



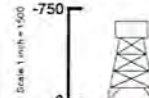
# NORTHEAST NATURAL ENERGY, LLC

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

Slot: Slot #09  
 Well: Fisher 9H ST01  
 Wellbore: Fisher 9H ST01 PWB



Plot reference wellpath is Fisher 9H ST01 PWB Rev-B.0	Grid System: NAD83 / Lambert West Virginia SP, Northern Zone (4701) - US feet
True vertical depths are referenced to Nabors X08 (RKB)	* Wellpath was transformed from a different geoidic datum
Measured depths are referenced to Nabors X08 (RKB)	North Reference: Grid north
Nabors X08 (RKB) to Mean Sea Level: 1485 feet	Scale: True distance
Mean Sea Level to Mud line (At Slot Slot #09): +1453 feet	Depths are in feet
Coordinates and/or tool referenced to BHA	Created by: vrbuysje on 2016-10-17
	Database: Wb_MPL_EASTERNUS_Data



VES Gyro <8-3/4"> (100°-8452°) 0.38° Inc, 116.00ft MD, 116.00ft TVD, -0.06ft VS

Location Information						
Facility Name		Grid East (US ft)	Grid North (US ft)	Latitude	Longitude	
Fisher Pad		1767721.550	436593.560	39°41'47.353"N	80°12'48.776"W	
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
Slot #09	-10.25	-34.41	1767687.140	436583.270	39°41'47.249"N	80°12'49.216"W
Nabors X08 (RKB) to Mud line (At Slot Slot #09)				32ft		
Mean Sea Level to Mud line (At Slot Slot #09)				-1453ft		
Nabors X08 (RKB) to Mean Sea Level				1485ft		

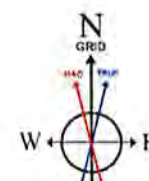
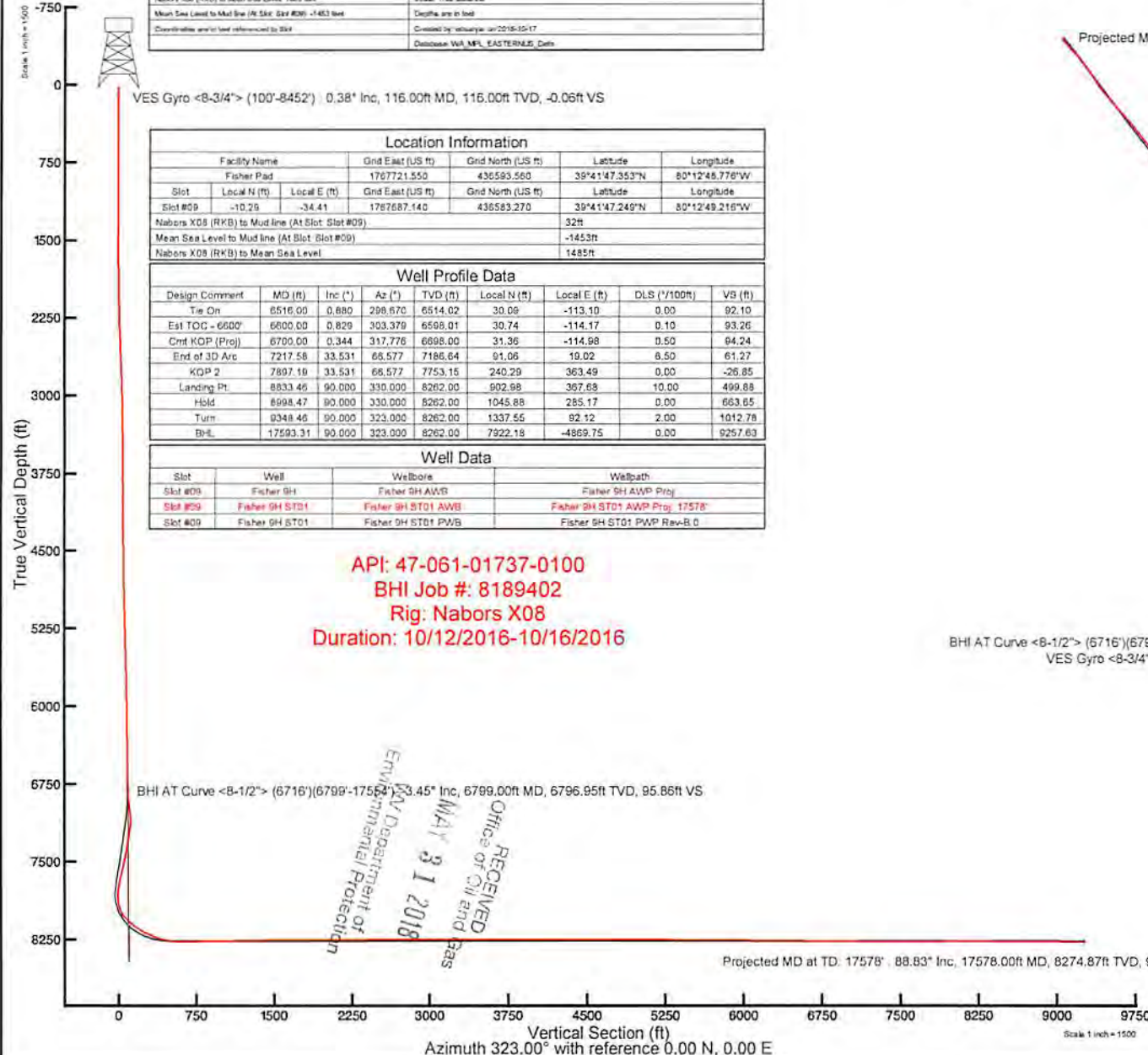
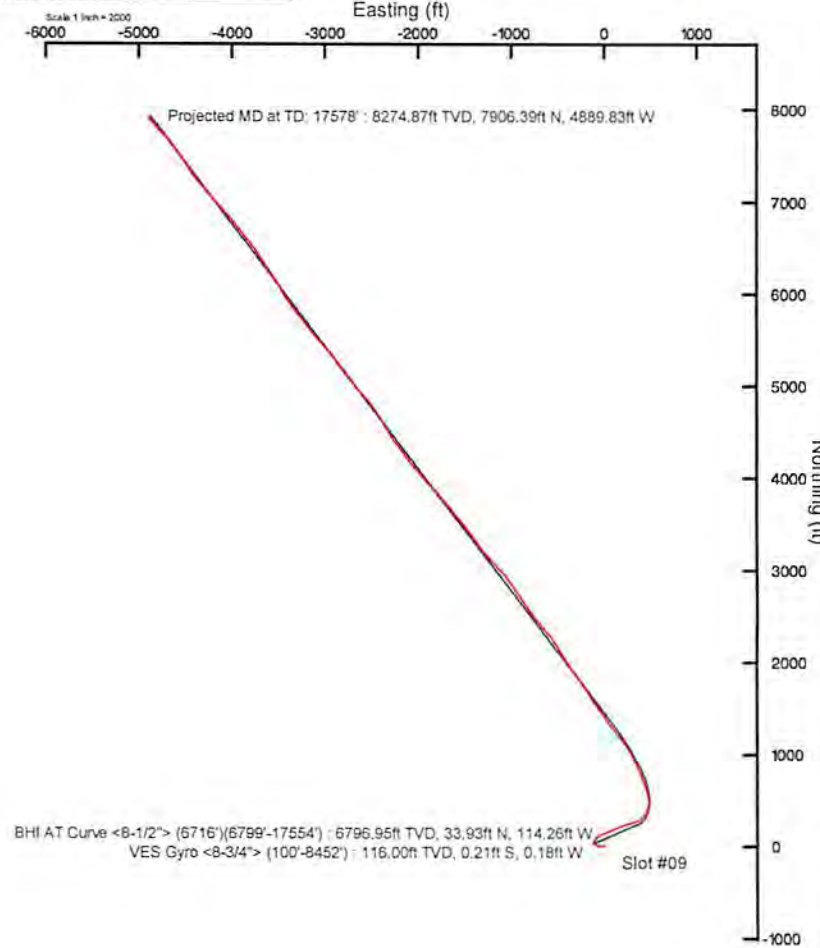
Well Profile Data								
Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (°/100ft)	VS (ft)
Tie On	6516.00	0.880	298.670	6514.02	30.06	-113.10	0.00	92.10
Est TOC - 6600'	6600.00	0.829	303.379	6598.01	30.74	-114.17	0.10	93.26
Crst KOP (Proj)	6700.00	0.344	317.776	6698.00	31.36	-114.98	0.50	94.24
End of 3D Arc	7217.58	33.531	65.577	7186.64	91.06	19.02	6.50	61.27
KOP 2	7897.19	33.531	66.577	7753.15	240.29	363.49	0.00	-26.85
Landing Pt.	8833.46	90.000	330.000	8262.00	902.98	367.68	10.00	499.88
Hold	8998.47	90.000	330.000	8262.00	1045.88	285.17	0.00	663.65
Turn	9348.46	90.000	323.000	8262.00	1337.55	92.12	2.00	1012.78
BH-E	17593.31	90.000	323.000	8262.00	7922.18	-4869.75	0.00	6257.63

Well Data			
Slot	Well	Wellbore	Wellpath
Slot #09	Fisher 9H	Fisher 9H AWP	Fisher 9H AWP Proj
Slot #09	Fisher 9H ST01	Fisher 9H ST01 AWP	Fisher 9H ST01 AWP Proj_17578'
Slot #09	Fisher 9H ST01	Fisher 9H ST01 PWB	Fisher 9H ST01 PWB Rev-B.0

API: 47-061-01737-0100  
 BHI Job #: 8189402  
 Rig: Nabors X08  
 Duration: 10/12/2016-10/16/2016

BHI AT Curve <8-1/2"> (6716°)(6799'-17554') : 6796.95ft TVD, 33.93ft N, 114.26ft W  
 VES Gyro <8-3/4"> (100°-8452°) : 116.00ft TVD, 0.21ft S, 0.18ft W

Projected MD at TD: 17578' : 88.83° Inc, 17578.00ft MD, 8274.87ft TVD, 9257.10ft VS



BGGM (1900.0 to 2016.0) Dip: 65.83° Field: 52213.5 nT  
 Magnetic North is 9.04 degrees West of True North (at 6/29/2016)  
 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 8.58 degrees

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# Actual Wellpath Report

Fisher 9H ST01 AWP Proj: 17578'

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## REFERENCE WELLPATH IDENTIFICATION

Operator	NORTHEAST NATURAL ENERGY, LLC	Slot	Slot #09
Area	Monongalia County, WV	Well	Fisher 9H ST01
Field	Monongalia	Wellbore	Fisher 9H ST01 AWB
Facility	Fisher Pad	Sidetrack from	Fisher 9H AWP Proj: at 6716.00 MD

## 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	0.999942	Report Generated	10/17/2016 at 12:01:28 PM
Convergence at slot	0.46° West	Database/Source file	WA_MPL_EASTERNUS_Defn/Fisher_9H_ST01_AWP_Proj_17578_.xml

## WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	-10.29	-34.41	1767687.14	436583.27	39°41'47.249"N	80°12'49.216"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 #09)	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	323.00°





# Actual Wellpath Report

Fisher 9H ST01 AWP Proj: 17578'  
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## REFERENCE WELLPATH IDENTIFICATION

Operator	NORTHEAST NATURAL ENERGY, LLC	Slot	Slot #09
Area	Monongalia County, WV	Well	Fisher 9H ST01
Field	Monongalia	Wellbore	Fisher 9H ST01 AWP
Facility	Fisher Pad	Sidetrack from	Fisher 9H AWP Proj: at 6716.00 MD

## WELLPATH DATA (185 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	220.310	0.00	0.00	0.00	0.00	1767687.14	436583.27	39°41'47.249"N	80°12'49.216"W	0.00	0.000	0.00	0.00	0.00
32.00	0.000	220.310	32.00	0.00	0.00	0.00	1767687.14	436583.27	39°41'47.249"N	80°12'49.216"W	0.00	0.000	0.00	0.00	0.00
116.00	0.380	220.310	116.00	-0.06	-0.21	-0.18	1767686.96	436583.06	39°41'47.247"N	80°12'49.218"W	0.28	220.310	0.45	0.45	-166.30
216.00	0.110	254.160	216.00	-0.10	-0.49	-0.49	1767686.65	436582.78	39°41'47.244"N	80°12'49.222"W	0.69	224.742	0.30	-0.27	33.85
316.00	0.230	297.370	316.00	0.12	-0.43	-0.76	1767686.38	436582.84	39°41'47.245"N	80°12'49.225"W	0.87	240.687	0.17	0.12	43.21
416.00	0.380	238.660	416.00	0.33	-0.51	-1.22	1767685.92	436582.76	39°41'47.244"N	80°12'49.231"W	1.32	247.475	0.33	0.15	-58.71
516.00	0.040	106.560	516.00	0.33	-0.69	-1.47	1767685.67	436582.58	39°41'47.242"N	80°12'49.234"W	1.62	244.902	0.41	-0.34	-132.10
616.00	0.340	193.810	616.00	0.12	-0.99	-1.51	1767685.63	436582.28	39°41'47.239"N	80°12'49.235"W	1.80	236.788	0.34	0.30	87.25
716.00	0.350	274.810	715.99	0.14	-1.25	-1.88	1767685.26	436582.02	39°41'47.236"N	80°12'49.240"W	2.26	236.430	0.45	0.01	81.00
816.00	0.160	224.560	815.99	0.32	-1.32	-2.28	1767684.86	436581.95	39°41'47.236"N	80°12'49.245"W	2.64	239.925	0.28	-0.19	-50.25
916.00	0.290	263.480	915.99	0.43	-1.45	-2.63	1767684.51	436581.82	39°41'47.234"N	80°12'49.249"W	3.01	241.148	0.19	0.13	38.92
1016.00	0.160	312.710	1015.99	0.69	-1.38	-2.99	1767684.15	436581.89	39°41'47.235"N	80°12'49.254"W	3.29	245.129	0.22	-0.13	49.23
1116.00	0.140	186.210	1115.99	0.74	-1.41	-3.10	1767684.04	436581.86	39°41'47.235"N	80°12'49.255"W	3.41	245.540	0.27	-0.02	-126.50
1216.00	0.440	307.930	1215.99	1.02	-1.30	-3.42	1767683.72	436581.97	39°41'47.236"N	80°12'49.259"W	3.66	249.227	0.53	0.30	121.72
1316.00	0.100	345.040	1315.99	1.47	-0.98	-3.74	1767683.40	436582.29	39°41'47.239"N	80°12'49.263"W	3.87	255.382	0.37	-0.34	37.11
1416.00	0.250	238.950	1415.99	1.58	-1.00	-3.95	1767683.19	436582.27	39°41'47.239"N	80°12'49.266"W	4.08	255.741	0.29	0.15	-106.09
1516.00	0.560	281.360	1515.99	1.96	-1.02	-4.62	1767682.52	436582.25	39°41'47.238"N	80°12'49.275"W	4.73	257.537	0.41	0.31	42.41
1616.00	0.730	298.580	1615.98	2.91	-0.62	-5.66	1767681.48	436582.65	39°41'47.242"N	80°12'49.288"W	5.69	263.746	0.26	0.17	17.22
1716.00	0.990	282.370	1715.97	4.15	-0.13	-7.06	1767680.08	436583.14	39°41'47.247"N	80°12'49.306"W	7.06	268.943	0.35	0.26	-16.21
1816.00	1.130	266.160	1815.95	5.34	-0.01	-8.89	1767678.25	436583.26	39°41'47.248"N	80°12'49.329"W	8.89	269.928	0.33	0.14	-16.21
1916.00	1.700	259.960	1915.92	6.55	-0.34	-11.33	1767675.81	436582.93	39°41'47.245"N	80°12'49.361"W	11.34	268.303	0.59	0.57	-6.20
2016.00	2.140	260.400	2015.87	8.08	-0.91	-14.64	1767672.51	436582.36	39°41'47.239"N	80°12'49.403"W	14.66	266.458	0.44	0.44	0.44
2116.00	2.220	260.420	2115.79	9.84	-1.54	-18.39	1767668.75	436581.73	39°41'47.232"N	80°12'49.451"W	18.45	265.214	0.08	0.08	0.02
2216.00	2.380	262.320	2215.71	11.74	-2.14	-22.35	1767664.79	436581.13	39°41'47.226"N	80°12'49.501"W	22.46	264.533	0.18	0.16	1.90
2316.00	2.740	268.080	2315.61	14.13	-2.50	-26.80	1767660.34	436580.77	39°41'47.222"N	80°12'49.558"W	26.92	264.677	0.44	0.36	5.76
2416.00	3.420	276.970	2415.47	17.58	-2.22	-32.15	1767654.99	436581.06	39°41'47.224"N	80°12'49.627"W	32.23	266.059	0.83	0.68	8.89
2516.00	3.730	279.980	2515.27	22.03	-1.29	-38.31	1767648.83	436581.98	39°41'47.233"N	80°12'49.706"W	38.34	268.073	0.36	0.31	3.01
2616.00	3.650	278.020	2615.07	26.66	-0.28	-44.67	1767642.47	436582.99	39°41'47.243"N	80°12'49.787"W	44.67	269.639	0.15	-0.08	-1.96
2716.00	3.660	280.060	2714.86	31.25	0.72	-50.96	1767636.18	436583.99	39°41'47.252"N	80°12'49.868"W	50.97	270.809	0.13	0.01	2.04
2816.00	2.590	279.400	2814.71	35.22	1.65	-56.34	1767630.81	436584.92	39°41'47.261"N	80°12'49.936"W	56.36	271.674	1.07	-1.07	-0.66





# Actual Wellpath Report

Fisher 9H ST01 AWP Proj: 17578'  
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## REFERENCE WELLPATH IDENTIFICATION

Operator	NORTHEAST NATURAL ENERGY, LLC	Slot	Slot #09
Area	Monongalia County, WV	Well	Fisher 9H ST01
Field	Monongalia	Wellbore	Fisher 9H ST01 AWP
Facility	Fisher Pad	Sidetrack from	Fisher 9H AWP Proj: at 6716.00 MD

## WELLPATH DATA (185 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]
2916.00	2.060	280.930	2914.63	38.19	2.36	-60.33	1767626.81	436585.63	39°41'47.267"N	80°12'49.988"W	60.38	272.237	0.53	-0.53	1.53
3016.00	1.480	280.270	3014.58	40.47	2.93	-63.37	1767623.78	436586.20	39°41'47.273"N	80°12'50.026"W	63.43	272.645	0.58	-0.58	-0.66
3116.00	1.270	279.630	3114.55	42.23	3.34	-65.73	1767621.42	436586.61	39°41'47.277"N	80°12'50.057"W	65.81	272.912	0.21	-0.21	-0.64
3216.00	0.970	272.140	3214.53	43.57	3.56	-67.67	1767619.48	436586.83	39°41'47.279"N	80°12'50.082"W	67.76	273.012	0.33	-0.30	-7.49
3316.00	0.820	268.790	3314.52	44.52	3.58	-69.23	1767617.92	436586.85	39°41'47.279"N	80°12'50.102"W	69.32	272.957	0.16	-0.15	-3.35
3416.00	0.490	283.670	3414.51	45.27	3.66	-70.36	1767616.78	436586.93	39°41'47.279"N	80°12'50.116"W	70.45	272.980	0.37	-0.33	14.88
3516.00	0.780	315.800	3514.51	46.27	4.25	-71.25	1767615.89	436587.52	39°41'47.285"N	80°12'50.127"W	71.38	273.415	0.45	0.29	32.13
3616.00	0.790	294.940	3614.50	47.56	5.03	-72.35	1767614.80	436588.30	39°41'47.293"N	80°12'50.142"W	72.52	273.977	0.28	0.01	-20.86
3716.00	0.390	309.560	3714.49	48.50	5.54	-73.24	1767613.91	436588.81	39°41'47.298"N	80°12'50.153"W	73.45	274.324	0.42	-0.40	14.62
3816.00	0.710	330.030	3814.49	49.44	6.29	-73.81	1767613.34	436589.56	39°41'47.305"N	80°12'50.160"W	74.08	274.872	0.37	0.32	20.47
3916.00	0.520	291.570	3914.48	50.45	6.99	-74.54	1767612.60	436590.26	39°41'47.312"N	80°12'50.170"W	74.87	275.361	0.44	-0.19	-38.46
4016.00	0.550	331.560	4014.48	51.31	7.58	-75.19	1767611.95	436590.85	39°41'47.318"N	80°12'50.178"W	75.57	275.759	0.37	0.03	39.99
4116.00	0.540	291.660	4114.48	52.18	8.18	-75.86	1767611.29	436591.45	39°41'47.324"N	80°12'50.187"W	76.30	276.154	0.37	-0.01	-39.90
4216.00	0.470	334.360	4214.47	52.99	8.72	-76.47	1767610.67	436591.99	39°41'47.329"N	80°12'50.195"W	76.97	276.508	0.37	-0.07	42.70
4316.00	0.560	289.880	4314.47	53.80	9.26	-77.11	1767610.04	436592.53	39°41'47.334"N	80°12'50.203"W	77.66	276.847	0.40	0.09	-44.48
4416.00	0.420	319.130	4414.47	54.58	9.70	-77.81	1767609.34	436592.97	39°41'47.339"N	80°12'50.212"W	78.41	277.108	0.28	-0.14	29.25
4516.00	0.740	281.410	4514.46	55.42	10.11	-78.68	1767608.46	436593.38	39°41'47.343"N	80°12'50.223"W	79.33	277.320	0.48	0.32	-37.72
4616.00	0.490	298.550	4614.45	56.30	10.44	-79.69	1767607.45	436593.71	39°41'47.346"N	80°12'50.236"W	80.37	277.463	0.31	-0.25	17.14
4716.00	1.220	291.660	4714.44	57.59	11.04	-81.06	1767606.09	436594.31	39°41'47.352"N	80°12'50.254"W	81.80	277.754	0.74	0.73	-6.89
4816.00	0.870	290.150	4814.43	59.14	11.69	-82.76	1767604.39	436594.96	39°41'47.358"N	80°12'50.275"W	83.58	278.041	0.35	-0.35	-1.51
4916.00	1.400	297.760	4914.41	60.88	12.52	-84.55	1767602.59	436595.79	39°41'47.366"N	80°12'50.298"W	85.47	278.424	0.55	0.53	7.61
5016.00	1.320	300.860	5014.38	63.06	13.68	-86.62	1767600.52	436596.95	39°41'47.377"N	80°12'50.325"W	87.69	278.976	0.11	-0.08	3.10
5116.00	1.730	293.000	5114.34	65.43	14.86	-89.00	1767598.15	436598.13	39°41'47.389"N	80°12'50.356"W	90.23	279.481	0.46	0.41	-7.86
5216.00	1.770	305.720	5214.30	68.21	16.35	-91.64	1767595.50	436599.62	39°41'47.403"N	80°12'50.390"W	93.09	280.118	0.39	0.04	12.72
5316.00	1.510	298.990	5314.26	70.89	17.89	-94.05	1767593.10	436601.16	39°41'47.418"N	80°12'50.421"W	95.74	280.772	0.32	-0.26	-6.73
5416.00	1.800	300.470	5414.21	73.54	19.33	-96.55	1767590.59	436602.60	39°41'47.432"N	80°12'50.453"W	98.47	281.320	0.29	0.29	1.48
5516.00	1.620	312.720	5514.17	76.39	21.08	-98.95	1767588.20	436604.35	39°41'47.449"N	80°12'50.484"W	101.17	282.029	0.41	-0.18	12.25
5616.00	1.240	311.240	5614.14	78.84	22.76	-100.80	1767586.35	436606.03	39°41'47.466"N	80°12'50.507"W	103.34	282.722	0.38	-0.38	-1.48
5716.00	1.040	299.040	5714.12	80.73	23.91	-102.41	1767584.74	436607.18	39°41'47.477"N	80°12'50.528"W	105.16	283.142	0.31	-0.20	-12.20
5816.00	1.100	297.510	5814.10	82.42	24.79	-104.05	1767583.10	436608.06	39°41'47.486"N	80°12'50.549"W	106.96	283.403	0.07	0.06	-1.53





# Actual Wellpath Report

Fisher 9H ST01 AWP Proj: 17578'  
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REFERENCE WELLPATH IDENTIFICATION			
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Facility	Fisher Pad	Sidetrack from	Fisher 9H AWP Proj: at 6716.00 MD

WELLPATH DATA (185 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]	
5916.00	1.150	295.180	5914.08	84.18	25.66	-105.81	1767581.34	436608.93	39°41'47.494"N	80°12'50.572"W	108.88	283.634	0.07	0.05	-2.33	
6016.00	1.050	304.650	6014.06	85.93	26.61	-107.47	1767579.67	436609.88	39°41'47.503"N	80°12'50.593"W	110.72	283.908	0.21	-0.10	9.47	
6116.00	0.790	314.420	6114.05	87.48	27.62	-108.72	1767578.43	436610.88	39°41'47.513"N	80°12'50.609"W	112.17	284.252	0.30	-0.26	9.77	
6216.00	0.680	307.030	6214.04	88.74	28.46	-109.68	1767577.46	436611.72	39°41'47.521"N	80°12'50.622"W	113.32	284.544	0.14	-0.11	-7.39	
6316.00	0.620	299.820	6314.04	89.80	29.08	-110.63	1767576.52	436612.35	39°41'47.528"N	80°12'50.634"W	114.39	284.729	0.10	-0.06	-7.21	
6416.00	0.790	285.680	6414.03	90.85	29.54	-111.76	1767575.39	436612.81	39°41'47.532"N	80°12'50.648"W	115.60	284.804	0.24	0.17	-14.14	
6516.00	0.880	298.670	6514.02	92.10	30.09	-113.10	1767574.05	436613.36	39°41'47.537"N	80°12'50.665"W	117.03	284.900	0.21	0.09	12.99	
6616.00	0.820	304.340	6614.01	93.47	30.86	-114.36	1767572.78	436614.13	39°41'47.545"N	80°12'50.682"W	118.45	285.103	0.10	-0.06	5.67	
6716.00	0.260	325.800	6714.00	94.38	31.46	-115.08	1767572.07	436614.72	39°41'47.551"N	80°12'50.691"W	119.30	285.287	0.59	-0.56	21.46	
6799.00	3.450	21.720	6796.95	95.86	33.93	-114.26	1767572.88	436617.20	39°41'47.575"N	80°12'50.681"W	119.19	286.540	3.99	3.84	67.37	
6894.00	10.550	20.860	6891.18	101.98	44.73	-110.10	1767577.04	436628.00	39°41'47.682"N	80°12'50.629"W	118.84	292.109	7.47	7.47	-0.91	
6988.00	16.940	27.030	6982.45	112.57	64.99	-100.80	1767586.34	436648.26	39°41'47.883"N	80°12'50.512"W	119.94	302.810	6.97	6.80	6.56	
7083.00	26.140	44.250	7070.80	121.84	92.39	-79.85	1767607.30	436675.66	39°41'48.156"N	80°12'50.246"W	122.12	319.166	11.66	9.68	18.13	
7177.00	33.850	64.970	7152.37	119.55	118.41	-41.52	1767645.63	436701.67	39°41'48.416"N	80°12'49.759"W	125.48	340.678	13.63	8.20	22.04	
7272.00	35.240	68.620	7230.63	106.68	139.60	7.99	1767695.13	436722.86	39°41'48.629"N	80°12'49.128"W	139.83	3.274	2.62	1.46	3.84	
7367.00	35.920	66.130	7307.89	92.97	160.87	58.99	1767746.13	436744.13	39°41'48.843"N	80°12'48.477"W	171.35	20.139	1.68	0.72	-2.62	
7462.00	35.890	66.100	7384.84	80.33	183.43	109.93	1767797.07	436766.69	39°41'49.070"N	80°12'47.828"W	213.85	30.936	0.04	-0.03	-0.03	
7557.00	35.680	67.990	7461.91	66.85	205.09	161.08	1767848.21	436788.35	39°41'49.288"N	80°12'47.176"W	260.79	38.146	1.18	-0.22	1.99	
7651.00	35.930	72.770	7538.16	50.43	223.54	212.85	1767899.97	436806.80	39°41'49.475"N	80°12'46.515"W	308.66	43.596	2.99	0.27	5.09	
7746.00	32.870	75.320	7616.54	31.21	238.33	264.42	1767951.55	436821.59	39°41'49.625"N	80°12'45.857"W	355.98	47.971	3.56	-3.22	2.68	
7841.00	33.750	71.710	7695.94	12.95	253.15	314.42	1768001.54	436836.40	39°41'49.775"N	80°12'45.219"W	403.67	51.162	2.28	0.93	-3.80	
7935.00	33.380	62.980	7774.31	0.08	273.10	362.28	1768049.40	436856.36	39°41'49.976"N	80°12'44.609"W	453.69	52.989	5.15	-0.39	-9.29	
8030.00	34.140	48.850	7853.42	-2.52	302.56	405.70	1768092.82	436885.82	39°41'50.271"N	80°12'44.056"W	506.10	53.285	8.29	0.80	-14.87	
8124.00	39.240	34.000	7928.92	9.10	344.68	442.29	1768129.40	436927.93	39°41'50.690"N	80°12'43.592"W	560.73	52.070	10.86	5.43	-15.80	
8219.00	46.430	17.420	7998.76	39.04	402.69	469.51	1768156.63	436985.94	39°41'51.265"N	80°12'43.250"W	618.55	49.381	14.03	7.57	-17.45	
8313.00	51.350	1.400	8060.78	87.83	472.17	480.65	1768167.77	437055.42	39°41'51.953"N	80°12'43.115"W	673.78	45.510	13.84	5.23	-17.04	
8408.00	57.400	348.800	8116.23	153.16	548.79	473.76	1768160.87	437132.03	39°41'52.709"N	80°12'43.210"W	725.00	40.804	12.50	6.37	-13.26	
8503.00	62.590	342.820	8163.76	228.96	628.44	453.51	1768140.62	437211.67	39°41'53.495"N	80°12'43.478"W	774.99	35.816	7.71	5.46	-6.29	
8597.00	66.760	339.110	8203.97	309.77	708.71	425.76	1768112.88	437291.93	39°41'54.286"N	80°12'43.841"W	826.76	30.996	5.69	4.44	-3.95	
8692.00	72.390	336.930	8237.11	395.72	791.21	392.43	1768079.55	437374.43	39°41'55.099"N	80°12'44.276"W	883.19	26.381	6.30	5.93	-2.29	





# Actual Wellpath Report

Fisher 9H ST01 AWP Proj: 17578'  
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WV Department of  
Environmental Protection



REFERENCE WELLPATH IDENTIFICATION			
Operator	NORTHEAST NATURAL ENERGY, LLC	Slot	Slot #09
Area	Monongalia County, WV	Well	Fisher 9H ST01
Field	Monongalia	Wellbore	Fisher 9H ST01 AWP
Facility	Fisher Pad	Sidetrack from	Fisher 9H AWP Proj: at 6716.00 MD

WELLPATH DATA (185 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]
8786.00	79.850	336.030	8259.64	484.40	874.82	356.03	1768043.15	437458.04	39°41'55.922"N	80°12'44.750"W	944.49	22.145	7.99	7.94	-0.96
8881.00	90.250	333.110	8267.83	576.99	960.16	315.43	1768002.55	437543.37	39°41'56.762"N	80°12'45.278"W	1010.65	18.186	11.37	10.95	-3.07
8975.00	90.310	329.030	8267.37	670.04	1042.41	269.97	1767957.09	437625.62	39°41'57.572"N	80°12'45.868"W	1076.80	14.520	4.34	0.06	-4.34
9070.00	90.340	323.410	8266.83	764.85	1121.34	217.17	1767904.30	437704.54	39°41'58.348"N	80°12'46.551"W	1142.18	10.961	5.92	0.03	-5.92
9165.00	90.830	321.370	8265.86	859.83	1196.59	159.20	1767846.33	437779.79	39°41'59.087"N	80°12'47.300"W	1207.13	7.578	2.21	0.52	-2.15
9260.00	90.830	321.350	8264.49	954.78	1270.79	99.89	1767787.02	437853.98	39°41'59.815"N	80°12'48.067"W	1274.71	4.494	0.02	0.00	-0.02
9355.00	90.950	325.740	8263.01	1049.74	1347.17	43.46	1767730.60	437930.36	39°42'00.566"N	80°12'48.797"W	1347.87	1.848	4.62	0.13	4.62
9449.00	91.020	325.540	8261.40	1143.63	1424.75	-9.59	1767677.55	438007.94	39°42'01.328"N	80°12'49.483"W	1424.79	359.614	0.23	0.07	-0.21
9544.00	91.140	324.170	8259.60	1238.56	1502.42	-64.26	1767622.88	438085.60	39°42'02.091"N	80°12'50.190"W	1503.79	357.551	1.45	0.13	-1.44
9638.00	91.140	327.520	8257.73	1332.41	1580.18	-117.02	1767570.13	438163.36	39°42'02.856"N	80°12'50.873"W	1584.51	355.765	3.56	0.00	3.56
9733.00	90.180	327.250	8256.64	1427.13	1660.19	-168.22	1767518.93	438243.36	39°42'03.643"N	80°12'51.536"W	1668.70	354.214	1.05	-1.01	-0.28
9829.00	90.000	327.660	8256.49	1522.84	1741.12	-219.86	1767467.29	438324.28	39°42'04.438"N	80°12'52.205"W	1754.95	352.803	0.47	-0.19	0.43
9922.00	89.970	322.000	8256.51	1615.75	1817.11	-273.41	1767413.75	438400.27	39°42'05.185"N	80°12'52.898"W	1837.56	351.443	6.09	-0.03	-6.09
10016.00	90.400	325.190	8256.21	1709.73	1892.76	-329.19	1767357.97	438475.91	39°42'05.928"N	80°12'53.620"W	1921.17	350.134	3.42	0.46	3.39
10111.00	90.460	327.410	8255.50	1804.57	1971.78	-381.90	1767305.27	438554.93	39°42'06.705"N	80°12'54.302"W	2008.43	349.039	2.34	0.06	2.34
10205.00	90.580	329.830	8254.64	1898.10	2052.03	-430.84	1767256.33	438635.17	39°42'07.494"N	80°12'54.936"W	2096.77	348.143	2.58	0.13	2.57
10299.00	90.120	329.940	8254.07	1991.43	2133.34	-478.00	1767209.17	438716.48	39°42'08.294"N	80°12'55.548"W	2186.23	347.371	0.50	-0.49	0.12
10394.00	90.220	326.570	8253.79	2086.01	2214.11	-527.98	1767159.20	438797.25	39°42'09.088"N	80°12'56.195"W	2276.19	346.588	3.55	0.11	-3.55
10488.00	90.310	321.420	8253.35	2179.96	2290.13	-583.21	1767103.96	438873.26	39°42'09.835"N	80°12'56.910"W	2363.22	345.712	5.48	0.10	-5.48
10583.00	90.400	319.350	8252.76	2274.86	2363.31	-643.78	1767043.39	438946.43	39°42'10.554"N	80°12'57.692"W	2449.42	344.762	2.18	0.09	-2.18
10678.00	90.490	319.470	8252.03	2369.67	2435.44	-705.59	1766981.59	439018.57	39°42'11.262"N	80°12'58.490"W	2535.60	343.843	0.16	0.09	0.13
10773.00	90.430	324.480	8251.26	2464.62	2510.25	-764.09	1766923.09	439093.37	39°42'11.996"N	80°12'59.247"W	2623.97	343.070	5.27	-0.06	5.27
10867.00	90.220	326.490	8250.73	2558.53	2587.70	-817.35	1766869.84	439170.82	39°42'12.758"N	80°12'59.936"W	2713.72	342.471	2.15	-0.22	2.14
10994.00	90.030	323.580	8250.45	2685.43	2691.77	-890.13	1766797.07	439274.88	39°42'13.780"N	80°13'00.878"W	2835.13	341.702	2.30	-0.15	-2.29
11057.00	89.910	326.560	8250.49	2748.38	2743.41	-926.19	1766761.00	439326.52	39°42'14.288"N	80°13'01.344"W	2895.54	341.345	4.73	-0.19	4.73
11152.00	90.340	326.940	8250.28	2843.18	2822.86	-978.28	1766708.92	439405.96	39°42'15.069"N	80°13'02.019"W	2987.57	340.886	0.60	0.45	0.40
11246.00	90.460	323.870	8249.62	2937.08	2900.23	-1031.64	1766655.56	439483.32	39°42'15.829"N	80°13'02.709"W	3078.25	340.419	3.27	0.13	-3.27
11341.00	90.550	320.370	8248.78	3032.05	2975.20	-1089.96	1766597.24	439558.29	39°42'16.565"N	80°13'03.463"W	3168.57	339.880	3.69	0.09	-3.68
11436.00	89.970	315.290	8248.35	3126.64	3045.58	-1153.72	1766533.49	439628.67	39°42'17.256"N	80°13'04.286"W	3256.78	339.252	5.38	-0.61	-5.35
11530.00	89.940	317.760	8248.43	3220.03	3113.79	-1218.39	1766468.83	439696.87	39°42'17.925"N	80°13'05.121"W	3343.67	338.630	2.63	-0.03	2.63





# Actual Wellpath Report

Fisher 9H ST01 AWP Proj: 17578'  
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MAY 31 2018  
West Virginia Department of Environmental Protection



REFERENCE WELLPATH IDENTIFICATION			
Operator	NORTHEAST NATURAL ENERGY, LLC	Slot	Slot #09
Area	Monongalia County, WV	Well	Fisher 9H ST01
Field	Monongalia	Wellbore	Fisher 9H ST01 AWB
Facility	Fisher Pad	Sidetrack from	Fisher 9H AWP Proj: at 6716.00 MD

WELLPATH DATA (185 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]
11625.00	90.220	321.470	8248.29	3314.85	3186.14	-1279.93	1766407.29	439769.22	39°42'18.635"N	80°13'05.915"W	3433.61	338.114	3.92	0.29	3.91
11719.00	89.850	324.750	8248.24	3408.83	3261.31	-1336.35	1766350.87	439844.38	39°42'19.374"N	80°13'06.645"W	3524.48	337.718	3.51	-0.39	3.49
11814.00	89.910	324.140	8248.44	3503.80	3338.60	-1391.59	1766295.63	439921.67	39°42'20.133"N	80°13'07.360"W	3617.01	337.373	0.65	0.06	-0.64
11909.00	89.940	322.570	8248.56	3598.80	3414.82	-1448.29	1766238.94	439997.88	39°42'20.882"N	80°13'08.093"W	3709.25	337.017	1.65	0.03	-1.65
12003.00	89.630	323.340	8248.91	3692.80	3489.84	-1504.92	1766182.31	440072.90	39°42'21.619"N	80°13'08.825"W	3800.50	336.673	0.88	-0.33	0.82
12098.00	89.410	320.710	8249.71	3787.77	3564.72	-1563.37	1766123.87	440147.78	39°42'22.354"N	80°13'09.580"W	3892.47	336.319	2.78	-0.23	-2.77
12193.00	89.540	322.500	8250.58	3882.73	3639.17	-1622.36	1766064.88	440222.22	39°42'23.085"N	80°13'10.343"W	3984.42	335.972	1.89	0.14	1.88
12287.00	89.880	320.890	8251.05	3976.70	3712.93	-1680.63	1766006.62	440295.98	39°42'23.809"N	80°13'11.096"W	4075.58	335.647	1.75	0.36	-1.71
12382.00	90.310	319.600	8250.90	4071.59	3785.96	-1741.38	1765945.87	440369.01	39°42'24.526"N	80°13'11.881"W	4167.24	335.300	1.43	0.45	-1.36
12477.00	90.150	317.640	8250.52	4166.31	3857.24	-1804.17	1765883.08	440440.28	39°42'25.226"N	80°13'12.692"W	4258.33	334.933	2.07	-0.17	-2.06
12571.00	90.150	316.750	8250.27	4259.83	3926.21	-1868.05	1765819.21	440509.24	39°42'25.902"N	80°13'13.516"W	4347.95	334.555	0.95	0.00	-0.95
12666.00	90.310	320.930	8249.89	4354.55	3997.71	-1930.56	1765756.70	440580.74	39°42'26.604"N	80°13'14.323"W	4439.46	334.223	4.40	0.17	4.40
12760.00	90.150	319.390	8249.51	4448.44	4069.89	-1990.78	1765696.48	440652.91	39°42'27.312"N	80°13'15.101"W	4530.69	333.935	1.65	-0.17	-1.64
12855.00	89.780	320.170	8249.57	4543.28	4142.43	-2052.12	1765635.14	440725.45	39°42'28.024"N	80°13'15.893"W	4622.87	333.647	0.91	-0.39	0.82
12950.00	90.890	325.240	8249.01	4638.25	4217.97	-2109.66	1765577.61	440800.99	39°42'28.767"N	80°13'16.637"W	4716.14	333.428	5.46	1.17	5.34
13044.00	90.520	323.570	8247.86	4732.21	4294.40	-2164.37	1765522.90	440877.41	39°42'29.517"N	80°13'17.345"W	4808.99	333.252	1.82	-0.39	-1.78
13139.00	89.380	320.820	8247.94	4827.19	4369.45	-2222.59	1765464.68	440952.46	39°42'30.255"N	80°13'18.098"W	4902.25	333.039	3.13	-1.20	-2.89
13233.00	89.570	327.720	8248.80	4921.11	4445.71	-2277.45	1765409.83	441028.71	39°42'31.004"N	80°13'18.807"W	4995.11	332.875	7.34	0.20	7.34
13328.00	89.540	329.810	8249.54	5015.62	4526.93	-2326.71	1765360.57	441109.93	39°42'31.803"N	80°13'19.446"W	5089.86	332.798	2.20	-0.03	2.20
13422.00	89.630	329.110	8250.22	5109.02	4607.89	-2374.47	1765312.81	441190.88	39°42'32.599"N	80°13'20.066"W	5183.70	332.738	0.75	0.10	-0.74
13517.00	89.570	329.910	8250.88	5203.40	4689.75	-2422.67	1765264.61	441272.74	39°42'33.404"N	80°13'20.691"W	5278.55	332.680	0.84	-0.06	0.84
13612.00	89.570	322.540	8251.60	5298.18	4768.66	-2475.45	1765211.84	441351.64	39°42'34.180"N	80°13'21.374"W	5372.89	332.566	7.76	0.00	-7.76
13706.00	89.880	318.350	8252.05	5392.07	4841.12	-2535.30	1765152.00	441424.10	39°42'34.891"N	80°13'22.147"W	5464.81	332.359	4.47	0.33	-4.46
13801.00	89.350	319.900	8252.69	5486.85	4912.95	-2597.46	1765089.84	441495.92	39°42'35.596"N	80°13'22.950"W	5557.32	332.135	1.72	-0.56	1.63
13896.00	89.480	323.460	8253.66	5581.80	4987.47	-2656.35	1765030.95	441570.43	39°42'36.328"N	80°13'23.711"W	5650.75	331.960	3.75	0.14	3.75
13991.00	89.690	323.720	8254.35	5676.79	5063.92	-2712.74	1764974.56	441646.88	39°42'37.079"N	80°13'24.441"W	5744.76	331.822	0.35	0.22	0.27
14085.00	89.570	324.280	8254.95	5770.78	5139.96	-2767.99	1764919.32	441722.92	39°42'37.826"N	80°13'25.155"W	5837.89	331.696	0.61	-0.13	0.60
14180.00	89.410	322.860	8255.80	5865.76	5216.39	-2824.40	1764862.91	441799.35	39°42'38.577"N	80°13'25.885"W	5931.95	331.567	1.50	-0.17	-1.49
14275.00	89.970	321.660	8256.31	5960.75	5291.52	-2882.55	1764804.77	441874.47	39°42'39.314"N	80°13'26.637"W	6025.71	331.421	1.39	0.59	-1.26
14370.00	89.540	319.530	8256.72	6055.66	5364.92	-2942.85	1764744.47	441947.86	39°42'40.035"N	80°13'27.416"W	6119.04	331.254	2.29	-0.45	-2.24





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REFERENCE WELLPATH IDENTIFICATION			
Operator	NORTHEAST NATURAL ENERGY, LLC	Slot	Slot #09
Area	Monongalia County, WV	Well	Fisher 9H ST01
Field	Monongalia	Wellbore	Fisher 9H ST01 AWP
Facility	Fisher Pad	Sidetrack from	Fisher 9H AWP Proj: at 6716.00 MD

WELLPATH DATA (185 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]	
14464.00	89.820	319.380	8257.24	6149.48	5436.35	-3003.95	1764683.37	442019.29	39°42'40.736"N	80°13'28.205"W	6211.09	331.076	0.34	0.30	-0.16	
14559.00	89.140	317.240	8258.11	6244.15	5507.28	-3067.13	1764620.20	442090.22	39°42'41.432"N	80°13'29.021"W	6303.76	330.886	2.36	-0.72	-2.25	
14654.00	90.340	320.760	8258.54	6338.90	5578.96	-3129.44	1764557.89	442161.90	39°42'42.135"N	80°13'29.826"W	6396.74	330.710	3.91	1.26	3.71	
14748.00	89.140	323.960	8258.96	6432.88	5653.39	-3186.84	1764500.49	442236.31	39°42'42.866"N	80°13'30.568"W	6489.74	330.590	3.64	-1.28	3.40	
14843.00	88.860	321.750	8260.62	6527.86	5729.10	-3244.19	1764443.14	442312.02	39°42'43.610"N	80°13'31.310"W	6583.87	330.479	2.34	-0.29	-2.33	
14937.00	88.890	322.150	8262.47	6621.83	5803.10	-3302.12	1764385.22	442386.02	39°42'44.337"N	80°13'32.058"W	6676.83	330.359	0.43	0.03	0.43	
15032.00	89.510	323.860	8263.79	6716.82	5878.97	-3359.28	1764328.07	442461.88	39°42'45.082"N	80°13'32.798"W	6771.04	330.256	1.91	0.65	1.80	
15126.00	89.510	327.460	8264.60	6810.70	5956.57	-3412.29	1764275.06	442539.48	39°42'45.844"N	80°13'33.484"W	6864.72	330.193	3.83	0.00	3.83	
15221.00	89.480	329.470	8265.44	6905.26	6037.53	-3461.97	1764225.38	442620.44	39°42'46.641"N	80°13'34.128"W	6959.67	330.170	2.12	-0.03	2.12	
15315.00	89.780	329.740	8266.04	6998.63	6118.61	-3509.53	1764177.82	442701.51	39°42'47.438"N	80°13'34.745"W	7053.67	330.162	0.43	0.32	0.29	
15410.00	89.450	325.240	8266.68	7093.31	6198.70	-3560.57	1764126.78	442781.60	39°42'48.225"N	80°13'35.406"W	7148.54	330.127	4.75	-0.35	-4.74	
15504.00	89.720	325.040	8267.36	7187.24	6275.83	-3614.30	1764073.06	442858.72	39°42'48.983"N	80°13'36.102"W	7242.18	330.062	0.36	0.29	-0.21	
15599.00	89.690	327.280	8267.85	7282.09	6354.73	-3667.20	1764020.16	442937.62	39°42'49.759"N	80°13'36.787"W	7336.96	330.012	2.36	-0.03	2.36	
15693.00	90.090	327.520	8268.03	7375.81	6433.92	-3717.84	1763969.52	443016.80	39°42'50.537"N	80°13'37.443"W	7430.86	329.979	0.50	0.43	0.26	
15788.00	89.940	323.720	8268.01	7470.70	6512.31	-3771.48	1763915.89	443095.19	39°42'51.308"N	80°13'38.138"W	7525.57	329.924	4.00	-0.16	-4.00	
15883.00	90.150	321.230	8267.93	7565.69	6587.65	-3829.34	1763858.03	443170.52	39°42'52.048"N	80°13'38.886"W	7619.78	329.831	2.63	0.22	-2.62	
15977.00	90.120	322.180	8267.71	7659.66	6661.42	-3887.59	1763799.78	443244.29	39°42'52.772"N	80°13'39.639"W	7712.84	329.732	1.01	-0.03	1.01	
16072.00	90.090	323.550	8267.54	7754.66	6737.16	-3944.94	1763742.44	443320.02	39°42'53.516"N	80°13'40.381"W	7807.17	329.649	1.44	-0.03	1.44	
16166.00	90.250	319.480	8267.26	7848.61	6810.72	-4003.43	1763683.96	443393.58	39°42'54.238"N	80°13'41.137"W	7900.21	329.552	4.33	0.17	-4.33	
16261.00	90.520	317.400	8266.62	7943.30	6881.80	-4066.44	1763620.94	443464.65	39°42'54.936"N	80°13'41.950"W	7993.44	329.421	2.21	0.28	-2.19	
16356.00	91.230	318.570	8265.17	8037.92	6952.37	-4130.02	1763557.37	443535.22	39°42'55.628"N	80°13'42.771"W	8086.57	329.288	1.44	0.75	1.23	
16450.00	90.120	319.600	8264.06	8131.69	7023.40	-4191.58	1763495.81	443606.25	39°42'56.325"N	80°13'43.566"W	8179.09	329.171	1.61	-1.18	1.10	
16545.00	89.480	319.430	8264.39	8226.52	7095.65	-4253.26	1763434.14	443678.49	39°42'57.034"N	80°13'44.363"W	8272.76	329.061	0.70	-0.67	-0.18	
16639.00	88.920	318.980	8265.70	8320.30	7166.81	-4314.67	1763372.73	443749.65	39°42'57.732"N	80°13'45.156"W	8365.38	328.951	0.76	-0.60	-0.48	
16734.00	89.140	320.050	8267.31	8415.11	7239.05	-4376.34	1763311.07	443821.88	39°42'58.441"N	80°13'45.953"W	8459.09	328.845	1.15	0.23	1.13	
16828.00	90.580	329.160	8267.54	8508.97	7315.60	-4430.72	1763256.69	443898.42	39°42'59.193"N	80°13'46.657"W	8552.73	328.799	9.81	1.53	9.69	
16923.00	88.710	327.080	8268.13	8603.58	7396.26	-4480.89	1763206.52	443979.08	39°42'59.987"N	80°13'47.307"W	8647.72	328.791	2.94	-1.97	-2.19	
17018.00	89.010	325.450	8270.02	8698.40	7475.24	-4533.64	1763153.78	444058.06	39°43'00.763"N	80°13'47.990"W	8742.60	328.764	1.74	0.32	-1.72	
17112.00	90.000	324.410	8270.83	8792.34	7552.17	-4587.64	1763099.78	444134.98	39°43'01.519"N	80°13'48.689"W	8836.39	328.723	1.53	1.05	-1.11	
17206.00	89.940	322.170	8270.88	8886.34	7627.52	-4643.83	1763043.59	444210.33	39°43'02.259"N	80°13'49.416"W	8929.96	328.666	2.38	-0.06	-2.38	





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## REFERENCE WELLPATH IDENTIFICATION

Operator	NORTHEAST NATURAL ENERGY, LLC	Slot	Slot #09
Area	Monongalia County, WV	Well	Fisher 9H ST01
Field	Monongalia	Wellbore	Fisher 9H ST01 AWB
Facility	Fisher Pad	Sidetrack from	Fisher 9H AWP Proj: at 6716.00 MD

## WELLPATH DATA (185 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]
17301.00	89.660	315.300	8271.22	8981.02	7698.89	-4706.45	1762980.98	444281.69	39°43'02.959"N	80°13'50.225"W	9023.50	328.562	7.24	-0.29	-7.23
17396.00	89.320	319.680	8272.06	9075.55	7768.90	-4770.62	1762916.81	444351.70	39°43'03.646"N	80°13'51.053"W	9116.72	328.447	4.62	-0.36	4.61
17490.00	89.200	318.930	8273.28	9169.35	7840.16	-4831.91	1762855.52	444422.96	39°43'04.345"N	80°13'51.845"W	9209.53	328.354	0.81	-0.13	-0.80
17554.00	88.830	318.770	8274.38	9233.17	7888.35	-4874.02	1762813.42	444471.14	39°43'04.818"N	80°13'52.389"W	9272.65	328.289	0.63	-0.58	-0.25
17578.00	88.830	318.770	8274.87	9257.10	7906.39	-4889.83	1762797.61	444489.18	39°43'04.995"N	80°13'52.593"W	9296.32	328.265	0.00	0.00	0.00

## TARGETS

Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
Fisher 9H LP Plat 2	8246.00	927.92	400.76	1768087.88	437511.13	39°41'56.450"N	80°12'44.183"W	point
Fisher 9H BHL Rev-3	8262.00	7922.18	-4869.75	1762817.68	444504.97	39°43'05.153"N	80°13'52.338"W	point
Fisher 9H LP Rev-3	8262.00	902.98	367.68	1768054.80	437486.19	39°41'56.201"N	80°12'44.604"W	point

## WELLPATH COMPOSITION - Ref Wellbore: Fisher 9H ST01 AWB Ref Wellpath: Fisher 9H ST01 AWP Proj: 17578'

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore
32.00	6716.00	VESSI GyroFlex v4	01_VES Gyro <8-3/4"> (100'-8452')	Fisher 9H AWB
6716.00	17554.00	BHI AutoTrak Curve (Short)	02_BHI AT Curve <8-1/2"> (6716')(6799'-17554')	Fisher 9H ST01 AWB
17554.00	17578.00	Blind Drilling (std)	Projection to bit	Fisher 9H ST01 AWB





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REFERENCE WELLPATH IDENTIFICATION			
Operator	NORTHEAST NATURAL ENERGY, LLC	Slot	Slot #09
Area	Monongalia County, WV	Well	Fisher 9H ST01
Field	Monongalia	Wellbore	Fisher 9H ST01 AWB
Facility	Fisher Pad	Sidetrack from	Fisher 9H AWP Proj: at 6716.00 MD

COMMENTS
Wellpath general comments API: 47-061-01737-0100 BHI Job #: 8189402 Rig: Nabors X08 Duration: 10/12/2016-10/16/2016 VES Gyro <8-3/4"> (100'-8452') BHI AT Curve <8-1/2"> (6716')(6799'-17554') Projected MD at TD: 17578'