	88.60	159.40	7,367.9	3,357.5	-3,309.3	600.7	14,293,573.95	1,773,441.51	2.51
10,379.0	89.70	159.50	7,368.8	3,420.1	-3,368.3	622.9	14,293,514.98	1,773,463.62	1.75
10,442.0	89.20	158.60	7,369.4	3,482.6	-3,427.1	645.4	14,293,456.17	1,773,486.13	1.63
10,505.0	89.10	157.60	7,370.3	3,544.9	-3,485.6	668.9	14,293,397.75	1,773,509.62	1.60
10,567.0	89.10	157.30	7,371.3	3,606.2	-3,542.8	692.6	14,293,340.52	1,773,533.38	0.48
10,630.0	90.50	157.70	7,371.5	3,668.4	-3,601.0	716.8	14,293,282.34	1,773,557.48	2.31
10,693.0	91.00	157.90	7,370.7	3,730.7	-3,659.4	740.6	14,293,224.04	1,773,581.28	0.85
10,757.0	90.80	157.90	7,369.7	3,794.0	-3,718.6	764.6	14,293,164.77	1,773,605.34	0.31
10,820.0	90.70	157.80	7,368.9	3,856.3	-3,777.0	788.4	14,293,106.45	1,773,629.08	0.22
10,884.0	90.50	157.20	7,368.2	3,919.6	-3,836.1	812.9	14,293,047.34	1,773,653.57	0.99
10,947.0	88.60	156.30	7,368.7	3,981.7	-3,894.0	837.7	14,292,989.49	1,773,678.42	3.34
10947 MD 4-30									
11,010.0	88.80	156.60	7,370.1	4,043.7	-3,951.7	862.9	14,292,931.77	1,773,703.58	0.57
11,074.0	89.40	158.40	7,371.1	4,107.0	-4,010.8	887.4	14,292,872.67	1,773,728.06	2.96
11,137.0	89.50	160.20	7,371.8	4,169.5	-4,069.8	909.7	14,292,813.77	1,773,750.32	2.86
11,200.0	89.30	160.50	7,372.4	4,232.1	-4,129.1	930.8	14,292,754.46	1,773,771.49	0.57
11,264.0	88.50	161.60	7,373.6	4,295.8	-4,189.6	951.6	14,292,693.97	1,773,792.26	2.12

33-05712-



ddh Directional, LLC
Goodwin 3-2H As Drilled



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Survey

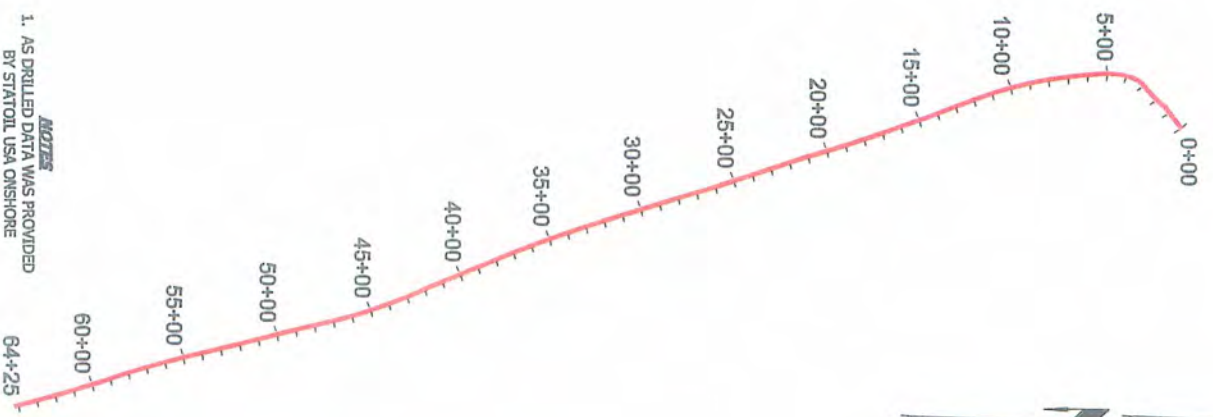
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	V. Sec (usft)	N/S (usft)	E/W (usft)	Northing (usft)	Easting (usft)	DLeg (°/100usft)
11,327.0	88.60	163.60	7,375.2	4,358.7	-4,249.7	970.5	14,292,633.90	1,773,811.09	3.18
11,390.0	89.40	164.90	7,376.3	4,421.6	-4,310.3	987.6	14,292,573.30	1,773,828.18	2.42
11,453.0	90.20	166.30	7,376.6	4,484.6	-4,371.4	1,003.2	14,292,512.30	1,773,843.84	2.56
11,516.0	90.20	167.00	7,376.3	4,547.6	-4,432.7	1,017.8	14,292,451.03	1,773,858.38	1.11
11,579.0	90.30	167.40	7,376.1	4,610.6	-4,494.1	1,031.7	14,292,389.62	1,773,872.33	0.65
11,642.0	90.10	166.50	7,375.8	4,673.6	-4,555.5	1,046.0	14,292,328.27	1,773,886.55	1.46
11,705.0	89.70	165.70	7,375.9	4,736.6	-4,616.6	1,061.1	14,292,267.14	1,773,901.68	1.42
11,767.0	90.00	165.90	7,376.1	4,798.6	-4,676.7	1,076.3	14,292,207.05	1,773,916.88	0.58
11,830.0	90.50	165.70	7,375.8	4,861.6	-4,737.8	1,091.7	14,292,146.00	1,773,932.33	0.85
11,893.0	90.50	165.80	7,375.3	4,924.6	-4,798.9	1,107.3	14,292,084.97	1,773,947.83	0.16
11,957.0	90.40	165.60	7,374.8	4,988.6	-4,860.9	1,123.1	14,292,022.98	1,773,963.64	0.35
12,021.0	90.20	166.70	7,374.4	5,052.6	-4,923.0	1,138.4	14,291,960.86	1,773,978.95	1.75
12,083.0	90.10	167.10	7,374.3	5,114.6	-4,983.4	1,152.4	14,291,900.50	1,773,993.00	0.67
12,146.0	89.90	166.60	7,374.3	5,177.6	-5,044.7	1,166.8	14,291,839.17	1,774,007.32	0.85
12,210.0	89.90	167.00	7,374.4	5,241.6	-5,107.1	1,181.4	14,291,776.89	1,774,021.93	0.62
12,273.0	90.70	165.60	7,374.1	5,304.6	-5,168.3	1,196.3	14,291,715.71	1,774,036.85	2.56
12,336.0	91.50	165.20	7,372.9	5,367.6	-5,229.2	1,212.2	14,291,654.78	1,774,052.72	1.42
12,400.0	91.40	165.20	7,371.2	5,431.5	-5,291.1	1,228.5	14,291,592.94	1,774,069.06	0.16
12,463.0	91.40	164.40	7,369.7	5,494.5	-5,351.8	1,245.0	14,291,532.19	1,774,085.56	1.27
12,527.0	90.20	162.40	7,368.8	5,558.4	-5,413.2	1,263.3	14,291,470.89	1,774,103.84	3.64
12,589.0	89.60	161.90	7,368.9	5,620.2	-5,472.2	1,282.3	14,291,411.90	1,774,122.83	1.26
12,652.0	89.20	161.90	7,369.6	5,683.0	-5,532.1	1,301.9	14,291,352.04	1,774,142.40	0.63
12,715.0	89.60	163.10	7,370.2	5,745.9	-5,592.1	1,320.8	14,291,291.98	1,774,161.33	2.01
12,778.0	89.80	163.30	7,370.6	5,808.8	-5,652.5	1,339.0	14,291,231.70	1,774,179.53	0.45
12778 MD 5-1									
12,841.0	90.50	163.90	7,370.4	5,871.7	-5,712.9	1,356.8	14,291,171.28	1,774,197.32	1.46
12,904.0	90.50	164.10	7,369.8	5,934.7	-5,773.4	1,374.2	14,291,110.75	1,774,214.67	0.32

33-05712

PLAN AND PROFILE VIEW FOR WELL # GOODWIN 3-3H API # 47-033-05732



PLAN VIEW



- Notes*
1. AS DRILLED DATA WAS PROVIDED BY STATOIL USA ONSHORE PROPERTIES INC.
 2. WLS IS NOT CERTIFYING THE DATA AND IS BY NO MEANS RESPONSIBLE FOR ANY ERRORS OR INACCURACIES WITH THE DATA THAT HAS BEEN PROVIDED.

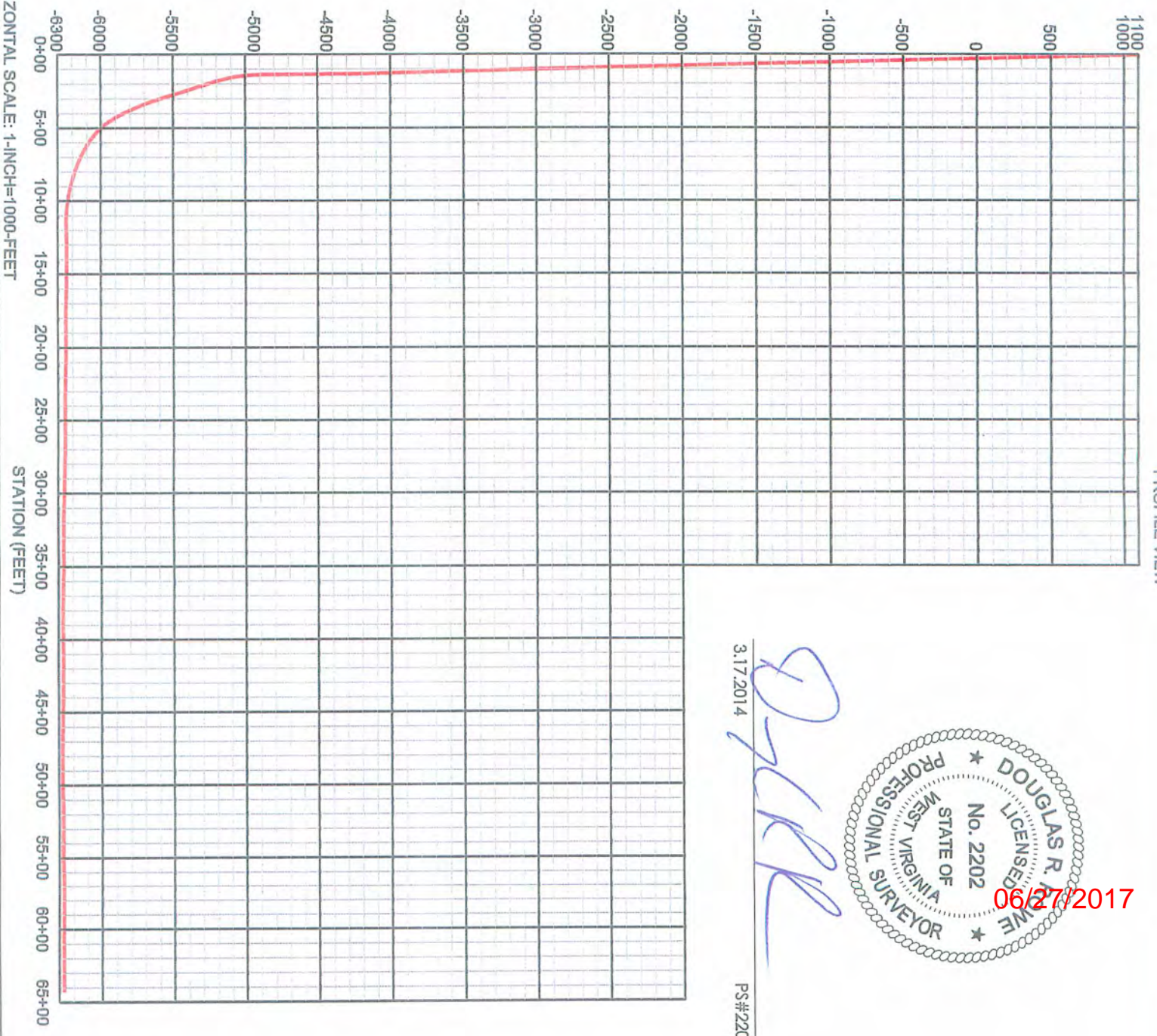
SCALE: 1-INCH = 1000-FEET



VERTICAL SCALE: 1-INCH=1000-FEET

ELEVATION (FEET)

PROFILE VIEW



HORIZONTAL SCALE: 1-INCH=1000-FEET

STATION (FEET)

D. R. R.
3.17.2014

PS#2202



06/27/2017