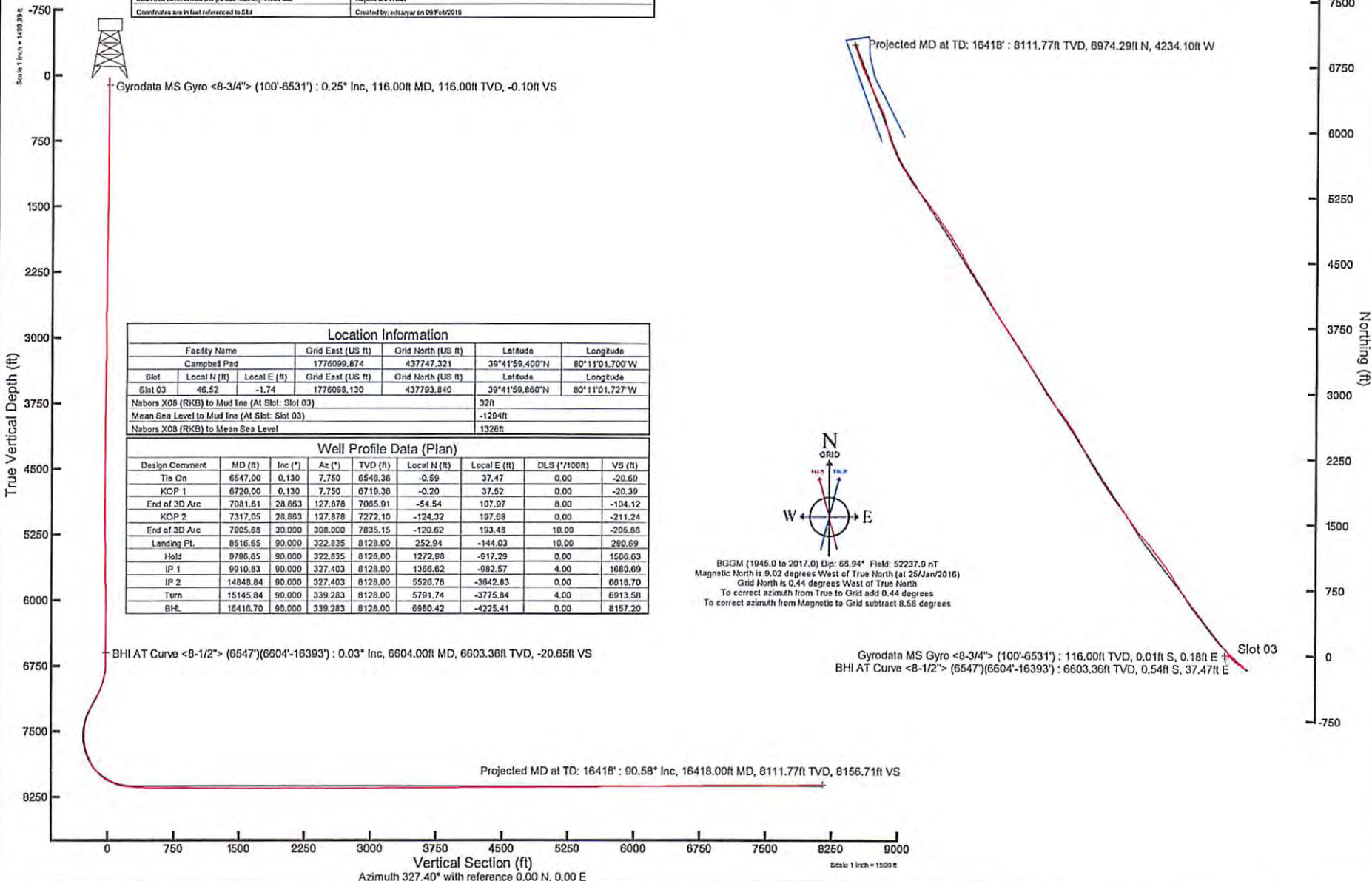
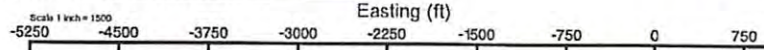


NORTHEAST NATURAL ENERGY, LLC

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

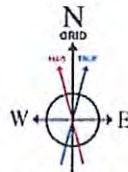
Slot: Slot 03
 Well: Campbell 3H
 Wellbore: Campbell 3H PWB

Plot reference wellpath is Campbell 3H PWB Rev-A-2	Grid System: NAD83 / Lambert Vertical Virginia SP, Northern Zone (4701), US feet
True vertical depths are referenced to Nabors X08 (RKB)	North Reference: Grid north
Measured depths are referenced to Nabors X08 (RKB)	Scale: True distance
Nabors X08 (RKB) to Mean Sea Level: 1320 feet	Depths are in feet
Mean Sea Level to Mud line (At Slot: Slot 03): -1294 feet	Created by: edkayyar on 09 Feb 2016
Coordinates are in feet referenced to Slot	



Location Information				
Facility Name	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
Campbell Pad	1776099.874	437747.321	39°41'59.400"N	80°11'01.700"W
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)
Slot 03	46.52	-1.74	1776098.130	437793.840
			39°41'59.860"N	80°11'01.727"W
Nabors X08 (RKB) to Mud line (At Slot: Slot 03)				
Mean Sea Level to Mud line (At Slot: Slot 03)				
Nabors X08 (RKB) to Mean Sea Level				

Well Profile Data (Plan)								
Design Comment	MD (ft)	Inc (*)	Az (*)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (*/100ft)	VS (ft)
Tie On	6547.00	0.130	7.750	6548.36	-0.59	37.47	0.00	-20.69
KOP 1	6720.00	0.130	7.750	6719.36	-0.20	37.62	0.00	-20.39
End of 3D Arc	7081.61	28.883	127.878	7065.91	-54.54	107.97	8.00	-104.12
KOP 2	7317.05	28.883	127.878	7272.10	-124.32	197.68	0.00	-211.24
End of 3D Arc	7805.88	30.000	308.000	7835.15	-120.62	193.48	10.00	-205.88
Landing Pt.	8516.65	90.000	322.835	8128.00	252.94	-144.03	10.00	280.69
Hold	8796.65	90.000	322.835	8128.00	1272.88	-917.29	0.00	1566.63
IP 1	9910.83	90.000	327.403	8128.00	1368.62	-892.57	4.00	1680.69
IP 2	14848.84	90.000	327.403	8128.00	5526.78	-3642.83	0.00	6618.70
Turn	15145.84	90.000	339.283	8128.00	5791.74	-3775.84	4.00	6913.58
BHL	16416.70	90.000	339.283	8128.00	6980.42	-4225.41	0.00	8157.20



BGGM (1945.0 to 2017.0) Dj: 68.94° Field: 52237.0 nT
 Magnetic North is 9.02 degrees West of True North (at 25/Jan/2016)
 Grid North is 0.44 degrees West of True North
 To correct azimuth from True to Grid add 0.44 degrees
 To correct azimuth from Magnetic to Grid subtract 8.58 degrees

Gyrodala MS Gyro <8-3/4"> (100'-6531') : 116.00ft TVD, 0.01ft S, 0.18ft E
 BHI AT Curve <8-1/2"> (6547')(6604'-16393') : 6603.36ft TVD, 0.54ft S, 37.47ft E

Projected MD at TD: 16418' : 90.58° Inc, 16418.00ft MD, 8111.77ft TVD, 8156.71ft VS

Vertical Section (ft)
 Azimuth 327.40° with reference 0.00 N, 0.00 E



Actual Wellpath Report

Campbell 3H AWP Proj: 16418'

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REFERENCE WELLPATH IDENTIFICATION

Operator	NORTHEAST NATURAL ENERGY, LLC	Slot	Slot 03
Area	Monongalia County, WV	Well	Campbell 3H
Field	Monongalia	Wellbore	Campbell 3H AWB
Facility	Campbell Pad		

REPORT SETUP INFORMATION

Projection System	NAD83 / Lambert West Virginia SP, Northern Zone (4701), US feet	Software System	WellArchitect® 4.0.1
North Reference	Grid	User	Edsaryar
Scale	0.999942	Report Generated	09/Feb/2016 at 10:37
Convergence at slot	0.44° West	Database/Source file	WA_MPL_EASTERNUS_Defn/Campbell_3H_AWB.xml

WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	46.52	-1.74	1776098.13	437793.84	39°41'59.860"N	80°11'01.727"W
Facility Reference Pt			1776099.87	437747.32	39°41'59.400"N	80°11'01.700"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	1326.00ft
Horizontal Reference Pt	Slot	Nabors X08 (RKB) to Mean Sea Level	1326.00ft
Vertical Reference Pt	Nabors X08 (RKB)	Nabors X08 (RKB) to Mud Line at Slot (Slot 03)	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	327.40°



Actual Wellpath Report

Campbell 3H AWP Proj: 16418'

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REFERENCE WELLPATH IDENTIFICATION

Operator	NORTHEAST NATURAL ENERGY, LLC	Slot	Slot 03
Area	Monongalia County, WV	Well	Campbell 3H
Field	Monongalia	Wellbore	Campbell 3H AWB
Facility	Campbell Pad		

WELLPATH DATA (174 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	91.950	0.00	0.00	0.00	0.00	1776098.13	437793.84	39°41'59.860"N	80°11'01.727"W	0.00	0.000	0.00	0.00	0.00
32.00	0.000	91.950	32.00	0.00	0.00	0.00	1776098.13	437793.84	39°41'59.860"N	80°11'01.727"W	0.00	0.000	0.00	0.00	0.00
116.00	0.250	91.950	116.00	-0.10	-0.01	0.18	1776098.31	437793.83	39°41'59.860"N	80°11'01.724"W	0.18	91.950	0.30	0.30	0.00
216.00	0.190	105.310	216.00	-0.35	-0.06	0.56	1776098.69	437793.78	39°41'59.859"N	80°11'01.720"W	0.56	95.845	0.08	-0.06	13.36
316.00	0.150	100.640	316.00	-0.56	-0.13	0.85	1776098.98	437793.71	39°41'59.858"N	80°11'01.716"W	0.86	98.395	0.04	-0.04	-4.67
416.00	0.170	128.160	416.00	-0.79	-0.24	1.09	1776099.22	437793.60	39°41'59.857"N	80°11'01.713"W	1.12	102.423	0.08	0.02	27.52
516.00	0.250	138.420	516.00	-1.15	-0.50	1.36	1776099.49	437793.34	39°41'59.855"N	80°11'01.709"W	1.44	110.089	0.09	0.08	10.26
616.00	0.380	128.710	616.00	-1.68	-0.87	1.76	1776099.89	437792.97	39°41'59.851"N	80°11'01.704"W	1.96	116.217	0.14	0.13	-9.71
716.00	0.520	132.230	715.99	-2.43	-1.38	2.35	1776100.48	437792.46	39°41'59.846"N	80°11'01.697"W	2.73	120.355	0.14	0.14	3.52
816.00	0.480	134.070	815.99	-3.28	-1.98	2.99	1776101.12	437791.86	39°41'59.840"N	80°11'01.688"W	3.59	123.436	0.04	-0.04	1.84
916.00	0.570	149.140	915.98	-4.18	-2.69	3.55	1776101.68	437791.15	39°41'59.833"N	80°11'01.681"W	4.45	127.208	0.16	0.09	15.07
1016.00	0.440	116.320	1015.98	-5.01	-3.29	4.15	1776102.28	437790.55	39°41'59.827"N	80°11'01.673"W	5.29	128.434	0.31	-0.13	-32.82
1116.00	0.460	107.750	1115.98	-5.64	-3.58	4.87	1776103.00	437790.26	39°41'59.825"N	80°11'01.664"W	6.05	126.327	0.07	0.02	-8.57
1216.00	0.510	102.520	1215.97	-6.27	-3.80	5.69	1776103.82	437790.04	39°41'59.822"N	80°11'01.654"W	6.84	123.752	0.07	0.05	-5.23
1316.00	0.650	95.100	1315.97	-6.93	-3.95	6.69	1776104.82	437789.89	39°41'59.821"N	80°11'01.641"W	7.77	120.555	0.16	0.14	-7.42
1416.00	1.130	91.640	1415.96	-7.83	-4.03	8.24	1776106.37	437789.81	39°41'59.820"N	80°11'01.621"W	9.17	116.050	0.48	0.48	-3.46
1516.00	1.620	87.190	1515.93	-9.09	-3.99	10.64	1776108.77	437789.85	39°41'59.821"N	80°11'01.590"W	11.36	110.545	0.50	0.49	-4.45
1616.00	1.780	83.450	1615.88	-10.47	-3.74	13.59	1776111.72	437790.10	39°41'59.824"N	80°11'01.553"W	14.10	105.386	0.19	0.16	-3.74
1716.00	1.840	84.050	1715.83	-11.88	-3.40	16.73	1776114.86	437790.44	39°41'59.827"N	80°11'01.512"W	17.07	101.476	0.06	0.06	0.60
1816.00	1.800	83.870	1815.78	-13.30	-3.06	19.89	1776118.02	437790.78	39°41'59.831"N	80°11'01.472"W	20.13	98.753	0.04	-0.04	-0.18
1916.00	1.500	81.990	1915.74	-14.54	-2.71	22.75	1776120.88	437791.13	39°41'59.835"N	80°11'01.436"W	22.91	96.800	0.30	-0.30	-1.88
2016.00	1.240	78.790	2015.71	-15.48	-2.32	25.11	1776123.23	437791.52	39°41'59.839"N	80°11'01.405"W	25.21	95.279	0.27	-0.26	-3.20
2116.00	1.230	76.310	2115.69	-16.22	-1.86	27.21	1776125.34	437791.98	39°41'59.843"N	80°11'01.379"W	27.27	93.901	0.05	-0.01	-2.48
2216.00	1.260	72.250	2215.67	-16.85	-1.27	29.30	1776127.43	437792.57	39°41'59.849"N	80°11'01.352"W	29.33	92.475	0.09	0.03	-4.06
2316.00	1.360	69.690	2315.64	-17.39	-0.52	31.46	1776129.59	437793.32	39°41'59.857"N	80°11'01.324"W	31.46	90.946	0.12	0.10	-2.56
2416.00	1.550	67.490	2415.61	-17.88	0.41	33.82	1776131.95	437794.25	39°41'59.866"N	80°11'01.294"W	33.82	89.305	0.20	0.19	-2.20
2516.00	1.440	68.310	2515.57	-18.35	1.39	36.24	1776134.37	437795.23	39°41'59.876"N	80°11'01.263"W	36.27	87.799	0.11	-0.11	0.82
2616.00	1.090	79.560	2615.55	-18.95	2.03	38.34	1776136.47	437795.87	39°41'59.883"N	80°11'01.237"W	38.40	86.970	0.43	-0.35	11.25
2716.00	0.900	89.020	2715.53	-19.72	2.22	40.06	1776138.19	437796.06	39°41'59.885"N	80°11'01.215"W	40.12	86.835	0.25	-0.19	9.46
2816.00	0.760	96.910	2815.52	-20.55	2.15	41.51	1776139.63	437795.99	39°41'59.884"N	80°11'01.196"W	41.56	87.036	0.18	-0.14	7.89



Actual Wellpath Report

Campbell 3H AWP Proj: 16418'

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REFERENCE WELLPATH IDENTIFICATION

Operator	NORTHEAST NATURAL ENERGY, LLC	Slot	Slot 03
Area	Monongalia County, WV	Well	Campbell 3H
Field	Monongalia	Wellbore	Campbell 3H AWB
Facility	Campbell Pad		

WELLPATH DATA (174 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	0.710	100.610	2915.52	-21.40	1.95	42.77	1776140.90	437795.79	39°41'59.882"N	80°11'01.180"W	42.82	87.383	0.07	-0.05	3.70
3016.00	0.660	104.390	3015.51	-22.24	1.70	43.94	1776142.07	437795.54	39°41'59.880"N	80°11'01.165"W	43.97	87.787	0.07	-0.05	3.78
3116.00	0.710	108.550	3115.50	-23.15	1.36	45.09	1776143.21	437795.20	39°41'59.876"N	80°11'01.150"W	45.11	88.275	0.07	0.05	4.16
3216.00	0.610	111.760	3215.50	-24.06	0.96	46.17	1776144.30	437794.80	39°41'59.873"N	80°11'01.136"W	46.18	88.805	0.11	-0.10	3.21
3316.00	0.520	112.040	3315.49	-24.87	0.60	47.08	1776145.21	437794.44	39°41'59.869"N	80°11'01.125"W	47.09	89.275	0.09	-0.09	0.28
3416.00	0.440	121.500	3415.49	-25.58	0.22	47.83	1776145.96	437794.06	39°41'59.865"N	80°11'01.115"W	47.83	89.731	0.11	-0.08	9.46
3516.00	0.490	127.800	3515.48	-26.33	-0.24	48.50	1776146.62	437793.60	39°41'59.861"N	80°11'01.106"W	48.50	90.281	0.07	0.05	6.30
3616.00	0.470	124.210	3615.48	-27.11	-0.73	49.17	1776147.30	437793.11	39°41'59.856"N	80°11'01.098"W	49.18	90.852	0.04	-0.02	-3.59
3716.00	0.490	124.010	3715.48	-27.88	-1.20	49.87	1776147.99	437792.64	39°41'59.852"N	80°11'01.089"W	49.88	91.379	0.02	0.02	-0.20
3816.00	0.490	132.840	3815.47	-28.68	-1.73	50.53	1776148.66	437792.11	39°41'59.846"N	80°11'01.080"W	50.56	91.961	0.08	0.00	8.83
3916.00	0.460	135.320	3915.47	-29.49	-2.31	51.13	1776149.26	437791.53	39°41'59.841"N	80°11'01.072"W	51.18	92.583	0.04	-0.03	2.48
4016.00	0.430	137.690	4015.47	-30.25	-2.87	51.67	1776149.79	437790.97	39°41'59.835"N	80°11'01.066"W	51.75	93.179	0.04	-0.03	2.37
4116.00	0.320	153.940	4115.46	-30.90	-3.40	52.04	1776150.17	437790.44	39°41'59.830"N	80°11'01.061"W	52.15	93.736	0.15	-0.11	16.25
4216.00	0.350	168.390	4215.46	-31.46	-3.95	52.22	1776150.35	437789.89	39°41'59.825"N	80°11'01.058"W	52.37	94.323	0.09	0.03	14.45
4316.00	0.340	172.510	4315.46	-32.02	-4.54	52.33	1776150.45	437789.30	39°41'59.819"N	80°11'01.057"W	52.52	94.960	0.03	-0.01	4.12
4416.00	0.300	196.850	4415.46	-32.46	-5.09	52.29	1776150.41	437788.75	39°41'59.813"N	80°11'01.057"W	52.53	95.556	0.14	-0.04	24.34
4516.00	0.360	200.770	4515.46	-32.81	-5.63	52.10	1776150.23	437788.21	39°41'59.808"N	80°11'01.060"W	52.40	96.168	0.06	0.06	3.92
4616.00	0.300	201.440	4615.46	-33.15	-6.17	51.89	1776150.02	437787.67	39°41'59.803"N	80°11'01.062"W	52.26	96.778	0.06	-0.06	0.67
4716.00	0.330	225.590	4715.45	-33.37	-6.61	51.59	1776149.72	437787.23	39°41'59.798"N	80°11'01.066"W	52.01	97.304	0.14	0.03	24.15
4816.00	0.440	239.240	4815.45	-33.41	-7.01	51.06	1776149.18	437786.83	39°41'59.794"N	80°11'01.073"W	51.54	97.819	0.14	0.11	13.65
4916.00	0.600	257.040	4915.45	-33.23	-7.32	50.22	1776148.34	437786.52	39°41'59.791"N	80°11'01.084"W	50.75	98.299	0.23	0.16	17.80
5016.00	0.730	263.610	5015.44	-32.77	-7.51	49.07	1776147.20	437786.33	39°41'59.789"N	80°11'01.098"W	49.64	98.704	0.15	0.13	6.57
5116.00	0.810	275.290	5115.43	-32.05	-7.52	47.74	1776145.86	437786.32	39°41'59.789"N	80°11'01.115"W	48.32	98.951	0.18	0.08	11.68
5216.00	0.840	291.030	5215.42	-31.03	-7.19	46.35	1776144.48	437786.65	39°41'59.792"N	80°11'01.133"W	46.90	98.819	0.23	0.03	15.74
5316.00	0.820	295.790	5315.41	-29.83	-6.62	45.02	1776143.15	437787.22	39°41'59.798"N	80°11'01.150"W	45.50	98.361	0.07	-0.02	4.76
5416.00	0.700	308.600	5415.40	-28.64	-5.92	43.90	1776142.03	437787.92	39°41'59.804"N	80°11'01.165"W	44.30	97.685	0.21	-0.12	12.81
5516.00	0.790	308.900	5515.39	-27.41	-5.11	42.88	1776141.01	437788.73	39°41'59.812"N	80°11'01.178"W	43.19	96.795	0.09	0.09	0.30
5616.00	0.620	307.920	5615.39	-26.25	-4.34	41.92	1776140.05	437789.50	39°41'59.820"N	80°11'01.190"W	42.15	95.917	0.17	-0.17	-0.98
5716.00	0.560	311.610	5715.38	-25.27	-3.69	41.13	1776139.26	437790.15	39°41'59.826"N	80°11'01.200"W	41.29	95.123	0.07	-0.06	3.69
5816.00	0.520	303.310	5815.38	-24.38	-3.11	40.38	1776138.51	437790.73	39°41'59.832"N	80°11'01.210"W	40.50	94.409	0.09	-0.04	-8.30



Actual Wellpath Report

Campbell 3H AWP Proj: 16418'

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REFERENCE WELLPATH IDENTIFICATION

Operator	NORTHEAST NATURAL ENERGY, LLC	Slot	Slot 03
Area	Monongalia County, WV	Well	Campbell 3H
Field	Monongalia	Wellbore	Campbell 3H AWP
Facility	Campbell Pad		

WELLPATH DATA (174 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	0.470	303.260	5915.37	-23.59	-2.64	39.66	1776137.79	437791.20	39°41'59.837"N	80°11'01.219"W	39.75	93.807	0.05	-0.05	-0.05
6016.00	0.370	301.010	6015.37	-22.93	-2.25	39.04	1776137.17	437791.59	39°41'59.840"N	80°11'01.227"W	39.11	93.296	0.10	-0.10	-2.25
6116.00	0.340	312.290	6115.37	-22.35	-1.88	38.55	1776136.67	437791.96	39°41'59.844"N	80°11'01.234"W	38.59	92.796	0.08	-0.03	11.28
6216.00	0.320	310.370	6215.37	-21.80	-1.50	38.11	1776136.24	437792.34	39°41'59.848"N	80°11'01.239"W	38.14	92.256	0.02	-0.02	-1.92
6316.00	0.280	315.430	6315.37	-21.29	-1.15	37.73	1776135.86	437792.69	39°41'59.851"N	80°11'01.244"W	37.75	91.741	0.05	-0.04	5.06
6416.00	0.120	322.140	6415.36	-20.95	-0.89	37.49	1776135.62	437792.95	39°41'59.854"N	80°11'01.247"W	37.50	91.360	0.16	-0.16	6.71
6516.00	0.160	10.760	6515.36	-20.74	-0.67	37.46	1776135.58	437793.17	39°41'59.856"N	80°11'01.248"W	37.46	91.025	0.12	0.04	48.62
6547.00	0.130	7.750	6546.36	-20.69	-0.59	37.47	1776135.60	437793.25	39°41'59.857"N	80°11'01.247"W	37.47	90.906	0.10	-0.10	-9.71
6604.00	0.030	191.580	6603.36	-20.65	-0.54	37.47	1776135.60	437793.30	39°41'59.857"N	80°11'01.247"W	37.48	90.831	0.28	-0.18	-309.07
6698.00	0.180	132.730	6697.36	-20.81	-0.67	37.58	1776135.71	437793.17	39°41'59.856"N	80°11'01.246"W	37.58	91.018	0.18	0.16	-62.61
6793.00	5.890	116.510	6792.19	-25.14	-2.95	42.05	1776140.18	437790.89	39°41'59.834"N	80°11'01.189"W	42.16	94.008	6.02	6.01	-17.07
6887.00	12.070	129.280	6885.00	-38.63	-11.33	53.99	1776152.12	437782.51	39°41'59.752"N	80°11'01.035"W	55.16	101.852	6.87	6.57	13.59
6982.00	19.590	131.430	6976.34	-63.42	-28.18	73.65	1776171.77	437765.66	39°41'59.587"N	80°11'00.782"W	78.85	110.940	7.94	7.92	2.26
7076.00	26.390	131.990	7062.82	-98.75	-52.61	101.02	1776199.14	437741.23	39°41'59.347"N	80°11'00.429"W	113.90	117.511	7.24	7.23	0.60
7171.00	29.030	129.250	7146.92	-141.02	-81.33	134.57	1776232.69	437712.52	39°41'59.066"N	80°11'00.000"W	157.24	121.147	3.08	2.78	-2.88
7266.00	29.170	124.750	7229.94	-184.29	-109.11	171.45	1776269.57	437684.73	39°41'58.794"N	80°10'59.523"W	203.22	122.473	2.31	0.15	-4.74
7360.00	23.190	121.930	7314.26	-222.18	-131.98	206.01	1776304.13	437661.87	39°41'58.571"N	80°10'59.078"W	244.66	122.646	6.50	-6.36	-3.00
7454.00	12.030	129.050	7403.72	-248.27	-147.99	229.40	1776327.52	437645.86	39°41'58.414"N	80°10'58.778"W	272.99	122.827	12.07	-11.87	7.57
7549.00	3.550	148.690	7497.77	-260.63	-156.76	238.64	1776336.75	437637.09	39°41'58.328"N	80°10'58.659"W	285.52	123.301	9.23	-8.93	20.67
7643.00	3.220	307.660	7591.71	-261.06	-157.63	238.06	1776336.17	437636.22	39°41'58.320"N	80°10'58.666"W	285.52	123.511	7.08	-0.35	169.12
7738.00	13.410	322.520	7685.60	-247.53	-147.23	229.22	1776327.33	437646.62	39°41'58.422"N	80°10'58.780"W	272.43	122.714	10.87	10.73	15.64
7833.00	20.070	320.230	7776.52	-220.35	-125.94	212.07	1776310.19	437667.91	39°41'58.631"N	80°10'59.002"W	246.64	120.704	7.04	7.01	-2.41
7927.00	28.720	310.960	7862.08	-182.60	-98.67	184.63	1776282.75	437695.17	39°41'58.898"N	80°10'59.355"W	209.35	118.122	10.04	9.20	-9.86
8022.00	38.860	311.900	7940.93	-131.86	-63.72	145.11	1776243.23	437730.13	39°41'59.241"N	80°10'59.864"W	158.48	113.706	10.69	10.67	0.99
8116.00	50.260	312.240	8007.80	-68.35	-19.58	96.24	1776194.37	437774.26	39°41'59.673"N	80°11'00.494"W	98.22	101.501	12.13	12.13	0.36
8211.00	61.230	312.440	8061.19	7.36	33.23	38.30	1776136.43	437827.07	39°42'00.191"N	80°11'01.240"W	50.71	49.053	11.55	11.55	0.21
8305.00	71.590	316.580	8098.77	91.22	93.61	-22.95	1776075.19	437887.44	39°42'00.783"N	80°11'02.030"W	96.38	346.227	11.73	11.02	4.40
8400.00	80.100	321.240	8121.99	182.23	162.99	-83.36	1776014.77	437956.83	39°42'01.464"N	80°11'02.809"W	183.07	332.913	10.14	8.96	4.91
8494.00	83.990	320.640	8135.00	274.71	235.27	-142.01	1775956.12	438029.09	39°42'02.174"N	80°11'03.567"W	274.81	328.884	4.19	4.14	-0.64
8589.00	86.830	323.510	8142.60	368.98	309.95	-200.20	1775897.94	438103.77	39°42'02.908"N	80°11'04.318"W	368.99	327.141	4.24	2.99	3.02



Actual Wellpath Report

Campbell 3H AWP Proj: 16418'
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REFERENCE WELLPATH IDENTIFICATION

Operator	NORTHEAST NATURAL ENERGY, LLC	Slot	Slot 03
Area	Monongalia County, WV	Well	Campbell 3H
Field	Monongalia	Wellbore	Campbell 3H AWB
Facility	Campbell Pad		

WELLPATH DATA (174 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]
8683.00	89.320	322.670	8145.76	462.65	385.06	-256.62	1775841.53	438178.88	39°42'03.646"N	80°11'05.047"W	462.74	326.319	2.80	2.65	-0.89
8777.00	89.510	321.860	8146.72	556.27	459.40	-314.14	1775784.01	438253.21	39°42'04.376"N	80°11'05.791"W	556.54	325.635	0.89	0.20	-0.86
8872.00	89.510	323.400	8147.53	650.94	534.89	-371.80	1775726.35	438328.70	39°42'05.118"N	80°11'06.536"W	651.42	325.197	1.62	0.00	1.62
8967.00	89.420	326.990	8148.42	745.85	612.88	-426.01	1775672.14	438406.68	39°42'05.884"N	80°11'07.237"W	746.40	325.197	3.78	-0.09	3.78
9061.00	89.630	326.330	8149.20	839.83	691.41	-477.67	1775620.48	438485.21	39°42'06.657"N	80°11'07.905"W	840.37	325.360	0.74	0.22	-0.70
9156.00	89.690	328.840	8149.76	934.82	771.60	-528.59	1775569.57	438565.39	39°42'07.445"N	80°11'08.565"W	935.29	325.586	2.64	0.06	2.64
9251.00	89.630	328.420	8150.32	1029.80	852.71	-578.05	1775520.12	438646.50	39°42'08.243"N	80°11'09.205"W	1030.17	325.867	0.45	-0.06	-0.44
9345.00	89.380	327.010	8151.14	1123.79	932.17	-628.25	1775469.92	438725.96	39°42'09.025"N	80°11'09.855"W	1124.12	326.021	1.52	-0.27	-1.50
9440.00	89.570	324.620	8152.01	1218.75	1010.75	-681.62	1775416.55	438804.53	39°42'09.797"N	80°11'10.546"W	1219.11	326.005	2.52	0.20	-2.52
9534.00	89.600	323.180	8152.69	1312.57	1086.70	-737.00	1775361.17	438880.47	39°42'10.543"N	80°11'11.262"W	1313.04	325.855	1.53	0.03	-1.53
9629.00	90.460	323.510	8152.64	1407.33	1162.91	-793.72	1775304.46	438956.68	39°42'11.292"N	80°11'11.995"W	1407.96	325.685	0.97	0.91	0.35
9724.00	90.430	320.830	8151.90	1501.92	1237.93	-851.98	1775246.21	439031.70	39°42'12.029"N	80°11'12.748"W	1502.78	325.463	2.82	-0.03	-2.82
9818.00	89.880	319.060	8151.64	1595.12	1309.88	-912.46	1775185.72	439103.64	39°42'12.736"N	80°11'13.529"W	1596.36	325.139	1.97	-0.59	-1.88
9913.00	90.030	319.030	8151.72	1689.11	1381.63	-974.73	1775123.46	439175.38	39°42'13.440"N	80°11'14.332"W	1690.86	324.797	0.16	0.16	-0.03
10007.00	89.660	325.730	8151.97	1782.70	1456.04	-1032.08	1775066.11	439249.79	39°42'14.171"N	80°11'15.073"W	1784.72	324.670	7.14	-0.39	7.13
10102.00	89.380	326.400	8152.77	1877.67	1534.85	-1085.11	1775013.08	439328.60	39°42'14.946"N	80°11'15.759"W	1879.69	324.740	0.76	-0.29	0.71
10197.00	89.780	323.950	8153.47	1972.59	1612.83	-1139.36	1774958.84	439406.57	39°42'15.713"N	80°11'16.461"W	1974.68	324.761	2.61	0.42	-2.58
10291.00	89.910	324.010	8153.72	2066.42	1688.86	-1194.64	1774903.57	439482.60	39°42'16.460"N	80°11'17.176"W	2068.67	324.726	0.15	0.14	0.06
10386.00	90.000	324.010	8153.80	2161.25	1765.73	-1250.46	1774847.74	439559.46	39°42'17.215"N	80°11'17.898"W	2163.66	324.694	0.09	0.09	0.00
10480.00	90.180	326.290	8153.65	2255.17	1842.86	-1304.17	1774794.04	439636.59	39°42'17.973"N	80°11'18.592"W	2257.66	324.713	2.43	0.19	2.43
10575.00	89.910	327.440	8153.57	2350.17	1922.41	-1356.10	1774742.11	439716.14	39°42'18.756"N	80°11'19.265"W	2352.59	324.800	1.24	-0.28	1.21
10670.00	89.970	326.810	8153.67	2445.17	2002.20	-1407.67	1774690.55	439795.92	39°42'19.540"N	80°11'19.932"W	2447.51	324.890	0.67	0.06	-0.66
10764.00	90.060	327.880	8153.65	2539.17	2081.34	-1458.39	1774639.83	439875.05	39°42'20.318"N	80°11'20.589"W	2541.43	324.981	1.14	0.10	1.14
10859.00	90.180	328.300	8153.45	2634.16	2161.98	-1508.60	1774589.62	439955.69	39°42'21.112"N	80°11'21.239"W	2636.29	325.093	0.46	0.13	0.44
10954.00	90.310	332.620	8153.04	2729.00	2244.61	-1555.43	1774542.79	440038.32	39°42'21.925"N	80°11'21.846"W	2730.87	325.280	4.55	0.14	4.55
11048.00	90.400	332.140	8152.46	2822.64	2327.90	-1599.01	1774499.22	440121.60	39°42'22.744"N	80°11'22.412"W	2824.17	325.515	0.52	0.10	-0.51
11143.00	90.400	331.100	8151.80	2917.38	2411.48	-1644.16	1774454.07	440205.17	39°42'23.567"N	80°11'22.998"W	2918.65	325.714	1.09	0.00	-1.09
11238.00	90.340	328.870	8151.18	3012.28	2493.73	-1691.68	1774406.55	440287.42	39°42'24.376"N	80°11'23.614"W	3013.38	325.848	2.35	-0.06	-2.35
11332.00	90.740	328.900	8150.30	3106.24	2574.20	-1740.25	1774357.98	440367.89	39°42'25.168"N	80°11'24.244"W	3107.25	325.940	0.43	0.43	0.03
11427.00	90.310	328.190	8149.43	3201.22	2655.24	-1789.82	1774308.42	440448.92	39°42'25.965"N	80°11'24.886"W	3202.15	326.017	0.87	-0.45	-0.75



Actual Wellpath Report

Campbell 3H AWP Proj: 16418'

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REFERENCE WELLPATH IDENTIFICATION				
Operator	NORTHEAST NATURAL ENERGY, LLC		Slot	Slot 03
Area	Monongalia County, WV		Well	Campbell 3H
Field	Monongalia		Wellbore	Campbell 3H AWB
Facility	Campbell Pad			

WELLPATH DATA (174 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]
11521.00	90.280	324.950	8148.94	3295.19	2733.68	-1841.60	1774256.64	440527.35	39°42'26.736"N	80°11'25.556"W	3296.13	326.033	3.45	-0.03	-3.45
11616.00	90.120	320.950	8148.61	3389.89	2809.48	-1898.83	1774199.42	440603.15	39°42'27.481"N	80°11'26.296"W	3390.98	325.947	4.21	-0.17	-4.21
11711.00	90.120	322.220	8148.41	3484.40	2883.91	-1957.85	1774140.39	440677.58	39°42'28.212"N	80°11'27.058"W	3485.71	325.828	1.34	0.00	1.34
11805.00	90.370	327.160	8148.01	3578.26	2960.60	-2012.17	1774086.08	440754.26	39°42'28.966"N	80°11'27.761"W	3579.66	325.798	5.26	0.27	5.26
11900.00	90.520	329.060	8147.27	3673.25	3041.25	-2062.35	1774035.90	440834.91	39°42'29.759"N	80°11'28.411"W	3674.58	325.858	2.01	0.16	2.00
11994.00	90.340	328.700	8146.57	3767.21	3121.72	-2110.93	1773987.32	440915.37	39°42'30.550"N	80°11'29.040"W	3768.45	325.933	0.43	-0.19	-0.38
12089.00	90.490	329.770	8145.88	3862.16	3203.35	-2159.53	1773938.73	440997.00	39°42'31.353"N	80°11'29.670"W	3863.29	326.014	1.14	0.16	1.13
12184.00	90.250	328.450	8145.27	3957.11	3284.87	-2208.30	1773889.97	441078.51	39°42'32.155"N	80°11'30.302"W	3958.15	326.089	1.41	-0.25	-1.39
12278.00	90.340	329.180	8144.78	4051.08	3365.29	-2256.97	1773841.30	441158.92	39°42'32.946"N	80°11'30.933"W	4052.04	326.152	0.78	0.10	0.78
12373.00	90.250	327.780	8144.29	4146.06	3446.27	-2306.63	1773791.64	441239.90	39°42'33.743"N	80°11'31.576"W	4146.96	326.205	1.48	-0.09	-1.47
12468.00	90.180	327.370	8143.94	4241.06	3526.46	-2357.57	1773740.70	441320.08	39°42'34.531"N	80°11'32.236"W	4241.94	326.236	0.44	-0.07	-0.43
12562.00	90.340	326.620	8143.51	4335.06	3605.28	-2408.77	1773689.50	441398.91	39°42'35.307"N	80°11'32.899"W	4335.93	326.252	0.82	0.17	-0.80
12657.00	90.280	326.330	8142.99	4430.04	3684.48	-2461.24	1773637.04	441478.10	39°42'36.085"N	80°11'33.578"W	4430.92	326.257	0.31	-0.06	-0.31
12751.00	90.250	326.720	8142.56	4524.03	3762.89	-2513.09	1773585.19	441556.50	39°42'36.856"N	80°11'34.249"W	4524.92	326.263	0.42	-0.03	0.41
12846.00	89.720	326.350	8142.58	4619.02	3842.14	-2565.47	1773532.81	441635.74	39°42'37.635"N	80°11'34.927"W	4619.92	326.268	0.68	-0.56	-0.39
12940.00	90.460	328.730	8142.44	4713.01	3921.44	-2615.92	1773482.37	441715.05	39°42'38.415"N	80°11'35.581"W	4713.89	326.294	2.65	0.79	2.53
13035.00	90.740	330.730	8141.44	4807.92	4003.48	-2663.80	1773434.49	441797.08	39°42'39.222"N	80°11'36.201"W	4808.71	326.361	2.13	0.29	2.11
13129.00	91.420	331.550	8139.67	4901.70	4085.79	-2709.16	1773389.13	441879.39	39°42'40.032"N	80°11'36.790"W	4902.37	326.453	1.13	0.72	0.87
13224.00	90.890	329.610	8137.76	4996.53	4168.52	-2755.82	1773342.48	441962.11	39°42'40.846"N	80°11'37.395"W	4997.11	326.531	2.12	-0.56	-2.04
13318.00	91.230	325.260	8136.02	5090.50	4247.71	-2806.39	1773291.91	442041.29	39°42'41.625"N	80°11'38.050"W	5091.06	326.548	4.64	0.36	-4.63
13413.00	89.630	328.170	8135.30	5185.47	4327.11	-2858.52	1773239.78	442120.69	39°42'42.406"N	80°11'38.725"W	5186.04	326.551	3.50	-1.68	3.06
13508.00	89.540	327.640	8135.99	5280.47	4407.59	-2908.99	1773189.31	442201.16	39°42'43.197"N	80°11'39.379"W	5281.01	326.575	0.57	-0.09	-0.56
13602.00	90.310	330.950	8136.11	5374.40	4488.40	-2956.98	1773141.32	442281.97	39°42'43.992"N	80°11'40.001"W	5374.90	326.623	3.62	0.82	3.52
13697.00	90.280	329.560	8135.62	5469.28	4570.88	-3004.12	1773094.20	442364.44	39°42'44.804"N	80°11'40.612"W	5469.70	326.686	1.46	-0.03	-1.46
13791.00	90.250	328.260	8135.19	5563.24	4651.38	-3052.65	1773045.66	442444.93	39°42'45.596"N	80°11'41.241"W	5563.63	326.723	1.38	-0.03	-1.38
13886.00	90.310	327.650	8134.73	5658.24	4731.90	-3103.06	1772995.26	442525.45	39°42'46.387"N	80°11'41.894"W	5658.61	326.744	0.65	0.06	-0.64
13980.00	90.400	325.730	8134.14	5752.22	4810.45	-3154.68	1772943.64	442604.00	39°42'47.160"N	80°11'42.562"W	5752.60	326.743	2.04	0.10	-2.04
14074.00	90.770	326.480	8133.18	5846.19	4888.47	-3207.10	1772891.23	442682.02	39°42'47.927"N	80°11'43.241"W	5846.59	326.733	0.89	0.39	0.80
14169.00	90.710	326.850	8131.96	5941.18	4967.83	-3259.30	1772839.03	442761.37	39°42'48.707"N	80°11'43.917"W	5941.58	326.732	0.39	-0.06	0.39
14264.00	90.980	326.350	8130.56	6036.16	5047.14	-3311.59	1772786.74	442840.67	39°42'49.487"N	80°11'44.593"W	6036.57	326.730	0.60	0.28	-0.53



Actual Wellpath Report

Campbell 3H AWP Proj: 16418'

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REFERENCE WELLPATH IDENTIFICATION			
Operator	NORTHEAST NATURAL ENERGY, LLC	Slot	Slot 03
Area	Monongalia County, WV	Well	Campbell 3H
Field	Monongalia	Wellbore	Campbell 3H AWB
Facility	Campbell Pad		

WELLPATH DATA (174 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]
14358.00	91.200	325.000	8128.77	6130.10	5124.75	-3364.58	1772733.75	442918.28	39°42'50.250"N	80°11'45.279"W	6130.54	326.714	1.45	0.23	-1.44
14453.00	91.200	322.290	8126.78	6224.86	5201.24	-3420.88	1772677.46	442994.76	39°42'51.001"N	80°11'46.007"W	6225.37	326.667	2.85	0.00	-2.85
14547.00	90.620	321.620	8125.28	6318.43	5275.25	-3478.80	1772619.54	443068.77	39°42'51.728"N	80°11'46.756"W	6319.05	326.597	0.94	-0.62	-0.71
14642.00	90.710	321.250	8124.18	6412.91	5349.53	-3538.02	1772560.32	443143.05	39°42'52.458"N	80°11'47.521"W	6413.66	326.521	0.40	0.09	-0.39
14737.00	90.580	327.890	8123.11	6507.73	5426.89	-3593.06	1772505.29	443220.40	39°42'53.218"N	80°11'48.233"W	6508.55	326.492	6.99	-0.14	6.99
14831.00	90.620	329.100	8122.13	6601.71	5507.03	-3642.18	1772456.17	443300.53	39°42'54.006"N	80°11'48.869"W	6602.48	326.521	1.29	0.04	1.29
14926.00	90.710	328.490	8121.02	6696.67	5588.28	-3691.39	1772406.96	443381.78	39°42'54.806"N	80°11'49.507"W	6697.40	326.553	0.65	0.09	-0.64
15020.00	90.620	336.210	8119.93	6790.24	5671.47	-3734.98	1772363.38	443464.97	39°42'55.624"N	80°11'50.073"W	6790.85	326.633	8.21	-0.10	8.21
15115.00	90.310	337.370	8119.16	6883.97	5758.78	-3772.42	1772325.94	443552.27	39°42'56.484"N	80°11'50.561"W	6884.38	326.772	1.26	-0.33	1.22
15209.00	90.280	337.750	8118.68	6976.49	5845.66	-3808.30	1772290.06	443639.15	39°42'57.340"N	80°11'51.029"W	6976.74	326.917	0.41	-0.03	0.40
15304.00	90.340	344.250	8118.16	7068.78	5935.44	-3839.21	1772259.15	443728.92	39°42'58.225"N	80°11'51.433"W	7068.87	327.104	6.84	0.06	6.84
15398.00	90.460	346.940	8117.51	7158.07	6026.47	-3862.59	1772235.77	443819.95	39°42'59.123"N	80°11'51.741"W	7158.07	327.343	2.86	0.13	2.86
15493.00	90.580	344.950	8116.64	7248.12	6118.62	-3885.66	1772212.70	443912.09	39°43'00.032"N	80°11'52.046"W	7248.16	327.582	2.10	0.13	-2.09
15587.00	90.000	338.410	8116.17	7339.17	6207.80	-3915.19	1772183.18	444001.27	39°43'00.911"N	80°11'52.433"W	7339.31	327.761	6.98	-0.62	-6.96
15682.00	90.000	334.560	8116.17	7432.96	6294.90	-3953.09	1772145.28	444088.36	39°43'01.769"N	80°11'52.926"W	7433.21	327.872	4.05	0.00	-4.05
15776.00	90.090	335.850	8116.09	7526.09	6380.23	-3992.51	1772105.86	444173.68	39°43'02.609"N	80°11'53.439"W	7526.45	327.963	1.38	0.10	1.37
15871.00	90.060	335.530	8115.97	7620.09	6466.81	-4031.62	1772066.76	444260.26	39°43'03.462"N	80°11'53.948"W	7620.60	328.059	0.34	-0.03	-0.34
15965.00	90.220	334.680	8115.74	7713.24	6552.07	-4071.19	1772027.19	444345.51	39°43'04.301"N	80°11'54.463"W	7713.90	328.145	0.92	0.17	-0.90
16060.00	90.250	335.770	8115.35	7807.36	6638.32	-4111.00	1771987.38	444431.76	39°43'05.150"N	80°11'54.981"W	7808.18	328.231	1.15	0.03	1.15
16154.00	90.430	338.600	8114.79	7899.98	6724.96	-4147.44	1771950.94	444518.39	39°43'06.004"N	80°11'55.456"W	7901.03	328.337	3.02	0.19	3.01
16249.00	90.770	341.490	8113.80	7992.66	6814.24	-4179.86	1771918.53	444607.67	39°43'06.884"N	80°11'55.880"W	7994.07	328.475	3.06	0.36	3.04
16343.00	90.710	341.540	8112.58	8083.81	6903.38	-4209.66	1771888.73	444696.81	39°43'07.762"N	80°11'56.270"W	8085.66	328.625	0.08	-0.06	0.05
16393.00	90.580	340.700	8112.02	8132.38	6950.69	-4225.84	1771872.55	444744.11	39°43'08.229"N	80°11'56.482"W	8134.48	328.702	1.70	-0.26	-1.68
16418.00	90.580	340.700	8111.77	8156.71	6974.29	-4234.10	1771864.29	444767.70	39°43'08.461"N	80°11'56.590"W	8158.94	328.738	0.00	0.00	0.00



Actual Wellpath Report

Campbell 3H AWP Proj: 16418'

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REFERENCE WELLPATH IDENTIFICATION

Operator	NORTHEAST NATURAL ENERGY, LLC	Slot	Slot 03
Area	Monongalia County, WV	Well	Campbell 3H
Field	Monongalia	Wellbore	Campbell 3H AWB
Facility	Campbell Pad		

TARGETS

Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
Campbell 3H BHL Rev-5		8128.00	6980.42	-4225.41	1771872.98	444773.84	39°43'08.522"N	80°11'56.479"W	point
Campbell 3H IP1 Rev-5		8128.00	1366.62	-982.57	1775115.62	439160.38	39°42'13.291"N	80°11'14.431"W	point
Campbell 3H IP2 Rev-5		8128.00	5526.78	-3642.83	1772455.52	443320.29	39°42'54.202"N	80°11'48.880"W	point
Campbell 3H LP Rev-5		8128.00	252.94	-144.03	1775954.11	438046.77	39°42'02.349"N	80°11'03.594"W	point
Campbell 3H LP Plat NEW		8134.00	52.39	8.00	1776106.13	437846.23	39°42'00.378"N	80°11'01.630"W	point
Campbell 3H LL1		8200.00	4714.46	-3471.99	1772626.35	442508.02	39°42'46.187"N	80°11'46.613"W	point
Campbell 3H LL2		8200.00	3946.83	-3734.71	1772363.65	441740.43	39°42'38.581"N	80°11'49.898"W	point
Campbell 3H LL3		8200.00	4664.44	-3954.42	1772143.95	442458.00	39°42'45.656"N	80°11'52.781"W	point
Campbell 3H LL4		8200.00	5876.53	-3920.19	1772178.18	443670.01	39°42'57.637"N	80°11'52.464"W	point
Campbell 3H LL5		8200.00	7030.32	-4333.56	1771764.83	444823.74	39°43'09.007"N	80°11'57.868"W	point
Campbell 3H LL6		8200.00	7067.93	-4069.99	1772028.39	444861.34	39°43'09.399"N	80°11'54.499"W	point

TARGETS

Name	MD [ft]	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
Campbell 3H LL7		8200.00	6852.96	-4060.80	1772037.58	444646.39	39°43'07.275"N	80°11'54.360"W	point

Campbell 3H LL8	8200.00	6613.46	-4002.36	1772096.01	444406.90	39°43'04.913"N	80°11'53.588"W	point
Campbell 3H LL9	8200.00	5926.74	-3663.96	1772434.39	443720.22	39°42'58.152"N	80°11'49.190"W	point