



NORTHEAST NATURAL ENERGY, LLC

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

Slot: Slot 8H
 Well: Bunner 8H
 Wellbore: Bunner 8H PWB



API: 47-061-01870-0000
 BH Job #: 110853557
 Rig: Patterson 277
 Duration: 6/14/21 - 6/22/21



Slot 8H
 Javins Inertial Gyro <12-1/4">(100'-2465') : 100.00ft TVD, 0.13ft N, 0.27ft W
 Tally MWD <8-3/4">(2465')(2559'-8323') : 2558.87ft TVD, 5.57ft S, 11.60ft E

Plot reference well(s) is Bunner 8H PWP Rev-B.0	Old System: NAD83 / Lambert West Virginia SP, Northern Zone (4201), US feet
True vertical depths are referenced to Patterson 277 (RKB)	North Reference: Grid north
Reference wellbore measured depths are referenced to Patterson 277 (RKB)	Scale: True distance
Patterson 277 (RKB) to Mean Sea Level: 1305 feet	Coordinates are in feet referenced to Slat
Mean Sea Level to Ground level (at Slot: Slot 8H): 1327 feet	Depths are in feet
Other wellbore data are referenced to each path's defined MD datum	Created by: Nhtpgh on 2021-06-25; Database: WVA_NEP_EASTERNUS_Data

Scale 1 inch = 200'



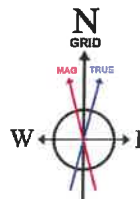
Javins Inertial Gyro <12-1/4">(100'-2465') : 0.48° Inc, 100.00ft MD, 100.00ft TVD, -0.26ft VS

Slot	Well	Wellbore	Wellpath
Slot 8H	Bunner 8H	Bunner 8H AWP	Bunner 8H AWP Proj: 25173
Slot 8H	Bunner 8H	Bunner 8H PWB	Bunner 8H PWP Rev-B.0

Tally MWD <8-3/4">(2465')(2559'-8323') : 0.43° Inc, 2559.00ft MD, 2558.87ft TVD, 11.15ft VS

Location Information					
Facility Name	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude	
Bunner Pad	1796456.500	424249.370	38°38'45.24437N	80°13'3.67357W	
Slot	Local E (ft)	Local E (ft)	Grid East (US ft)	Latitude	
Slot 8H	-29.89	-20.00	1786438.500	424218.480	
Patterson 277 (RKB) to Ground level (at Slot: Slot 8H)			28ft		
Mean Sea Level to Ground level (at Slot: Slot 8H)			-1277ft		
Patterson 277 (RKB) to Mean Sea Level			1305ft		

Well Profile Data								
Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (°/100ft)	VS (ft)
Tie On	8323.00	42.120	166.780	7877.46	-965.82	-1439.01	9.29	-17.15
Proj. to Bottom	8317.00	47.740	164.040	7922.76	-1009.33	-1427.58	9.29	25.36
End of Build	8810.18	82.879	147.708	8097.38	-1350.03	-1286.95	9.00	397.54
Landing PL	8924.58	80.000	145.988	8105.00	-1453.69	-1198.08	5.90	521.83
BHL	25164.58	90.000	145.988	8105.00	-14840.14	7978.82	0.00	16751.82



User specified (HDGM) Dip: 88.53° Field: 52029 nT
 Magnetic North is 9.08 degrees West of True North (at 6/14/2021)
 Grid North is 0.46 degrees West of True North
 To correct azimuth from True to Grid add 0.46 degrees
 To correct azimuth from Magnetic to Grid subtract 8.62 degrees

Projected MD at TD: 25173' : 7813.96ft TVD, 14841.05ft S, 7976.11ft E

Projected MD at TD: 25173' : 93.02° Inc, 25173.00ft MD, 7813.96ft TVD, 16750.85ft VS

True Vertical Depth (ft)

Northing (ft)

Vertical Section (ft)
 Azimuth 145.57° with reference 0.00 N, 0.00 E

Scale 1 inch = 2000'

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	8/27/2021
Job End Date:	10/7/2021
State:	West Virginia
County:	Monongalia
API Number:	47-061-01870-00-00
Operator Name:	Northeast Natural Energy LLC
Well Name and Number:	Bunner 8H
Latitude:	39.66248500
Longitude:	-80.21775700
Datum:	NAD83
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	8,122
Total Base Water Volume (gal):	32,853,942
Total Base Non Water Volume:	0



Hydraulic Fracturing Fluid Composition:

Trade Name	Supplier	Purpose	Ingredients	Chemical Abstract Service Number (CAS #)	Maximum Ingredient Concentration in Additive (% by mass)**	Maximum Ingredient Concentration in HF Fluid (% by mass)**	Comments
Water	Northeast Natural Energy LLC	Carrier/Base Fluid					
			Water	7732-18-5	100.00000	88.21485	
Sand	U.S. Well Services	Proppant					
			Crystalline Silica, quartz	14808-60-7	100.00000	11.52127	
HCL Acid (5% to 7.5%)	U.S. Well Services	Bulk Acid					
			Water	7732-18-5	95.00000	0.15672	
			Hydrogen Chloride	7647-01-0	7.50000	0.01437	
Clearal 268	U.S. Well Services	Anti-Bacterial Agent					
			Non-hazardous substances	Proprietary	90.00000	0.02627	
			Glutaraldehyde	111-30-8	20.00000	0.00619	
			Alkyl dimethyl benzyl ammonium chloride	68391-01-5	3.00000	0.00088	
			Didecyl dimethyl ammonium chloride	7173-51-5	3.00000	0.00088	
SlimSTREAM SC-405	ChemStream, INC.	Scale Inhibitor					
			Non-hazardous substances	Proprietary	70.00000	0.02235	
			Citric acid	77-92-9	10.00000	0.00319	
			2-Phosphono-1,2,4-butanetricarboxylic acid (PBTC)	87971-36-1	10.00000	0.00319	

			Diethylenetriamine penta (methylene phosphonic acid) (DTPMP)	15827-60-8	10.00000	0.00319
Alphastim C1500+	U.S. Well Services	Friction Reducer				
			Alkanes, C16-20-iso-	90622-59-6	25.00000	0.01213
			Butene, homopolymer	9003-29-6	25.00000	0.01213
			Ethoxylated alcohols (C12-18)	68213-23-0	3.00000	0.00146
ALPHACLEAN	U.S. Well Services	Other				
			Mineral oil, petroleum distillates, hrdotreated light naphthenic	64742-53-6	100.00000	0.00083
Alphainhibit	U.S. Well Services	Acid Corrosion Inhibitor				
			Ethylene glycol	107-21-1	40.00000	0.00005
			Cinnamaldehyde	104-55-2	20.00000	0.00002
			Formic acid	64-18-6	20.00000	0.00002
			Butyl cellosolve	111-76-2	20.00000	0.00002
			Polyether	60828-78-6	10.00000	0.00001
			Acetophenone,thiourea,formaldehyde polymer	68527-49-1	5.00000	0.00000

Ingredients shown above are subject to 29 CFR 1910.1200(i) and appear on Material Safety Data Sheets (MSDS). Ingredients shown below are Non-MSDS.

* Total Water Volume sources may include fresh water, produced water, and/or recycled water

** Information is based on the maximum potential for concentration and thus the total may be over 100%

Note: For Field Development Products (products that begin with FDP), MSDS level only information has been provided.

Ingredient information for chemicals subject to 29 CFR 1910.1200(i) and Appendix D are obtained from suppliers Material Safety Data Sheets (MSDS)



Actual Wellpath Report

Bunner 8H AWP Proj: 25173'
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REFERENCE WELLPATH IDENTIFICATION			
Operator	NORTHEAST NATURAL ENERGY, LLC	Well	Bunner 8H
Field	Monongalia	API	47-061-01870-0000
Facility	Bunner Pad	Wellbore	Bunner 8H AWB
Slot	Slot 8H		

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	6/23/2021 at 9:13:06 AM
Convergence at slot	0.46° West	Database	WA_MPL_EASTERNUS_Defn

WELLPATH LOCATION						
	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	-29.89	-20.00	1766438.50	424218.48	39°39'44.9474"N	80°13'3.9262"W
Facility Reference Pt			1766458.50	424248.37	39°39'45.2443"N	80°13'3.6735"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	1305.00ft
Horizontal Reference Pt	Slot	Patterson 277 (RKB) to Mean Sea Level	1305.00ft
Vertical Reference Pt	Patterson 277 (RKB)	Patterson 277 (RKB) to Ground Level at Slot (Slot 8H)	28.00ft
MD Reference Pt	Patterson 277 (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	145.57°



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Field	Monongalia	API	47-061-01870-0000
Facility	Bunner Pad	Wellbore	Bunner 8H AWB
Slot	Slot 8H		

WELLPATH DATA (267 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	294.800	0.00	0.00	0.00	0.00	1766438.50	424218.48	39°39'44.9474"N	80°13'3.9262"W	0.00	0.000	0.00	0.00	0.00
28.00	0.000	294.800	28.00	0.00	0.00	0.00	1766438.50	424218.48	39°39'44.9474"N	80°13'3.9262"W	0.00	0.000	0.00	0.00	0.00
100.00	0.480	294.800	100.00	-0.26	0.13	-0.27	1766438.23	424218.61	39°39'44.9486"N	80°13'3.9297"W	0.30	294.800	0.67	0.67	0.00
200.00	0.520	353.000	200.00	-1.02	0.75	-0.71	1766437.79	424219.23	39°39'44.9547"N	80°13'3.9354"W	1.03	316.696	0.49	0.04	58.20
300.00	0.550	48.500	299.99	-1.48	1.52	-0.41	1766438.09	424220.00	39°39'44.9624"N	80°13'3.9315"W	1.57	345.084	0.50	0.03	55.50
400.00	0.570	58.200	399.99	-1.52	2.10	0.38	1766438.88	424220.58	39°39'44.9681"N	80°13'3.9216"W	2.13	10.173	0.10	0.02	9.70
500.00	0.590	70.600	499.98	-1.36	2.53	1.29	1766439.79	424221.01	39°39'44.9725"N	80°13'3.9100"W	2.84	26.895	0.13	0.02	12.40
600.00	0.650	82.600	599.98	-0.97	2.78	2.33	1766440.83	424221.26	39°39'44.9750"N	80°13'3.8967"W	3.63	40.027	0.14	0.06	12.00
700.00	0.750	81.500	699.97	-0.43	2.95	3.54	1766442.04	424221.43	39°39'44.9768"N	80°13'3.8812"W	4.61	50.238	0.10	0.10	-1.10
800.00	0.730	168.900	799.96	0.00	3.27	4.78	1766443.28	424221.75	39°39'44.9801"N	80°13'3.8654"W	5.80	55.617	0.16	-0.02	-12.60
900.00	0.690	96.900	899.95	0.55	3.43	5.98	1766444.48	424221.91	39°39'44.9817"N	80°13'3.8501"W	6.89	60.141	0.35	-0.04	28.00
1000.00	0.670	153.500	999.95	1.53	2.84	6.84	1766445.34	424221.32	39°39'44.9759"N	80°13'3.8391"W	7.40	67.470	0.64	-0.02	56.60
1100.00	0.310	276.800	1099.95	1.93	2.34	6.83	1766445.33	424220.82	39°39'44.9711"N	80°13'3.8391"W	7.22	71.050	0.88	-0.36	123.30
1200.00	0.660	76.400	1199.94	1.95	2.51	7.12	1766445.62	424220.99	39°39'44.9727"N	80°13'3.8354"W	7.55	70.565	0.96	0.35	159.60
1300.00	0.730	189.100	1299.94	2.62	2.02	7.58	1766446.08	424220.50	39°39'44.9679"N	80°13'3.8295"W	7.84	75.087	1.16	0.07	112.70
1400.00	0.330	248.000	1399.94	3.02	1.28	7.21	1766445.71	424219.76	39°39'44.9606"N	80°13'3.8341"W	7.32	79.923	0.63	-0.40	58.90
1500.00	0.290	53.200	1499.94	2.95	1.33	7.15	1766445.65	424219.81	39°39'44.9610"N	80°13'3.8350"W	7.27	79.495	0.61	-0.04	165.20
1600.00	0.540	99.400	1599.93	3.26	1.40	7.81	1766446.31	424219.88	39°39'44.9618"N	80°13'3.8264"W	7.94	79.844	0.40	0.25	46.20
1700.00	0.880	128.800	1699.93	4.32	0.84	8.88	1766447.38	424219.32	39°39'44.9564"N	80°13'3.8128"W	8.92	84.584	0.49	0.34	29.40
1800.00	0.900	184.200	1799.91	5.67	-0.42	9.42	1766447.92	424218.06	39°39'44.9439"N	80°13'3.8057"W	9.43	92.571	0.83	0.02	55.40
1900.00	0.400	218.300	1899.91	6.39	-1.48	9.14	1766447.64	424217.00	39°39'44.9334"N	80°13'3.8091"W	9.26	99.194	0.61	-0.50	34.10
2000.00	0.470	123.700	1999.91	6.88	-1.98	9.27	1766447.77	424216.50	39°39'44.9285"N	80°13'3.8075"W	9.48	102.067	0.64	0.07	-94.60
2100.00	1.020	130.700	2099.90	8.12	-2.79	10.28	1766448.78	424215.69	39°39'44.9206"N	80°13'3.7944"W	10.66	105.175	0.56	0.55	7.00
2200.00	1.060	160.700	2199.88	9.87	-4.24	11.27	1766449.76	424214.24	39°39'44.9063"N	80°13'3.7817"W	12.04	110.638	0.54	0.04	30.00
2300.00	0.400	226.500	2299.87	10.82	-5.36	11.32	1766449.82	424213.12	39°39'44.8953"N	80°13'3.7809"W	12.52	115.326	0.97	-0.66	65.80
2400.00	0.080	323.200	2399.87	10.80	-5.54	11.02	1766449.52	424212.94	39°39'44.8935"N	80°13'3.7847"W	12.34	116.686	0.42	-0.32	96.70
2465.00	0.270	64.100	2464.87	10.78	-5.44	11.13	1766449.63	424213.04	39°39'44.8945"N	80°13'3.7833"W	12.39	116.030	0.46	0.29	155.23
2559.00	0.430	130.310	2558.87	11.15	-5.57	11.60	1766450.10	424212.91	39°39'44.8932"N	80°13'3.7773"W	12.87	115.641	0.43	0.17	70.44
2634.00	0.960	283.790	2633.87	10.96	-5.60	11.21	1766449.71	424212.88	39°39'44.8929"N	80°13'3.7824"W	12.53	116.557	1.81	0.71	204.64
2728.00	2.340	283.770	2727.83	8.94	-4.96	8.58	1766447.08	424213.52	39°39'44.8990"N	80°13'3.8160"W	9.91	120.022	1.47	1.47	-0.02



Actual Wellpath Report

Bunner 8H AWP Proj: 25173'

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REFERENCE WELLPATH IDENTIFICATION				
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Field	Monongalia		API	47-061-01870-0000
Facility	Bunner Pad		Wellbore	Bunner 8H AWB
Slot	Slot 8H			

WELLPATH DATA (267 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]
2827.00	2.380	281.610	2826.74	5.95	-4.06	4.60	1766443.10	424214.42	39°39'44.9076"N	80°13'3.8670"W	6.14	131.439	0.10	0.04	-2.18
2921.00	2.380	285.200	2920.66	3.06	-3.16	0.81	1766439.31	424215.32	39°39'44.9162"N	80°13'3.9156"W	3.26	165.685	0.16	0.00	3.82
3017.00	2.830	262.670	3016.57	0.46	-2.94	-3.47	1766435.03	424215.54	39°39'44.9180"N	80°13'3.9703"W	4.55	229.742	1.16	0.47	-23.47
3111.00	2.890	255.310	3110.45	-1.40	-3.83	-8.06	1766430.44	424214.65	39°39'44.9088"N	80°13'4.0289"W	8.93	244.566	0.40	0.06	-7.83
3206.00	3.000	245.180	3205.32	-2.62	-5.48	-12.64	1766425.87	424213.00	39°39'44.8921"N	80°13'4.0872"W	13.77	246.534	0.56	0.12	-10.66
3301.00	2.910	244.520	3300.20	-3.41	-7.57	-17.07	1766421.43	424210.91	39°39'44.8712"N	80°13'4.1437"W	18.67	246.094	0.10	-0.09	-0.69
3396.00	2.560	233.320	3395.09	-3.70	-9.87	-20.95	1766417.55	424208.61	39°39'44.8481"N	80°13'4.1930"W	23.16	244.769	0.67	-0.37	-11.79
3491.00	1.690	239.390	3490.02	-3.71	-11.85	-23.85	1766414.65	424206.63	39°39'44.8283"N	80°13'4.2300"W	26.64	243.581	0.94	-0.92	6.39
3584.00	1.110	238.220	3583.00	-3.84	-13.02	-25.80	1766412.70	424205.46	39°39'44.8166"N	80°13'4.2548"W	28.90	243.215	0.62	-0.62	-1.26
3678.00	0.910	242.370	3676.98	-3.98	-13.85	-27.24	1766411.27	424204.63	39°39'44.8083"N	80°13'4.2730"W	30.55	243.046	0.23	-0.21	4.41
3775.00	0.980	239.160	3773.97	-4.12	-14.63	-28.63	1766409.87	424203.85	39°39'44.8005"N	80°13'4.2908"W	32.15	242.929	0.09	0.07	-3.31
3869.00	1.240	237.250	3867.95	-4.20	-15.59	-30.18	1766408.33	424202.89	39°39'44.7909"N	80°13'4.3105"W	33.97	242.671	0.28	0.28	-2.03
3963.00	1.160	254.170	3961.93	-4.53	-16.40	-31.95	1766406.56	424202.08	39°39'44.7827"N	80°13'4.3330"W	35.91	242.820	0.38	-0.09	18.00
4057.00	2.300	252.900	4055.89	-5.40	-17.22	-34.66	1766403.84	424201.26	39°39'44.7744"N	80°13'4.3677"W	38.71	243.586	1.21	1.21	-1.35
4151.00	4.310	249.860	4149.72	-6.83	-18.99	-39.78	1766398.72	424199.49	39°39'44.7565"N	80°13'4.4330"W	44.08	244.484	2.15	2.14	-3.23
4246.00	6.370	247.350	4244.31	-8.79	-22.25	-48.00	1766390.50	424196.23	39°39'44.7237"N	80°13'4.5377"W	52.91	245.132	2.18	2.17	-2.64
4340.00	7.820	247.460	4337.59	-11.17	-26.71	-58.72	1766379.78	424191.77	39°39'44.6788"N	80°13'4.6743"W	64.51	245.542	1.54	1.54	0.12
4434.00	9.050	247.110	4430.57	-13.97	-32.04	-71.44	1766367.07	424186.45	39°39'44.6251"N	80°13'4.8364"W	78.29	245.847	1.31	1.31	-0.37
4528.00	10.260	248.850	4523.23	-17.37	-37.93	-86.06	1766352.45	424180.55	39°39'44.5657"N	80°13'5.0227"W	94.05	246.213	1.32	1.29	1.85
4622.00	11.350	246.150	4615.57	-20.99	-44.69	-102.32	1766336.18	424173.79	39°39'44.4976"N	80°13'5.2300"W	111.66	246.406	1.28	1.16	-2.87
4720.00	12.940	239.680	4711.37	-23.55	-54.13	-120.62	1766317.89	424164.35	39°39'44.4029"N	80°13'5.4630"W	132.21	245.830	2.13	1.62	-6.60
4814.00	15.890	237.000	4802.41	-24.62	-66.46	-140.50	1766298.01	424152.03	39°39'44.2795"N	80°13'5.7159"W	155.42	244.686	3.22	3.14	-2.85
4909.00	17.270	236.310	4893.45	-25.13	-81.36	-163.14	1766275.37	424137.12	39°39'44.1304"N	80°13'6.0039"W	182.30	243.493	1.47	1.45	-0.73
5003.00	19.370	239.760	4982.69	-26.45	-96.96	-188.22	1766250.29	424121.53	39°39'43.9743"N	80°13'6.3230"W	211.73	242.746	2.51	2.23	3.67
5098.00	20.490	241.010	5072.00	-29.18	-112.95	-216.38	1766222.14	424105.54	39°39'43.8140"N	80°13'6.6814"W	244.08	242.436	1.26	1.18	1.32
5192.00	22.320	241.280	5159.51	-32.51	-129.50	-246.42	1766192.09	424088.99	39°39'43.6481"N	80°13'7.0639"W	278.38	242.277	1.95	1.95	0.29
5287.00	24.990	241.440	5246.52	-36.36	-147.77	-279.88	1766158.64	424070.72	39°39'43.4649"N	80°13'7.4897"W	316.49	242.167	2.81	2.81	0.17
5383.00	27.890	243.090	5332.47	-41.37	-167.63	-317.72	1766120.80	424050.86	39°39'43.2657"N	80°13'7.9715"W	359.22	242.184	3.12	3.02	1.72
5477.00	29.350	243.080	5414.98	-47.26	-188.01	-357.86	1766080.66	424030.48	39°39'43.0611"N	80°13'8.4828"W	404.24	242.284	1.55	1.55	-0.01
5588.00	30.450	242.820	5511.21	-54.37	-213.17	-407.14	1766031.38	424005.32	39°39'42.8085"N	80°13'9.1103"W	459.57	242.364	1.00	0.99	-0.23



Actual Wellpath Report

Bunner 8H AWP Proj: 25173'

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REFERENCE WELLPATH IDENTIFICATION				
Operator	NORTHEAST NATURAL ENERGY, LLC		Well	Bunner 8H
Field	Monongalia		API	47-061-01870-0000
Facility	Bunner Pad		Wellbore	Bunner 8H AWB
Slot	Slot 8H			

WELLPATH DATA (267 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]
5667.00	31.170	241.030	5579.06	-58.84	-232.22	-442.84	1765995.69	423986.27	39°39'42.6174"N	80°13'9.5648"W	500.03	242.328	1.48	0.91	-2.27
5764.00	31.050	242.390	5662.11	-64.20	-255.97	-486.97	1765951.56	423962.52	39°39'42.3792"N	80°13'10.1266"W	550.14	242.271	0.73	-0.12	1.40
5859.00	30.950	241.810	5743.54	-69.76	-278.87	-530.21	1765908.33	423939.63	39°39'42.1495"N	80°13'10.6771"W	599.07	242.257	0.33	-0.11	-0.61
5953.00	30.810	241.400	5824.21	-74.84	-301.81	-572.65	1765865.89	423916.69	39°39'41.9194"N	80°13'11.2174"W	647.31	242.209	0.27	-0.15	-0.44
6048.00	30.760	244.770	5905.83	-81.19	-323.81	-615.99	1765822.55	423894.69	39°39'41.6985"N	80°13'11.7693"W	695.91	242.270	1.82	-0.05	3.55
6143.00	29.310	240.450	5988.09	-87.06	-345.64	-658.20	1765780.34	423872.86	39°39'41.4795"N	80°13'12.3068"W	743.43	242.295	2.74	-1.53	-4.55
6237.00	27.490	241.730	6070.77	-91.34	-367.26	-697.32	1765741.22	423851.24	39°39'41.2627"N	80°13'12.8049"W	788.13	242.225	2.04	-1.94	1.36
6332.00	26.720	243.060	6155.34	-96.48	-387.32	-735.68	1765702.87	423831.18	39°39'41.0614"N	80°13'13.2932"W	831.41	242.234	1.03	-0.81	1.40
6428.00	26.510	243.280	6241.16	-102.17	-406.74	-774.05	1765664.49	423811.77	39°39'40.8665"N	80°13'13.7819"W	874.41	242.280	0.24	-0.22	0.23
6522.00	28.160	241.500	6324.67	-107.27	-426.75	-812.29	1765626.26	423791.75	39°39'40.6656"N	80°13'14.2688"W	917.57	242.284	1.96	1.76	-1.89
6616.00	30.290	240.350	6406.70	-111.54	-449.07	-852.39	1765586.16	423769.44	39°39'40.4420"N	80°13'14.7792"W	963.45	242.218	2.34	2.27	-1.22
6710.00	28.250	241.900	6488.69	-115.97	-471.28	-892.62	1765545.94	423747.23	39°39'40.2193"N	80°13'15.2913"W	1009.39	242.167	2.31	-2.17	1.65
6806.00	28.390	241.910	6573.20	-120.99	-492.72	-932.79	1765505.76	423725.79	39°39'40.0041"N	80°13'15.8028"W	1054.93	242.156	0.15	0.15	0.01
6901.00	28.720	244.380	6656.65	-126.98	-513.23	-973.30	1765465.26	423705.28	39°39'39.7983"N	80°13'16.3186"W	1100.33	242.197	1.29	0.35	2.60
6996.00	29.710	246.580	6739.57	-134.98	-532.46	-1015.49	1765423.08	423686.06	39°39'39.6049"N	80°13'16.8560"W	1146.61	242.330	1.54	1.04	2.32
7092.00	29.560	248.050	6823.01	-144.64	-550.76	-1059.28	1765379.28	423667.75	39°39'39.4205"N	80°13'17.4141"W	1193.91	242.528	0.77	-0.16	1.53
7187.00	28.490	245.750	6906.08	-153.71	-568.83	-1101.68	1765336.89	423649.69	39°39'39.2386"N	80°13'17.9543"W	1239.86	242.691	1.63	-1.13	-2.42
7282.00	28.480	245.590	6989.58	-161.65	-587.50	-1142.96	1765295.61	423631.02	39°39'39.0509"N	80°13'18.4803"W	1285.11	242.796	0.08	-0.01	-0.17
7377.00	29.940	245.770	7072.50	-169.79	-606.59	-1185.21	1765253.37	423611.93	39°39'38.8588"N	80°13'19.0185"W	1331.41	242.897	1.54	1.54	0.19
7471.00	29.170	244.620	7154.27	-177.55	-626.03	-1227.30	1765211.28	423592.48	39°39'38.6633"N	80°13'19.5547"W	1377.74	242.974	1.02	-0.82	-1.22
7565.00	29.000	242.580	7236.41	-183.93	-646.35	-1268.22	1765170.36	423572.17	39°39'38.4593"N	80°13'20.0758"W	1423.43	242.994	1.07	-0.18	-2.17
7661.00	29.050	240.940	7320.36	-188.95	-668.38	-1309.25	1765129.33	423550.14	39°39'38.2383"N	80°13'20.5982"W	1469.99	242.955	0.83	0.05	-1.71
7755.00	28.640	233.410	7402.72	-190.24	-692.91	-1347.30	1765091.28	423525.62	39°39'37.9929"N	80°13'21.0822"W	1515.04	242.784	3.89	-0.44	-8.01
7851.00	29.330	226.660	7486.72	-185.73	-722.76	-1382.88	1765055.70	423495.76	39°39'37.6950"N	80°13'21.5341"W	1560.37	242.406	3.48	0.72	-7.03
7945.00	33.730	213.980	7566.91	-172.54	-760.27	-1414.26	1765024.32	423458.26	39°39'37.3219"N	80°13'21.9315"W	1605.66	241.739	8.44	4.68	-13.49
8040.00	34.860	203.120	7645.47	-148.24	-807.15	-1439.69	1764998.90	423411.38	39°39'36.8565"N	80°13'22.2517"W	1650.52	240.723	6.54	1.19	-11.43
8135.00	32.690	184.470	7724.65	-113.61	-857.84	-1452.39	1764986.20	423360.69	39°39'36.3546"N	80°13'22.4089"W	1686.81	239.432	11.11	-2.28	-19.63
8228.00	33.710	171.150	7802.57	-70.73	-908.45	-1450.37	1764988.22	423310.09	39°39'35.8546"N	80°13'22.3779"W	1711.39	237.939	7.91	1.10	-14.32
8323.00	42.120	166.780	7877.46	-17.15	-965.62	-1439.01	1764999.58	423252.91	39°39'35.2905"N	80°13'22.2267"W	1732.97	236.137	9.29	8.85	-4.60
8428.00	51.060	162.300	7949.57	54.95	-1038.97	-1418.49	1765020.09	423179.57	39°39'34.5672"N	80°13'21.9569"W	1758.29	233.779	9.06	8.51	-4.27



Actual Wellpath Report

Bunner 8H AWP Proj: 25173'

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REFERENCE WELLPATH IDENTIFICATION				
Operator	NORTHEAST NATURAL ENERGY, LLC		Well	Bunner 8H
Field	Monongalia		API	47-061-01870-0000
Facility	Bunner Pad		Wellbore	Bunner 8H AWB
Slot	Slot 8H			

WELLPATH DATA (267 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]
8523.00	59.050	157.380	8003.96	130.36	-1111.92	-1391.54	1765047.05	423106.63	39°39'33.8484"N	80°13'21.6047"W	1781.22	231.373	9.42	8.41	-5.18
8618.00	64.910	156.480	8048.57	212.55	-1189.04	-1358.67	1765079.91	423029.52	39°39'33.0890"N	80°13'21.1766"W	1805.49	228.809	6.22	6.17	-0.95
8712.00	74.680	152.460	8081.01	299.59	-1268.48	-1320.62	1765117.96	422950.08	39°39'32.3069"N	80°13'20.6819"W	1831.14	226.154	11.14	10.39	-4.28
8807.00	85.440	148.270	8097.39	392.68	-1349.65	-1274.38	1765164.20	422868.91	39°39'31.5084"N	80°13'20.0823"W	1856.23	223.357	12.13	11.33	-4.41
8901.00	89.940	144.210	8101.18	486.55	-1427.69	-1222.21	1765216.37	422790.87	39°39'30.7413"N	80°13'19.4072"W	1879.39	220.566	6.44	4.79	-4.32
8995.00	89.050	144.590	8102.01	580.53	-1504.12	-1167.49	1765271.08	422714.45	39°39'29.9903"N	80°13'18.6998"W	1904.05	217.818	1.03	-0.95	0.40
9090.00	88.890	144.960	8103.72	675.50	-1581.71	-1112.70	1765325.87	422636.86	39°39'29.2278"N	80°13'17.9913"W	1933.89	215.126	0.42	-0.17	0.39
9197.00	88.250	144.600	8106.39	782.46	-1669.10	-1051.01	1765387.55	422549.48	39°39'28.3691"N	80°13'17.1936"W	1972.44	212.198	0.69	-0.60	-0.34
9292.00	87.720	144.420	8109.73	877.38	-1746.40	-995.89	1765442.67	422472.19	39°39'27.6096"N	80°13'16.4809"W	2010.40	209.694	0.59	-0.56	-0.19
9387.00	88.250	144.230	8113.07	972.30	-1823.53	-940.53	1765498.03	422395.07	39°39'26.8518"N	80°13'15.7651"W	2051.79	207.283	0.59	0.56	-0.20
9481.00	89.020	144.480	8115.31	1066.25	-1899.89	-885.76	1765552.79	422318.70	39°39'26.1014"N	80°13'15.0571"W	2096.23	204.996	0.86	0.82	0.27
9576.00	88.950	143.990	8116.99	1161.21	-1976.96	-830.25	1765608.30	422241.64	39°39'25.3441"N	80°13'14.3394"W	2144.22	202.781	0.52	-0.07	-0.52
9670.00	89.140	144.330	8118.56	1255.17	-2053.15	-775.22	1765663.33	422165.45	39°39'24.5955"N	80°13'13.6280"W	2194.63	200.685	0.41	0.20	0.36
9765.00	88.740	144.150	8120.31	1350.13	-2130.23	-719.71	1765718.84	422088.38	39°39'23.8382"N	80°13'12.9104"W	2248.53	198.668	0.46	-0.42	-0.19
9860.00	89.630	144.370	8121.66	1445.09	-2207.33	-664.22	1765774.32	422011.28	39°39'23.0807"N	80°13'12.1931"W	2305.10	196.747	0.97	0.94	0.23
9954.00	90.120	145.540	8121.87	1539.09	-2284.29	-610.25	1765828.29	421934.33	39°39'22.3244"N	80°13'11.4951"W	2364.40	194.957	1.35	0.52	1.24
10050.00	90.220	145.400	8121.58	1635.09	-2363.38	-555.83	1765882.70	421855.25	39°39'21.5471"N	80°13'10.7913"W	2427.86	193.235	0.18	0.10	-0.15
10145.00	90.460	145.620	8121.02	1730.08	-2441.68	-502.04	1765936.49	421776.95	39°39'20.7776"N	80°13'10.0955"W	2492.75	191.619	0.34	0.25	0.23
10240.00	90.340	145.440	8120.36	1825.08	-2519.99	-448.27	1765990.25	421698.64	39°39'20.0079"N	80°13'9.4001"W	2559.55	190.087	0.23	-0.13	-0.19
10335.00	90.520	145.130	8119.64	1920.08	-2598.08	-394.17	1766044.35	421620.56	39°39'19.2404"N	80°13'8.7004"W	2627.81	188.627	0.38	0.19	-0.33
10429.00	90.650	145.080	8118.69	2014.07	-2675.18	-340.40	1766098.12	421543.47	39°39'18.4828"N	80°13'8.0050"W	2696.75	187.252	0.15	0.14	-0.05
10523.00	91.690	145.110	8116.77	2108.05	-2752.25	-286.62	1766151.89	421466.40	39°39'17.7254"N	80°13'7.3096"W	2767.13	185.945	1.11	1.11	0.03
10619.00	91.570	146.390	8114.04	2204.00	-2831.57	-232.62	1766205.90	421387.09	39°39'16.9458"N	80°13'6.6110"W	2841.11	184.696	1.34	-0.13	1.33
10713.00	90.680	146.040	8112.19	2297.98	-2909.68	-180.36	1766258.15	421308.98	39°39'16.1780"N	80°13'5.9349"W	2915.26	183.547	1.02	-0.95	-0.37
10809.00	90.370	146.270	8111.31	2393.97	-2989.41	-126.89	1766311.62	421229.26	39°39'15.3943"N	80°13'5.2432"W	2992.10	182.431	0.40	-0.32	0.24
10903.00	90.340	145.910	8110.73	2487.96	-3067.42	-74.45	1766364.05	421151.25	39°39'14.6274"N	80°13'4.5647"W	3068.32	181.390	0.38	-0.03	-0.38
10997.00	90.280	146.010	8110.22	2581.96	-3145.31	-21.83	1766416.67	421073.36	39°39'13.8618"N	80°13'3.8841"W	3145.38	180.398	0.12	-0.06	0.11
11093.00	90.950	146.120	8109.19	2677.95	-3224.95	31.75	1766470.25	420993.73	39°39'13.0790"N	80°13'3.1908"W	3225.11	179.436	0.71	0.70	0.11
11186.00	91.170	146.150	8107.47	2770.93	-3302.16	83.57	1766522.06	420916.52	39°39'12.3200"N	80°13'2.5205"W	3303.22	178.550	0.24	0.24	0.03
11281.00	91.420	146.210	8105.32	2865.90	-3381.07	136.43	1766574.92	420837.62	39°39'11.5444"N	80°13'1.8366"W	3383.82	177.689	0.27	0.26	0.06



Actual Wellpath Report

Bunner 8H AWP Proj: 25173'

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REFERENCE WELLPATH IDENTIFICATION				
Operator	NORTHEAST NATURAL ENERGY, LLC		Well	Bunner 8H
Field	Monongalia		API	47-061-01870-0000
Facility	Bunner Pad		Wellbore	Bunner 8H AWB
Slot	Slot 8H			

WELLPATH DATA (267 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]
11376.00	91.510	146.130	8102.89	2960.86	-3459.96	189.30	1766627.79	420758.74	39°39'10.7690"N	80°13'1.1526"W	3465.13	176.868	0.13	0.09	-0.08
11471.00	91.380	146.100	8100.50	3055.83	-3538.80	242.25	1766680.74	420679.90	39°39'9.9940"N	80°13'0.4676"W	3547.08	176.084	0.14	-0.14	-0.03
11566.00	91.450	146.220	8098.15	3150.80	-3617.68	295.14	1766733.62	420601.02	39°39'9.2186"N	80°12'59.7834"W	3629.70	175.336	0.15	0.07	0.13
11661.00	91.630	146.080	8095.60	3245.76	-3696.55	348.04	1766786.52	420522.16	39°39'8.4433"N	80°12'59.0991"W	3712.90	174.621	0.24	0.19	-0.15
11755.00	91.380	146.010	8093.13	3339.72	-3774.49	400.52	1766839.00	420444.22	39°39'7.6772"N	80°12'58.4202"W	3795.68	173.943	0.28	-0.27	-0.07
11850.00	91.390	146.200	8090.83	3434.69	-3853.32	453.48	1766891.96	420365.39	39°39'6.9023"N	80°12'57.7350"W	3879.92	173.288	0.20	0.01	0.20
11944.00	91.290	146.210	8088.63	3528.66	-3931.42	505.76	1766944.22	420287.30	39°39'6.1346"N	80°12'57.0588"W	3963.82	172.669	0.11	-0.11	0.01
12038.00	91.570	146.130	8086.29	3622.62	-4009.48	558.07	1766996.54	420209.24	39°39'5.3673"N	80°12'56.3820"W	4048.13	172.076	0.31	0.30	-0.09
12132.00	91.540	146.200	8083.74	3716.58	-4087.53	610.39	1767048.85	420131.20	39°39'4.6000"N	80°12'55.7052"W	4132.86	171.507	0.08	-0.03	0.07
12227.00	91.290	146.230	8081.39	3811.55	-4166.47	663.20	1767101.66	420052.27	39°39'3.8241"N	80°12'55.0220"W	4218.92	170.956	0.27	-0.26	0.03
12322.00	91.390	146.170	8079.17	3906.52	-4245.39	716.04	1767154.49	419973.35	39°39'3.0483"N	80°12'54.3385"W	4305.35	170.426	0.12	0.11	-0.06
12417.00	91.820	146.310	8076.51	4001.47	-4324.34	768.81	1767207.26	419894.41	39°39'2.2723"N	80°12'53.6558"W	4392.15	169.919	0.48	0.45	0.15
12511.00	91.570	146.310	8073.73	4095.42	-4402.52	820.93	1767259.38	419816.23	39°39'1.5038"N	80°12'52.9816"W	4478.40	169.437	0.27	-0.27	0.00
12611.00	91.540	146.110	8071.02	4195.38	-4485.59	876.52	1767314.97	419733.16	39°39'0.6871"N	80°12'52.2624"W	4570.43	168.943	0.20	-0.03	-0.20
12701.00	91.720	146.550	8068.46	4285.34	-4560.46	926.40	1767364.84	419658.29	39°38'59.9511"N	80°12'51.6171"W	4653.61	168.517	0.53	0.20	0.49
12796.00	90.920	145.880	8066.27	4380.30	-4639.40	979.21	1767417.65	419579.36	39°38'59.1752"N	80°12'50.9339"W	4741.61	168.082	1.10	-0.84	-0.71
12890.00	90.520	146.350	8065.09	4474.29	-4717.43	1031.61	1767470.05	419501.34	39°38'58.4082"N	80°12'50.2561"W	4828.91	167.665	0.66	-0.43	0.50
12986.00	90.520	146.010	8064.21	4570.28	-4797.18	1085.04	1767523.48	419421.59	39°38'57.6242"N	80°12'49.5649"W	4918.36	167.255	0.35	0.00	-0.35
13081.00	90.430	146.200	8063.43	4665.27	-4876.03	1138.02	1767576.45	419342.74	39°38'56.8491"N	80°12'48.8797"W	5007.07	166.863	0.22	-0.09	0.20
13176.00	90.550	146.270	8062.61	4760.26	-4955.01	1190.82	1767629.25	419263.78	39°38'56.0728"N	80°12'48.1967"W	5096.09	166.487	0.15	0.13	0.07
13270.00	90.430	146.110	8061.81	4854.26	-5033.11	1243.12	1767681.55	419185.68	39°38'55.3050"N	80°12'47.5201"W	5184.35	166.126	0.21	-0.13	-0.17
13366.00	90.280	145.930	8061.22	4950.25	-5112.71	1296.78	1767735.20	419106.08	39°38'54.5225"N	80°12'46.8261"W	5274.60	165.768	0.24	-0.16	-0.19
13461.00	90.090	146.200	8060.91	5045.25	-5191.53	1349.81	1767788.23	419027.27	39°38'53.7478"N	80°12'46.1401"W	5364.14	165.426	0.35	-0.20	0.28
13555.00	90.120	146.150	8060.74	5139.24	-5269.62	1402.14	1767840.55	418949.18	39°38'52.9801"N	80°12'45.4633"W	5452.97	165.100	0.06	0.03	-0.05
13650.00	90.030	146.350	8060.61	5234.23	-5348.61	1454.92	1767893.33	418870.20	39°38'52.2036"N	80°12'44.7806"W	5542.96	164.783	0.23	-0.09	0.21
13744.00	89.630	146.220	8060.89	5328.23	-5426.80	1507.09	1767945.50	418792.01	39°38'51.4350"N	80°12'44.1056"W	5632.18	164.479	0.45	-0.43	-0.14
13839.00	89.570	146.010	8061.55	5423.22	-5505.66	1560.05	1767998.46	418713.15	39°38'50.6598"N	80°12'43.4206"W	5722.42	164.180	0.23	-0.06	-0.22
13934.00	90.180	146.430	8061.76	5518.21	-5584.62	1612.87	1768051.28	418634.20	39°38'49.8836"N	80°12'42.7373"W	5812.86	163.891	0.78	0.64	0.44
14028.00	90.580	145.500	8061.14	5612.21	-5662.52	1665.48	1768103.88	418556.31	39°38'49.1179"N	80°12'42.0569"W	5902.37	163.610	1.08	0.43	-0.99
14122.00	90.370	144.780	8060.36	5706.20	-5739.65	1719.21	1768157.61	418479.18	39°38'48.3599"N	80°12'41.3623"W	5991.60	163.325	0.80	-0.22	-0.77



Actual Wellpath Report

Bunner 8H AWP Proj: 25173'

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REFERENCE WELLPATH IDENTIFICATION				
Operator	NORTHEAST NATURAL ENERGY, LLC		Well	Bunner 8H
Field	Monongalia		API	47-061-01870-0000
Facility	Bunner Pad		Wellbore	Bunner 8H AWB
Slot	Slot 8H			

WELLPATH DATA (267 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]
14217.00	90.520	144.960	8059.62	5801.19	-5817.34	1773.87	1768212.27	418401.50	39°38'47.5963"N	80°12'40.6556"W	6081.78	163.042	0.25	0.16	0.19
14311.00	90.650	145.330	8058.66	5895.18	-5894.47	1827.59	1768265.98	418324.37	39°38'46.8383"N	80°12'39.9611"W	6171.30	162.774	0.42	0.14	0.39
14406.00	90.520	145.350	8057.69	5990.18	-5972.61	1881.62	1768320.00	418246.24	39°38'46.0703"N	80°12'39.2626"W	6261.99	162.513	0.14	-0.14	0.02
14501.00	91.170	145.170	8056.29	6085.16	-6050.67	1935.75	1768374.13	418168.18	39°38'45.3031"N	80°12'38.5627"W	6352.77	162.259	0.71	0.68	-0.19
14596.00	91.910	145.030	8053.74	6180.13	-6128.55	1990.08	1768428.46	418090.30	39°38'44.5877"N	80°12'37.8603"W	6443.57	162.010	0.79	0.78	-0.15
14691.00	92.060	145.390	8050.45	6275.07	-6206.52	2044.25	1768482.63	418012.34	39°38'43.7713"N	80°12'37.1599"W	6534.52	161.770	0.41	0.16	0.38
14785.00	92.120	145.390	8047.02	6369.00	-6283.84	2097.61	1768535.98	417935.03	39°38'43.0114"N	80°12'36.4700"W	6624.69	161.540	0.06	0.06	0.00
14880.00	92.220	145.630	8043.42	6463.94	-6362.08	2151.36	1768589.73	417856.79	39°38'42.2424"N	80°12'35.7749"W	6715.99	161.317	0.27	0.11	0.25
14975.00	92.000	145.620	8039.92	6558.87	-6440.44	2204.96	1768643.33	417778.44	39°38'41.4722"N	80°12'35.0818"W	6807.43	161.101	0.23	-0.23	-0.01
15069.00	91.940	145.530	8036.69	6652.82	-6517.93	2258.07	1768696.44	417700.95	39°38'40.7105"N	80°12'34.3951"W	6897.99	160.892	0.12	-0.06	-0.10
15164.00	92.180	145.980	8033.28	6747.75	-6596.41	2311.50	1768749.86	417622.47	39°38'39.9391"N	80°12'33.7042"W	6989.68	160.689	0.54	0.25	0.47
15259.00	91.750	144.940	8030.02	6842.70	-6674.62	2365.33	1768803.69	417544.27	39°38'39.1704"N	80°12'33.0082"W	7081.33	160.487	1.18	-0.45	-1.09
15353.00	91.780	145.010	8027.12	6936.65	-6751.56	2419.25	1768857.61	417467.34	39°38'38.4142"N	80°12'32.3111"W	7171.91	160.286	0.08	0.03	0.07
15448.00	91.350	145.280	8024.53	7031.61	-6829.48	2473.53	1768911.88	417389.41	39°38'37.6483"N	80°12'31.6095"W	7263.62	160.090	0.53	-0.45	0.28
15545.00	91.970	145.540	8021.72	7128.57	-6909.30	2528.57	1768966.92	417309.60	39°38'36.8638"N	80°12'30.8978"W	7357.46	159.899	0.69	0.64	0.27
15640.00	91.750	145.330	8018.64	7223.52	-6987.49	2582.44	1769020.78	417231.41	39°38'36.0953"N	80°12'30.2013"W	7449.43	159.717	0.32	-0.23	-0.22
15736.00	91.880	145.610	8015.60	7319.47	-7066.54	2636.83	1769075.17	417152.37	39°38'35.3183"N	80°12'29.4981"W	7542.47	159.537	0.32	0.14	0.29
15831.00	91.780	145.290	8012.56	7414.42	-7144.75	2690.68	1769129.01	417074.17	39°38'34.5496"N	80°12'28.8019"W	7634.60	159.364	0.35	-0.11	-0.34
15926.00	91.750	145.360	8009.64	7509.37	-7222.84	2744.70	1769183.03	416996.08	39°38'33.7821"N	80°12'28.1034"W	7726.76	159.193	0.08	-0.03	0.07
16020.00	92.120	145.460	8006.46	7603.32	-7300.18	2798.03	1769236.36	416918.75	39°38'33.0219"N	80°12'27.4139"W	7818.03	159.029	0.41	0.39	0.11
16115.00	92.490	145.420	8002.64	7698.24	-7378.35	2851.88	1769290.21	416840.58	39°38'32.2536"N	80°12'26.7177"W	7910.33	158.867	0.39	0.39	-0.04
16211.00	92.490	145.480	7998.47	7794.15	-7457.34	2906.27	1769344.59	416761.59	39°38'31.4772"N	80°12'26.0145"W	8003.65	158.708	0.06	0.00	0.06
16306.00	92.460	145.400	7994.37	7889.06	-7535.51	2960.11	1769398.43	416683.43	39°38'30.7089"N	80°12'25.3184"W	8096.06	158.554	0.09	-0.03	-0.08
16401.00	92.590	145.280	7990.18	7983.97	-7613.57	3014.09	1769452.40	416605.37	39°38'29.9416"N	80°12'24.6206"W	8188.48	158.402	0.19	0.14	-0.13
16497.00	91.780	145.280	7986.52	8079.90	-7692.42	3068.72	1769507.04	416526.53	39°38'29.1666"N	80°12'23.9142"W	8281.93	158.252	0.84	-0.84	0.00
16592.00	92.000	145.330	7983.39	8174.84	-7770.49	3122.77	1769561.08	416448.47	39°38'28.3993"N	80°12'23.2156"W	8374.49	158.106	0.24	0.23	0.05
16687.00	92.030	145.520	7980.05	8269.78	-7848.66	3176.65	1769614.95	416370.30	39°38'27.6310"N	80°12'22.5190"W	8467.14	157.965	0.20	0.03	0.20
16783.00	91.450	145.400	7977.13	8365.74	-7927.70	3231.05	1769669.36	416291.26	39°38'26.8540"N	80°12'21.8156"W	8560.85	157.826	0.62	-0.60	-0.12
16878.00	90.830	145.370	7975.24	8460.72	-8005.87	3285.01	1769723.31	416213.10	39°38'26.0857"N	80°12'21.1181"W	8653.62	157.690	0.65	-0.65	-0.03
16973.00	90.950	145.500	7973.77	8555.71	-8084.09	3338.90	1769777.19	416134.88	39°38'25.3169"N	80°12'20.4214"W	8746.47	157.558	0.19	0.13	0.14



Actual Wellpath Report

Bunner 8H AWP Proj: 25173'

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REFERENCE WELLPATH IDENTIFICATION				
Operator	NORTHEAST NATURAL ENERGY, LLC		Well	Bunner 8H
Field	Monongalia		API	47-061-01870-0000
Facility	Bunner Pad		Wellbore	Bunner 8H AWB
Slot	Slot 8H			

WELLPATH DATA (267 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]
17069.00	89.940	145.590	7973.02	8651.70	-8163.24	3393.21	1769831.50	416055.73	39°38'24.5388"N	80°12'19.7192"W	8840.39	157.429	1.06	-1.05	0.09
17164.00	90.030	145.350	7973.05	8746.70	-8241.51	3447.06	1769885.35	415977.47	39°38'23.7696"N	80°12'19.0230"W	8933.35	157.303	0.27	0.09	-0.25
17258.00	89.970	145.240	7973.05	8840.70	-8318.79	3500.58	1769938.86	415900.20	39°38'23.0100"N	80°12'18.3312"W	9025.31	157.178	0.13	-0.06	-0.12
17353.00	89.880	145.390	7973.17	8935.70	-8396.90	3554.64	1769992.92	415822.09	39°38'22.2422"N	80°12'17.6323"W	9118.30	157.056	0.18	-0.09	0.16
17449.00	90.030	145.320	7973.25	9031.70	-8475.88	3609.21	1770047.49	415743.12	39°38'21.4659"N	80°12'16.9268"W	9212.33	156.935	0.17	0.16	-0.07
17543.00	89.970	145.300	7973.25	9125.70	-8553.17	3662.71	1770100.99	415665.83	39°38'20.7062"N	80°12'16.2352"W	9304.42	156.818	0.07	-0.06	-0.02
17639.00	89.170	145.580	7973.97	9221.70	-8632.23	3717.17	1770155.44	415586.78	39°38'19.9292"N	80°12'15.5312"W	9398.55	156.703	0.88	-0.83	0.29
17734.00	88.980	145.400	7975.50	9316.68	-8710.50	3770.98	1770209.25	415508.51	39°38'19.1598"N	80°12'14.8355"W	9491.74	156.591	0.28	-0.20	-0.19
17829.00	89.080	145.260	7977.11	9411.67	-8788.62	3825.02	1770263.28	415430.40	39°38'18.3919"N	80°12'14.1371"W	9584.92	156.480	0.18	0.11	-0.15
17924.00	88.490	145.340	7979.12	9506.65	-8866.71	3879.09	1770317.35	415352.31	39°38'17.6244"N	80°12'13.4381"W	9678.11	156.371	0.63	-0.62	0.08
18018.00	88.610	145.590	7981.50	9600.62	-8944.12	3932.36	1770370.62	415274.91	39°38'16.8635"N	80°12'12.7494"W	9770.40	156.267	0.29	0.13	0.27
18113.00	88.460	145.410	7983.93	9695.59	-9022.38	3986.15	1770424.41	415196.65	39°38'16.0942"N	80°12'12.0541"W	9863.71	156.164	0.25	-0.16	-0.19
18208.00	89.050	145.460	7986.00	9790.56	-9100.60	4040.03	1770478.29	415118.44	39°38'15.3254"N	80°12'11.3575"W	9957.04	156.062	0.62	0.62	0.05
18302.00	89.050	145.560	7987.55	9884.55	-9178.06	4093.25	1770531.50	415040.98	39°38'14.5640"N	80°12'10.6695"W	10049.46	155.964	0.11	0.00	0.11
18397.00	89.140	145.360	7989.06	9979.54	-9256.31	4147.11	1770585.36	414962.74	39°38'13.7949"N	80°12'9.9732"W	10142.87	155.866	0.23	0.09	-0.21
18492.00	89.510	145.480	7990.17	10074.53	-9334.52	4201.02	1770639.27	414884.53	39°38'13.0261"N	80°12'9.2763"W	10236.30	155.770	0.41	0.39	0.13
18586.00	89.450	145.410	7991.03	10168.53	-9411.93	4254.34	1770692.58	414807.12	39°38'12.2652"N	80°12'8.5871"W	10328.79	155.676	0.10	-0.06	-0.07
18682.00	90.340	145.490	7991.20	10264.52	-9491.00	4308.78	1770747.02	414728.06	39°38'11.4880"N	80°12'7.8833"W	10423.28	155.583	0.93	0.93	0.08
18777.00	90.370	145.230	7990.61	10359.52	-9569.16	4362.78	1770801.01	414649.91	39°38'10.7198"N	80°12'7.1853"W	10516.78	155.491	0.28	0.03	-0.27
18872.00	90.150	145.620	7990.18	10454.52	-9647.38	4416.69	1770854.92	414571.69	39°38'9.9509"N	80°12'6.4885"W	10610.33	155.401	0.47	-0.23	0.41
18967.00	90.740	145.220	7989.45	10549.52	-9725.59	4470.61	1770908.83	414493.48	39°38'9.1821"N	80°12'5.7915"W	10703.90	155.313	0.75	0.62	-0.42
19063.00	90.710	145.650	7988.23	10645.51	-9804.64	4525.07	1770963.29	414414.44	39°38'8.4051"N	80°12'5.0875"W	10798.48	155.226	0.45	-0.03	0.45
19157.00	91.200	145.520	7986.66	10739.49	-9882.18	4578.19	1771016.41	414336.91	39°38'7.6429"N	80°12'4.4008"W	10891.15	155.143	0.54	0.52	-0.14
19252.00	91.290	145.690	7984.60	10834.47	-9960.55	4631.84	1771070.06	414258.54	39°38'6.8725"N	80°12'3.7073"W	10984.83	155.061	0.20	0.09	0.18
19345.00	91.690	145.440	7982.18	10927.44	-10037.23	4684.41	1771122.62	414181.87	39°38'6.1188"N	80°12'3.0277"W	11076.53	154.981	0.51	0.43	-0.27
19440.00	91.110	145.610	7979.86	11022.41	-10115.52	4738.17	1771176.38	414103.58	39°38'5.3492"N	80°12'2.3328"W	11170.23	154.901	0.64	-0.61	0.18
19536.00	90.430	145.400	7978.57	11118.40	-10194.63	4792.53	1771230.74	414024.47	39°38'4.5716"N	80°12'1.6301"W	11264.94	154.822	0.74	-0.71	-0.22
19631.00	90.550	145.380	7977.76	11213.40	-10272.82	4846.49	1771284.69	413946.29	39°38'3.8031"N	80°12'0.9326"W	11358.66	154.743	0.13	0.13	-0.02
19726.00	90.520	145.190	7976.87	11308.39	-10350.90	4900.59	1771338.79	413868.21	39°38'3.0355"N	80°12'0.2334"W	11452.38	154.665	0.20	-0.03	-0.20
19822.00	91.020	145.300	7975.58	11404.38	-10429.77	4955.31	1771393.51	413789.35	39°38'2.2603"N	80°11'59.5261"W	11547.08	154.587	0.53	0.52	0.11



Actual Wellpath Report

Bunner 8H AWP Proj: 25173'

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REFERENCE WELLPATH IDENTIFICATION				
Operator	NORTHEAST NATURAL ENERGY, LLC		Well	Bunner 8H
Field	Monongalia		API	47-061-01870-0000
Facility	Bunner Pad		Wellbore	Bunner 8H AWB
Slot	Slot 8H			

WELLPATH DATA (267 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]
19917.00	91.110	145.280	7973.82	11499.37	-10507.85	5009.39	1771447.59	413711.27	39°38'1.4929"N	80°11'58.8271"W	11640.83	154.512	0.10	0.09	-0.02
20011.00	90.490	145.510	7972.50	11593.36	-10585.21	5062.77	1771500.96	413633.92	39°38'0.7324"N	80°11'58.1371"W	11733.64	154.439	0.70	-0.66	0.24
20107.00	90.800	145.540	7971.42	11689.35	-10664.35	5117.11	1771555.30	413554.79	39°37'59.9545"N	80°11'57.4348"W	11828.49	154.367	0.32	0.32	0.03
20202.00	91.720	145.280	7969.33	11784.32	-10742.53	5171.03	1771609.21	413476.60	39°37'59.1860"N	80°11'56.7378"W	11922.31	154.296	1.01	0.97	-0.27
20298.00	91.510	145.630	7966.63	11880.29	-10821.58	5225.44	1771663.62	413397.57	39°37'58.4090"N	80°11'56.0345"W	12017.14	154.225	0.43	-0.22	0.36
20393.00	92.030	145.380	7963.69	11975.24	-10899.83	5279.22	1771717.40	413319.31	39°37'57.6398"N	80°11'55.3394"W	12111.01	154.157	0.61	0.55	-0.26
20488.00	93.080	143.640	7959.46	12070.12	-10977.10	5334.31	1771772.49	413242.05	39°37'56.8804"N	80°11'54.6276"W	12204.58	154.083	2.14	1.11	-1.83
20584.00	95.890	145.590	7951.95	12165.80	-11055.12	5389.73	1771827.90	413164.04	39°37'56.1136"N	80°11'53.9116"W	12298.98	154.009	3.56	2.93	2.03
20679.00	93.660	145.620	7944.04	12260.47	-11133.23	5443.20	1771881.37	413085.93	39°37'55.3458"N	80°11'53.2203"W	12392.63	153.945	2.35	-2.35	0.03
20774.00	91.970	144.980	7939.38	12355.35	-11211.24	5497.22	1771935.38	413007.93	39°37'54.5790"N	80°11'52.5222"W	12486.44	153.880	1.90	-1.78	-0.67
20869.00	90.920	145.080	7936.98	12450.31	-11289.06	5551.65	1771989.81	412930.11	39°37'53.8141"N	80°11'51.8188"W	12580.29	153.813	1.11	-1.11	0.11
20964.00	91.540	146.540	7934.94	12545.29	-11367.62	5605.02	1772043.18	412851.55	39°37'53.0418"N	80°11'51.1289"W	12674.35	153.754	1.67	0.65	1.54
21059.00	92.220	147.790	7931.83	12640.20	-11447.40	5656.50	1772094.66	412771.78	39°37'52.2573"N	80°11'50.4630"W	12768.67	153.705	1.50	0.72	1.32
21154.00	92.000	148.050	7928.33	12735.05	-11527.84	5706.92	1772145.07	412691.35	39°37'51.4663"N	80°11'49.8106"W	12863.13	153.662	0.36	-0.23	0.27
21249.00	89.290	146.360	7927.26	12829.99	-11607.68	5758.37	1772196.52	412611.51	39°37'50.6811"N	80°11'49.1452"W	12957.51	153.615	3.36	-2.85	-1.78
21344.00	90.650	146.020	7927.31	12924.99	-11686.61	5811.23	1772249.37	412532.58	39°37'49.9051"N	80°11'48.4618"W	13051.72	153.561	1.48	1.43	-0.36
21439.00	90.220	145.190	7926.59	13019.98	-11765.00	5864.89	1772303.03	412454.20	39°37'49.1346"N	80°11'47.7682"W	13145.80	153.504	0.98	-0.45	-0.87
21534.00	92.190	145.700	7924.59	13114.96	-11843.22	5918.76	1772356.90	412375.98	39°37'48.3657"N	80°11'47.0719"W	13239.85	153.446	2.14	2.07	0.54
21629.00	91.750	145.350	7921.32	13209.90	-11921.49	5972.50	1772410.64	412297.72	39°37'47.5963"N	80°11'46.3773"W	13333.89	153.390	0.59	-0.46	-0.37
21724.00	91.480	144.490	7918.65	13304.85	-11999.20	6027.08	1772465.21	412220.01	39°37'46.8325"N	80°11'45.6721"W	13427.82	153.330	0.95	-0.28	-0.91
21819.00	92.400	145.470	7915.43	13399.79	-12076.95	6081.56	1772519.69	412142.26	39°37'46.0682"N	80°11'44.9681"W	13521.77	153.272	1.41	0.97	1.03
21914.00	93.390	145.800	7910.63	13494.67	-12155.27	6135.12	1772573.24	412063.95	39°37'45.2984"N	80°11'44.2759"W	13615.81	153.219	1.10	1.04	0.35
22010.00	92.400	144.610	7905.78	13590.54	-12234.00	6189.83	1772627.95	411985.22	39°37'44.5245"N	80°11'43.5689"W	13710.75	153.163	1.61	-1.03	-1.24
22105.00	91.720	143.330	7902.37	13685.44	-12310.78	6245.67	1772683.79	411908.45	39°37'43.7700"N	80°11'42.8476"W	13804.48	153.100	1.52	-0.72	-1.35
22201.00	92.220	144.020	7899.07	13781.33	-12388.08	6302.50	1772740.62	411831.16	39°37'43.0104"N	80°11'42.1136"W	13899.14	153.035	0.89	0.52	0.72
22296.00	91.820	143.990	7895.72	13876.24	-12464.89	6358.30	1772796.41	411754.35	39°37'42.2556"N	80°11'41.3929"W	13992.91	152.974	0.42	-0.42	-0.03
22391.00	90.710	143.650	7893.62	13971.17	-12541.55	6414.37	1772852.48	411677.70	39°37'41.5022"N	80°11'40.6688"W	14086.68	152.913	1.22	-1.17	-0.36
22486.00	90.740	144.820	7892.42	14066.13	-12618.63	6469.89	1772907.99	411600.62	39°37'40.7448"N	80°11'39.9516"W	14180.59	152.855	1.23	0.03	1.23
22582.00	90.800	147.010	7891.13	14162.12	-12698.12	6523.68	1772961.78	411521.13	39°37'39.9632"N	80°11'39.2563"W	14275.88	152.808	2.28	0.06	2.28
22677.00	90.830	147.800	7889.78	14257.06	-12778.15	6574.85	1773012.95	411441.11	39°37'39.1762"N	80°11'38.5944"W	14370.45	152.772	0.83	0.03	0.83



Actual Wellpath Report

Bunner 8H AWP Proj: 25173'

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REFERENCE WELLPATH IDENTIFICATION				
Operator	NORTHEAST NATURAL ENERGY, LLC		Well	Bunner 8H
Field	Monongalia		API	47-061-01870-0000
Facility	Bunner Pad		Wellbore	Bunner 8H AWB
Slot	Slot 8H			

WELLPATH DATA (267 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]
22772.00	93.360	148.230	7886.31	14351.90	-12858.67	6625.13	1773063.23	411360.60	39°37'38.3844"N	80°11'37.9438"W	14465.05	152.741	2.70	2.66	0.45
22868.00	93.910	147.450	7880.22	14447.63	-12939.77	6676.13	1773114.22	411279.50	39°37'37.5867"N	80°11'37.2841"W	14560.51	152.709	0.99	0.57	-0.81
22963.00	92.220	146.160	7875.14	14542.47	-13019.15	6728.07	1773166.15	411200.12	39°37'36.8062"N	80°11'36.6126"W	14654.87	152.671	2.24	-1.78	-1.36
23058.00	91.260	144.270	7872.26	14637.42	-13097.14	6782.23	1773220.32	411122.14	39°37'36.0397"N	80°11'35.9126"W	14749.02	152.623	2.23	-1.01	-1.99
23153.00	92.460	144.500	7869.17	14732.34	-13174.32	6837.53	1773275.61	411044.96	39°37'35.2810"N	80°11'35.1983"W	14843.00	152.571	1.29	1.26	0.24
23248.00	91.110	143.550	7866.21	14827.26	-13251.16	6893.30	1773331.38	410968.12	39°37'34.5259"N	80°11'34.4779"W	14936.90	152.516	1.74	-1.42	-1.00
23344.00	90.990	143.540	7864.45	14923.18	-13328.37	6950.34	1773388.41	410890.93	39°37'33.7673"N	80°11'33.7415"W	15031.72	152.459	0.13	-0.13	-0.01
23439.00	91.260	143.220	7862.59	15018.10	-13404.60	7006.99	1773445.07	410814.70	39°37'33.0182"N	80°11'33.0099"W	15125.52	152.403	0.44	0.28	-0.34
23534.00	90.740	143.140	7860.93	15113.00	-13480.64	7063.92	1773501.99	410738.67	39°37'32.2711"N	80°11'32.2749"W	15219.28	152.345	0.55	-0.55	-0.08
23630.00	91.630	143.830	7858.95	15208.91	-13557.78	7121.03	1773559.09	410661.53	39°37'31.5131"N	80°11'31.5375"W	15314.12	152.290	1.17	0.93	0.72
23724.00	92.710	145.820	7855.39	15302.83	-13634.55	7175.14	1773613.20	410584.76	39°37'30.7585"N	80°11'30.8384"W	15407.26	152.245	2.41	1.15	2.12
23819.00	92.580	145.930	7851.00	15397.73	-13713.11	7228.38	1773666.43	410506.21	39°37'29.9862"N	80°11'30.1503"W	15501.57	152.206	0.18	-0.14	0.12
23915.00	91.880	145.670	7847.27	15493.65	-13792.45	7282.29	1773720.35	410426.87	39°37'29.2062"N	80°11'29.4534"W	15596.90	152.166	0.78	-0.73	-0.27
24010.00	90.990	145.230	7844.89	15588.62	-13870.67	7336.15	1773774.21	410348.66	39°37'28.4373"N	80°11'28.7574"W	15691.23	152.126	1.05	-0.94	-0.46
24104.00	91.320	145.480	7842.99	15682.60	-13947.98	7389.58	1773827.63	410271.35	39°37'27.6773"N	80°11'28.0671"W	15784.55	152.086	0.44	0.35	0.27
24199.00	91.290	145.620	7840.83	15777.58	-14026.30	7443.31	1773881.35	410193.03	39°37'26.9073"N	80°11'27.3728"W	15878.92	152.047	0.15	-0.03	0.15
24295.00	91.050	146.150	7838.87	15873.56	-14105.77	7497.14	1773935.18	410113.58	39°37'26.1261"N	80°11'26.6770"W	15974.35	152.010	0.61	-0.25	0.55
24390.00	91.050	146.670	7837.13	15968.53	-14184.89	7549.69	1773987.73	410034.46	39°37'25.3482"N	80°11'25.9977"W	16068.88	151.977	0.55	0.00	0.55
24485.00	90.400	146.260	7835.93	16063.51	-14264.07	7602.17	1774040.20	409955.28	39°37'24.5696"N	80°11'25.3193"W	16163.43	151.944	0.81	-0.68	-0.43
24581.00	90.650	146.490	7835.05	16159.50	-14344.00	7655.32	1774093.36	409875.35	39°37'23.7837"N	80°11'24.6321"W	16258.98	151.911	0.35	0.26	0.24
24676.00	91.510	146.610	7833.26	16254.47	-14423.25	7707.68	1774145.71	409796.11	39°37'23.0045"N	80°11'23.9553"W	16353.55	151.880	0.91	0.91	0.13
24771.00	91.570	146.950	7830.70	16349.41	-14502.70	7759.71	1774197.73	409716.67	39°37'22.2233"N	80°11'23.2826"W	16448.14	151.851	0.36	0.06	0.36
24867.00	92.190	147.360	7827.55	16445.32	-14583.31	7811.74	1774249.77	409636.06	39°37'21.4306"N	80°11'22.6097"W	16543.77	151.824	0.77	0.65	0.43
24962.00	92.520	147.720	7823.65	16540.18	-14663.40	7862.69	1774300.71	409555.98	39°37'20.6430"N	80°11'21.9508"W	16638.42	151.799	0.51	0.35	0.38
25057.00	92.400	147.300	7819.57	16635.04	-14743.45	7913.67	1774351.69	409475.93	39°37'19.8557"N	80°11'21.2915"W	16733.07	151.775	0.46	-0.13	-0.44
25150.00	93.020	147.450	7815.18	16727.89	-14821.69	7963.76	1774401.77	409397.69	39°37'19.0863"N	80°11'20.6438"W	16825.69	151.751	0.69	0.67	0.16
25173.00‡	93.020	147.450	7813.96	16750.85	-14841.05	7976.11	1774414.13	409378.33	39°37'18.8959"N	80°11'20.4840"W	16848.60	151.745	0.00	0.00	0.00



Actual Wellpath Report

Bunner 8H AWP Proj: 25173'

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REFERENCE WELLPATH IDENTIFICATION

Operator	NORTHEAST NATURAL ENERGY, LLC	Well	Bunner 8H
Field	Monongalia	API	47-061-01870-0000
Facility	Bunner Pad	Wellbore	Bunner 8H AWB
Slot	Slot 8H		

HOLE & CASING SECTIONS - Ref Wellbore: Bunner 8H AWB Ref Wellpath: Bunner 8H AWP Proj: 25173'

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	1242.00	1214.00	28.00	1241.94	0.00	0.00	2.49	7.47
13.375in Casing Surface	28.00	1242.00	1214.00	28.00	1241.94	0.00	0.00	2.49	7.47
12.25in Open Hole	1242.00	2495.00	1253.00	1241.94	2494.87	2.49	7.47	-5.41	11.27
9.625in Casing Intermediate	28.00	2495.00	2467.00	28.00	2494.87	0.00	0.00	-5.41	11.27
8.75in Open Hole	2495.00	8387.00	5892.00	2494.87	7922.84	-5.41	11.27	-1009.24	-1427.54
8.5in Open Hole	8387.00	25173.00	16786.00	7922.84	7813.96	-1009.24	-1427.54	-14841.05	7976.11
5.5in Casing Production	28.00	25173.00	25145.00	28.00	7813.96	0.00	0.00	-14841.05	7976.11

TARGETS

Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
Bunner 8H BHL Rev-7	8105.00	-14840.14	7978.82	1774416.83	409379.25	39°37'18.9051"N	80°11'20.4495"W	point
Bunner 8H LP Rev-8	8105.00	-1453.69	-1198.08	1765240.49	422764.88	39°39'30.4863"N	80°13'19.0961"W	point
Bunner South Hardline #1 (4.1.21)	8600.00	-819.01	2943.24	1769381.56	423399.52	39°39'37.0841"N	80°12'26.2100"W	polygon
2D Polygon: dimensions not calculated								
Bunner South Hardline #2 (4.1.21)	8600.00	1373.31	-2065.07	1764373.55	425591.71	39°39'58.3553"N	80°13'30.4730"W	polygon
2D Polygon: dimensions not calculated								



Actual Wellpath Report

Bunner 8H AWP Proj: 25173'

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REFERENCE WELLPATH IDENTIFICATION			
Operator	NORTHEAST NATURAL ENERGY, LLC	Well	Bunner 8H
Field	Monongalia	API	47-061-01870-0000
Facility	Bunner Pad	Wellbore	Bunner 8H AWB
Slot	Slot 8H		

WELLPATH COMPOSITION - Ref Wellbore: Bunner 8H AWB Ref Wellpath: Bunner 8H AWP Proj: 25173'					
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore	Survey Date
28.00	2465.00	BH Generic gyro - northseeking (Standard)	01_Javins Inertial Gyro <12-1/4">(100'-2465')	Bunner 8H AWB	6/14/2021
2465.00	8323.00	OWSG MWD rev2 - Standard	02_Tally MWD <8-3/4">(2465')(2559'-8323')	Bunner 8H AWB	6/14/2021
8323.00	25173.00	BH AutoTrak Curve/eXpress (2019) (HRGM, Short spacing)	03_BH AT Curve <8-1/2">(8323')(8428'-25150')	Bunner 8H AWB	6/14/2021



Actual Wellpath Report

Bunner 8H AWP Proj: 25173'

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REFERENCE WELLPATH IDENTIFICATION

Operator	NORTHEAST NATURAL ENERGY, LLC	Well	Bunner 8H
Field	Monongalia	API	47-061-01870-0000
Facility	Bunner Pad	Wellbore	Bunner 8H AWB
Slot	Slot 8H		

COMMENTS

Wellpath general comments

API: 47-061-01870-0000

BH Job #: 110853557

Rig: Patterson 277

Duration: 6/14/21 - 6/22/21

Javins Inertial Gyro <12-1/4">(100'-2465')

Tally MWD <8-3/4">(2465')(2559'-8323')

BH AT Curve <8-1/2">(8323")(8428'-25150')

Projected MD at TD: 25173'