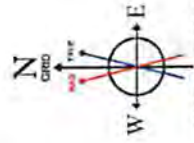
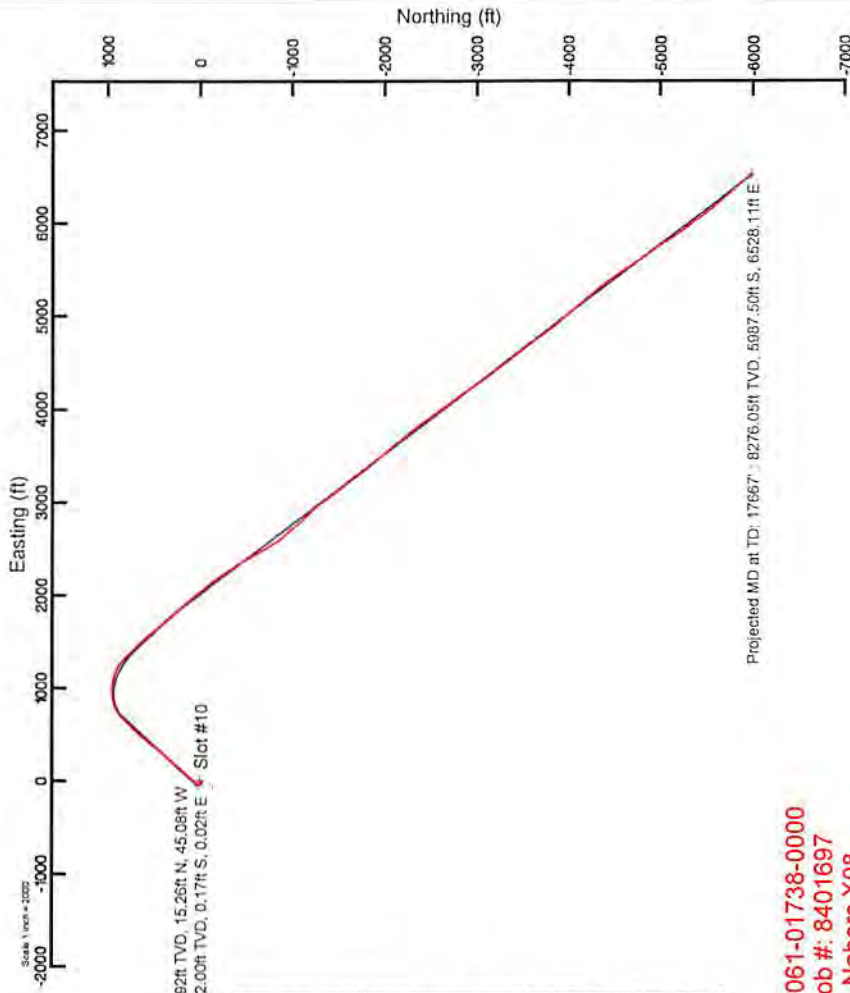




# NORTHEAST NATURAL ENERGY, LLC

Location: Monongalia County, WV  
 Field: Monongalia  
 Facility: Fisher Pad  
 Slot: Slot #10  
 Well: Fisher 10H  
 Wellbore: Fisher 10H PWB



BGM (1900.0 to 2018.0) Dr. 66.81° Field 62188.7 AT  
 Magnetic North is 9.05 degrees West of True North (at 12/27/2016)  
 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 6.59 degrees

Javins Gyro <8-3/4"> (100'-63550') 0.20° Inc, 132.00ft TVD, 0.15ft VS

BHI AT Curve <8-1/2"> (6382')(6431'-17643') 6429.92ft TVD, 15.26ft N, 45.08ft W

Javins Gyro <9-3/4"> (100'-63550') -132.00ft TVD, 0.17ft S, 0.02ft E Slot #10

Facility Name		Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
Fisher Pad		178721.350	406593.500	39°41'42.3537N	80°12'48.7765W
Slot #10	Local N/E	Local E (ft)	Local N (ft)	Latitude	Longitude
	-19.16	-5.85	1787715.700	39°41'47.1637N	80°12'48.649°W
Nabors X08 (RNB) to Mud line (At Slot, Slot #10)					
Mean Sea Level to Mud line (At Slot, Slot #10)					
Nabors X08 (RNB) to Mean Sea Level					
-1453ft					
1485ft					

### Location Information

Design Comment	MD (ft)	Inc. (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (ft/100ft)	VS (ft)
Tile On	6382.00	1.470	329.740	6380.93	14.12	-44.75	0.00	-38.21
KOP 1	6431.75	1.470	329.740	6430.67	15.22	-45.39	0.00	-38.47
End of 3D Arc	6989.28	45.030	42.475	6932.03	175.05	91.17	8.00	-84.93
KOP 2	8252.08	45.030	42.475	7824.43	833.94	694.40	0.00	-248.11
Landing Pt.	9180.55	90.000	136.000	8250.00	711.37	1396.57	10.00	272.35
Hold	9530.55	90.000	136.000	8250.00	304.95	1706.33	0.00	718.46
Turn	9847.22	90.000	143.000	8250.00	219.67	1846.25	3.00	935.66
BHL	17622.92	90.000	143.000	8250.00	-5000.28	6525.78	0.00	871.36

### Well Profile Data

Design Comment	MD (ft)	Inc. (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (ft/100ft)	VS (ft)
Tile On	6382.00	1.470	329.740	6380.93	14.12	-44.75	0.00	-38.21
KOP 1	6431.75	1.470	329.740	6430.67	15.22	-45.39	0.00	-38.47
End of 3D Arc	6989.28	45.030	42.475	6932.03	175.05	91.17	8.00	-84.93
KOP 2	8252.08	45.030	42.475	7824.43	833.94	694.40	0.00	-248.11
Landing Pt.	9180.55	90.000	136.000	8250.00	711.37	1396.57	10.00	272.35
Hold	9530.55	90.000	136.000	8250.00	304.95	1706.33	0.00	718.46
Turn	9847.22	90.000	143.000	8250.00	219.67	1846.25	3.00	935.66
BHL	17622.92	90.000	143.000	8250.00	-5000.28	6525.78	0.00	871.36

API: 47-061-01738-0000

BHI Job #: 8401697

Rig: Nabors X08

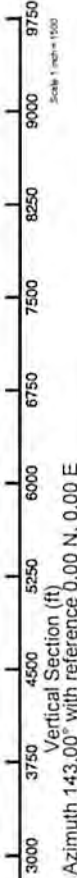
Duration: 2/19/2017-2/26/2017

BHI AT Curve <8-1/2"> (6382')(6431'-17643') 1.40° Inc, 6431.00ft MD, 6429.92ft TVD, -38.32ft VS

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8/20/2018

Projected MD at TD: 17667' - 8276.05ft TVD, 8710.54ft VS



Azimuth 143.00° with reference 0.00 N, 0.00 E



# Actual Wellpath Report

Fisher 10H AWP Proj: 17667'

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REFERENCE WELLPATH IDENTIFICATION			
Operator	NORTHEAST NATURAL ENERGY, LLC	Slot	Slot #10
Area	Monongalia County, WV	Well	Fisher 10H
Field	Monongalia	Wellbore	Fisher 10H AWB
Facility	Fisher Pad		

REPORT SETUP INFORMATION			
Projection System	NAD83 / Lambert West Virginia SP, Northern Zone (4701), US feet	Software System	WellArchitect® 5.0
North Reference	Grid	User	Edsaryar
Scale	0.999941	Report Generated	2/27/2017 at 11:34:55 AM
Convergence at slot	0.46° West	Database/Source file	WA_MPL_EASTERNUS_Defn/Fisher_10H_AWP_Proj_17667_.xml

WELLPATH LOCATION						
	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	-19.16	-5.85	1767715.70	436574.40	39°41'47.163"N	80°12'48.849"W
Facility Reference Pt			1767721.55	436593.56	39°41'47.353"N	80°12'48.776"W
Field Reference Pt			1777685.71	440640.65	39°42'28.114"N	80°10'41.690"W

WELLPATH DATUM			
Calculation method	Minimum curvature	Nabors X08 (RKB) to Facility Vertical Datum	1485.00ft
Horizontal Reference Pt	Slot	Nabors X08 (RKB) to Mean Sea Level	1485.00ft
Vertical Reference Pt	Nabors X08 (RKB)	Nabors X08 (RKB) to Mud Line at Slot (Slot #10)	32.00ft
MD Reference Pt	Nabors X08 (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	143.00°

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# Actual Wellpath Report

Fisher 10H AWP Proj: 17667'  
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REFERENCE WELLPATH IDENTIFICATION			
Operator	NORTHEAST NATURAL ENERGY, LLC	Slot	Slot #10
Area	Monongalia County, WV	Well	Fisher 10H
Field	Monongalia	Wellbore	Fisher 10H AWB
Facility	Fisher Pad		

WELLPATH DATA (187 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	172.140	0.00	0.00	0.00	0.00	1767715.70	436574.40	39°41'47.163"N	80°12'48.849"W	0.00	0.000	0.00	0.00	0.00
32.00	0.000	172.140	32.00	0.00	0.00	0.00	1767715.70	436574.40	39°41'47.163"N	80°12'48.849"W	0.00	0.000	0.00	0.00	0.00
132.00	0.200	172.140	132.00	0.15	-0.17	0.02	1767715.72	436574.23	39°41'47.162"N	80°12'48.849"W	0.17	172.140	0.20	0.20	172.14
232.00	0.220	180.040	232.00	0.46	-0.54	0.05	1767715.75	436573.86	39°41'47.158"N	80°12'48.849"W	0.54	174.942	0.04	0.02	7.90
332.00	0.060	156.840	332.00	0.66	-0.78	0.07	1767715.77	436573.62	39°41'47.156"N	80°12'48.848"W	0.78	175.000	0.17	-0.16	-23.20
432.00	0.070	122.840	432.00	0.77	-0.86	0.14	1767715.84	436573.54	39°41'47.155"N	80°12'48.847"W	0.87	170.746	0.04	0.01	-34.00
532.00	0.110	155.640	532.00	0.92	-0.98	0.23	1767715.93	436573.42	39°41'47.154"N	80°12'48.846"W	1.01	166.739	0.06	0.04	32.80
632.00	0.240	212.140	632.00	1.09	-1.24	0.16	1767715.86	436573.16	39°41'47.151"N	80°12'48.847"W	1.25	172.716	0.20	0.13	56.50
732.00	0.210	233.940	732.00	1.16	-1.53	-0.10	1767715.60	436572.87	39°41'47.148"N	80°12'48.850"W	1.53	183.759	0.09	-0.03	21.80
832.00	0.350	252.140	832.00	1.06	-1.73	-0.54	1767715.16	436572.67	39°41'47.146"N	80°12'48.856"W	1.81	197.304	0.16	0.14	18.20
932.00	0.430	260.340	931.99	0.79	-1.89	-1.20	1767714.50	436572.51	39°41'47.145"N	80°12'48.864"W	2.24	212.440	0.10	0.08	8.20
1032.00	0.300	237.240	1031.99	0.59	-2.09	-1.79	1767713.91	436572.31	39°41'47.143"N	80°12'48.872"W	2.75	220.545	0.19	-0.13	-23.10
1132.00	0.050	137.340	1131.99	0.62	-2.27	-1.98	1767713.72	436572.13	39°41'47.141"N	80°12'48.874"W	3.01	221.152	0.31	-0.25	-99.90
1232.00	0.050	123.240	1231.99	0.70	-2.32	-1.91	1767713.79	436572.08	39°41'47.140"N	80°12'48.874"W	3.01	219.503	0.01	0.00	-14.10
1332.00	0.090	71.540	1331.99	0.77	-2.32	-1.80	1767713.90	436572.08	39°41'47.140"N	80°12'48.872"W	2.94	217.846	0.07	0.04	-51.70
1432.00	0.120	143.140	1431.99	0.90	-2.38	-1.67	1767714.03	436572.02	39°41'47.140"N	80°12'48.870"W	2.91	214.993	0.13	0.03	71.60
1532.00	0.150	175.240	1531.99	1.11	-2.59	-1.59	1767714.11	436571.81	39°41'47.138"N	80°12'48.869"W	3.04	211.543	0.08	0.03	32.10
1632.00	0.130	260.240	1631.99	1.17	-2.74	-1.69	1767714.01	436571.66	39°41'47.136"N	80°12'48.871"W	3.22	211.680	0.19	-0.02	85.00
1732.00	0.170	274.340	1731.99	1.02	-2.75	-1.95	1767713.75	436571.65	39°41'47.136"N	80°12'48.874"W	3.37	215.364	0.05	0.04	14.10
1832.00	0.140	198.040	1831.99	0.99	-2.86	-2.14	1767713.56	436571.54	39°41'47.135"N	80°12'48.876"W	3.57	216.821	0.19	-0.03	-76.30
1932.00	1.140	150.640	1931.98	2.05	-3.84	-1.69	1767714.01	436570.56	39°41'47.125"N	80°12'48.871"W	4.20	203.742	1.05	1.00	-47.40
2032.00	1.060	146.440	2031.96	3.96	-5.48	-0.69	1767715.01	436568.92	39°41'47.109"N	80°12'48.858"W	5.52	187.180	0.11	-0.08	-4.20
2132.00	1.080	149.340	2131.95	5.82	-7.06	0.30	1767716.00	436567.34	39°41'47.094"N	80°12'48.845"W	7.07	177.552	0.06	0.02	2.90
2232.00	1.490	165.140	2231.92	7.96	-9.13	1.12	1767716.82	436565.27	39°41'47.073"N	80°12'48.834"W	9.19	173.030	0.54	0.41	15.80
2332.00	1.510	165.740	2331.89	10.38	-11.66	1.77	1767717.47	436562.74	39°41'47.048"N	80°12'48.825"W	11.79	171.350	0.03	0.02	0.60
2432.00	1.540	165.640	2431.85	12.84	-14.24	2.43	1767718.13	436560.16	39°41'47.023"N	80°12'48.817"W	14.45	170.309	0.03	0.03	-0.10
2532.00	1.420	169.040	2531.82	15.19	-16.76	3.00	1767718.70	436557.64	39°41'46.998"N	80°12'48.809"W	17.02	169.849	0.15	-0.12	3.40
2632.00	1.500	166.540	2631.79	17.50	-19.25	3.54	1767719.24	436555.15	39°41'46.973"N	80°12'48.802"W	19.57	169.576	0.10	0.08	-2.50
2732.00	1.400	163.340	2731.75	19.85	-21.69	4.20	1767719.90	436552.71	39°41'46.949"N	80°12'48.793"W	22.09	169.052	0.13	-0.10	-3.20
2832.00	0.540	166.440	2831.74	21.43	-23.32	4.66	1767720.36	436551.08	39°41'46.933"N	80°12'48.787"W	23.78	168.708	0.86	-0.86	3.10

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# Actual Wellpath Report

Fisher 10H AWP Proj: 17667'  
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## REFERENCE WELLPATH IDENTIFICATION

Operator	NORTHEAST NATURAL ENERGY, LLC	Slot	Slot #10
Area	Monongalia County, WV	Well	Fisher 10H
Field	Monongalia	Wellbore	Fisher 10H AWB
Facility	Fisher Pad		

## WELLPATH DATA (187 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]
2932.00	0.590	216.540	2931.73	22.00	-24.19	4.46	1767720.16	436550.21	39°41'46.925"N	80°12'48.790"W	24.60	169.553	0.48	0.05	50.10
3032.00	0.660	225.840	3031.73	22.22	-25.01	3.74	1767719.44	436549.40	39°41'46.917"N	80°12'48.799"W	25.28	171.492	0.12	0.07	9.30
3132.00	0.550	241.640	3131.72	22.22	-25.63	2.91	1767718.60	436548.77	39°41'46.910"N	80°12'48.810"W	25.80	173.535	0.20	-0.11	15.80
3232.00	0.590	254.340	3231.72	21.96	-26.00	1.99	1767717.69	436548.40	39°41'46.907"N	80°12'48.821"W	26.08	175.630	0.13	0.04	12.70
3332.00	0.520	258.340	3331.71	21.58	-26.23	1.05	1767716.75	436548.17	39°41'46.904"N	80°12'48.833"W	26.25	177.715	0.08	-0.07	4.00
3432.00	0.550	261.240	3431.71	21.16	-26.40	0.13	1767715.83	436548.00	39°41'46.903"N	80°12'48.845"W	26.40	179.722	0.04	0.03	2.90
3532.00	0.280	313.040	3531.71	20.69	-26.30	-0.52	1767715.18	436548.10	39°41'46.903"N	80°12'48.853"W	26.31	181.143	0.44	-0.27	51.80
3632.00	0.470	315.740	3631.70	20.04	-25.84	-0.99	1767714.71	436548.56	39°41'46.908"N	80°12'48.859"W	25.86	182.193	0.19	0.19	2.70
3732.00	0.810	304.940	3731.70	18.96	-25.14	-1.86	1767713.84	436549.26	39°41'46.915"N	80°12'48.870"W	25.21	184.220	0.36	0.34	-10.80
3832.00	0.610	291.540	3831.69	17.84	-24.54	-2.93	1767712.77	436549.86	39°41'46.921"N	80°12'48.884"W	24.72	186.808	0.26	-0.20	-13.40
3932.00	0.720	321.040	3931.68	16.76	-23.86	-3.82	1767711.88	436550.54	39°41'46.927"N	80°12'48.896"W	24.16	189.097	0.35	0.11	29.50
4032.00	0.550	324.040	4031.68	15.65	-22.98	-4.50	1767711.20	436551.42	39°41'46.936"N	80°12'48.904"W	23.42	191.072	0.17	-0.17	3.00
4132.00	0.500	274.840	4131.67	14.88	-22.56	-5.21	1767710.49	436551.84	39°41'46.940"N	80°12'48.914"W	23.15	193.014	0.44	-0.05	-49.20
4232.00	0.710	315.040	4231.67	13.97	-22.08	-6.09	1767709.61	436552.32	39°41'46.945"N	80°12'48.925"W	22.91	195.409	0.46	0.21	40.20
4332.00	0.850	290.040	4331.66	12.74	-21.39	-7.22	1767708.48	436553.01	39°41'46.951"N	80°12'48.939"W	22.58	198.654	0.36	0.14	-25.00
4432.00	0.520	318.040	4431.65	11.66	-20.80	-8.22	1767707.48	436553.60	39°41'46.957"N	80°12'48.952"W	22.36	201.568	0.46	-0.33	28.00
4532.00	0.850	310.340	4531.65	10.49	-19.98	-9.09	1767706.61	436554.42	39°41'46.965"N	80°12'48.964"W	21.95	204.463	0.34	0.33	-7.70
4632.00	0.940	291.740	4631.63	9.06	-19.20	-10.42	1767705.28	436555.20	39°41'46.973"N	80°12'48.981"W	21.84	208.487	0.30	0.09	-18.60
4732.00	1.150	300.040	4731.62	7.44	-18.39	-12.05	1767703.65	436556.01	39°41'46.981"N	80°12'49.002"W	21.99	213.230	0.26	0.21	8.30
4832.00	1.510	305.040	4831.59	5.26	-17.13	-14.00	1767701.71	436557.27	39°41'46.993"N	80°12'49.027"W	22.12	219.247	0.38	0.36	5.00
4932.00	1.410	300.540	4931.56	2.87	-15.75	-16.13	1767699.57	436558.65	39°41'47.006"N	80°12'49.054"W	22.55	225.690	0.15	-0.10	-4.50
5032.00	1.210	323.840	5031.53	0.68	-14.27	-17.82	1767697.88	436560.13	39°41'47.021"N	80°12'49.076"W	22.83	231.303	0.56	-0.20	23.30
5132.00	1.580	308.540	5131.50	-1.71	-12.56	-19.52	1767696.18	436561.84	39°41'47.038"N	80°12'49.098"W	23.21	237.237	0.52	0.37	-15.30
5232.00	1.840	308.340	5231.46	-4.60	-10.71	-21.86	1767693.85	436563.69	39°41'47.056"N	80°12'49.128"W	24.34	243.902	0.26	0.26	-0.20
5332.00	2.150	306.140	5331.40	-7.95	-8.60	-24.63	1767691.07	436565.80	39°41'47.076"N	80°12'49.163"W	26.09	250.744	0.32	0.31	-2.20
5432.00	2.360	320.140	5431.32	-11.80	-5.92	-27.46	1767688.24	436568.48	39°41'47.103"N	80°12'49.200"W	28.09	257.842	0.59	0.21	14.00
5532.00	2.260	322.340	5531.24	-15.83	-2.78	-29.99	1767685.71	436571.62	39°41'47.134"N	80°12'49.233"W	30.12	264.712	0.13	-0.10	2.20
5632.00	1.520	315.040	5631.18	-19.12	-0.28	-32.13	1767683.57	436574.12	39°41'47.158"N	80°12'49.260"W	32.13	269.507	0.78	-0.74	-7.30
5732.00	1.670	325.140	5731.15	-21.89	1.86	-33.90	1767681.80	436576.26	39°41'47.179"N	80°12'49.283"W	33.95	273.137	0.32	0.15	10.10
5832.00	1.950	311.940	5831.10	-25.01	4.19	-36.00	1767679.70	436578.59	39°41'47.202"N	80°12'49.310"W	36.24	276.640	0.50	0.28	-13.20



# Actual Wellpath Report

Fisher 10H AWP Proj: 17667'  
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## REFERENCE WELLPATH IDENTIFICATION

Operator	NORTHEAST NATURAL ENERGY, LLC	Slot	Slot #10
Area	Monongalia County, WV	Well	Fisher 10H
Field	Monongalia	Wellbore	Fisher 10H AWB
Facility	Fisher Pad		

## WELLPATH DATA (187 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]
5932.00	1.280	311.540	5931.06	-27.78	6.07	-38.10	1767677.60	436580.47	39°41'47.220"N	80°12'49.337"W	38.58	279.050	0.67	-0.67	-0.40
6032.00	1.550	318.240	6031.03	-30.22	7.82	-39.84	1767675.87	436582.22	39°41'47.238"N	80°12'49.360"W	40.60	281.103	0.32	0.27	6.70
6132.00	1.210	330.140	6131.00	-32.61	9.74	-41.26	1767674.44	436584.14	39°41'47.256"N	80°12'49.378"W	42.40	283.285	0.44	-0.34	11.90
6232.00	1.380	328.640	6230.97	-34.86	11.69	-42.42	1767673.29	436586.09	39°41'47.276"N	80°12'49.393"W	44.00	285.404	0.17	0.17	-1.50
6332.00	1.240	301.540	6330.95	-37.07	13.28	-43.96	1767671.74	436587.68	39°41'47.291"N	80°12'49.413"W	45.93	286.809	0.63	-0.14	-27.10
6382.00	1.470	329.740	6380.93	-38.21	14.12	-44.75	1767670.95	436588.52	39°41'47.299"N	80°12'49.423"W	46.92	287.510	1.39	0.46	56.40
6431.00	1.400	358.220	6429.92	-39.32	15.26	-45.08	1767670.62	436589.66	39°41'47.311"N	80°12'49.428"W	47.60	288.699	1.45	-0.14	58.12
6526.00	8.610	43.940	6524.51	-41.39	21.55	-40.18	1767675.52	436595.95	39°41'47.373"N	80°12'49.365"W	45.59	298.206	8.10	7.59	48.13
6620.00	11.470	41.520	6617.06	-44.36	33.62	-29.10	1767686.60	436608.01	39°41'47.493"N	80°12'49.225"W	44.46	319.120	3.07	3.04	-2.57
6715.00	19.460	44.730	6708.55	-48.52	51.96	-11.67	1767704.03	436626.36	39°41'47.676"N	80°12'49.004"W	53.25	347.340	8.46	8.41	3.38
6809.00	27.780	44.550	6794.60	-54.00	78.74	14.76	1767730.46	436653.14	39°41'47.943"N	80°12'48.668"W	80.11	10.618	8.85	8.85	-0.19
6904.00	37.400	41.650	6874.55	-62.95	116.17	49.55	1767765.25	436690.56	39°41'48.315"N	80°12'48.227"W	126.29	23.100	10.26	10.13	-3.05
6998.00	45.260	40.350	6945.08	-75.90	163.01	90.20	1767805.90	436737.40	39°41'48.781"N	80°12'47.712"W	186.31	28.957	8.41	8.36	-1.38
7092.00	45.360	40.740	7011.19	-90.32	213.80	133.64	1767849.33	436788.18	39°41'49.287"N	80°12'47.161"W	252.13	32.009	0.31	0.11	0.41
7186.00	45.830	41.590	7076.97	-104.09	264.35	177.85	1767893.53	436838.73	39°41'49.790"N	80°12'46.601"W	318.60	33.932	0.82	0.50	0.90
7281.00	45.820	41.670	7143.17	-117.52	315.28	223.11	1767938.80	436889.66	39°41'50.297"N	80°12'46.027"W	386.23	35.286	0.06	-0.01	0.08
7373.87	45.840	40.320	7207.88	-131.37	365.55	266.80	1767982.49	436939.93	39°41'50.797"N	80°12'45.473"W	452.56	36.125	1.04	0.02	-1.45
7469.00	45.840	39.530	7274.15	-146.81	417.89	310.60	1768026.28	436992.26	39°41'51.318"N	80°12'44.918"W	520.68	36.622	0.60	0.00	-0.83
7563.00	45.830	38.750	7339.65	-162.97	470.19	353.17	1768068.84	437044.56	39°41'51.838"N	80°12'44.379"W	588.05	36.911	0.60	-0.01	-0.83
7658.00	45.830	38.790	7405.84	-179.72	523.31	395.84	1768111.51	437097.68	39°41'52.366"N	80°12'43.839"W	656.16	37.104	0.03	0.00	0.04
7752.00	45.850	39.470	7471.33	-195.88	575.62	438.39	1768154.07	437149.99	39°41'52.886"N	80°12'43.299"W	723.55	37.293	0.52	0.02	0.72
7846.00	45.830	40.880	7536.82	-210.85	627.15	481.89	1768197.56	437201.51	39°41'53.399"N	80°12'42.748"W	790.91	37.538	1.08	-0.02	1.50
7940.00	45.830	42.160	7602.32	-224.27	677.63	526.59	1768242.25	437251.98	39°41'53.901"N	80°12'42.181"W	858.18	37.851	0.98	0.00	1.36
8035.00	45.830	42.970	7668.51	-236.61	727.81	572.68	1768288.34	437302.17	39°41'54.401"N	80°12'41.597"W	926.10	38.197	0.61	0.00	0.85
8130.00	45.830	44.210	7734.71	-247.75	777.16	619.66	1768335.32	437351.52	39°41'54.892"N	80°12'41.001"W	993.96	38.567	0.94	0.00	1.31
8225.00	45.840	45.790	7800.90	-257.23	825.35	667.84	1768383.50	437399.70	39°41'55.372"N	80°12'40.389"W	1061.70	38.979	1.19	0.01	1.66
8319.00	46.310	53.200	7866.16	-261.35	869.25	719.26	1768434.92	437443.60	39°41'55.810"N	80°12'39.736"W	1128.24	39.606	5.70	0.50	7.88
8414.00	47.930	63.320	7930.89	-254.90	905.71	778.36	1768494.01	437480.05	39°41'56.175"N	80°12'38.984"W	1194.21	40.675	7.98	1.71	10.65
8509.00	50.900	75.900	7992.83	-254.19	930.58	845.79	1768561.43	437504.93	39°41'56.426"N	80°12'38.124"W	1257.51	42.267	10.52	3.13	13.24
8603.00	53.850	85.560	8050.29	-199.51	942.43	919.12	1768634.77	437516.77	39°41'56.549"N	80°12'37.186"W	1316.42	44.283	8.72	3.14	10.28

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# Actual Wellpath Report

Fisher 10H AWP Proj: 17667'  
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REFERENCE WELLPATH IDENTIFICATION			
Operator	NORTHEAST NATURAL ENERGY, LLC	Slot	Slot #10
Area	Monongalia County, WV	Well	Fisher 10H
Field	Monongalia	Wellbore	Fisher 10H AWB
Facility	Fisher Pad		

WELLPATH DATA (187 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]
8698.00	58.350	92.080	8103.31	-153.32	943.93	997.87	1768713.51	437518.27	39°41'56.570"N	80°12'36.179"W	1373.59	46.591	7.41	4.74	6.86
8793.00	62.470	98.500	8150.24	-97.72	936.23	1080.04	1768795.67	437510.57	39°41'56.500"N	80°12'35.127"W	1429.34	49.080	7.30	4.34	6.76
8887.00	68.290	109.340	8189.48	-31.43	915.54	1162.74	1768878.37	437489.88	39°41'56.302"N	80°12'34.067"W	1479.92	51.783	12.17	6.19	11.53
8982.00	74.010	123.000	8220.29	48.62	875.85	1243.08	1768958.70	437450.20	39°41'55.916"N	80°12'33.035"W	1520.65	54.832	14.87	6.02	14.38
9077.00	78.730	133.390	8242.73	137.74	818.80	1315.46	1769031.08	437393.15	39°41'55.358"N	80°12'32.104"W	1549.47	58.100	11.73	4.97	10.94
9171.00	82.500	136.030	8258.06	229.49	753.57	1381.34	1769096.96	437327.92	39°41'54.719"N	80°12'31.254"W	1573.52	61.386	4.87	4.01	2.81
9266.00	86.370	137.160	8267.27	323.43	684.88	1446.30	1769161.91	437259.24	39°41'54.045"N	80°12'30.416"W	1600.26	64.660	4.24	4.07	1.19
9360.00	86.770	137.690	8272.90	416.82	615.79	1509.78	1769225.39	437190.15	39°41'53.367"N	80°12'29.597"W	1630.53	67.811	0.71	0.43	0.56
9455.00	84.950	140.660	8279.76	511.34	544.10	1571.71	1769287.32	437118.47	39°41'52.663"N	80°12'28.798"W	1663.23	70.905	3.66	-1.92	3.13
9549.00	87.690	141.270	8285.79	605.08	471.24	1630.79	1769346.39	437045.61	39°41'51.948"N	80°12'28.035"W	1697.51	73.882	2.99	2.91	0.65
9644.00	89.080	140.700	8288.47	699.98	397.46	1690.57	1769406.16	436971.84	39°41'51.223"N	80°12'27.262"W	1736.66	76.770	1.58	1.46	-0.60
9738.00	89.230	138.870	8289.85	793.82	325.69	1751.25	1769466.84	436900.07	39°41'50.519"N	80°12'26.479"W	1781.28	79.465	1.95	0.16	-1.95
9833.00	89.660	137.490	8290.77	888.48	254.90	1814.59	1769530.18	436829.28	39°41'49.824"N	80°12'25.661"W	1832.40	82.004	1.52	0.45	-1.45
9928.00	89.940	139.070	8291.10	983.15	183.99	1877.81	1769593.39	436758.38	39°41'49.128"N	80°12'24.845"W	1886.80	84.404	1.69	0.29	1.66
10022.00	89.750	138.680	8291.36	1076.91	113.18	1939.63	1769655.21	436687.58	39°41'48.433"N	80°12'24.047"W	1942.93	86.660	0.46	-0.20	-0.41
10117.00	89.750	140.140	8291.77	1171.72	41.05	2001.44	1769717.02	436615.44	39°41'47.725"N	80°12'23.249"W	2001.86	88.825	1.54	0.00	1.54
10211.00	90.030	141.560	8291.95	1265.65	-31.85	2060.79	1769776.36	436542.55	39°41'47.010"N	80°12'22.483"W	2061.03	90.885	1.54	0.30	1.51
10306.00	89.600	144.830	8292.26	1360.63	-107.90	2117.69	1769833.26	436466.50	39°41'46.262"N	80°12'21.747"W	2120.44	92.917	3.47	-0.45	3.44
10400.00	89.630	142.620	8292.89	1454.62	-183.68	2173.30	1769888.87	436390.73	39°41'45.518"N	80°12'21.028"W	2181.05	94.831	2.35	0.03	-2.35
10495.00	89.420	147.660	8293.68	1549.52	-261.60	2227.58	1769943.15	436312.81	39°41'44.752"N	80°12'20.326"W	2242.89	96.698	5.31	-0.22	5.31
10589.00	89.080	146.170	8294.91	1643.29	-340.35	2278.89	1769994.45	436234.07	39°41'43.978"N	80°12'19.662"W	2304.17	98.494	1.63	-0.36	-1.59
10684.00	88.830	147.700	8296.64	1738.04	-419.95	2330.71	1770046.27	436154.47	39°41'43.195"N	80°12'18.991"W	2368.24	100.214	1.63	-0.26	1.61
10779.00	89.540	148.880	8298.00	1832.63	-500.76	2380.64	1770096.19	436073.67	39°41'42.400"N	80°12'18.344"W	2432.74	101.879	1.45	0.75	1.24
10874.00	89.660	149.450	8298.66	1927.08	-582.33	2429.33	1770144.88	435992.11	39°41'41.598"N	80°12'17.713"W	2498.15	103.480	0.61	0.13	0.60
10968.00	89.820	151.160	8299.09	2020.31	-663.98	2475.90	1770191.45	435910.46	39°41'40.795"N	80°12'17.109"W	2563.38	105.012	1.83	0.17	1.82
11063.00	89.420	147.840	8299.72	2114.68	-745.82	2524.10	1770239.65	435828.62	39°41'39.990"N	80°12'16.484"W	2631.99	106.461	3.52	-0.42	-3.49
11158.00	89.110	146.830	8300.93	2209.40	-825.79	2575.37	1770290.92	435748.66	39°41'39.203"N	80°12'15.820"W	2704.53	107.778	1.11	-0.33	-1.06
11252.00	88.800	140.860	8302.65	2303.33	-901.64	2630.79	1770346.34	435672.82	39°41'38.458"N	80°12'15.104"W	2781.01	108.918	6.36	-0.33	-6.35
11347.00	89.350	138.270	8304.18	2398.14	-973.93	2692.40	1770407.93	435600.53	39°41'37.748"N	80°12'14.308"W	2863.14	109.887	2.79	0.58	-2.73
11441.00	90.120	139.720	8304.62	2491.91	-1044.87	2754.07	1770469.60	435529.60	39°41'37.052"N	80°12'13.512"W	2945.61	110.776	1.75	0.82	1.54

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# Actual Wellpath Report

Fisher 10H AWP Proj: 17667'  
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## REFERENCE WELLPATH IDENTIFICATION

Operator	NORTHEAST NATURAL ENERGY, LLC	Slot	Slot #10
Area	Monongalia County, WV	Well	Fisher 10H
Field	Monongalia	Wellbore	Fisher 10H AWB
Facility	Fisher Pad		

## WELLPATH DATA (187 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]
11535.00	90.460	138.500	8304.14	2585.69	-1115.92	2815.60	1770531.13	435458.54	39°41'36.355"N	80°12'12.718"W	3028.68	111.620	1.35	0.36	-1.30
11630.00	89.820	134.280	8303.91	2680.03	-1184.69	2881.11	1770596.64	435389.78	39°41'35.680"N	80°12'11.873"W	3115.17	112.352	4.49	-0.67	-4.44
11725.00	89.850	138.390	8304.18	2774.37	-1253.40	2946.69	1770662.21	435321.08	39°41'35.006"N	80°12'11.027"W	3202.19	113.043	4.33	0.03	4.33
11819.00	89.720	145.900	8304.54	2868.29	-1327.57	3004.33	1770719.85	435246.91	39°41'34.278"N	80°12'10.283"W	3284.58	113.840	7.99	-0.14	7.99
11914.00	89.690	143.520	8305.03	2963.24	-1405.10	3059.21	1770774.73	435169.38	39°41'33.516"N	80°12'09.573"W	3366.46	114.669	2.51	-0.03	-2.51
12008.00	89.910	143.480	8305.35	3057.24	-1480.66	3115.12	1770830.63	435093.83	39°41'32.773"N	80°12'08.850"W	3449.11	115.422	0.24	0.23	-0.04
12103.00	90.060	142.640	8305.38	3152.24	-1556.59	3172.22	1770887.72	435017.90	39°41'32.027"N	80°12'08.112"W	3533.54	116.137	0.90	0.16	-0.88
12197.00	90.310	143.720	8305.08	3246.24	-1631.84	3228.55	1770944.05	434942.66	39°41'31.288"N	80°12'07.384"W	3617.52	116.814	1.18	0.27	1.15
12292.00	89.970	142.840	8304.84	3341.23	-1707.99	3285.35	1771000.85	434866.51	39°41'30.540"N	80°12'06.650"W	3702.80	117.469	0.99	-0.36	-0.93
12386.00	89.720	142.420	8305.10	3435.23	-1782.69	3342.40	1771057.90	434791.81	39°41'29.806"N	80°12'05.913"W	3788.09	118.074	0.52	-0.27	-0.45
12481.00	89.570	140.680	8305.69	3530.19	-1857.09	3401.47	1771116.97	434717.42	39°41'29.075"N	80°12'05.150"W	3875.41	118.633	1.84	-0.16	-1.83
12575.00	89.630	140.530	8306.34	3624.11	-1929.73	3461.13	1771176.62	434644.79	39°41'28.362"N	80°12'04.379"W	3962.74	119.142	0.17	0.06	-0.16
12670.00	89.420	138.790	8307.13	3718.94	-2002.13	3522.62	1771238.11	434572.39	39°41'27.651"N	80°12'03.585"W	4051.84	119.612	1.84	-0.22	-1.83
12764.00	89.780	139.350	8307.79	3812.72	-2073.15	3584.20	1771299.69	434501.38	39°41'26.954"N	80°12'02.791"W	4140.59	120.046	0.71	0.38	0.60
12859.00	89.910	140.630	8308.04	3907.58	-2145.91	3645.28	1771360.76	434428.62	39°41'26.240"N	80°12'02.002"W	4230.01	120.485	1.35	0.14	1.35
12953.00	89.820	141.420	8308.27	4001.53	-2218.99	3704.40	1771419.88	434355.55	39°41'25.522"N	80°12'01.238"W	4318.16	120.922	0.85	-0.10	0.84
13048.00	89.910	140.210	8308.49	4096.46	-2292.62	3764.42	1771479.90	434281.92	39°41'24.799"N	80°12'00.463"W	4407.61	121.342	1.28	0.09	-1.27
13143.00	89.940	144.200	8308.61	4191.43	-2367.68	3822.63	1771538.10	434206.87	39°41'24.062"N	80°11'59.711"W	4496.49	121.773	4.20	0.03	4.20
13238.00	90.460	146.110	8308.28	4286.36	-2445.64	3876.91	1771592.37	434128.91	39°41'23.296"N	80°11'59.009"W	4583.84	122.245	2.08	0.55	2.01
13332.00	90.710	143.930	8307.32	4380.29	-2522.65	3930.79	1771646.25	434051.90	39°41'22.539"N	80°11'58.312"W	4670.64	122.691	2.33	0.27	-2.32
13426.00	90.550	143.970	8306.29	4474.27	-2598.64	3986.11	1771701.57	433975.91	39°41'21.792"N	80°11'57.597"W	4758.36	123.101	0.18	-0.17	0.04
13521.00	90.340	144.790	8305.55	4569.24	-2675.87	4041.43	1771756.89	433898.70	39°41'21.033"N	80°11'56.882"W	4847.00	123.509	0.89	-0.22	0.86
13615.00	90.340	144.140	8304.99	4663.20	-2752.36	4096.06	1771811.52	433822.21	39°41'20.281"N	80°11'56.175"W	4934.90	123.899	0.69	0.00	-0.69
13710.00	90.520	143.670	8304.28	4758.19	-2829.12	4152.03	1771867.48	433745.45	39°41'19.527"N	80°11'55.452"W	5024.27	124.270	0.53	0.19	-0.49
13805.00	90.830	145.760	8303.16	4853.13	-2906.66	4206.90	1771922.34	433667.92	39°41'18.765"N	80°11'54.742"W	5113.38	124.642	2.22	0.33	2.20
13898.00	90.740	146.860	8301.89	4945.97	-2984.03	4258.48	1771973.92	433590.55	39°41'18.004"N	80°11'54.075"W	5199.91	125.020	1.19	-0.10	1.18
13993.00	90.770	146.840	8300.63	5040.75	-3063.56	4310.42	1772025.86	433511.02	39°41'17.222"N	80°11'53.402"W	5288.21	125.403	0.04	0.03	-0.02
14088.00	89.630	143.010	8300.30	5135.67	-3144.29	4365.01	1772080.44	433433.30	39°41'16.458"N	80°11'52.697"W	5377.82	125.741	4.21	-1.20	-4.03
14182.00	89.170	142.820	8301.29	5229.67	-3246.28	4421.68	1772137.12	433358.32	39°41'15.722"N	80°11'51.964"W	5467.70	126.032	0.53	-0.49	-0.20
14277.00	88.830	143.360	8302.95	5324.65	-3292.22	4478.73	1772194.16	433282.38	39°41'14.975"N	80°11'51.227"W	5558.57	126.319	0.67	-0.36	0.57

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# Actual Wellpath Report

Fisher 10H AWP Proj: 17667'  
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REFERENCE WELLPATH IDENTIFICATION			
Operator	NORTHEAST NATURAL ENERGY, LLC	Slot	Slot #10
Area	Monongalia County, WV	Well	Fisher 10H
Field	Monongalia	Wellbore	Fisher 10H AWB
Facility	Fisher Pad		

WELLPATH DATA (187 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]
14372.00	90.150	143.060	8303.79	5419.65	-3368.30	4535.62	1772251.04	433206.31	39°41'14.228"N	80°11'50.492"W	5649.54	126.599	1.42	1.39	-0.32
14467.00	90.000	140.140	8303.67	5514.61	-3442.74	4594.62	1772310.04	433131.87	39°41'13.497"N	80°11'49.730"W	5741.34	126.844	3.08	-0.16	-3.07
14562.00	90.340	144.080	8303.38	5609.58	-3517.70	4652.95	1772368.37	433056.91	39°41'12.761"N	80°11'48.976"W	5833.02	127.090	4.16	0.36	4.15
14656.00	90.340	142.530	8302.83	5703.57	-3593.07	4709.12	1772424.54	432981.55	39°41'12.020"N	80°11'48.250"W	5923.34	127.344	1.65	0.00	-1.65
14750.00	90.370	144.840	8302.24	5797.56	-3668.80	4764.78	1772480.20	432905.82	39°41'11.276"N	80°11'47.531"W	6013.59	127.596	2.46	0.03	2.46
14844.00	90.310	144.720	8301.69	5891.51	-3745.59	4819.00	1772534.40	432829.03	39°41'10.521"N	80°11'46.830"W	6103.46	127.856	0.14	-0.06	-0.13
14939.00	90.060	141.910	8301.38	5986.50	-3821.77	4875.74	1772591.15	432752.86	39°41'09.773"N	80°11'46.096"W	6195.06	128.091	2.97	-0.26	-2.96
15033.00	90.180	139.370	8301.18	6080.41	-3894.44	4935.35	1772650.75	432680.19	39°41'09.059"N	80°11'45.326"W	6286.84	128.277	2.71	0.13	-2.70
15128.00	90.120	139.850	8300.93	6175.24	-3966.80	4996.91	1772712.31	432607.84	39°41'08.349"N	80°11'44.532"W	6380.02	128.444	0.51	-0.06	0.51
15223.00	90.800	140.230	8300.17	6270.11	-4039.61	5057.92	1772773.32	432535.03	39°41'07.634"N	80°11'43.744"W	6473.10	128.613	0.82	0.72	0.40
15317.00	90.800	139.970	8298.86	6363.98	-4111.72	5118.21	1772833.60	432462.93	39°41'06.926"N	80°11'42.966"W	6565.24	128.777	0.28	0.00	-0.28
15412.00	90.830	139.160	8297.51	6458.80	-4184.02	5179.82	1772895.21	432390.63	39°41'06.216"N	80°11'42.171"W	6658.57	128.930	0.85	0.03	-0.85
15506.00	90.860	141.090	8296.12	6552.67	-4256.15	5240.08	1772955.46	432318.51	39°41'05.508"N	80°11'41.393"W	6750.79	129.085	2.05	0.03	2.05
15601.00	90.250	141.130	8295.20	6647.61	-4330.09	5299.72	1773015.10	432244.57	39°41'04.782"N	80°11'40.623"W	6843.73	129.250	0.64	-0.64	0.04
15696.00	89.910	142.270	8295.07	6742.59	-4404.64	5358.60	1773073.97	432170.03	39°41'04.049"N	80°11'39.862"W	6936.53	129.419	1.25	-0.36	1.20
15791.00	89.880	144.810	8295.24	6837.57	-4481.04	5415.05	1773130.42	432093.63	39°41'03.299"N	80°11'39.133"W	7028.69	129.608	2.67	-0.03	2.67
15885.00	89.940	147.170	8295.39	6931.44	-4558.95	5467.62	1773182.99	432015.72	39°41'02.533"N	80°11'38.453"W	7118.91	129.822	2.51	0.06	2.51
15980.00	90.220	146.780	8295.26	7026.21	-4638.61	5519.39	1773234.76	431936.08	39°41'01.749"N	80°11'37.783"W	7209.74	130.044	0.51	0.29	-0.41
16075.00	90.800	146.410	8294.41	7121.02	-4717.91	5571.70	1773287.06	431856.78	39°41'00.970"N	80°11'37.106"W	7300.85	130.257	0.72	0.61	-0.39
16169.00	90.830	145.340	8293.07	7214.89	-4795.71	5624.42	1773339.78	431778.98	39°41'00.205"N	80°11'36.424"W	7391.41	130.453	1.14	0.03	-1.14
16264.00	91.230	144.200	8291.37	7309.83	-4873.30	5679.21	1773394.57	431701.40	39°40'59.442"N	80°11'35.715"W	7483.48	130.633	1.27	0.42	-1.20
16358.00	90.800	143.890	8289.70	7403.80	-4949.38	5734.40	1773449.75	431625.32	39°40'58.695"N	80°11'35.002"W	7574.94	130.798	0.56	-0.46	-0.33
16453.00	90.430	147.760	8288.68	7498.66	-5027.95	5787.75	1773503.10	431546.75	39°40'57.922"N	80°11'34.312"W	7666.70	130.982	4.09	-0.39	4.07
16548.00	90.120	148.210	8288.23	7593.30	-5108.51	5838.11	1773553.46	431466.20	39°40'57.130"N	80°11'33.660"W	7757.60	131.187	0.58	-0.33	0.47
16642.00	89.940	147.250	8288.18	7686.98	-5187.98	5888.30	1773603.64	431386.73	39°40'56.348"N	80°11'33.010"W	7847.75	131.382	1.04	-0.19	-1.02
16737.00	90.000	141.320	8288.23	7781.91	-5265.08	5943.73	1773659.07	431309.63	39°40'55.591"N	80°11'32.293"W	7940.34	131.535	6.24	0.06	-6.24
16832.00	90.430	142.770	8287.87	7876.89	-5339.99	6002.16	1773717.49	431234.73	39°40'54.855"N	80°11'31.539"W	8033.76	131.659	1.59	0.45	1.53
16926.00	90.580	146.110	8287.04	7970.85	-5416.44	6056.81	1773772.15	431158.28	39°40'54.103"N	80°11'30.832"W	8125.44	131.805	3.56	0.16	3.55
17021.00	90.740	142.010	8285.95	8065.80	-5493.34	6112.56	1773827.89	431081.39	39°40'53.348"N	80°11'30.112"W	8218.28	131.946	4.32	0.17	-4.32
17116.00	90.830	141.430	8284.64	8160.77	-5567.90	6171.40	1773886.73	431006.83	39°40'52.615"N	80°11'29.352"W	8311.91	132.057	0.62	0.09	-0.61

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# Actual Wellpath Report

Fisher 10H AWP Proj: 17667'

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## REFERENCE WELLPATH IDENTIFICATION

Operator	NORTHEAST NATURAL ENERGY, LLC	Slot	Slot #10
Area	Monongalia County, WV	Well	Fisher 10H
Field	Monongalia	Wellbore	Fisher 10H AWB
Facility	Fisher Pad		

## WELLPATH DATA (187 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]
17210.00	90.680	139.220	8283.41	8254.65	-5640.24	6231.41	1773946.73	430934.50	39°40'51.905"N	80°11'28.577"W	8404.93	132.149	2.36	-0.16	-2.35
17305.00	90.800	137.800	8282.18	8349.35	-5711.40	6294.34	1774009.66	430863.35	39°40'51.207"N	80°11'27.765"W	8499.34	132.220	1.50	0.13	-1.49
17400.00	90.890	137.130	8280.78	8443.90	-5781.39	6358.55	1774073.87	430793.36	39°40'50.520"N	80°11'26.937"W	8593.93	132.278	0.71	0.09	-0.71
17494.00	91.020	140.850	8279.21	8537.64	-5852.30	6420.22	1774135.53	430722.45	39°40'49.824"N	80°11'26.141"W	8687.27	132.351	3.96	0.14	3.96
17589.00	91.080	141.710	8277.47	8632.58	-5926.41	6479.63	1774194.94	430648.35	39°40'49.096"N	80°11'25.374"W	8781.11	132.447	0.91	0.06	0.91
17643.00	91.020	141.490	8276.48	8686.55	-5968.72	6513.17	1774228.47	430606.04	39°40'48.680"N	80°11'24.941"W	8834.42	132.502	0.42	-0.11	-0.41
17667.00	91.020	141.490	8276.05	8710.54	-5987.50	6528.11	1774243.41	430587.26	39°40'48.496"N	80°11'24.748"W	8858.12	132.527	0.00	0.00	0.00

## HOLE & CASING SECTIONS - Ref Wellbore: Fisher 10H AWB Ref Wellpath: Fisher 10H AWP Proj: 17667'

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]
24in Conductor	32.00	72.00	40.00	32.00	72.00	0.00	0.00	-0.03	0.00
17.5in Open Hole	72.00	1490.00	1418.00	72.00	1489.99	-0.03	0.00	-2.49	-1.61
13.375in Casing Surface	32.00	1460.00	1428.00	32.00	1459.99	0.00	0.00	-2.43	-1.64
12.25in Open Hole	1490.00	2712.00	1222.00	1489.99	2711.76	-2.49	-1.61	-21.22	4.06
9.625in Casing Intermediate	32.00	2682.00	2650.00	32.00	2681.77	0.00	0.00	-20.49	3.86
8.75in Open Hole	2712.00	6417.00	3705.00	2711.76	6415.92	-21.22	4.06	14.92	-45.05
8.5in Open Hole	6417.00	17667.00	11250.00	6415.92	8276.05	14.92	-45.05	-5987.50	6528.11
5.5in Casing Production	32.00	17667.00	17635.00	32.00	8276.05	0.00	0.00	-5987.50	6528.11

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# Actual Wellpath Report

Fisher 10H AWP Proj: 17667'

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REFERENCE WELLPATH IDENTIFICATION			
Operator	NORTHEAST NATURAL ENERGY, LLC	Slot	Slot #10
Area	Monongalia County, WV	Well	Fisher 10H
Field	Monongalia	Wellbore	Fisher 10H AWB
Facility	Fisher Pad		

TARGETS								
Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
Fisher 10H BHL Rev-3	8250.00	-5990.28	6525.78	1774241.08	430584.48	39°40'48.468"N	80°11'24.778"W	point
Fisher 10H LP Rev-3	8250.00	711.37	1396.57	1769112.18	437285.72	39°41'54.303"N	80°12'31.055"W	point
Fisher 10H LP Plat2	8292.50	749.42	1447.08	1769162.69	437323.78	39°41'54.683"N	80°12'30.413"W	point

WELLPATH COMPOSITION - Ref Wellbore: Fisher 10H AWB				Ref Wellpath: Fisher 10H AWP Proj: 17667'	
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore	
32.00	6382.00	BHI Generic gyro - northseeking (Standard)	01 Javins Gyro <8-3/4"> (100'-6350')	Fisher 10H AWB	
6382.00	17643.00	BHI AutoTrak Curve (Short)	02_BHI AT Curve <8-1/2"> (6382')(6431'-17643')	Fisher 10H AWB	
17643.00	17667.00	Blind Drilling (std)	Projection to bit	Fisher 10H AWB	

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Fisher 10H AWP Proj: 17667'  
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REFERENCE WELLPATH IDENTIFICATION			
Operator	NORTHEAST NATURAL ENERGY, LLC	Slot	Slot #10
Area	Monongalia County, WV	Well	Fisher 10H
Field	Monongalia	Wellbore	Fisher 10H AWB
Facility	Fisher Pad		

COMMENTS
<p>Wellpath general comments API: 47-061-01738-0000 BHI Job #: 8401697 Rig: Nabors X08 Duration: 2/19/2017-2/26/2017 Javins Gyro &lt;8-3/4"&gt; (100'-6350') BHI AT Curve &lt;8-1/2"&gt; (6382')(6431'-17643') Projected MD at TD: 17667'</p>