



NORTHEAST NATURAL ENERGY, LLC

Location: Monongalia County, WV
Field: Monongalia
Facility: Miracle Run Pad

Slot: Slot #04
Well: Miracle Run 4H (ST01)
Wellbore: Miracle Run 4H (ST01) PWB



Easting (ft) Scale 1 inch = 3500

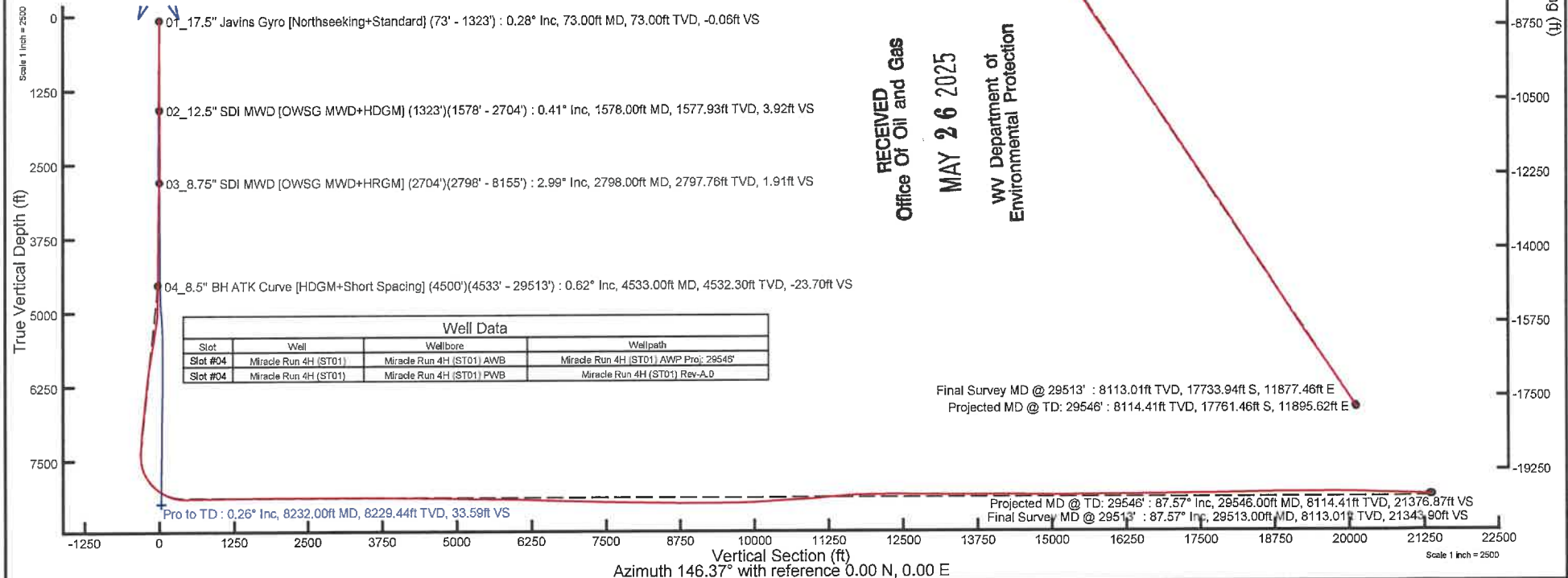
-5250 -3500 -1750 0 1750 3500 5250 7000 8750 10500 12250 14000

Plot reference wellpath is Miracle Run 4H (ST01) Rev-A-0	Grid System: NAD83 / Lambert West Virginia SP, Northern Zone (4701), US feet
True vertical depths are referenced to Nabors X08 (RKB)	North Reference Grid north
Reference wellpath measured depths are referenced to Nabors X08 (RKB)	Scale: True distance
Nabors X08 (RKB) to Mean Sea Level: 1490.5 feet	Coordinates are in feet referenced to Slot
Mean Sea Level to Ground level (At Slot: Slot #04): -1458 feet	Depths are in feet
Offset wellpath MDs are referenced to each path's default MD datum	Created by: manajh on 2024-05-10, Database: WA_MPR_EASTSRHUS_Data

04_8.5" BH ATK Curve [HDGM+Short Spacing] (4500')(4533' - 29513') : 4532.30ft TVD, 12.60ft N, 23.86ft W
03_8.75" SDI MWD [OWSG MWD+HRGM] (2704')(2798' - 8155') : 2797.76ft TVD, 6.91ft S, 6.94ft W
02_12.5" SDI MWD [OWSG MWD+HDGM] (1323')(1578' - 2704') : 1577.93ft TVD, 9.20ft S, 6.76ft W
01_17.5" Javins Gyro [Northseeking+Standard] (73' - 1323') : 73.00ft TVD, 0.09ft N, 0.03ft E

Location Information					
Facility Name	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude	
Miracle Run Pad	1737889.810	412328.340	39°37'45.022"N	80°19'7.597"W	
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude
Slot #04	0.00	0.00	1737889.810	412328.340	39°37'45.022"N
Nabors X08 (RKB) to Ground level (At Slot: Slot #04)			32.5ft		
Mean Sea Level to Ground level (At Slot: Slot #04)			-1458ft		
Nabors X08 (RKB) to Mean Sea Level			1490.5ft		

Well Profile Data								
Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (ft/100ft)	VS (ft)
ST KOP	4500.00	0.701	25.782	4499.30	12.24	-23.97	0.55	-23.47
End ST/Start Rat Hole	4575.64	5.000	340.000	4574.84	15.76	-24.90	6.00	-26.91
KOP	4665.64	5.000	340.000	4664.50	23.13	-27.56	0.00	-34.53
Start Tangent	4724.67	6.108	335.773	4723.25	28.41	-29.75	2.00	-40.13
Start Flat Turn	7301.05	6.108	335.773	7285.00	279.41	-142.25	0.00	-310.59
Start Build Turn	7441.05	6.108	78.135	7424.21	289.99	-198.38	7.78	-316.98
Build Turn	7623.44	15.842	141.889	7603.53	272.36	-111.30	7.78	-288.42
Landing Pt	8577.38	90.000	146.373	8139.50	-310.88	291.51	7.78	420.29
BHL	29534.41	90.000	146.373	8139.50	-17761.04	11897.05	0.00	21377.32



REFERENCE WELLPATH IDENTIFICATION					
Operator	NORTHEAST NATURAL ENERGY, LLC	Well	Miracle Run 4H (ST01)		
Field	Monongalia	API/Legal			
Facility	Miracle Run Pad	Wellbore	Miracle Run 4H (ST01) AWB		
Slot	Slot #04	Sidetrack from	Miracle Run 4H (Pilot) AWP Proj: 8232' at 4500.00 MD		

REPORT SETUP INFORMATION				
Projection System	NAD83 / Lambert West Virginia SP, Northern Zone (4701), US feet	Software System	WellArchitect® 6.0	
North Reference	Grid	User	Manajohnj	
Scale	0.999941	Report Generated	5/10/2024 at 9:54:51 AM	
Convergence at slot	0.52° West	Database	WA_MPL_EASTERNNUS_Defn	

WELLPATH LOCATION					
Slot Location	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude
	0.00	0.00	1737889.81	412328.34	39°37'45.0221"N
Facility Reference Pt			1737889.81	412328.34	39°37'45.0221"N
Field Reference Pt			1777685.71	440640.65	39°42'28.1140"N
				Geographic coordinates	
				Longitude	
				80°19'7.5970"W	
				80°10'41.6900"W	

WELLPATH DATUM					
Calculation method	Minimum curvature	Nabors X08 (RKB) to Facility Vertical Datum		1490.50ft	
Horizontal Reference Pt	Slot	Nabors X08 (RKB) to Mean Sea Level		1490.50ft	
Vertical Reference Pt	Nabors X08 (RKB)	Nabors X08 (RKB) to Ground Level at Slot (Slot #04)		32.50ft	
MD Reference Pt	Nabors X08 (RKB)	Section Origin		N 0.00, E 0.00 ft	
Field Vertical Reference	Mean Sea Level	Section Azimuth		146.37°	

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Actual Wellpath Report

Miracle Run 4H (ST01) AWP Proj: 29546'

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REFERENCE WELLPATH IDENTIFICATION

Operator	NORTHEAST NATURAL ENERGY, LLC	Well	Miracle Run 4H (ST01)
Field	Monongalia	API/Legal	
Facility	Miracle Run Pad	Wellbore	Miracle Run 4H (ST01) AWB
Slot	Slot #04	Sidetrack from	Miracle Run 4H (Pilot) AWP Proj: 8232' at 4500.00 MD

WELLPATH DATA (328 stations) † = interpolated, ‡ = extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	TVDSS [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	19.150	0.00	-1490.50	0.00	0.00	0.00	1737889.81	412328.34	39°37'45.0221"N	80°19'7.5970"W	0.00	0.000	0.00	0.00	0.00
32.50	0.000	19.150	32.50	-1458.00	0.00	0.00	0.00	1737889.81	412328.34	39°37'45.0221"N	80°19'7.5970"W	0.00	0.000	0.00	0.00	0.00
73.00	0.280	19.150	73.00	-1417.50	-0.06	0.09	0.03	1737889.84	412328.43	39°37'45.0230"N	80°19'7.5966"W	0.10	19.150	0.69	0.69	0.00
123.00	0.330	315.660	123.00	-1367.50	-0.28	0.31	-0.03	1737889.78	412328.65	39°37'45.0252"N	80°19'7.5974"W	0.31	354.852	0.65	0.10	-126.98
173.00	0.220	296.980	173.00	-1317.50	-0.50	0.46	-0.21	1737889.60	412328.80	39°37'45.0266"N	80°19'7.5998"W	0.51	334.947	0.28	-0.22	-37.36
223.00	0.270	199.010	223.00	-1267.50	-0.51	0.39	-0.34	1737889.47	412328.73	39°37'45.0259"N	80°19'7.6014"W	0.52	319.111	0.74	0.10	-195.94
273.00	0.290	328.260	273.00	-1217.50	-0.57	0.39	-0.44	1737889.37	412328.73	39°37'45.0259"N	80°19'7.6027"W	0.59	311.117	1.01	0.04	258.50
323.00	0.220	204.760	323.00	-1167.50	-0.64	0.41	-0.55	1737889.26	412328.75	39°37'45.0261"N	80°19'7.6041"W	0.68	306.523	0.90	-0.14	-247.00
373.00	0.280	272.100	373.00	-1117.50	-0.66	0.32	-0.71	1737889.10	412328.66	39°37'45.0252"N	80°19'7.6062"W	0.78	294.499	0.56	0.12	134.68
423.00	0.500	250.600	423.00	-1067.50	-0.79	0.26	-1.04	1737888.77	412328.60	39°37'45.0245"N	80°19'7.6103"W	1.07	283.857	0.52	0.44	-43.00
473.00	0.140	149.530	473.00	-1017.50	-0.78	0.13	-1.21	1737888.60	412328.47	39°37'45.0233"N	80°19'7.6126"W	1.22	276.175	1.09	-0.72	-202.14
523.00	0.550	229.510	522.99	-967.51	-0.69	-0.08	-1.37	1737888.44	412328.26	39°37'45.0212"N	80°19'7.6145"W	1.37	266.774	1.09	0.82	159.96
573.00	0.630	246.930	572.99	-917.51	-0.71	-0.34	-1.80	1737888.01	412328.00	39°37'45.0186"N	80°19'7.6200"W	1.83	259.297	0.39	0.16	34.84
623.00	0.650	199.140	622.99	-867.51	-0.59	-0.72	-2.15	1737887.66	412327.62	39°37'45.0148"N	80°19'7.6244"W	2.26	251.558	1.04	0.04	-95.58
673.00	0.920	222.010	672.98	-817.52	-0.32	-1.28	-2.51	1737887.30	412327.06	39°37'45.0092"N	80°19'7.6289"W	2.82	242.931	0.82	0.54	45.74
723.00	0.770	211.960	722.98	-767.52	-0.08	-1.87	-2.96	1737886.85	412326.47	39°37'45.0034"N	80°19'7.6346"W	3.50	237.740	0.42	-0.30	-20.10
773.00	1.010	213.280	772.97	-717.53	0.23	-2.52	-3.38	1737886.43	412325.82	39°37'44.9969"N	80°19'7.6399"W	4.21	233.266	0.48	0.48	2.64
823.00	0.880	230.700	822.97	-667.53	0.44	-3.13	-3.91	1737885.90	412325.21	39°37'44.9908"N	80°19'7.6467"W	5.01	231.347	0.63	-0.26	34.84
873.00	0.880	210.850	872.96	-617.54	0.64	-3.70	-4.41	1737885.40	412324.64	39°37'44.9851"N	80°19'7.6529"W	5.76	229.966	0.61	0.00	-39.70
923.00	0.860	198.520	922.96	-567.54	1.04	-4.39	-4.72	1737885.09	412323.95	39°37'44.9783"N	80°19'7.6569"W	6.45	227.108	0.38	-0.04	-24.66
973.00	0.600	235.500	972.95	-517.55	1.27	-4.89	-5.06	1737884.75	412323.45	39°37'44.9733"N	80°19'7.6611"W	7.04	225.958	1.05	-0.52	73.96
1023.00	0.790	207.210	1022.95	-467.55	1.44	-5.35	-5.43	1737884.38	412322.99	39°37'44.9688"N	80°19'7.6658"W	7.62	225.451	0.77	0.38	-56.58
1073.00	0.650	238.210	1072.94	-417.56	1.60	-5.80	-5.83	1737883.98	412322.54	39°37'44.9642"N	80°19'7.6709"W	8.23	225.136	0.82	-0.28	62.00
1123.00	0.720	209.310	1122.94	-367.56	1.74	-6.23	-6.23	1737883.58	412322.11	39°37'44.9600"N	80°19'7.6759"W	8.81	224.996	0.70	0.14	-57.80
1173.00	0.670	237.600	1172.94	-317.56	1.87	-6.66	-6.63	1737883.18	412321.68	39°37'44.9557"N	80°19'7.6809"W	9.39	224.867	0.69	-0.10	56.58
1223.00	0.200	241.980	1222.94	-267.56	1.86	-6.86	-6.95	1737882.86	412321.48	39°37'44.9537"N	80°19'7.6851"W	9.76	225.396	0.94	-0.94	8.76
1273.00	0.210	242.010	1272.94	-217.56	1.84	-6.94	-7.11	1737882.70	412321.40	39°37'44.9529"N	80°19'7.6871"W	9.93	225.691	0.02	0.02	0.06
1323.00	0.540	181.610	1322.93	-167.57	2.02	-7.22	-7.20	1737882.61	412321.12	39°37'44.9501"N	80°19'7.6882"W	10.19	224.914	0.95	0.66	-120.80
1578.00	0.410	148.780	1577.93	87.43	3.92	-9.20	-6.76	1737883.05	412319.14	39°37'44.9306"N	80°19'7.6823"W	11.41	216.298	0.12	-0.05	-12.87
1671.00	0.380	168.320	1670.92	180.42	4.54	-9.79	-6.52	1737883.29	412318.55	39°37'44.9248"N	80°19'7.6792"W	11.76	213.683	0.15	-0.03	21.01

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Actual Wellpath Report

Miracle Run 4H (ST01) AWP Proj: 29546'

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REFERENCE WELLPATH IDENTIFICATION

Operator	NORTHEAST NATURAL ENERGY, LLC	Well	Miracle Run 4H (ST01)
Field	Monongalia	API/Legal	
Facility	Miracle Run Pad	Wellbore	Miracle Run 4H (ST01) AWB
Slot	Slot #04	Sidetrack from	Miracle Run 4H (Pilot) AWP Proj: 8232' at 4500.00 MD

WELLPATH DATA (328 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	TVDSS [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]
1764.00	0.370	174.470	1763.92	273.42	5.09	-10.39	-6.43	1737883.38	412317.95	39°37'44.9189"N	80°19'7.6780"W	12.22	211.763	0.04	-0.01	6.61
1857.00	0.350	165.120	1856.92	366.42	5.62	-10.96	-6.33	1737883.48	412317.38	39°37'44.9132"N	80°19'7.6766"W	12.66	210.004	0.07	-0.02	-10.05
1951.00	0.170	188.170	1950.92	460.42	6.00	-11.38	-6.28	1737883.54	412316.96	39°37'44.9091"N	80°19'7.6759"W	12.99	208.882	0.22	-0.19	24.52
2045.00	0.280	172.120	2044.92	554.42	6.31	-11.74	-6.26	1737883.55	412316.60	39°37'44.9055"N	80°19'7.6757"W	13.31	208.078	0.13	0.12	-17.07
2139.00	0.300	145.260	2138.92	648.42	6.76	-12.17	-6.09	1737883.72	412316.17	39°37'44.9013"N	80°19'7.6735"W	13.61	206.588	0.14	0.02	-28.57
2233.00	0.310	201.450	2232.92	742.42	7.15	-12.61	-6.04	1737883.77	412315.73	39°37'44.8969"N	80°19'7.6728"W	13.98	205.610	0.31	0.01	59.78
2327.00	0.630	178.130	2326.91	836.41	7.74	-13.36	-6.12	1737883.69	412314.98	39°37'44.8895"N	80°19'7.6737"W	14.70	204.609	0.39	0.34	-24.81
2421.00	0.810	168.500	2420.91	930.41	8.79	-14.53	-5.97	1737883.84	412313.81	39°37'44.8780"N	80°19'7.6716"W	15.71	202.340	0.23	0.19	-10.24
2516.00	0.340	346.840	2515.90	1025.40	9.15	-14.91	-5.90	1737883.91	412313.43	39°37'44.8742"N	80°19'7.6707"W	16.04	201.589	1.21	-0.49	187.73
2610.00	1.240	355.430	2609.89	1119.39	8.00	-13.63	-6.05	1737883.76	412314.71	39°37'44.8869"N	80°19'7.6727"W	14.91	203.923	0.96	0.96	9.14
2704.00	2.020	351.730	2703.85	1213.35	5.61	-10.98	-6.37	1737883.44	412317.37	39°37'44.9131"N	80°19'7.6771"W	12.69	210.112	0.84	0.83	-3.94
2798.00	2.990	352.070	2797.76	1307.26	1.91	-6.91	-6.94	1737882.87	412321.43	39°37'44.9532"N	80°19'7.6849"W	9.79	225.141	1.03	1.03	0.36
2892.00	2.630	350.100	2891.65	1401.15	-2.28	-2.36	-7.65	1737882.16	412325.99	39°37'44.9981"N	80°19'7.6945"W	8.01	252.891	0.40	-0.38	-2.10
2986.00	2.540	347.580	2985.55	1495.05	-6.19	1.80	-8.47	1737881.34	412330.14	39°37'45.0392"N	80°19'7.7055"W	8.66	282.021	0.15	-0.10	-2.68
3079.00	2.090	341.250	3078.48	1587.98	-9.75	5.42	-9.46	1737880.35	412333.76	39°37'45.0748"N	80°19'7.7185"W	10.90	299.824	0.56	-0.48	-6.81
3173.00	1.660	282.380	3172.44	1681.94	-12.39	7.34	-11.34	1737878.47	412335.68	39°37'45.0936"N	80°19'7.7428"W	13.51	302.906	2.00	-0.46	-62.63
3267.00	0.930	279.300	3266.41	1775.91	-13.89	7.75	-13.42	1737876.39	412336.09	39°37'45.0975"N	80°19'7.7695"W	15.50	300.010	0.78	-0.78	-3.28
3361.00	1.080	280.690	3360.40	1869.90	-15.03	8.04	-15.05	1737874.77	412336.38	39°37'45.1002"N	80°19'7.7902"W	17.06	298.119	0.16	0.16	1.48
3455.00	1.170	277.210	3454.38	1963.88	-16.27	8.32	-16.87	1737872.94	412336.66	39°37'45.1028"N	80°19'7.8136"W	18.81	296.268	0.12	0.10	-3.70
3548.00	1.040	263.290	3547.36	2056.86	-17.28	8.35	-18.65	1737871.16	412336.68	39°37'45.1029"N	80°19'7.8363"W	20.43	294.109	0.32	-0.14	-14.97
3642.00	0.870	278.270	3641.35	2150.85	-18.14	8.35	-20.20	1737869.61	412336.69	39°37'45.1028"N	80°19'7.8562"W	21.86	292.453	0.32	-0.18	15.94
3735.00	0.750	283.260	3734.34	2243.84	-19.05	8.59	-21.49	1737868.32	412336.93	39°37'45.1050"N	80°19'7.8727"W	23.15	291.784	0.15	-0.13	5.37
3829.00	0.500	285.710	3828.33	2337.83	-19.82	8.84	-22.49	1737867.33	412337.18	39°37'45.1074"N	80°19'7.8854"W	24.16	291.465	0.27	-0.27	2.61
3923.00	0.440	293.400	3922.33	2431.83	-20.43	9.10	-23.21	1737866.60	412337.44	39°37'45.1099"N	80°19'7.8947"W	24.93	291.398	0.09	-0.06	8.18
4016.00	0.350	290.830	4015.33	2524.83	-20.96	9.34	-23.81	1737866.01	412337.68	39°37'45.1122"N	80°19'7.9024"W	25.57	291.420	0.10	-0.10	-2.76
4110.00	0.270	284.050	4109.33	2618.83	-21.36	9.49	-24.29	1737865.52	412337.83	39°37'45.1137"N	80°19'7.9085"W	26.08	291.351	0.09	-0.09	-7.21
4205.00	0.570	258.620	4204.32	2713.82	-21.70	9.46	-24.97	1737864.84	412337.80	39°37'45.1133"N	80°19'7.9172"W	26.70	290.742	0.36	0.32	-26.77
4298.00	0.640	19.870	4297.32	2806.82	-22.19	9.85	-25.25	1737864.57	412338.19	39°37'45.1172"N	80°19'7.9208"W	27.10	291.320	1.13	0.08	130.38
4392.00	0.890	29.340	4391.31	2900.81	-22.83	10.98	-24.71	1737865.10	412339.32	39°37'45.1284"N	80°19'7.9141"W	27.04	293.964	0.30	0.27	10.07
4488.00	0.680	32.010	4487.30	2996.80	-23.40	12.12	-24.04	1737865.77	412340.46	39°37'45.1397"N	80°19'7.9057"W	26.92	296.745	0.22	-0.22	2.78

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Actual Wellpath Report

Miracle Run 4H (ST01) AWP Proj: 29546'

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REFERENCE WELLPATH IDENTIFICATION

Operator	NORTHEAST NATURAL ENERGY, LLC	Well	Miracle Run 4H (ST01)
Field	Monongalia	API/Legal	
Facility	Miracle Run Pad	Wellbore	Miracle Run 4H (ST01) AWB
Slot	Slot #04	Sidetrack from	Miracle Run 4H (Pilot) AWP Proj: 8232' at 4500.00 MD

WELLPATH DATA (328 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	TVDSS [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]
4500.00	0.701	25.782	4499.30	3008.80	-23.47	12.24	-23.97	1737865.84	412340.58	39°37'45.1409"N	80°19'7.9048"W	26.92	297.053	0.65	0.18	-51.90
4533.00	0.620	9.040	4532.30	3041.80	-23.70	12.60	-23.86	1737865.95	412340.94	39°37'45.1445"N	80°19'7.9034"W	26.98	297.842	0.63	-0.25	-50.73
4627.00	1.180	353.330	4626.29	3135.79	-24.94	14.06	-23.89	1737865.92	412342.40	39°37'45.1589"N	80°19'7.9040"W	27.72	300.487	0.65	0.60	-16.71
4722.00	2.230	343.340	4721.25	3230.75	-27.58	16.81	-24.53	1737865.28	412345.15	39°37'45.1860"N	80°19'7.9125"W	29.74	304.414	1.14	1.11	-10.52
4816.00	0.070	2.490	4815.22	3324.72	-29.38	18.62	-25.05	1737864.76	412346.96	39°37'45.2038"N	80°19'7.9194"W	31.21	306.613	2.30	-2.30	20.37
4910.00	0.030	143.300	4909.22	3418.72	-29.40	18.65	-25.04	1737864.77	412346.99	39°37'45.2042"N	80°19'7.9192"W	31.22	306.688	0.10	-0.04	149.80
5004.00	0.880	333.450	5003.22	3512.72	-30.09	19.28	-25.35	1737864.47	412347.62	39°37'45.2104"N	80°19'7.9232"W	31.85	307.260	0.97	0.90	-180.69
5098.00	7.600	333.240	5096.91	3606.41	-36.99	25.48	-28.47	1737861.34	412353.82	39°37'45.2714"N	80°19'7.9639"W	38.21	311.831	7.15	7.15	-0.22
5189.00	7.570	334.020	5187.11	3696.61	-48.90	36.24	-33.81	1737856.01	412364.58	39°37'45.3772"N	80°19'8.0333"W	49.56	316.994	0.12	-0.03	0.86
5282.00	9.210	335.950	5279.11	3788.61	-62.31	48.55	-39.52	1737850.29	412376.89	39°37'45.4983"N	80°19'8.1078"W	62.60	320.851	1.79	1.76	2.08
5373.00	9.280	335.420	5368.93	3878.43	-76.74	61.87	-45.54	1737844.27	412390.21	39°37'45.6294"N	80°19'8.1863"W	76.83	323.644	0.12	0.08	-0.58
5465.00	9.300	335.540	5459.72	3969.22	-91.40	75.38	-51.71	1737838.11	412403.72	39°37'45.7624"N	80°19'8.2666"W	91.41	325.553	0.03	0.02	0.13
5556.00	9.170	335.490	5549.54	4059.04	-105.82	88.67	-57.76	1737832.05	412417.01	39°37'45.8932"N	80°19'8.3455"W	105.83	326.921	0.14	-0.14	-0.05
5648.00	9.040	335.940	5640.39	4149.89	-120.19	101.94	-63.75	1737826.07	412430.28	39°37'46.0238"N	80°19'8.4236"W	120.23	327.982	0.16	-0.14	0.49
5740.00	9.230	336.660	5731.22	4240.72	-134.57	115.32	-69.62	1737820.20	412443.65	39°37'46.1555"N	80°19'8.5002"W	134.70	328.881	0.24	0.21	0.78
5832.00	9.140	335.850	5822.04	4331.54	-149.04	128.76	-75.53	1737814.29	412457.09	39°37'46.2878"N	80°19'8.5773"W	149.28	329.605	0.17	-0.10	-0.88
5924.00	9.030	335.660	5912.88	4422.38	-163.37	142.01	-81.49	1737808.32	412470.34	39°37'46.4181"N	80°19'8.6551"W	163.73	330.149	0.12	-0.12	-0.21
6018.00	9.130	335.410	6005.71	4515.21	-178.02	155.51	-87.64	1737802.18	412483.84	39°37'46.5510"N	80°19'8.7352"W	178.50	330.596	0.11	0.11	-0.27
6111.00	8.870	335.920	6097.56	4607.06	-192.38	168.76	-93.63	1737796.18	412497.09	39°37'46.6815"N	80°19'8.8134"W	193.00	330.978	0.29	-0.28	0.55
6203.00	5.520	336.650	6188.82	4698.32	-203.73	179.31	-98.28	1737791.53	412507.63	39°37'46.7852"N	80°19'8.8740"W	204.47	331.271	3.64	-3.64	0.79
6295.00	5.780	337.200	6280.38	4789.88	-212.63	187.64	-101.83	1737787.98	412515.97	39°37'46.8673"N	80°19'8.9203"W	213.49	331.511	0.29	0.28	0.60
6388.00	5.890	336.750	6372.90	4882.40	-221.92	196.34	-105.53	1737784.29	412524.67	39°37'46.9529"N	80°19'8.9686"W	222.90	331.742	0.13	0.12	-0.48
6481.00	6.330	336.070	6465.37	4974.87	-231.67	205.41	-109.49	1737780.32	412533.74	39°37'47.0422"N	80°19'9.0203"W	232.77	331.940	0.48	0.47	-0.73
6574.00	5.920	336.460	6557.84	5067.34	-241.45	214.49	-113.49	1737776.33	412542.82	39°37'47.1316"N	80°19'9.0724"W	242.67	332.117	0.44	-0.44	0.42
6759.00	5.910	337.130	6741.85	5251.35	-260.20	232.02	-121.00	1737768.82	412560.34	39°37'47.3041"N	80°19'9.1705"W	261.67	332.457	0.04	-0.01	0.36
6852.00	5.880	336.970	6834.36	5343.86	-269.58	240.81	-124.72	1737765.09	412569.14	39°37'47.3907"N	80°19'9.2191"W	271.19	332.619	0.04	-0.03	-0.17
6945.00	5.840	336.670	6926.87	5436.37	-278.92	249.54	-128.46	1737761.36	412577.86	39°37'47.4766"N	80°19'9.2679"W	280.66	332.761	0.05	-0.04	-0.32
7038.00	5.860	335.980	7019.39	5528.89	-288.26	258.22	-132.27	1737757.55	412586.54	39°37'47.5621"N	80°19'9.3175"W	290.13	332.877	0.08	0.02	-0.74
7130.00	5.690	336.970	7110.92	5620.42	-297.37	266.71	-135.96	1737753.85	412595.03	39°37'47.6456"N	80°19'9.3658"W	299.36	332.988	0.21	-0.18	1.08
7224.00	5.320	338.540	7204.49	5713.99	-306.21	275.05	-139.38	1737750.44	412603.37	39°37'47.7277"N	80°19'9.4104"W	308.35	333.126	0.42	-0.39	1.67

210630

Actual Wellpath Report

Miracle Run 4H (ST01) AWP Proj: 29546'

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REFERENCE WELLPATH IDENTIFICATION

Operator	NORTHEAST NATURAL ENERGY, LLC	Well	Miracle Run 4H (ST01)
Field	Monongalia	API/Legal	
Facility	Miracle Run Pad	Wellbore	Miracle Run 4H (ST01) AWB
Slot	Slot #04	Sidetrack from	Miracle Run 4H (Pilot) AWP Proj: 8232' at 4500.00 MD

WELLPATH DATA (328 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	TVDSS [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]
7319.00	4.040	0.680	7299.18	5808.68	-313.28	282.50	-140.95	1737748.87	412610.82	39°37'47.8012"N	80°19'9.4314"W	315.71	333.483	2.31	-1.35	23.31
7413.00	3.970	65.590	7392.99	5902.49	-315.50	287.16	-137.95	1737751.87	412615.48	39°37'47.8475"N	80°19'9.3935"W	318.57	334.340	4.57	-0.07	69.05
7507.00	7.460	121.360	7486.57	5996.07	-309.44	285.32	-129.77	1737760.05	412613.65	39°37'47.8301"N	80°19'9.2887"W	313.45	335.543	6.56	3.71	59.33
7601.00	13.180	141.260	7579.04	6088.54	-293.22	273.78	-117.84	1737771.98	412602.10	39°37'47.7171"N	80°19'9.1349"W	298.06	336.712	7.08	6.09	21.17
7696.00	21.670	143.540	7669.60	6179.10	-264.86	251.18	-100.60	1737789.21	412579.50	39°37'47.4953"N	80°19'8.9121"W	270.58	338.172	8.96	8.94	2.40
7789.00	29.530	143.210	7753.40	6262.90	-224.76	218.96	-76.64	1737813.18	412547.29	39°37'47.1791"N	80°19'8.6020"W	231.99	340.710	8.45	8.45	-0.35
7884.00	35.900	143.720	7833.29	6342.79	-173.51	177.72	-46.10	1737843.71	412506.05	39°37'46.7743"N	80°19'8.2070"W	183.60	345.457	6.71	6.71	0.54
7978.00	43.420	144.280	7905.61	6415.11	-113.61	129.21	-10.88	1737878.93	412457.54	39°37'46.2980"N	80°19'7.7512"W	129.66	355.184	8.01	8.00	0.60
8072.00	50.390	144.260	7969.79	6479.29	-45.06	73.52	29.17	1737918.98	412401.85	39°37'45.7513"N	80°19'7.2327"W	79.10	21.645	7.41	7.41	-0.02
8165.00	56.090	144.210	8025.42	6534.92	29.37	13.09	72.70	1737962.51	412341.43	39°37'45.1580"N	80°19'6.6694"W	73.87	79.795	6.13	6.13	-0.05
8259.00	63.540	145.280	8072.65	6582.15	110.53	-53.23	119.55	1738009.35	412275.11	39°37'44.5068"N	80°19'6.0630"W	130.86	114.002	7.99	7.93	1.14
8353.00	70.380	144.970	8109.42	6618.92	196.96	-124.15	168.98	1738058.78	412204.20	39°37'43.8104"N	80°19'5.4229"W	209.69	126.305	7.28	7.28	-0.33
8446.00	77.600	147.090	8135.06	6644.56	286.29	-198.25	218.87	1738108.67	412130.10	39°37'43.0826"N	80°19'4.7767"W	295.31	132.170	8.07	7.76	2.28
8540.00	86.980	147.100	8147.65	6657.15	379.33	-276.37	269.42	1738159.21	412051.99	39°37'42.3151"N	80°19'4.1216"W	385.96	135.730	9.98	9.98	0.01
8634.00	91.350	146.890	8149.02	6658.52	473.29	-355.17	320.60	1738210.39	411973.19	39°37'41.5409"N	80°19'3.4583"W	478.47	137.928	4.65	4.65	-0.22
8728.00	91.200	146.870	8146.93	6656.43	567.26	-433.88	371.95	1738261.74	411894.49	39°37'40.7677"N	80°19'2.7929"W	571.49	139.395	0.16	-0.16	-0.02
8822.00	91.050	146.510	8145.08	6654.58	661.24	-512.42	423.56	1738313.35	411815.95	39°37'39.9962"N	80°19'2.1242"W	664.82	140.423	0.41	-0.16	-0.38
8916.00	91.260	146.940	8143.19	6652.69	755.22	-590.99	475.13	1738364.91	411737.38	39°37'39.2243"N	80°19'1.4561"W	758.30	141.203	0.51	0.22	0.46
9010.00	91.260	146.930	8141.12	6650.62	849.19	-669.75	526.40	1738416.18	411658.63	39°37'38.4506"N	80°19'0.7917"W	851.86	141.834	0.01	0.00	-0.01
9105.00	89.910	146.620	8140.15	6649.65	944.18	-749.22	578.45	1738468.22	411579.17	39°37'37.6700"N	80°19'0.1172"W	946.54	142.329	1.46	-1.42	-0.33
9198.00	90.220	147.150	8140.05	6649.55	1037.18	-827.11	629.26	1738519.03	411501.28	39°37'36.9047"N	80°18'59.4589"W	1039.27	142.736	0.66	0.33	0.57
9292.00	90.150	146.890	8139.74	6649.24	1131.17	-905.96	680.43	1738570.19	411422.43	39°37'36.1301"N	80°18'58.7958"W	1133.03	143.092	0.29	-0.07	-0.28
9386.00	90.030	147.400	8139.60	6649.10	1225.16	-984.93	731.42	1738621.19	411343.47	39°37'35.3543"N	80°18'58.1349"W	1226.81	143.402	0.56	-0.13	0.54
9480.00	91.020	147.110	8138.73	6648.23	1319.15	-1063.98	782.26	1738672.03	411264.42	39°37'34.5776"N	80°18'57.4760"W	1320.61	143.676	1.10	1.05	-0.31
9574.00	90.620	147.230	8137.39	6646.89	1413.13	-1142.96	833.22	1738722.98	411185.45	39°37'33.8016"N	80°18'56.8156"W	1414.43	143.908	0.44	-0.43	0.13
9667.00	90.680	147.380	8136.33	6645.83	1506.11	-1221.22	883.45	1738773.21	411107.19	39°37'33.0327"N	80°18'56.1646"W	1507.27	144.117	0.17	0.06	0.16
9760.00	90.550	146.920	8135.34	6644.84	1599.09	-1299.35	933.90	1738823.65	411029.07	39°37'32.2652"N	80°18'55.5109"W	1600.15	144.294	0.51	-0.14	-0.49
9853.00	90.680	147.160	8134.34	6643.84	1692.08	-1377.37	984.49	1738874.24	410951.05	39°37'31.4986"N	80°18'54.8552"W	1693.04	144.444	0.29	0.14	0.26
9946.00	90.030	147.120	8133.76	6643.26	1785.07	-1455.49	1034.95	1738924.70	410872.94	39°37'30.7311"N	80°18'54.2013"W	1785.94	144.585	0.70	-0.70	-0.04
10039.00	90.090	145.650	8133.66	6643.16	1878.07	-1532.94	1086.43	1738976.18	410795.50	39°37'29.9704"N	80°18'53.5344"W	1878.89	144.674	1.58	0.06	-1.58

22-09-20

Actual Wellpath Report

Miracle Run 4H (ST01) AWP Proj: 29546'
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REFERENCE WELLPATH IDENTIFICATION

Operator	NORTHEAST NATURAL ENERGY, LLC	Well	Miracle Run 4H (ST01)
Field	Monongalia	API/Legal	
Facility	Miracle Run Pad	Wellbore	Miracle Run 4H (ST01) AWB
Slot	Slot #04	Sidetrack from	Miracle Run 4H (Pilot) AWP Proj: 8232' at 4500.00 MD

WELLPATH DATA (328 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	TVDSS [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]
10133.00	90.180	146.190	8133.44	6642.94	1972.07	-1610.79	1139.11	1739028.85	410717.65	39°37'29.2057"N	80°18'52.8523"W	1972.87	144.733	0.58	0.10	0.57
10228.00	90.060	146.390	8133.24	6642.74	2067.07	-1689.82	1191.83	1739081.57	410638.62	39°37'28.4294"N	80°18'52.1693"W	2067.84	144.805	0.25	-0.13	0.21
10322.00	90.060	146.100	8133.15	6642.65	2161.07	-1767.97	1244.06	1739133.80	410560.47	39°37'27.6618"N	80°18'51.4928"W	2161.81	144.867	0.31	0.00	-0.31
10415.00	90.400	146.120	8132.77	6642.27	2254.06	-1845.17	1295.92	1739185.65	410483.28	39°37'26.9035"N	80°18'50.8212"W	2254.79	144.919	0.37	0.37	0.02
10508.00	90.030	146.790	8132.42	6641.92	2347.06	-1922.68	1347.31	1739237.04	410405.78	39°37'26.1421"N	80°18'50.1555"W	2347.75	144.979	0.82	-0.40	0.72
10600.00	90.220	147.150	8132.22	6641.72	2439.06	-1999.81	1397.45	1739287.18	410328.65	39°37'25.3843"N	80°18'49.5057"W	2439.70	145.054	0.44	0.21	0.39
10693.00	90.030	146.280	8132.02	6641.52	2532.05	-2077.56	1448.49	1739338.21	410250.91	39°37'24.6206"N	80°18'48.8445"W	2532.66	145.115	0.96	-0.20	-0.94
10786.00	90.060	146.330	8131.95	6641.45	2625.05	-2154.93	1500.09	1739389.80	410173.54	39°37'23.8605"N	80°18'48.1762"W	2625.64	145.158	0.06	0.03	0.05
10879.00	90.030	146.210	8131.87	6641.37	2718.05	-2232.28	1551.73	1739441.44	410096.20	39°37'23.1008"N	80°18'47.5073"W	2718.62	145.196	0.13	-0.03	-0.13
10971.00	89.690	146.420	8132.10	6641.60	2810.05	-2308.83	1602.75	1739492.46	410019.65	39°37'22.3488"N	80°18'46.8464"W	2810.61	145.232	0.43	-0.37	0.23
11064.00	89.910	146.230	8132.42	6641.92	2903.05	-2386.22	1654.32	1739544.03	409942.26	39°37'21.5886"N	80°18'46.1785"W	2903.59	145.267	0.31	0.24	-0.20
11157.00	90.060	146.080	8132.45	6641.95	2996.05	-2463.46	1706.12	1739595.82	409865.03	39°37'20.8299"N	80°18'45.5076"W	2996.58	145.295	0.23	0.16	-0.16
11250.00	90.120	145.850	8132.30	6641.80	3089.05	-2540.53	1758.17	1739647.87	409787.96	39°37'20.0729"N	80°18'44.8336"W	3089.57	145.315	0.26	0.06	-0.25
11342.00	90.150	146.100	8132.08	6641.58	3181.05	-2616.78	1809.65	1739699.35	409711.72	39°37'19.3240"N	80°18'44.1669"W	3181.57	145.334	0.27	0.03	0.27
11434.00	89.910	145.580	8132.04	6641.54	3273.04	-2692.91	1861.30	1739751.00	409635.60	39°37'18.5762"N	80°18'43.4980"W	3273.56	145.348	0.62	-0.26	-0.57
11527.00	89.510	145.610	8132.51	6642.01	3366.03	-2769.64	1913.85	1739803.55	409558.87	39°37'17.8227"N	80°18'42.8176"W	3366.56	145.355	0.43	-0.43	0.03
11620.00	89.630	146.160	8133.20	6642.70	3459.03	-2846.63	1966.01	1739855.70	409481.88	39°37'17.0664"N	80°18'42.1422"W	3459.55	145.369	0.61	0.13	0.59
11713.00	89.750	146.110	8133.71	6643.21	3552.02	-2923.85	2017.83	1739907.52	409404.67	39°37'16.3079"N	80°18'41.4711"W	3552.54	145.389	0.14	0.13	-0.05
11805.00	89.660	146.120	8134.18	6643.68	3644.02	-3000.23	2069.12	1739958.81	409328.30	39°37'15.5577"N	80°18'40.8068"W	3644.54	145.408	0.10	-0.10	0.01
11898.00	88.980	146.030	8135.29	6644.79	3737.01	-3077.39	2121.02	1740010.70	409251.14	39°37'14.7998"N	80°18'40.1347"W	3737.52	145.424	0.74	-0.73	-0.10
11991.00	89.110	146.240	8136.84	6646.34	3830.00	-3154.60	2172.84	1740062.52	409173.93	39°37'14.0413"N	80°18'39.4636"W	3830.50	145.442	0.27	0.14	0.23
12083.00	89.050	146.190	8138.31	6647.81	3921.99	-3231.06	2223.99	1740113.67	409097.48	39°37'13.2903"N	80°18'38.8012"W	3922.48	145.460	0.08	-0.07	-0.05
12266.00	89.350	145.790	8140.87	6650.37	4104.97	-3382.74	2326.34	1740216.01	408945.81	39°37'11.8005"N	80°18'37.4758"W	4105.46	145.483	0.27	0.16	-0.22
12359.00	89.510	145.930	8141.79	6651.29	4197.96	-3459.71	2378.53	1740268.20	408868.85	39°37'11.0445"N	80°18'36.8000"W	4198.45	145.492	0.23	0.17	0.15
12451.00	89.320	145.650	8142.73	6652.23	4289.95	-3535.78	2430.25	1740319.92	408792.77	39°37'10.2972"N	80°18'36.1303"W	4290.44	145.498	0.37	-0.21	-0.30
12543.00	89.260	145.600	8143.87	6653.37	4381.93	-3611.71	2482.19	1740371.85	408716.85	39°37'9.5515"N	80°18'35.4578"W	4382.44	145.501	0.08	-0.07	-0.05
12636.00	89.450	144.680	8144.92	6654.42	4474.90	-3688.02	2535.35	1740425.00	408640.55	39°37'8.8021"N	80°18'34.7699"W	4475.43	145.493	1.01	0.20	-0.99
12729.00	89.510	145.890	8145.76	6655.26	4567.88	-3764.46	2588.31	1740477.96	408564.11	39°37'8.0514"N	80°18'34.0843"W	4568.42	145.489	1.30	0.06	1.30
12821.00	89.450	145.780	8146.60	6656.10	4659.87	-3840.58	2639.97	1740529.62	408488.00	39°37'7.3038"N	80°18'33.4154"W	4660.42	145.496	0.14	-0.07	-0.12
12913.00	89.450	146.540	8147.48	6656.98	4751.87	-3916.99	2691.20	1740580.84	408411.59	39°37'6.5532"N	80°18'32.7520"W	4752.41	145.509	0.83	0.00	0.83

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Actual Wellpath Report

Miracle Run 4H (ST01) AWP Proj: 29546'
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REFERENCE WELLPATH IDENTIFICATION

Operator	NORTHEAST NATURAL ENERGY, LLC	Well	Miracle Run 4H (ST01)
Field	Monongalia	API/Legal	
Facility	Miracle Run Pad	Wellbore	Miracle Run 4H (ST01) AWB
Slot	Slot #04	Sidetrack from	Miracle Run 4H (Pilot) AWP Proj: 8232' at 4500.00 MD

WELLPATH DATA (328 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	TVDSS [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]
13006.00	88.860	145.830	8148.85	6658.35	4844.86	-3994.25	2742.95	1740632.59	408334.34	39°37'5.7943"N	80°18'32.0818"W	4845.39	145.522	0.99	-0.63	-0.76
13099.00	88.740	145.700	8150.80	6660.30	4937.83	-4071.12	2795.26	1740684.90	408257.47	39°37'5.0393"N	80°18'31.4045"W	4938.37	145.526	0.19	-0.13	-0.14
13191.00	88.490	145.560	8153.02	6662.52	5029.80	-4147.03	2847.18	1740736.82	408181.56	39°37'4.2936"N	80°18'30.7323"W	5030.34	145.528	0.31	-0.27	-0.15
13284.00	88.740	146.100	8155.27	6664.77	5122.76	-4223.96	2899.40	1740789.03	408104.64	39°37'3.5381"N	80°18'30.0562"W	5123.31	145.534	0.64	0.27	0.58
13378.00	89.290	145.850	8156.89	6666.39	5216.75	-4301.85	2951.99	1740841.62	408026.75	39°37'2.7730"N	80°18'29.3753"W	5217.29	145.542	0.64	0.59	-0.27
13470.00	89.290	145.750	8158.03	6667.53	5308.74	-4377.94	3003.70	1740893.32	407950.67	39°37'2.0256"N	80°18'28.7058"W	5309.29	145.546	0.11	0.00	-0.11
13564.00	89.320	146.160	8159.17	6668.67	5402.73	-4455.82	3056.32	1740945.94	407872.79	39°37'1.2606"N	80°18'28.0245"W	5403.28	145.553	0.44	0.03	0.44
13656.00	89.260	145.960	8160.31	6669.81	5494.72	-4532.14	3107.68	1740997.30	407796.48	39°37'0.5110"N	80°18'27.3594"W	5495.27	145.562	0.23	-0.07	-0.22
13749.00	89.170	145.920	8161.58	6671.08	5587.71	-4609.18	3159.76	1741049.38	407719.45	39°36'59.7543"N	80°18'26.6851"W	5588.25	145.568	0.11	-0.10	-0.04
13841.00	88.980	145.580	8163.07	6672.57	5679.69	-4685.21	3211.53	1741101.14	407643.41	39°36'59.0074"N	80°18'26.0148"W	5680.24	145.571	0.42	-0.21	-0.37
13934.00	89.260	143.140	8164.50	6674.00	5772.61	-4760.78	3265.71	1741155.32	407567.85	39°36'58.2654"N	80°18'25.3138"W	5773.20	145.551	2.64	0.30	-2.62
14027.00	89.110	146.080	8165.82	6675.32	5865.55	-4836.58	3319.56	1741209.17	407492.06	39°36'57.5211"N	80°18'24.6171"W	5866.17	145.536	3.17	-0.16	3.16
14119.00	89.380	147.260	8167.03	6676.53	5957.54	-4913.44	3370.10	1741259.71	407415.20	39°36'56.7660"N	80°18'23.9624"W	5958.14	145.554	1.32	0.29	1.28
14212.00	88.740	146.800	8168.56	6678.06	6050.52	-4991.45	3420.71	1741310.31	407337.20	39°36'55.9996"N	80°18'23.3068"W	6051.10	145.577	0.85	-0.69	-0.49
14304.00	88.180	145.400	8171.03	6680.53	6142.48	-5067.78	3472.00	1741361.60	407260.87	39°36'55.2498"N	80°18'22.6427"W	6143.06	145.584	1.64	-0.61	-1.52
14397.00	87.660	146.400	8174.41	6683.91	6235.42	-5144.74	3524.10	1741413.70	407183.92	39°36'54.4939"N	80°18'21.9681"W	6236.00	145.589	1.21	-0.56	1.08
14490.00	87.480	147.100	8178.35	6687.85	6328.33	-5222.44	3575.05	1741464.64	407106.22	39°36'53.7305"N	80°18'21.3082"W	6328.89	145.606	0.78	-0.19	0.75
14583.00	87.510	147.100	8182.41	6691.91	6421.23	-5300.45	3625.52	1741515.10	407028.21	39°36'52.9640"N	80°18'20.6544"W	6421.77	145.628	0.03	0.03	0.00
14676.00	87.810	146.890	8186.21	6695.71	6514.15	-5378.38	3676.13	1741565.72	406950.29	39°36'52.1984"N	80°18'19.9987"W	6514.67	145.647	0.39	0.32	-0.23
14769.00	88.740	148.080	8189.01	6698.51	6607.09	-5456.76	3726.10	1741615.68	406871.91	39°36'51.4281"N	80°18'19.3513"W	6607.58	145.673	1.62	1.00	1.28
14862.00	88.550	146.730	8191.21	6700.71	6700.05	-5535.09	3776.18	1741665.76	406793.59	39°36'50.6585"N	80°18'18.7024"W	6700.51	145.697	1.47	-0.20	-1.45
14954.00	88.460	146.280	8193.61	6703.11	6792.01	-5611.79	3826.94	1741716.51	406716.89	39°36'49.9050"N	80°18'18.0451"W	6792.47	145.708	0.50	-0.10	-0.49
15047.00	88.520	146.480	8196.06	6705.56	6884.98	-5689.21	3878.41	1741767.98	406639.48	39°36'49.1445"N	80°18'17.3786"W	6885.43	145.717	0.22	0.06	0.22
15140.00	88.580	146.580	8198.41	6707.91	6977.95	-5766.76	3929.68	1741819.25	406561.93	39°36'48.3826"N	80°18'16.7145"W	6978.39	145.728	0.13	0.06	0.11
15233.00	88.400	146.860	8200.86	6710.36	7070.92	-5844.48	3980.70	1741870.26	406484.22	39°36'47.6191"N	80°18'16.0538"W	7071.34	145.741	0.36	-0.19	0.30
15326.00	88.520	147.040	8203.36	6712.86	7163.88	-5922.40	4031.40	1741920.96	406406.30	39°36'46.8534"N	80°18'15.3971"W	7164.29	145.757	0.23	0.13	0.19
15419.00	88.490	146.640	8205.79	6715.29	7256.84	-6000.23	4082.25	1741971.81	406328.48	39°36'46.0888"N	80°18'14.7384"W	7257.24	145.771	0.43	-0.03	-0.43
15512.00	88.550	146.790	8208.19	6717.69	7349.81	-6077.95	4133.27	1742022.83	406250.76	39°36'45.3253"N	80°18'14.0776"W	7350.20	145.783	0.17	0.06	0.16
15605.00	88.550	147.130	8210.55	6720.05	7442.78	-6155.89	4183.96	1742073.51	406172.83	39°36'44.5595"N	80°18'13.4211"W	7443.15	145.797	0.37	0.00	0.37
15698.00	88.950	147.110	8212.57	6722.07	7535.75	-6233.97	4234.44	1742123.99	406094.75	39°36'43.7923"N	80°18'12.7672"W	7536.10	145.814	0.43	0.43	-0.02

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Actual Wellpath Report

Miracle Run 4H (ST01) AWP Proj: 29546'
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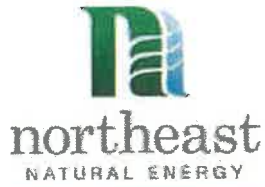
REFERENCE WELLPATH IDENTIFICATION

Operator	NORTHEAST NATURAL ENERGY, LLC	Well	Miracle Run 4H (ST01)
Field	Monongalia	API/Legal	
Facility	Miracle Run Pad	Wellbore	Miracle Run 4H (ST01) AWB
Slot	Slot #04	Sidetrack from	Miracle Run 4H (Pilot) AWP Proj: 8232' at 4500.00 MD

WELLPATH DATA (328 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	TVDSS [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]
15791.00	88.830	146.730	8214.38	6723.88	7628.72	-6311.88	4285.19	1742174.74	406016.85	39°36'43.0269"N	80°18'12.1098"W	7629.07	145.827	0.43	-0.13	-0.41
15884.00	88.800	146.690	8216.30	6725.80	7721.70	-6389.60	4336.22	1742225.77	405939.13	39°36'42.2633"N	80°18'11.4489"W	7722.04	145.838	0.05	-0.03	-0.04
15976.00	88.980	146.580	8218.08	6727.58	7813.68	-6466.42	4386.81	1742276.35	405862.31	39°36'41.5085"N	80°18'10.7937"W	7814.01	145.847	0.23	0.20	-0.12
16069.00	89.450	147.140	8219.36	6728.86	7906.67	-6544.29	4437.65	1742327.18	405784.45	39°36'40.7435"N	80°18'10.1353"W	7906.99	145.859	0.79	0.51	0.60
16161.00	89.010	146.870	8220.59	6730.09	7998.66	-6621.44	4487.74	1742377.28	405707.30	39°36'39.9855"N	80°18'9.4864"W	7998.96	145.872	0.56	-0.48	-0.29
16253.00	89.110	146.740	8222.10	6731.60	8090.64	-6698.42	4538.10	1742427.64	405630.33	39°36'39.2292"N	80°18'8.8342"W	8090.93	145.883	0.18	0.11	-0.14
16346.00	89.020	146.870	8223.62	6733.12	8183.63	-6776.23	4589.01	1742478.54	405552.52	39°36'38.4647"N	80°18'8.1748"W	8183.91	145.893	0.17	-0.10	0.14
16439.00	88.950	146.830	8225.27	6734.77	8276.61	-6854.08	4639.86	1742529.39	405474.68	39°36'37.6998"N	80°18'7.5163"W	8276.88	145.904	0.09	-0.08	-0.04
16532.00	89.110	146.740	8226.84	6736.34	8369.59	-6931.88	4690.80	1742580.32	405396.89	39°36'36.9355"N	80°18'6.8566"W	8369.86	145.914	0.20	0.17	-0.10
16625.00	89.080	146.880	8228.31	6737.81	8462.58	-7009.70	4741.70	1742631.22	405319.07	39°36'36.1709"N	80°18'6.1973"W	8462.84	145.924	0.15	-0.03	0.15
16718.00	88.950	147.110	8229.91	6739.41	8555.56	-7087.68	4792.35	1742681.87	405241.10	39°36'35.4047"N	80°18'5.5413"W	8555.81	145.935	0.28	-0.14	0.25
16811.00	89.050	146.980	8231.53	6741.03	8648.54	-7165.70	4842.93	1742732.45	405163.08	39°36'34.6381"N	80°18'4.8861"W	8648.77	145.947	0.18	0.11	-0.14
16903.00	89.570	146.970	8232.64	6742.14	8740.53	-7242.83	4893.07	1742782.58	405085.95	39°36'33.8803"N	80°18'4.2368"W	8740.75	145.958	0.57	0.57	-0.01
16997.00	89.540	146.730	8233.37	6742.87	8834.52	-7321.53	4944.47	1742833.98	405007.26	39°36'33.1071"N	80°18'3.5711"W	8834.74	145.968	0.26	-0.03	-0.26
17090.00	89.880	146.620	8233.84	6743.34	8927.52	-7399.24	4995.56	1742885.07	404929.56	39°36'32.3436"N	80°18'2.9094"W	8927.73	145.975	0.38	0.37	-0.12
17183.00	90.030	146.930	8233.91	6743.41	9020.52	-7477.03	5046.52	1742936.02	404851.76	39°36'31.5793"N	80°18'2.2495"W	9020.72	145.983	0.37	0.16	0.33
17275.00	90.120	145.980	8233.79	6743.29	9112.51	-7553.71	5097.36	1742986.86	404775.09	39°36'30.8260"N	80°18'1.5913"W	9112.72	145.988	1.04	0.10	-1.03
17368.00	90.250	146.910	8233.49	6742.99	9205.51	-7631.21	5148.76	1743038.26	404697.60	39°36'30.0646"N	80°18'0.9257"W	9205.71	145.993	1.01	0.14	1.00
17460.00	90.310	146.880	8233.04	6742.54	9297.51	-7708.28	5199.01	1743088.50	404620.54	39°36'29.3074"N	80°18'0.2749"W	9297.70	146.001	0.07	0.07	-0.03
17645.00	90.710	146.440	8231.40	6740.90	9482.50	-7862.82	5300.68	1743190.17	404466.00	39°36'27.7891"N	80°17'58.9583"W	9482.68	146.014	0.32	0.22	-0.24
17737.00	90.800	146.740	8230.18	6739.68	9574.49	-7939.61	5351.34	1743240.82	404389.21	39°36'27.0346"N	80°17'58.3025"W	9574.67	146.020	0.34	0.10	0.33
17830.00	90.710	146.700	8228.96	6738.46	9667.48	-8017.35	5402.36	1743291.84	404311.48	39°36'26.2708"N	80°17'57.6417"W	9667.65	146.027	0.11	-0.10	-0.04
17923.00	91.200	146.880	8227.41	6736.91	9760.46	-8095.15	5453.29	1743342.77	404233.68	39°36'25.5065"N	80°17'56.9821"W	9760.63	146.034	0.56	0.53	0.19
18016.00	91.750	146.980	8225.01	6734.51	9853.43	-8173.06	5504.02	1743393.50	404155.78	39°36'24.7410"N	80°17'56.3252"W	9853.59	146.042	0.60	0.59	0.11
18108.00	91.780	146.800	8222.18	6731.68	9945.38	-8250.09	5554.25	1743443.72	404078.76	39°36'23.9842"N	80°17'55.6746"W	9945.53	146.050	0.20	0.03	-0.20
18201.00	92.340	146.750	8218.84	6728.34	10038.32	-8327.83	5605.18	1743494.65	404001.02	39°36'23.2203"N	80°17'55.0152"W	10038.47	146.057	0.60	0.60	-0.05
18293.00	93.230	146.640	8214.37	6723.87	10130.21	-8404.63	5655.64	1743545.10	403924.22	39°36'22.4658"N	80°17'54.3618"W	10130.35	146.063	0.97	0.97	-0.12
18387.00	93.080	146.390	8209.19	6718.69	10224.06	-8482.91	5707.42	1743596.88	403845.95	39°36'21.6967"N	80°17'53.6914"W	10224.21	146.067	0.31	-0.16	-0.27
18480.00	94.280	145.890	8203.22	6712.72	10316.87	-8559.98	5759.13	1743648.58	403768.89	39°36'20.9397"N	80°17'53.0220"W	10317.01	146.067	1.40	1.29	-0.54
18573.00	94.190	145.880	8196.36	6705.86	10409.61	-8636.76	5811.14	1743700.60	403692.11	39°36'20.1854"N	80°17'52.3487"W	10409.76	146.066	0.10	-0.10	-0.01

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Actual Wellpath Report

Miracle Run 4H (ST01) AWP Proj: 29546'

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REFERENCE WELLPATH IDENTIFICATION			
Operator	NORTHEAST NATURAL ENERGY, LLC	Well	Miracle Run 4H (ST01)
Field	Monongalia	API/Legal	
Facility	Miracle Run Pad	Wellbore	Miracle Run 4H (ST01) AWB
Slot	Slot #04	Sidetrack from	Miracle Run 4H (Pilot) AWP Proj: 8232' at 4500.00 MD

WELLPATH DATA (328 stations)																
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	TVDSS [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]
18666.00	92.770	146.070	8190.71	6700.21	10502.44	-8713.70	5863.08	1743752.54	403615.18	39°36'19.4296"N	80°17'51.6764"W	10502.58	146.065	1.54	-1.53	0.20
18759.00	92.920	145.850	8186.10	6695.60	10595.32	-8790.67	5915.08	1743804.53	403538.21	39°36'18.6735"N	80°17'51.0034"W	10595.47	146.064	0.29	0.16	-0.24
18852.00	92.920	146.240	8181.36	6690.86	10688.20	-8867.71	5966.96	1743856.40	403461.18	39°36'17.9167"N	80°17'50.3319"W	10688.35	146.064	0.42	0.00	0.42
18946.00	93.020	145.850	8176.49	6685.99	10782.07	-8945.57	6019.39	1743908.83	403383.32	39°36'17.1518"N	80°17'49.6532"W	10782.22	146.064	0.43	0.11	-0.41
19039.00	92.830	146.010	8171.74	6681.24	10874.94	-9022.51	6071.42	1743960.86	403306.38	39°36'16.3960"N	80°17'48.9797"W	10875.10	146.063	0.27	-0.20	0.17
19133.00	93.850	146.050	8166.27	6675.77	10968.78	-9100.33	6123.85	1744013.29	403228.56	39°36'15.6315"N	80°17'48.3010"W	10968.94	146.062	1.09	1.09	0.04
19225.00	95.110	145.760	8159.08	6668.58	11060.50	-9176.28	6175.27	1744064.70	403152.62	39°36'14.8854"N	80°17'47.6356"W	11060.66	146.061	1.41	1.37	-0.32
19317.00	94.870	145.840	8151.08	6660.58	11152.14	-9252.09	6226.78	1744116.21	403076.82	39°36'14.1408"N	80°17'46.9689"W	11152.31	146.059	0.27	-0.26	0.09
19411.00	94.530	145.720	8143.38	6652.88	11245.82	-9329.55	6279.47	1744168.89	402999.36	39°36'13.3799"N	80°17'46.2870"W	11245.99	146.057	0.38	-0.36	-0.13
19503.00	95.920	145.590	8135.00	6644.50	11337.43	-9405.20	6331.15	1744220.58	402923.72	39°36'12.6368"N	80°17'45.6181"W	11337.60	146.053	1.52	1.51	-0.14
19597.00	96.290	145.950	8125.00	6634.50	11430.89	-9482.47	6383.73	1744273.15	402846.45	39°36'11.8777"N	80°17'44.9377"W	11431.07	146.051	0.55	0.39	0.38
19689.00	94.740	145.790	8116.16	6625.66	11522.46	-9558.27	6435.11	1744324.52	402770.65	39°36'11.1331"N	80°17'44.2727"W	11522.64	146.050	1.69	-1.68	-0.17
19782.00	94.280	145.120	8108.85	6618.35	11615.16	-9634.64	6487.68	1744377.09	402694.29	39°36'10.3831"N	80°17'43.5924"W	11615.34	146.045	0.87	-0.49	-0.72
19875.00	93.230	145.690	8102.76	6612.26	11707.94	-9711.03	6540.37	1744429.78	402617.91	39°36'9.6327"N	80°17'42.9107"W	11708.14	146.040	1.28	-1.13	0.61
19968.00	90.980	146.100	8099.34	6608.84	11800.87	-9787.98	6592.48	1744481.88	402540.96	39°36'8.8768"N	80°17'42.2363"W	11801.07	146.039	2.46	-2.42	0.44
20061.00	90.280	145.630	8098.32	6607.82	11893.86	-9864.95	6644.66	1744534.06	402464.00	39°36'8.1207"N	80°17'41.5609"W	11894.06	146.037	0.91	-0.75	-0.51
20154.00	90.860	145.840	8097.39	6606.89	11986.85	-9941.80	6697.02	1744586.42	402387.15	39°36'7.3658"N	80°17'40.8834"W	11987.06	146.035	0.66	0.62	0.23
20247.00	90.950	146.050	8095.92	6605.42	12079.84	-10018.84	6749.09	1744638.49	402310.11	39°36'6.6090"N	80°17'40.2094"W	12080.04	146.034	0.25	0.10	0.23
20339.00	90.800	145.610	8094.52	6604.02	12171.82	-10094.95	6800.76	1744690.15	402234.01	39°36'5.8613"N	80°17'39.5408"W	12172.03	146.033	0.51	-0.16	-0.48
20433.00	90.710	145.830	8093.28	6602.78	12265.81	-10172.62	6853.70	1744743.09	402156.34	39°36'5.0984"N	80°17'38.8557"W	12266.02	146.030	0.25	-0.10	0.23
20526.00	90.740	145.860	8092.10	6601.60	12358.80	-10249.57	6905.90	1744795.29	402079.40	39°36'4.3425"N	80°17'38.1800"W	12359.01	146.029	0.05	0.03	0.03
20619.00	89.170	145.720	8092.18	6601.68	12451.79	-10326.48	6958.19	1744847.57	402002.49	39°36'3.5870"N	80°17'37.5034"W	12452.01	146.027	1.69	-1.69	-0.15
20712.00	89.290	145.800	8093.43	6602.93	12544.77	-10403.35	7010.51	1744899.89	401925.62	39°36'2.8318"N	80°17'36.8263"W	12545.00	146.025	0.16	0.13	0.09
20805.00	89.320	145.680	8094.55	6604.05	12637.76	-10480.21	7062.86	1744952.24	401848.77	39°36'2.0768"N	80°17'36.1488"W	12637.99	146.023	0.13	0.03	-0.13
20898.00	89.350	145.950	8095.63	6605.13	12730.75	-10557.14	7115.11	1745004.49	401771.85	39°36'1.3212"N	80°17'35.4727"W	12730.99	146.022	0.29	0.03	0.29
20991.00	89.660	145.640	8096.44	6605.94	12823.74	-10634.05	7167.39	1745056.76	401694.94	39°36'0.5656"N	80°17'34.7961"W	12823.98	146.020	0.47	0.33	-0.33
21084.00	89.750	145.930	8096.92	6606.42	12916.74	-10710.95	7219.68	1745109.05	401618.04	39°35'59.8102"N	80°17'34.1194"W	12916.98	146.018	0.33	0.10	0.31
21177.00	89.660	145.810	8097.39	6606.89	13009.73	-10787.93	7271.86	1745161.23	401541.07	39°35'59.0540"N	80°17'33.4442"W	13009.98	146.017	0.16	-0.10	-0.13
21270.00	89.850	145.850	8097.79	6607.29	13102.73	-10864.88	7324.10	1745213.46	401464.13	39°35'58.2981"N	80°17'32.7682"W	13102.98	146.016	0.21	0.20	0.04
21363.00	89.570	145.630	8098.26	6607.76	13195.72	-10941.74	7376.45	1745265.81	401387.27	39°35'57.5431"N	80°17'32.0908"W	13195.97	146.014	0.38	-0.30	-0.24

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north east
NATURAL ENERGY

Actual Wellpath Report

Miracle Run 4H (ST01) AWP Proj.: 29546

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REFERENCE WELLPATH IDENTIFICATION

Operator	NORTHEAST NATURAL ENERGY, LLC
Field	Monongalia
Facility	Miracle Run Pad
Slot	Slot #04
	Sidetrack from
	Wellbore
	Miracle Run 4H (ST01) AWP
	Miracle Run 4H (Pilot) AWP Proj.: 8232' at 4500.00 MD

WELLPATH DATA (328 stations)

MD	Inclination	Azimuth	TVD	TVDSS	Vert Sect	North	East	Grid East	Grid North	Latitude	Longitude	Closure Dist	Closure Dir	DLS	Build Rate	Turn Rate
21456.00	89.630	145.900	8098.91	6608.41	13288.71	-11018.63	7428.77	1745318.12	401310.39	39°35'56.78"N	80°17'31.41"W	13288.97	146.012	0.30	0.06	0.29
21550.00	89.940	146.270	8099.26	6608.76	13382.71	-11096.63	7481.22	1745370.57	401232.39	39°35'56.02"N	80°17'30.73"W	13382.97	146.013	0.51	0.33	0.39
21643.00	89.290	146.170	8099.89	6609.39	13475.71	-11173.93	7532.92	1745422.27	401155.09	39°35'55.26"N	80°17'30.06"W	13475.97	146.014	0.71	-0.70	-0.11
21737.00	89.660	147.000	8099.89	6610.25	13569.70	-11252.39	7584.69	1745474.03	401076.64	39°35'54.49"N	80°17'29.39"W	13569.96	146.018	0.97	0.39	0.88
21829.00	90.000	146.860	8101.02	6610.52	13661.70	-11329.48	7634.89	1745524.23	400999.55	39°35'53.73"N	80°17'28.74"W	13661.95	146.024	0.40	0.37	-0.15
21922.00	89.540	146.810	8101.40	6610.90	13754.69	-11407.33	7685.76	1745575.10	400921.70	39°35'52.96"N	80°17'28.08"W	13754.93	146.030	0.50	-0.49	-0.05
22015.00	90.060	147.070	8101.72	6611.22	13847.69	-11485.28	7736.50	1745625.83	400843.77	39°35'52.20"N	80°17'27.43"W	13847.92	146.036	0.63	0.56	0.28
22110.00	89.970	146.410	8101.70	6611.20	13942.68	-11564.71	7788.60	1745677.93	400764.33	39°35'51.42"N	80°17'26.75"W	13942.91	146.041	0.70	-0.09	-0.69
22204.00	90.120	146.640	8101.62	6611.12	14036.68	-11643.12	7840.45	1745729.78	400685.93	39°35'50.65"N	80°17'26.08"W	14036.91	146.044	0.29	0.16	0.24
22297.00	90.220	146.540	8101.35	6610.85	14129.68	-11720.75	7891.65	1745780.98	400608.30	39°35'49.88"N	80°17'25.42"W	14129.91	146.047	0.15	0.11	-0.11
22390.00	90.090	146.530	8101.10	6610.60	14222.68	-11798.34	7942.94	1745832.26	400530.73	39°35'49.12"N	80°17'24.75"W	14222.90	146.051	0.14	-0.14	-0.01
22483.00	90.180	146.670	8100.88	6610.38	14315.68	-11875.98	7994.13	1745883.45	400453.09	39°35'48.36"N	80°17'24.09"W	14315.90	146.054	0.18	0.10	0.15
22577.00	89.780	146.210	8100.91	6610.41	14409.68	-11954.31	8046.09	1745935.41	400374.77	39°35'47.59"N	80°17'23.42"W	14409.90	146.057	0.65	-0.43	-0.49
22668.00	89.200	143.930	8101.72	6611.22	14500.65	-12028.91	8098.19	1745987.51	400300.17	39°35'46.86"N	80°17'22.74"W	14500.87	146.050	2.59	-0.64	-2.51
22761.00	89.690	146.270	8102.62	6612.12	14593.61	-12105.17	8151.40	1746040.71	400223.91	39°35'46.11"N	80°17'22.06"W	14593.85	146.044	2.57	0.53	2.52
22854.00	89.420	146.490	8103.34	6612.84	14686.61	-12182.61	8202.89	1746092.19	400146.47	39°35'45.35"N	80°17'21.39"W	14686.84	146.047	0.37	-0.29	0.24
22947.00	89.260	144.900	8104.41	6613.91	14779.59	-12259.43	8255.30	1746144.60	400069.66	39°35'44.59"N	80°17'20.71"W	14779.83	146.044	1.72	-0.17	-1.71
23041.00	89.450	146.500	8105.47	6614.97	14873.58	-12337.07	8308.26	1746197.56	399992.02	39°35'43.83"N	80°17'20.03"W	14873.82	146.042	1.71	0.20	1.70
23134.00	89.020	146.300	8106.71	6616.21	14966.57	-12414.53	8359.72	1746249.02	399914.57	39°35'43.07"N	80°17'19.36"W	14966.81	146.044	0.51	-0.46	-0.22
23228.00	89.690	146.880	8107.77	6617.27	15060.56	-12492.99	8411.48	1746300.77	399836.12	39°35'42.30"N	80°17'18.69"W	15060.80	146.048	0.94	0.71	0.62
23321.00	89.600	146.790	8108.35	6617.85	15153.56	-12570.84	8462.35	1746351.64	399758.27	39°35'41.53"N	80°17'18.03"W	15153.79	146.053	0.14	-0.10	-0.10
23414.00	90.280	146.870	8108.45	6617.95	15246.55	-12648.68	8513.24	1746402.52	399680.43	39°35'40.77"N	80°17'17.37"W	15246.78	146.057	0.74	0.73	0.09
23507.00	91.140	146.560	8107.29	6616.79	15339.54	-12726.42	8564.27	1746453.56	399602.70	39°35'39.24"N	80°17'16.05"W	15339.77	146.061	0.98	0.92	-0.33
23600.00	91.020	146.740	8105.54	6615.04	15432.53	-12804.09	8615.39	1746504.67	399525.03	39°35'39.24"N	80°17'16.05"W	15432.75	146.065	0.23	-0.13	0.19
23693.00	90.580	143.800	8104.24	6613.74	15525.49	-12880.51	8668.36	1746557.64	399448.62	39°35'38.49"N	80°17'15.36"W	15525.72	146.060	3.20	-0.47	-3.16
23786.00	90.370	146.750	8103.47	6612.97	15618.46	-12966.93	8721.33	1746610.60	399372.20	39°35'37.74"N	80°17'14.68"W	15618.69	146.055	3.18	-0.23	3.17
23880.00	90.220	146.660	8102.99	6612.49	15712.46	-13035.50	8772.93	1746662.20	399293.64	39°35'36.97"N	80°17'14.01"W	15712.69	146.059	0.19	-0.16	-0.10
23974.00	90.340	146.470	8102.53	6612.03	15806.45	-13113.94	8824.72	1746713.99	399215.20	39°35'36.20"N	80°17'13.34"W	15806.68	146.062	0.24	0.13	0.20
24069.00	90.370	146.940	8101.94	6611.44	15901.45	-13193.35	8876.87	1746766.14	399135.80	39°35'35.42"N	80°17'12.67"W	15901.67	146.066	0.50	0.03	0.49
24164.00	90.280	146.740	8101.40	6610.90	15996.45	-13272.88	8928.83	1746818.10	399056.28	39°35'34.64"N	80°17'11.99"W	15996.66	146.071	0.23	-0.09	-0.21

09202020



Actual Wellpath Report

Miracle Run 4H (ST01) AWP Proj: 29546'

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REFERENCE WELLPATH IDENTIFICATION

Operator	NORTHEAST NATURAL ENERGY, LLC	Well	Miracle Run 4H (ST01)
Field	Monongalia	API/Legal	
Facility	Miracle Run Pad	Wellbore	Miracle Run 4H (ST01) AWB
Slot	Slot #04	Sidetrack from	Miracle Run 4H (Pilot) AWP Proj: 8232' at 4500.00 MD

WELLPATH DATA (328 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	TVDSS [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]
24257.00	90.120	146.900	8101.07	6610.57	16089.44	-13350.71	8979.73	1746868.99	398978.45	39°35'33.8753"N	80°17'11.3398"W	16089.66	146.075	0.24	-0.17	0.17
24352.00	90.220	146.920	8100.79	6610.29	16184.44	-13430.30	9031.59	1746920.85	398898.86	39°35'33.0932"N	80°17'10.6684"W	16184.65	146.080	0.11	0.11	0.02
24446.00	90.340	146.490	8100.33	6609.83	16278.44	-13508.87	9083.19	1746972.45	398820.29	39°35'32.3212"N	80°17'10.0005"W	16278.64	146.084	0.47	0.13	-0.46
24540.00	90.280	146.850	8099.82	6609.32	16372.43	-13587.41	9134.84	1747024.09	398741.76	39°35'31.5495"N	80°17'9.3320"W	16372.63	146.087	0.39	-0.06	0.38
24634.00	90.830	146.630	8098.91	6608.41	16466.43	-13666.01	9186.39	1747075.64	398663.17	39°35'30.7772"N	80°17'8.6647"W	16466.62	146.091	0.63	0.59	-0.23
24729.00	90.710	146.870	8097.64	6607.14	16561.41	-13745.45	9238.48	1747127.72	398583.73	39°35'29.9967"N	80°17'7.9906"W	16561.61	146.094	0.28	-0.13	0.25
24823.00	90.890	147.040	8096.33	6605.83	16655.40	-13824.24	9289.73	1747178.97	398504.95	39°35'29.2225"N	80°17'7.3271"W	16655.59	146.099	0.26	0.19	0.18
24916.00	90.460	146.700	8095.23	6604.73	16748.39	-13902.11	9340.55	1747229.79	398427.08	39°35'28.4572"N	80°17'6.6692"W	16748.57	146.104	0.59	-0.46	-0.37
25010.00	90.310	146.350	8094.60	6604.10	16842.39	-13980.52	9392.40	1747281.64	398348.68	39°35'27.6869"N	80°17'5.9982"W	16842.57	146.106	0.41	-0.16	-0.37
25104.00	90.490	146.410	8093.94	6603.44	16936.39	-14058.79	9444.45	1747333.68	398270.41	39°35'26.9178"N	80°17'5.3247"W	16936.56	146.107	0.20	0.19	0.06
25198.00	91.350	145.880	8092.43	6601.93	17030.37	-14136.84	9496.80	1747386.03	398192.36	39°35'26.1510"N	80°17'4.6472"W	17030.55	146.108	1.07	0.91	-0.56
25292.00	90.280	145.740	8091.10	6600.60	17124.36	-14214.59	9549.62	1747438.85	398114.62	39°35'25.3872"N	80°17'3.9639"W	17124.54	146.106	1.15	-1.14	-0.15
25386.00	90.000	145.260	8090.87	6600.37	17218.34	-14292.06	9602.86	1747492.08	398037.16	39°35'24.6262"N	80°17'3.2752"W	17218.53	146.103	0.59	-0.30	-0.51
25479.00	91.170	145.890	8089.92	6599.42	17311.33	-14368.76	9655.43	1747544.65	397960.46	39°35'23.8727"N	80°17'2.5951"W	17311.52	146.100	1.43	1.26	0.68
25573.00	90.340	146.330	8088.68	6598.18	17405.32	-14446.79	9707.84	1747597.06	397882.44	39°35'23.1061"N	80°17'1.9170"W	17405.51	146.100	1.00	-0.88	0.47
25667.00	90.400	147.110	8088.07	6597.57	17499.31	-14525.37	9759.42	1747648.64	397803.86	39°35'22.3340"N	80°17'1.2494"W	17499.50	146.103	0.83	0.06	0.83
25761.00	90.520	147.180	8087.32	6596.82	17593.30	-14604.33	9810.42	1747699.63	397724.91	39°35'21.5580"N	80°17'0.5893"W	17593.49	146.109	0.15	0.13	0.07
25855.00	90.370	147.320	8086.59	6596.09	17687.29	-14683.38	9861.27	1747750.47	397645.86	39°35'20.7811"N	80°16'59.9309"W	17687.46	146.115	0.22	-0.16	0.15
25949.00	90.770	147.160	8085.65	6595.15	17781.27	-14762.43	9912.13	1747801.33	397566.82	39°35'20.0043"N	80°16'59.2725"W	17781.44	146.121	0.46	0.43	-0.17
26043.00	90.920	147.120	8084.26	6593.76	17875.25	-14841.38	9963.13	1747852.33	397487.87	39°35'19.2285"N	80°16'58.6123"W	17875.42	146.126	0.17	0.16	-0.04
26137.00	91.080	147.210	8082.62	6592.12	17969.23	-14920.35	10014.09	1747903.29	397408.90	39°35'18.4524"N	80°16'57.9526"W	17969.39	146.132	0.20	0.17	0.10
26232.00	91.020	147.480	8080.88	6590.38	18064.20	-15000.32	10065.34	1747954.53	397328.94	39°35'17.6665"N	80°16'57.2891"W	18064.35	146.138	0.29	-0.06	0.28
26325.00	91.050	147.200	8079.20	6588.70	18157.17	-15078.60	10115.52	1748004.71	397250.66	39°35'16.8972"N	80°16'56.6394"W	18157.31	146.144	0.30	0.03	-0.30
26417.00	91.140	147.490	8077.44	6586.94	18249.14	-15156.05	10165.15	1748054.34	397173.22	39°35'16.1361"N	80°16'55.9969"W	18249.28	146.150	0.33	0.10	0.32
26510.00	91.080	147.680	8075.64	6585.14	18342.10	-15234.54	10215.00	1748104.18	397094.73	39°35'15.3647"N	80°16'55.3515"W	18342.23	146.158	0.21	-0.06	0.20
26602.00	90.920	146.960	8074.04	6583.54	18434.08	-15311.97	10264.66	1748153.84	397017.31	39°35'14.6038"N	80°16'54.7085"W	18434.20	146.163	0.80	-0.17	-0.78
26696.00	90.860	147.020	8072.58	6582.08	18528.06	-15390.78	10315.87	1748205.04	396938.50	39°35'13.8293"N	80°16'54.0458"W	18528.18	146.168	0.09	-0.06	0.06
26789.00	90.950	147.470	8071.11	6580.61	18621.04	-15468.98	10366.18	1748255.35	396860.30	39°35'13.0608"N	80°16'53.3945"W	18621.15	146.173	0.49	0.10	0.48
26883.00	91.080	147.610	8069.44	6578.94	18715.00	-15548.29	10416.62	1748305.79	396781.01	39°35'12.2814"N	80°16'52.7414"W	18715.11	146.180	0.20	0.14	0.15
26977.00	90.860	147.420	8067.85	6577.35	18808.97	-15627.57	10467.10	1748356.27	396701.73	39°35'11.5022"N	80°16'52.0879"W	18809.07	146.186	0.31	-0.23	-0.20

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Actual Wellpath Report

Miracle Run 4H (ST01) AWP Proj: 29546'
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REFERENCE WELLPATH IDENTIFICATION

Operator	NORTHEAST NATURAL ENERGY, LLC	Well	Miracle Run 4H (ST01)
Field	Monongalia	API/Legal	
Facility	Miracle Run Pad	Wellbore	Miracle Run 4H (ST01) AWB
Slot	Slot #04	Sidetrack from	Miracle Run 4H (Pilot) AWP Proj: 8232' at 4500.00 MD

WELLPATH DATA (328 stations) † = interpolated, ‡ = extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	TVDSS [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]
27072.00	90.250	147.460	8066.93	6576.43	18903.95	-15707.63	10518.22	1748407.39	396621.67	39°35'10.7154"N	80°16'51.4260"W	18904.04	146.193	0.64	-0.64	0.04
27165.00	90.400	147.700	8066.40	6575.90	18996.93	-15786.13	10568.08	1748457.24	396543.17	39°35'9.9438"N	80°16'50.7805"W	18997.01	146.200	0.30	0.16	0.26
27260.00	89.850	145.980	8066.20	6575.70	19091.92	-15865.66	10620.04	1748509.20	396463.65	39°35'9.1624"N	80°16'50.1080"W	19092.00	146.203	1.90	-0.58	-1.81
27353.00	90.310	146.500	8066.07	6575.57	19184.92	-15942.98	10671.72	1748560.88	396386.34	39°35'8.4027"N	80°16'49.4393"W	19185.00	146.203	0.75	0.49	0.56
27448.00	90.220	146.580	8065.63	6575.13	19279.92	-16022.23	10724.10	1748613.25	396307.09	39°35'7.6240"N	80°16'48.7615"W	19280.00	146.205	0.13	-0.09	0.08
27542.00	90.090	145.430	8065.37	6574.87	19373.91	-16100.16	10776.66	1748665.81	396229.16	39°35'6.8583"N	80°16'48.0816"W	19373.99	146.204	1.23	-0.14	-1.22
27636.00	90.180	145.250	8065.15	6574.65	19467.90	-16177.48	10830.12	1748719.26	396151.85	39°35'6.0988"N	80°16'47.3903"W	19467.98	146.199	0.21	0.10	-0.19
27729.00	90.120	145.230	8064.91	6574.41	19560.88	-16253.89	10883.14	1748772.28	396075.45	39°35'5.3482"N	80°16'46.7046"W	19560.97	146.195	0.07	-0.06	-0.02
27823.00	90.400	145.300	8064.48	6573.98	19654.86	-16331.14	10936.70	1748825.84	395998.21	39°35'4.5894"N	80°16'46.0120"W	19654.96	146.190	0.31	0.30	0.07
27916.00	89.970	145.460	8064.18	6573.68	19747.85	-16407.67	10989.53	1748878.67	395921.68	39°35'3.8376"N	80°16'45.3287"W	19747.95	146.187	0.49	-0.46	0.17
28011.00	89.480	145.260	8064.64	6574.14	19842.83	-16485.83	11043.53	1748932.67	395843.52	39°35'3.0698"N	80°16'44.6303"W	19842.94	146.183	0.56	-0.52	-0.21
28105.00	89.600	145.070	8065.39	6574.89	19936.81	-16562.98	11097.22	1748986.35	395766.38	39°35'2.3119"N	80°16'43.9360"W	19936.92	146.178	0.24	0.13	-0.20
28199.00	88.740	145.080	8066.75	6576.25	20030.77	-16640.04	11151.03	1749040.16	395689.32	39°35'1.5550"N	80°16'43.2402"W	20030.89	146.173	0.91	-0.91	0.01
28293.00	88.150	146.410	8069.31	6578.81	20124.73	-16717.71	11203.92	1749093.05	395611.66	39°35'0.7920"N	80°16'42.5561"W	20124.85	146.171	1.55	-0.63	1.41
28387.00	88.310	147.170	8072.21	6581.71	20218.68	-16796.31	11255.38	1749144.50	395533.05	39°35'0.0195"N	80°16'41.8902"W	20218.80	146.174	0.83	0.17	0.81
28481.00	87.810	146.290	8075.39	6584.89	20312.62	-16874.86	11306.92	1749196.04	395454.51	39°34'59.2477"N	80°16'41.2233"W	20312.74	146.176	1.08	-0.53	-0.94
28576.00	87.880	146.450	8078.96	6588.46	20407.56	-16953.91	11359.50	1749248.61	395375.47	39°34'58.4710"N	80°16'40.5431"W	20407.67	146.177	0.18	0.07	0.17
28670.00	87.910	146.420	8082.42	6591.92	20501.49	-17032.18	11411.43	1749300.54	395297.20	39°34'57.7019"N	80°16'39.8711"W	20501.61	146.178	0.05	0.03	-0.03
28764.00	88.920	146.440	8085.02	6594.52	20595.45	-17110.47	11463.39	1749352.50	395218.92	39°34'56.9326"N	80°16'39.1988"W	20595.57	146.179	1.07	1.07	0.02
28858.00	88.830	146.860	8086.86	6596.36	20689.44	-17188.97	11515.06	1749404.16	395140.42	39°34'56.1612"N	80°16'38.5303"W	20689.55	146.181	0.46	-0.10	0.45
28952.00	87.630	146.250	8089.76	6599.26	20783.39	-17267.37	11566.84	1749455.94	395062.03	39°34'55.3909"N	80°16'37.8603"W	20783.50	146.183	1.43	-1.28	-0.65
29046.00	87.600	146.290	8093.68	6603.18	20877.31	-17345.48	11618.99	1749508.09	394983.92	39°34'54.6234"N	80°16'37.1856"W	20877.42	146.184	0.05	-0.03	0.04
29138.00	87.410	146.150	8097.68	6607.18	20969.22	-17421.88	11670.09	1749559.19	394907.53	39°34'53.8728"N	80°16'36.5245"W	20969.33	146.184	0.26	-0.21	-0.15
29232.00	87.350	145.990	8101.98	6611.48	21063.12	-17499.79	11722.51	1749611.60	394829.62	39°34'53.1073"N	80°16'35.8465"W	21063.23	146.183	0.18	-0.06	-0.17
29326.00	87.970	146.800	8105.82	6615.32	21157.04	-17577.92	11774.62	1749663.71	394751.50	39°34'52.3396"N	80°16'35.1722"W	21157.15	146.184	0.92	0.66	0.65
29420.00	87.820	146.630	8109.27	6618.77	21250.98	-17656.36	11826.31	1749715.40	394673.06	39°34'51.5688"N	80°16'34.5034"W	21251.09	146.186	0.16	-0.16	0.03
29513.00	87.570	146.580	8113.01	6622.51	21343.90	-17733.94	11877.46	1749766.54	394595.49	39°34'50.8065"N	80°16'33.8417"W	21344.01	146.187	0.27	-0.27	-0.05
29546.00‡	87.570	146.580	8114.41	6623.91	21376.87	-17761.46	11895.62	1749784.70	394567.97	39°34'50.5361"N	80°16'33.6067"W	21376.98	146.188	0.00	0.00	0.00

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Actual Wellpath Report

Miracle Run 4H (ST01) AWP Proj: 29546'
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REFERENCE WELLPATH IDENTIFICATION			
Operator	NORTHEAST NATURAL ENERGY, LLC	Well	Miracle Run 4H (ST01)
Field	Monongalia	API/Legal	
Facility	Miracle Run Pad	Wellbore	Miracle Run 4H (ST01) AWB
Slot	Slot #04	Sidetrack from	Miracle Run 4H (Pilot) AWP Proj: 8232' at 4500.00 MD

HOLE & CASING SECTIONS - Ref Wellbore: Miracle Run 4H (ST01) AWB Ref Wellpath: Miracle Run 4H (ST01) AWP Proj: 29546'									
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	32.50	1485.00	1452.50	32.50	1484.93	0.00	0.00	-8.57	-7.03
13.375in Casing Surface	32.50	1455.00	1422.50	32.50	1454.93	0.00	0.00	-8.35	-7.10
12.25in Open Hole	1485.00	2790.00	1305.00	1484.93	2789.77	-8.57	-7.03	-7.32	-6.89
9.625in Casing Intermediate	32.50	2760.00	2727.50	32.50	2759.81	0.00	0.00	-8.74	-6.68
8.75in Open Hole	2790.00	4500.00	1710.00	2789.77	4499.30	-7.32	-6.89	12.24	-23.97
8.5in Open Hole	4488.00	29546.00	25058.00	4487.30	8114.41	12.12	-24.04	-17761.46	11895.62
5.5in Casing Production	32.50	29516.00	29483.50	32.50	8113.14	0.00	0.00	-17736.44	11879.11

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Miracle Run 4H (ST01) AWP Proj: 29546'

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REFERENCE WELLPATH IDENTIFICATION

Operator	NORTHEAST NATURAL ENERGY, LLC	Well	Miracle Run 4H (ST01)
Field	Monongalia	API/Legal	
Facility	Miracle Run Pad	Wellbore	Miracle Run 4H (ST01) AWB
Slot	Slot #04	Sidetrack from	Miracle Run 4H (Pilot) AWP Proj: 8232' at 4500.00 MD

TARGETS

Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
Miracle Run 4H BHL Rev-2	8139.50	-17761.04	11897.06	1749786.14	394568.39	39°34'50.5403"N	80°16'33.5883"W	point
Miracle Run 4H LP Rev-0	8139.50	-144.34	180.76	1738070.56	412184.01	39°37'43.6119"N	80°19'5.2701"W	point
Miracle Run 4H LP Rev-1	8139.50	-310.88	291.51	1738181.31	412017.48	39°37'41.9761"N	80°19'3.8353"W	point
Miracle Run PAD Hardline #1 (04.16.2024)	9500.00	-2276.08	-4196.43	1733693.63	410052.40	39°37'22.1473"N	80°20'0.9585"W	polygon
2D Polygon: dimensions not calculated								
Miracle Run PAD Hardline #2 (04.16.2024)	9500.00	1665.45	-449.64	1737440.20	413993.69	39°38'1.4404"N	80°19'13.5379"W	polygon
2D Polygon: dimensions not calculated								

WELLPATH COMPOSITION - Ref Wellbore: Miracle Run 4H (ST01) AWB Ref Wellpath: Miracle Run 4H (ST01) AWP Proj: 29546'

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore	Survey Date
32.50	1323.00	BH Generic gyro - northseeking (Standard)	01 17.5" Javins Gyro [Northseeking+Standard] (73' - 1323')	Miracle Run 4H (Pilot) AWB	3/7/2024
1323.00	2704.00	OWSG MWD rev2 + HRGM	02 12.5" SDI MWD [OWSG MWD+HDGM] (1323')(1578' - 2704')	Miracle Run 4H (Pilot) AWB	3/7/2024
2704.00	4500.00	OWSG MWD rev2 + HRGM	03 8.75" SDI MWD [OWSG MWD+HRGM] (2704')(2798' - 8155')	Miracle Run 4H (Pilot) AWB	3/7/2024
4500.00	29546.00	BH AutoTrak Curve/eXpress (2019) (HRGM, Short spacing)	04 8.5" BH ATK Curve [HDGM+Short Spacing] (4500')(4533' - 29513')	Miracle Run 4H (ST01) AWB	3/7/2024

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Actual Wellpath Report

Miracle Run 4H (ST01) AWP Proj: 29546'
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REFERENCE WELLPATH IDENTIFICATION			
Operator	NORTHEAST NATURAL ENERGY, LLC	Well	Miracle Run 4H (ST01)
Field	Monongalia	API/Legal	
Facility	Miracle Run Pad	Wellbore	Miracle Run 4H (ST01) AWB
Slot	Slot #04	Sidetrack from	Miracle Run 4H (Pilot) AWP Proj: 8232' at 4500.00 MD

COMMENTS
Wellpath general comments API: 47061019230001 BH Job #: 112148360 Rig: Nabors X08 Duration: 04/19/2024 - 04/30/2024 01_17.5" Javins Gyro [Northseeking+Standard] (73' - 1323') 02_12.5" SDI MWD [OWSG MWD+HDGM] (1323')(1578' - 2704') 03_8.75" SDI MWD [OWSG MWD+HRGM] (2704')(2798' - 8155') 04_8.5" BH ATK Curve [HDGM+Short Spacing] (4500')(4533' - 29513') Final Survey MD @ 29513' Projected MD @ TD: 29546'

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