

State of West Virginia
Department of Environmental Protection - Office of Oil and Gas
Well Operator's Report of Well Work

API 47 - 061 - 01939 County Monongalia District Battelle
Quad Wadestown Pad Name Phoenix Field/Pool Name _____
Farm name Charles Wendell Moore & Frank M Chisler Well Number 3H
Operator (as registered with the OOG) Northeast Natural Energy LLC
Address 707 Virginia St. E., Suite 1200 City Charleston State WV Zip 25301

As Drilled location NAD 83/UTM Attach an as-drilled plat, profile view, and deviation survey
Top hole Northing 4388196.3 Easting 562452.2
Landing Point of Curve Northing 4388454.0 Easting 562574.6
Bottom Hole Northing 4391814.2 Easting 560255.8

Elevation (ft) 1,503' GL Type of Well ☒ New ☐ Existing Type of Report ☐ Interim ☒ Final
Permit Type ☐ Deviated ☐ Horizontal ☒ Horizontal 6A ☐ Vertical Depth Type ☐ Deep ☒ Shallow
Type of Operation ☐ Convert ☐ Deepen ☒ Drill ☐ Plug Back ☐ Redrilling ☐ Rework ☐ Stimulate
Well Type ☐ Brine Disposal ☐ CBM ☒ Gas ☐ Oil ☐ Secondary Recovery ☐ Solution Mining ☐ Storage ☐ Other _____
Type of Completion ☐ Single ☒ Multiple Fluids Produced ☒ Brine ☒ Gas ☐ NGL ☐ Oil ☐ Other _____
Drilled with ☐ Cable ☒ Rotary

Drilling Media Surface hole ☒ Air ☐ Mud ☐ Fresh Water Intermediate hole ☒ Air ☐ Mud ☐ Fresh Water ☐ Brine
Production hole ☐ Air ☒ Mud ☐ Fresh Water ☐ Brine

Mud Type(s) and Additive(s)
Synthetic Based Mud - Horizontal Section: BIO-BASE 365, CALCIUM CHLORIDE POWDER, G-SEAL PLUS, HRP, LIME, M-I WATE (BARITE),
M-I-X II MEDIUM, MEGADRIL P SYSTEM, MEGADRIL P SYSTEM RENTAL, MEGAMUL, SAFE-CARB 250, VERSATHIN HF, VERSAWET, VG-PLUS, VINSEAL MEDIUM, WALNUT NUT PLUG MEDIUM

Date permit issued 7/5/23 Date drilling commenced 8/14/23 Date drilling ceased 11/4/23
Date completion activities began 2/7/24 Date completion activities ceased 3/20/24
Verbal plugging (Y/N) NA Date permission granted _____ Granted by _____

Please note: Operator is required to submit a plugging application within 5 days of verbal permission to plug

Freshwater depth(s) ft 1,360 Open mine(s) (Y/N) depths Y, Federal #2 @1,230
Salt water depth(s) ft 2,760 Void(s) encountered (Y/N) depths _____
Coal depth(s) ft 1,230 Cavern(s) encountered (Y/N) depths _____
Is coal being mined in area (Y/N) N

Reviewed by:

APPROVED

15gh

WR-35
Rev. 8/23/13

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API 47- 061 - 01939

Farm name Charles Wendell Moore & Frank M Chisler Well number 3H

CASING STRINGS	Hole Size	Casing Size	Depth	New or Used	Grade wt/ft	Basket Depth(s)	Did cement circulate (Y/ N) * Provide details below*
Conductor	32"	24"	100'	N		NA	N
Surface	17-1/2"	13-3/8"	1,525'	N	54.5	1164	Y
Coal							
Intermediate 1	12-1/4"	9-5/8"	2,815'	N	J-55/36	2482	Y
Intermediate 2							
Intermediate 3							
Production	8-3/4"	5-1/2"	22,110'	N	P-110/20	NA	N
Tubing							
Packer type and depth set							

Comment Details Casing depths based on KB elevation.

Permit approved to set FW casing to cover Red Rock Formation.

CEMENT DATA	Class/Type of Cement	Number of Sacks	Slurry wt (ppg)	Yield (ft ³ /sks)	Volume (ft ³)	Cement Top (MD)	WOC (hrs)
Conductor	A Common	292	15.6			CTS	48
Surface	L, NCM-956	1345	15.6	1.14	1,528	CTS	8
Coal							
Intermediate 1	L, NCM-956	1070	15.6	1.13	1,206	CTS	8
Intermediate 2							
Intermediate 3							
Production	L, NCM-956	4195	14.5	1.12	4,719	2,189	48
Tubing							

Drillers TD (ft) 22,136'

Loggers TD (ft) 22,111'

Deepest formation penetrated Marcellus

Plug back to (ft) NA

Plug back procedure _____

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Kick off depth (ft) 7,356'

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Check all wireline logs run

☐ caliper ☐ density ☐ deviated/directional ☐ induction
☐ neutron ☐ resistivity ☒ gamma ray ☐ temperature

WV Department of
Environmental Protection
☐ sonic

Well cored ☐ Yes ☒ No

Conventional Sidewall

Were cuttings collected ☒ Yes ☐ No

DESCRIBE THE CENTRALIZER PLACEMENT USED FOR EACH CASING STRING _____

Surface: Bow spring centralizers every 3rd joint or approximately 120'

Intermediate: Bow spring centralizers every 3rd joint or approximately 120'

Production: Single piece bowspring centralizers placed every joint (~40') from TD to surface

WAS WELL COMPLETED AS SHOT HOLE ☒ Yes ☐ No DETAILS _____

WAS WELL COMPLETED OPEN HOLE? ☐ Yes ☒ No DETAILS _____

WERE TRACERS USED ☐ Yes ☒ No TYPE OF TRACER(S) USED _____

API 47-061 - 01939 Farm name Charles Wendell Moore & Frank M Chisler Well number 3H

PERFORATION RECORD

[illegible]

Please insert additional pages as applicable.

STIMULATION INFORMATION PER STAGE

Complete a separate record for each stimulation stage.

[illegible]

Please insert additional pages as applicable.

DEPTHS

Marcellus	8,176	TVD	22,136'	MD
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Please insert additional pages as applicable.

GAS TEST ☐ Build up ☐ Drawdown ☒ Open Flow OIL TEST ☐ Flow ☐ Pump

SHUT-IN PRESSURE Surface 3249 psi Bottom Hole 5869 psi DURATION OF TEST 24 hrs

OPEN FLOW Gas Oil NGL Water GAS MEASURED BY
 3612 mcfpd bpd bpd bpd ☐ Estimated ☒ Orifice ☐ Pilot

[illegible][illegible]

Please insert additional pages as applicable.

Drilling Contractor	Patterson UTI					
Address	67090 Executive Dr.	City	St. Clairsville	State	OH	Zip 43950

Logging Company	Baker Hughes						
Address	837 Phillippi Pike	City	Clarksburg	State	PA	Zip	26301

Cementing Company		NexTier					
Address	730 Braddock View Drive	City	Lemont Furnace	State	PA	Zip	15456

Stimulating Company	Evolution Well Services						
Address	1780 Hughes Landing Blvd, Suite 123	City	The Woodlands	State	TX	Zip	77381

Please insert additional pages as applicable.

Completed by Hollie Medley Telephone 304-212-0422
Signature Hollie Medley Title Regulatory Manager Date 4-7-25

Submittal of Hydraulic Fracturing Chemical Disclosure Information Attach copy of FRACFOCUS Registry

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Phoenix 3H Stimulation Report

Stage Number	Report Date	ISIP (psi)	Breakdown Pressure (psi)	Avg Treating Pressure (psi)	Avg Treating Rate (BPM)	Pad Volume (bbls)	Total Clean Fluid (Bbls)	Total Proppant Amount (lbs)	Flush Volume (bbls)
1	2/7/2024	4,871		9,317	94	522	7,443	301,456	489
2	2/8/2024	5,523	6,013	9,535	94	78	9,766	455,110	482
3	2/8/2024	5,198	6,793	9,274	89	151	9,706	454,871	477
4	2/9/2024	5,477	7,277	9,506	91	101	9,721	455,176	473
5	2/9/2024	5,315	7,223	9,761	93	92	9,705	455,201	470
6	2/10/2024	5,443	7,640	9,549	90	35	9,685	455,127	470
7	2/11/2024	5,572	7,311	9,266	88	41	10,313	455,122	463
8	2/11/2024	5,340	7,243	9,750	89	85	9,643	455,035	454
9	2/12/2024	5,441	7,060	9,734	88	25	9,624	455,144	451
10	2/13/2024	5,902	6,982	9,587	90	82	9,667	455,163	446
11	2/13/2024	9,520	6,969	9,720	90	57	9,636	455,139	442
12	2/14/2024	5,359	7,297	9,642	93	34	9,602	455,094	438
13	2/15/2024	6,176	7,401	9,678	93	70	9,680	455,102	433
14	2/15/2024	5,572	6,870	9,617	91	57	9,669	455,031	435
15	2/16/2024	6,944	7,323	9,699	94	20	9,771	455,356	430
16	2/17/2024	6,444	7,241	9,774	93	42	9,645	455,243	423
17	2/18/2024	7,023	6,670	9,713	93	57	9,664	455,392	417
18	2/19/2024	5,775	7,260	9,595	90	65	9,649	455,409	417
19	2/19/2024	5,486	7,375	9,429	90	15	9,581	455,085	411
20	2/20/2024	7,172	7,551	9,158	91	22	9,664	455,335	417
21	2/20/2024	5,963	8,110	9,483	91	62	9,595	455,724	399
22	2/21/2024	6,751	7,507	9,644	93	21	9,641	455,044	397
23	2/22/2024	6,146	6,943	9,527	91	62	9,576	455,017	396
24	2/22/2024	5,826	7,344	9,436	93	18	9,590	454,996	385
25	2/23/2024	7,120	7,064	9,752	92	18	9,637	455,362	386
26	2/24/2024	7,311	8,390	9,466	94	29	9,603	455,350	393
27	2/24/2024	6,482	6,353	9,472	94	14	9,575	455,007	372
28	2/25/2024	6,283	6,909	9,387	85	21	9,601	455,350	372
29	2/26/2024	5,715	7,199	9,336	94	27	9,079	410,773	362
30	2/27/2024	6,148	7,735	9,461	93	10	9,518	455,050	362
31	2/27/2024	6,669	7,601	9,226	93	11	9,597	455,288	362
32	2/28/2024	6,502	6,729	9,543	94	8	9,563	455,321	362
33	2/29/2024	5,440	6,402	9,438	93	7	10,112	455,077	345
34	3/2/2024	5,676	6,995	9,247	94	6	9,511	455,144	340
35	3/2/2024	5,865	4,325	9,055	91	55	9,519	455,108	336
36	3/3/2024	5,447	8,357	9,120	94	42	9,561	455,300	332
37	3/3/2024	8,552	5,963	9,044	92	44	9,517	455,077	328
38	3/4/2024	5,509	7,614	9,150	94	6	9,496	455,193	323
39	3/4/2024	5,406	7,032	9,166	94	11	9,588	455,241	321
40	3/5/2024	5,749	5,092	8,973	93	55	9,497	455,209	317
41	3/5/2024	5,474	8,416	9,350	93	7	9,566	454,335	311
42	3/6/2024	5,660	7,684	9,080	93	56	9,471	455,128	307
43	3/7/2024	5,521	8,088	9,038	94	6	9,476	454,750	301
44	3/7/2024	5,515	7,579	8,842	92	28	9,471	455,136	298
45	3/8/2024	5,617	7,600	9,244	93	50	9,454	455,117	295

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Stage Number	Report Date	ISIP (psi)	Breakdown Pressure (psi)	Avg Treating Pressure (psi)	Avg Treating Rate (BPM)	Pad Volume (bbls)	Total Clean Fluid (Bbls)	Total Proppant Amount (lbs)	Flush Volume (bbls)
46	3/8/2024	5,607	8,111	9,076	94	91	9,572	455,203	290
47	3/9/2024	5,320	7,182	8,983	94	8	9,467	455,159	288
48	3/10/2024	5,488	5,163	8,791	94	44	9,523	455,089	280
49	3/11/2024	5,711	6,840	8,750	94	20	9,481	455,131	276
50	3/11/2024	5,236	7,025	8,902	94	57	9,522	455,010	271
51	3/12/2024	5,472	7,592	8,643	94	17	9,514	455,078	270
52	3/12/2024	5,372	7,980	8,608	94	60	9,526	455,189	265
53	3/13/2024	5,240	7,588	8,633	94	10	9,452	455,045	258
54	3/13/2024	5,243	7,959	8,526	94	69	9,533	455,168	255
55	3/14/2024	6,298	7,453	8,791	94	12	9,471	455,332	270
56	3/14/2024	5,377	7,242	8,620	93	45	9,530	455,047	254
57	3/15/2024	6,905	6,911	8,456	94	9	9,770	455,264	249
58	3/15/2024	5,709	7,007	8,295	94	90	9,521	455,125	237
59	3/16/2024	6,721	7,067	8,436	94	11	9,455	455,418	240
60	3/16/2024	4,963	7,555	8,443	94	52	9,478	455,254	229
61	3/17/2024	5,981	7,198	8,557	94	9	9,461	455,634	237
62	3/17/2024	7,159	8,020	8,459	94	53	9,478	455,037	223
63	3/18/2024	6,305	7,505	8,486	94	8	9,408	455,357	220
64	3/18/2024	5,872	7,304	8,509	94	5	9,415	455,188	211
65	3/18/2024	5,719	6,840	8,379	94	68	9,499	455,359	207
66	3/19/2024	6,004	7,409	8,524	94	4	9,393	455,618	208
67	3/19/2024	5,756	7,434	8,250	93	51	9,465	455,074	195
68	3/20/2024	5,667	7,764	8,355	94	68	9,456	455,157	191
69	3/20/2024	6,809	7,709	8,730	94	9	9,408	455,423	194

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Environmental Protection

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Phoenix 3H Perforation Report				
Stage Number	Report Date	Total Shots	Cluster 1 Top TD	Cluster 5 Bottom TD
1	2/7/2024	40		22,000
2	2/8/2024	40	21,956	21,799
3	2/8/2024	40	21,757	21,600
4	2/9/2024	40	21,558	21,400
5	2/9/2024	40	21,359	21,201
6	2/10/2024	40	21,159	21,002
7	2/11/2024	40	20,960	20,803
8	2/11/2024	40	20,761	20,603
9	2/12/2024	40	20,562	20,404
10	2/13/2024	40	20,362	20,205
11	2/13/2024	40	20,163	20,006
12	2/14/2024	40	19,964	19,806
13	2/15/2024	40	19,765	19,607
14	2/15/2024	40	19,565	19,408
15	2/16/2024	40	19,366	19,209
16	2/17/2024	40	19,167	19,009
17	2/18/2024	40	18,968	18,810
18	2/19/2024	40	18,768	18,611
19	2/19/2024	40	18,569	18,412
20	2/20/2024	40	18,370	18,212
21	2/20/2024	40	18,171	18,013
22	2/21/2024	40	17,971	17,814
23	2/22/2024	40	17,772	17,615
24	2/22/2024	40	17,573	17,415
25	2/23/2024	40	17,374	17,216
26	2/24/2024	40	17,174	17,017
27	2/24/2024	40	16,975	16,818
28	2/25/2024	40	16,776	16,618
29	2/26/2024	40	16,577	16,419
30	2/27/2024	40	16,377	16,220
31	2/27/2024	40	16,178	16,021
32	2/28/2024	40	15,979	15,821
33	2/29/2024	40	15,780	15,622
34	3/2/2024	40	15,580	15,423
35	3/2/2024	40	15,381	15,224
36	3/3/2024	40	15,182	15,024
37	3/3/2024	40	14,983	14,825
38	3/4/2024	40	14,783	14,626
39	3/4/2024	40	14,584	14,427
40	3/5/2024	40	14,385	14,227
41	3/5/2024	40	14,186	14,028
42	3/6/2024	40	13,986	13,829
43	3/7/2024	40	13,787	13,630
44	3/7/2024	40	13,588	13,430
45	3/8/2024	40	13,389	13,231
46	3/8/2024	40	13,189	13,032
47	3/9/2024	40	12,990	12,833

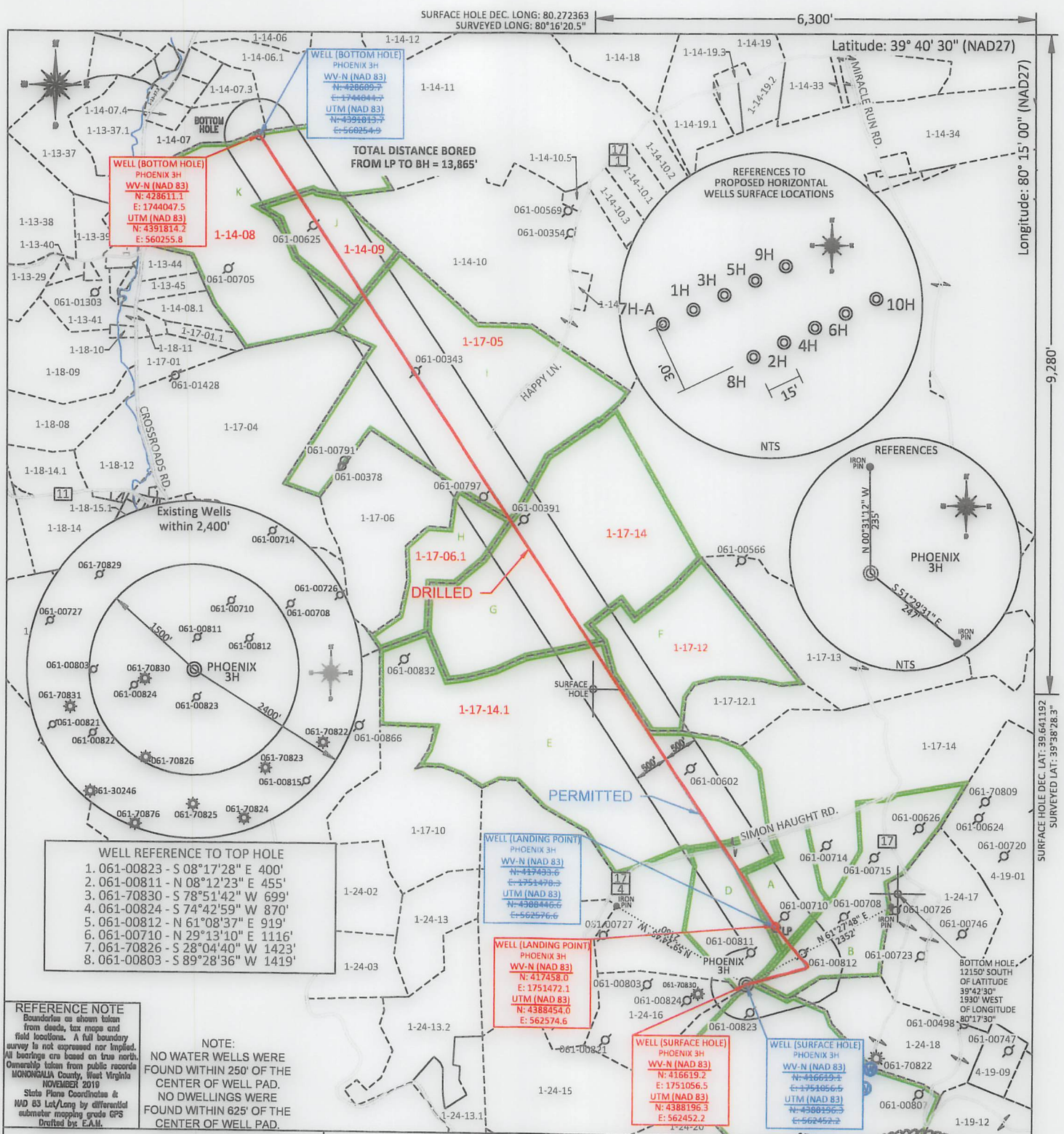
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Stage Number	Report Date	Total Shots	Cluster 1 Top TD	Cluster 5 Bottom TD
48	3/10/2024	40	12,791	12,633
49	3/11/2024	40	12,592	12,434
50	3/11/2024	40	12,392	12,235
51	3/12/2024	40	12,193	12,036
52	3/12/2024	40	11,994	11,836
53	3/13/2024	40	11,795	11,637
54	3/13/2024	40	11,595	11,438
55	3/14/2024	40	11,396	11,239
56	3/14/2024	40	11,197	11,039
57	3/15/2024	40	10,998	10,840
58	3/15/2024	40	10,798	10,641
59	3/16/2024	40	10,599	10,442
60	3/16/2024	40	10,400	10,242
61	3/17/2024	40	10,201	10,043
62	3/17/2024	40	10,001	9,844
63	3/18/2024	40	9,802	9,645
64	3/18/2024	40	9,603	9,445
65	3/18/2024	40	9,404	9,246
66	3/19/2024	40	9,204	9,047
67	3/19/2024	40	9,005	8,848
68	3/20/2024	40	8,806	8,648
69	3/20/2024	40	8,607	8,449

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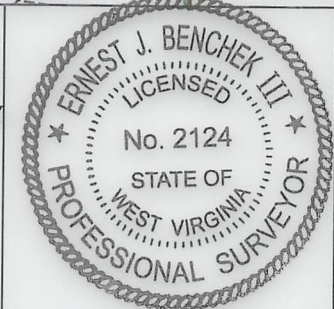


FILE #: NNE16
DRAWING #: 3030
SCALE: PLAT: 1" = 2000'
TICK: 1" = 2000'
MINIMUM DEGREE
OF ACCURACY: 1/200
PROVEN SOURCE SUBMETER MAPPING
OF ELEVATION: GRADE GPS

PLAT IS CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF AND SHOWS ALL THE INFORMATION REQUIRED BY LAW AND THE REGULATIONS ISSUED AND PRESCRIBED BY THE DEPARTMENT OF ENVIRONMENTAL PROTECTION.

Signed: 

L.L.S. #2124 : Ernest J. Benchek III



(+) DENOTES LOCATION OF WELL ON
UNITED STATES TOPOGRAPHIC MAPS
WVDEP
OFFICE OF OIL & GAS
601 57TH STREET
CHARLESTON, WV 25304
Well Type: ☐ Oil ☐ Waste Disposal
☒ Gas ☐ Liquid Injection
WATERSHED: _____ DUNKARD CREEK
COUNTY/DISTRICT: _____ MONONGALIA /
SURFACE OWNER: _____ CHARLES WENDELL
OIL & GAS ROYALTY OWNER: _____
LEASE NUMBERS: _____

DATE: APRIL 2, 2025

OPERATOR'S WELL #: PHOENIX 3H AS-DRILLED

API WELL #: 47 61 01939
STATE COUNTY PERMIT

AS-BUILT
ELEVATION: 1,503.50'

QUADRANGLE: WADESTOWN

ACREAGE: 466.30 +/-

ACREAGE: 1,244.968 +/-

DRILL ☒ CONVERT ☐ DRILL DEEPER ☐ REDRILL ☐ FRACTURE OR STIMULATE ☒
 PLUG OFF FORMATION ☐ PERFORATE NEW FORMATION ☐ PLUG & ABANDON ☐
 CLEAN OUT & REPLUG ☐ OTHER CHANGE ☐ (SPECIFY): _____
 TARGET FORMATION: MARCELLUS DRILLED DEPTH: TVD: 8,176' TMD: 22,136'
 WELL OPERATOR: NORTHEAST NATURAL ENERGY LLC DESIGNATED AGENT: JOHN ADAMS
 ADDRESS: 707 VIRGINIA STREET EAST, SUITE 1200 ADDRESS: 707 VIRGINIA STREET EAST, SUITE 1200
 CITY: CHARLESTON STATE: WV ZIP CODE: 25301 CITY: CHARLESTON STATE: WV ZIP CODE: 25301

	PROPERTY OWNER INDEX
1-14-07	DAVID W WOLFE JR & BRANDI SHAY WOLFE
1-14-08	KING FAMILY TRUST
1-14-09	KING FAMILY TRUST
1-17-14.1	FRANK M. CHISLER
1-17-14	PHOENIX ENERGY RESOURCES, LLC
1-17-06.1	SUSAN ANNE BURNESON
1-17-05	KENT A. & SHIRLEY A. LEONHARDT
1-17-12	PHOENIX ENERGY RESOURCES, LLC
1-24-19.1	CHARLES WENDELL MOORE

	LEASE INDEX		
A	WV-061-004093-050	G	WV-061-004523-000
B	WV-061-003767-004	H	WV-061-005790-003
C	WV-061-004463-001	I	WV-061-005790-003
D	WV-061-004076-010	J	WV-061-004639-011
E	WV-061-005787-001	K	WV-061-004874-001
F	WV-061-004290-001		

FILE #: <u>NEE14</u> DRAWING #: <u>3030</u> SCALE: <u>N/A</u>	DATE: <u>APRIL 2, 2025</u> OPERATOR'S WELL #: <u>PHOENIX 3H AS-DRILLED</u> API WELL #: <u>47</u> <u>61</u> <u>01939</u> STATE COUNTY PERMIT
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NORTHEAST NATURAL ENERGY, LLC

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

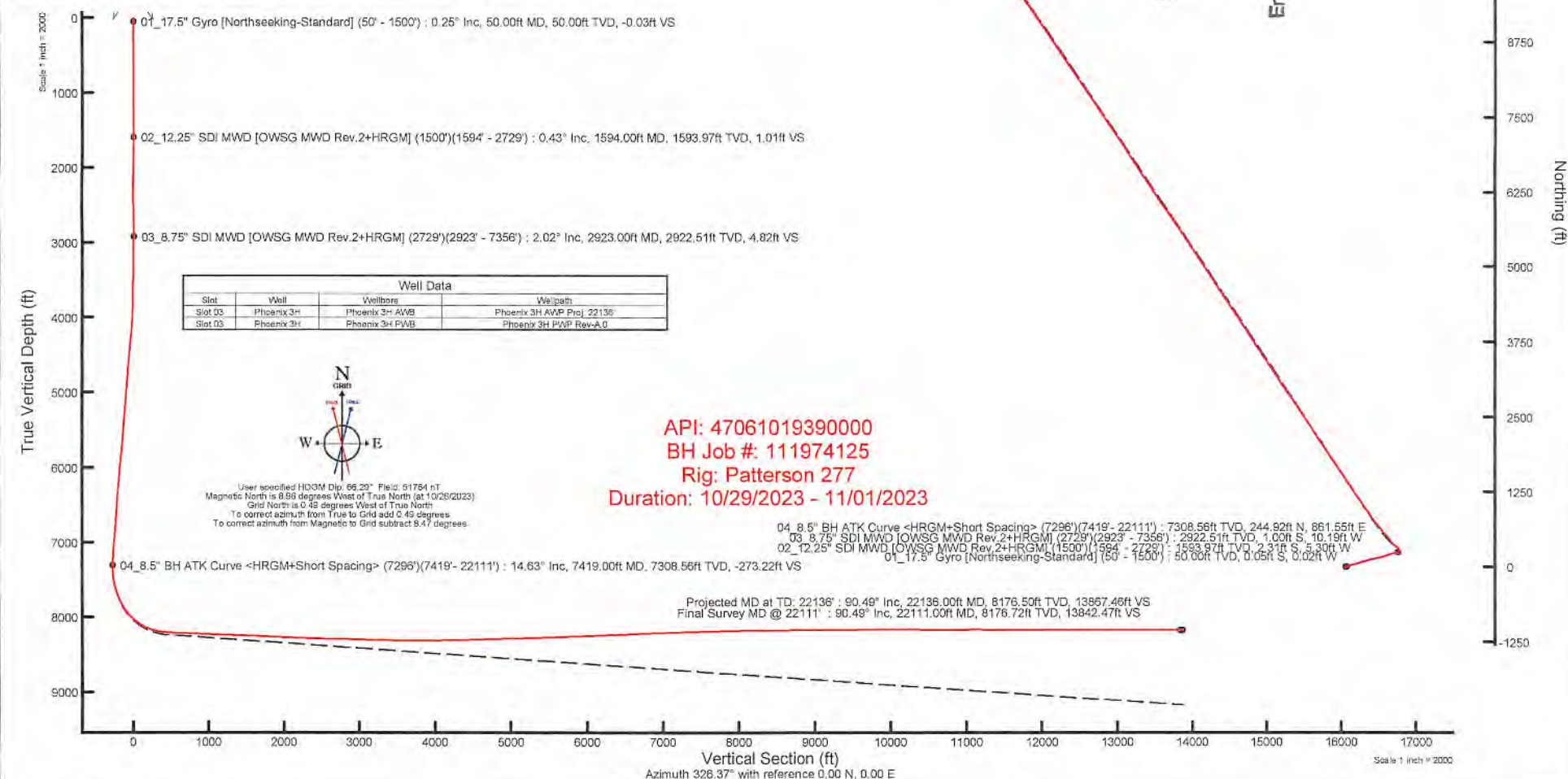
Slot: Slot 03
Well: Phoenix 3H
Wellbore: Phoenix 3H PWB



Well Name: Phoenix 3H	Well ID: 111974125
Well Type: Production	Well Status: Active
Well Depth: 13867.91 ft	Well Completion: Open Hole
Well Orientation: 328.37°	Well Orientation: 328.37°
Well Completion: Open Hole	Well Completion: Open Hole

Location Information					
Property Name	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude	
Phoenix Pad	1751051.588	416616.940	39°22'26.5583"N	80°16'19.8414"W	
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude
Slot 03	2.14	4.52	1751056.800	416619.080	39°28'28.5804"N
Patterson 277 (RKB) to Ground level (At Slot: Slot 03)					288
Mean Sea Level to Ground level (At Slot: Slot 03)					-15039
Patterson 277 (RKB) to Mean Sea Level					15318

Well Profile Data							
Design Component	MD (ft)	Int. (ft)	As. (ft)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (ft/1000)
Te On	7298.00	13.870	71.420	7180.34	223.99	833.24	9.57
Projection	7298.00	13.870	71.420	7247.59	228.57	849.96	9.55
Bulk/Turn	7298.47	27.925	307.773	7643.14	355.23	801.06	9.02
Landing PI	6721.61	88.000	326.371	8235.00	814.58	421.60	8.00
BHL	22177.65	88.000	326.371	9173.65	11901.33	-7512.20	0.00



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NexTier Completion Solutions
3990 Rogerdale Rd., Houston, TX 77042
(713)325-6000

[illegible]

Cement Job Log

NEXTIER

NexTier Completion Solutions
3990 Rogerdale Rd., Houston, TX 77042
(713)325-6000

Customer:	NORTHEAST NATURAL ENERGY LLC	Date:	24-Oct-23	Serv. Supervisor:	Steven Long
Cust. Rep.:	PATRICK / NEIL	Ticket #:	BPA-2310-0046	Serv. Center	Black Lick - 1571
Well Name:	Phoenix N 3H	API Well #:	47-061-01939	County:	Monongalia
Well Type:		Rig:	PATTERSON 277	Type of Job:	CM-INTER. CASING

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Displacement Chemicals:								WV Department of Environmental Protection					
OPEN HOLE DATA				TUBULAR DATA									
17.5 in. O.H. 1,488 to 1,568 ft 12.375 in. O.H. 1,568 to 2,800 ft				9.625 in. 36#, (0 to 2,800 ft)			SIZE WEIGHT	THRD	DEPTH (ft)	GRADE	ID (in)	BURST (psi)	COLLAPSE (psi)
Ambient Tmp.	Bulk Tmp.	Slurry 1 Tmp.	Slurry 2 Tmp.	Slurry 3 Tmp.	Slurry 4 Tmp.	9.625 36#	LTC	2812.9	J-55	8.921	3520	2020	
70.0 °F		64.0 °F											
PREVIOUS CASING DATA				PERFORATED INTERVAL DATA					CASING EQUIPMENT DEPTHS				
13.375 in. 54.5# (0 to 1,488 ft)				TOP	BTM	SPF	SIZE	SHOE	FLOAT	STAGE	ACP		
								2812.9	2767.4				
WELL FLUID			DISPLACEMENT FLUID			DIFF PRESS	CSG LIFT	MAX PRESS	Mix H2O Chlorides (ppm)	Mix H2O pH	Mix H2O Temp	WATER ON LOC (bbl)	
TYPE	DENSITY	VOLUME	TYPE	DENSITY		(psi)	(psi)	(psi)					
P.H2O	8.4 ppg	213.9 bbl	P.H2O	8.4 ppg		1045	1060	2816	< 200	7		1600	
Bumped Plug	Final Differential (psi)	Floats Held (Y/N)	PSI Left on Casing	Cement to Surface (bbl)	Top of Cement (ft)	Full Circ. During Job (Y/N)	Max Pump Pressure (psi)	Casing Rotation	Additional Hrs Charged (hrs)	Casing Reciprocation	Rathole Length (ft)		
No	1,520.00	Y	-	24.00	-	Yes	1,520.00	No	-	Yes	30		

Comments/Additional Details:	
------------------------------	--

Steven Long

Service Supervisor

24-Oct-23

Date _____

NexTier Completion Solutions
3990 Rogerdale Rd., Houston, TX 77042
(713)325-6000

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Actual Wellpath Report

Phoenix 3H AWP Proj: 22136'
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REFERENCE WELLPATH IDENTIFICATION

Operator	NORTHEAST NATURAL ENERGY, LLC	Well	Phoenix 3H
Field	Monongalia	API/Legal	
Facility	Phoenix Pad	Wellbore	Phoenix 3H AWB
Slot	Slot 03		

REPORT SETUP INFORMATION

Projection System	NAD83 / Lambert West Virginia SP, Northern Zone (4701), US feet	Software System	WellArchitect® 6.0
North Reference	Grid	User	Manajohj
Scale	0.999941	Report Generated	11/2/2023 at 11:00:35 PM
Convergence at slot	0.49° West	Database	WA_MPL_EASTERNUS_Defn

WELLPATH LOCATION

	Local coordinates		Grid coordinates		Geographic coordinates	
	North[ft]	East[ft]	Easting[US ft]	Northing[US ft]	Latitude	Longitude
Slot Location	2.14	4.52	1751056.50	416619.08	39°38'28.5804"N	80°16'19.7839"W
Facility Reference Pt			1751051.98	416616.94	39°38'28.5589"N	80°16'19.8414"W
Field Reference Pt			1777685.71	440640.65	39°42'28.1140"N	80°10'41.6900"W

WELLPATH DATUM

Calculation method	Minimum curvature	Patterson 277 (RKB) to Facility Vertical Datum	1531.00ft
Horizontal Reference Pt	Slot	Patterson 277 (RKB) to Mean Sea Level	1531.00ft
Vertical Reference Pt	Patterson 277 (RKB)	Patterson 277 (RKB) to Ground Level at Slot (Slot 03)	28.00ft
MD Reference Pt	Patterson 277 (RKB)	Section Origin	N 0.00, E 0.00 ft
Field Vertical Reference	Mean Sea Level	Section Azimuth	326.37°

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Actual Wellpath Report

Phoenix 3H AWP Proj: 22136'
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REFERENCE WELLPATH IDENTIFICATION

Operator	NORTHEAST NATURAL ENERGY, LLC	Well	Phoenix 3H
Field	Monongalia	API/Legal	
Facility	Phoenix Pad	Wellbore	Phoenix 3H AWB
Slot	Slot 03		

WELLPATH DATA (250 stations) † = interpolated, ‡ = extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	TVDSS [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	199.800	0.00	-1531.00	0.00	0.00	0.00	1751056.50	416619.08	39°38'28.5804"N	80°16'19.7839"W	0.00	0.000	0.00	0.00	0.00
28.00	0.000	199.800	28.00	-1503.00	0.00	0.00	0.00	1751056.50	416619.08	39°38'28.5804"N	80°16'19.7839"W	0.00	0.000	0.00	0.00	0.00
50.00	0.250	199.800	50.00	-1481.00	-0.03	-0.05	-0.02	1751056.48	416619.03	39°38'28.5800"N	80°16'19.7841"W	0.05	199.800	1.14	1.14	0.00
100.00	0.280	195.570	100.00	-1431.00	-0.17	-0.27	-0.09	1751056.41	416618.81	39°38'28.5778"N	80°16'19.7849"W	0.28	197.949	0.07	0.06	-8.46
150.00	0.300	237.760	150.00	-1381.00	-0.25	-0.45	-0.23	1751056.27	416618.63	39°38'28.5759"N	80°16'19.7868"W	0.51	206.869	0.42	0.04	84.38
200.00	0.130	287.130	200.00	-1331.00	-0.20	-0.51	-0.39	1751056.11	416618.57	39°38'28.5754"N	80°16'19.7889"W	0.64	217.930	0.47	-0.34	98.74
250.00	0.060	195.580	250.00	-1281.00	-0.18	-0.51	-0.46	1751056.04	416618.57	39°38'28.5753"N	80°16'19.7896"W	0.69	221.523	0.29	-0.14	-183.10
300.00	0.200	194.270	300.00	-1231.00	-0.25	-0.62	-0.48	1751056.02	416618.46	39°38'28.5742"N	80°16'19.7900"W	0.79	217.792	0.28	0.28	-2.62
350.00	0.240	249.680	350.00	-1181.00	-0.29	-0.75	-0.60	1751055.90	416618.33	39°38'28.5730"N	80°16'19.7915"W	0.96	219.016	0.42	0.08	110.82
400.00	0.170	283.380	400.00	-1131.00	-0.21	-0.76	-0.77	1751055.73	416618.32	39°38'28.5728"N	80°16'19.7937"W	1.09	225.362	0.27	-0.14	67.40
450.00	0.140	222.290	450.00	-1081.00	-0.17	-0.79	-0.89	1751055.61	416618.29	39°38'28.5725"N	80°16'19.7951"W	1.19	226.235	0.32	-0.06	-122.18
500.00	0.290	218.350	500.00	-1031.00	-0.22	-0.94	-1.01	1751055.49	416618.14	39°38'28.5711"N	80°16'19.7966"W	1.38	227.067	0.30	0.30	-7.88
550.00	0.350	247.840	550.00	-981.00	-0.23	-1.09	-1.23	1751055.27	416617.99	39°38'28.5695"N	80°16'19.7994"W	1.64	228.286	0.35	0.12	58.98
600.00	0.290	264.810	600.00	-931.00	-0.14	-1.16	-1.49	1751055.01	416617.92	39°38'28.5688"N	80°16'19.8028"W	1.89	232.114	0.22	-0.12	33.94
650.00	0.210	313.200	650.00	-881.00	0.01	-1.11	-1.69	1751054.81	416617.97	39°38'28.5692"N	80°16'19.8053"W	2.02	236.624	0.44	-0.16	98.78
700.00	0.100	107.150	700.00	-831.00	0.06	-1.06	-1.71	1751054.79	416618.02	39°38'28.5698"N	80°16'19.8056"W	2.01	238.201	0.61	-0.22	307.90
750.00	0.000	0.000	750.00	-781.00	0.03	-1.07	-1.67	1751054.83	416618.01	39°38'28.5697"N	80°16'19.8051"W	1.99	237.252	0.20	-0.20	0.00
800.00	0.080	341.460	800.00	-731.00	0.06	-1.04	-1.68	1751054.82	416618.04	39°38'28.5700"N	80°16'19.8053"W	1.98	238.232	0.16	0.16	0.00
850.00	0.140	22.880	849.99	-681.01	0.13	-0.95	-1.67	1751054.83	416618.13	39°38'28.5709"N	80°16'19.8051"W	1.92	240.299	0.19	0.12	82.84
900.00	0.180	40.920	899.99	-631.01	0.19	-0.84	-1.59	1751054.91	416618.24	39°38'28.5720"N	80°16'19.8042"W	1.80	242.310	0.13	0.08	36.08
950.00	0.210	6.050	949.99	-581.01	0.28	-0.69	-1.53	1751054.97	416618.39	39°38'28.5735"N	80°16'19.8034"W	1.68	245.889	0.24	0.06	-69.74
1000.00	0.030	5.510	999.99	-531.01	0.36	-0.58	-1.52	1751054.98	416618.50	39°38'28.5746"N	80°16'19.8033"W	1.63	249.077	0.36	-0.36	-1.08
1050.00	0.090	252.310	1049.99	-481.01	0.38	-0.58	-1.56	1751054.94	416618.50	39°38'28.5746"N	80°16'19.8037"W	1.66	249.557	0.21	0.12	-226.40
1100.00	0.170	287.840	1099.99	-431.01	0.45	-0.57	-1.67	1751054.83	416618.51	39°38'28.5747"N	80°16'19.8051"W	1.76	251.114	0.22	0.16	71.06
1150.00	0.180	307.560	1149.99	-381.01	0.58	-0.50	-1.80	1751054.70	416618.58	39°38'28.5754"N	80°16'19.8068"W	1.87	254.485	0.12	0.02	39.44
1200.00	0.180	297.280	1199.99	-331.01	0.72	-0.42	-1.93	1751054.57	416618.66	39°38'28.5762"N	80°16'19.8085"W	1.98	257.856	0.06	0.00	-20.56
1250.00	0.440	280.040	1249.99	-281.01	0.87	-0.41	-2.19	1751054.31	416618.67	39°38'28.5762"N	80°16'19.8118"W	2.23	259.327	0.63	0.52	-74.48
1300.00	0.520	242.370	1299.99	-231.01	0.97	-0.55	-2.58	1751053.92	416618.53	39°38'28.5748"N	80°16'19.8168"W	2.64	257.941	0.33	0.16	-35.34
1350.00	0.770	244.420	1349.99	-181.01	1.04	-0.80	-3.08	1751053.42	416618.28	39°38'28.5723"N	80°16'19.8232"W	3.19	255.433	0.50	0.50	4.10
1400.00	0.740	243.390	1399.98	-131.02	1.13	-1.09	-3.66	1751052.82	416617.99	39°38'28.5693"N	80°16'19.8307"W	3.83	253.467	0.07	-0.06	-2.06

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Actual Wellpath Report

Phoenix 3H AWP Proj: 22136'

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REFERENCE WELLPATH IDENTIFICATION

Operator	NORTHEAST NATURAL ENERGY, LLC	Well	Phoenix 3H
Field	Monongalia	API/Legal	
Facility	Phoenix Pad	Wellbore	Phoenix 3H AWB
Slot	Slot 03		

WELLPATH DATA (250 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	TVDSS [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]
1450.00	0.660	244.770	1449.98	-81.02	1.21	-1.36	-4.23	1751052.28	416617.72	39°38'28.5667"N	80°16'19.8377"W	4.44	252.175	0.16	-0.16	2.76
1500.00	0.660	217.480	1499.98	-31.02	1.16	-1.71	-4.66	1751051.84	416617.37	39°38'28.5632"N	80°16'19.8433"W	4.96	249.855	0.62	0.00	-54.58
1594.00	0.430	240.620	1593.97	62.97	1.01	-2.31	-5.30	1751051.20	416616.77	39°38'28.5571"N	80°16'19.8513"W	5.78	246.418	0.33	-0.24	24.62
1688.00	0.520	87.760	1687.97	156.97	0.81	-2.47	-5.18	1751051.32	416616.61	39°38'28.5556"N	80°16'19.8498"W	5.74	244.512	0.98	0.10	-162.62
1783.00	1.390	81.300	1782.96	251.96	0.10	-2.28	-3.61	1751052.89	416616.80	39°38'28.5578"N	80°16'19.8297"W	4.27	237.743	0.92	0.92	-6.80
1878.00	1.910	83.070	1877.92	346.92	-1.09	-1.91	-0.90	1751055.60	416617.17	39°38'28.5615"N	80°16'19.7951"W	2.11	205.162	0.55	0.55	1.86
1973.00	1.350	72.170	1972.88	441.88	-2.11	-1.38	1.74	1751058.24	416617.70	39°38'28.5670"N	80°16'19.7615"W	2.22	128.415	0.67	-0.59	-11.47
2067.00	0.760	48.910	2066.86	535.86	-2.33	-0.63	3.26	1751059.76	416618.45	39°38'28.5745"N	80°16'19.7421"W	3.32	100.928	0.76	-0.63	-24.74
2162.00	0.860	38.030	2161.85	630.85	-2.03	0.35	4.18	1751060.68	416619.43	39°38'28.5842"N	80°16'19.7305"W	4.19	85.268	0.19	0.11	-11.45
2257.00	0.990	5.210	2256.84	725.84	-1.16	1.72	4.69	1751061.19	416620.80	39°38'28.5979"N	80°16'19.7241"W	5.00	69.812	0.57	0.14	-34.55
2351.00	1.390	320.920	2350.82	819.82	0.61	3.42	4.05	1751060.55	416622.50	39°38'28.6146"N	80°16'19.7325"W	5.30	49.802	1.03	0.43	-47.12
2446.00	2.160	301.700	2445.78	914.78	3.38	5.25	1.80	1751058.30	416624.33	39°38'28.6325"N	80°16'19.7615"W	5.55	18.871	1.01	0.81	-20.23
2541.00	2.140	280.640	2540.71	1009.71	6.24	6.52	-1.47	1751055.03	416625.60	39°38'28.6448"N	80°16'19.8034"W	6.69	347.292	0.83	-0.02	-22.17
2635.00	1.760	244.430	2634.66	1103.66	7.67	6.22	-4.50	1751052.00	416625.30	39°38'28.6416"N	80°16'19.8420"W	7.68	324.141	1.35	-0.40	-38.52
2729.00	1.830	221.170	2728.62	1197.62	7.48	4.47	-6.79	1751049.71	416623.55	39°38'28.6240"N	80°16'19.8711"W	8.13	303.366	0.77	0.07	-24.74
2923.00	2.020	203.550	2922.51	1391.51	4.82	-1.00	-10.19	1751046.31	416618.08	39°38'28.5697"N	80°16'19.9141"W	10.24	264.419	0.32	0.10	-9.08
3018.00	1.660	193.510	3017.46	1486.46	2.97	-3.87	-11.18	1751045.32	416615.21	39°38'28.5413"N	80°16'19.9264"W	11.83	250.917	0.51	-0.38	-10.57
3113.00	0.960	129.410	3112.44	1581.44	1.28	-5.71	-10.89	1751045.61	416613.37	39°38'28.5231"N	80°16'19.9224"W	12.30	242.322	1.59	-0.74	-67.47
3210.00	1.110	112.080	3209.42	1678.42	-0.28	-6.58	-9.39	1751047.11	416612.50	39°38'28.5146"N	80°16'19.9032"W	11.47	234.979	0.36	0.15	-17.87
3304.00	1.240	86.400	3303.40	1772.40	-1.54	-6.86	-7.53	1751048.97	416612.22	39°38'28.5120"N	80°16'19.8794"W	10.19	227.679	0.57	0.14	-27.32
3399.00	2.110	58.480	3398.36	1867.36	-2.12	-5.88	-5.02	1751051.48	416613.20	39°38'28.5219"N	80°16'19.8473"W	7.73	220.464	1.23	0.92	-29.39
3494.00	3.170	58.070	3493.26	1962.26	-2.26	-3.58	-1.30	1751055.20	416615.50	39°38'28.5450"N	80°16'19.8000"W	3.80	199.915	1.12	1.12	-0.43
3588.00	3.690	63.560	3587.09	2056.09	-2.72	-0.86	3.62	1751060.12	416618.22	39°38'28.5723"N	80°16'19.7375"W	3.72	103.306	0.65	0.55	5.84
3683.00	5.110	66.990	3681.81	2150.81	-3.88	2.16	10.25	1751066.75	416621.24	39°38'28.6027"N	80°16'19.6531"W	10.48	78.103	1.52	1.49	3.61
3778.00	6.790	63.070	3776.30	2245.30	-5.31	6.36	19.15	1751075.65	416625.44	39°38'28.6449"N	80°16'19.5398"W	20.18	71.638	1.82	1.77	-4.13
3877.00	8.380	69.180	3874.43	2343.43	-7.60	11.57	31.11	1751087.61	416630.65	39°38'28.6974"N	80°16'19.3874"W	33.20	69.598	1.80	1.61	6.17
3972.00	10.010	71.990	3968.20	2437.20	-11.35	16.59	45.44	1751101.93	416635.66	39°38'28.7482"N	80°16'19.2049"W	48.37	69.947	1.78	1.72	2.96
4067.00	12.160	73.590	4061.43	2530.43	-16.54	21.97	62.89	1751119.39	416641.04	39°38'28.8029"N	80°16'18.9824"W	66.61	70.747	2.29	2.26	1.68
4161.00	14.450	73.480	4152.90	2621.90	-22.92	28.10	83.63	1751140.13	416647.18	39°38'28.8652"N	80°16'18.7179"W	88.23	71.429	2.44	2.44	-0.12
4256.00	15.950	77.280	4244.57	2713.57	-31.07	34.34	107.73	1751164.22	416653.42	39°38'28.9290"N	80°16'18.4106"W	113.07	72.318	1.89	1.58	4.00

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Actual Wellpath Report

Phoenix 3H AWP Proj: 22136'

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REFERENCE WELLPATH IDENTIFICATION

Operator	NORTHEAST NATURAL ENERGY, LLC	Well	Phoenix 3H
Field	Monongalia	API/Legal	
Facility	Phoenix Pad	Wellbore	Phoenix 3H AWB
Slot	Slot 03		

WELLPATH DATA (250 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	TVDSS [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]
4351.00	15.200	75.210	4336.09	2805.09	-39.75	40.40	132.51	1751189.00	416659.47	39°38'28.9909"N	80°16'18.0946"W	138.53	73.045	0.98	-0.79	-2.18
4445.00	14.800	74.000	4426.88	2895.88	-47.37	46.85	155.96	1751212.45	416665.93	39°38'29.0567"N	80°16'17.7954"W	162.85	73.279	0.54	-0.43	-1.29
4539.00	15.260	75.800	4517.67	2986.67	-55.12	53.20	179.49	1751235.98	416672.27	39°38'29.1214"N	80°16'17.4953"W	187.21	73.492	0.70	0.49	1.91
4634.00	15.420	75.380	4609.28	3078.28	-63.39	59.45	203.84	1751260.32	416678.53	39°38'29.1853"N	80°16'17.1849"W	212.33	73.740	0.21	0.17	-0.44
4728.00	15.500	72.600	4699.88	3168.88	-70.97	66.36	227.91	1751284.40	416685.44	39°38'29.2566"N	80°16'16.8778"W	237.38	73.766	0.79	0.09	-2.96
4827.00	14.970	70.600	4795.40	3264.40	-77.81	74.56	252.60	1751309.08	416693.64	39°38'29.3388"N	80°16'16.5632"W	263.37	73.554	0.75	-0.54	-2.02
4921.00	14.240	71.730	4886.37	3355.37	-83.86	82.22	275.03	1751331.51	416701.30	39°38'29.4163"N	80°16'16.2773"W	287.05	73.356	0.83	-0.78	1.20
5016.00	14.470	74.800	4978.40	3447.40	-90.71	89.00	297.58	1751354.06	416708.07	39°38'29.4852"N	80°16'15.9898"W	310.60	73.350	0.84	0.24	3.23
5111.00	14.900	75.050	5070.30	3539.30	-98.37	95.26	320.83	1751377.31	416714.33	39°38'29.5491"N	80°16'15.6933"W	334.67	73.463	0.46	0.45	0.26
5205.00	14.400	76.000	5161.24	3630.24	-106.17	101.20	343.85	1751400.33	416720.28	39°38'29.6098"N	80°16'15.3997"W	358.43	73.599	0.59	-0.53	1.01
5300.00	13.930	74.960	5253.35	3722.35	-113.78	107.03	366.35	1751422.83	416726.10	39°38'29.6693"N	80°16'15.1127"W	381.67	73.714	0.56	-0.49	-1.09
5395.00	13.170	73.440	5345.71	3814.71	-120.60	113.08	387.77	1751444.25	416732.15	39°38'29.7309"N	80°16'14.8396"W	403.92	73.742	0.88	-0.80	-1.60
5490.00	13.790	75.050	5438.09	3907.09	-127.41	119.09	409.08	1751465.58	416738.16	39°38'29.7920"N	80°16'14.5678"W	426.07	73.769	0.76	0.65	1.69
5585.00	13.650	73.470	5530.38	3999.38	-134.33	125.20	430.77	1751487.24	416744.27	39°38'29.8543"N	80°16'14.2913"W	448.59	73.794	0.42	-0.15	-1.66
5679.00	13.680	73.850	5621.72	4090.72	-140.93	131.44	452.08	1751508.55	416750.52	39°38'29.9178"N	80°16'14.0196"W	470.80	73.788	0.10	0.03	0.40
5778.00	13.620	76.360	5717.92	4186.92	-148.43	137.45	474.65	1751531.12	416756.52	39°38'29.9791"N	80°16'13.7317"W	494.15	73.850	0.60	-0.06	2.54
5872.00	14.740	78.690	5809.06	4278.06	-156.76	142.41	497.13	1751553.60	416761.48	39°38'30.0300"N	80°16'13.4448"W	517.13	74.016	1.34	1.19	2.48
5967.00	15.870	78.280	5900.69	4369.69	-166.19	147.41	521.70	1751578.17	416766.49	39°38'30.0815"N	80°16'13.1313"W	542.13	74.222	1.19	1.19	-0.43
6062.00	16.300	77.270	5991.97	4460.97	-175.80	152.99	547.43	1751603.89	416772.06	39°38'30.1388"N	80°16'12.8031"W	568.40	74.386	0.54	0.45	-1.06
6156.00	15.550	77.620	6082.36	4551.36	-185.07	158.60	572.60	1751629.07	416777.67	39°38'30.1964"N	80°16'12.4820"W	594.16	74.518	0.80	-0.80	0.37
6251.00	15.490	75.340	6173.90	4642.90	-193.81	164.54	597.31	1751653.78	416783.61	39°38'30.2572"N	80°16'12.1667"W	619.56	74.599	0.65	-0.06	-2.40
6346.00	15.590	73.380	6265.43	4734.43	-201.67	171.40	621.82	1751678.28	416790.47	39°38'30.3271"N	80°16'11.8542"W	645.01	74.589	0.56	0.11	-2.06
6441.00	14.510	71.440	6357.17	4826.17	-208.49	178.84	645.33	1751701.79	416797.91	39°38'30.4026"N	80°16'11.5545"W	669.66	74.510	1.25	-1.14	-2.04
6535.00	13.720	71.230	6448.33	4917.33	-214.42	186.18	667.05	1751723.51	416805.24	39°38'30.4769"N	80°16'11.2777"W	692.54	74.405	0.84	-0.84	-0.22
6629.00	12.990	71.360	6539.73	5008.73	-220.01	193.14	687.62	1751744.07	416812.21	39°38'30.5475"N	80°16'11.0155"W	714.23	74.311	0.78	-0.78	0.14
6727.00	12.750	73.750	6635.32	5104.32	-226.09	199.69	708.43	1751764.89	416818.75	39°38'30.6139"N	80°16'10.7501"W	736.04	74.258	0.60	-0.24	2.44
6822.00	12.650	73.380	6728.00	5197.00	-232.26	205.59	728.47	1751784.92	416824.86	39°38'30.6740"N	80°16'10.4947"W	756.92	74.239	0.14	-0.11	-0.39
6917.00	12.240	73.790	6820.77	5289.77	-238.32	211.38	748.10	1751804.56	416830.45	39°38'30.7329"N	80°16'10.2443"W	777.39	74.222	0.44	-0.43	0.43
7012.00	13.170	76.090	6913.44	5382.44	-244.98	216.79	768.28	1751824.73	416835.86	39°38'30.7881"N	80°16'9.9870"W	798.28	74.242	1.11	0.98	2.42
7107.00	13.500	77.270	7005.88	5474.88	-252.69	221.84	789.60	1751846.05	416840.91	39°38'30.8397"N	80°16'9.7150"W	820.17	74.307	0.45	0.35	1.24

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REFERENCE WELLPATH IDENTIFICATION

Operator	NORTHEAST NATURAL ENERGY, LLC	Well	Phoenix 3H
Field	Monongalia	API/Legal	
Facility	Phoenix Pad	Wellbore	Phoenix 3H AWB
Slot	Slot 03		

WELLPATH DATA (250 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	TVDSS [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]
7202.00	14.130	74.620	7098.13	5567.13	-260.18	227.36	811.60	1751868.05	416846.42	39°38'30.8961"N	80°16'9.4345"W	842.84	74.350	0.94	0.66	-2.79
7296.00	13.870	71.420	7189.34	5658.34	-266.70	233.99	833.34	1751889.79	416853.06	39°38'30.9635"N	80°16'9.1573"W	865.57	74.316	0.87	-0.28	-3.40
7419.00	14.630	66.370	7308.56	5777.56	-273.22	244.92	861.55	1751918.00	416863.98	39°38'31.0739"N	80°16'8.7979"W	895.68	74.131	1.18	0.62	-4.11
7510.00	10.950	40.890	7397.36	5886.36	-272.91	256.07	877.75	1751934.20	416875.13	39°38'31.1855"N	80°16'8.5920"W	914.34	73.736	7.31	-4.04	-28.00
7604.00	10.860	350.930	7489.86	5958.86	-262.45	271.60	882.21	1751938.66	416890.66	39°38'31.3393"N	80°16'8.5367"W	923.07	72.889	9.75	-0.10	-53.15
7699.00	13.160	329.910	7582.82	6051.82	-243.51	289.80	875.37	1751931.82	416908.86	39°38'31.5186"N	80°16'8.6261"W	922.10	71.682	5.16	2.42	-22.13
7793.00	18.660	321.410	7673.19	6142.19	-217.82	310.83	860.62	1751917.06	416929.89	39°38'31.7252"N	80°16'8.8170"W	915.03	70.142	6.34	5.85	-9.04
7887.00	23.810	310.410	7760.81	6229.81	-184.56	334.91	836.76	1751893.21	416953.97	39°38'31.9612"N	80°16'9.1246"W	901.30	68.186	6.91	5.48	-11.70
7980.00	29.320	306.540	7843.97	6312.97	-145.06	360.66	804.15	1751860.60	416979.72	39°38'32.2129"N	80°16'9.5443"W	881.32	65.844	6.21	5.92	-4.16
8074.00	35.870	319.800	7923.22	6392.22	-95.94	395.48	767.79	1751824.25	417014.54	39°38'32.5539"N	80°16'10.0128"W	863.66	62.748	10.28	6.97	14.11
8168.00	44.210	324.530	7995.14	6464.14	-35.70	443.30	730.93	1751787.38	417062.35	39°38'33.0234"N	80°16'10.4893"W	854.85	58.764	9.44	8.87	5.03
8262.00	52.810	318.070	8057.40	6526.40	34.28	497.98	686.78	1751743.24	417117.03	39°38'33.5600"N	80°16'11.0596"W	848.33	54.054	10.49	9.15	-6.87
8356.00	57.210	318.490	8111.29	6580.29	110.50	555.45	635.55	1751692.01	417174.50	39°38'34.1237"N	80°16'11.7208"W	844.07	48.847	4.70	4.68	0.45
8450.00	67.470	322.160	8154.88	6623.88	193.18	619.51	582.58	1751639.04	417238.56	39°38'34.7523"N	80°16'12.4049"W	850.41	43.240	11.45	10.91	3.90
8544.00	77.440	321.980	8183.18	6652.18	282.44	690.12	527.55	1751584.02	417309.15	39°38'35.4453"N	80°16'13.1161"W	868.66	37.396	10.61	10.61	-0.19
8637.00	83.120	322.270	8198.87	6667.87	373.82	762.44	471.30	1751527.77	417381.48	39°38'36.1553"N	80°16'13.8431"W	896.35	31.722	6.12	6.11	0.31
8732.00	85.660	325.580	8208.16	6677.16	468.26	838.85	415.64	1751472.12	417457.87	39°38'36.9057"N	80°16'14.5629"W	936.17	26.358	4.38	2.67	3.48
8827.00	87.660	325.080	8213.70	6682.70	563.07	916.84	361.70	1751418.17	417535.87	39°38'37.6719"N	80°16'15.2610"W	985.61	21.529	2.17	2.11	-0.53
8922.00	88.640	325.100	8216.76	6685.76	658.00	994.70	307.36	1751363.84	417613.72	39°38'38.4368"N	80°16'15.9642"W	1041.11	17.171	1.03	1.03	0.02
9017.00	88.370	325.700	8219.24	6688.24	752.95	1072.88	258.43	1751309.92	417691.89	39°38'39.2047"N	80°16'16.6621"W	1102.40	13.291	0.69	-0.28	0.63
9111.00	86.640	325.180	8223.33	6692.33	846.85	1150.21	200.16	1751256.65	417769.22	39°38'39.9645"N	80°16'17.3516"W	1167.50	9.872	1.92	-1.84	-0.55
9206.00	87.410	325.150	8228.26	6697.26	941.70	1228.08	145.97	1751202.46	417847.09	39°38'40.7294"N	80°16'18.0529"W	1236.73	6.778	0.81	0.81	-0.03
9301.00	87.170	326.780	8232.76	6701.76	1036.59	1306.72	92.86	1751149.35	417925.72	39°38'41.5020"N	80°16'18.7404"W	1310.01	4.065	1.73	-0.25	1.72
9395.00	87.690	326.540	8236.97	6705.97	1130.49	1385.17	41.25	1751097.75	418004.16	39°38'42.2730"N	80°16'19.4088"W	1385.78	1.706	0.61	0.55	-0.26
9490.00	87.260	326.240	8241.16	6710.16	1225.40	1464.21	-11.29	1751045.21	418083.20	39°38'43.0496"N	80°16'20.0890"W	1464.25	359.568	0.55	-0.45	-0.32
9585.00	87.320	326.230	8245.65	6714.65	1320.29	1543.10	-64.03	1750992.48	418162.08	39°38'43.8248"N	80°16'20.7719"W	1544.42	357.624	0.06	0.06	-0.01
9680.00	88.280	326.620	8249.29	6718.29	1415.22	1622.19	-116.53	1750939.98	418241.17	39°38'44.6019"N	80°16'21.4517"W	1626.37	355.891	1.09	1.01	0.41
9774.00	87.720	326.140	8252.57	6721.57	1509.16	1700.42	-168.54	1750887.97	418319.39	39°38'45.3706"N	80°16'22.1252"W	1708.75	354.340	0.78	-0.60	-0.51
9869.00	88.150	326.410	8256.00	6725.00	1604.10	1779.38	-221.25	1750835.26	418398.35	39°38'46.1464"N	80°16'22.8077"W	1793.08	352.912	0.53	0.45	0.28
9963.00	87.010	326.610	8259.97	6728.97	1698.01	1857.24	-273.75	1750782.77	418476.21	39°38'46.9115"N	80°16'23.4874"W	1877.31	351.615	1.48	-1.21	-0.85

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Phoenix 3H AWP Proj: 22136'

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REFERENCE WELLPATH IDENTIFICATION

Operator	NORTHEAST NATURAL ENERGY, LLC	Well	Phoenix 3H
Field	Monongalia	API/Legal	
Facility	Phoenix Pad	Wellbore	Phoenix 3H AWB
Slot	Slot 03		

WELLPATH DATA (250 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	TVDSS [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]
10058.00	86.980	325.750	8264.95	6733.95	1792.87	1935.60	-327.24	1750729.28	418554.56	39°38'47.6813"N	80°16'24.1798"W	1963.06	350.404	0.15	-0.03	0.15
10153.00	87.690	326.190	8269.36	6738.36	1887.77	2014.24	-380.35	1750676.18	418633.20	39°38'48.4540"N	80°16'24.8674"W	2049.84	349.307	0.88	0.75	0.46
10248.00	87.780	325.750	8273.12	6742.12	1982.69	2092.91	-433.47	1750623.06	418711.86	39°38'49.2269"N	80°16'25.5551"W	2137.33	348.299	0.47	0.09	-0.46
10342.00	87.570	326.140	8276.93	6745.93	2076.61	2170.73	-486.07	1750570.46	418789.67	39°38'49.9914"N	80°16'26.2361"W	2224.48	347.379	0.47	-0.22	0.41
10437.00	87.940	326.240	8280.65	6749.65	2171.54	2249.60	-538.89	1750517.65	418868.54	39°38'50.7664"N	80°16'26.9200"W	2313.24	346.529	0.40	0.39	0.11
10532.00	87.910	326.550	8284.09	6753.09	2266.47	2328.67	-591.43	1750465.11	418947.61	39°38'51.5434"N	80°16'27.6004"W	2402.60	345.749	0.33	-0.03	0.33
10627.00	88.090	326.850	8287.41	6756.41	2361.41	2408.02	-643.56	1750412.98	419026.96	39°38'52.3231"N	80°16'28.2755"W	2492.54	345.037	0.37	0.19	0.32
10722.00	88.210	326.400	8290.48	6759.48	2456.36	2487.31	-695.79	1750360.75	419106.24	39°38'53.1023"N	80°16'28.9520"W	2582.80	344.372	0.49	0.13	-0.47
10817.00	88.580	325.550	8293.14	6762.14	2551.32	2566.02	-748.93	1750307.62	419184.94	39°38'53.8756"N	80°16'29.6400"W	2673.08	343.729	0.98	0.39	-0.89
10911.00	89.140	326.030	8295.01	6764.01	2645.30	2643.74	-801.76	1750254.78	419262.66	39°38'54.6391"N	80°16'30.3240"W	2762.64	343.129	0.78	0.80	0.51
11006.00	89.510	326.260	8296.13	6765.13	2740.29	2722.63	-854.68	1750201.87	419341.54	39°38'55.4142"N	80°16'31.0092"W	2853.63	342.572	0.46	0.39	0.24
11101.00	88.860	325.440	8297.48	6766.48	2835.28	2801.24	-908.01	1750148.55	419420.14	39°38'56.1865"N	80°16'31.6996"W	2944.72	342.040	1.10	-0.68	-0.86
11196.00	87.750	324.640	8300.29	6769.29	2930.21	2879.06	-962.42	1750094.14	419497.96	39°38'56.9510"N	80°16'32.4038"W	3035.66	341.516	1.44	-1.17	-0.84
11290.00	88.430	325.160	8303.42	6772.42	3024.12	2955.92	-1016.44	1750040.12	419574.82	39°38'57.7060"N	80°16'33.1028"W	3125.80	341.024	0.91	0.72	0.55
11385.00	88.400	326.480	8306.05	6775.05	3119.08	3034.48	-1069.79	1749986.78	419653.37	39°38'58.4778"N	80°16'33.7935"W	3217.53	340.580	1.39	-0.03	1.39
11479.00	88.950	326.690	8308.22	6777.22	3213.05	3112.92	-1121.54	1749935.03	419731.81	39°38'59.2486"N	80°16'34.4638"W	3308.79	340.187	0.63	0.59	0.22
11574.00	88.710	325.570	8310.16	6779.16	3308.03	3191.78	-1174.47	1749882.10	419810.67	39°39'0.0234"N	80°16'35.1492"W	3401.01	339.798	1.21	-0.25	-1.18
11669.00	89.660	326.500	8311.51	6780.51	3403.02	3270.56	-1227.54	1749829.04	419889.44	39°39'0.7974"N	80°16'35.8363"W	3493.34	339.427	1.40	1.00	0.98
11763.00	89.360	326.530	8312.32	6781.32	3497.01	3348.96	-1279.40	1749777.18	419967.83	39°39'1.5677"N	80°16'36.5080"W	3585.02	339.092	0.33	-0.33	0.03
11858.00	90.030	326.500	8312.84	6781.84	3592.01	3428.19	-1331.81	1749724.77	420047.06	39°39'2.3463"N	80°16'37.1868"W	3677.80	338.769	0.72	0.72	-0.03
11953.00	89.910	326.620	8312.89	6781.89	3687.01	3507.46	-1384.16	1749672.42	420126.33	39°39'3.1252"N	80°16'37.8648"W	3770.70	338.464	0.18	-0.13	0.13
12047.00	89.750	325.970	8313.17	6782.17	3781.01	3585.66	-1436.32	1749620.26	420204.52	39°39'3.8935"N	80°16'38.5403"W	3862.64	338.170	0.71	-0.17	-0.69
12142.00	90.310	326.390	8313.12	6782.12	3876.01	3664.59	-1489.20	1749567.39	420283.44	39°39'4.6690"N	80°16'39.2250"W	3955.62	337.884	0.74	0.59	0.44
12236.00	89.940	326.420	8312.91	6781.91	3970.01	3742.89	-1541.21	1749515.38	420361.74	39°39'5.4383"N	80°16'39.8986"W	4047.78	337.620	0.39	-0.39	0.03
12331.00	90.890	326.250	8312.22	6781.22	4065.01	3821.95	-1593.87	1749462.73	420440.80	39°39'6.2152"N	80°16'40.5806"W	4140.98	337.362	1.02	1.00	-0.18
12426.00	91.260	326.330	8310.44	6779.44	4159.99	3900.96	-1646.59	1749410.02	420519.80	39°39'6.9915"N	80°16'41.2633"W	4234.24	337.116	0.40	0.39	0.08
12521.00	90.860	326.760	8308.68	6777.68	4254.97	3980.21	-1698.95	1749357.66	420599.05	39°39'7.7702"N	80°16'41.9415"W	4327.64	336.885	0.62	-0.42	0.45
12616.00	90.800	326.550	8307.31	6776.31	4349.96	4059.56	-1751.16	1749305.45	420678.39	39°39'8.5499"N	80°16'42.6178"W	4421.16	336.666	0.23	-0.06	-0.22
12711.00	91.720	325.920	8305.82	6774.22	4444.94	4138.52	-1803.95	1749252.66	420757.34	39°39'9.3257"N	80°16'43.3014"W	4514.59	336.448	1.17	0.97	-0.66
12805.00	91.450	326.110	8302.62	6771.62	4538.90	4216.43	-1856.47	1749200.14	420835.25	39°39'10.0912"N	80°16'43.9815"W	4607.04	336.236	0.35	-0.29	0.20

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REFERENCE WELLPATH IDENTIFICATION

Operator	NORTHEAST NATURAL ENERGY, LLC	Well	Phoenix 3H
Field	Monongalia	API/Legal	
Facility	Phoenix Pad	Wellbore	Phoenix 3H AWB
Slot	Slot 03		

WELLPATH DATA (250 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	TVDSS [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]
12899.00	92.120	326.810	8299.69	6768.69	4632.85	4294.74	-1908.38	1749148.23	420913.56	39°39'10.8606"N	80°16'44.6539"W	4699.65	336.042	1.03	0.71	0.74
12994.00	91.390	326.400	8296.78	6765.78	4727.80	4374.02	-1960.65	1749095.97	420992.83	39°39'11.6396"N	80°16'45.3309"W	4793.35	335.856	0.88	-0.77	-0.43
13089.00	92.160	325.960	8293.84	6762.84	4822.76	4452.90	-2013.50	1749043.13	421071.71	39°39'12.4147"N	80°16'46.0153"W	4886.98	335.669	0.93	0.81	-0.46
13183.00	91.600	326.150	8290.76	6759.76	4916.71	4530.84	-2065.96	1748990.67	421149.64	39°39'13.1804"N	80°16'46.6946"W	4979.63	335.488	0.63	-0.60	0.20
13278.00	91.230	326.700	8288.41	6757.41	5011.68	4609.97	-2118.48	1748938.15	421228.77	39°39'13.9579"N	80°16'47.3749"W	5073.44	335.319	0.70	-0.39	0.58
13373.00	90.950	325.930	8286.60	6755.60	5106.66	4689.00	-2171.16	1748885.47	421307.80	39°39'14.7344"N	80°16'48.0571"W	5167.27	335.154	0.86	-0.29	-0.81
13468.00	91.880	326.890	8284.26	6753.26	5201.63	4768.11	-2223.70	1748832.94	421386.90	39°39'15.5117"N	80°16'48.7377"W	5261.15	334.997	1.41	0.98	1.01
13562.00	91.720	326.840	8281.30	6750.30	5295.58	4846.70	-2275.19	1748781.45	421465.48	39°39'16.2839"N	80°16'49.4047"W	5354.16	334.853	0.32	-0.17	-0.27
13657.00	91.350	326.850	8278.76	6747.76	5390.54	4926.11	-2327.27	1748729.37	421544.89	39°39'17.0643"N	80°16'50.0793"W	5448.19	334.712	0.45	-0.39	0.22
13752.00	92.310	325.880	8275.73	6744.73	5485.49	5005.17	-2379.86	1748676.78	421623.94	39°39'17.8410"N	80°16'50.7605"W	5542.15	334.570	1.44	1.01	-1.02
13846.00	92.030	326.490	8272.17	6741.17	5579.42	5083.21	-2432.14	1748624.51	421701.98	39°39'18.6078"N	80°16'51.4375"W	5635.09	334.431	0.71	-0.30	0.65
13940.00	92.340	326.440	8268.58	6737.58	5673.35	5161.50	-2484.03	1748572.62	421780.27	39°39'19.3771"N	80°16'52.1097"W	5728.13	334.300	0.33	0.33	-0.05
14035.00	92.400	326.490	8264.65	6733.65	5768.27	5240.62	-2536.47	1748520.19	421859.38	39°39'20.1545"N	80°16'52.7889"W	5822.18	334.173	0.08	0.06	0.05
14130.00	91.850	327.150	8261.13	6730.13	5863.20	5320.08	-2588.42	1748468.24	421938.83	39°39'20.9352"N	80°16'53.4620"W	5916.35	334.055	0.90	-0.58	0.69
14225.00	92.150	326.760	8257.82	6726.82	5958.14	5399.66	-2640.19	1748416.47	422018.41	39°39'21.7173"N	80°16'54.1327"W	6010.57	333.943	0.52	0.32	-0.41
14319.00	92.370	326.250	8254.11	6723.11	6052.07	5477.99	-2692.03	1748364.64	422096.74	39°39'22.4869"N	80°16'54.8042"W	6103.72	333.829	0.59	0.23	-0.54
14414.00	92.030	326.320	8250.46	6719.46	6147.00	5556.96	-2744.72	1748311.95	422175.70	39°39'23.2627"N	80°16'55.4866"W	6197.84	333.714	0.37	-0.36	0.07
14509.00	92.650	326.340	8246.58	6715.58	6241.92	5635.95	-2797.34	1748259.33	422254.69	39°39'24.0389"N	80°16'56.1683"W	6291.99	333.603	0.65	0.65	0.02
14603.00	92.800	326.230	8242.11	6711.11	6335.81	5714.05	-2849.46	1748207.22	422332.78	39°39'24.8062"N	80°16'56.8433"W	6385.13	333.496	0.20	0.16	-0.12
14698.00	92.710	326.300	8237.55	6706.55	6430.70	5792.97	-2902.16	1748154.52	422411.69	39°39'25.5815"N	80°16'57.5258"W	6479.27	333.390	0.12	-0.09	0.07
14792.00	92.710	325.780	8233.10	6702.10	6524.59	5870.85	-2954.61	1748102.07	422489.57	39°39'26.3467"N	80°16'58.2051"W	6572.41	333.285	0.55	0.00	-0.55
14887.00	93.140	326.460	8228.26	6697.26	6619.47	5949.61	-3007.50	1748049.19	422568.33	39°39'27.1205"N	80°16'58.8901"W	6666.55	333.184	0.85	0.45	0.72
14982.00	92.430	324.750	8223.64	6692.64	6714.34	6027.91	-3061.10	1747995.59	422646.62	39°39'27.8896"N	80°16'59.5841"W	6760.62	333.078	1.95	-0.75	-1.80
15077.00	92.250	326.520	8219.76	6688.76	6809.25	6106.26	-3114.67	1747942.02	422724.96	39°39'28.6593"N	80°17'0.2779"W	6854.75	332.975	1.87	-0.19	1.86
15171.00	91.690	326.870	8216.53	6685.53	6903.19	6184.77	-3166.26	1747890.44	422803.47	39°39'29.4308"N	80°17'0.9462"W	6948.13	332.890	0.70	-0.60	0.37
15266.00	92.150	326.490	8213.35	6682.35	6998.14	6264.11	-3218.41	1747838.28	422882.81	39°39'30.2104"N	80°17'1.6219"W	7042.53	332.807	0.63	0.48	-0.40
15361.00	91.820	326.140	8210.06	6679.06	7093.08	6343.11	-3271.07	1747785.63	422961.80	39°39'30.9866"N	80°17'2.3039"W	7136.87	332.720	0.51	-0.35	-0.37
15456.00	91.720	326.300	8207.12	6676.12	7188.04	6422.03	-3323.87	1747732.84	423040.72	39°39'31.7620"N	80°17'2.9878"W	7231.22	332.635	0.20	-0.11	0.17
15550.00	91.480	326.410	8204.50	6673.50	7282.00	6500.26	-3375.93	1747680.78	423118.94	39°39'32.5305"N	80°17'3.6621"W	7324.63	332.555	0.28	-0.26	0.12
15645.00	91.750	326.890	8201.82	6670.82	7376.96	6579.58	-3428.13	1747628.58	423198.26	39°39'33.3100"N	80°17'4.3385"W	7419.10	332.479	0.58	0.28	0.51

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Field	Monongalia	API/Legal	
Facility	Phoenix Pad	Wellbore	Phoenix 3H AWB
Slot	Slot 03		

WELLPATH DATA (250 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	TVDSS [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]
15739.00	91.780	326.580	8198.92	8667.92	7470.91	6658.14	-3479.67	1747577.05	423276.81	39°39'34.0819"N	80°17'5.0062"W	7512.59	332.408	0.33	0.03	-0.33
15833.00	91.380	326.430	8196.33	8665.33	7564.88	6736.50	-3531.52	1747525.19	423355.17	39°39'34.8518"N	80°17'5.6779"W	7606.06	332.335	0.45	-0.43	-0.16
15928.00	91.600	326.490	8193.86	8662.86	7659.85	6815.66	-3583.99	1747472.73	423434.32	39°39'35.6295"N	80°17'6.3577"W	7700.53	332.262	0.24	0.23	0.06
16023.00	91.540	326.220	8191.26	8660.26	7754.81	6894.71	-3636.61	1747420.11	423513.37	39°39'36.4062"N	80°17'7.0392"W	7795.00	332.191	0.29	-0.06	-0.28
16118.00	91.390	326.580	8188.83	8657.83	7849.78	6973.82	-3689.16	1747367.56	423592.47	39°39'37.1834"N	80°17'7.7200"W	7889.49	332.121	0.41	-0.16	0.38
16212.00	91.290	326.670	8186.63	8655.63	7943.75	7052.29	-3740.86	1747315.87	423670.94	39°39'37.9545"N	80°17'8.3898"W	7983.04	332.056	0.14	-0.11	0.10
16306.00	91.050	326.550	8184.71	8653.71	8037.73	7130.78	-3792.58	1747264.15	423749.40	39°39'38.7255"N	80°17'9.0599"W	8076.60	331.993	0.29	-0.26	-0.13
16401.00	90.740	326.620	8183.23	8652.23	8132.72	7210.05	-3844.89	1747211.84	423828.69	39°39'39.5045"N	80°17'9.7376"W	8171.17	331.930	0.33	-0.33	0.07
16496.00	90.620	326.600	8182.10	8651.10	8227.71	7289.36	-3897.17	1747159.57	423908.00	39°39'40.2838"N	80°17'10.4149"W	8265.76	331.869	0.13	-0.13	-0.02
16590.00	90.520	326.520	8181.17	8650.17	8321.71	7367.80	-3948.97	1747107.78	423986.43	39°39'41.0545"N	80°17'11.0860"W	8359.35	331.810	0.14	-0.11	-0.09
16685.00	90.310	326.580	8180.48	8649.48	8416.70	7447.06	-4001.33	1747055.42	424065.68	39°39'41.8333"N	80°17'11.7644"W	8453.95	331.751	0.23	-0.22	0.06
16779.00	90.520	326.640	8179.80	8648.80	8510.70	7525.54	-4053.06	1747003.69	424144.16	39°39'42.6044"N	80°17'12.4346"W	8547.58	331.694	0.23	0.22	0.06
16874.00	90.490	326.280	8178.96	8647.96	8605.70	7604.72	-4105.55	1746951.20	424223.34	39°39'43.3824"N	80°17'13.1146"W	8642.18	331.637	0.38	-0.03	-0.38
16969.00	91.200	326.560	8177.56	8646.56	8700.68	7683.86	-4158.09	1746898.67	424302.47	39°39'44.1599"N	80°17'13.7952"W	8736.78	331.580	0.80	0.75	0.29
17063.00	91.050	327.210	8175.71	8644.71	8794.66	7762.58	-4209.43	1746847.33	424381.18	39°39'44.9334"N	80°17'14.4606"W	8830.45	331.530	0.71	-0.16	0.69
17158.00	90.180	326.190	8174.69	8643.69	8889.65	7841.97	-4261.58	1746795.18	424460.57	39°39'45.7135"N	80°17'15.1363"W	8925.11	331.479	1.41	-0.92	-1.07
17252.00	90.150	325.830	8174.42	8643.42	8983.65	7919.91	-4314.13	1746742.63	424538.50	39°39'46.4791"N	80°17'15.8170"W	9018.69	331.422	0.38	-0.03	-0.38
17347.00	90.090	325.340	8174.22	8643.22	9078.64	7998.28	-4367.82	1746688.94	424616.87	39°39'47.2490"N	80°17'16.5123"W	9113.20	331.361	0.52	-0.06	-0.52
17442.00	89.940	325.290	8174.20	8643.20	9173.62	8076.40	-4421.89	1746634.88	424694.98	39°39'48.0163"N	80°17'17.2123"W	9207.68	331.299	0.17	-0.16	-0.05
17537.00	90.520	326.350	8173.82	8642.82	9268.62	8154.99	-4475.25	1746581.52	424773.57	39°39'48.7883"N	80°17'17.9036"W	9302.24	331.243	1.27	0.61	1.12
17632.00	90.580	326.670	8172.91	8641.91	9363.61	8234.21	-4527.67	1746529.10	424852.79	39°39'49.5667"N	80°17'18.5827"W	9396.92	331.195	0.34	0.06	0.34
17727.00	90.180	325.730	8172.28	8641.28	9458.61	8313.15	-4580.52	1746476.26	424931.72	39°39'50.3423"N	80°17'19.2673"W	9491.56	331.145	1.08	-0.42	-0.99
17821.00	90.490	326.190	8171.73	8640.73	9552.60	8391.04	-4633.14	1746423.65	425009.61	39°39'51.1075"N	80°17'19.9488"W	9585.17	331.095	0.59	0.33	0.49
17916.00	90.120	326.450	8171.22	8640.22	9647.60	8470.10	-4685.82	1746370.97	425088.66	39°39'51.8841"N	80°17'20.6313"W	9679.85	331.048	0.48	-0.39	0.27
18011.00	90.370	327.110	8170.81	8639.81	9742.60	8549.57	-4737.86	1746318.93	425168.13	39°39'52.6650"N	80°17'21.3058"W	9774.58	331.006	0.74	0.26	0.69
18106.00	90.490	326.760	8170.10	8639.10	9837.59	8629.18	-4789.69	1746267.10	425247.73	39°39'53.4473"N	80°17'21.9774"W	9869.34	330.967	0.39	0.13	-0.37
18200.00	89.780	326.560	8169.88	8638.88	9931.59	8707.71	-4841.36	1746215.44	425326.26	39°39'54.2189"N	80°17'22.6469"W	9963.08	330.927	0.78	-0.76	-0.21
18295.00	89.780	327.240	8170.24	8639.24	10026.58	8787.29	-4893.23	1746163.57	425405.84	39°39'55.0008"N	80°17'23.3192"W	10057.85	330.889	0.72	0.00	0.72
18390.00	89.600	326.290	8170.76	8639.76	10121.58	8866.75	-4945.30	1746111.50	425485.29	39°39'55.7816"N	80°17'23.9939"W	10152.60	330.850	1.02	-0.19	-1.00
18485.00	89.850	326.410	8171.21	8640.21	10216.58	8945.83	-4997.94	1746058.87	425564.37	39°39'56.5585"N	80°17'24.6759"W	10247.31	330.808	0.29	0.26	0.13

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Slot	Slot 03		

WELLPATH DATA (250 stations)

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	TVDSS [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]
18579.00	89.880	326.100	8171.44	6640.44	10310.58	9024.00	-5050.16	1746006.65	425642.52	39°39'57.3264"N	80°17'25.3524"W	10341.01	330.767	0.33	0.03	-0.33
18674.00	89.880	325.970	8171.63	6640.63	10405.58	9102.79	-5103.23	1745953.58	425721.31	39°39'58.1004"N	80°17'26.0399"W	10435.69	330.724	0.14	0.00	-0.14
18768.00	89.910	326.270	8171.81	6640.81	10499.57	9180.83	-5155.63	1745901.18	425799.34	39°39'58.8671"N	80°17'26.7187"W	10529.39	330.683	0.32	0.03	0.32
18863.00	89.540	325.620	8172.26	6641.26	10594.57	9259.53	-5208.83	1745847.99	425878.04	39°39'59.6403"N	80°17'27.4078"W	10624.07	330.641	0.79	-0.39	-0.68
18958.00	89.940	326.300	8172.69	6641.69	10689.57	9338.25	-5262.01	1745794.81	425956.76	39°40'0.4136"N	80°17'28.0967"W	10718.75	330.599	0.83	0.42	0.72
19053.00	89.880	326.690	8172.84	6641.84	10784.57	9417.47	-5314.45	1745742.38	426035.97	39°40'1.1919"N	80°17'28.7762"W	10813.51	330.563	0.42	-0.06	0.41
19147.00	90.310	326.570	8172.69	6641.69	10878.56	9495.97	-5366.15	1745690.68	426114.47	39°40'1.9632"N	80°17'29.4462"W	10907.29	330.529	0.47	0.46	-0.13
19242.00	90.400	326.540	8172.10	6641.10	10973.56	9575.24	-5418.51	1745638.32	426193.73	39°40'2.7420"N	80°17'30.1246"W	11002.06	330.495	0.10	0.09	-0.03
19336.00	90.400	326.160	8171.44	6640.44	11067.56	9653.48	-5470.60	1745586.24	426271.97	39°40'3.5107"N	80°17'30.7995"W	11095.82	330.460	0.40	0.00	-0.40
19431.00	89.690	326.410	8171.37	6640.37	11162.56	9732.50	-5523.33	1745533.51	426350.99	39°40'4.2871"N	80°17'31.4827"W	11190.57	330.425	0.79	-0.75	0.26
19526.00	89.780	325.970	8171.81	6640.81	11257.56	9811.44	-5576.19	1745480.65	426429.92	39°40'5.0625"N	80°17'32.1675"W	11285.31	330.389	0.47	0.09	-0.46
19621.00	90.250	327.080	8171.78	6640.78	11352.56	9890.68	-5628.59	1745428.26	426509.15	39°40'5.8410"N	80°17'32.8465"W	11380.09	330.357	1.27	0.49	1.17
19715.00	89.110	326.520	8172.31	6641.31	11446.55	9969.33	-5680.05	1745376.79	426587.80	39°40'6.6138"N	80°17'33.5135"W	11473.91	330.328	1.35	-1.21	-0.60
19810.00	89.660	326.860	8173.33	6642.33	11541.54	10048.72	-5732.22	1745324.63	426667.18	39°40'7.3938"N	80°17'34.1896"W	11568.71	330.298	0.68	0.58	0.36
19905.00	89.510	326.750	8174.02	6643.02	11636.54	10128.21	-5784.23	1745272.62	426746.87	39°40'8.1749"N	80°17'34.8687"W	11663.54	330.269	0.20	-0.18	-0.12
19999.00	89.480	326.830	8174.84	6643.84	11730.53	10206.86	-5835.72	1745221.14	426825.31	39°40'8.9476"N	80°17'35.5309"W	11757.36	330.241	0.09	-0.03	0.09
20094.00	89.780	326.540	8175.46	6644.46	11825.53	10286.24	-5887.89	1745168.97	426904.69	39°40'9.7276"N	80°17'36.2071"W	11852.18	330.213	0.44	0.32	-0.31
20189.00	90.060	326.260	8175.59	6644.59	11920.53	10365.37	-5940.46	1745116.40	426983.82	39°40'10.5050"N	80°17'36.8883"W	11946.97	330.183	0.42	0.29	-0.29
20283.00	90.060	326.400	8175.49	6644.49	12014.53	10443.60	-5992.58	1745064.29	427062.04	39°40'11.2735"N	80°17'37.5635"W	12040.76	330.153	0.15	0.00	0.15
20378.00	90.090	326.470	8175.37	6644.37	12109.53	10522.76	-6045.10	1745011.77	427141.20	39°40'12.0513"N	80°17'38.2441"W	12135.56	330.124	0.08	0.03	0.07
20473.00	90.030	326.720	8175.27	6644.27	12204.53	10602.07	-6097.40	1744959.47	427220.50	39°40'12.8304"N	80°17'38.9219"W	12230.38	330.096	0.27	-0.06	0.26
20567.00	90.030	327.040	8175.22	6644.22	12298.52	10680.80	-6148.77	1744908.11	427299.22	39°40'13.6040"N	80°17'39.5876"W	12324.23	330.072	0.34	0.00	0.34
20662.00	90.000	326.740	8175.19	6644.19	12393.52	10760.37	-6200.66	1744856.22	427378.79	39°40'14.3858"N	80°17'40.2602"W	12419.09	330.047	0.32	-0.03	-0.32
20757.00	89.970	326.500	8175.22	6644.22	12488.52	10839.70	-6252.93	1744803.96	427458.11	39°40'15.1652"N	80°17'40.9376"W	12513.92	330.021	0.25	-0.03	-0.25
20851.00	90.000	326.560	8175.24	6644.24	12582.52	10918.11	-6304.77	1744752.12	427536.52	39°40'15.9356"N	80°17'41.6094"W	12607.75	329.995	0.07	0.03	0.06
20946.00	89.910	326.510	8175.32	6644.32	12677.52	10997.36	-6357.15	1744699.74	427615.77	39°40'16.7142"N	80°17'42.2883"W	12702.57	329.969	0.11	-0.09	-0.05
21041.00	90.060	326.990	8175.34	6644.34	12772.51	11076.81	-6409.24	1744647.65	427695.21	39°40'17.4948"N	80°17'42.9634"W	12797.42	329.946	0.53	0.16	0.51
21135.00	89.910	326.270	8175.67	6644.67	12866.51	11155.31	-6460.95	1744595.95	427773.71	39°40'18.2661"N	80°17'43.6335"W	12891.27	329.921	0.78	-0.16	-0.77
21230.00	89.720	326.260	8175.67	6644.67	12961.51	11234.31	-6513.70	1744543.20	427852.71	39°40'19.0422"N	80°17'44.3171"W	12986.07	329.895	0.20	-0.20	-0.01
21324.00	89.660	326.480	8176.18	6645.18	13055.51	11312.58	-6565.76	1744491.14	427930.97	39°40'19.8111"N	80°17'44.9917"W	13079.90	329.869	0.24	-0.06	0.23

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Actual Wellpath Report

Phoenix 3H AWP Proj: 22136'

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REFERENCE WELLPATH IDENTIFICATION

Operator	NORTHEAST NATURAL ENERGY, LLC	Well	Phoenix 3H
Field	Monongalia	API/Legal	
Facility	Phoenix Pad	Wellbore	Phoenix 3H AWB
Slot	Slot 03		

WELLPATH DATA (250 stations) † = interpolated, ‡ = extrapolated station

MD [ft]	Inclination [°]	Azimuth [°]	TVD [ft]	TVDSS [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]
21419.00	89.910	326.580	8176.54	6645.54	13150.51	11391.83	-6618.15	1744438.75	428010.21	39°40'20.5897"N	80°17'45.6707"W	13174.74	329.845	0.28	0.26	0.11
21514.00	89.880	326.510	8176.71	6645.71	13245.51	11471.09	-6670.53	1744386.38	428089.46	39°40'21.3684"N	80°17'46.3494"W	13269.58	329.822	0.08	-0.03	-0.07
21608.00	90.000	326.780	8176.81	6645.81	13339.51	11549.60	-6722.21	1744334.70	428167.98	39°40'22.1398"N	80°17'47.0193"W	13363.44	329.799	0.31	0.13	0.29
21703.00	89.970	326.650	8176.84	6645.84	13434.50	11629.02	-6774.35	1744282.57	428247.39	39°40'22.9200"N	80°17'47.6950"W	13458.30	329.778	0.14	-0.03	-0.14
21797.00	90.030	327.290	8176.84	6645.84	13528.50	11707.83	-6825.58	1744231.33	428326.19	39°40'23.6943"N	80°17'48.3592"W	13552.19	329.758	0.68	0.06	0.68
21892.00	89.940	327.420	8176.86	6645.86	13623.48	11787.82	-6876.83	1744180.09	428406.18	39°40'24.4804"N	80°17'49.0236"W	13647.10	329.741	0.17	-0.09	0.14
21987.00	90.000	326.770	8176.91	6645.91	13718.48	11867.58	-6928.44	1744128.49	428485.93	39°40'25.2641"N	80°17'49.6926"W	13742.00	329.723	0.69	0.06	-0.68
22081.00	90.060	327.120	8176.86	6645.86	13812.47	11946.36	-6979.71	1744077.22	428564.71	39°40'26.0382"N	80°17'50.3573"W	13835.89	329.704	0.38	0.06	0.37
22111.00	90.490	327.440	8176.72	6645.72	13842.47	11971.60	-6995.92	1744061.00	428589.95	39°40'26.2862"N	80°17'50.5675"W	13865.87	329.699	1.79	1.43	1.07
22136.00‡	90.490	327.440	8176.50	6645.50	13867.46	11992.67	-7009.38	1744047.55	428611.02	39°40'26.4932"N	80°17'50.7420"W	13890.84	329.695	0.00	0.00	0.00

HOLE & CASING SECTIONS - Ref Wellbore: Phoenix 3H AWB Ref Wellpath: Phoenix 3H AWP Proj: 22136'

String/Diameter	Start MD [ft]	End MD [ft]	Interval [ft]	Start TVD [ft]	End TVD [ft]	Start N/S [ft]	Start E/W [ft]	End N/S [ft]	End E/W [ft]
17.5in Open Hole	28.00	1555.00	1527.00	28.00	1554.97	0.00	0.00	-2.12	-5.04
13.375in Casing Surface	28.00	1525.00	1497.00	28.00	1524.98	0.00	0.00	-1.92	-4.83
12.25in Open Hole	1555.00	2845.00	1290.00	1554.97	2844.55	-2.12	-5.04	1.39	-8.99
9.625in Casing Intermediate	28.00	2815.00	2787.00	28.00	2814.57	0.00	0.00	2.24	-8.46
8.75in Open Hole	2845.00	7356.00	4511.00	2844.55	7247.55	1.39	-8.99	238.94	847.04
8.5in Open Hole	7356.00	22136.00	14780.00	7247.55	8176.50	238.94	847.04	11992.67	-7009.38
5.5in Casing Production	28.00	22106.00	22078.00	28.00	8176.76	0.00	0.00	11967.39	-6993.23

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REFERENCE WELLPATH IDENTIFICATION			
Operator	NORTHEAST NATURAL ENERGY, LLC	Well	Phoenix 3H
Field	Monongalia	API/Legal	
Facility	Phoenix Pad	Wellbore	Phoenix 3H AWB
Slot	Slot 03		

TARGETS								
Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
Phoenix 3H LP Rev-5	8235.00	814.58	421.80	1751478.27	417433.61	39°38'36.6664"N	80°16'14.4815"W	point
Phoenix Hardline #1 (04.25.2023)	9000.00	12502.38	-7021.64	1744035.29	429120.70	39°40'31.5293"N	80°17'50.9566"W	polygon
2D Polygon: dimensions not calculated								
Phoenix 3H BHL Rev-6	9173.65	11991.33	-7012.20	1744044.73	428609.67	39°40'26.4797"N	80°17'50.7779"W	point

WELLPATH COMPOSITION - Ref Wellbore: Phoenix 3H AWB Ref Wellpath: Phoenix 3H AWP Proj: 22136'					
Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore	Survey Date
28.00	1500.00	BH Generic gyro - northseeking (Standard)	01 17.5" Gyro [Northseeking-Standard] (50' - 1500')	Phoenix 3H AWB	10/26/2023
1500.00	2729.00	OWSG MWD rev2 + HRGM	02 12.25" SDI MWD [OWSG MWD Rev.2+HRGM] (1500')(1594' - 2729')	Phoenix 3H AWB	10/26/2023
2729.00	7296.00	OWSG MWD rev2 + HRGM	03 8.75" SDI MWD [OWSG MWD Rev.2+HRGM] (2729')(2923' - 7356')	Phoenix 3H AWB	10/26/2023
7296.00	22136.00	BH AutoTrak Curve/eXpress (2019) (HRGM, Short spacing)	04 8.5" BH ATK Curve <HRGM+Short Spacing> (7296')(7419' - 22111')	Phoenix 3H AWB	10/26/2023

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REFERENCE WELLPATH IDENTIFICATION

Operator	NORTHEAST NATURAL ENERGY, LLC	Well	Phoenix 3H
Field	Monongalia	API/Legal	
Facility	Phoenix Pad	Wellbore	Phoenix 3H AWB
Slot	Slot 03		

COMMENTS

Wellpath general comments

API: 47061019390000

BH Job #: 111974125

Rig: Patterson 277

Duration: 10/29/2023 - 11/01/2023

01_17.5" Gyro [Northseeking-Standard] (50' - 1500')

02_12.25" SDI MWD [OWSG MWD Rev.2+HRGM] (1500')(1594' - 2729')

03_8.75" SDI MWD [OWSG MWD Rev.2+HRGM] (2729')(2923' - 7356')

04_8.5" BH ATK Curve <HRGM+Short Spacing> (7296')(7419' - 22111')

Final Survey MD @ 22111'

Projected MD at TD: 22136'

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Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	02/06/2024
Job End Date:	03/23/2024
State:	West Virginia
County:	Monongalia
API Number:	47-061-01939-00-00
Operator Name:	Northeast Natural Energy LLC
Well Name and Number:	PHOENIX 3H
Latitude:	39.641167
Longitude:	-80.272417
Datum:	NAD83
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	7296
Total Base Water Volume (gal)*:	27618066
Total Base Non Water Volume:	0



Water Source	Percent
Surface Water, < 1000TDS	85.00%
Other, > 1000TDS	15.00%

Hydraulic Fracturing Fluid Composition:

Trade Name	Supplier	Purpose	Ingredients	Chemical Abstract Service Number (CAS #)	Maximum Ingredient Concentration in Additive (% by mass)**	Maximum Ingredient Concentration in HF Fluid (% by mass)**	Comments
Clearal 268	Chemstream	Biocide					
EZ-A 431	TARQUIN	HCL Additive					
HCL Acid (28%)	TARQUIN	Acid					
Sand	US Silica	Proppant					
StimSTREAM FR 9800	Chemstream	Friction Reducer					
StimSTREAM SC 405	Chemstream	Scale Control					
Water	NNE	Carrier/Base Fluid					
Items above are Trade Names. Items below are the individual ingredients.							
			Water	7732-18-5	100.00000	88.00104	None
			Crystalline Silica in the form of Quartz	14808-60-7	99.90000	11.89670	None
			Acrylamide-Chloride Salt of Trimethylammonio-	69418-26-4	40.00000	0.02183	None

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			Ethyl Acrylate Copolymer				
			Alkanes, C12-26-Branched and Linear	90622-53-0	40.00000	0.02183	None
			Hydrogen chloride	7647-01-0	28.00000	0.00948	None
			Glutaraldehyde	111-30-8	20.00000	0.00445	None
			Ethoxylated Alcohols (C12-16)	68551-12-2	5.00000	0.00273	None
			AA/Maleic Anhydride Co-polymer	9003-04-7	5.00000	0.00192	None
			AA/ATBS Co-polymer	9003-05-8	5.00000	0.00192	None
			Quaternary Ammonium Compounds	68424-85-1	3.00000	0.00067	None
			Didecyl dimethyl ammonium chloride	7173-51-5	3.00000	0.00067	None
			Ethanol	64-17-5	1.50000	0.00033	None
			Methanol	67-56-1	25.00000	0.00004	None
			Pyridinium, 1-(phenylmethyl)-, ethyl methyl derivs., chlorides	68909-18-2	25.00000	0.00004	None
			Proprietary	Proprietary	10.00000	0.00003	None
			Ethanoic Acid	64-19-7	15.00000	0.00002	None
			Ethoxylated Alcohols	68439-50-9	15.00000	0.00002	None
			2-ethylhexanol	104-76-7	5.00000	0.00001	None
			Ethoxylated Nonylphenols	127087-87-0	5.00000	0.00001	None

* Total Water Volume sources may include various types of water including fresh water, produced water, and recycled water

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

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

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

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