





# Actual Wellpath Report

ERP 13H awp Proj: 23919'  
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## REFERENCE WELLPATH IDENTIFICATION

Operator	NORTHEAST NATURAL ENERGY, LLC	Well	ERP 13H
Field	Monongalia	API	47-061-01962-00-00
Facility	ERP Pad	Wellbore	ERP 13H AWB
Slot	Slot 13H		

## REPORT SETUP INFORMATION

Projection System	NAD83 / Lambert West Virginia SP, Northern Zone (4701), US feet	Software System	WellArchitect® 6.0
North Reference	Grid	User	Tranlam
Scale	0.999941	Report Generated	2/28/2025 at 9:14:16 PM
Convergence at slot	0.49° 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	3.56	49.76	1750861.72	428441.63	39°40'25.4079"N	80°16'23.5746"W
Facility Reference Pt			1750811.96	428438.07	39°40'25.3685"N	80°16'24.2106"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 873 (KB) to Facility Vertical Datum	1366.50ft
Horizontal Reference Pt	Slot	Patterson 873 (KB) to Mean Sea Level	1366.50ft
Vertical Reference Pt	Patterson 873 (KB)	Patterson 873 (KB) to Ground Level at Slot (Slot 13H)	28.50ft
MD Reference Pt	Patterson 873 (KB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	326.37°

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## WELLPATH DATA (263 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]
0.00†	0.000	18.120	0.00	0.00	0.00	0.00	1750861.72	428441.63	39°40'25.4079"N	80°16'23.5746"W	0.00	0.000	0.00
28.50	0.000	18.120	28.50	0.00	0.00	0.00	1750861.72	428441.63	39°40'25.4079"N	80°16'23.5746"W	0.00	0.000	0.00
50.00	0.470	18.120	50.00	0.05	0.08	0.03	1750861.75	428441.71	39°40'25.4087"N	80°16'23.5743"W	0.09	18.120	2.19
100.00	0.230	329.860	100.00	0.28	0.37	0.04	1750861.76	428442.00	39°40'25.4115"N	80°16'23.5741"W	0.37	6.372	0.72
150.00	0.280	330.220	150.00	0.50	0.56	-0.07	1750861.65	428442.19	39°40'25.4134"N	80°16'23.5756"W	0.56	352.828	0.10
200.00	0.340	8.640	200.00	0.74	0.81	-0.11	1750861.61	428442.44	39°40'25.4159"N	80°16'23.5761"W	0.82	352.370	0.42
250.00	0.320	353.190	250.00	0.97	1.10	-0.10	1750861.62	428442.73	39°40'25.4187"N	80°16'23.5760"W	1.10	354.637	0.18
300.00	0.310	9.780	300.00	1.19	1.37	-0.10	1750861.62	428443.00	39°40'25.4214"N	80°16'23.5760"W	1.37	355.966	0.18
350.00	0.250	297.110	350.00	1.39	1.55	-0.17	1750861.55	428443.18	39°40'25.4232"N	80°16'23.5769"W	1.56	353.723	0.67
400.00	0.250	280.580	400.00	1.56	1.62	-0.37	1750861.35	428443.25	39°40'25.4239"N	80°16'23.5796"W	1.66	346.976	0.14
450.00	0.260	292.480	449.99	1.73	1.68	-0.59	1750861.13	428443.31	39°40'25.4245"N	80°16'23.5823"W	1.78	340.787	0.11
500.00	0.360	263.890	499.99	1.89	1.71	-0.85	1750860.87	428443.34	39°40'25.4247"N	80°16'23.5856"W	1.91	333.637	0.36
550.00	0.410	246.220	549.99	2.00	1.62	-1.17	1750860.55	428443.25	39°40'25.4238"N	80°16'23.5897"W	2.00	324.249	0.26
600.00	0.350	238.540	599.99	2.03	1.47	-1.46	1750860.26	428443.10	39°40'25.4223"N	80°16'23.5935"W	2.07	315.166	0.16
650.00	0.450	243.960	649.99	2.07	1.30	-1.77	1750859.95	428442.93	39°40'25.4206"N	80°16'23.5974"W	2.20	306.413	0.21
700.00	0.460	226.550	699.99	2.06	1.08	-2.09	1750859.63	428442.71	39°40'25.4184"N	80°16'23.6015"W	2.35	297.326	0.28
750.00	0.420	201.950	749.99	1.92	0.77	-2.30	1750859.42	428442.40	39°40'25.4153"N	80°16'23.6042"W	2.43	288.524	0.38
800.00	0.070	38.550	799.99	1.83	0.63	-2.35	1750859.37	428442.26	39°40'25.4139"N	80°16'23.6048"W	2.44	284.894	0.97
850.00	0.080	303.640	849.99	1.87	0.67	-2.36	1750859.36	428442.30	39°40'25.4143"N	80°16'23.6049"W	2.46	285.808	0.22
900.00	0.410	305.080	899.99	2.07	0.79	-2.54	1750859.18	428442.42	39°40'25.4155"N	80°16'23.6072"W	2.66	287.310	0.66
950.00	0.290	283.390	949.99	2.32	0.92	-2.81	1750858.91	428442.55	39°40'25.4168"N	80°16'23.6106"W	2.96	288.200	0.35
1000.00	0.190	358.750	999.99	2.49	1.04	-2.93	1750858.79	428442.67	39°40'25.4179"N	80°16'23.6122"W	3.11	289.444	0.61
1050.00	0.380	4.860	1049.98	2.69	1.28	-2.92	1750858.80	428442.91	39°40'25.4203"N	80°16'23.6121"W	3.19	293.721	0.38
1100.00	0.390	355.440	1099.98	2.97	1.62	-2.92	1750858.80	428443.25	39°40'25.4236"N	80°16'23.6121"W	3.34	298.991	0.13
1150.00	0.220	48.330	1149.98	3.13	1.85	-2.86	1750858.86	428443.48	39°40'25.4259"N	80°16'23.6114"W	3.41	302.898	0.62
1175.00	0.350	340.260	1174.98	3.21	1.96	-2.85	1750858.87	428443.59	39°40'25.4270"N	80°16'23.6113"W	3.46	304.432	1.35
1403.00	0.140	217.100	1402.98	3.79	2.39	-3.26	1750858.46	428444.02	39°40'25.4312"N	80°16'23.6165"W	4.04	306.268	0.19
1499.00	1.190	151.070	1498.97	2.76	1.42	-2.85	1750858.88	428443.05	39°40'25.4217"N	80°16'23.6111"W	3.18	296.577	1.19
1594.00	2.570	141.210	1593.92	-0.34	-1.10	-1.03	1750860.69	428440.53	39°40'25.3969"N	80°16'23.5877"W	1.51	223.202	1.49
1690.00	4.430	121.620	1689.74	-5.86	-4.72	3.47	1750865.19	428436.91	39°40'25.3615"N	80°16'23.5297"W	5.86	143.670	2.28

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Facility	ERP Pad	Wellbore	ERP 13H AWB
Slot	Slot 13H		

## WELLPATH DATA (263 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]
1785.00	6.450	111.950	1784.31	-13.59	-8.64	11.55	1750873.27	428432.99	39°40'25.3235"N	80°16'23.4260"W	14.42	126.808	2.33
1881.00	8.210	106.990	1879.52	-23.34	-12.66	23.10	1750884.82	428428.97	39°40'25.2847"N	80°16'23.2777"W	26.35	118.720	1.95
1976.00	9.920	102.730	1973.33	-34.50	-16.45	37.57	1750899.29	428425.19	39°40'25.2485"N	80°16'23.0923"W	41.02	113.637	1.93
2071.00	10.420	106.350	2066.84	-47.00	-20.67	53.80	1750915.52	428420.96	39°40'25.2082"N	80°16'22.8843"W	57.63	111.014	0.85
2167.00	9.770	112.550	2161.36	-60.42	-26.23	69.65	1750931.37	428415.40	39°40'25.1545"N	80°16'22.6809"W	74.43	110.638	1.32
2262.00	10.770	114.700	2254.83	-74.67	-33.03	85.16	1750946.88	428408.60	39°40'25.0886"N	80°16'22.4819"W	91.35	111.201	1.13
2358.00	12.840	115.360	2348.80	-91.45	-41.35	102.95	1750964.67	428400.28	39°40'25.0080"N	80°16'22.2534"W	110.95	111.884	2.16
2453.00	14.460	118.150	2441.11	-110.95	-51.47	122.95	1750984.66	428390.16	39°40'24.9097"N	80°16'21.9966"W	133.29	112.715	1.84
2549.00	14.890	112.580	2533.99	-131.76	-61.86	144.91	1751006.62	428379.77	39°40'24.8088"N	80°16'21.7146"W	157.56	113.118	1.54
2762.00	14.540	103.610	2740.03	-174.14	-78.66	196.17	1751057.88	428362.97	39°40'24.6472"N	80°16'21.0572"W	211.36	111.851	1.08
2857.00	16.150	101.410	2831.64	-192.25	-84.08	220.71	1751082.42	428357.55	39°40'24.5957"N	80°16'20.7427"W	236.19	110.855	1.80
2953.00	18.230	96.360	2923.35	-211.35	-88.39	248.73	1751110.44	428353.25	39°40'24.5555"N	80°16'20.3840"W	263.97	109.563	2.66
3048.00	19.980	87.370	3013.13	-229.26	-89.29	279.72	1751141.42	428352.34	39°40'24.5492"N	80°16'19.9876"W	293.63	107.704	3.60
3144.00	19.920	77.270	3103.40	-243.55	-84.93	312.07	1751173.77	428356.70	39°40'24.5950"N	80°16'19.5744"W	323.42	105.225	3.59
3239.00	17.700	72.910	3193.33	-253.44	-77.12	341.66	1751203.36	428364.51	39°40'24.6748"N	80°16'19.1968"W	350.26	102.720	2.76
3335.00	16.690	77.950	3285.04	-262.66	-69.95	369.09	1751230.79	428371.68	39°40'24.7479"N	80°16'18.8467"W	375.67	100.732	1.87
3430.00	18.380	88.160	3375.64	-275.57	-66.62	397.41	1751259.11	428375.01	39°40'24.7832"N	80°16'18.4849"W	402.96	99.517	3.69
3525.00	20.730	86.000	3465.16	-291.78	-64.97	429.16	1751290.86	428376.66	39°40'24.8023"N	80°16'18.0791"W	434.05	98.609	2.59
3620.00	22.820	81.670	3553.38	-307.97	-61.13	464.17	1751325.86	428380.51	39°40'24.8432"N	80°16'17.6319"W	468.18	97.502	2.77
3715.00	26.510	77.330	3639.71	-323.43	-53.81	503.10	1751364.79	428387.83	39°40'24.9189"N	80°16'17.1348"W	505.97	96.105	4.32
3814.00	26.580	69.690	3728.30	-336.44	-41.27	545.44	1751407.13	428400.36	39°40'25.0464"N	80°16'16.5947"W	547.00	94.327	3.45
3909.00	27.130	67.190	3813.05	-345.40	-25.49	585.34	1751447.02	428416.14	39°40'25.2057"N	80°16'16.0862"W	585.89	92.494	1.32
4005.00	27.240	68.640	3898.45	-354.18	-9.01	625.98	1751487.66	428432.63	39°40'25.3720"N	80°16'15.5683"W	626.04	90.824	0.70
4100.00	28.150	66.490	3982.57	-362.74	7.85	666.78	1751528.46	428449.48	39°40'25.5421"N	80°16'15.0484"W	666.82	89.325	1.42
4196.00	28.000	69.010	4067.27	-371.65	24.96	708.58	1751570.26	428466.59	39°40'25.7147"N	80°16'14.5156"W	709.02	87.983	1.25
4291.00	28.360	69.030	4151.01	-381.48	41.02	750.47	1751612.15	428482.65	39°40'25.8770"N	80°16'13.9817"W	751.59	86.871	0.38
4387.00	28.750	67.560	4235.34	-390.95	58.00	793.10	1751654.77	428499.62	39°40'26.0484"N	80°16'13.4384"W	795.22	85.818	0.84
4482.00	27.360	61.770	4319.19	-397.44	77.05	833.46	1751695.13	428518.67	39°40'26.2400"N	80°16'12.9243"W	837.02	84.718	3.22
4578.00	25.360	60.660	4405.20	-401.06	97.56	870.82	1751732.49	428539.18	39°40'26.4459"N	80°16'12.4487"W	876.27	83.608	2.15
4673.00	24.150	65.670	4491.48	-405.72	115.54	906.27	1751767.94	428557.16	39°40'26.6266"N	80°16'11.9974"W	913.61	82.735	2.55

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4769.00	23.740	70.200	4579.22	-413.51	130.17	942.35	1751804.01	428571.80	39°40'26.7743"N	80°16'11.5376"W	951.30	82.135	1.96
4864.00	23.990	75.020	4666.11	-424.26	141.64	979.00	1751840.66	428583.27	39°40'26.8908"N	80°16'11.0701"W	989.20	81.767	2.07
4959.00	25.720	75.810	4752.31	-437.30	151.69	1017.65	1751879.30	428593.31	39°40'26.9933"N	80°16'10.5770"W	1028.89	81.522	1.85
5055.00	29.040	78.920	4837.55	-453.17	161.28	1060.72	1751922.38	428602.90	39°40'27.0917"N	80°16'10.0272"W	1072.91	81.355	3.76
5150.00	30.760	76.620	4919.90	-470.43	171.33	1106.99	1751968.64	428612.95	39°40'27.1950"N	80°16'9.4366"W	1120.17	81.202	2.18
5249.00	31.980	73.710	5004.43	-487.00	184.54	1156.79	1752018.44	428626.16	39°40'27.3298"N	80°16'8.8012"W	1171.41	80.936	1.96
5345.00	30.690	69.240	5086.44	-500.04	200.36	1204.11	1752065.75	428641.98	39°40'27.4901"N	80°16'8.1978"W	1220.66	80.553	2.77
5440.00	28.740	66.440	5168.95	-509.43	218.09	1247.72	1752109.36	428659.70	39°40'27.6689"N	80°16'7.6420"W	1266.63	80.085	2.52
5535.00	26.570	67.490	5253.09	-517.53	235.35	1288.29	1752149.93	428676.97	39°40'27.8430"N	80°16'7.1251"W	1309.61	79.647	2.34
5630.00	27.110	71.120	5337.86	-527.14	250.49	1328.40	1752190.04	428692.11	39°40'27.9960"N	80°16'6.6138"W	1351.81	79.321	1.82
5725.00	29.840	73.610	5421.36	-539.65	264.17	1371.56	1752233.20	428705.78	39°40'28.1348"N	80°16'6.0632"W	1396.77	79.098	3.13
5820.00	31.770	71.190	5502.96	-553.06	278.90	1417.92	1752279.55	428720.52	39°40'28.2843"N	80°16'5.4721"W	1445.09	78.872	2.41
5916.00	31.900	68.900	5584.52	-565.03	296.18	1465.51	1752327.14	428737.80	39°40'28.4591"N	80°16'4.8653"W	1495.14	78.574	1.27
6014.00	32.280	67.300	5667.55	-575.61	315.60	1513.81	1752375.43	428757.22	39°40'28.6552"N	80°16'4.2498"W	1546.36	78.223	0.95
6109.00	30.920	64.510	5748.47	-583.87	335.90	1559.25	1752420.87	428777.51	39°40'28.8596"N	80°16'3.6709"W	1595.02	77.843	2.10
6204.00	27.510	63.860	5831.37	-590.19	356.08	1600.99	1752462.61	428797.68	39°40'29.0625"N	80°16'3.1393"W	1640.11	77.461	3.60
6299.00	24.920	66.070	5916.59	-596.42	373.86	1638.98	1752500.60	428815.47	39°40'29.2415"N	80°16'2.6553"W	1681.08	77.150	2.91
6394.00	25.190	73.180	6002.67	-605.64	387.84	1676.64	1752538.26	428829.44	39°40'29.3827"N	80°16'2.1753"W	1720.91	76.976	3.18
6489.00	27.600	75.280	6087.77	-618.63	399.28	1717.28	1752578.90	428840.88	39°40'29.4992"N	80°16'1.6567"W	1763.09	76.911	2.72
6584.00	28.520	74.350	6171.60	-632.76	410.99	1760.41	1752622.02	428852.59	39°40'29.6186"N	80°16'1.1065"W	1807.74	76.859	1.07
6679.00	26.690	74.020	6255.78	-646.23	422.98	1802.76	1752664.37	428864.59	39°40'29.7407"N	80°16'0.5662"W	1851.72	76.796	1.93
6774.00	25.500	73.100	6341.10	-658.59	434.80	1842.84	1752704.44	428876.40	39°40'29.8609"N	80°16'0.0549"W	1893.44	76.724	1.32
6869.00	26.340	74.290	6426.54	-670.96	446.45	1882.69	1752744.30	428888.06	39°40'29.9794"N	80°15'59.5465"W	1934.90	76.660	1.04
6965.00	27.620	72.870	6512.09	-683.83	458.77	1924.46	1752786.07	428900.38	39°40'30.1047"N	80°15'59.0136"W	1978.39	76.591	1.49
7064.00	29.840	68.750	6598.91	-695.63	474.46	1969.36	1752830.96	428916.07	39°40'30.2635"N	80°15'58.4412"W	2025.71	76.454	3.00
7159.00	30.200	70.150	6681.16	-706.39	491.14	2013.86	1752875.46	428932.74	39°40'30.4321"N	80°15'57.8739"W	2072.89	76.294	0.83
7255.00	29.960	66.120	6764.24	-716.20	509.05	2058.50	1752920.09	428950.65	39°40'30.6128"N	80°15'57.3050"W	2120.50	76.110	2.12
7378.00	27.670	63.690	6872.01	-725.04	534.14	2112.19	1752973.78	428975.74	39°40'30.8653"N	80°15'56.6211"W	2178.68	75.808	2.09
7473.00	25.020	64.990	6957.13	-730.87	552.42	2150.17	1753011.76	428994.01	39°40'31.0491"N	80°15'56.1373"W	2220.00	75.591	2.85
7569.00	26.060	66.260	7043.75	-737.53	569.49	2187.88	1753049.46	429011.09	39°40'31.2210"N	80°15'55.6570"W	2260.78	75.410	1.22

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# Actual Wellpath Report

ERP 13H awp Proj: 23919'  
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REFERENCE WELLPATH IDENTIFICATION			
Operator	NORTHEAST NATURAL ENERGY, LLC	Well	ERP 13H
Field	Monongalia	API	47-061-01962-00-00
Facility	ERP Pad	Wellbore	ERP 13H AWB
Slot	Slot 13H		

## WELLPATH DATA (263 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]
7664.00	27.360	68.590	7128.62	-745.74	585.86	2227.30	1753088.89	429027.46	39°40'31.3861"N	80°15'55.1545"W	2303.07	75.263	1.76
7759.00	28.970	69.170	7212.37	-755.45	602.01	2269.13	1753130.71	429043.61	39°40'31.5493"N	80°15'54.6213"W	2347.63	75.141	1.72
7855.00	27.930	68.920	7296.77	-765.49	618.37	2311.84	1753173.42	429059.96	39°40'31.7145"N	80°15'54.0769"W	2393.11	75.025	1.09
7950.00	29.910	69.840	7379.92	-775.84	634.53	2354.84	1753216.42	429076.12	39°40'31.8779"N	80°15'53.5288"W	2438.83	74.919	2.14
8045.00	32.820	53.700	7461.17	-780.17	657.98	2397.91	1753259.48	429099.57	39°40'32.1132"N	80°15'52.9805"W	2486.55	74.656	9.33
8140.00	29.580	34.570	7542.62	-770.24	692.63	2432.06	1753293.63	429134.22	39°40'32.4585"N	80°15'52.5476"W	2528.76	74.104	10.93
8235.00	32.400	20.320	7624.17	-746.51	735.87	2454.23	1753315.80	429177.46	39°40'32.8877"N	80°15'52.2687"W	2562.18	73.309	8.25
8329.00	36.180	12.350	7701.85	-712.38	786.64	2468.93	1753330.50	429228.22	39°40'33.3906"N	80°15'52.0863"W	2591.21	72.327	6.24
8425.00	39.790	4.640	7777.55	-668.53	844.99	2477.48	1753339.05	429286.56	39°40'33.9680"N	80°15'51.9833"W	2617.61	71.167	6.20
8520.00	47.920	2.620	7846.00	-616.15	910.62	2481.56	1753343.13	429352.19	39°40'34.6169"N	80°15'51.9383"W	2643.36	69.849	8.68
8615.00	53.180	354.230	7906.41	-553.99	983.80	2479.34	1753340.91	429425.37	39°40'35.3399"N	80°15'51.9746"W	2667.39	68.357	8.78
8710.00	57.370	343.740	7960.61	-482.02	1060.21	2464.28	1753325.85	429501.77	39°40'36.0938"N	80°15'52.1755"W	2682.67	66.721	10.08
8805.00	63.940	339.430	8007.16	-402.16	1138.68	2438.05	1753299.62	429580.24	39°40'36.8671"N	80°15'52.5195"W	2690.85	64.965	7.96
8900.00	70.350	334.930	8044.05	-316.23	1219.27	2404.05	1753265.63	429660.82	39°40'37.6606"N	80°15'52.9630"W	2695.57	63.107	8.03
8995.00	73.300	330.240	8073.70	-226.54	1299.34	2362.49	1753224.06	429740.89	39°40'38.4485"N	80°15'53.5034"W	2696.22	61.190	5.62
9090.00	81.500	327.870	8094.41	-134.01	1378.76	2314.83	1753176.41	429820.31	39°40'39.2294"N	80°15'54.1215"W	2694.33	59.221	8.97
9185.00	83.090	326.910	8107.14	-39.89	1458.06	2264.10	1753125.68	429899.60	39°40'40.0088"N	80°15'54.7790"W	2692.97	57.219	1.95
9280.00	88.860	325.960	8113.81	54.83	1536.99	2211.72	1753073.31	429978.53	39°40'40.7844"N	80°15'55.4574"W	2693.34	55.203	6.15
9375.00	88.000	325.660	8116.41	149.79	1615.54	2158.36	1753019.95	430057.07	39°40'41.5562"N	80°15'56.1485"W	2696.01	53.185	0.96
9471.00	87.910	325.730	8119.84	245.72	1694.79	2104.29	1752965.88	430136.32	39°40'42.3348"N	80°15'56.8486"W	2701.92	51.152	0.12
9567.00	89.630	326.570	8121.90	341.70	1774.50	2050.83	1752912.42	430216.02	39°40'43.1180"N	80°15'57.5410"W	2711.96	49.132	1.99
9662.00	88.430	325.930	8123.51	436.68	1853.48	1998.06	1752859.66	430294.99	39°40'43.8940"N	80°15'58.2246"W	2725.36	47.150	1.43
9757.00	89.170	326.620	8125.50	531.66	1932.47	1945.33	1752806.93	430373.98	39°40'44.6703"N	80°15'58.9076"W	2742.03	45.190	1.06
9853.00	89.510	325.370	8126.60	627.65	2012.05	1891.64	1752753.25	430453.55	39°40'45.4521"N	80°15'59.6029"W	2761.64	43.233	1.35
9948.00	90.310	327.280	8126.75	722.64	2091.10	1838.97	1752700.58	430532.60	39°40'46.2290"N	80°16'0.2852"W	2784.69	41.329	2.18
10044.00	89.170	325.420	8127.19	818.64	2171.01	1785.78	1752647.39	430612.51	39°40'47.0142"N	80°16'0.9742"W	2811.10	39.439	2.27
10139.00	89.290	325.580	8128.46	913.62	2249.29	1731.97	1752593.59	430690.79	39°40'47.7833"N	80°16'1.6709"W	2838.85	37.597	0.21
10234.00	89.750	326.020	8129.26	1008.61	2327.86	1678.58	1752540.20	430769.35	39°40'48.5552"N	80°16'2.3624"W	2869.94	35.795	0.67
10330.00	90.150	326.860	8129.34	1104.61	2407.86	1625.51	1752487.13	430849.34	39°40'49.3413"N	80°16'3.0498"W	2905.18	34.023	0.97
10425.00	89.630	326.250	8129.53	1199.61	2487.13	1573.15	1752434.78	430928.61	39°40'50.1203"N	80°16'3.7281"W	2942.89	32.314	0.84

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# Actual Wellpath Report

ERP 13H awp Proj: 23919'  
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## REFERENCE WELLPATH IDENTIFICATION

Operator	NORTHEAST NATURAL ENERGY, LLC	Well	ERP 13H
Field	Monongalia	API	47-061-01962-00-00
Facility	ERP Pad	Wellbore	ERP 13H AWB
Slot	Slot 13H		

## WELLPATH DATA (263 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]
10520.00	89.910	326.850	8129.91	1294.60	2566.39	1520.79	1752382.41	431007.87	39°40'50.8992"N	80°16'4.4065"W	2983.15	30.650	0.70
10616.00	89.940	326.520	8130.03	1390.60	2646.61	1468.06	1752329.69	431088.08	39°40'51.6875"N	80°16'5.0897"W	3026.51	29.017	0.35
10711.00	90.920	326.800	8129.32	1485.60	2725.98	1415.85	1752277.48	431167.44	39°40'52.4674"N	80°16'5.7661"W	3071.74	27.447	1.07
10806.00	91.600	327.470	8127.23	1580.56	2805.75	1364.31	1752225.95	431247.21	39°40'53.2514"N	80°16'6.4340"W	3119.87	25.932	1.00
10902.00	91.570	326.450	8124.58	1676.52	2886.20	1311.99	1752173.63	431327.65	39°40'54.0420"N	80°16'7.1120"W	3170.40	24.445	1.06
10997.00	91.480	326.570	8122.05	1771.49	2965.40	1259.59	1752121.23	431406.85	39°40'54.8203"N	80°16'7.7909"W	3221.82	23.014	0.16
11091.00	90.860	326.530	8120.13	1865.47	3043.81	1207.78	1752069.43	431485.25	39°40'55.5908"N	80°16'8.4621"W	3274.68	21.643	0.66
11187.00	91.110	326.380	8118.48	1961.45	3123.81	1154.74	1752016.39	431565.25	39°40'56.3769"N	80°16'9.1492"W	3330.41	20.287	0.30
11282.00	90.620	325.270	8117.04	2056.44	3202.40	1101.39	1751963.04	431643.83	39°40'57.1490"N	80°16'9.8403"W	3386.50	18.979	1.28
11376.00	91.260	326.870	8115.50	2150.42	3280.38	1048.93	1751910.58	431721.81	39°40'57.9152"N	80°16'10.5198"W	3444.00	17.732	1.83
11472.00	91.660	327.210	8113.05	2246.38	3360.90	996.72	1751858.37	431802.32	39°40'58.7066"N	80°16'11.1964"W	3505.58	16.518	0.55
11566.00	92.250	326.620	8109.85	2340.32	3439.61	945.43	1751807.09	431881.03	39°40'59.4801"N	80°16'11.8609"W	3567.18	15.369	0.89
11661.00	92.090	327.100	8106.25	2435.25	3519.10	893.53	1751755.20	431960.52	39°41'0.2612"N	80°16'12.5334"W	3630.77	14.247	0.53
11757.00	91.390	324.520	8103.34	2531.19	3598.46	839.62	1751701.29	432039.88	39°41'1.0410"N	80°16'13.2318"W	3695.12	13.134	2.78
11852.00	92.770	325.420	8099.89	2626.10	3676.20	785.13	1751646.80	432117.61	39°41'1.8046"N	80°16'13.9373"W	3759.11	12.056	1.73
11948.00	91.510	325.670	8096.30	2722.02	3755.30	730.85	1751592.53	432196.71	39°41'2.5817"N	80°16'14.6401"W	3825.76	11.013	1.34
12043.00	92.220	325.440	8093.21	2816.96	3833.61	677.15	1751538.83	432275.00	39°41'3.3510"N	80°16'15.3356"W	3892.95	10.017	0.79
12138.00	93.390	326.760	8088.56	2911.84	3912.36	624.23	1751485.91	432353.75	39°41'4.1248"N	80°16'16.0211"W	3961.84	9.065	1.86
12234.00	93.020	325.920	8083.19	3007.69	3992.14	571.10	1751432.79	432433.52	39°41'4.9087"N	80°16'16.7094"W	4032.78	8.141	0.95
12329.00	93.540	328.450	8077.76	3102.51	4071.84	519.71	1751381.39	432513.22	39°41'5.6920"N	80°16'17.3755"W	4104.87	7.274	2.71
12425.00	94.160	326.280	8071.31	3198.28	4152.50	468.05	1751329.75	432593.87	39°41'6.4847"N	80°16'18.0450"W	4178.79	6.431	2.35
12520.00	94.160	326.420	8064.42	3293.03	4231.37	415.55	1751277.25	432672.74	39°41'7.2597"N	80°16'18.7252"W	4251.73	5.609	0.15
12616.00	94.070	326.060	8057.53	3388.78	4310.98	362.34	1751224.04	432752.34	39°41'8.0419"N	80°16'19.4146"W	4326.18	4.804	0.39
12711.00	93.540	324.610	8051.23	3483.55	4388.94	308.43	1751170.13	432830.30	39°41'8.8078"N	80°16'20.1128"W	4399.76	4.020	1.62
12806.00	93.050	327.530	8045.77	3578.38	4467.62	255.49	1751117.20	432908.98	39°41'9.5809"N	80°16'20.7985"W	4474.92	3.273	3.11
12901.00	92.560	326.120	8041.12	3673.26	4547.04	203.57	1751065.28	432988.39	39°41'10.3613"N	80°16'21.4713"W	4551.59	2.563	1.57
12997.00	92.400	324.490	8036.96	3769.15	4625.89	148.98	1751010.69	433067.24	39°41'11.1359"N	80°16'22.1782"W	4628.29	1.845	1.70
13092.00	93.020	325.890	8032.47	3864.02	4703.80	94.81	1750956.53	433145.15	39°41'11.9013"N	80°16'22.8797"W	4704.76	1.155	1.61
13187.00	91.540	326.380	8028.69	3958.94	4782.62	41.92	1750903.64	433223.96	39°41'12.6757"N	80°16'23.5649"W	4782.81	0.502	1.64
13283.00	91.600	326.740	8026.06	4054.91	4862.70	-10.96	1750850.76	433304.03	39°41'13.4626"N	80°16'24.2502"W	4862.71	359.871	0.38

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# Actual Wellpath Report

ERP 13H awp Proj: 23919'  
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**REFERENCE WELLPATH IDENTIFICATION**

Operator	NORTHEAST NATURAL ENERGY, LLC	Well	ERP 13H
Field	Monongalia	API	47-061-01962-00-00
Facility	ERP Pad	Wellbore	ERP 13H AWB
Slot	Slot 13H		

**WELLPATH DATA (263 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]
13378.00	91.510	326.410	8023.48	4149.87	4941.96	-63.27	1750798.45	433383.29	39°41'14.2414"N	80°16'24.9280"W	4942.36	359.266	0.36
13473.00	92.030	326.670	8020.55	4244.83	5021.18	-115.63	1750746.10	433462.50	39°41'15.0198"N	80°16'25.6064"W	5022.51	358.681	0.61
13568.00	90.920	326.100	8018.10	4339.79	5100.26	-168.20	1750693.53	433541.58	39°41'15.7969"N	80°16'26.2876"W	5103.04	358.111	1.31
13664.00	90.550	326.380	8016.87	4435.78	5180.07	-221.54	1750640.19	433621.38	39°41'16.5810"N	80°16'26.9787"W	5184.80	357.551	0.48
13760.00	90.740	326.850	8015.79	4531.78	5260.22	-274.37	1750587.37	433701.53	39°41'17.3686"N	80°16'27.6632"W	5267.37	357.014	0.53
13855.00	90.620	326.510	8014.66	4626.77	5339.60	-326.55	1750535.19	433780.90	39°41'18.1487"N	80°16'28.3394"W	5349.57	356.500	0.38
13950.00	91.140	326.550	8013.20	4721.76	5418.84	-378.93	1750482.81	433860.14	39°41'18.9272"N	80°16'29.0182"W	5432.07	356.000	0.55
14046.00	91.290	326.370	8011.17	4817.74	5498.83	-431.96	1750429.78	433940.13	39°41'19.7133"N	80°16'29.7054"W	5515.77	355.508	0.24
14141.00	91.420	326.650	8008.92	4912.71	5578.04	-484.37	1750377.38	434019.33	39°41'20.4916"N	80°16'30.3844"W	5599.03	355.037	0.32
14237.00	91.020	326.650	8006.88	5008.69	5658.21	-537.13	1750324.62	434099.50	39°41'21.2794"N	80°16'31.0682"W	5683.65	354.577	0.42
14332.00	90.620	326.220	8005.52	5103.67	5737.36	-589.65	1750272.10	434178.64	39°41'22.0571"N	80°16'31.7487"W	5767.59	354.132	0.62
14428.00	89.940	326.450	8005.05	5199.67	5817.26	-642.87	1750218.89	434258.54	39°41'22.8422"N	80°16'32.4382"W	5852.68	353.694	0.75
14523.00	89.720	326.240	8005.33	5294.67	5896.34	-695.51	1750166.25	434337.61	39°41'23.6192"N	80°16'33.1204"W	5937.22	353.273	0.32
14619.00	88.920	325.920	8006.47	5390.66	5976.00	-749.08	1750112.68	434417.26	39°41'24.4018"N	80°16'33.8144"W	6022.76	352.855	0.90
14714.00	89.690	326.340	8007.62	5485.65	6054.87	-802.02	1750059.75	434496.13	39°41'25.1767"N	80°16'34.5003"W	6107.75	352.455	0.92
14809.00	89.200	326.880	8008.54	5580.65	6134.18	-854.30	1750007.47	434575.44	39°41'25.9561"N	80°16'35.1778"W	6193.39	352.071	0.77
14905.00	90.580	326.670	8008.73	5676.64	6214.49	-906.90	1749954.87	434655.74	39°41'26.7452"N	80°16'35.8595"W	6280.31	351.697	1.45
15000.00	90.310	325.940	8007.99	5771.64	6293.53	-959.60	1749902.18	434734.77	39°41'27.5218"N	80°16'36.5424"W	6366.26	351.331	0.82
15096.00	90.460	326.030	8007.34	5867.64	6373.10	-1013.30	1749848.48	434814.34	39°41'28.3036"N	80°16'37.2382"W	6453.15	350.966	0.18
15191.00	90.150	326.240	8006.84	5962.63	6451.98	-1066.24	1749795.54	434893.22	39°41'29.0786"N	80°16'37.9240"W	6539.49	350.616	0.39
15287.00	90.280	326.680	8006.48	6058.63	6531.99	-1119.28	1749742.51	434973.23	39°41'29.8648"N	80°16'38.6114"W	6627.20	350.277	0.48
15382.00	89.320	326.500	8006.81	6153.63	6611.29	-1171.59	1749690.20	435052.52	39°41'30.6440"N	80°16'39.2893"W	6714.30	349.951	1.03
15477.00	89.630	326.490	8007.68	6248.63	6690.51	-1224.03	1749637.77	435131.73	39°41'31.4223"N	80°16'39.9689"W	6801.55	349.632	0.33
15572.00	88.250	325.690	8009.44	6343.61	6769.33	-1277.02	1749584.78	435210.55	39°41'32.1968"N	80°16'40.6554"W	6888.73	349.317	1.68
15668.00	88.550	326.640	8012.12	6439.57	6849.04	-1330.45	1749531.35	435290.25	39°41'32.9799"N	80°16'41.3477"W	6977.07	349.007	1.04
15764.00	88.030	325.250	8014.98	6535.52	6928.54	-1384.18	1749477.62	435369.75	39°41'33.7610"N	80°16'42.0439"W	7065.45	348.702	1.55
15859.00	89.910	327.040	8016.69	6630.49	7007.41	-1437.09	1749424.71	435448.62	39°41'34.5359"N	80°16'42.7295"W	7153.26	348.410	2.73
15955.00	89.170	325.400	8017.46	6726.49	7087.20	-1490.47	1749371.35	435528.40	39°41'35.3198"N	80°16'43.4211"W	7242.23	348.124	1.87
16050.00	89.660	326.290	8018.43	6821.48	7165.81	-1543.80	1749318.02	435607.00	39°41'36.0921"N	80°16'44.1120"W	7330.22	347.842	1.07
16145.00	89.940	326.490	8018.76	6916.48	7244.93	-1596.38	1749265.43	435686.12	39°41'36.8695"N	80°16'44.7935"W	7418.72	347.574	0.36

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# Actual Wellpath Report

ERP 13H awp Proj: 23919'  
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## REFERENCE WELLPATH IDENTIFICATION

Operator	NORTHEAST NATURAL ENERGY, LLC	Well	ERP 13H
Field	Monongalia	API	47-061-01962-00-00
Facility	ERP Pad	Wellbore	ERP 13H AWB
Slot	Slot 13H		

## WELLPATH DATA (263 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]
16241.00	90.000	326.040	8018.81	7012.48	7324.76	-1649.70	1749212.12	435765.95	39°41'37.6539"N	80°16'45.4843"W	7508.24	347.308	0.47
16336.00	89.820	324.550	8018.96	7107.46	7402.86	-1703.78	1749158.04	435844.04	39°41'38.4211"N	80°16'46.1849"W	7596.39	347.039	1.58
16431.00	89.380	325.690	8019.63	7202.43	7480.79	-1758.11	1749103.72	435921.96	39°41'39.1865"N	80°16'46.8885"W	7684.60	346.775	1.29
16527.00	89.020	326.080	8020.97	7298.42	7560.26	-1811.95	1749049.88	436001.43	39°41'39.9673"N	80°16'47.5860"W	7774.36	346.522	0.55
16621.00	89.600	327.540	8022.10	7392.40	7638.92	-1863.40	1748998.44	436080.08	39°41'40.7402"N	80°16'48.2529"W	7862.91	346.291	1.67
16716.00	89.880	328.660	8022.53	7487.36	7719.57	-1913.60	1748948.24	436160.73	39°41'41.5329"N	80°16'48.9041"W	7953.21	346.078	1.22
16811.00	90.650	328.660	8022.09	7582.28	7800.71	-1963.01	1748898.83	436241.86	39°41'42.3305"N	80°16'49.5451"W	8043.90	345.875	0.81
16906.00	89.850	328.660	8021.68	7677.20	7881.84	-2012.42	1748849.42	436322.99	39°41'43.1281"N	80°16'50.1862"W	8134.70	345.677	0.84
17001.00	90.090	327.120	8021.73	7772.17	7962.31	-2062.91	1748798.93	436403.45	39°41'43.9190"N	80°16'50.8412"W	8225.20	345.475	1.64
17095.00	90.310	327.090	8021.40	7866.16	8041.24	-2113.96	1748747.88	436482.38	39°41'44.6946"N	80°16'51.5030"W	8314.46	345.271	0.24
17190.00	89.480	326.790	8021.57	7961.15	8120.85	-2165.79	1748696.06	436561.99	39°41'45.4770"N	80°16'52.1748"W	8404.70	345.067	0.93
17285.00	90.430	326.790	8021.65	8056.15	8200.34	-2217.82	1748644.04	436641.47	39°41'46.2580"N	80°16'52.8493"W	8494.95	344.866	1.00
17380.00	90.120	326.930	8021.19	8151.14	8279.88	-2269.75	1748592.10	436721.01	39°41'47.0396"N	80°16'53.5225"W	8585.35	344.670	0.36
17475.00	89.850	325.880	8021.22	8246.14	8359.01	-2322.32	1748539.54	436800.14	39°41'47.8171"N	80°16'54.2038"W	8675.61	344.474	1.14
17571.00	90.090	325.860	8021.27	8342.14	8438.48	-2376.18	1748485.68	436879.60	39°41'48.5978"N	80°16'54.9017"W	8766.65	344.273	0.25
17665.00	90.220	326.350	8021.01	8436.14	8516.51	-2428.60	1748433.27	436957.62	39°41'49.3644"N	80°16'55.5810"W	8856.01	344.084	0.54
17760.00	89.850	325.780	8020.95	8531.13	8595.32	-2481.64	1748380.24	437036.43	39°41'50.1387"N	80°16'56.2682"W	8946.40	343.896	0.72
17856.00	89.780	325.500	8021.26	8627.13	8674.57	-2535.82	1748326.06	437115.67	39°41'50.9172"N	80°16'56.9701"W	9037.62	343.705	0.30
17951.00	90.030	325.800	8021.42	8722.12	8753.00	-2589.42	1748272.46	437194.10	39°41'51.6877"N	80°16'57.6646"W	9127.99	343.520	0.41
18046.00	89.850	326.270	8021.52	8817.12	8831.79	-2642.50	1748219.39	437272.89	39°41'52.4618"N	80°16'58.3524"W	9218.64	343.343	0.53
18142.00	89.720	325.970	8021.88	8913.11	8911.49	-2696.01	1748165.87	437352.58	39°41'53.2448"N	80°16'59.0459"W	9310.38	343.168	0.34
18237.00	89.970	326.020	8022.14	9008.11	8990.25	-2749.14	1748112.75	437431.33	39°41'54.0185"N	80°16'59.7344"W	9401.19	342.997	0.27
18332.00	90.340	326.120	8021.88	9103.11	9069.07	-2802.17	1748059.72	437510.15	39°41'54.7929"N	80°17'0.4215"W	9492.11	342.830	0.40
18427.00	90.430	326.090	8021.24	9198.11	9147.92	-2855.15	1748006.75	437589.00	39°41'55.5676"N	80°17'1.1081"W	9583.13	342.666	0.10
18523.00	89.970	325.390	8020.91	9294.10	9227.27	-2909.19	1747952.71	437668.33	39°41'56.3470"N	80°17'1.8083"W	9675.01	342.501	0.87
18618.00	90.180	325.340	8020.78	9389.09	9305.43	-2963.18	1747898.72	437746.49	39°41'57.1148"N	80°17'2.5078"W	9765.83	342.337	0.23
18713.00	89.970	325.420	8020.66	9484.07	9383.61	-3017.15	1747844.75	437824.67	39°41'57.8828"N	80°17'3.2070"W	9856.74	342.176	0.24
18809.00	90.120	325.090	8020.58	9580.05	9462.49	-3071.87	1747790.04	437903.55	39°41'58.6576"N	80°17'3.9158"W	9948.62	342.015	0.38
18904.00	90.490	325.710	8020.08	9675.04	9540.69	-3125.81	1747736.10	437981.74	39°41'59.4257"N	80°17'4.6146"W	10039.69	341.860	0.76
18999.00	90.400	326.040	8019.34	9770.03	9619.33	-3179.10	1747682.81	438060.37	39°42'0.1983"N	80°17'5.3052"W	10131.05	341.712	0.36

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# Actual Wellpath Report

ERP 13H awp Proj: 23919'  
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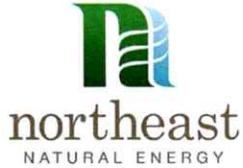
## REFERENCE WELLPATH IDENTIFICATION

Operator	NORTHEAST NATURAL ENERGY, LLC	Well	ERP 13H
Field	Monongalia	API	47-061-01962-00-00
Facility	ERP Pad	Wellbore	ERP 13H AWB
Slot	Slot 13H		

## WELLPATH DATA (263 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]
19095.00	90.310	325.790	8018.74	9866.03	9698.84	-3232.90	1747629.01	438139.88	39°42'0.9794"N	80°17'6.0024"W	10223.46	341.565	0.28
19190.00	90.150	325.850	8018.36	9961.02	9777.43	-3286.27	1747575.65	438218.46	39°42'1.7514"N	80°17'6.6939"W	10314.92	341.422	0.18
19286.00	90.060	325.840	8018.19	10057.02	9856.87	-3340.17	1747521.75	438297.90	39°42'2.5318"N	80°17'7.3923"W	10407.43	341.280	0.09
19381.00	90.150	325.400	8018.01	10152.01	9935.27	-3393.81	1747468.11	438376.30	39°42'3.3020"N	80°17'8.0874"W	10498.93	341.140	0.47
19477.00	89.910	324.830	8017.96	10247.98	10014.02	-3448.72	1747413.21	438455.04	39°42'4.0755"N	80°17'8.7987"W	10591.24	340.997	0.64
19572.00	89.850	326.470	8018.16	10342.97	10092.45	-3502.32	1747359.61	438533.47	39°42'4.8460"N	80°17'9.4932"W	10682.87	340.862	1.73
19668.00	90.280	327.120	8018.05	10438.97	10172.77	-3554.89	1747307.04	438613.79	39°42'5.6352"N	80°17'10.1748"W	10776.02	340.738	0.81
19763.00	89.850	326.880	8017.95	10533.96	10252.45	-3606.63	1747255.31	438693.45	39°42'6.4181"N	80°17'10.8456"W	10868.33	340.619	0.52
19859.00	90.250	326.940	8017.86	10629.96	10332.88	-3659.05	1747202.90	438773.88	39°42'7.2084"N	80°17'11.5252"W	10961.61	340.500	0.42
19954.00	90.400	326.430	8017.32	10724.96	10412.26	-3711.22	1747150.72	438853.26	39°42'7.9884"N	80°17'12.2016"W	11053.89	340.383	0.56
20049.00	91.050	327.280	8016.12	10819.94	10491.80	-3763.16	1747098.79	438932.79	39°42'8.7699"N	80°17'12.8750"W	11146.27	340.268	1.13
20145.00	90.950	326.860	8014.44	10915.92	10572.36	-3815.34	1747046.61	439013.35	39°42'9.5616"N	80°17'13.5516"W	11239.74	340.157	0.45
20240.00	90.620	326.560	8013.14	11010.91	10651.77	-3867.48	1746994.48	439092.75	39°42'10.3418"N	80°17'14.2276"W	11332.14	340.045	0.47
20335.00	90.060	326.480	8012.58	11105.91	10731.00	-3919.88	1746942.08	439171.98	39°42'11.1203"N	80°17'14.9069"W	11424.53	339.933	0.60
20430.00	90.120	326.670	8012.43	11200.91	10810.29	-3972.21	1746889.75	439251.26	39°42'11.8993"N	80°17'15.5853"W	11516.98	339.824	0.21
20526.00	90.310	326.560	8012.07	11296.91	10890.45	-4025.04	1746836.93	439331.42	39°42'12.6869"N	80°17'16.2701"W	11610.46	339.716	0.23
20621.00	90.060	326.370	8011.76	11391.90	10969.64	-4077.52	1746784.45	439410.60	39°42'13.4649"N	80°17'16.9505"W	11702.95	339.609	0.33
20716.00	90.180	326.350	8011.56	11486.90	11048.73	-4130.15	1746731.83	439489.68	39°42'14.2419"N	80°17'17.6327"W	11795.44	339.504	0.13
20811.00	90.030	326.460	8011.39	11581.90	11127.86	-4182.71	1746679.26	439568.81	39°42'15.0194"N	80°17'18.3141"W	11887.99	339.400	0.20
20905.00	90.220	326.960	8011.19	11675.90	11206.43	-4234.31	1746627.67	439647.38	39°42'15.7914"N	80°17'18.9830"W	11979.71	339.301	0.57
21001.00	90.120	326.570	8010.90	11771.90	11286.73	-4286.92	1746575.06	439727.67	39°42'16.5804"N	80°17'19.6652"W	12073.44	339.202	0.42
21096.00	89.880	326.540	8010.90	11866.90	11366.00	-4339.28	1746522.71	439806.94	39°42'17.3592"N	80°17'20.3440"W	12166.15	339.104	0.25
21191.00	90.220	326.830	8010.82	11961.90	11445.39	-4391.46	1746470.53	439886.32	39°42'18.1392"N	80°17'21.0205"W	12258.95	339.009	0.47
21286.00	90.150	326.980	8010.51	12056.89	11524.97	-4443.33	1746418.66	439965.90	39°42'18.9213"N	80°17'21.6931"W	12351.85	338.916	0.17
21381.00	90.220	326.620	8010.20	12151.89	11604.47	-4495.35	1746366.65	440045.39	39°42'19.7023"N	80°17'22.3676"W	12444.75	338.825	0.39
21477.00	90.180	326.740	8009.87	12247.89	11684.68	-4548.08	1746313.92	440125.60	39°42'20.4905"N	80°17'23.0513"W	12538.62	338.732	0.13
21572.00	90.310	327.100	8009.46	12342.88	11764.28	-4599.93	1746262.07	440205.20	39°42'21.2726"N	80°17'23.7236"W	12631.62	338.644	0.40
21667.00	90.250	326.940	8009.00	12437.87	11843.98	-4651.64	1746210.36	440284.88	39°42'22.0557"N	80°17'24.3942"W	12724.68	338.558	0.18
21762.00	90.180	326.690	8008.64	12532.87	11923.48	-4703.64	1746158.37	440364.38	39°42'22.8369"N	80°17'25.0685"W	12817.71	338.471	0.27
21858.00	90.060	326.700	8008.44	12628.87	12003.71	-4756.35	1746105.66	440444.61	39°42'23.6252"N	80°17'25.7519"W	12911.70	338.385	0.13

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# Actual Wellpath Report

ERP 13H awp Proj: 23919'  
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## REFERENCE WELLPATH IDENTIFICATION

Operator	NORTHEAST NATURAL ENERGY, LLC	Well	ERP 13H
Field	Monongalia	API	47-061-01962-00-00
Facility	ERP Pad	Wellbore	ERP 13H AWB
Slot	Slot 13H		

## WELLPATH DATA (263 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]
21953.00	90.120	326.040	8008.29	12723.87	12082.81	-4808.97	1746053.05	440523.71	39°42'24.4023"N	80°17'26.4340"W	13004.64	338.297	0.70
22048.00	90.550	326.610	8007.74	12818.87	12161.87	-4861.64	1746000.37	440602.76	39°42'25.1790"N	80°17'27.1168"W	13097.58	338.211	0.75
22144.00	90.650	326.400	8006.73	12914.86	12241.92	-4914.62	1745947.40	440682.81	39°42'25.9655"N	80°17'27.8037"W	13191.59	338.127	0.24
22239.00	90.580	327.960	8005.71	13009.84	12321.75	-4966.10	1745895.92	440762.63	39°42'26.7499"N	80°17'28.4714"W	13284.87	338.049	1.64
22334.00	90.650	325.930	8004.69	13104.83	12401.37	-5017.92	1745844.11	440842.24	39°42'27.5322"N	80°17'29.1433"W	13378.09	337.970	2.14
22427.00	90.650	324.870	8003.64	13197.81	12477.91	-5070.72	1745791.31	440918.78	39°42'28.2841"N	80°17'29.8276"W	13468.87	337.884	1.14
22522.00	90.220	326.100	8002.92	13292.79	12556.19	-5124.55	1745737.49	440997.05	39°42'29.0529"N	80°17'30.5251"W	13561.67	337.798	1.37
22617.00	90.430	326.100	8002.38	13387.79	12635.04	-5177.53	1745684.50	441075.90	39°42'29.8275"N	80°17'31.2119"W	13654.71	337.717	0.22
22712.00	90.370	327.270	8001.71	13482.78	12714.42	-5229.71	1745632.33	441155.28	39°42'30.6075"N	80°17'31.8884"W	13747.96	337.642	1.23
22807.00	90.090	325.980	8001.33	13577.78	12793.75	-5281.97	1745580.07	441234.60	39°42'31.3869"N	80°17'32.5660"W	13841.22	337.566	1.39
22902.00	90.060	325.900	8001.21	13672.78	12872.46	-5335.17	1745526.87	441313.30	39°42'32.1601"N	80°17'33.2557"W	13934.28	337.488	0.09
22997.00	90.090	326.900	8001.08	13767.77	12951.58	-5387.74	1745474.30	441392.42	39°42'32.9374"N	80°17'33.9373"W	14027.52	337.413	1.05
23092.00	90.220	327.240	8000.83	13862.77	13031.32	-5439.39	1745422.66	441472.15	39°42'33.7209"N	80°17'34.6071"W	14120.98	337.344	0.38
23186.00	90.620	326.480	8000.14	13956.76	13110.02	-5490.77	1745371.28	441550.86	39°42'34.4942"N	80°17'35.2734"W	14213.42	337.275	0.91
23281.00	90.650	326.670	7999.08	14051.75	13189.31	-5543.10	1745318.96	441630.13	39°42'35.2732"N	80°17'35.9519"W	14306.77	337.204	0.20
23377.00	89.260	324.870	7999.16	14147.74	13268.67	-5597.10	1745264.96	441709.50	39°42'36.0528"N	80°17'36.6518"W	14400.88	337.129	2.37
23472.00	89.540	326.250	8000.15	14242.72	13347.02	-5650.82	1745211.24	441787.83	39°42'36.8223"N	80°17'37.3481"W	14493.95	337.053	1.48
23566.00	88.890	326.600	8001.44	14336.72	13425.33	-5702.80	1745159.27	441866.14	39°42'37.5917"N	80°17'38.0220"W	14586.34	336.985	0.79
23662.00	88.740	326.320	8003.43	14432.69	13505.32	-5755.83	1745106.24	441946.13	39°42'38.3776"N	80°17'38.7096"W	14680.71	336.917	0.33
23757.00	89.080	326.500	8005.23	14527.68	13584.45	-5808.38	1745053.69	442025.25	39°42'39.1549"N	80°17'39.3909"W	14774.11	336.850	0.40
23852.00	89.020	326.530	8006.81	14622.66	13663.67	-5860.79	1745001.29	442104.47	39°42'39.9333"N	80°17'40.0704"W	14867.57	336.784	0.07
23894.00	88.800	325.440	8007.61	14664.65	13698.47	-5884.28	1744977.80	442139.27	39°42'40.2752"N	80°17'40.3749"W	14908.82	336.754	2.65
23919.00‡	88.800	325.440	8008.13	14689.65	13719.06	-5898.46	1744963.62	442159.85	39°42'40.4774"N	80°17'40.5587"W	14933.33	336.735	0.00

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**TARGETS**

Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
ERP Unit Lines NE (11.26.2024)	9528.50	12267.52	-8244.80	1742617.43	440708.40	39°42'25.9265"N	80°18'10.4150"W	polygon
2D Polygon: dimensions not calculated								
ERP Unit Lines NW (11.26.2024)	9528.50	12267.52	-8244.80	1742617.43	440708.40	39°42'25.9265"N	80°18'10.4150"W	polygon
2D Polygon: dimensions not calculated								

**WELLPATH COMPOSITION - Ref Wellbore: ERP 13H AWB Ref Wellpath: ERP 13H awp Proj: 23919'**

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore	Survey Date
28.50	1150.00	BH Generic gyro - northseeking (Standard)	1 Imported Gyro Scientific 50' - 1150'	ERP 13H AWB	2/20/2025
1150.00	7255.00	OWSG MWD rev2 + HRGM	2 Imported MWD Scientific 1175' - 7255'	ERP 13H AWB	2/20/2025
7255.00	23919.00	BH AutoTrak Curve/eXpress (2019) (HRGM, Short spacing)	3 BH MWD ATC HRGM Short spacing 8.5" 7378' - 23894'	ERP 13H AWB	2/20/2025

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