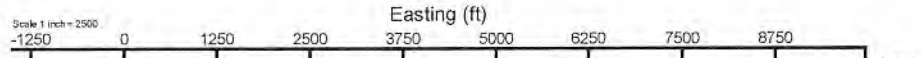


# NORTHEAST NATURAL ENERGY, LLC

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

Slot: Slot 10  
 Well: Yost 10H  
 Wellbore: Yost 10H PWB



Well Name	Yost 10H PWB	Well ID	Yost 10H PWB
Well Type	Production	Well Status	Active
Well Depth	12463.46	Well Completion	Open Hole
Well Orientation	145.00°	Well Orientation	145.00°

01\_Gyro Surveys [BH Generic Gyro-Northseeking] (50'-1332') : 50.00ft TVD, 0.01ft S, 0.02ft W  
 02\_SDI MWD [OWSG MWD Rev.2+HRGM] (1332')(1496'-7009') : 1495.98ft TVD, 1.50ft S, 3.99ft E  
 03\_ATK Curve [HRGM+Short Spacing] (7009')(7132' - 20340') : 7129.60ft TVD, 1.47ft N, 63.36ft E



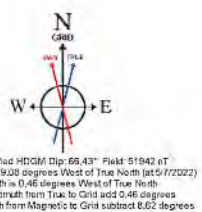
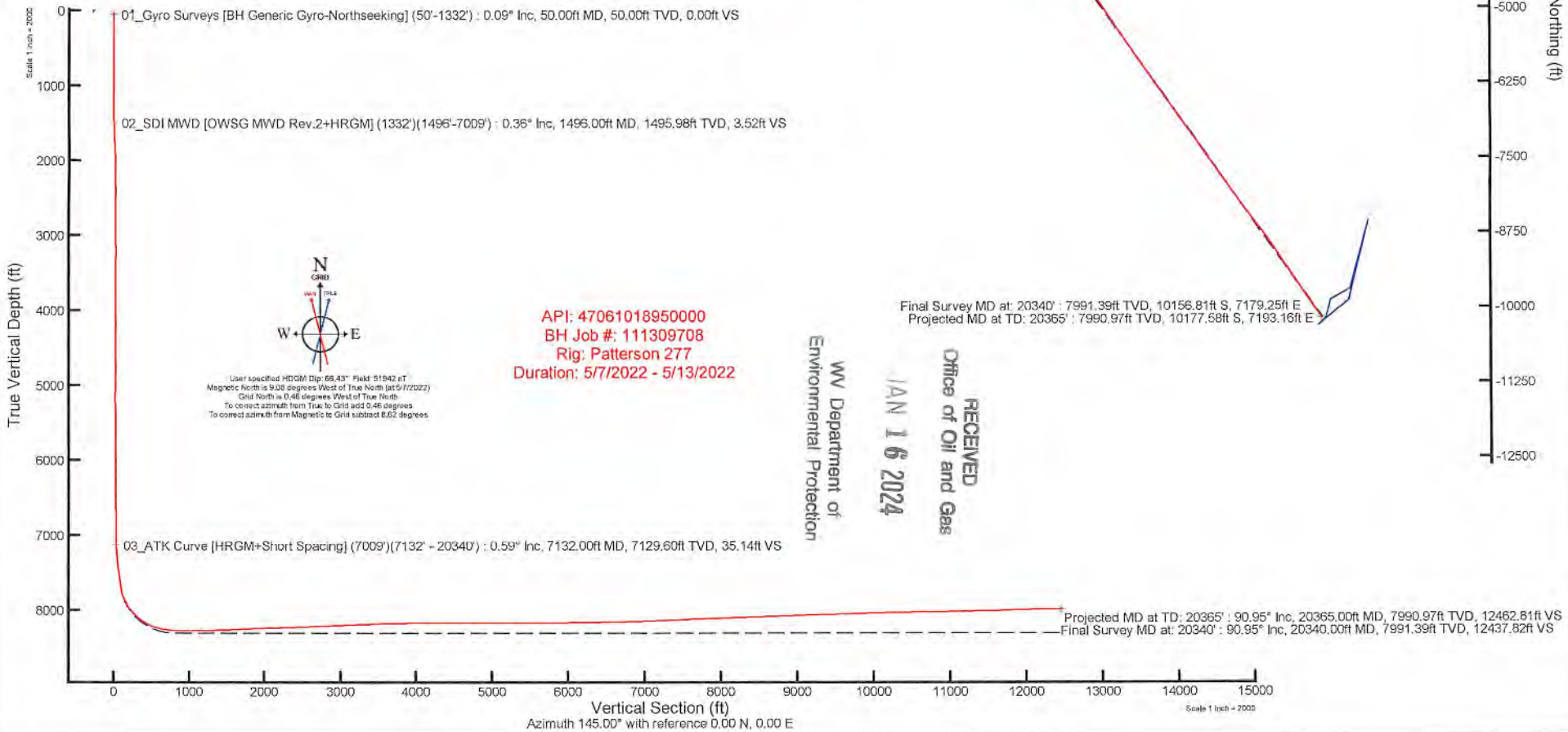
Location Information							
Point Name	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude	Point Name	Grid East (US ft)	Grid North (US ft)
Yost Pad	179294.700	416654.100	39°38'30.2737"N	80°13'5.1207"W			
Slot 10	1625	-11.63	1156273.01E	416680.360			
Patterson 277 (RKB) to Ground Level (At Slot 10)					Zell		
Mean Sea Level to Ground Level (At Slot 10)					-140ft		
Patterson 277 (RKB) to Mean Sea Level					150ft		

Well Profile Data							
Design Comment	MD (ft)	Inc (°)	AE (ft)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (1/100ft)
Td On	7269.00	0.800	150.820	7008.60	2.84	83.81	0.49
Projection	7086.00	0.800	150.820	7063.60	1.90	83.33	0.00
Hold	7437.66	7.820	137.520	7434.26	-17.28	80.69	3.00
Curve KOP	7694.38	7.800	137.505	7688.39	-43.60	104.25	0.00
Landing Pt	8722.60	80.000	145.000	8308.00	-816.57	520.36	5.00
BHL	20380.87	80.000	145.000	8308.00	-10168.47	7207.29	0.00

Well Data			
Slot	Well	Wellbore	Wellpath
Slot 10	Yost 10H	Yost 10H AWB	Yost 10H AWB Proj: 20365'
Slot 10	Yost 10H	Yost 10H PWB	Yost 10 PWB Rev: A/D



API: 47061018950000  
 BH Job #: 111309708  
 Rig: Patterson 277  
 Duration: 5/7/2022 - 5/13/2022

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# Actual Wellpath Report

Yost 10H AWP Proj: 20365'

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REFERENCE WELLPATH IDENTIFICATION			
Operator	NORTHEAST NATURAL ENERGY, LLC	Well	Yost 10H
Field	Monongalia	API/Legal	
Facility	Yost Pad	Wellbore	Yost 10H AWB
Slot	Slot 10		

REPORT SETUP INFORMATION			
Projection System	NAD83 / Lambert West Virginia SP, Northern Zone (4701), US feet	Software System	WellArchitect® 6.0
North Reference	Grid	User	Manajohj
Scale	0.999941	Report Generated	5/30/2022 at 4:15:02 PM
Convergence at slot	0.46° West	Database	WA_MPL_EASTERNUS_Defn

WELLPATH LOCATION						
	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	16.26	-11.63	1766273.07	416680.36	39°38'30.4335"N	80°13'5.2711"W
Facility Reference Pt			1766284.70	416664.10	39°38'30.2737"N	80°13'5.1207"W
Field Reference Pt			1777685.71	440640.65	39°42'28.1140"N	80°10'41.6900"W

WELLPATH DATUM			
Calculation method	Minimum curvature	Patterson 277 (RKB) to Facility Vertical Datum	1520.00ft
Horizontal Reference Pt	Slot	Patterson 277 (RKB) to Mean Sea Level	1520.00ft
Vertical Reference Pt	Patterson 277 (RKB)	Patterson 277 (RKB) to Ground Level at Slot (Slot 10)	28.00ft
MD Reference Pt	Patterson 277 (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	145.00°

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# Actual Wellpath Report

Yost 10H AWP Proj: 20365'

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REFERENCE WELLPATH IDENTIFICATION			
Operator	NORTHEAST NATURAL ENERGY, LLC	Well	Yost 10H
Field	Monongalia	API/Legal	
Facility	Yost Pad	Wellbore	Yost 10H AWP
Slot	Slot 10		

WELLPATH DATA (230 stations) † = interpolated, ‡ = extrapolated station															
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]	Build Rate [°/100ft]	Turn Rate [°/100ft]
0.00†	0.000	248.200	0.00	0.00	0.00	0.00	1766273.07	416680.36	39°38'30.4335"N	80°13'5.2711"W	0.00	0.000	0.00	0.00	0.00
28.00	0.000	248.200	28.00	0.00	0.00	0.00	1766273.07	416680.36	39°38'30.4335"N	80°13'5.2711"W	0.00	0.000	0.00	0.00	0.00
50.00	0.090	248.200	50.00	0.00	-0.01	-0.02	1766273.05	416680.35	39°38'30.4334"N	80°13'5.2713"W	0.02	248.200	0.41	0.41	0.00
100.00	0.420	57.700	100.00	0.00	0.08	0.10	1766273.17	416680.44	39°38'30.4343"N	80°13'5.2698"W	0.13	53.085	1.02	0.66	339.00
150.00	0.290	51.900	150.00	0.00	0.25	0.36	1766273.43	416680.61	39°38'30.4360"N	80°13'5.2665"W	0.44	54.674	0.27	-0.26	-11.60
200.00	0.390	59.300	200.00	0.00	0.42	0.60	1766273.67	416680.78	39°38'30.4377"N	80°13'5.2634"W	0.73	55.268	0.22	0.20	14.80
250.00	0.430	145.200	250.00	0.20	0.35	0.86	1766273.93	416680.71	39°38'30.4370"N	80°13'5.2602"W	0.93	67.726	1.12	0.08	171.80
300.00	0.260	164.300	300.00	0.50	0.09	0.99	1766274.06	416680.45	39°38'30.4344"N	80°13'5.2584"W	1.00	84.974	0.41	-0.34	38.20
350.00	0.150	191.100	350.00	0.65	-0.09	1.01	1766274.08	416680.27	39°38'30.4327"N	80°13'5.2581"W	1.02	94.858	0.29	-0.22	53.60
400.00	0.110	336.500	400.00	0.65	-0.11	0.98	1766274.05	416680.25	39°38'30.4325"N	80°13'5.2585"W	0.99	96.185	0.50	-0.08	290.80
450.00	0.410	34.300	450.00	0.54	0.09	1.06	1766274.13	416680.45	39°38'30.4344"N	80°13'5.2575"W	1.07	85.393	0.73	0.60	115.60
500.00	0.470	107.800	499.99	0.64	0.17	1.36	1766274.43	416680.53	39°38'30.4353"N	80°13'5.2537"W	1.37	82.837	1.06	0.12	147.00
550.00	0.210	159.000	549.99	0.89	0.02	1.59	1766274.66	416680.38	39°38'30.4338"N	80°13'5.2508"W	1.59	89.190	0.75	-0.52	102.40
600.00	0.060	126.300	599.99	1.01	-0.08	1.64	1766274.71	416680.28	39°38'30.4329"N	80°13'5.2501"W	1.64	92.744	0.33	-0.30	-65.40
650.00	0.100	172.200	649.99	1.07	-0.14	1.67	1766274.74	416680.22	39°38'30.4323"N	80°13'5.2497"W	1.67	94.710	0.14	0.08	91.80
700.00	0.080	324.900	699.99	1.07	-0.15	1.65	1766274.72	416680.21	39°38'30.4321"N	80°13'5.2499"W	1.66	95.254	0.35	-0.04	305.40
750.00	0.110	331.800	749.99	0.99	-0.08	1.61	1766274.68	416680.28	39°38'30.4328"N	80°13'5.2505"W	1.61	92.885	0.06	0.06	13.80
800.00	0.060	219.300	799.99	0.95	-0.06	1.57	1766274.64	416680.30	39°38'30.4330"N	80°13'5.2510"W	1.57	92.155	0.29	-0.10	-225.00
850.00	0.060	57.100	849.99	0.96	-0.07	1.58	1766274.65	416680.29	39°38'30.4330"N	80°13'5.2509"W	1.58	92.367	0.24	0.00	-324.40
900.00	0.280	136.200	899.99	1.08	-0.14	1.68	1766274.75	416680.22	39°38'30.4323"N	80°13'5.2495"W	1.69	94.726	0.55	0.44	158.20
950.00	0.310	87.600	949.99	1.27	-0.22	1.90	1766274.97	416680.14	39°38'30.4315"N	80°13'5.2467"W	1.92	96.644	0.49	0.06	-97.20
1000.00	0.240	125.100	999.99	1.44	-0.28	2.12	1766275.19	416680.08	39°38'30.4309"N	80°13'5.2439"W	2.14	97.411	0.38	-0.14	75.00
1050.00	0.140	205.000	1049.99	1.57	-0.39	2.18	1766275.25	416679.97	39°38'30.4298"N	80°13'5.2431"W	2.22	100.173	0.51	-0.20	159.80
1100.00	0.100	91.700	1099.99	1.63	-0.45	2.20	1766275.27	416679.91	39°38'30.4292"N	80°13'5.2429"W	2.25	101.515	0.40	-0.08	-226.60
1150.00	0.100	146.900	1149.99	1.70	-0.49	2.27	1766275.34	416679.87	39°38'30.4289"N	80°13'5.2420"W	2.32	102.098	0.19	0.00	110.40
1200.00	0.340	111.100	1199.99	1.87	-0.58	2.43	1766275.50	416679.78	39°38'30.4280"N	80°13'5.2399"W	2.50	103.336	0.53	0.46	-71.60
1250.00	0.350	104.800	1249.99	2.11	-0.67	2.72	1766275.79	416679.69	39°38'30.4271"N	80°13'5.2363"W	2.80	103.826	0.08	0.02	-12.60
1300.00	0.300	108.500	1299.99	2.33	-0.75	2.99	1766276.06	416679.61	39°38'30.4263"N	80°13'5.2328"W	3.08	104.073	0.11	-0.10	7.40
1332.00	0.460	107.400	1331.99	2.50	-0.81	3.19	1766276.26	416679.55	39°38'30.4257"N	80°13'5.2302"W	3.29	104.315	0.50	0.50	-3.44
1496.00	0.360	160.010	1495.98	3.52	-1.50	3.99	1766277.06	416678.86	39°38'30.4190"N	80°18'5.2198"W	4.27	110.520	0.23	-0.06	32.08



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# Actual Wellpath Report

Yost 10H AWP Proj: 20365'

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REFERENCE WELLPATH IDENTIFICATION			
Operator	NORTHEAST NATURAL ENERGY, LLC	Well	Yost 10H
Field	Monongalia	API/Legal	
Facility	Yost Pad	Wellbore	Yost 10H AWB
Slot	Slot 10		

WELLPATH DATA (230 stations)															
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]	Build Rate [°/100ft]	Turn Rate [°/100ft]
1589.00	1.220	102.310	1588.98	4.53	-1.98	5.06	1766278.13	416678.38	39°38'30.4143"N	80°13'5.2062"W	5.44	111.371	1.15	0.92	-62.04
1685.00	3.710	86.070	1684.88	6.88	-1.99	9.16	1766282.23	416678.37	39°38'30.4146"N	80°13'5.1538"W	9.37	102.233	2.67	2.59	-16.92
1783.00	5.770	83.490	1782.54	10.87	-1.21	17.22	1766290.29	416679.15	39°38'30.4229"N	80°13'5.0508"W	17.26	94.020	2.11	2.10	-2.63
1878.00	5.680	79.580	1877.07	15.10	0.18	26.59	1766299.65	416680.54	39°38'30.4374"N	80°13'4.9312"W	26.59	89.605	0.42	-0.09	-4.14
1972.00	4.900	73.270	1970.67	18.29	2.18	35.01	1766308.07	416682.54	39°38'30.4578"N	80°13'4.8238"W	35.07	86.433	1.03	-0.83	-6.69
2067.00	4.300	70.230	2065.36	20.50	4.55	42.24	1766315.31	416684.91	39°38'30.4818"N	80°13'4.7315"W	42.49	83.846	0.68	-0.63	-3.20
2162.00	3.050	66.350	2160.16	21.93	6.77	47.91	1766320.98	416687.13	39°38'30.5042"N	80°13'4.6593"W	48.39	81.953	1.34	-1.32	-4.08
2256.00	2.580	64.720	2254.05	22.78	8.68	52.11	1766325.18	416689.04	39°38'30.5234"N	80°13'4.6058"W	52.83	80.544	0.51	-0.50	-1.73
2351.00	2.660	63.960	2348.95	23.49	10.56	56.03	1766329.09	416690.92	39°38'30.5423"N	80°13'4.5560"W	57.01	79.326	0.09	0.08	-0.80
2446.00	2.050	65.940	2443.87	24.15	12.22	59.56	1766332.63	416692.58	39°38'30.5590"N	80°13'4.5110"W	60.80	78.404	0.65	-0.64	2.08
2541.00	1.010	81.770	2538.83	24.85	13.03	61.94	1766335.01	416693.39	39°38'30.5672"N	80°13'4.4806"W	63.30	78.117	1.17	-1.09	16.66
2621.00	0.620	119.590	2618.83	25.56	12.92	63.01	1766336.08	416693.28	39°38'30.5662"N	80°13'4.4669"W	64.33	78.412	0.81	-0.49	47.28
2735.00	0.650	107.190	2732.82	26.63	12.43	64.17	1766337.23	416692.78	39°38'30.5614"N	80°13'4.4521"W	65.36	79.041	0.12	0.03	-10.88
2829.00	0.670	111.330	2826.81	27.51	12.07	65.19	1766338.26	416692.43	39°38'30.5579"N	80°13'4.4390"W	66.30	79.512	0.05	0.02	4.40
2923.00	0.850	102.120	2920.81	28.17	11.81	65.98	1766339.05	416692.17	39°38'30.5554"N	80°13'4.4288"W	67.03	79.854	0.35	-0.34	-9.80
3018.00	0.980	210.480	3015.81	28.72	11.05	65.85	1766338.92	416691.41	39°38'30.5479"N	80°13'4.4304"W	66.77	80.478	1.20	0.66	114.06
3113.00	1.310	201.380	3110.79	29.66	9.34	65.05	1766338.11	416689.69	39°38'30.5309"N	80°13'4.4406"W	65.71	81.833	0.40	0.35	-9.58
3207.00	0.620	209.430	3204.77	30.48	7.89	64.40	1766337.47	416688.25	39°38'30.5166"N	80°13'4.4486"W	64.89	83.014	0.75	-0.73	8.56
3301.00	0.800	308.910	3298.77	30.07	7.86	63.64	1766336.71	416688.22	39°38'30.5162"N	80°13'4.4583"W	64.13	82.959	1.16	0.19	105.83
3395.00	0.880	316.970	3392.76	28.72	8.80	62.64	1766335.71	416689.16	39°38'30.5254"N	80°13'4.4712"W	63.26	82.008	0.15	0.09	8.57
3490.00	1.170	313.080	3487.74	27.05	10.00	61.43	1766334.50	416690.36	39°38'30.5371"N	80°13'4.4868"W	62.24	80.758	0.31	0.31	-4.09
3589.00	1.250	300.670	3586.72	25.08	11.24	59.77	1766332.83	416691.60	39°38'30.5493"N	80°13'4.5082"W	60.82	79.351	0.28	0.08	-12.54
3684.00	0.650	244.910	3681.71	24.04	11.54	58.39	1766331.45	416691.90	39°38'30.5521"N	80°13'4.5259"W	59.52	78.822	1.09	-0.63	-58.69
3779.00	0.520	206.910	3776.70	24.15	10.92	57.71	1766330.77	416691.28	39°38'30.5460"N	80°13'4.5346"W	58.73	79.280	0.42	-0.14	-40.00
3873.00	0.290	130.700	3870.70	24.58	10.39	57.69	1766330.76	416690.75	39°38'30.5407"N	80°13'4.5347"W	58.62	79.792	0.57	-0.24	-81.07
3968.00	0.050	126.620	3965.70	24.85	10.21	57.91	1766330.97	416690.57	39°38'30.5390"N	80°13'4.5319"W	58.80	80.003	0.25	-0.25	-4.29
4063.00	0.200	76.500	4060.70	24.95	10.22	58.10	1766331.17	416690.58	39°38'30.5391"N	80°13'4.5294"W	58.99	80.022	0.18	0.16	-52.76
4158.00	0.270	7.200	4155.70	24.85	10.48	58.29	1766331.36	416690.84	39°38'30.5417"N	80°13'4.5270"W	59.23	79.806	0.29	0.07	-72.95
4253.00	0.730	331.100	4250.70	24.08	11.23	58.03	1766331.09	416691.59	39°38'30.5491"N	80°13'4.5305"W	59.11	79.043	0.56	0.48	-38.00
4360.00	0.400	146.880	4347.70	23.80	11.49	57.91	1766330.98	416691.85	39°38'30.5516"N	80°13'4.5319"W	59.04	78.777	1.16	-0.34	181.22



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# Actual Wellpath Report

Yost 10H AWP Proj: 20365'

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REFERENCE WELLPATH IDENTIFICATION			
Operator	NORTHEAST NATURAL ENERGY, LLC	Well	Yost 10H
Field	Monongalia	API/Legal	
Facility	Yost Pad	Wellbore	Yost 10H AWB
Slot	Slot 10		

WELLPATH DATA (230 stations)															
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]	Build Rate [°/100ft]	Turn Rate [°/100ft]
4446.00	0.520	137.360	4443.69	24.57	10.89	58.39	1766331.46	416691.25	39°38'30.5457"N	80°13'4.5258"W	59.40	79.435	0.15	0.13	-9.92
4540.00	0.420	95.670	4537.69	25.22	10.54	59.02	1766332.09	416690.90	39°38'30.5424"N	80°13'4.5177"W	59.96	79.873	0.37	-0.11	-44.35
4635.00	0.380	38.590	4632.69	25.36	10.75	59.57	1766332.63	416691.11	39°38'30.5445"N	80°13'4.5107"W	60.53	79.766	0.40	-0.04	-60.08
4729.00	0.320	285.980	4726.69	25.06	11.07	59.51	1766332.58	416691.43	39°38'30.5476"N	80°13'4.5115"W	60.53	79.462	0.62	-0.06	-119.80
4823.00	0.300	281.050	4820.68	24.68	11.19	59.02	1766332.08	416691.55	39°38'30.5487"N	80°13'4.5178"W	60.07	79.263	0.04	-0.02	-5.24
4918.00	0.410	276.770	4915.68	24.28	11.28	58.43	1766331.50	416691.64	39°38'30.5496"N	80°13'4.5253"W	59.51	79.076	0.12	0.12	-4.51
5013.00	0.370	281.570	5010.68	23.83	11.38	57.80	1766330.86	416691.74	39°38'30.5505"N	80°13'4.5334"W	58.90	78.861	0.05	-0.04	5.05
5108.00	0.630	273.260	5105.68	23.28	11.47	56.97	1766330.04	416691.83	39°38'30.5514"N	80°13'4.5440"W	58.12	78.617	0.28	0.27	-8.75
5203.00	0.460	199.490	5200.67	23.18	11.14	56.32	1766329.39	416691.50	39°38'30.5480"N	80°13'4.5522"W	57.42	78.812	0.70	-0.18	-77.65
5302.00	0.390	84.700	5299.67	23.58	10.80	56.53	1766329.59	416691.16	39°38'30.5447"N	80°13'4.5496"W	57.55	79.186	0.72	-0.07	-115.95
5396.00	0.580	65.170	5393.67	23.82	11.03	57.28	1766330.34	416691.39	39°38'30.5470"N	80°13'4.5400"W	58.33	79.103	0.27	0.20	-20.78
5491.00	0.560	105.050	5488.66	24.26	11.11	58.16	1766331.23	416691.47	39°38'30.5479"N	80°13'4.5287"W	59.21	79.188	0.41	-0.02	41.98
5586.00	0.140	126.190	5583.66	24.73	10.92	58.70	1766331.77	416691.28	39°38'30.5460"N	80°13'4.5218"W	59.71	79.464	0.46	-0.44	22.25
5681.00	0.400	118.910	5678.66	25.14	10.69	59.09	1766332.16	416691.05	39°38'30.5438"N	80°13'4.5168"W	60.05	79.745	0.28	0.27	-7.66
5775.00	0.240	57.220	5772.66	25.44	10.64	59.54	1766332.61	416691.00	39°38'30.5433"N	80°13'4.5111"W	60.48	79.870	0.38	-0.17	-65.63
5871.00	0.050	106.040	5868.66	25.48	10.74	59.75	1766332.82	416691.09	39°38'30.5443"N	80°13'4.5084"W	60.71	79.814	0.22	-0.20	50.85
5965.00	0.070	69.560	5962.66	25.52	10.74	59.84	1766332.91	416691.10	39°38'30.5444"N	80°13'4.5072"W	60.80	79.822	0.04	0.02	-38.81
6060.00	0.110	347.080	6057.66	25.45	10.85	59.88	1766332.94	416691.21	39°38'30.5455"N	80°13'4.5068"W	60.85	79.726	0.13	0.04	-86.82
6157.00	0.170	205.530	6154.66	25.44	10.81	59.80	1766332.86	416691.17	39°38'30.5451"N	80°13'4.5078"W	60.77	79.749	0.27	0.06	-145.93
6251.00	0.690	189.690	6248.66	25.91	10.13	59.64	1766332.71	416690.49	39°38'30.5383"N	80°13'4.5097"W	60.49	80.360	0.56	0.55	-16.85
6346.00	0.870	166.440	6343.65	26.99	8.87	59.71	1766332.78	416689.22	39°38'30.5258"N	80°13'4.5087"W	60.37	81.555	0.38	0.19	-24.47
6441.00	1.010	172.250	6438.64	28.40	7.33	59.99	1766333.06	416687.69	39°38'30.5107"N	80°13'4.5049"W	60.44	83.030	0.18	0.15	6.12
6536.00	0.440	126.940	6533.63	29.49	6.29	60.40	1766333.47	416686.65	39°38'30.5004"N	80°13'4.4996"W	60.73	84.059	0.81	-0.60	-47.69
6631.00	0.200	87.300	6628.63	29.93	6.07	60.86	1766333.92	416686.43	39°38'30.4983"N	80°13'4.4938"W	61.16	84.300	0.33	-0.25	-41.73
6725.00	0.620	129.220	6722.62	30.51	5.76	61.41	1766334.48	416686.12	39°38'30.4953"N	80°13'4.4866"W	61.68	84.642	0.52	0.45	44.60
6820.00	0.740	149.020	6817.62	31.61	4.91	62.13	1766335.19	416685.27	39°38'30.4869"N	80°13'4.4774"W	62.32	85.482	0.28	0.13	20.84
6915.00	0.590	177.370	6912.61	32.64	3.89	62.47	1766335.53	416684.25	39°38'30.4769"N	80°13'4.4730"W	62.59	86.432	0.38	-0.16	29.84
7009.00	0.800	150.820	7006.60	33.70	2.84	62.81	1766335.87	416683.20	39°38'30.4665"N	80°13'4.4685"W	62.87	87.412	0.40	0.22	-28.24
7132.00	0.590	167.710	7129.60	35.14	1.47	63.36	1766336.43	416681.83	39°38'30.4530"N	80°13'4.4613"W	63.38	88.671	0.24	-0.17	13.73
7226.00	4.910	153.690	7223.47	39.56	-2.61	65.25	1766338.31	416677.75	39°38'30.4128"N	80°13'4.4867"W	65.30	92.291	4.62	4.60	-14.91



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MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]	Build Rate [°/100ft]	Turn Rate [°/100ft]
7321.00	5.030	138.230	7318.11	47.72	-9.36	69.83	1766342.89	416671.00	39°38'30.3465"N	80°13'4.3776"W	70.45	97.636	1.41	0.13	-16.27
7416.00	7.330	137.900	7412.55	57.87	-16.97	76.66	1766349.73	416663.40	39°38'30.2719"N	80°13'4.2894"W	78.52	102.478	2.42	2.42	-0.35
7511.00	7.810	138.790	7506.73	70.30	-26.32	84.98	1766358.04	416654.04	39°38'30.1801"N	80°13'4.1821"W	88.96	107.208	0.52	0.51	0.94
7605.00	7.810	139.050	7599.85	83.00	-35.95	93.37	1766366.44	416644.42	39°38'30.0856"N	80°13'4.0738"W	100.05	111.056	0.04	0.00	0.28
7700.00	8.150	139.490	7693.93	96.12	-45.94	101.98	1766375.04	416634.42	39°38'29.9875"N	80°13'3.9628"W	111.85	114.252	0.36	0.36	0.46
7795.00	16.210	140.560	7786.72	116.08	-61.33	114.80	1766387.86	416619.04	39°38'29.8365"N	80°13'3.7974"W	130.15	118.112	8.49	8.48	1.13
7890.00	24.650	141.100	7875.66	149.13	-87.03	135.70	1766408.76	416593.33	39°38'29.5841"N	80°13'3.5276"W	161.21	122.675	8.89	8.88	0.57
7985.00	32.860	143.560	7958.88	194.74	-123.25	163.50	1766436.56	416557.12	39°38'29.2284"N	80°13'3.1686"W	204.75	127.010	8.73	8.64	2.59
8080.00	41.150	144.020	8034.68	251.85	-169.35	197.23	1766470.28	416511.02	39°38'28.7754"N	80°13'2.7327"W	259.96	130.652	8.73	8.73	0.48
8174.00	49.560	145.460	8100.68	318.67	-223.95	235.75	1766508.80	416456.43	39°38'28.2389"N	80°13'2.2347"W	325.16	133.529	9.01	8.95	1.53
8269.00	57.760	144.120	8156.92	395.12	-286.39	279.87	1766552.92	416393.99	39°38'27.6253"N	80°13'1.6644"W	400.43	135.659	8.71	8.63	-1.41
8363.00	65.330	144.190	8201.68	477.70	-353.33	328.23	1766601.28	416327.05	39°38'26.9676"N	80°13'1.0394"W	482.26	137.109	8.05	8.05	0.07
8457.00	73.370	144.570	8234.80	565.58	-424.78	379.41	1766652.46	416255.61	39°38'26.2655"N	80°13'0.3779"W	569.55	138.229	8.56	8.55	0.40
8552.00	79.110	144.520	8257.39	657.81	-499.91	432.91	1766705.96	416180.48	39°38'25.5272"N	80°12'59.6863"W	661.30	139.108	6.04	6.04	-0.05
8647.00	85.100	144.180	8270.43	751.86	-576.33	487.75	1766760.79	416104.06	39°38'24.7763"N	80°12'58.9776"W	755.02	139.759	6.32	6.31	-0.38
8742.00	90.120	144.480	8274.39	846.74	-653.41	543.09	1766816.13	416026.99	39°38'24.0190"N	80°12'58.2623"W	849.64	140.268	5.29	5.28	0.34
8836.00	89.690	145.730	8274.55	940.74	-730.50	596.86	1766869.90	415949.90	39°38'23.2613"N	80°12'57.5871"W	943.33	140.749	1.41	-0.46	1.33
8931.00	88.280	144.570	8276.23	1035.72	-808.45	651.14	1766924.17	415871.96	39°38'22.4953"N	80°12'56.8654"W	1038.06	141.152	1.92	-1.48	-1.22
9026.00	90.710	144.820	8277.07	1130.71	-885.97	706.03	1766979.06	415794.45	39°38'21.7335"N	80°12'56.1558"W	1132.88	141.448	2.57	2.56	0.26
9121.00	91.570	144.370	8275.18	1225.69	-963.39	761.06	1767034.08	415717.03	39°38'20.9727"N	80°12'55.4446"W	1227.73	141.692	1.02	0.91	-0.47
9215.00	91.630	144.340	8272.55	1319.64	-1039.74	815.82	1767088.84	415640.68	39°38'20.2224"N	80°12'54.7369"W	1321.60	141.881	0.07	0.06	-0.03
9310.00	91.540	144.140	8269.93	1414.60	-1116.80	871.32	1767144.33	415563.62	39°38'19.4852"N	80°12'54.0197"W	1416.49	142.039	0.23	-0.09	-0.21
9404.00	92.000	143.880	8267.02	1508.54	-1192.82	926.53	1767199.54	415487.61	39°38'18.7183"N	80°12'53.3062"W	1510.39	142.162	0.56	0.49	-0.28
9498.00	92.890	143.990	8263.01	1602.44	-1268.74	981.81	1767254.82	415411.70	39°38'17.9724"N	80°12'52.5918"W	1604.26	142.265	0.95	0.95	0.12
9592.00	92.710	144.330	8258.42	1696.31	-1344.85	1036.79	1767309.79	415335.59	39°38'17.2245"N	80°12'51.8814"W	1698.10	142.370	0.41	-0.19	0.36
9687.00	93.140	144.510	8253.57	1791.19	-1422.01	1091.99	1767364.99	415258.43	39°38'16.4663"N	80°12'51.1680"W	1792.92	142.479	0.49	0.45	0.19
9782.00	91.910	143.920	8249.39	1886.08	-1499.00	1147.49	1767420.49	415181.45	39°38'15.7098"N	80°12'50.4508"W	1887.79	142.566	1.44	-1.29	-0.62
9876.00	91.940	142.100	8246.23	1979.97	-1574.04	1204.01	1767477.01	415106.42	39°38'14.9727"N	80°12'49.7207"W	1981.73	142.587	1.94	0.03	-1.94
9971.00	92.400	140.900	8242.63	2074.72	-1648.33	1263.10	1767536.10	415032.13	39°38'14.2431"N	80°12'48.9578"W	2076.64	142.537	1.35	0.48	-1.26
10064.00	91.480	141.620	8239.49	2167.47	-1720.83	1321.27	1767594.26	414959.64	39°38'13.5312"N	80°12'48.2070"W	2169.56	142.483	1.26	-0.99	0.77



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Field	Monongalia	API/Legal	
Facility	Yost Pad	Wellbore	Yost 10H AWB
Slot	Slot 10		

WELLPATH DATA (230 stations)															
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]	Build Rate [°/100ft]	Turn Rate [°/100ft]
10159.00	91.880	145.080	8236.70	2262.37	-1797.00	1377.94	1767650.93	414883.47	39°38'12.7829"N	80°12'47.4749"W	2264.50	142.519	3.66	0.42	3.64
10254.00	91.940	144.440	8233.53	2357.32	-1874.55	1432.73	1767705.71	414805.93	39°38'12.0208"N	80°12'46.7668"W	2359.37	142.609	0.68	0.06	-0.67
10348.00	91.600	144.620	8230.63	2451.27	-1951.07	1487.25	1767760.23	414729.41	39°38'11.2689"N	80°12'46.0622"W	2453.28	142.683	0.41	-0.36	0.19
10443.00	92.710	144.490	8227.06	2546.20	-2028.41	1542.30	1767815.28	414652.08	39°38'10.5089"N	80°12'45.3506"W	2548.16	142.752	1.18	1.17	-0.14
10538.00	92.710	145.450	8222.57	2641.09	-2106.11	1596.77	1767869.74	414574.38	39°38'9.7453"N	80°12'44.6466"W	2642.98	142.832	1.01	0.00	1.01
10633.00	92.620	145.500	8218.15	2735.99	-2184.29	1650.55	1767923.52	414496.20	39°38'8.9768"N	80°12'43.9512"W	2737.78	142.924	0.11	-0.09	0.05
10728.00	92.060	145.290	8214.27	2830.90	-2262.42	1704.46	1767977.43	414418.08	39°38'8.2089"N	80°12'43.2543"W	2832.62	143.006	0.63	-0.59	-0.22
10823.00	92.220	145.770	8210.72	2925.83	-2340.68	1758.19	1768031.15	414339.82	39°38'7.4397"N	80°12'42.5596"W	2927.46	143.088	0.53	0.17	0.51
10918.00	92.460	145.520	8206.84	3020.75	-2419.05	1811.76	1768084.72	414261.46	39°38'6.6694"N	80°12'41.8670"W	3022.29	143.168	0.36	0.25	-0.26
11009.00	92.460	145.350	8202.94	3111.66	-2493.92	1863.34	1768136.29	414186.60	39°38'5.9336"N	80°12'41.2001"W	3113.14	143.235	0.19	0.00	-0.19
11104.00	92.520	144.840	8198.81	3206.57	-2571.75	1917.65	1768190.60	414108.77	39°38'5.1686"N	80°12'40.4981"W	3208.00	143.290	0.54	0.06	-0.54
11198.00	91.970	144.840	8195.13	3300.50	-2648.54	1971.73	1768244.68	414031.98	39°38'4.4140"N	80°12'39.7990"W	3301.89	143.334	0.59	-0.59	0.00
11293.00	92.490	144.700	8191.43	3395.43	-2726.08	2026.49	1768299.44	413954.44	39°38'3.6519"N	80°12'39.0913"W	3396.79	143.374	0.57	0.55	-0.15
11388.00	92.770	145.160	8187.07	3490.33	-2803.75	2081.02	1768353.96	413876.78	39°38'2.8886"N	80°12'38.3865"W	3491.66	143.416	0.57	0.29	0.48
11483.00	91.420	144.690	8183.60	3585.26	-2881.45	2135.58	1768408.52	413799.09	39°38'2.1250"N	80°12'37.6814"W	3586.56	143.456	1.50	-1.42	-0.49
11578.00	90.920	145.860	8181.66	3680.24	-2959.51	2189.68	1768462.61	413721.03	39°38'1.3578"N	80°12'36.9820"W	3681.49	143.503	1.34	-0.53	1.23
11674.00	91.020	145.920	8180.03	3776.21	-3038.98	2243.51	1768516.44	413641.56	39°38'0.5766"N	80°12'36.2860"W	3777.40	143.564	0.12	0.10	0.06
11768.00	90.920	145.880	8178.44	3870.19	-3116.81	2296.20	1768569.13	413563.74	39°37'59.8116"N	80°12'35.6046"W	3871.31	143.620	0.11	-0.11	-0.04
11864.00	90.890	145.500	8176.93	3966.17	-3196.09	2350.30	1768623.23	413484.46	39°37'59.0323"N	80°12'34.9051"W	3967.23	143.670	0.40	-0.03	-0.40
11959.00	90.770	145.270	8175.55	4061.15	-3274.27	2404.26	1768677.19	413406.29	39°37'58.2639"N	80°12'34.2075"W	4062.18	143.711	0.27	-0.13	-0.24
12054.00	89.510	144.470	8175.32	4156.15	-3351.96	2458.93	1768731.85	413328.60	39°37'57.5003"N	80°12'33.5010"W	4157.16	143.737	1.57	-1.33	-0.84
12149.00	89.630	144.780	8176.03	4251.15	-3429.42	2513.93	1768786.84	413251.15	39°37'56.7391"N	80°12'32.7903"W	4252.15	143.757	0.35	0.13	0.33
12243.00	90.430	146.050	8175.98	4345.14	-3506.81	2567.28	1768840.19	413173.77	39°37'55.9785"N	80°12'32.1006"W	4346.11	143.793	1.60	0.85	1.35
12338.00	90.430	145.040	8175.27	4440.13	-3585.14	2621.03	1768893.94	413095.44	39°37'55.2086"N	80°12'31.4058"W	4441.06	143.830	1.06	0.00	-1.06
12433.00	90.340	145.250	8174.63	4535.13	-3663.09	2675.32	1768948.22	413017.48	39°37'54.4424"N	80°12'30.7040"W	4536.03	143.868	0.24	-0.09	0.22
12529.00	90.280	145.560	8174.11	4631.13	-3742.12	2729.82	1769002.73	412938.47	39°37'53.6657"N	80°12'29.9994"W	4632.00	143.890	0.33	-0.06	0.32
12624.00	90.150	145.550	8173.76	4726.12	-3820.46	2783.56	1769056.45	412860.13	39°37'52.8956"N	80°12'29.3048"W	4726.96	143.923	0.14	-0.14	-0.01
12719.00	90.180	145.180	8173.48	4821.12	-3898.63	2837.55	1769110.44	412781.97	39°37'52.1274"N	80°12'28.6068"W	4821.93	143.952	0.39	0.03	-0.39
12814.00	90.120	145.210	8173.23	4916.12	-3976.63	2891.77	1769164.67	412703.97	39°37'51.3607"N	80°12'27.9060"W	4916.90	143.976	0.07	-0.06	0.03
12909.00	89.910	144.900	8173.21	5011.12	-4054.50	2946.19	1769219.08	412626.11	39°37'50.5954"N	80°12'27.2027"W	5011.89	143.996	0.39	-0.22	-0.33



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Slot	Slot 10		

WELLPATH DATA (230 stations)																
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]	Build Rate [°/100ft]	Turn Rate [°/100ft]	
13004.00	89.880	145.550	8173.38	5106.12	-4132.54	3000.37	1769273.26	412548.08	39°37'49.8284"N	80°12'26.5023"W	5106.86	144.019	0.68	-0.03	0.68	
13099.00	89.600	144.580	8173.81	5201.11	-4210.41	3054.77	1769327.65	412470.20	39°37'49.0630"N	80°12'25.7992"W	5201.85	144.038	1.06	-0.29	-1.02	
13193.00	89.480	144.720	8174.57	5295.11	-4287.08	3109.15	1769382.03	412393.54	39°37'48.3096"N	80°12'25.0964"W	5295.84	144.049	0.20	-0.13	0.15	
13288.00	89.820	144.820	8175.15	5390.11	-4364.68	3163.96	1769436.83	412315.95	39°37'47.5469"N	80°12'24.3882"W	5390.83	144.062	0.37	0.36	0.11	
13383.00	89.690	145.070	8175.55	5485.11	-4442.45	3218.52	1769491.39	412238.19	39°37'46.7826"N	80°12'23.8831"W	5485.82	144.077	0.30	-0.14	0.26	
13478.00	91.140	145.110	8174.87	5580.10	-4520.35	3272.88	1769545.75	412160.29	39°37'46.0170"N	80°12'22.9804"W	5580.80	144.094	1.53	1.53	0.04	
13573.00	90.430	145.230	8173.56	5675.09	-4598.32	3327.14	1769600.00	412082.32	39°37'45.2506"N	80°12'22.2792"W	5675.77	144.112	0.76	-0.75	0.13	
13668.00	90.090	144.780	8173.13	5770.09	-4676.14	3381.62	1769654.48	412004.50	39°37'44.4858"N	80°12'21.5751"W	5770.76	144.127	0.59	-0.36	-0.47	
13762.00	90.490	144.670	8172.66	5864.09	-4752.88	3435.90	1769708.76	411927.77	39°37'43.7316"N	80°12'20.8736"W	5864.75	144.136	0.44	0.43	-0.12	
13857.00	90.580	144.410	8171.77	5959.08	-4830.26	3491.01	1769763.87	411850.40	39°37'42.9712"N	80°12'20.1615"W	5959.75	144.143	0.29	0.09	-0.27	
13952.00	90.310	144.670	8171.03	6054.07	-4907.64	3546.12	1769818.98	411773.02	39°37'42.2108"N	80°12'19.4494"W	6054.74	144.149	0.39	-0.28	0.27	
14047.00	91.050	146.410	8169.91	6149.06	-4985.96	3599.87	1769872.72	411694.71	39°37'41.4409"N	80°12'18.7547"W	6149.70	144.171	1.99	0.78	1.83	
14141.00	90.920	146.090	8168.29	6243.02	-5064.10	3652.09	1769924.93	411616.57	39°37'40.6727"N	80°12'18.0795"W	6243.63	144.202	0.37	-0.14	-0.34	
14236.00	91.110	146.140	8166.61	6337.99	-5142.96	3705.04	1769977.89	411537.72	39°37'39.8975"N	80°12'17.3948"W	6338.56	144.231	0.21	0.20	0.05	
14331.00	91.260	146.320	8164.64	6432.95	-5221.91	3757.84	1770030.88	411458.77	39°37'39.1213"N	80°12'16.7122"W	6433.48	144.260	0.25	0.16	0.19	
14426.00	91.020	146.190	8162.75	6527.90	-5300.89	3810.60	1770083.44	411379.80	39°37'38.3449"N	80°12'16.0299"W	6528.41	144.289	0.29	-0.25	-0.14	
14522.00	91.110	145.830	8160.97	6623.87	-5380.47	3864.26	1770137.09	411300.22	39°37'37.5826"N	80°12'15.3362"W	6624.35	144.314	0.39	0.09	-0.37	
14612.00	91.290	146.290	8159.08	6713.84	-5455.12	3914.50	1770187.33	411225.57	39°37'36.8287"N	80°12'14.6867"W	6714.29	144.337	0.55	0.20	0.51	
14706.00	91.170	145.600	8157.06	6807.80	-5532.98	3967.13	1770239.95	411147.72	39°37'36.0633"N	80°12'14.0063"W	6808.23	144.360	0.74	-0.13	-0.73	
14800.00	91.880	145.930	8154.56	6901.78	-5610.67	4019.99	1770292.81	411070.04	39°37'35.2997"N	80°12'13.3229"W	6902.17	144.379	0.83	0.76	0.35	
14895.00	92.060	146.350	8151.30	6996.69	-5689.51	4072.89	1770345.71	410991.20	39°37'34.5246"N	80°12'12.6390"W	6997.07	144.403	0.48	0.19	0.44	
14989.00	92.740	146.620	8147.36	7090.57	-5767.81	4124.75	1770397.56	410912.90	39°37'33.7548"N	80°12'11.9685"W	7090.92	144.430	0.78	0.72	0.29	
15094.00	91.320	145.140	8143.64	7195.49	-5854.68	4183.60	1770456.42	410826.04	39°37'32.9009"N	80°12'11.2076"W	7195.82	144.451	1.95	-1.35	-1.41	
15179.00	93.730	145.700	8139.90	7280.40	-5924.59	4231.80	1770504.61	410756.14	39°37'32.2137"N	80°12'10.5847"W	7280.72	144.463	2.91	2.84	0.66	
15273.00	91.420	145.120	8135.67	7374.29	-6001.89	4285.10	1770557.91	410678.84	39°37'31.4539"N	80°12'9.8957"W	7374.60	144.475	2.53	-2.46	-0.62	
15368.00	92.340	146.010	8132.56	7469.23	-6080.20	4338.79	1770611.60	410600.54	39°37'30.6842"N	80°12'9.2018"W	7469.53	144.489	1.35	0.97	0.94	
15463.00	94.500	146.770	8126.89	7564.03	-6159.17	4391.28	1770664.08	410521.57	39°37'29.9078"N	80°12'8.5231"W	7564.30	144.512	2.41	2.27	0.80	
15557.00	92.650	144.960	8121.03	7657.83	-6236.81	4443.92	1770716.72	410443.93	39°37'29.1445"N	80°12'7.8426"W	7658.09	144.529	2.75	-1.97	-1.93	
15652.00	90.580	143.740	8118.35	7752.78	-6313.97	4499.27	1770772.06	410366.77	39°37'28.3862"N	80°12'7.1276"W	7753.04	144.527	2.53	-2.18	-1.28	
15747.00	91.910	145.220	8116.29	7847.75	-6391.27	4554.45	1770827.24	410289.48	39°37'27.6266"N	80°12'6.4147"W	7848.01	144.526	2.09	1.40	1.56	





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# Actual Wellpath Report

Yost 10H AWP Proj: 20365'

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REFERENCE WELLPATH IDENTIFICATION			
Operator	NORTHEAST NATURAL ENERGY, LLC	Well	Yost 10H
Field	Monongalia	API/Legal	
Facility	Yost Pad	Wellbore	Yost 10H AWB
Slot	Slot 10		

WELLPATH DATA (230 stations)															
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]	Build Rate [°/100ft]	Turn Rate [°/100ft]
15843.00	91.850	145.330	8113.14	7943.69	-6470.13	4609.10	1770881.89	410210.62	39°37'26.8514"N	80°12'5.7084"W	7943.96	144.535	0.13	-0.06	0.11
15938.00	92.370	145.560	8109.64	8038.63	-6548.32	4662.95	1770935.73	410132.44	39°37'26.0829"N	80°12'5.0125"W	8038.88	144.546	0.60	0.55	0.24
16033.00	92.190	144.790	8105.86	8133.55	-6626.24	4717.16	1770989.94	410054.52	39°37'25.3170"N	80°12'4.3119"W	8133.80	144.553	0.83	-0.19	-0.81
16128.00	91.940	144.890	8102.44	8228.49	-6703.86	4771.83	1771044.61	409976.91	39°37'24.5541"N	80°12'3.6055"W	8228.73	144.557	0.28	-0.26	0.11
16223.00	92.030	145.010	8099.15	8323.43	-6781.58	4826.35	1771099.13	409899.19	39°37'23.7902"N	80°12'2.9010"W	8323.67	144.561	0.16	0.09	0.13
16315.00	91.690	145.270	8096.16	8415.38	-6857.03	4878.91	1771151.68	409823.75	39°37'23.0486"N	80°12'2.2218"W	8415.62	144.567	0.47	-0.37	0.28
16410.00	91.540	145.060	8093.48	8510.34	-6934.98	4933.15	1771205.92	409745.80	39°37'22.2825"N	80°12'1.5209"W	8510.58	144.574	0.27	-0.16	-0.22
16504.00	91.880	145.190	8090.68	8604.30	-7012.06	4986.88	1771259.64	409668.73	39°37'21.5248"N	80°12'0.8266"W	8604.53	144.580	0.39	0.36	0.14
16598.00	92.680	144.940	8086.94	8698.23	-7089.06	5040.66	1771313.42	409591.73	39°37'20.7680"N	80°12'0.1316"W	8698.45	144.585	0.89	0.85	-0.27
16693.00	92.030	145.330	8083.04	8793.14	-7166.94	5094.92	1771367.68	409513.85	39°37'20.0025"N	80°11'59.4305"W	8793.37	144.591	0.80	-0.68	0.41
16787.00	91.630	144.470	8080.03	8887.10	-7243.81	5148.95	1771421.70	409436.99	39°37'19.2470"N	80°11'58.7325"W	8887.32	144.595	1.01	-0.43	-0.91
16881.00	91.780	145.410	8077.24	8981.05	-7320.72	5202.92	1771475.67	409360.09	39°37'18.4911"N	80°11'58.0351"W	8981.27	144.598	1.01	0.16	1.00
16976.00	93.110	146.260	8073.18	9075.95	-7399.25	5256.22	1771528.97	409281.56	39°37'17.7191"N	80°11'57.3462"W	9076.16	144.611	1.66	1.40	0.89
17071.00	92.120	143.690	8068.85	9170.84	-7476.96	5310.68	1771583.42	409203.86	39°37'16.9554"N	80°11'56.6425"W	9171.05	144.615	2.90	-1.04	-2.71
17165.00	91.600	144.370	8065.80	9264.78	-7552.89	5365.86	1771638.60	409127.83	39°37'16.2082"N	80°11'55.9297"W	9265.00	144.609	0.91	-0.55	0.72
17259.00	91.510	144.140	8063.25	9358.74	-7629.26	5420.75	1771693.49	409051.57	39°37'15.4587"N	80°11'55.2207"W	9358.96	144.605	0.26	-0.10	-0.24
17354.00	91.600	144.240	8060.67	9453.69	-7706.27	5476.32	1771749.05	408974.56	39°37'14.7019"N	80°11'54.5030"W	9453.92	144.601	0.14	0.09	0.11
17448.00	92.120	144.100	8057.62	9547.63	-7782.44	5531.32	1771804.05	408898.40	39°37'13.9533"N	80°11'53.7926"W	9547.87	144.597	0.57	0.55	-0.15
17542.00	91.940	143.890	8054.29	9641.56	-7858.44	5586.54	1771859.27	408822.41	39°37'13.2065"N	80°11'53.0794"W	9641.81	144.591	0.29	-0.19	-0.22
17637.00	92.090	144.410	8050.95	9736.49	-7935.39	5642.14	1771914.87	408745.46	39°37'12.4503"N	80°11'52.3612"W	9736.74	144.587	0.57	0.16	0.55
17732.00	92.030	144.270	8047.53	9831.42	-8012.53	5697.49	1771970.21	408668.32	39°37'11.6922"N	80°11'51.6463"W	9831.68	144.584	0.16	-0.06	-0.15
17827.00	91.600	143.920	8044.52	9926.36	-8089.44	5753.17	1772025.89	408591.42	39°37'10.9364"N	80°11'50.9271"W	9926.63	144.580	0.58	-0.45	-0.37
17922.00	91.660	144.710	8041.82	10021.32	-8166.57	5808.57	1772081.28	408514.29	39°37'10.1784"N	80°11'50.2116"W	10021.59	144.577	0.83	0.06	0.83
18017.00	91.450	144.480	8039.24	10116.28	-8243.97	5863.58	1772136.30	408436.89	39°37'9.4177"N	80°11'49.5009"W	10116.56	144.577	0.33	-0.22	-0.24
18112.00	91.420	145.020	8036.87	10211.25	-8321.53	5918.40	1772191.10	408359.34	39°37'8.6554"N	80°11'48.7928"W	10211.52	144.579	0.57	-0.03	0.57
18207.00	91.230	143.640	8034.67	10306.21	-8398.68	5973.78	1772246.48	408282.19	39°37'7.8972"N	80°11'48.0775"W	10306.50	144.577	1.47	-0.20	-1.45
18301.00	90.860	144.100	8032.95	10400.18	-8474.59	6029.19	1772301.89	408206.29	39°37'7.1512"N	80°11'47.3618"W	10400.47	144.570	0.63	-0.39	0.49
18396.00	90.950	141.180	8031.45	10495.08	-8550.08	6086.83	1772359.52	408130.80	39°37'6.4096"N	80°11'46.6179"W	10495.40	144.553	3.07	0.09	-3.07
18491.00	91.200	142.330	8029.67	10589.91	-8624.88	6145.62	1772418.32	408056.21	39°37'5.6769"N	80°11'45.8592"W	10590.27	144.528	1.24	0.26	1.21
18585.00	90.920	142.600	8027.93	10683.80	-8699.21	6202.88	1772475.57	407981.69	39°37'4.9447"N	80°11'45.1201"W	10684.19	144.510	0.41	-0.30	0.29



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# Actual Wellpath Report

Yost 10H AWP Proj: 20365'

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Field	Monongalia	API/Legal	
Facility	Yost Pad	Wellbore	Yost 10H AWB
Slot	Slot 10		

WELLPATH DATA (230 stations) † = interpolated, ‡ = extrapolated station															
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]	Build Rate [°/100ft]	Turn Rate [°/100ft]
18680.00	90.580	144.700	8026.69	10778.76	-8775.71	6259.18	1772531.87	407905.19	39°37'4.1930"N	80°11'44.3931"W	10779.17	144.502	2.24	-0.36	2.21
18775.00	90.370	146.400	8025.90	10873.75	-8854.04	6312.92	1772585.60	407826.86	39°37'3.4230"N	80°11'43.6987"W	10874.14	144.511	1.80	-0.22	1.79
18869.00	90.950	146.380	8024.82	10967.71	-8932.32	6364.95	1772637.63	407748.58	39°37'2.6533"N	80°11'43.0261"W	10968.09	144.527	0.62	0.62	-0.02
18964.00	91.600	146.400	8022.70	11062.66	-9011.42	6417.52	1772690.20	407669.49	39°37'1.8756"N	80°11'42.3465"W	11063.01	144.543	0.68	0.68	0.02
19059.00	91.080	146.440	8020.48	11157.61	-9090.54	6470.05	1772742.72	407590.37	39°37'1.0977"N	80°11'41.6675"W	11157.94	144.559	0.55	-0.55	0.04
19154.00	90.830	146.590	8018.90	11252.56	-9169.77	6522.45	1772795.13	407511.15	39°37'0.3188"N	80°11'40.9900"W	11252.87	144.576	0.31	-0.26	0.16
19250.00	90.710	146.200	8017.61	11348.52	-9249.72	6575.58	1772848.25	407431.21	39°36'59.5327"N	80°11'40.3032"W	11348.81	144.591	0.43	-0.12	-0.41
19345.00	90.520	146.070	8016.59	11443.50	-9328.59	6628.52	1772901.18	407352.34	39°36'58.7572"N	80°11'39.6190"W	11443.77	144.604	0.24	-0.20	-0.14
19438.00	90.950	146.250	8015.40	11536.47	-9405.83	6680.30	1772952.96	407275.10	39°36'57.9979"N	80°11'38.9497"W	11536.73	144.616	0.50	0.46	0.19
19532.00	92.190	146.940	8012.82	11630.40	-9484.27	6732.03	1773004.69	407196.67	39°36'57.2266"N	80°11'38.2809"W	11630.64	144.632	1.51	1.32	0.73
19627.00	92.710	146.520	8008.76	11725.27	-9563.63	6784.10	1773056.76	407117.32	39°36'56.4463"N	80°11'37.6078"W	11725.49	144.649	0.70	0.55	-0.44
19722.00	92.490	146.470	8004.45	11820.14	-9642.76	6836.49	1773109.14	407038.19	39°36'55.6683"N	80°11'36.9306"W	11820.34	144.664	0.24	-0.23	-0.05
19817.00	91.790	146.240	8000.90	11915.04	-9721.79	6889.09	1773161.73	406959.16	39°36'54.8913"N	80°11'36.2507"W	11915.23	144.678	0.78	-0.74	-0.24
19911.00	90.920	146.390	7998.68	12008.99	-9799.99	6941.20	1773213.85	406880.97	39°36'54.1225"N	80°11'35.5770"W	12009.17	144.691	0.94	-0.93	0.16
20006.00	90.830	146.200	7997.23	12103.96	-9879.01	6993.92	1773266.56	406801.96	39°36'53.3456"N	80°11'34.8957"W	12104.12	144.703	0.22	-0.09	-0.20
20101.00	91.110	146.540	7995.62	12198.91	-9958.10	7046.52	1773319.16	406722.87	39°36'52.5680"N	80°11'34.2157"W	12199.06	144.716	0.46	0.29	0.36
20197.00	90.890	146.040	7993.95	12294.87	-10037.94	7099.79	1773372.43	406643.03	39°36'51.7829"N	80°11'33.5272"W	12295.01	144.728	0.57	-0.23	-0.52
20292.00	91.140	146.390	7992.26	12389.84	-10116.89	7152.61	1773425.24	406564.09	39°36'51.0068"N	80°11'32.8445"W	12389.97	144.740	0.45	0.26	0.37
20340.00	90.950	146.190	7991.39	12437.82	-10156.81	7179.25	1773451.88	406524.17	39°36'50.6143"N	80°11'32.5002"W	12437.94	144.746	0.57	-0.40	-0.42
20365.00†	90.950	146.190	7990.97	12462.81	-10177.58	7193.16	1773465.79	406503.40	39°36'50.4101"N	80°11'32.3204"W	12462.93	144.749	0.00	0.00	0.00



# Actual Wellpath Report

Yost 10H AWP Proj: 20365'

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REFERENCE WELLPATH IDENTIFICATION			
Operator	NORTHEAST NATURAL ENERGY, LLC	Well	Yost 10H
Field	Monongalia	API/Legal	
Facility	Yost Pad	Wellbore	Yost 10H AWB
Slot	Slot 10		

HOLE & CASING SECTIONS - Ref Wellbore: Yost 10H AWB Ref Wellpath: Yost 10H AWP Proj: 20365'									
String/Diameter	Start MD [ft]	End MD [ft]	Interval [ft]	Start TVD [ft]	End TVD [ft]	Start N/S [ft]	Start E/W [ft]	End N/S [ft]	End E/W [ft]
17.5in Open Hole	28.00	1488.00	1460.00	28.00	1487.98	0.00	0.00	-1.45	3.98
13.375in Casing Surface	28.00	1458.00	1430.00	28.00	1457.99	0.00	0.00	-1.29	3.89
12.25in Open Hole	1488.00	2687.00	1199.00	1487.98	2684.82	-1.45	3.98	12.61	63.66
9.625in Casing Intermediate	28.00	2657.00	2629.00	28.00	2654.82	0.00	0.00	12.74	63.36
8.75in Open Hole	2687.00	7086.00	4399.00	2684.82	7083.60	12.61	63.66	1.95	63.22
8.5in Open Hole	7086.00	20365.00	13279.00	7083.60	7990.97	1.95	63.22	-10177.58	7193.16
5.5in Casing Production	28.00	20335.00	20307.00	28.00	7991.47	0.00	0.00	-10152.66	7176.47

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# Actual Wellpath Report

Yost 10H AWP Proj: 20365'

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REFERENCE WELLPATH IDENTIFICATION			
Operator	NORTHEAST NATURAL ENERGY, LLC	Well	Yost 10H
Field	Monongalia	API/Legal	
Facility	Yost Pad	Wellbore	Yost 10H AWB
Slot	Slot 10		

TARGETS								
Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
Yost 10H BHL Rev-4	8308.00	-10168.47	7207.29	1773479.92	406512.51	39°36'50.5011"N	80°11'32.1407"W	point
Yost 10H LP Rev-0	8308.00	-618.57	520.38	1766793.42	416061.83	39°38'24.3614"N	80°12'58.5561"W	point
Yost Hardline #3 (2.10.22)	9028.00	-10300.22	7146.35	1773418.98	406380.77	39°36'49.1944"N	80°11'32.9065"W	polygon
2D Polygon: dimensions not calculated								
Yost Hardline #4 (2.24.22)	9028.00	-10300.22	7146.35	1773418.98	406380.77	39°36'49.1944"N	80°11'32.9065"W	polygon
2D Polygon: dimensions not calculated								
Yost Hardline #5 (2.24.22)	9028.00	-1555.34	1545.35	1767818.33	415125.12	39°38'15.1843"N	80°12'45.3596"W	polygon
2D Polygon: dimensions not calculated								

WELLPATH COMPOSITION - Ref Wellbore: Yost 10H AWB Ref Wellpath: Yost 10H AWP Proj: 20365'					
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore	Survey Date
28.00	1332.00	BH Generic gyro - northseeking (Standard)	01 Gyro Surveys [BH Generic Gyro-Northseeking] (50'-1332')	Yost 10H AWB	5/7/2022
1332.00	7009.00	OWSG MWD rev2 + HRGM	02 SDI MWD [OWSG MWD Rev.2+HRGM] (1332')(1496'-7009')	Yost 10H AWB	5/7/2022
7009.00	20365.00	BH AutoTrak Curve/eXpress (2019) (HRGM, Short spacing)	03 ATK Curve [HRGM+Short Spacing] (7009')(7132' - 20340')	Yost 10H AWB	5/7/2022

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Yost 10H AWP Proj: 20365'

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## REFERENCE WELLPATH IDENTIFICATION

Operator	NORTHEAST NATURAL ENERGY, LLC	Well	Yost 10H
Field	Monongalia	API/Legal	
Facility	Yost Pad	Wellbore	Yost 10H AWB
Slot	Slot 10		

## COMMENTS

### Wellpath general comments

API: 47061018950000

BH Job #: 111309708

Rig: Patterson 277

Duration: 5/7/2022 - 5/13/2022

01\_Gyro Surveys [BH Generic Gyro-Northseeking] (50'-1332')

02\_SDI MWD [OWSG MWD Rev.2+HRGM] (1332')(1496'-7009')

03\_ATK Curve [HRGM+Short Spacing] (7009')(7132' - 20340')

Final Survey MD at: 20340'

Projected MD at TD: 20365'

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