

API: 47-061-01889-0000  
 BH Job #: 111066128  
 Rig: Patterson 277  
 Duration: 10/27/21 - 11/2/21



Slot #12  
 01\_Javins Inertial Gyro <17-1/2">(50'-1450') : 50.00ft TVD, 0.01ft S, 0.06ft E  
 02\_Tally MWD <8-3/4">(1450')(1499'-8047') : 1498.90ft TVD, 6.45ft S, 4.65ft W

03\_BH AT Curve <8-1/2">(8047')(8169'-19025') : 7439.55ft TVD, 1420.90ft S, 2523.42ft W

01\_Javins Inertial Gyro <17-1/2">(50'-1450') : 0.30° Inc, 50.00ft MD, 50.00ft TVD, 0.04ft VS

02\_Tally MWD <8-3/4">(1450')(1499'-8047') : 0.53° Inc, 1499.00ft MD, 1498.90ft TVD, 2.80ft VS

Plot reference wellbore is McClellan 12H PWB Rev-A.0	Grid System: NAD83 (Lambert West Virginia Zone 2P, Northern Zone 14731, US feet)
True vertical depths are referenced to Patterson 277 (RKB)	North Reference: Grid north
Surface wellbore measured depths are referenced to Patterson 277 (RKB)	Scale: True distance
Patterson 277 (RKB) to Mean Sea Level: 1440 feet	Coordinates are in feet referenced to Grid
Mean Sea Level to Ground level (At Slot #12): -1412 feet	Depths are in feet
Other wellbore MDs are referenced to each path's default MD datum	Created by hbitop on 2021-11-03; Database: WVA_MPL_CASTERIUS_04m

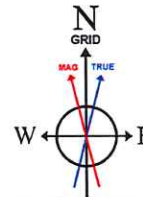
Slot	Well	Wellbore	Wellpath
Slot #12	McClellan 12H	McClellan 12H AWB	McClellan 12H AWP Proj: 19050
Slot #12	McClellan 12H	McClellan 12H PWB	McClellan 12H PWP Rev-A.0

Location Information				
Facility Name	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
McClellan Pad	1749185.000	409495.900	39°37'18.0211"N	80°16'42.9186"W
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)
Slot #12	-29.70	-32.10	1749152.900	409468.200
Patterson 277 (RKB) to Ground level (At Slot: Slot #12)	28ft			
Mean Sea Level to Ground level (At Slot: Slot #12)	-1412ft			
Patterson 277 (RKB) to Mean Sea Level	1440ft			

Well Profile Data							
Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (*/100ft)
Tie On	8047.00	27.970	208.890	7331.25	-1367.89	-2505.42	8.26
Proj. to Bottom	8113.00	28.330	197.080	7389.48	-1386.67	-2517.05	7.10
End of 3D Arc	8451.21	28.648	184.556	7688.52	-1552.46	-2519.04	4.54
Landing Pt.	9170.11	80.000	146.373	8040.00	-2071.03	-2246.11	8.75
BHL	19041.82	80.000	146.373	8040.00	-10280.94	3220.68	0.00

03\_BH AT Curve <8-1/2">(8047')(8169'-19025') : 27.20° Inc, 8169.00ft MD, 7439.55ft TVD, -214.45ft VS

Projected MD at TD: 19050' : 87.48° Inc, 19050.00ft MD, 8064.57ft TVD, 10351.43ft VS



User specified (HDGM) Dip: 66.47° Field: 51966 nT  
 Magnetic North is 8.94 degrees West of True North (at 10/27/2021)  
 Grid North is 0.50 degrees West of True North  
 To correct azimuth from True to Grid add 0.50 degrees  
 To correct azimuth from Magnetic to Grid subtract 8.44 degrees

Projected MD at TD: 19050' : 8064.57ft TVD, 10288.44ft S, 3222.94ft E

Scale 1 inch = 1750  
 True Vertical Depth (ft)

Northing (ft)

Vertical Section (ft)  
 Azimuth 146.37° with reference 0.00 N, 0.00 E

Scale 1 inch = 1750



# Actual Wellpath Report

McClellan 12H AWP Proj: 19050'  
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REFERENCE WELLPATH IDENTIFICATION			
Operator	NORTHEAST NATURAL ENERGY, LLC	Well	McClellan 12H
Field	Monongalia	API/Legal	
Facility	McClellan Pad	Wellbore	McClellan 12H AWB
Slot	Slot #12		

REPORT SETUP INFORMATION			
Projection System	NAD83 / Lambert West Virginia SP, Northern Zone (4701), US feet	Software System	WellArchitect® 6.0
North Reference	Grid	User	Hilpthop
Scale	0.999941	Report Generated	11/3/2021 at 4:17:23 PM
Convergence at slot	0.50° 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	-29.70	-32.10	1749152.90	409466.20	39°37'17.7248"N	80°16'43.3256"W
Facility Reference Pt			1749185.00	409495.90	39°37'18.0211"N	80°16'42.9186"W
Field Reference Pt			1777685.71	440640.65	39°42'28.1140"N	80°10'41.6900"W

WELLPATH DATUM			
Calculation method	Minimum curvature	Patterson 277 (RKB) to Facility Vertical Datum	1440.00ft
Horizontal Reference Pt	Slot	Patterson 277 (RKB) to Mean Sea Level	1440.00ft
Vertical Reference Pt	Patterson 277 (RKB)	Patterson 277 (RKB) to Ground Level at Slot (Slot #12)	28.00ft
MD Reference Pt	Patterson 277 (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	146.37°



# Actual Wellpath Report

McClellan 12H AWP Proj: 19050'

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REFERENCE WELLPATH IDENTIFICATION			
Operator	NORTHEAST NATURAL ENERGY, LLC	Well	McClellan 12H
Field	Monongalia	API/Legal	
Facility	McClellan Pad	Wellbore	McClellan 12H AWB
Slot	Slot #12		

WELLPATH DATA (220 stations) † = interpolated, ‡ = extrapolated station															
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]	Build Rate [°/100ft]	Turn Rate [°/100ft]
0.00†	0.000	97.100	0.00	0.00	0.00	0.00	1749152.90	409466.20	39°37'17.7248"N	80°16'43.3256"W	0.00	0.000	0.00	0.00	0.00
28.00	0.000	97.100	28.00	0.00	0.00	0.00	1749152.90	409466.20	39°37'17.7248"N	80°16'43.3256"W	0.00	0.000	0.00	0.00	0.00
50.00	0.300	97.100	50.00	0.04	-0.01	0.06	1749152.96	409466.19	39°37'17.7247"N	80°16'43.3248"W	0.06	97.100	1.36	1.36	0.00
100.00	0.070	174.200	100.00	0.15	-0.05	0.19	1749153.09	409466.15	39°37'17.7243"N	80°16'43.3231"W	0.20	105.767	0.58	-0.46	154.20
150.00	0.200	165.900	150.00	0.26	-0.17	0.21	1749153.11	409466.03	39°37'17.7231"N	80°16'43.3228"W	0.27	128.188	0.26	0.26	-16.60
200.00	0.280	113.500	200.00	0.44	-0.30	0.35	1749153.25	409465.90	39°37'17.7218"N	80°16'43.3211"W	0.46	130.976	0.45	0.16	-104.80
250.00	0.530	109.700	250.00	0.73	-0.43	0.68	1749153.58	409465.77	39°37'17.7206"N	80°16'43.3169"W	0.80	122.325	0.50	0.50	-7.60
300.00	0.710	115.300	299.99	1.18	-0.64	1.18	1749154.08	409465.56	39°37'17.7186"N	80°16'43.3105"W	1.34	118.535	0.38	0.36	11.20
350.00	0.740	122.500	349.99	1.74	-0.94	1.73	1749154.63	409465.26	39°37'17.7156"N	80°16'43.3034"W	1.97	118.676	0.19	0.06	14.40
400.00	0.850	131.700	399.99	2.40	-1.37	2.28	1749155.18	409464.83	39°37'17.7115"N	80°16'43.2963"W	2.65	120.945	0.34	0.22	18.40
450.00	0.860	135.400	449.98	3.12	-1.88	2.82	1749155.72	409464.32	39°37'17.7065"N	80°16'43.2894"W	3.39	123.702	0.11	0.02	7.40
500.00	0.990	163.400	499.97	3.91	-2.56	3.20	1749156.10	409463.64	39°37'17.6998"N	80°16'43.2843"W	4.10	128.625	0.93	0.26	56.00
550.00	0.950	174.700	549.97	4.68	-3.39	3.37	1749156.27	409462.81	39°37'17.6916"N	80°16'43.2822"W	4.77	135.178	0.39	-0.08	22.60
600.00	1.010	188.100	599.96	5.38	-4.24	3.34	1749156.24	409461.96	39°37'17.6832"N	80°16'43.2824"W	5.40	141.727	0.47	0.12	26.80
650.00	0.940	199.700	649.95	5.95	-5.06	3.14	1749156.04	409461.14	39°37'17.6751"N	80°16'43.2849"W	5.95	148.155	0.42	-0.14	23.20
700.00	1.010	207.500	699.95	6.41	-5.84	2.80	1749155.70	409460.37	39°37'17.6674"N	80°16'43.2891"W	6.47	154.366	0.30	0.14	15.60
750.00	0.730	221.200	749.94	6.71	-6.47	2.39	1749155.29	409459.73	39°37'17.6611"N	80°16'43.2943"W	6.89	159.739	0.69	-0.56	27.40
800.00	0.730	241.700	799.94	6.76	-6.86	1.90	1749154.80	409459.34	39°37'17.6572"N	80°16'43.3006"W	7.11	164.539	0.52	0.00	41.00
850.00	0.580	266.800	849.93	6.60	-7.02	1.36	1749154.26	409459.18	39°37'17.6555"N	80°16'43.3074"W	7.15	169.012	0.64	-0.30	50.20
900.00	0.450	305.900	899.93	6.29	-6.92	0.95	1749153.85	409459.28	39°37'17.6565"N	80°16'43.3126"W	6.99	172.171	0.73	-0.26	78.20
950.00	0.480	273.600	949.93	5.98	-6.79	0.58	1749153.48	409459.41	39°37'17.6577"N	80°16'43.3174"W	6.82	175.090	0.52	0.06	-64.60
1000.00	0.420	319.300	999.93	5.67	-6.64	0.26	1749153.15	409459.56	39°37'17.6592"N	80°16'43.3216"W	6.65	177.801	0.71	-0.12	91.40
1022.00	0.390	326.300	1021.93	5.52	-6.52	0.16	1749153.06	409459.68	39°37'17.6604"N	80°16'43.3228"W	6.52	178.586	0.26	-0.14	31.82
1050.00	0.490	296.000	1049.93	5.32	-6.39	0.00	1749152.90	409459.82	39°37'17.6617"N	80°16'43.3249"W	6.39	179.996	0.89	0.36	-108.21
1100.00	0.520	272.500	1099.92	5.00	-6.28	-0.42	1749152.48	409459.92	39°37'17.6627"N	80°16'43.3302"W	6.30	183.811	0.42	0.06	-47.00
1150.00	0.520	276.600	1149.92	4.72	-6.25	-0.87	1749152.03	409459.95	39°37'17.6630"N	80°16'43.3360"W	6.31	187.935	0.07	0.00	8.20
1200.00	0.430	280.000	1199.92	4.44	-6.19	-1.28	1749151.62	409460.01	39°37'17.6635"N	80°16'43.3412"W	6.32	191.695	0.19	-0.18	6.80
1250.00	0.590	267.100	1249.92	4.18	-6.17	-1.72	1749151.18	409460.03	39°37'17.6637"N	80°16'43.3469"W	6.40	195.605	0.39	0.32	-25.80
1300.00	0.640	249.800	1299.92	3.98	-6.28	-2.24	1749150.66	409459.92	39°37'17.6626"N	80°16'43.3535"W	6.66	199.654	0.38	0.10	-34.60
1350.00	0.730	267.500	1349.91	3.76	-6.39	-2.82	1749150.08	409459.81	39°37'17.6614"N	80°16'43.3609"W	6.98	203.837	0.46	0.18	35.40

# Actual Wellpath Report

McClellan 12H AWP Proj: 19050'

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REFERENCE WELLPATH IDENTIFICATION			
Operator	NORTHEAST NATURAL ENERGY, LLC	Well	McClellan 12H
Field	Monongalia	API/Legal	
Facility	McClellan Pad	Wellbore	McClellan 12H AWB
Slot	Slot #12		

WELLPATH DATA (220 stations)															
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]	Build Rate [°/100ft]	Turn Rate [°/100ft]
1400.00	0.730	280.900	1399.91	3.37	-6.34	-3.45	1749149.45	409459.86	39°37'17.6618"N	80°16'43.3690"W	7.22	208.572	0.34	0.00	26.80
1450.00	0.880	271.400	1449.90	2.92	-6.27	-4.15	1749148.75	409459.93	39°37'17.6625"N	80°16'43.3779"W	7.52	213.493	0.40	0.30	-19.00
1499.00	0.530	211.830	1498.90	2.80	-6.45	-4.65	1749148.26	409459.75	39°37'17.6606"N	80°16'43.3842"W	7.95	215.743	1.56	-0.71	-121.57
1563.00	0.860	246.210	1562.90	2.84	-6.90	-5.24	1749147.66	409459.30	39°37'17.6562"N	80°16'43.3918"W	8.66	217.220	0.81	0.52	53.72
1657.00	3.490	261.050	1656.82	1.53	-7.63	-8.71	1749144.19	409458.57	39°37'17.6486"N	80°16'43.4361"W	11.58	228.794	2.84	2.80	15.79
1752.00	7.570	267.740	1751.36	-2.94	-8.33	-17.83	1749135.07	409457.87	39°37'17.6410"N	80°16'43.5524"W	19.67	244.963	4.34	4.29	7.04
1847.00	10.550	266.140	1845.16	-10.52	-9.16	-32.76	1749120.14	409457.04	39°37'17.6315"N	80°16'43.7432"W	34.02	254.380	3.15	3.14	-1.68
1941.00	12.390	259.120	1937.29	-18.69	-11.64	-51.25	1749101.65	409454.56	39°37'17.6053"N	80°16'43.9792"W	52.56	257.202	2.45	1.96	-7.47
2034.00	15.960	253.390	2027.44	-26.29	-17.18	-73.31	1749079.59	409449.02	39°37'17.5487"N	80°16'44.2605"W	75.30	256.809	4.12	3.84	-6.16
2129.00	16.290	240.940	2118.73	-31.18	-27.39	-97.48	1749055.43	409438.81	39°37'17.4457"N	80°16'44.5682"W	101.25	254.305	3.65	0.35	-13.11
2224.00	14.270	225.680	2210.41	-30.07	-42.05	-117.51	1749035.39	409424.15	39°37'17.2992"N	80°16'44.8226"W	124.81	250.311	4.72	-2.13	-16.06
2318.00	14.260	223.830	2301.51	-25.41	-58.50	-133.82	1749019.09	409407.71	39°37'17.1352"N	80°16'45.0291"W	146.05	246.389	0.49	-0.01	-1.97
2412.00	16.060	234.580	2392.25	-22.49	-74.39	-152.44	1749000.47	409391.82	39°37'16.9766"N	80°16'45.2653"W	169.62	243.988	3.54	1.91	11.44
2507.00	19.120	243.820	2482.82	-24.09	-88.87	-177.12	1748975.79	409377.33	39°37'16.8313"N	80°16'45.5791"W	198.17	243.354	4.35	3.22	9.73
2601.00	19.100	243.200	2571.64	-27.92	-102.60	-204.66	1748948.25	409363.61	39°37'16.6933"N	80°16'45.9295"W	228.94	243.375	0.22	-0.02	-0.66
2676.00	19.740	239.840	2642.37	-30.15	-114.50	-226.57	1748926.35	409351.71	39°37'16.5738"N	80°16'46.2081"W	253.85	243.190	1.72	0.85	-4.48
2727.00	20.200	237.730	2690.31	-30.88	-123.53	-241.46	1748911.46	409342.68	39°37'16.4833"N	80°16'46.3974"W	271.22	242.907	1.68	0.90	-4.14
2825.00	22.860	237.580	2781.46	-31.68	-142.77	-271.84	1748881.08	409323.44	39°37'16.2906"N	80°16'46.7835"W	307.05	242.292	2.71	2.71	-0.15
2920.00	24.070	239.600	2868.61	-33.16	-162.46	-304.13	1748848.79	409303.74	39°37'16.0931"N	80°16'47.1939"W	344.80	241.889	1.53	1.27	2.13
3014.00	25.740	239.290	2953.86	-35.28	-182.59	-338.21	1748814.71	409283.62	39°37'15.8913"N	80°16'47.6273"W	384.35	241.637	1.78	1.78	-0.33
3108.00	28.850	241.800	3037.39	-38.47	-203.74	-375.76	1748777.16	409262.48	39°37'15.6791"N	80°16'48.1047"W	427.44	241.533	3.53	3.31	2.67
3203.00	30.410	242.700	3119.96	-43.29	-225.60	-417.33	1748735.60	409240.62	39°37'15.4595"N	80°16'48.6335"W	474.40	241.605	1.71	1.64	0.95
3298.00	31.430	239.940	3201.47	-47.48	-249.03	-460.13	1748692.80	409217.18	39°37'15.2242"N	80°16'49.1779"W	523.20	241.577	1.84	1.07	-2.91
3393.00	29.750	239.050	3283.24	-50.13	-273.56	-501.79	1748651.14	409192.65	39°37'14.9782"N	80°16'49.7075"W	571.51	241.402	1.83	-1.77	-0.94
3487.00	28.880	243.790	3365.21	-54.15	-295.59	-542.16	1748610.77	409170.63	39°37'14.7571"N	80°16'50.2210"W	617.50	241.401	2.64	-0.93	5.04
3582.00	27.850	239.460	3448.82	-58.31	-317.00	-581.86	1748571.07	409149.22	39°37'14.5421"N	80°16'50.7259"W	662.61	241.418	2.42	-1.08	-4.56
3681.00	27.500	234.960	3536.50	-58.99	-341.88	-620.50	1748532.44	409124.35	39°37'14.2929"N	80°16'51.2168"W	708.44	241.147	2.14	-0.35	-4.55
3777.00	27.020	232.230	3621.84	-56.87	-367.96	-655.88	1748497.06	409098.26	39°37'14.0321"N	80°16'51.6661"W	752.05	240.707	1.40	-0.50	-2.84
3872.00	27.740	233.450	3706.20	-54.19	-394.34	-690.70	1748462.24	409071.88	39°37'13.7684"N	80°16'52.1081"W	795.35	240.277	0.96	0.76	1.28
3966.00	30.850	238.970	3788.18	-54.17	-419.81	-728.94	1748424.00	409046.42	39°37'13.5135"N	80°16'52.5940"W	841.19	240.062	4.38	3.31	5.87



# Actual Wellpath Report

McClellan 12H AWP Proj: 19050'

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REFERENCE WELLPATH IDENTIFICATION				
Operator	NORTHEAST NATURAL ENERGY, LLC		Well	McClellan 12H
Field	Monongalia		API/Legal	
Facility	McClellan Pad		Wellbore	McClellan 12H AWB
Slot	Slot #12			

WELLPATH DATA (220 stations)																
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]	Build Rate [°/100ft]	Turn Rate [°/100ft]	
4061.00	28.830	246.030	3870.61	-59.12	-441.68	-770.76	1748382.18	409024.55	39°37'13.2937"N	80°16'53.1260"W	888.34	240.186	4.26	-2.13	7.43	
4156.00	30.540	248.250	3953.14	-67.93	-459.93	-814.12	1748338.83	409006.30	39°37'13.1096"N	80°16'53.6779"W	935.05	240.536	2.14	1.80	2.34	
4250.00	32.100	247.020	4033.44	-77.46	-478.53	-859.30	1748293.66	408987.70	39°37'12.9219"N	80°16'54.2532"W	983.55	240.887	1.79	1.66	-1.31	
4344.00	31.640	247.010	4113.27	-86.63	-497.91	-904.99	1748247.97	408968.32	39°37'12.7265"N	80°16'54.8349"W	1032.92	241.181	0.49	-0.49	-0.01	
4439.00	30.150	246.800	4194.79	-95.55	-517.04	-949.86	1748203.10	408949.19	39°37'12.5335"N	80°16'55.4061"W	1081.46	241.439	1.57	-1.57	-0.22	
4538.00	28.610	246.990	4281.05	-104.42	-536.10	-994.53	1748158.43	408930.13	39°37'12.3413"N	80°16'55.9749"W	1129.82	241.673	1.56	-1.56	0.19	
4632.00	28.510	247.480	4363.61	-112.89	-553.49	-1035.97	1748117.00	408912.74	39°37'12.1659"N	80°16'56.5025"W	1174.55	241.885	0.27	-0.11	0.52	
4726.00	31.350	247.010	4445.07	-121.73	-571.64	-1079.21	1748073.76	408894.60	39°37'11.9828"N	80°16'57.0530"W	1221.25	242.091	3.03	3.02	-0.50	
4821.00	30.590	243.760	4526.53	-129.40	-591.98	-1123.64	1748029.33	408874.26	39°37'11.7780"N	80°16'57.6186"W	1270.04	242.218	1.93	-0.80	-3.42	
4915.00	30.150	240.710	4607.64	-134.27	-614.10	-1165.69	1747987.28	408852.13	39°37'11.5557"N	80°16'58.1534"W	1317.55	242.219	1.71	-0.47	-3.24	
5011.00	29.470	241.000	4690.93	-138.00	-637.35	-1207.37	1747945.61	408828.89	39°37'11.3224"N	80°16'58.6834"W	1365.26	242.171	0.72	-0.71	0.30	
5106.00	29.500	237.930	4773.64	-140.52	-661.10	-1247.63	1747905.35	408805.14	39°37'11.0842"N	80°16'59.1952"W	1411.96	242.082	1.59	0.03	-3.23	
5200.00	29.530	240.890	4855.44	-142.98	-684.66	-1287.48	1747865.50	408781.59	39°37'10.8480"N	80°16'59.7019"W	1458.21	241.997	1.55	0.03	3.15	
5295.00	28.180	245.850	4938.66	-148.52	-705.23	-1328.41	1747824.57	408761.02	39°37'10.6412"N	80°17'0.2226"W	1504.00	242.037	2.89	-1.42	5.22	
5390.00	28.230	245.300	5022.38	-155.70	-723.79	-1369.29	1747783.69	408742.45	39°37'10.4542"N	80°17'0.7429"W	1548.82	242.140	0.28	0.05	-0.58	
5485.00	29.630	246.950	5105.52	-163.50	-742.38	-1411.32	1747741.67	408723.87	39°37'10.2669"N	80°17'1.2779"W	1594.66	242.255	1.70	1.47	1.74	
5583.00	30.150	244.980	5190.49	-171.63	-762.27	-1455.91	1747697.08	408703.97	39°37'10.0664"N	80°17'1.8455"W	1643.39	242.365	1.13	0.53	-2.01	
5677.00	30.740	239.070	5271.54	-176.30	-784.61	-1497.92	1747655.07	408681.64	39°37'9.8420"N	80°17'2.3798"W	1690.97	242.354	3.25	0.63	-6.29	
5771.00	32.170	237.820	5351.73	-178.06	-810.29	-1539.71	1747613.28	408655.96	39°37'9.5847"N	80°17'2.9110"W	1739.91	242.244	1.67	1.52	-1.33	
5864.00	28.990	237.580	5431.78	-179.17	-835.56	-1579.70	1747573.30	408630.69	39°37'9.3315"N	80°17'3.4192"W	1787.07	242.124	3.42	-3.42	-0.26	
5959.00	27.820	240.770	5515.35	-181.35	-858.73	-1618.48	1747534.52	408607.52	39°37'9.0991"N	80°17'3.9122"W	1832.19	242.051	2.02	-1.23	3.36	
6054.00	28.880	240.990	5598.96	-184.90	-880.68	-1657.89	1747495.11	408585.57	39°37'8.8788"N	80°17'4.4133"W	1877.29	242.022	1.12	1.12	0.23	
6148.00	30.970	240.790	5680.42	-188.60	-903.50	-1698.86	1747454.15	408562.76	39°37'8.6498"N	80°17'4.9342"W	1924.17	241.995	2.23	2.22	-0.21	
6242.00	32.730	235.280	5760.28	-189.98	-929.78	-1740.87	1747412.14	408536.48	39°37'8.3864"N	80°17'5.4681"W	1973.60	241.894	3.61	1.87	-5.86	
6336.00	31.250	236.170	5840.00	-189.41	-957.83	-1782.01	1747371.00	408508.43	39°37'8.1057"N	80°17'5.9907"W	2023.12	241.742	1.65	-1.57	0.95	
6435.00	27.490	239.880	5926.27	-190.72	-983.60	-1823.13	1747329.89	408482.66	39°37'7.8474"N	80°17'6.5132"W	2071.54	241.652	4.22	-3.80	3.75	
6530.00	28.420	245.140	6010.20	-195.51	-1004.11	-1862.61	1747290.40	408462.15	39°37'7.6413"N	80°17'7.0155"W	2116.03	241.671	2.77	0.98	5.54	
6625.00	27.760	248.990	6094.01	-203.79	-1021.55	-1903.78	1747249.24	408444.71	39°37'7.4654"N	80°17'7.5396"W	2160.54	241.782	2.03	-0.69	4.05	
6720.00	29.290	246.580	6177.48	-212.74	-1038.72	-1945.76	1747207.26	408427.54	39°37'7.2921"N	80°17'8.0741"W	2205.66	241.905	2.02	1.61	-2.54	
6815.00	32.170	243.340	6259.14	-219.93	-1059.31	-1989.70	1747163.32	408406.95	39°37'7.0848"N	80°17'8.6333"W	2254.12	241.969	3.50	3.03	-3.41	



# Actual Wellpath Report

McClellan 12H AWP Proj: 19050'

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REFERENCE WELLPATH IDENTIFICATION				
Operator	NORTHEAST NATURAL ENERGY, LLC		Well	McClellan 12H
Field	Monongalia		API/Legal	
Facility	McClellan Pad		Wellbore	McClellan 12H AWB
Slot	Slot #12			

WELLPATH DATA (220 stations)															
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]	Build Rate [°/100ft]	Turn Rate [°/100ft]
6910.00	29.910	239.730	6340.54	-224.39	-1082.60	-2032.77	1747120.26	408383.66	39°37'6.8509"N	80°17'9.1810"W	2303.08	241.961	3.08	-2.38	-3.80
7004.00	28.890	240.070	6422.43	-227.23	-1105.75	-2072.69	1747080.34	408360.52	39°37'6.6187"N	80°17'9.6885"W	2349.19	241.921	1.10	-1.09	0.36
7098.00	27.470	241.750	6505.29	-230.73	-1127.34	-2111.47	1747041.56	408338.93	39°37'6.4020"N	80°17'10.1817"W	2393.57	241.902	1.73	-1.51	1.79
7192.00	28.640	245.400	6588.25	-236.30	-1146.98	-2151.05	1747001.98	408319.29	39°37'6.2045"N	80°17'10.6853"W	2437.74	241.933	2.21	1.24	3.88
7291.00	30.510	246.830	6674.35	-244.58	-1166.75	-2195.73	1746957.30	408299.52	39°37'6.0052"N	80°17'11.2540"W	2486.47	242.015	2.02	1.89	1.44
7385.00	29.780	242.860	6755.64	-251.56	-1186.79	-2238.45	1746914.59	408279.48	39°37'5.8035"N	80°17'11.7976"W	2533.60	242.068	2.26	-0.78	-4.22
7480.00	32.460	239.050	6836.97	-255.42	-1210.67	-2281.32	1746871.72	408255.61	39°37'5.5638"N	80°17'12.3427"W	2582.66	242.046	3.50	2.82	-4.01
7574.00	30.220	240.080	6917.25	-258.13	-1235.44	-2323.46	1746829.58	408230.83	39°37'5.3153"N	80°17'12.8785"W	2631.50	241.999	2.45	-2.38	1.10
7669.00	28.150	240.890	7000.19	-261.44	-1258.27	-2363.76	1746789.28	408208.00	39°37'5.0862"N	80°17'13.3910"W	2677.80	241.973	2.22	-2.18	0.85
7763.00	29.780	241.830	7082.43	-265.41	-1280.08	-2403.72	1746749.33	408186.20	39°37'4.8672"N	80°17'13.8991"W	2723.32	241.963	1.80	1.73	1.00
7857.00	29.290	238.900	7164.22	-268.64	-1302.98	-2443.99	1746709.06	408163.30	39°37'4.6374"N	80°17'14.4111"W	2769.63	241.936	1.62	-0.52	-3.12
7952.00	28.600	223.550	7247.46	-264.62	-1331.50	-2479.60	1746673.45	408134.78	39°37'4.3525"N	80°17'14.8630"W	2814.49	241.765	7.84	-0.73	-16.16
8047.00	27.970	206.990	7331.25	-248.62	-1367.89	-2505.42	1746647.63	408098.39	39°37'3.9906"N	80°17'15.1888"W	2854.52	241.367	8.26	-0.66	-17.43
8169.00	27.200	190.310	7439.55	-214.45	-1420.90	-2523.42	1746629.63	408045.39	39°37'3.4652"N	80°17'15.4129"W	2895.96	240.617	6.34	-0.63	-13.67
8263.00	28.060	178.170	7522.89	-180.17	-1464.17	-2526.56	1746626.49	408002.12	39°37'3.0373"N	80°17'15.4482"W	2920.16	239.907	6.05	0.91	-12.91
8359.00	28.200	170.680	7607.58	-140.29	-1509.13	-2522.17	1746630.89	407957.16	39°37'2.5933"N	80°17'15.3870"W	2939.19	239.106	3.68	0.15	-7.80
8453.00	27.790	162.280	7690.61	-98.96	-1551.94	-2511.90	1746641.16	407914.35	39°37'2.1712"N	80°17'15.2509"W	2952.65	238.291	4.21	-0.44	-8.94
8548.00	36.070	159.940	7771.17	-50.39	-1599.39	-2495.53	1746657.52	407866.91	39°37'1.7037"N	80°17'15.0365"W	2964.08	237.344	8.81	8.72	-2.46
8642.00	43.630	157.010	7843.29	8.47	-1655.32	-2473.34	1746679.71	407810.98	39°37'1.1528"N	80°17'14.7467"W	2976.16	236.207	8.28	8.04	-3.12
8737.00	51.330	153.730	7907.46	77.58	-1718.86	-2444.08	1746708.97	407747.45	39°37'0.5275"N	80°17'14.3656"W	2987.97	234.882	8.49	8.11	-3.45
8831.00	58.220	152.360	7961.65	153.80	-1787.24	-2409.26	1746743.79	407679.07	39°36'59.8547"N	80°17'13.9131"W	2999.79	233.431	7.43	7.33	-1.46
8926.00	65.980	150.840	8006.07	237.34	-1861.02	-2369.32	1746783.72	407605.30	39°36'59.1291"N	80°17'13.3945"W	3012.82	231.852	8.29	8.17	-1.60
9021.00	73.850	149.980	8038.67	326.28	-1938.53	-2325.29	1746827.76	407527.79	39°36'58.3668"N	80°17'12.8231"W	3027.35	230.183	8.33	8.28	-0.91
9116.00	83.890	148.700	8056.98	419.24	-2018.60	-2277.80	1746875.24	407447.72	39°36'57.5796"N	80°17'12.2074"W	3043.54	228.452	10.65	10.57	-1.35
9210.00	90.950	145.650	8061.21	513.07	-2097.45	-2226.93	1746926.11	407368.88	39°36'56.8048"N	80°17'11.5486"W	3059.17	226.715	8.18	7.51	-3.24
9305.00	89.940	146.230	8060.47	608.06	-2176.15	-2173.73	1746979.31	407290.18	39°36'56.0317"N	80°17'10.8599"W	3075.83	224.968	1.23	-1.06	0.61
9401.00	90.120	146.250	8060.42	704.06	-2255.96	-2120.38	1747032.65	407210.38	39°36'55.2475"N	80°17'10.1693"W	3096.02	223.225	0.19	0.19	0.02
9495.00	89.970	146.100	8060.35	798.06	-2334.05	-2068.05	1747084.98	407132.29	39°36'54.4803"N	80°17'9.4920"W	3118.43	221.542	0.23	-0.16	-0.16
9590.00	89.940	145.930	8060.42	893.06	-2412.82	-2014.95	1747138.08	407053.53	39°36'53.7064"N	80°17'8.8047"W	3143.52	219.865	0.18	-0.03	-0.18
9684.00	89.910	146.020	8060.55	987.06	-2490.73	-1962.35	1747190.67	406975.62	39°36'52.9411"N	80°17'8.1239"W	3170.89	218.233	0.10	-0.03	0.10



# Actual Wellpath Report

McClellan 12H AWP Proj: 19050'

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REFERENCE WELLPATH IDENTIFICATION				
Operator	NORTHEAST NATURAL ENERGY, LLC		Well	McClellan 12H
Field	Monongalia		API/Legal	
Facility	McClellan Pad		Wellbore	McClellan 12H AWB
Slot	Slot #12			

WELLPATH DATA (220 stations)															
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]	Build Rate [°/100ft]	Turn Rate [°/100ft]
9779.00	89.820	145.760	8060.77	1082.05	-2569.39	-1909.08	1747243.94	406896.97	39°36'52.1683"N	80°17'7.4344"W	3200.99	216.613	0.29	-0.09	-0.27
9874.00	89.290	145.250	8061.51	1177.04	-2647.68	-1855.28	1747297.74	406818.68	39°36'51.3992"N	80°17'6.7382"W	3232.99	215.020	0.77	-0.56	-0.54
9968.00	88.710	145.110	8063.15	1271.00	-2724.84	-1801.61	1747351.40	406741.53	39°36'50.6414"N	80°17'6.0439"W	3266.58	213.472	0.63	-0.62	-0.15
10063.00	88.250	145.650	8065.67	1365.95	-2802.99	-1747.66	1747405.35	406663.38	39°36'49.8737"N	80°17'5.3458"W	3303.19	211.943	0.75	-0.48	0.57
10156.00	88.890	145.390	8067.99	1458.91	-2879.63	-1695.02	1747457.98	406586.75	39°36'49.1208"N	80°17'4.6647"W	3341.46	210.482	0.74	0.69	-0.28
10252.00	89.910	145.280	8069.00	1554.89	-2958.58	-1640.43	1747512.57	406507.80	39°36'48.3453"N	80°17'3.9583"W	3382.93	209.007	1.07	1.06	-0.11
10346.00	90.090	146.130	8069.00	1648.89	-3036.24	-1587.46	1747565.54	406430.15	39°36'47.5824"N	80°17'3.2728"W	3426.19	207.602	0.92	0.19	0.90
10441.00	90.000	145.800	8068.92	1743.88	-3114.96	-1534.29	1747618.70	406351.43	39°36'46.8090"N	80°17'2.5847"W	3472.32	206.223	0.36	-0.09	-0.35
10535.00	89.940	145.300	8068.97	1837.87	-3192.48	-1481.12	1747671.87	406273.92	39°36'46.0475"N	80°17'1.8966"W	3519.32	204.888	0.54	-0.06	-0.53
10630.00	90.120	145.340	8068.92	1932.86	-3270.60	-1427.06	1747725.93	406195.80	39°36'45.2801"N	80°17'1.1972"W	3568.38	203.573	0.19	0.19	0.04
10724.00	89.820	144.320	8068.97	2026.82	-3347.44	-1372.92	1747780.07	406118.97	39°36'44.5254"N	80°17'0.4969"W	3618.04	202.300	1.13	-0.32	-1.09
10819.00	89.780	146.750	8069.30	2121.80	-3425.76	-1319.16	1747833.82	406040.65	39°36'43.7561"N	80°16'59.8013"W	3670.97	201.060	2.56	-0.04	2.56
10914.00	89.570	146.530	8069.84	2216.80	-3505.10	-1266.92	1747886.06	405961.31	39°36'42.9764"N	80°16'59.1250"W	3727.04	199.872	0.32	-0.22	-0.23
11008.00	89.080	146.540	8070.95	2310.79	-3583.51	-1215.09	1747937.88	405882.91	39°36'42.2060"N	80°16'58.4540"W	3783.92	198.731	0.52	-0.52	0.01
11103.00	89.230	146.240	8072.35	2405.78	-3662.62	-1162.51	1747990.46	405803.80	39°36'41.4287"N	80°16'57.7734"W	3842.69	197.609	0.35	0.16	-0.32
11197.00	89.660	146.780	8073.26	2499.78	-3741.01	-1110.65	1748042.32	405725.42	39°36'40.6585"N	80°16'57.1020"W	3902.40	196.535	0.73	0.46	0.57
11292.00	90.280	146.660	8073.31	2594.78	-3820.43	-1058.52	1748094.45	405646.00	39°36'39.8781"N	80°16'56.4271"W	3964.36	195.486	0.66	0.65	-0.13
11386.00	90.090	146.390	8073.01	2688.77	-3898.84	-1006.67	1748146.29	405567.60	39°36'39.1077"N	80°16'55.7559"W	4026.70	194.477	0.35	-0.20	-0.29
11482.00	90.250	146.950	8072.72	2784.77	-3979.05	-953.92	1748199.04	405487.39	39°36'38.3195"N	80°16'55.0730"W	4091.80	193.481	0.61	0.17	0.58
11577.00	90.370	146.360	8072.21	2879.77	-4058.41	-901.70	1748251.25	405408.04	39°36'37.5397"N	80°16'54.3970"W	4157.37	192.527	0.63	0.13	-0.62
11672.00	90.620	146.480	8071.39	2974.77	-4137.55	-849.16	1748303.79	405328.90	39°36'36.7621"N	80°16'53.7169"W	4223.79	191.598	0.29	0.26	0.13
11766.00	90.310	145.730	8070.62	3068.76	-4215.57	-796.74	1748356.21	405250.88	39°36'35.9956"N	80°16'53.0385"W	4290.20	190.703	0.86	-0.33	-0.80
11861.00	89.750	146.960	8070.57	3163.76	-4294.65	-744.09	1748408.85	405171.81	39°36'35.2186"N	80°16'52.3570"W	4358.63	189.830	1.42	-0.59	1.29
11954.00	88.860	146.720	8071.70	3256.75	-4372.50	-693.23	1748459.71	405093.97	39°36'34.4537"N	80°16'51.6985"W	4427.11	189.009	0.99	-0.96	-0.26
12048.00	89.850	146.710	8072.76	3350.74	-4451.07	-641.65	1748511.29	405015.40	39°36'33.6816"N	80°16'51.0307"W	4497.08	188.203	1.05	1.05	-0.01
12143.00	90.090	146.550	8072.81	3445.74	-4530.41	-589.39	1748563.54	404936.07	39°36'32.9020"N	80°16'50.3543"W	4568.59	187.412	0.30	0.25	-0.17
12238.00	90.000	146.760	8072.73	3540.74	-4609.77	-537.17	1748615.76	404856.71	39°36'32.1222"N	80°16'49.6783"W	4640.96	186.647	0.24	-0.09	0.22
12332.00	90.310	146.530	8072.48	3634.74	-4688.28	-485.49	1748667.44	404778.20	39°36'31.3507"N	80°16'49.0092"W	4713.35	185.912	0.41	0.33	-0.24
12427.00	90.280	146.360	8071.99	3729.73	-4767.45	-432.98	1748719.95	404699.04	39°36'30.5728"N	80°16'48.3295"W	4787.07	185.189	0.18	-0.03	-0.18
12521.00	90.620	146.330	8071.25	3823.73	-4845.69	-380.89	1748772.04	404620.80	39°36'29.8040"N	80°16'47.6553"W	4860.64	184.494	0.36	0.36	-0.03



# Actual Wellpath Report

McClellan 12H AWP Proj: 19050'

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REFERENCE WELLPATH IDENTIFICATION				
Operator	NORTHEAST NATURAL ENERGY, LLC		Well	McClellan 12H
Field	Monongalia		API/Legal	
Facility	McClellan Pad		Wellbore	McClellan 12H AWB
Slot	Slot #12			

WELLPATH DATA (220 stations)																	
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]	Build Rate [°/100ft]	Turn Rate [°/100ft]		
12615.00	90.490	146.490	8070.34	3917.73	-4923.99	-328.89	1748824.03	404542.51	39°36'29.0347"N	80°16'46.9822"W	4934.97	183.821	0.22	-0.14	0.17		
12709.00	91.260	146.550	8068.91	4011.71	-5002.39	-277.04	1748875.88	404464.12	39°36'28.2644"N	80°16'46.3111"W	5010.05	183.170	0.82	0.82	0.06		
12804.00	90.770	146.960	8067.22	4106.70	-5081.83	-224.96	1748927.95	404384.68	39°36'27.4838"N	80°16'45.6370"W	5086.80	182.535	0.67	-0.52	0.43		
12899.00	90.580	146.590	8066.10	4201.69	-5161.29	-172.92	1748980.00	404305.23	39°36'26.7029"N	80°16'44.9632"W	5164.19	181.919	0.44	-0.20	-0.39		
12993.00	90.430	146.120	8065.28	4295.68	-5239.54	-120.34	1749032.07	404226.98	39°36'25.9341"N	80°16'44.2891"W	5240.93	181.321	0.52	-0.16	-0.50		
13088.00	89.820	146.490	8065.07	4390.68	-5318.58	-68.13	1749084.77	404147.94	39°36'25.1575"N	80°16'43.6070"W	5319.02	180.734	0.75	-0.64	0.39		
13183.00	89.720	146.690	8065.45	4485.68	-5397.88	-15.83	1749137.08	404068.65	39°36'24.3783"N	80°16'42.9300"W	5397.90	180.168	0.24	-0.11	0.21		
13278.00	90.620	146.730	8065.17	4580.68	-5477.29	36.32	1749189.22	403989.24	39°36'23.5980"N	80°16'42.2550"W	5477.41	179.620	0.95	0.95	0.04		
13372.00	90.830	146.050	8063.98	4674.67	-5555.57	88.35	1749241.24	403910.97	39°36'22.8288"N	80°16'41.5816"W	5556.27	179.089	0.76	0.22	-0.72		
13467.00	91.540	146.460	8062.01	4769.65	-5634.55	141.11	1749294.00	403832.00	39°36'22.0528"N	80°16'40.8988"W	5636.31	178.565	0.86	0.75	0.43		
13561.00	91.350	146.490	8059.64	4863.62	-5712.88	193.01	1749345.89	403753.67	39°36'21.2831"N	80°16'40.2271"W	5716.14	178.065	0.20	-0.20	0.03		
13656.00	90.520	146.590	8058.09	4958.60	-5792.13	245.38	1749398.26	403674.43	39°36'20.5044"N	80°16'39.5492"W	5797.32	177.574	0.88	-0.87	0.11		
13751.00	90.520	146.450	8057.23	5053.60	-5871.36	297.78	1749450.66	403595.20	39°36'19.7259"N	80°16'38.8709"W	5878.91	177.097	0.15	0.00	-0.15		
13844.00	90.650	146.070	8056.28	5146.60	-5948.69	349.43	1749502.31	403517.87	39°36'18.9661"N	80°16'38.2025"W	5958.95	176.638	0.43	0.14	-0.41		
13939.00	90.550	146.190	8055.29	5241.59	-6027.57	402.37	1749555.25	403439.00	39°36'18.1911"N	80°16'37.5174"W	6040.98	176.181	0.16	-0.11	0.13		
14034.00	90.280	146.360	8054.60	5336.59	-6106.58	455.12	1749607.99	403359.99	39°36'17.4148"N	80°16'36.8348"W	6123.52	175.738	0.34	-0.28	0.18		
14128.00	90.000	146.460	8054.37	5430.59	-6184.88	507.12	1749659.99	403281.70	39°36'16.6454"N	80°16'36.1618"W	6205.64	175.313	0.32	-0.30	0.11		
14223.00	90.460	147.000	8053.99	5525.58	-6264.31	559.24	1749712.10	403202.27	39°36'15.8649"N	80°16'35.4872"W	6289.22	174.899	0.75	0.48	0.57		
14317.00	90.400	146.520	8053.28	5619.58	-6342.93	610.76	1749763.62	403123.66	39°36'15.0923"N	80°16'34.8202"W	6372.27	174.500	0.51	-0.06	-0.51		
14413.00	90.400	146.550	8052.61	5715.57	-6423.01	663.70	1749816.56	403043.58	39°36'14.3054"N	80°16'34.1351"W	6457.21	174.100	0.03	0.00	0.03		
14508.00	90.370	146.220	8051.97	5810.57	-6502.12	716.29	1749869.15	402964.47	39°36'13.5281"N	80°16'33.4545"W	6541.46	173.714	0.35	-0.03	-0.35		
14602.00	90.490	146.160	8051.27	5904.57	-6580.22	768.59	1749921.45	402886.38	39°36'12.7607"N	80°16'32.7776"W	6624.96	173.338	0.14	0.13	-0.06		
14697.00	90.770	146.510	8050.22	5999.56	-6659.29	821.25	1749974.10	402807.32	39°36'11.9838"N	80°16'32.0962"W	6709.74	172.970	0.47	0.29	0.37		
14791.00	91.020	146.180	8048.76	6093.55	-6737.52	873.34	1750026.19	402729.09	39°36'11.2151"N	80°16'31.4221"W	6793.89	172.614	0.44	0.27	-0.35		
14885.00	90.950	146.410	8047.14	6187.54	-6815.71	925.49	1750078.34	402650.91	39°36'10.4469"N	80°16'30.7472"W	6878.26	172.267	0.26	-0.07	0.24		
14980.00	90.860	146.620	8045.64	6282.53	-6894.93	977.90	1750130.74	402571.69	39°36'9.6684"N	80°16'30.0689"W	6963.93	171.928	0.24	-0.09	0.22		
15075.00	90.950	146.350	8044.14	6377.51	-6974.13	1030.35	1750183.19	402492.50	39°36'8.8902"N	80°16'29.3902"W	7049.83	171.596	0.30	0.09	-0.28		
15170.00	91.320	146.350	8042.26	6472.49	-7053.19	1082.98	1750235.81	402413.44	39°36'8.1133"N	80°16'28.7091"W	7135.85	171.271	0.39	0.39	0.00		
15264.00	90.710	145.890	8040.59	6566.48	-7131.22	1135.37	1750288.20	402335.42	39°36'7.3467"N	80°16'28.0312"W	7221.04	170.954	0.81	-0.65	-0.49		
15359.00	90.770	146.470	8039.36	6661.47	-7210.14	1188.24	1750341.07	402256.50	39°36'6.5713"N	80°16'27.3470"W	7307.40	170.642	0.61	0.06	0.61		





# Actual Wellpath Report

McClellan 12H AWP Proj: 19050'

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REFERENCE WELLPATH IDENTIFICATION				
Operator	NORTHEAST NATURAL ENERGY, LLC		Well	McClellan 12H
Field	Monongalia		API/Legal	
Facility	McClellan Pad		Wellbore	McClellan 12H AWB
Slot	Slot #12			

WELLPATH DATA (220 stations)																
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]	Build Rate [°/100ft]	Turn Rate [°/100ft]	
15454.00	90.650	146.410	8038.19	6756.46	-7289.30	1240.76	1750393.58	402177.35	39°36'5.7934"N	80°16'26.6674"W	7394.14	170.340	0.14	-0.13	-0.06	
15548.00	90.710	146.070	8037.07	6850.45	-7367.44	1292.99	1750445.81	402099.21	39°36'5.0256"N	80°16'25.9915"W	7480.04	170.046	0.37	0.06	-0.36	
15643.00	90.860	146.600	8035.77	6945.45	-7446.50	1345.65	1750498.46	402020.16	39°36'4.2488"N	80°16'25.3102"W	7567.11	169.757	0.58	0.16	0.56	
15738.00	90.860	146.570	8034.34	7040.43	-7525.79	1397.96	1750550.77	401940.87	39°36'3.4697"N	80°16'24.6332"W	7654.53	169.477	0.03	0.00	-0.03	
15832.00	90.400	146.300	8033.31	7134.43	-7604.11	1449.92	1750602.74	401862.56	39°36'2.7001"N	80°16'23.9606"W	7741.11	169.205	0.57	-0.49	-0.29	
15926.00	90.650	146.180	8032.45	7228.42	-7682.26	1502.16	1750654.97	401784.42	39°36'1.9322"N	80°16'23.2848"W	7827.74	168.936	0.30	0.27	-0.13	
16021.00	90.460	146.570	8031.53	7323.42	-7761.36	1554.76	1750707.57	401705.32	39°36'1.1550"N	80°16'22.6040"W	7915.55	168.672	0.46	-0.20	0.41	
16114.00	90.430	146.670	8030.81	7416.42	-7839.01	1605.93	1750758.73	401627.67	39°36'0.3919"N	80°16'21.9419"W	8001.82	168.422	0.11	-0.03	0.11	
16210.00	90.650	146.830	8029.90	7512.41	-7919.29	1658.56	1750811.36	401547.39	39°35'59.6030"N	80°16'21.2606"W	8091.11	168.171	0.28	0.23	0.17	
16304.00	90.620	146.520	8028.86	7606.40	-7997.83	1710.20	1750863.00	401468.86	39°35'58.8312"N	80°16'20.5923"W	8178.64	167.930	0.33	-0.03	-0.33	
16398.00	90.860	146.460	8027.65	7700.39	-8076.20	1762.09	1750914.89	401390.49	39°35'58.0611"N	80°16'19.9208"W	8266.20	167.692	0.26	0.26	-0.06	
16493.00	91.110	146.180	8026.01	7795.38	-8155.24	1814.77	1750967.56	401311.46	39°35'57.2844"N	80°16'19.2392"W	8354.72	167.455	0.40	0.26	-0.29	
16587.00	91.050	146.260	8024.24	7889.36	-8233.36	1867.02	1751019.81	401233.34	39°35'56.5169"N	80°16'18.5631"W	8442.39	167.223	0.11	-0.06	0.09	
16682.00	91.230	146.520	8022.35	7984.34	-8312.46	1919.60	1751072.38	401154.25	39°35'55.7396"N	80°16'17.8828"W	8531.23	166.997	0.33	0.19	0.27	
16777.00	91.140	146.410	8020.39	8079.32	-8391.63	1972.07	1751124.85	401075.08	39°35'54.9616"N	80°16'17.2038"W	8620.24	166.775	0.15	-0.09	-0.12	
16871.00	90.860	146.270	8018.75	8173.31	-8469.86	2024.16	1751176.94	400996.86	39°35'54.1929"N	80°16'16.5298"W	8708.37	166.559	0.33	-0.30	-0.15	
16965.00	90.680	145.630	8017.48	8267.30	-8547.74	2076.79	1751229.56	400918.99	39°35'53.4278"N	80°16'15.8489"W	8796.41	166.344	0.71	-0.19	-0.68	
17061.00	90.340	146.690	8016.63	8363.29	-8627.47	2130.25	1751283.02	400839.26	39°35'52.6443"N	80°16'15.1573"W	8886.57	166.130	1.16	-0.35	1.10	
17156.00	89.780	146.870	8016.53	8458.29	-8706.94	2182.29	1751335.06	400759.79	39°35'51.8633"N	80°16'14.4837"W	8976.26	165.929	0.62	-0.59	0.19	
17250.00	89.850	146.710	8016.83	8552.29	-8785.59	2233.78	1751386.54	400681.15	39°35'51.0905"N	80°16'13.8174"W	9065.12	165.735	0.19	0.07	-0.17	
17345.00	89.260	146.880	8017.57	8647.28	-8865.07	2285.80	1751438.56	400601.67	39°35'50.3094"N	80°16'13.1441"W	9155.02	165.542	0.65	-0.62	0.18	
17440.00	88.650	146.580	8019.30	8742.26	-8944.49	2337.91	1751490.66	400522.26	39°35'49.5289"N	80°16'12.4698"W	9244.98	165.352	0.72	-0.64	-0.32	
17535.00	88.370	146.910	8021.77	8837.23	-9023.91	2389.98	1751542.74	400442.85	39°35'48.7485"N	80°16'11.7958"W	9335.04	165.166	0.46	-0.29	0.35	
17630.00	89.050	146.690	8023.91	8932.20	-9103.38	2441.99	1751594.74	400363.38	39°35'47.9675"N	80°16'11.1228"W	9425.22	164.984	0.75	0.72	-0.23	
17724.00	89.600	146.760	8025.02	9026.19	-9181.96	2493.56	1751646.31	400284.80	39°35'47.1953"N	80°16'10.4554"W	9514.53	164.807	0.59	0.59	0.07	
17819.00	90.000	146.850	8025.35	9121.19	-9261.46	2545.57	1751698.31	400205.31	39°35'46.4141"N	80°16'9.7823"W	9604.92	164.631	0.43	0.42	0.09	
17913.00	89.780	146.510	8025.53	9215.19	-9340.00	2597.21	1751749.95	400126.77	39°35'45.6422"N	80°16'9.1142"W	9694.39	164.460	0.43	-0.23	-0.36	
18007.00	88.770	145.930	8026.72	9309.18	-9418.13	2649.47	1751802.20	400048.65	39°35'44.8745"N	80°16'8.4380"W	9783.70	164.288	1.24	-1.07	-0.62	
18101.00	88.980	146.870	8028.57	9403.16	-9496.41	2701.47	1751854.21	399970.38	39°35'44.1053"N	80°16'7.7651"W	9873.18	164.120	1.02	0.22	1.00	
18195.00	88.370	146.960	8030.74	9497.13	-9575.14	2752.77	1751905.50	399891.64	39°35'43.3315"N	80°16'7.1012"W	9962.99	163.961	0.66	-0.65	0.10	



# Actual Wellpath Report

McClellan 12H AWP Proj: 19050'

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REFERENCE WELLPATH IDENTIFICATION			
Operator	NORTHEAST NATURAL ENERGY, LLC	Well	McClellan 12H
Field	Monongalia	API/Legal	
Facility	McClellan Pad	Wellbore	McClellan 12H AWB
Slot	Slot #12		

WELLPATH DATA (220 stations) † = interpolated, ‡ = extrapolated station															
MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	Vert Sect [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Closure Dist [ft]	Closure Dir [°]	DLS [°/100ft]	Build Rate [°/100ft]	Turn Rate [°/100ft]
18289.00	87.970	146.440	8033.74	9591.08	-9653.67	2804.35	1751957.08	399813.12	39°35'42.5599"N	80°16'6.4337"W	10052.75	163.802	0.70	-0.43	-0.55
18384.00	87.780	147.110	8037.26	9686.01	-9733.08	2856.37	1752009.10	399733.71	39°35'41.7794"N	80°16'5.7606"W	10143.56	163.645	0.73	-0.20	0.71
18479.00	87.880	146.500	8040.86	9780.94	-9812.52	2908.35	1752061.07	399654.28	39°35'40.9987"N	80°16'5.0880"W	10234.46	163.491	0.65	0.11	-0.64
18574.00	87.970	146.390	8044.30	9875.87	-9891.64	2960.82	1752113.54	399575.17	39°35'40.2213"N	80°16'4.4090"W	10325.26	163.336	0.15	0.09	-0.12
18668.00	87.970	146.680	8047.63	9969.82	-9970.01	3012.62	1752165.34	399496.80	39°35'39.4512"N	80°16'3.7388"W	10415.23	163.187	0.31	0.00	0.31
18763.00	87.140	146.040	8051.68	10064.73	-10049.03	3065.20	1752217.91	399417.79	39°35'38.6747"N	80°16'3.0585"W	10506.11	163.037	1.10	-0.87	-0.67
18857.00	87.380	146.680	8056.18	10158.62	-10127.19	3117.21	1752269.92	399339.63	39°35'37.9066"N	80°16'2.3856"W	10596.09	162.891	0.73	0.26	0.68
18952.00	87.600	146.680	8060.34	10253.53	-10206.50	3169.35	1752322.06	399260.32	39°35'37.1272"N	80°16'1.7110"W	10687.26	162.749	0.23	0.23	0.00
19025.00	87.480	146.890	8063.47	10326.46	-10267.52	3209.30	1752362.00	399199.31	39°35'36.5276"N	80°16'1.1940"W	10757.40	162.642	0.33	-0.16	0.29
19050.00‡	87.480	146.890	8064.57	10351.43	-10288.44	3222.94	1752375.65	399178.39	39°35'36.3220"N	80°16'1.0174"W	10781.44	162.606	0.00	0.00	0.00

HOLE & CASING SECTIONS - Ref Wellbore: McClellan 12H AWB Ref Wellpath: McClellan 12H AWP Proj: 19050'									
String/Diameter	Start MD [ft]	End MD [ft]	Interval [ft]	Start TVD [ft]	End TVD [ft]	Start N/S [ft]	Start E/W [ft]	End N/S [ft]	End E/W [ft]
17.5in Open Hole	28.00	1455.00	1427.00	28.00	1454.90	0.00	0.00	-6.27	-4.22
13.375in Casing Surface	28.00	1455.00	1427.00	28.00	1454.90	0.00	0.00	-6.27	-4.22
12.25in Open Hole	1455.00	2705.00	1250.00	1454.90	2669.65	-6.27	-4.22	-119.54	-235.03
9.625in Casing Intermediate	28.00	2705.00	2677.00	28.00	2669.65	0.00	0.00	-119.54	-235.03
8.75in Open Hole	2705.00	8113.00	5408.00	2669.65	7389.75	-119.54	-235.03	-1396.09	-2517.14
8.5in Open Hole	8113.00	19050.00	10937.00	7389.75	8064.57	-1396.09	-2517.14	-10288.44	3222.94
5.5in Casing Production	28.00	19050.00	19022.00	28.00	8064.57	0.00	0.00	-10288.44	3222.94



# Actual Wellpath Report

McClellan 12H AWP Proj: 19050'

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## REFERENCE WELLPATH IDENTIFICATION

Operator	NORTHEAST NATURAL ENERGY, LLC	Well	McClellan 12H
Field	Monongalia	API/Legal	
Facility	McClellan Pad	Wellbore	McClellan 12H AWB
Slot	Slot #12		

## TARGETS

Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
McClellan 12H BHL Rev-11	8040.00	-10290.94	3220.69	1752373.39	399175.89	39°35'36.2971"N	80°16'1.0460"W	point
McClellan 12H LP Rev-6	8040.00	-2071.03	-2246.11	1746906.92	407395.29	39°36'57.0642"N	80°17'11.7967"W	point
McClellan Hardline #1 (8.31.21)	8529.00	-1263.95	1562.79	1750715.60	408202.33	39°37'5.3671"N	80°16'23.2158"W	polygon
	2D Polygon: dimensions not calculated							
McClellan Hardline #10 (8.31.21)	8529.00	-12571.93	3157.83	1752310.54	396895.04	39°35'13.7495"N	80°16'1.6000"W	polygon
	2D Polygon: dimensions not calculated							
McClellan Hardline #11 (8.31.21)	8529.00	-10583.74	6974.50	1756126.98	398883.11	39°35'33.7174"N	80°15'13.0643"W	polygon
	2D Polygon: dimensions not calculated							
McClellan Hardline #12 (8.31.21)	8529.00	-10022.88	8244.12	1757396.51	399443.93	39°35'39.3651"N	80°14'56.9065"W	polygon
	2D Polygon: dimensions not calculated							
McClellan Hardline #13 (8.31.21)	8529.00	-10109.87	4241.83	1753394.47	399356.95	39°35'38.1725"N	80°15'48.0219"W	polygon
	2D Polygon: dimensions not calculated							
McClellan Hardline #2 (8.31.21)	8529.00	-1571.82	1773.58	1750926.37	407894.48	39°37'2.3424"N	80°16'20.4885"W	polygon
	2D Polygon: dimensions not calculated							



# Actual Wellpath Report

McClellan 12H AWP Proj: 19050'

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REFERENCE WELLPATH IDENTIFICATION			
Operator	NORTHEAST NATURAL ENERGY, LLC	Well	McClellan 12H
Field	Monongalia	API/Legal	
Facility	McClellan Pad	Wellbore	McClellan 12H AWB
Slot	Slot #12		

TARGETS								
Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
McClellan Hardline #3 (8.31.21)	8529.00	-1760.42	5602.08	1754754.63	407705.88	39°37'0.8009"N	80°15'31.5471"W	polygon
2D Polygon: dimensions not calculated								
McClellan Hardline #4 (8.31.21)	8529.00	-3136.43	2990.64	1752143.36	406329.97	39°36'46.9831"N	80°16'4.7658"W	polygon
2D Polygon: dimensions not calculated								
McClellan Hardline #5 (8.31.21)	8529.00	-4625.93	3235.02	1752387.72	404840.56	39°36'32.2836"N	80°16'1.4808"W	polygon
2D Polygon: dimensions not calculated								
McClellan Hardline #6 (8.31.21)	8529.00	-7589.84	7074.72	1756227.19	401876.83	39°36'3.3135"N	80°15'12.1048"W	polygon
2D Polygon: dimensions not calculated								
McClellan Hardline #7 (8.31.21)	8529.00	-10232.91	3032.38	1752185.09	399233.92	39°35'36.8547"N	80°16'3.4577"W	polygon
2D Polygon: dimensions not calculated								
McClellan Hardline #8 (8.31.21)	8529.00	-10275.63	2986.07	1752138.79	399191.20	39°35'36.4286"N	80°16'4.0446"W	polygon
2D Polygon: dimensions not calculated								
McClellan Hardline #9 (8.31.21)	8529.00	-10937.85	3014.32	1752167.03	398529.02	39°35'29.8865"N	80°16'3.6114"W	polygon
2D Polygon: dimensions not calculated								



# Actual Wellpath Report

McClellan 12H AWP Proj: 19050'  
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REFERENCE WELLPATH IDENTIFICATION			
Operator	NORTHEAST NATURAL ENERGY, LLC	Well	McClellan 12H
Field	Monongalia	API/Legal	
Facility	McClellan Pad	Wellbore	McClellan 12H AWB
Slot	Slot #12		

WELLPATH COMPOSITION - Ref Wellbore: McClellan 12H AWB    Ref Wellpath: McClellan 12H AWP Proj: 19050'					
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore	Survey Date
28.00	1450.00	BH Generic gyro - northseeking (Standard)	01_Javins Inertial Gyro <17-1/2">(50'-1450')	McClellan 12H AWB	10/27/2021
1450.00	8047.00	OWSG MWD rev2 + HRGM	02_Tally MWD <8-3/4">(1450')(1499'-8047')	McClellan 12H AWB	10/27/2021
8047.00	19050.00	BH AutoTrak Curve/eXpress (2019) (HRGM, Short spacing)	03_BH AT Curve <8-1/2">(8047')(8169'-19025')	McClellan 12H AWB	10/27/2021



# Actual Wellpath Report

McClellan 12H AWP Proj: 19050'  
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REFERENCE WELLPATH IDENTIFICATION			
Operator	NORTHEAST NATURAL ENERGY, LLC	Well	McClellan 12H
Field	Monongalia	API/Legal	
Facility	McClellan Pad	Wellbore	McClellan 12H AWB
Slot	Slot #12		

COMMENTS
<p><b>Wellpath general comments</b>            API: 47-061-01889-0000            BH Job #: 111066128            Rig: Patterson 277            Duration: 10/27/21 - 11/2/21</p> <p>01_Javins Inertial Gyro &lt;17-1/2"&gt;(50'-1450')            02_Tally MWD &lt;8-3/4"&gt;(1450')(1499'-8047')            03_BH AT Curve &lt;8-1/2"&gt;(8047')(8169'-19025')            Projected MD at TD: 19050'</p>