



# NORTHEAST NATURAL ENERGY, LLC

Location: Monongalia County, WV  
 Field: Monongalia  
 Facility: Yost Pad

Slot: Slot 09  
 Well: Yost 9H  
 Wellbore: Yost 9H PWB



### Plot reference wellpath is Yost 9H PWP Rev-B.0

True vertical depth	15797.68
Measured depth	15797.68
Mean Sea Level to Mud line (AT Slot: Slot 09)	-1468.2ft
Coordinates are in feet referenced to Slot	

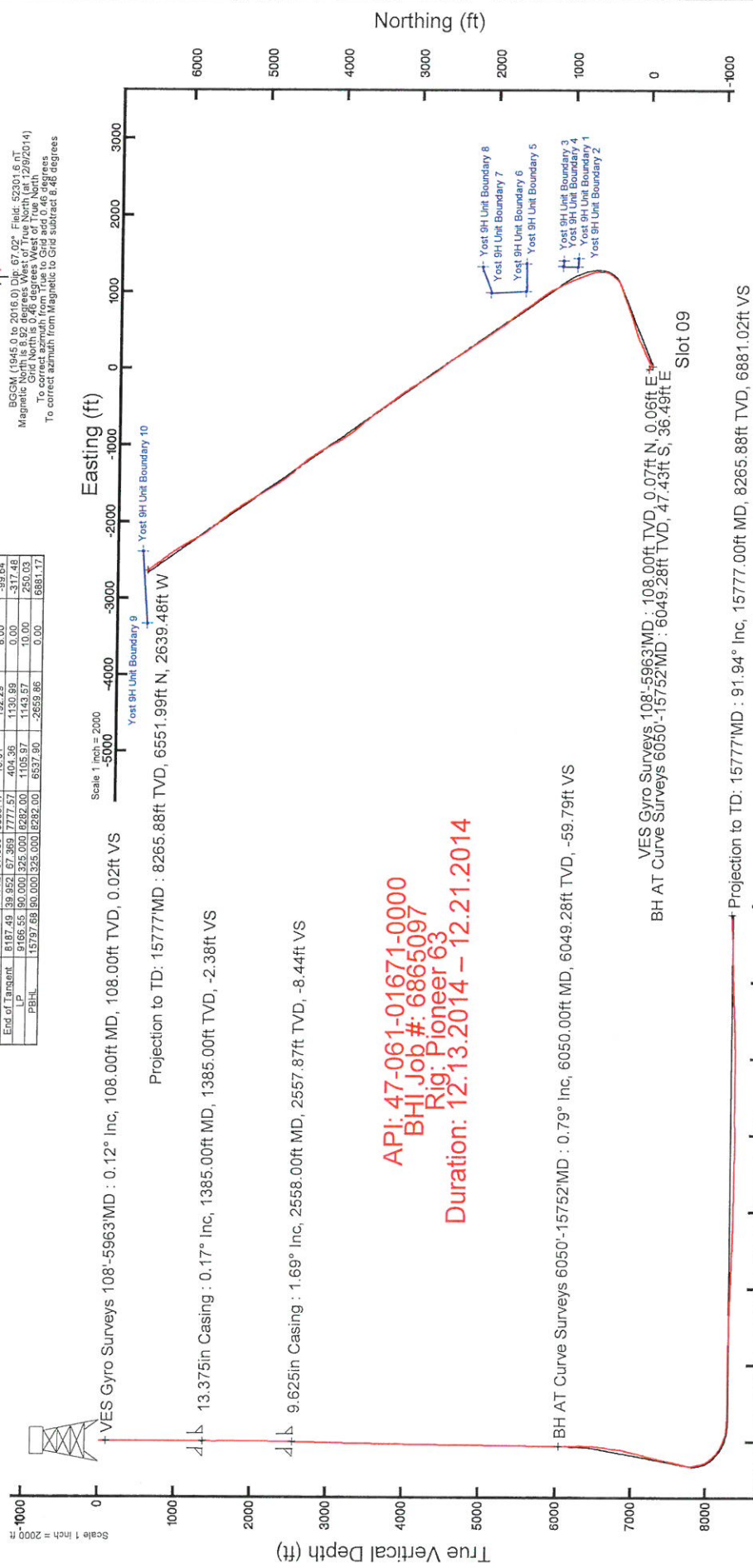
Location Information	
Facility Name	Yost Pad
Grid East (US ft)	418651.500
Grid North (US ft)	418651.500
Latitude	39° 38' 29.952" N
Longitude	80° 13' 05.121" W
Local N (ft)	23.20
Local E (ft)	23.20
Local N (ft)	23.20
Local E (ft)	23.20

Planned Well Profile Data								
Design Comment	MD (ft)	Line (C)	Az (C)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (7/100ft)	VS (ft)
Use On	5953.00	0.00	177.950	-46.24	36.59	0.00	-58.86	
End of Tangent	6003.71	0.800	177.950	-47.61	36.04	0.00	-50.07	
KOP	6100.73	0.800	177.950	-47.61	36.04	0.00	-50.07	
End of 3D Arc	6603.71	1.385	177.950	-47.61	36.04	0.00	-50.07	
End of Tangent	8187.49	1.690	177.950	-47.61	36.04	0.00	-50.07	
LP	9166.55	1.690	177.950	-47.61	36.04	0.00	-50.07	
PBI-L	15797.68	1.690	177.950	-47.61	36.04	0.00	-50.07	

Well Data	
Well	Wellbore
Yost 9H	Yost 9H AWB
Yost 9H	Yost 9H PWB
Yost 9H	Yost 9H AWP
Yost 9H	Yost 9H PWP



BGSN (1945.0 to 2016.0) Dip: 67.02°  
 Magnetic North is 8.82 degrees West of True North (2/9/2014)  
 Grid North is 0.46 degrees West of True North  
 To correct azimuth from True to Grid add 0.46 degrees  
 To correct azimuth from Magnetic to Grid subtract 0.46 degrees



Scale 1 inch = 2000

Projection to TD: 15777 MD : 8265.88ft TVD, 6551.99ft N, 2639.48ft W

Projection to TD: 108.00ft MD, 108.00ft TVD, 0.02ft VS

13.375in Casing : 0.17° Inc, 1385.00ft MD, 1385.00ft TVD, -2.38ft VS

9.625in Casing : 1.69° Inc, 2558.00ft MD, 2557.87ft TVD, -8.44ft VS

BH AT Curve Surveys 6050'-15752'MD : 0.79° Inc, 6050.00ft MD, 6049.28ft TVD, -59.79ft VS

Projection to TD: 15777 MD : 8265.88ft TVD, 6551.99ft N, 2639.48ft W

API: 47-061-01671-0000  
 BHI Job #: 6865097  
 Rig: Pioneer 63  
 Duration: 12.13.2014 - 12.21.2014

Projection to TD: 15777 MD : 8265.88ft TVD, 6551.99ft N, 2639.48ft W

Projection to TD: 108.00ft MD, 108.00ft TVD, 0.02ft VS

13.375in Casing : 0.17° Inc, 1385.00ft MD, 1385.00ft TVD, -2.38ft VS

9.625in Casing : 1.69° Inc, 2558.00ft MD, 2557.87ft TVD, -8.44ft VS

BH AT Curve Surveys 6050'-15752'MD : 0.79° Inc, 6050.00ft MD, 6049.28ft TVD, -59.79ft VS

Projection to TD: 15777 MD : 8265.88ft TVD, 6551.99ft N, 2639.48ft W

Projection to TD: 108.00ft MD, 108.00ft TVD, 0.02ft VS

13.375in Casing : 0.17° Inc, 1385.00ft MD, 1385.00ft TVD, -2.38ft VS

9.625in Casing : 1.69° Inc, 2558.00ft MD, 2557.87ft TVD, -8.44ft VS

BH AT Curve Surveys 6050'-15752'MD : 0.79° Inc, 6050.00ft MD, 6049.28ft TVD, -59.79ft VS

Projection to TD: 15777 MD : 8265.88ft TVD, 6551.99ft N, 2639.48ft W

RECEIVED

AUG 12 2015

Vertical Section (ft)  
 Scale 1 inch = 2000 ft  
 Azimuth 325.00° with reference 0.00 N, 0.00 E

Yost 9H API# 47-061-01671

Lithology/Formation	Top Depth in FT Name TVD	Bottom Depth in FT TVD	Top Depth in FT MD	Bottom Depth in FT MD	Describe rock type and record quantity and type of fluid (freshwater, brine, oil, gas, H2S, etc)
Sand/Lime/Silt	0	2290	0		sand/limestone/silt
Limestone	2290	2400			limestone
Sandstone/Limestone	2400	2430			sandstone/limestone
Sand/Silt	2430	3660			sandstone/siltstone
Sandstone	3660	3700			sandstone
Siltstone	3700	6000			siltstone
Shale	6000	6050			shale
Sand/Shale	6050	7790			sand/shale
Middlesex	7790	7977	8208	8456	shale
Geneseo	7977	8013	8456	8506	shale
Tully	8013	8064	8506	8584	limestone
Hamilton	8064	8133	8584	8780	shale
Marcellus	8133		8780		shale

**RECEIVED**

AUG 12 2015

WV GEOLOGICAL SURVEY  
MORGANTOWN, WV

ACTUAL WELLPATH REPORT (CSV version)  
 Prepared by Baker Hughes  
 Software System: WellArchitect® 4.0.1

REFERENCE WELLPATH IDENTIFICATION

Operator NORTHEAST NATURAL ENERGY, LLC  
 Area Monongalia County, WV  
 Field Monongalia  
 Facility Yost Pad  
 Slot Slot 09  
 Well Yost 9H  
 Wellbore Yost 9H AWB  
 Wellpath Yost 9H AWP Proj: 15777'  
 Sidetrack (none)

REPORT SETUP INFORMATION

Projection NAD83 / Lambert West Virginia SP, Northern Zone (4701), US feet  
 North Refe Grid  
 Scale 0.999941  
 Convergen 0.46° West  
 Software S WellArchitect® 4.0.1  
 User Stewdenk  
 Report Gen: 12/22/2014 at 2:09:18 PM  
 DataBase://WA\_Eastern/ev12.xml

WELLPATH-Local North Local East Easting Northing Latitude Longitude

	[ft]	[US ft]	[US ft]	[US ft]	[ft]	[ft]
Slot Locati	-32.6	23.2	1766308	416631.5	39°38'29.953"N	80°13'04.821"W
Facility Ref			1766285	416664.1	39°38'30.274"N	80°13'05.121"W
Field Refer			1777686	440640.7	39°42'28.114"N	80°10'41.690"W

WELLPATH DATUM

Calculator Minimum curvature  
 Horizontal Slot  
 Vertical Re Pioneer 63 (RKB)  
 MD Refere Pioneer 63 (RKB)  
 Field Verti: Mean Sea Level  
 Pioneer 63 18.00ft  
 Pioneer 63 1486.20ft  
 Pioneer 63 18.00ft  
 Section Or N 0.00, E 0.00 ft  
 Section Azi 325.00°

WELLPATH DATA + = interpolated/extrapolated station

MD	Inclination	Azimuth	TVD	Vert Sect	North	East	Grid East	Grid North	Latitude	Longitude	Closure Di: Closure Di: DLS	Build Rate	Turn Rate
[ft]	[°]	[°]	[ft]	[ft]	[ft]	[ft]	[US ft]	[US ft]	[°]	[°]	[*/100ft]	[*/100ft]	[°/100ft]
+	0	0	39.98	0	0	0	0	1766307.9	416631.5	39°38'29.953"N	80°13'04.821"W	0	0
	18	0	39.98	18	0	0	0	1766307.9	416631.5	39°38'29.953"N	80°13'04.821"W	0	0
	108	0.12	39.98	108	0.02	0.07	0.06	1766307.96	416631.57	39°38'29.954"N	80°13'04.820"W	0.09	39.98
	208	0.07	20.65	208	0.09	0.21	0.15	1766308.05	416631.71	39°38'29.955"N	80°13'04.819"W	0.26	35.475
												0.06	-0.05
												0.13	0
												0.13	0
												0.06	-19.33

RECEIVED

AUG 12 2015

WV GEOLOGICAL SURVEY  
 MORGANTOWN, WV

RECEIVED  
AUG 12 2015  
WV GEOLOGICAL SURVEY  
MORGANTOWN, WV

308	0.17	44.39	308	0.15	0.37	0.27	1766308.17	416631.87	39°38'29.957"N	80°13'04.817"W	0.46	36.385	0.11	0.1	23.74
408	0.08	99.97	408	0.13	0.47	0.45	1766308.35	416631.97	39°38'29.958"N	80°13'04.815"W	0.65	43.779	0.14	-0.09	55.58
508	0.16	159.48	508	-0.06	0.32	0.56	1766308.46	416631.82	39°38'29.957"N	80°13'04.814"W	0.65	60.175	0.14	0.08	59.51
608	0.13	159.6	608	-0.3	0.09	0.65	1766308.55	416631.59	39°38'29.954"N	80°13'04.812"W	0.66	82.436	0.03	-0.03	0.12
708	0.19	138.68	708	-0.58	-0.14	0.8	1766308.7	416631.36	39°38'29.952"N	80°13'04.811"W	0.82	100.179	0.08	0.06	-20.92
808	0.14	111.33	808	-0.84	-0.31	1.03	1766308.93	416631.19	39°38'29.950"N	80°13'04.808"W	1.07	106.972	0.09	-0.05	-27.35
908	0.2	129.11	908	-1.11	-0.47	1.27	1766309.17	416631.03	39°38'29.949"N	80°13'04.804"W	1.36	110.14	0.08	0.06	17.78
1008	0.2	133.88	1008	-1.45	-0.7	1.54	1766309.44	416630.8	39°38'29.947"N	80°13'04.801"W	1.69	114.456	0.02	0	4.77
1108	0.12	116.64	1108	-1.72	-0.87	1.76	1766309.66	416630.63	39°38'29.945"N	80°13'04.798"W	1.96	116.272	0.09	-0.08	-17.24
1208	0.05	167.63	1208	-1.85	-0.96	1.86	1766309.76	416630.54	39°38'29.944"N	80°13'04.797"W	2.09	117.225	0.1	-0.07	50.99
1308	0.33	172.43	1308	-2.15	-1.28	1.91	1766309.81	416630.22	39°38'29.941"N	80°13'04.796"W	2.3	123.974	0.28	0.28	4.8
1408	0.17	242.03	1408	-2.38	-1.64	1.81	1766309.71	416629.86	39°38'29.937"N	80°13'04.797"W	2.44	132.124	0.31	-0.16	69.6
1508	0.33	225.6	1507.99	-2.41	-1.91	1.48	1766309.38	416629.59	39°38'29.935"N	80°13'04.802"W	2.41	142.31	0.17	0.16	-16.43
1608	0.35	266.96	1607.99	-2.3	-2.13	0.97	1766308.87	416629.37	39°38'29.932"N	80°13'04.808"W	2.34	155.603	0.24	0.02	41.36
1708	0.36	253.26	1707.99	-2.04	-2.23	0.36	1766308.26	416629.27	39°38'29.931"N	80°13'04.816"W	2.26	170.864	0.09	0.01	-13.7
1808	0.59	263.53	1807.99	-1.69	-2.38	-0.45	1766307.45	416629.12	39°38'29.930"N	80°13'04.826"W	2.43	190.764	0.24	0.23	10.27
1908	0.47	250.34	1907.98	-1.34	-2.58	-1.35	1766306.55	416628.92	39°38'29.928"N	80°13'04.838"W	2.91	207.643	0.17	-0.12	-13.19
2008	0.29	239.69	2007.98	-1.21	-2.84	-1.96	1766305.94	416628.66	39°38'29.925"N	80°13'04.846"W	3.45	214.504	0.19	-0.18	-10.65
2108	0.27	115.35	2107.98	-1.39	-3.07	-1.96	1766305.94	416628.43	39°38'29.923"N	80°13'04.846"W	3.65	212.541	0.5	-0.02	-124.34
2208	0.67	103.17	2207.98	-2.03	-3.31	-1.18	1766306.72	416628.19	39°38'29.921"N	80°13'04.836"W	3.51	199.617	0.41	0.4	-12.18
2308	1.25	103.79	2307.96	-3.29	-3.7	0.45	1766308.35	416627.8	39°38'29.917"N	80°13'04.815"W	3.73	173.072	0.58	0.58	0.62
2408	1.53	107.83	2407.93	-5.17	-4.37	2.78	1766310.68	416627.13	39°38'29.910"N	80°13'04.785"W	5.18	147.536	0.3	0.28	4.04
2508	1.64	105.29	2507.89	-7.34	-5.16	5.43	1766313.33	416626.34	39°38'29.903"N	80°13'04.751"W	7.49	133.51	0.13	0.11	-2.54
2608	1.75	101.56	2607.85	-9.55	-5.84	8.31	1766316.21	416625.66	39°38'29.896"N	80°13'04.714"W	10.15	125.103	0.16	0.11	-3.73
2708	1.89	105.16	2707.8	-11.92	-6.58	11.39	1766319.29	416624.92	39°38'29.889"N	80°13'04.674"W	13.16	119.99	0.18	0.14	3.6
2808	1.82	106.25	2807.75	-14.43	-7.45	14.51	1766322.41	416624.05	39°38'29.881"N	80°13'04.635"W	16.31	117.182	0.08	-0.07	1.09
2908	1.4	106.47	2907.71	-16.62	-8.24	17.21	1766325.11	416623.26	39°38'29.873"N	80°13'04.600"W	19.08	115.595	0.42	-0.42	0.22
3008	1.35	109.2	3007.68	-18.53	-8.98	19.49	1766327.39	416622.52	39°38'29.866"N	80°13'04.571"W	21.46	114.728	0.08	-0.05	2.73
3108	1.31	104.51	3107.65	-20.36	-9.65	21.71	1766329.61	416621.85	39°38'29.860"N	80°13'04.542"W	23.76	113.965	0.12	-0.04	-4.69
3208	1.22	108.02	3207.63	-22.08	-10.27	23.83	1766331.73	416621.23	39°38'29.854"N	80°13'04.515"W	25.95	113.307	0.12	-0.09	3.51
3308	1.13	120.25	3307.61	-23.82	-11.09	25.69	1766333.59	416620.41	39°38'29.846"N	80°13'04.491"W	27.99	113.35	0.27	-0.09	12.23
3408	1.12	125.96	3407.59	-25.64	-12.16	27.34	1766335.23	416619.34	39°38'29.835"N	80°13'04.470"W	29.92	113.986	0.11	-0.01	5.71
3508	1.03	133.68	3507.57	-27.45	-13.36	28.78	1766336.68	416618.14	39°38'29.824"N	80°13'04.452"W	31.73	114.899	0.17	-0.09	7.72
3608	1	124.29	3607.55	-29.15	-14.47	30.15	1766338.05	416617.03	39°38'29.813"N	80°13'04.434"W	33.44	115.639	0.17	-0.03	-9.39
3708	0.9	132.23	3707.54	-30.73	-15.49	31.45	1766339.35	416616.01	39°38'29.803"N	80°13'04.417"W	35.06	116.22	0.15	0.15	1.22
3808	1.05	133.45	3807.53	-32.39	-16.65	32.7	1766340.6	416614.85	39°38'29.791"N	80°13'04.401"W	36.69	116.982	0.28	-0.27	5.18
3908	0.78	138.63	3907.51	-33.97	-17.79	33.81	1766341.71	416613.71	39°38'29.780"N	80°13'04.374"W	38.21	117.748	0.14	0.12	-5.04
4008	0.9	133.59	4007.5	-35.41	-18.84	34.83	1766342.73	416612.66	39°38'29.770"N	80°13'04.349"W	39.6	118.409	0.14	0.12	0.01
4108	0.91	141.12	4107.49	-36.97	-20	35.9	1766343.8	416611.5	39°38'29.759"N	80°13'04.360"W	41.09	119.123	0.12	0.01	7.53
4208	0.79	150.89	4207.48	-38.45	-21.22	36.73	1766344.63	416610.28	39°38'29.747"N	80°13'04.349"W	42.42	120.015	0.19	-0.12	9.77
4308	0.77	142.68	4307.47	-39.81	-22.36	37.48	1766345.37	416609.14	39°38'29.735"N	80°13'04.340"W	43.64	120.82	0.11	-0.02	-8.21
4408	0.9	147.01	4407.46	-41.26	-23.55	38.31	1766346.21	416607.95	39°38'29.724"N	80°13'04.329"W	44.97	121.58	0.14	0.13	4.33
4508	0.85	163.59	4507.45	-42.75	-24.92	38.95	1766346.84	416606.58	39°38'29.710"N	80°13'04.320"W	46.24	122.613	0.26	-0.05	16.58
4608	0.79	173.24	4607.44	-44.06	-26.32	39.24	1766347.14	416605.18	39°38'29.696"N	80°13'04.317"W	47.25	123.849	0.15	-0.06	9.65
4708	0.66	187.55	4707.43	-45.09	-27.57	39.24	1766347.14	416603.93	39°38'29.684"N	80°13'04.316"W	47.96	125.092	0.22	-0.13	14.31
4808	0.8	185.94	4807.42	-46.05	-28.84	39.1	1766346.99	416602.66	39°38'29.671"N	80°13'04.316"W	48.58	126.413	0.14	-0.14	-1.61
4908	0.88	182.68	4907.41	-47.18	-30.3	38.99	1766346.88	416601.2	39°38'29.657"N	80°13'04.319"W	49.38	127.852	0.09	0.08	-3.26
5008	0.94	188.83	5007.4	-48.38	-31.88	38.83	1766346.72	416599.63	39°38'29.641"N	80°13'04.321"W	50.23	129.387	0.11	0.06	6.15
5108	0.96	198.97	5107.38	-49.47	-33.48	38.43	1766346.32	416598.02	39°38'29.626"N	80°13'04.326"W	50.97	131.064	0.17	0.02	10.14
5208	0.92	190.54	5207.37	-50.52	-35.06	38.01	1766345.91	416596.44	39°38'29.610"N	80°13'04.331"W	51.71	132.69	0.14	-0.04	-8.43
5308	1.01	185.39	5307.36	-51.75	-36.73	37.78	1766345.68	416594.77	39°38'29.593"N	80°13'04.334"W	52.69	134.192	0.12	0.09	-5.15

RECEIVED  
AUG 12 2015  
MW GEOLOGICAL SURVEY  
MORGANTOWN, WV

5408	185.93	5407.34	-53.04	-38.41	37.61	1766345.51	416593.09	39°38'29.577"N	80°13'04.336"W	53.76	135.603	0.08	-0.08	0.54
5508	185.63	5507.33	-54.21	-39.96	37.46	1766345.35	416591.54	39°38'29.561"N	80°13'04.338"W	54.77	136.851	0.08	-0.08	-0.3
5608	0.9	189.84	5607.32	-55.33	37.25	1766345.15	416590.03	39°38'29.546"N	80°13'04.340"W	55.74	138.07	0.08	0.05	4.21
5708	0.7	183.61	5707.31	-56.37	36.84	1766344.97	416588.65	39°38'29.533"N	80°13'04.343"W	56.67	139.134	0.22	-0.2	-6.23
5808	0.74	197.62	5807.3	-57.24	36.88	1766344.74	416587.42	39°38'29.521"N	80°13'04.345"W	57.45	140.11	0.18	0.04	14.01
5908	0.86	183.44	5907.29	-58.22	36.6	1766344.5	416586.06	39°38'29.507"N	80°13'04.348"W	58.35	141.151	0.23	0.12	-14.18
5963	0.8	177.96	5962.29	-58.86	36.59	1766344.49	416585.26	39°38'29.499"N	80°13'04.348"W	58.96	141.644	0.18	-0.11	-9.96
6050	0.79	191.58	6049.28	-59.79	36.49	1766344.39	416584.07	39°38'29.487"N	80°13'04.350"W	59.85	142.428	0.22	-0.01	15.66
6113	4.81	60	6112.21	-60.31	38.69	1766346.59	416584.97	39°38'29.497"N	80°13'04.321"W	60.52	140.258	8.52	6.38	-208.86
6176	12.7	46.92	6174.43	-59.57	46.05	1766353.95	416591.03	39°38'29.557"N	80°13'04.228"W	61.31	131.314	12.84	12.52	-20.76
6239	16.78	46.46	6235.35	-57.25	57.71	1766365.6	416602.02	39°38'29.667"N	80°13'04.080"W	64.8	117.059	6.48	6.48	-0.73
6302	15.74	53	6295.83	-55.6	71.12	1766379.02	416613.43	39°38'29.780"N	80°13'03.910"W	73.38	104.254	3.34	-1.65	10.38
6365	18.03	56.75	6356.11	-55.6	86.1	1766394	416623.92	39°38'29.885"N	80°13'03.719"W	86.44	95.03	4.02	3.63	5.95
6428	20.97	60.3	6415.49	-56.94	104.06	1766411.95	416634.85	39°38'29.995"N	80°13'03.491"W	104.11	88.153	5.03	4.67	5.63
6491	25.72	62.86	6473.32	-59.85	126.03	1766433.92	416646.68	39°38'30.113"N	80°13'03.211"W	126.94	83.13	7.71	7.54	4.06
6554	30.37	63.78	6528.91	-64.15	152.49	1766460.38	416659.96	39°38'30.247"N	80°13'02.874"W	155.13	79.427	7.41	7.38	1.46
6617	31.79	63.52	6582.86	-69.04	181.63	1766489.52	416674.4	39°38'30.392"N	80°13'02.503"W	186.63	76.711	2.26	2.25	-0.41
6680	36.65	67.63	6634.93	-75.61	213.9	1766521.79	416688.96	39°38'30.538"N	80°13'02.092"W	221.48	74.962	8.54	7.71	6.52
6744	40.55	68.45	6684.96	-84.63	250.93	1766558.81	416703.88	39°38'30.688"N	80°13'01.621"W	261.16	73.909	6.15	6.09	1.28
6807	40.4	64.48	6732.89	-92.76	288.41	1766596.29	416720.2	39°38'30.853"N	80°13'01.143"W	301.74	72.904	4.1	-0.24	-6.3
6871	40.39	61.71	6781.63	-98.6	325.38	1766633.26	416738.96	39°38'31.041"N	80°13'00.673"W	342.67	71.723	2.8	-0.02	-4.33
6934	39.57	62.26	6829.91	-103.52	361.12	1766669	416757.97	39°38'31.232"N	80°13'00.218"W	382.63	70.697	1.42	-1.3	0.87
6997	40.43	68.37	6878.19	-110.78	397.88	1766705.76	416774.85	39°38'31.402"N	80°12'59.749"W	422.92	70.186	6.38	1.37	9.7
7060	40.52	74.13	6926.13	-122.22	436.57	1766744.45	416787.98	39°38'31.534"N	80°12'59.256"W	463.77	70.28	5.94	0.14	9.14
7123	40.65	72.11	6973.98	-134.96	475.79	1766783.66	416799.88	39°38'31.655"N	80°12'58.756"W	504.71	70.51	2.1	0.21	-3.21
7187	40.62	68.14	7022.55	-145.83	514.97	1766822.84	416814.04	39°38'31.798"N	80°12'58.257"W	546.37	70.481	4.04	-0.05	-6.2
7249	40.62	70.56	7069.62	-155.84	552.73	1766860.6	416828.27	39°38'31.942"N	80°12'57.777"W	586.72	70.403	2.54	0	3.9
7312	40.63	74.63	7117.44	-168.23	591.86	1766899.72	416840.54	39°38'32.066"N	80°12'57.277"W	627.69	70.546	4.21	0.02	6.46
7376	40.91	72.33	7165.91	-181.47	631.92	1766939.78	416852.42	39°38'32.187"N	80°12'56.766"W	669.43	70.729	2.39	0.44	-3.59
7438	40.95	69.18	7212.76	-192.5	670.26	1766978.12	416865.81	39°38'32.322"N	80°12'56.277"W	710.03	70.731	3.33	0.06	-5.08
7502	40.79	70.22	7261.16	-203.13	709.53	1767017.39	416880.33	39°38'32.469"N	80°12'55.776"W	751.91	70.673	1.09	-0.25	1.62
7564	40.89	70.64	7308.06	-213.91	747.53	1767055.59	416893.91	39°38'32.606"N	80°12'55.289"W	792.45	70.661	0.47	0.16	0.68
7627	40.95	70.5	7355.67	-224.99	786.65	1767094.5	416907.64	39°38'32.745"N	80°12'54.793"W	833.71	70.656	0.17	0.1	-0.22
7690	40.85	68.98	7403.29	-235.48	825.34	1767133.19	416921.92	39°38'32.889"N	80°12'54.300"W	874.96	70.613	1.59	-0.16	-2.41
7752	40.9	68.37	7450.17	-245.08	863.14	1767170.99	416936.67	39°38'33.037"N	80°12'53.819"W	915.51	70.527	0.65	0.08	-0.98
7817	40.94	69.28	7499.28	-255.25	902.84	1767210.68	416952.05	39°38'33.193"N	80°12'53.313"W	958.06	70.452	0.92	0.06	1.4
7880	41.03	68.77	7546.84	-265.26	941.42	1767249.26	416966.84	39°38'33.342"N	80°12'52.821"W	999.37	70.393	0.55	0.14	-0.81
7943	41.08	70.6	7594.35	-275.75	980.22	1767288.06	416981.21	39°38'33.487"N	80°12'52.327"W	1040.74	70.364	1.91	0.08	2.9
8006	40.9	72.64	7641.91	-287.57	1019.43	1767327.27	416994.23	39°38'33.619"N	80°12'51.827"W	1082.05	70.412	2.14	-0.29	3.24
8069	40.82	71.62	7689.55	-299.71	1058.66	1767366.49	417006.88	39°38'33.747"N	80°12'51.327"W	1123.25	70.475	1.07	-0.13	-1.62
8133	40.79	68.58	7738	-310.6	1097.57	1767405.81	417021.11	39°38'33.890"N	80°12'50.825"W	1165.06	70.462	3.1	-0.05	-4.75
8195	39.83	58.09	7785.34	-316.43	1133.72	1767441.55	417039.02	39°38'34.070"N	80°12'50.370"W	1204.75	70.228	11.05	-1.55	-16.92
8258	41.46	43.66	7833.24	-313.41	1165.32	1767473.15	417064.83	39°38'34.328"N	80°12'49.969"W	1243.29	69.601	15.12	2.59	-22.9
8321	41.52	41.07	7880.44	-304.28	1193.44	1767501.27	417095.66	39°38'34.635"N	80°12'49.613"W	1280.54	68.746	2.73	0.1	-4.11
8385	40.87	40.69	7928.6	-294	1221.03	1767528.85	417127.53	39°38'34.952"N	80°12'49.263"W	1317.95	67.89	1.09	-1.02	-0.59
8448	43.24	28.69	7975.45	-279.32	1244.87	1767552.69	417162.15	39°38'35.296"N	80°12'48.962"W	1353.26	66.912	13.29	3.76	-19.05
8511	46.41	15.55	8020.22	-255.2	1261.39	1767569.21	417203.16	39°38'35.702"N	80°12'48.755"W	1384.89	65.619	15.52	5.03	-20.86
8574	48.06	5.88	8063.05	-222.94	1269.91	1767577.74	417248.5	39°38'36.151"N	80°12'48.651"W	1411.89	64.085	11.56	2.62	-15.35
8638	50.06	357.24	8105.03	-184.15	1271.17	1767578.99	417296.74	39°38'36.628"N	80°12'48.639"W	1434.74	62.374	10.66	3.13	-13.5
8701	54.7	350.02	8143.51	-140.36	1265.55	1767573.37	417346.25	39°38'37.117"N	80°12'48.716"W	1453.46	60.542	11.68	7.37	-11.46
8764	61.24	344.57	8176.92	-90.97	1253.72	1767561.55	417398.27	39°38'37.630"N	80°12'48.873"W	1469.64	58.549	12.7	10.38	-8.65

RECD AUG 12 2015  
 W/ GEOLOGICAL SURVEY  
 MORGANTOWN, WV

8826	65.6	341.47	8204.66	-38.25	819.82	1237.51	1767545.33	417451.27	39°38'38.153"N	80°12'49.085"W	1484.43	56.477	8.33	7.03	-5
8890	69.11	338.6	8229.31	18.78	875.31	1217.33	1767525.16	417506.76	39°38'38.700"N	80°12'49.349"W	1499.35	54.282	6.87	5.48	-4.48
8953	76.04	338.51	8248.16	77.18	931.22	1195.37	1767503.19	417562.67	39°38'39.250"N	80°12'49.635"W	1515.28	52.08	11	11	-0.14
9017	81.38	337.77	8260.68	138.28	989.45	1172	1767479.83	417620.89	39°38'39.824"N	80°12'49.940"W	1533.82	49.828	8.42	8.34	-1.16
9079	84.61	335.65	8268.25	198.52	1045.96	1147.67	1767455.5	417677.4	39°38'40.381"N	80°12'50.257"W	1552.8	47.655	6.22	5.21	-3.42
9142	87.11	333.34	8272.79	260.49	1102.66	1120.62	1767428.45	417734.1	39°38'40.939"N	80°12'50.608"W	1572.15	45.463	5.4	3.97	-3.67
9185	90.31	333.28	8273.76	303.02	1141.07	1101.31	1767409.15	417772.5	39°38'41.317"N	80°12'50.859"W	1585.85	43.984	7.44	7.44	-0.14
9205	90.09	333.35	8273.69	322.81	1158.94	1092.33	1767400.16	417790.37	39°38'41.493"N	80°12'50.976"W	1592.58	43.305	1.15	-1.1	0.35
9269	89.08	333.33	8274.16	386.13	1216.13	1063.62	1767371.45	417847.56	39°38'42.056"N	80°12'51.349"W	1615.63	41.173	1.58	-1.58	-0.03
9332	89.29	331.85	8275.05	448.57	1272.05	1034.62	1767342.45	417903.47	39°38'42.606"N	80°12'51.725"W	1639.68	39.123	2.37	0.33	-2.35
9395	89.35	330.15	8275.8	511.22	1327.14	1004.08	1767311.92	417958.56	39°38'43.148"N	80°12'52.121"W	1664.48	37.11	2.7	0.1	-2.7
9457	89.42	325.39	8276.47	573.12	1379.57	971.02	1767278.86	418010.99	39°38'43.664"N	80°12'52.549"W	1687.04	35.14	7.68	0.11	-7.68
9519	89.45	323.88	8277.08	635.12	1430.13	935.14	1767242.98	418061.54	39°38'44.160"N	80°12'53.013"W	1708.73	33.18	2.44	0.05	-2.44
9583	89.69	321.92	8277.56	699.07	1481.17	896.54	1767204.38	418112.58	39°38'44.662"N	80°12'53.511"W	1731.37	31.186	3.09	0.37	-3.06
9647	90.06	322.78	8277.7	763	1531.84	857.45	1767165.29	418163.25	39°38'45.160"N	80°12'54.016"W	1755.49	29.238	1.46	0.58	1.34
9710	89.94	324.98	8277.7	825.99	1582.73	820.31	1767128.16	418214.13	39°38'45.660"N	80°12'54.496"W	1782.68	27.397	3.5	-0.19	3.49
9773	90.37	325.68	8277.53	888.98	1634.54	784.47	1767092.33	418265.94	39°38'46.169"N	80°12'54.960"W	1813.04	25.638	1.3	0.68	1.11
9836	90.06	325.44	8277.29	951.98	1686.5	748.85	1767056.7	418317.9	39°38'46.679"N	80°12'55.420"W	1845.28	23.942	0.62	-0.49	-0.38
9899	89.42	324.16	8277.58	1014.98	1737.98	712.53	1767020.39	418369.37	39°38'47.185"N	80°12'55.890"W	1878.37	22.293	2.27	-1.02	-2.03
9962	89.38	320.85	8278.24	1077.91	1787.95	674.19	1766982.05	418419.34	39°38'47.676"N	80°12'56.385"W	1910.84	20.66	5.25	-0.06	-5.25
10025	89.54	318.17	8278.83	1140.61	1835.86	633.29	1766941.15	418467.25	39°38'48.146"N	80°12'56.913"W	1942.02	19.032	4.26	0.25	-4.25
10089	89.66	320.62	8279.28	1204.3	1884.44	591.64	1766899.5	418515.83	39°38'48.623"N	80°12'57.450"W	1975.14	17.43	3.83	0.19	3.83
10152	88.58	323.82	8280.24	1267.2	1934.22	553.05	1766860.92	418565.61	39°38'49.112"N	80°12'57.948"W	2011.74	15.957	5.36	-1.71	5.08
10216	88.68	326.38	8281.78	1331.18	1986.69	516.45	1766824.32	418618.07	39°38'49.628"N	80°12'58.422"W	2052.72	14.572	4	0.16	4
10279	89.01	325.9	8283.04	1394.16	2039	481.36	1766789.23	418670.37	39°38'50.142"N	80°12'58.876"W	2095.05	13.283	0.92	0.52	-0.76
10342	90	325.51	8283.59	1457.15	2091.04	445.86	1766753.73	418722.42	39°38'50.654"N	80°12'59.335"W	2138.05	12.037	1.69	1.57	-0.62
10406	89.05	325.64	8284.12	1521.14	2143.83	409.68	1766717.56	418775.2	39°38'51.172"N	80°12'59.803"W	2182.63	10.819	1.5	-1.48	0.2
10469	89.01	325.49	8285.19	1584.13	2195.79	374.06	1766681.94	418827.15	39°38'51.683"N	80°13'00.263"W	2227.42	9.668	0.25	-0.06	-0.24
10532	88.4	325.71	8286.61	1647.11	2247.75	338.48	1766646.36	418879.12	39°38'52.194"N	80°13'00.723"W	2273.1	8.564	1.03	-0.97	0.35
10594	88.43	325.49	8288.32	1709.08	2298.89	303.46	1766611.35	418930.25	39°38'52.696"N	80°13'01.176"W	2318.83	7.52	0.36	0.05	-0.35
10657	87.91	326.16	8290.34	1772.04	2350.99	268.09	1766575.98	418982.34	39°38'53.208"N	80°13'01.634"W	2366.22	6.506	1.35	-0.83	1.06
10720	88.03	325.99	8292.57	1834.99	2403.23	232.96	1766540.84	419034.58	39°38'53.722"N	80°13'02.088"W	2414.49	5.537	0.33	0.19	-0.27
10783	88	325.61	8294.75	1897.95	2455.3	197.57	1766505.45	419086.65	39°38'54.234"N	80°13'02.546"W	2463.24	4.6	0.6	-0.05	-0.6
10847	88.43	325.59	8296.74	1961.91	2508.08	161.42	1766469.31	419139.43	39°38'54.753"N	80°13'03.013"W	2513.27	3.683	0.67	0.67	-0.03
10910	88.06	324.67	8298.67	2024.88	2559.75	125.42	1766433.32	419191.09	39°38'55.260"N	80°13'03.479"W	2562.82	2.805	1.57	-0.59	-1.46
10973	87.48	324.07	8301.13	2087.83	2610.92	88.75	1766396.65	419242.26	39°38'55.763"N	80°13'03.953"W	2612.42	1.947	1.32	-0.92	-0.95
11036	88.03	323.03	8303.59	2150.76	2661.55	51.35	1766359.25	419292.89	39°38'56.260"N	80°13'04.436"W	2662.05	1.105	1.87	0.87	-1.65
11099	88.03	322.29	8305.76	2213.67	2711.61	13.16	1766321.06	419342.94	39°38'56.752"N	80°13'04.930"W	2711.64	0.278	1.17	0	-1.17
11163	88.4	322.77	8307.75	2277.58	2762.38	-25.75	1766282.15	419393.71	39°38'57.251"N	80°13'05.432"W	2762.5	359.466	0.95	0.58	0.58
11226	88.31	325.49	8309.56	2340.54	2813.47	-62.65	1766245.25	419444.73	39°38'57.752"N	80°13'05.909"W	2814.1	358.774	4.32	-0.14	4.32
11289	88.49	326.05	8311.32	2403.51	2865.47	-98.07	1766209.83	419496.8	39°38'58.264"N	80°13'06.367"W	2867.15	358.04	0.93	0.29	0.89
11352	88.55	327.73	8312.95	2466.45	2918.22	-132.47	1766175.43	419549.54	39°38'58.783"N	80°13'06.813"W	2921.23	357.401	2.67	0.1	2.67
11415	88.61	329.6	8314.51	2529.3	2972.02	-165.23	1766142.68	419603.33	39°38'59.312"N	80°13'07.237"W	2976.6	356.818	2.97	0.1	2.97
11479	88.37	330.3	8316.2	2593.04	3027.39	-197.26	1766110.65	419658.71	39°38'59.856"N	80°13'07.652"W	3033.81	356.272	1.16	-0.37	1.09
11541	88.31	328.42	8317.99	2654.83	3080.71	-228.85	1766079.07	419712.02	39°39'00.381"N	80°13'08.061"W	3089.2	355.752	3.03	-0.1	-3.03
11606	88.61	324.94	8319.74	2719.77	3135	-300.9	1766007.01	419817.72	39°39'01.420"N	80°13'08.523"W	3146.14	355.177	5.37	0.46	-5.35
11669	88.52	324.51	8321.32	2782.75	3186.42	-337.72	1765970.2	419868.82	39°39'01.922"N	80°13'09.469"W	3200.59	354.605	0.7	-0.14	-0.88
11732	89.01	323.96	8322.67	2845.73	3237.52	-375.25	1765932.67	419919.41	39°39'02.419"N	80°13'09.954"W	3255.09	354.045	1.17	0.78	-0.87
11795	89.11	322.89	8323.71	2908.7	3288.11	-413.36	1765894.57	419969.57	39°39'02.911"N	80°13'10.446"W	3309.45	353.489	1.71	0.16	-1.7
11858	89.42	322.66	8324.52	2971.64	3338.27	-450.66	1765857.27	420020.32	39°39'03.410"N	80°13'10.929"W	3363.76	352.941	0.61	0.49	-0.37
11921	89.29	324.72	8325.23	3034.62	3389.03						3418.86	352.425	3.28	-0.21	3.27

RECEIVED  
AUG 12 2015  
WV GEOLOGICAL SURVEY  
MORGANTOWN, WV

11985	89.05	325.11	8326.15	3098.61	3441.4	-487.44	1765820.49	420072.69	39°39'03.925"N	80°13'11.404"W	3475.75	351.938	0.72	-0.37	0.61
12049	89.08	325.77	8327.2	3162.6	3494.1	-523.74	1765784.19	420125.38	39°39'04.443"N	80°13'11.874"W	3533.13	351.475	1.03	0.05	1.03
12112	89.11	323.92	8328.19	3225.59	3545.6	-560.01	1765747.92	420176.88	39°39'04.949"N	80°13'12.343"W	3589.55	351.025	2.94	0.05	-2.94
12175	89.02	323.22	8329.22	3288.56	3596.28	-597.42	1765710.52	420227.56	39°39'05.447"N	80°13'12.826"W	3645.56	350.568	1.12	-0.14	-1.11
12239	88.89	319.47	8330.39	3352.41	3646.24	-637.38	1765670.56	420277.52	39°39'05.937"N	80°13'13.342"W	3701.53	350.085	5.86	-0.2	-5.86
12302	89.29	319.55	8331.39	3415.11	3694.15	-678.28	1765629.66	420325.42	39°39'06.407"N	80°13'13.870"W	3755.9	349.596	0.65	0.63	0.13
12365	89.6	319.32	8332	3477.81	3742	-719.25	1765588.69	420373.27	39°39'06.877"N	80°13'14.398"W	3810.5	349.12	0.61	0.49	-0.37
12427	89.48	319.84	8332.5	3539.53	3789.2	-759.45	1765548.5	420420.47	39°39'07.340"N	80°13'14.917"W	3864.56	348.667	0.86	-0.19	0.84
12491	89.51	321.27	8333.06	3603.34	3838.62	-800.11	1765507.84	420469.89	39°39'07.826"N	80°13'15.442"W	3921.12	348.226	2.23	0.05	2.23
12554	89.42	324.82	8333.65	3666.29	3888.95	-837.98	1765469.98	420520.22	39°39'08.320"N	80°13'15.931"W	3978.21	347.84	5.64	-0.14	5.63
12617	89.38	326.2	8334.31	3729.28	3940.88	-873.65	1765434.31	420572.14	39°39'08.830"N	80°13'16.393"W	4036.55	347.5	2.19	-0.06	2.19
12681	89.45	326.32	8334.96	3793.26	3994.09	-909.19	1765398.76	420625.35	39°39'09.353"N	80°13'16.853"W	4096.27	347.176	0.22	0.11	0.19
12743	89.91	330.01	8335.31	3855.16	4046.76	-941.89	1765366.07	420678.01	39°39'09.871"N	80°13'17.276"W	4154.93	346.898	6	0.74	5.95
12806	89.94	332.82	8335.39	3917.75	4102.07	-972.03	1765335.93	420733.32	39°39'10.416"N	80°13'17.667"W	4215.67	346.669	4.46	0.05	4.46
12868	90.37	331.69	8335.22	3979.26	4156.94	-1000.89	1765307.07	420788.19	39°39'10.956"N	80°13'18.042"W	4275.74	346.462	1.95	0.69	-1.82
12931	90.46	330.18	8334.77	4041.92	4212.01	-1031.5	1765276.47	420843.25	39°39'11.497"N	80°13'18.439"W	4336.47	346.239	2.4	0.14	-2.4
12994	90.92	329.46	8334.01	4104.69	4266.46	-1063.16	1765244.8	420897.7	39°39'12.033"N	80°13'18.849"W	4396.93	346.007	1.36	0.73	-1.14
13057	90.71	326.39	8333.11	4167.59	4313.83	-1096.61	1765211.36	420951.07	39°39'12.558"N	80°13'19.282"W	4456.85	345.756	4.88	-0.33	-4.87
13120	90.89	326.24	8332.23	4230.57	4372.25	-1131.55	1765176.42	421003.48	39°39'13.073"N	80°13'19.734"W	4516.3	345.49	0.37	0.29	-0.24
13183	90.34	324.73	8331.56	4293.56	4424.16	-1167.24	1765140.73	421055.39	39°39'13.583"N	80°13'20.196"W	4575.55	345.22	2.55	-0.87	-2.4
13246	90.12	323.7	8331.3	4356.55	4475.26	-1204.08	1765103.89	421106.49	39°39'14.085"N	80°13'20.672"W	4634.41	344.941	1.67	-0.35	-1.63
13309	89.48	320.7	8331.52	4419.47	4525.04	-1242.69	1765065.29	421156.26	39°39'14.574"N	80°13'21.171"W	4692.57	344.644	4.87	-1.02	-4.76
13372	90.03	319.13	8331.79	4482.22	4573.23	-1283.26	1765024.72	421204.45	39°39'15.047"N	80°13'21.695"W	4749.87	344.326	2.64	0.87	-2.49
13435	89.78	316.4	8331.9	4544.71	4619.88	-1325.6	1764982.38	421251.09	39°39'15.505"N	80°13'22.241"W	4806.29	343.99	4.35	-0.4	-4.33
13498	89.69	319.39	8332.19	4607.22	4666.61	-1367.83	1764940.15	421297.82	39°39'15.963"N	80°13'22.785"W	4862.94	343.664	4.75	-0.14	4.75
13561	90.09	321.14	8332.31	4670	4715.06	-1408.1	1764899.88	421346.27	39°39'16.439"N	80°13'23.305"W	4920.82	343.372	2.85	0.63	2.78
13624	90.49	324.03	8331.99	4732.94	4765.09	-1446.38	1764861.61	421396.3	39°39'16.930"N	80°13'23.800"W	4979.77	343.115	4.63	0.63	4.59
13687	90.46	326.22	8331.47	4795.93	4816.77	-1482.4	1764825.59	421447.97	39°39'17.438"N	80°13'24.266"W	5039.72	342.894	3.48	-0.05	3.48
13750	90.34	328.02	8331.03	4858.89	4869.67	-1516.6	1764791.4	421500.87	39°39'17.958"N	80°13'24.708"W	5100.37	342.701	2.86	-0.19	2.86
13814	90.62	328.54	8330.49	4922.78	4924.11	-1550.24	1764757.75	421555.31	39°39'18.495"N	80°13'25.144"W	5162.38	342.525	0.92	0.44	0.81
13877	90.89	329.41	8329.66	4985.62	4978.09	-1582.71	1764725.29	421609.29	39°39'19.024"N	80°13'25.565"W	5223.64	342.363	1.45	0.43	1.38
13940	90.98	329.41	8328.63	5048.43	5032.32	-1614.77	1764693.23	421663.51	39°39'19.558"N	80°13'25.980"W	5285.04	342.21	0.14	0.14	0
14003	91.05	329.52	8327.52	5111.23	5086.57	-1646.77	1764661.23	421717.76	39°39'20.091"N	80°13'26.395"W	5346.5	342.061	0.21	0.11	0.17
14066	91.54	329.21	8326.09	5174.03	5140.77	-1678.87	1764629.14	421771.95	39°39'20.624"N	80°13'26.811"W	5407.96	341.914	0.92	0.78	-0.49
14129	91.42	329.36	8324.47	5236.83	5194.91	-1711.03	1764596.97	421826.09	39°39'21.157"N	80°13'27.228"W	5469.43	341.77	0.3	-0.19	0.24
14192	92	327.67	8322.59	5299.68	5248.61	-1743.92	1764564.09	421879.79	39°39'21.685"N	80°13'27.654"W	5530.75	341.62	2.83	0.92	-2.68
14255	92.12	325.97	8320.32	5362.61	5301.3	-1778.37	1764529.63	421932.48	39°39'22.203"N	80°13'28.100"W	5591.64	341.455	2.7	0.19	-2.7
14319	92.12	325.39	8317.95	5426.56	5354.12	-1814.43	1764493.58	421985.29	39°39'22.722"N	80°13'28.566"W	5653.21	341.279	0.91	0	-0.91
14382	92.43	326.38	8315.45	5489.5	5406.24	-1849.74	1764458.27	422037.41	39°39'23.234"N	80°13'29.023"W	5713.93	341.112	1.65	0.49	1.57
14445	92.46	324.71	8312.77	5552.44	5458.14	-1885.35	1764422.67	422089.3	39°39'23.744"N	80°13'29.484"W	5774.58	340.944	2.65	0.05	-2.65
14508	92.43	322.6	8310.08	5615.36	5508.83	-1922.65	1764385.37	422140.39	39°39'24.242"N	80°13'29.966"W	5834.71	340.76	3.35	-0.05	-3.35
14571	92.34	321.48	8307.46	5678.22	5558.46	-1961.37	1764346.65	422189.62	39°39'24.730"N	80°13'30.466"W	5894.36	340.564	1.78	-0.14	-1.78
14634	92.83	321.05	8304.61	5741.02	5607.55	-2000.75	1764307.28	422238.71	39°39'25.212"N	80°13'30.974"W	5953.79	340.364	1.03	0.78	-0.68
14697	92.25	320.23	8301.82	5803.78	5656.21	-2040.66	1764266.5	422287.37	39°39'25.689"N	80°13'31.490"W	6013.07	340.161	1.59	-0.92	-1.3
14761	92.52	320.32	8299.16	5867.5	5705.4	-2081.53	1764226.5	422336.55	39°39'26.172"N	80°13'32.017"W	6073.24	339.956	0.44	0.42	0.14
14824	92.15	323.87	8296.59	5930.36	5755.06	-2120.19	1764187.84	422386.2	39°39'26.660"N	80°13'32.517"W	6133.18	339.776	5.66	-0.59	5.63
14887	92	324.85	8294.31	5993.31	5806.22	-2156.88	1764147.53	422437.37	39°39'27.163"N	80°13'33.091"W	6193.89	339.621	1.57	-0.24	1.56
14950	92.28	330.56	8291.96	6056.17	5859.42	-2190.5	1764106.88	422490.56	39°39'27.686"N	80°13'33.426"W	6255.48	339.502	9.07	0.44	9.06
15014	91.48	332.16	8289.86	6119.74	5915.55	-2221.16	1764086.88	422546.69	39°39'28.238"N	80°13'33.824"W	6318.81	339.42	2.79	-1.25	2.5
15077	91.54	330.6	8288.2	6182.33	5970.83	-2251.32	1764066.71	422601.97	39°39'28.782"N	80°13'34.216"W	6381.17	339.341	2.48	0.1	-2.48
15141	91.72	329.89	8286.38	6246.03	6026.37	-2283.07	1764024.97	422657.5	39°39'29.328"N	80°13'34.627"W	6444.35	339.251	1.14	0.28	-1.11

15204	92.89	330.32	8283.84	6308.73	6080.95	-2314.45	1763993.59	422712.07	39°39'29.865"N	80°13'35.034"W	6506.5	339.163	1.98	1.86	0.68
15268	89.08	328.03	8282.74	6372.54	6135.88	-2347.23	1763996.81	422767.01	39°39'30.405"N	80°13'35.459"W	6569.52	339.066	6.95	-5.95	-3.58
15331	89.97	325.5	8283.26	6435.5	6188.57	-2381.75	1763926.29	422819.69	39°39'30.923"N	80°13'35.906"W	6631.08	338.95	4.26	1.41	-4.02
15394	91.54	325.16	8282.43	6498.49	6240.38	-2417.59	1763890.46	422871.5	39°39'31.432"N	80°13'36.369"W	6692.31	338.823	2.55	2.49	-0.54
15457	92.03	323.4	8280.47	6561.45	6291.5	-2454.35	1763885.7	422922.62	39°39'31.935"N	80°13'36.845"W	6753.28	338.689	2.9	0.78	-2.79
15521	93.82	322.38	8277.21	6625.32	6342.47	-2492.91	1763815.14	422973.58	39°39'32.435"N	80°13'37.343"W	6814.8	338.543	3.22	2.8	-1.59
15585	93.33	324.81	8273.21	6689.17	6393.88	-2530.82	1763777.24	423024.98	39°39'32.940"N	80°13'37.833"W	6876.53	338.405	3.87	-0.77	3.8
15648	92.03	325.74	8270.27	6752.1	6445.6	-2566.66	1763741.39	423076.7	39°39'33.449"N	80°13'38.297"W	6937.83	338.287	2.54	-2.06	1.48
15712	91.91	325.7	8268.07	6816.06	6498.45	-2602.69	1763705.37	423129.55	39°39'33.968"N	80°13'38.763"W	7000.27	338.173	0.2	-0.19	-0.06
15752	91.94	325.42	8266.73	6856.03	6531.42	-2625.3	1763682.76	423162.52	39°39'34.292"N	80°13'39.055"W	7039.29	338.102	0.7	0.08	-0.7
15777	91.94	325.42	8265.88	6881.02	6551.99	-2639.48	1763668.58	423183.09	39°39'34.494"N	80°13'39.239"W	7063.67	338.058	0	0	0

HOLE AND CASING SECTIONS Ref Wellbore: Yost 9H AWB Ref Wellpath: Yost 9H AWP Proj: 15777

String/Diag	Start MD [ft]	End MD [ft]	Interval [ft]	Start TVD [ft]	End TVD [ft]	Start N/S [ft]	End N/S [ft]	Start E/W [ft]	End E/W [ft]	Shape	Comment
13.375in C	18	1385	1367	18	1385	0	0	-1.6	1.86		
9.625in Ca	18	2558	2540	18	2557.87	0	0	-5.52	6.84		

T A R G E T S

Name	MD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape	Comment
Yost 9H LP Rev 2	8282	1105.97	1143.57	1767451.4	417737.4	39°38'40.973"N	80°12'50.315"W	point	
Yost 9H PBHL Rev 2	8282	6537.9	-2659.86	1763648.2	423169	39°39'34.353"N	80°13'39.498"W	point	
Yost 9H Unit Boundar	8500	955.8	1442.48	1767750.29	417587.24	39°38'39.513"N	80°12'46.479"W	point	
Yost 9H Unit Boundar	8500	6609.37	-2392.94	1763915.11	423240.47	39°39'35.081"N	80°13'36.092"W	point	
Yost 9H Unit Boundar	8500	965.91	1330.12	1767637.94	417597.35	39°38'39.604"N	80°12'47.916"W	point	
Yost 9H Unit Boundar	8500	1153.79	1338.01	1767645.83	417785.22	39°38'41.461"N	80°12'47.835"W	point	
Yost 9H Unit Boundar	8500	1147.55	1408.07	1767715.88	417778.98	39°38'41.405"N	80°12'46.938"W	point	
Yost 9H Unit Boundar	8500	1636.82	1374.3	1767682.12	418268.22	39°38'46.238"N	80°12'47.420"W	point	
Yost 9H Unit Boundar	8500	1640.64	1009.73	1767317.57	418272.04	39°38'46.247"N	80°12'52.081"W	point	
Yost 9H Unit Boundar	8500	2087.15	989.09	1767296.93	418718.52	39°38'50.658"N	80°12'52.390"W	point	
Yost 9H Unit Boundar	8500	2200.38	1328.53	1767636.35	418831.75	39°38'51.804"N	80°12'48.062"W	point	
Yost 9H Unit Boundar	8500	6542.08	-3337.27	1762970.83	423173.18	39°39'34.340"N	80°13'48.160"W	point	

WELLPATH COMPOSITION Ref Wellbore: Yost 9H AWB Ref Wellpath: Yost 9H AWP Proj: 15777

Log Name/Start MD [ft]	End MD [ft]	Pos Unc Model
01_VES Gy	18	5963 Generic gyro - northseeking (Standard)
02_BHI AT	5963	15752 NaviTrak (AT Curve Short Spaced)
Projection	15752	15777 Blind Drilling (std)

RECEIVED  
 AUG 12 2015  
 WV GEOLOGICAL SURVEY  
 MORGANTOWN, WV