

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

API 47-061-01938 County Monongalia District Battelle
Quad Wadestown Pad Name Phoenix Field/Pool Name _____
Farm name Charles Wendell Moore & Frank M Chisler Well Number 1H
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 4388194.3 Easting 562448.2
Landing Point of Curve Northing 4388270.1 Easting 562335.7
Bottom Hole Northing 4391872.1 Easting 559850.1

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

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

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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 7/5/2023 Date drilling commenced 8/15/2023 Date drilling ceased 10/19/2023
Date completion activities began 2/8/2023 Date completion activities ceased 3/21/2024
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

APPROVED

Reviewed by:

MSJK

WR-35
Rev. 8/23/13

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API 47-061 - 01938

Farm name Charles Wendell Moore & Frank M Chisler Well number 1H

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"	1,531'	N	54.5	NA	Y
Coal							
Intermediate 1	12-1/4"	9-5/8"	2,822'	N	J-55/36	NA	Y
Intermediate 2							
Intermediate 3							
Production	8-3/4"	5-1/2"	22,976'	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	272	15.6			CTS	48
Surface	L, NCM-956	1,345	15.6	1.14	1528	CTS	8
Coal							
Intermediate 1	L, NCM-956	1,070	15.6	1.13	1207	CTS	8
Intermediate 2							
Intermediate 3							
Production	L, NCM-956	4,405	14.5	1.12	4955.38	2096	48
Tubing							

Drillers TD (ft) 23,008'

Loggers TD (ft) 22,983'

Deepest formation penetrated Marcellus

Plug back to (ft) NA

Plug back procedure

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Kick off depth (ft) 7,458'

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Check all wireline logs run

☐ caliper

☐ density

☐ deviated/directional

☐ induction

☐ neutron

☐ resistivity

☒ gamma ray

☐ temperature

☐ 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 - 01938 Farm name Charles Wendell Moore & Frank M Chisler Well number 1H

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.

Farm name Charles Wendell Moore & Frank M Chisler Well number 1H

DEPTHS

OIL TEST ☐ Flow ☐ Pump

OPEN FLOW	Gas		Oil		NGL		Water		GAS MEASURED BY
	4205	mcfpd	bpd		bpd		bpd		☐ Estimated ☒ Orifice ☐ Pilot

[illegible]

Date 4-7-25

Attach copy of FRACFOCUS Registry

Phoenix 1H Perforation Report				
Stage Number	Report Date	Total Shots	Cluster 1 Top TD	Cluster 5 Bottom TD
1	2/8/2024			22,872
2	2/8/2024	40	22,828	22,668
3	2/9/2024	40	22,626	22,467
4	2/10/2024	40	22,424	22,265
5	2/10/2024	40	22,222	22,063
6	2/11/2024	40	22,021	21,861
7	2/11/2024	40	21,819	21,660
8	2/12/2024	40	21,617	21,458
9	2/13/2024	40	21,416	21,256
10	2/13/2024	40	21,214	21,055
11	2/14/2024	40	21,012	20,853
12	2/15/2024	40	20,810	20,651
13	2/15/2024	40	20,609	20,449
14	2/16/2024	40	20,407	20,248
15	2/17/2024	40	20,205	20,046
16	2/18/2024	40	20,004	19,844
17	2/19/2024	40	19,802	19,642
18	2/19/2024	40	19,600	19,441
19	2/20/2024	40	19,398	19,239
20	2/21/2024	40	19,197	19,037
21	2/21/2024	40	18,995	18,836
22	2/22/2024	40	18,793	18,634
23	2/22/2024	40	18,592	18,432
24	2/23/2024	40	18,390	18,230
25	2/24/2024	40	18,188	18,029
26	2/25/2024	40	17,986	17,827
27	2/25/2024	40	17,785	17,625
28	2/26/2024	40	17,583	17,424
29	2/27/2024	40	17,381	17,222
30	2/27/2024	40	17,179	17,020
31	2/28/2024	40	16,978	16,818
32	2/29/2024	40	16,776	16,617
33	3/2/2024	40	16,574	16,415
34	3/3/2024	40	16,373	16,213
35	3/2/2024	40	16,171	16,012
36	3/4/2024	40	15,969	15,810
37	3/5/2024	40	15,767	15,608
38	3/5/2024	40	15,566	15,406
39	3/6/2024	40	15,364	15,205
40	3/6/2024	40	15,162	15,003
41	3/7/2024	40	14,961	14,801
42	3/7/2024	40	14,759	14,599
43	3/8/2024	40	14,557	14,398
44	3/9/2024	40	14,355	14,196
45	3/9/2024	40	14,154	13,994
46	3/10/2024	40	13,952	13,793
47	3/11/2024	40	13,750	13,591

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Stage Number	Report Date	Total Shots	Cluster 1 Top TD	Cluster 5 Bottom TD
48	3/12/2024	40	13,549	13,389
49	3/12/2024	40	13,347	13,187
50	3/13/2024	40	13,145	12,986
51	3/13/2024	40	12,943	12,784
52	3/13/2024	40	12,742	12,582
53	3/14/2024	40	12,540	12,381
54	3/14/2024	40	12,338	12,179
55	3/15/2024	40	12,136	11,977
56	3/16/2024	40	11,935	11,775
57	3/16/2024	40	11,733	11,574
58	3/17/2024	40	11,531	11,372
59	3/17/2024	40	11,330	11,170
60	3/17/2024	40	11,128	10,969
61	3/18/2024	40	10,926	10,767
62	3/18/2024	40	10,724	10,565
63	3/19/2024	40	10,523	10,363
64	3/19/2024	40	10,321	10,162
65	3/19/2024	40	10,119	9,960
66	3/20/2024	40	9,918	9,758
67	3/20/2024	40	9,716	9,556
68	3/20/2024	40	9,514	9,355
69	3/21/2024	40	9,312	9,153
70	3/21/2024	40	9,111	8,951
71	3/21/2024	40	8,909	8,750
72	3/21/2024	40	8,707	8,548

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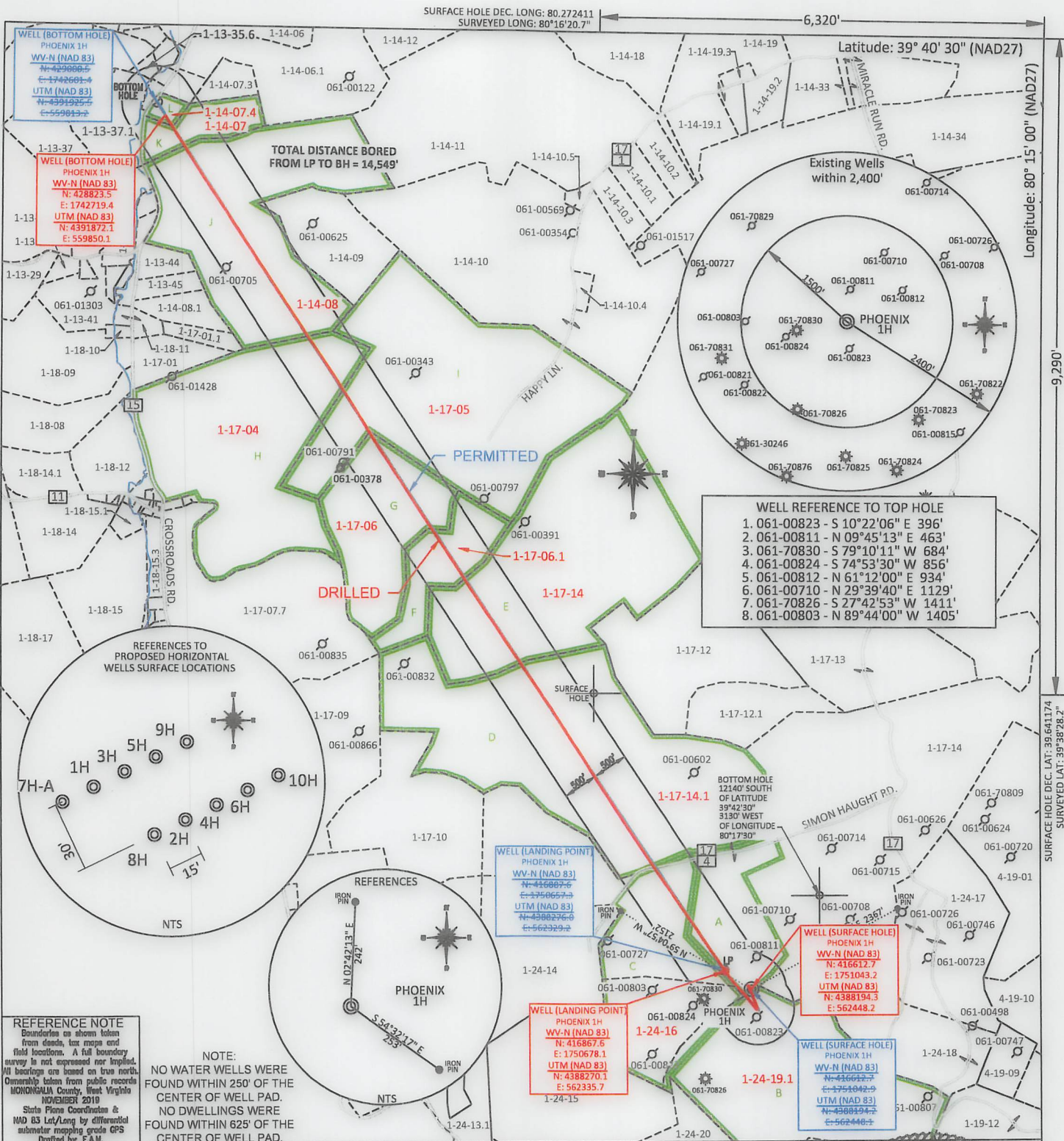
Phoenix 1H Stimulation Report

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	2/8/2024	4,654		9,694	94	179	6,979	300,152	505
2	2/8/2024	5,101	8,324	9,605	93	775	10,425	455,277	506
3	2/9/2024	5,208	7,015	9,696	89	29	9,667	455,241	29
4	2/10/2024	4,083	8,650	9,667	91	79	9,720	455,120	500
5	2/10/2024	5,385	6,827	9,808	90	58	9,644	455,153	489
6	2/11/2024	5,037	6,506	9,656	89	45	9,725	455,598	486
7	2/11/2024	5,334	7,127	9,809	90	41	9,705	455,023	493
8	2/12/2024	5,280	6,943	9,829	90	33	9,734	455,198	475
9	2/13/2024	5,056	7,015	9,846	92	29	9,638	455,082	470
10	2/13/2024	5,363	7,148	9,886	89	51	9,705	455,089	469
11	2/14/2024	5,766	6,820	9,824	88	27	9,619	455,101	461
12	2/15/2024	6,562	6,900	9,853	92	57	9,758	455,255	465
13	2/15/2024	5,126	6,360	9,735	93	63	9,668	455,178	459
14	2/16/2024	6,886	7,217	9,794	93	135	9,751	455,040	451
15	2/17/2024	7,060	7,193	9,861	92	27	10,288	455,351	446
16	2/18/2024	7,400	6,891	9,839	93	24	9,658	455,449	442
17	2/19/2024	5,887	5,201	9,635	91	68	9,660	455,182	437
18	2/19/2024	5,609	6,957	9,830	90	76	9,654	455,185	433
19	2/20/2024	6,885	7,269	9,863	92	16	9,639	455,412	437
20	2/21/2024	6,026	7,114	9,596	91	55	9,656	455,143	425
21	2/21/2024	6,822	7,223	9,756	94	21	9,652	455,324	416
22	2/22/2024	6,421	6,979	9,691	94	48	9,638	455,318	418
23	2/22/2024	6,865	7,290	8,642	94	17	9,606	455,283	406
24	2/23/2024	5,891	7,608	9,845	93	20	9,591	455,314	405
25	2/24/2024	7,070	7,376	9,686	94	10	9,605	455,379	408
26	2/25/2024	5,225	7,489	9,683	93	19	9,585	455,185	394
27	2/25/2024	665	7,556	9,346	85	21	10,304	455,016	390
28	2/26/2024	5,655	6,334	9,713	91	41	10,545	455,002	382
29	2/27/2024	7,249	7,183	9,860	91	11	9,582	455,269	395
30	2/27/2024	5,632	7,002	9,761	89	9	9,868	455,042	382
31	2/28/2024	6,717	7,455	9,689	91	20	9,605	455,298	393
32	2/29/2024	6,060	7,404	9,307	94	30	9,689	455,444	367
33	3/2/2024	6,327	7,458	9,411	85	44	9,558	455,462	363
34	3/3/2024	5,615	9,020	9,511	92	5	9,535	454,786	355
35	3/2/2024	5,891	7,553	9,517	92	47	9,516	455,170	355
36	3/4/2024	5,640	6,300	9,332	93	30	9,529	455,234	345
37	3/5/2024	5,409	8,373	9,491	93	17	9,552	455,198	345
38	3/5/2024	5,884	6,771	9,085	88	55	9,537	455,239	345
39	3/6/2024	5,454	8,756	9,469	94	5	9,524	455,270	343
40	3/6/2024	5,532	7,452	9,215	93	35	9,488	455,177	332
41	3/7/2024	5,500	7,111	9,209	93	45	9,512	455,177	328
42	3/7/2024	5,791	7,380	9,258	94	27	9,545	455,116	326
43	3/8/2024	5,630	7,274	9,225	92	55	9,503	455,123	321
44	3/9/2024	5,519	7,190	9,066	94	61	9,581	455,120	315
45	3/9/2024	6,484	7,008	9,102	94	23	9,507	455,174	315

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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	3/10/2024	5,503	4,445	9,026	94	79	9,562	455,356	309
47	3/11/2024	5,454	7,473	9,282	91	9	9,511	455,136	302
48	3/12/2024	5,646	7,500	9,086	93	58	9,559	455,157	299
49	3/12/2024	5,351	7,111	9,291	93	12	9,486	455,054	300
50	3/13/2024	6,431	7,201	9,221	94	66	9,623	455,139	291
51	3/13/2024	5,474	7,156	9,163	94	20	9,495	455,085	282
52	3/13/2024	5,809	8,810	8,854	94	129	9,602	455,132	281
53	3/14/2024	6,514	7,698	9,188	95	4	9,460	455,370	282
54	3/14/2024	6,255	7,550	9,035	94	50	9,586	455,106	281
55	3/15/2024	5,908	6,033	9,046	94	7	9,517	455,124	277
56	3/16/2024	6,098	7,347	8,795	94	125	9,322	455,417	275
57	3/16/2024	6,316	7,509	8,925	94	11	9,486	455,358	262
58	3/17/2024	5,829	7,633	8,914	94	51	9,501	455,123	251
59	3/17/2024	5,980	7,485	8,957	94	9	9,472	455,431	256
60	3/17/2024	5,794	6,830	8,868	94	39	9,484	455,034	243
61	3/18/2024	6,340	6,815	8,794	94	5	9,457	455,331	242
62	3/18/2024	5,641	7,515	8,633	94	90	9,521	455,053	236
63	3/19/2024	5,578	7,519	8,660	94	44	9,504	455,041	234
64	3/19/2024	5,848	7,510	8,628	91	81	10,141	455,000	227
65	3/19/2024	6,246	7,204	8,600	94	68	9,508	455,089	220
66	3/20/2024	7,168	7,052	8,382	94	9	9,439	455,375	231
67	3/20/2024	7,243	7,519	8,500	94	10	9,441	455,289	222
68	3/20/2024	6,012	7,027	8,459	94	64	9,476	455,189	209
69	3/21/2024	5,961	7,208	8,455	8,455	51	9,460	455,891	203
70	3/21/2024	6,644	6,365	8,256	94	24	9,437	455,313	211
71	3/21/2024	6,343	7,122	8,124	94	12	9,398	455,267	204
72	3/21/2024	5,729	7,349	8,293	94	10	9,352	455,077	196

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FILE #:	NNE16	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	
DRAWING #:	3029		
SCALE:	PLAT: 1" = 2000' TICK: 1" = 2000'		
MINIMUM DEGREE OF ACCURACY:	1/200		
PROVEN SOURCE OF ELEVATION:	SUBMETER MAPPING GRADE GPS		
(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS WYDEP OFFICE OF OIL & GAS 601 57TH STREET CHARLESTON, WV 25304 Well Type: ☐ Oil ☐ Waste Dipsal ☐ Production ☐ Deep ☒ Gas ☐ Liquid Injection ☐ Storage ☒ Shallow WATERSHED: DUNKARD CREEK COUNTY/DISTRICT: MONONGALIA / BATTELLE SURFACE OWNER: CHARLES WENDELL MOORE & FRANK M. CHISLER OIL & GAS ROYALTY OWNER: Pat L. Park, et al LEASE NUMBERS: 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 WELL OPERATOR: NORTHEAST NATURAL ENERGY LLC ADDRESS: 707 VIRGINIA STREET EAST, SUITE 1200 CITY: CHARLESTON STATE: WV ZIP CODE: 25301 DATE: APRIL 2, 2025 OPERATOR'S WELL #: PHOENIX 1H AS-DRILLED API WELL #: 47 61 01938 STATE COUNTY PERMIT AS-BUILT ELEVATION: 1,503.50' QUADRANGLE: WADESTOWN ACREAGE: 466.30 +/- ACREAGE: 1,369.037 +/- DRILLED DEPTH: TVD: 8,151' TMD: 23,008' DESIGNATED AGENT: JOHN ADAMS ADDRESS: 707 VIRGINIA STREET EAST, SUITE 1200 CITY: CHARLESTON STATE: WV ZIP CODE: 25301			

	PROPERTY OWNER INDEX
1-24-19.1	CHARLES WENDELL MOORE
1-24-16	ELIZABETH ANN WILSON & RANDY LEE DURR
1-17-14.1	FRANK M. CHISLER
1-17-14	PHOENIX ENERGY RESOURCES, LLC
1-17-06.1	SUSAN ANNE BURNESON
1-17-06	KENT A. & SHIRLEY A. LEONHARDT
1-17-05	KENT A. & SHIRLEY A. LEONHARDT
1-17-04	MARY M. LUNSFORD
1-14-08	KING FAMILY TRUST
1-14-07	DAVID W WOLFE JR & BRANDI SHAY WOLFE
1-14-07.4	DAVID W WOLFE JR & BRANDI SHAY WOLFE

	LEASE INDEX	
A	WV-061-004076-010	G WV-061-005790-003
B	WV-061-004463-001	H WV-061-004714-003
C	WV-061-004076-010	I WV-061-005790-003
D	WV-061-005787-001	J WV-061-004874-001
E	WV-061-004523-000	K WV-061-006053-001
F	WV-061-005790-003	L WV-061-006053-001

FILE #:

NEE14

DRAWING #:

3029

SCALE:

N/A

DATE:

APRIL 2, 2025

OPERATOR'S WELL #:

PHOENIX 1H AS-DRILLED

API WELL #:

47

61

01938

STATE

COUNTY

PERMIT

NORTHEAST NATURAL ENERGY, LLC

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

Slot: Slot 01
Well: Phoenix 1H
Wellbore: Phoenix 1H PWB

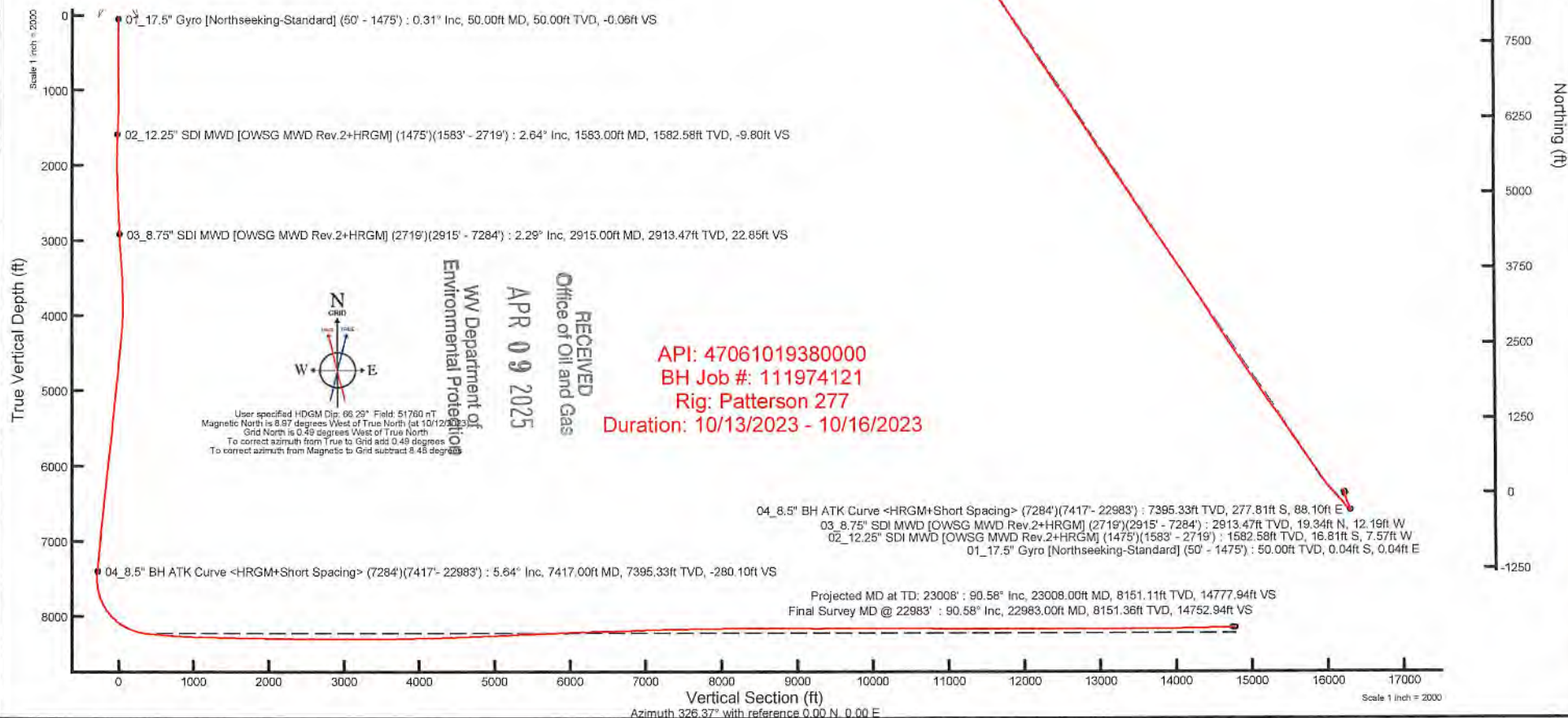


Full Wellbore Name (to be filled)	Wellbore Name (to be filled)
Wellbore Name (to be filled)	Wellbore Name (to be filled)
Wellbore Name (to be filled)	Wellbore Name (to be filled)
Wellbore Name (to be filled)	Wellbore Name (to be filled)
Wellbore Name (to be filled)	Wellbore Name (to be filled)
Wellbore Name (to be filled)	Wellbore Name (to be filled)

Location Information					
Facility Name	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude	
Phoenix Pad	1751921.940	416616.940	39°28'28.5589"N	83°18'19.8414"W	
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude
Slot 01	-4.28	-0.04	1751942.940	416612.660	39°28'28.5158"N
Patterson 277 (RKB) to Ground level (N Slot Slot 01)					288
Mean Sea Level to Ground level (N Slot Slot 01)					-1503R
Patterson 277 (RKB) to Mean Sea Level					1531R

Well Profile Data							
Design Comment	MD (ft)	Inc. (°)	Ac. (°)	TVD (ft)	Local N (ft)	Local E (ft)	Q15 (°/1000)
Tie On	7384.00	8.802	164.860	7269.98	-205.29	84.24	0.47
Projection	1458.00	4.570	192.660	7436.24	-280.61	88.76	0.48
Build Turn	8638.11	79.608	300.695	8216.66	189.49	-307.69	7.80
Landing Pt	9058.00	90.000	326.373	8228.00	274.94	-300.69	9.00
BHL	23064.37	90.000	326.373	8228.00	12212.26	-832.45	0.00

Well Data			
Slot	Well	Wellbore	Wellpath
Slot 01	Phoenix 1H	Phoenix 1H AWB	Phoenix 1H AWP Proj. 23008'
Slot 01	Phoenix 1H	Phoenix 1H PWB	Phoenix 1H Rev-B.0



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

Customer:	NORTHEAST NATURAL ENERGY LLC	Date:	7-Oct-23	Serv. Supervisor:	Steven Long		
Cust. Rep.:	NEIL	Ticket #:	BPA-2310-0017	Serv. Center	Black Lick - 1571		
Well Name:	Phoenix N 1H	API Well #:	47-061-01938	County:	Monongalia	State:	WV
Well Type:		Rig:	PATTERSON 277	Type of Job:	CM-SURFACE CASING		

[illegible]

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OPEN HOLE DATA			TUBULAR DATA							Casing Equipment			
17.5 in. O.H. 128 to 1,500 ft			13.375 in. 54.5# (0 to 1,500 ft)		SIZE WEIGHT	THRD	DEPTH (ft)	GRADE	IS (in)	PSI (psi)	COLLAPSE (psi)		
Ambient Tmp.	Bulk Tmp.	Slurry 1 Tmp.	Slurry 2 Tmp.	Slurry 3 Tmp.	Slurry 4 Tmp.	13.375 54.5#	BTC	1531	J-55	12.615	2730	1130	
55.0 °F		82.0 °F											
PREVIOUS CASING DATA			PERFORATED INTERVAL DATA					CASING EQUIPMENT DEPTHS					
24 in. 100.5# (0 to 128 ft)			TOP		BTM	SPF	SIZE	SHOE	FLOAT	STAGE	ACP		
								1531	1445.2				
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)						
H2O	8.4 ppg	223.4 bbl	H2O	8.4 ppg	546	452	2184	< 22	7	62.0 °F	1600		
Bumped Plug	Final Differential (psi)	Floats Held (Y/N)	PSI Left on Casing	Cement to Surface (bbl)	Top of Cement (ft)	Full Ctr. During Job (Y/N)	Max Pump Pressure (psi)	Casing Rotation	Additional Hrs Charged (hrs)	Casing Reciprocation	Rathole Length (ft)		
Yes	700.00	Y	-	18.00	-	Yes	1,200.00	No	1.00	No	30		
Comments/Additional Details:													

Comments/Additional Details:

Steven Long
Service Supervisor

7-Oct-23
Date

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

[illegible]

WV Department of
Environmental Protection

Comments/Additional Details:	36.00	Yes	1,450.00	No	No	30
		Anthony Barbara Service Supervisor 9-Oct-23 Date				

Cement Job Log

[illegible]

Actual Wellpath Report

Phoenix 1H AWP Proj: 23008'

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REFERENCE WELLPATH IDENTIFICATION

Operator	NORTHEAST NATURAL ENERGY, LLC	Well	Phoenix 1H
Field	Monongalia	API/Legal	
Facility	Phoenix Pad	Wellbore	Phoenix 1H AWB
Slot	Slot 01		

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	10/18/2023 at 3:53:06 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	-4.28	-9.04	1751042.94	416612.66	39°38'28.5158"N	80°16'19.9565"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 01)	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 1H AWP Proj: 23008'

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REFERENCE WELLPATH IDENTIFICATION

Operator	NORTHEAST NATURAL ENERGY, LLC	Well	Phoenix 1H
Field	Monongalia	API/Legal	
Facility	Phoenix Pad	Wellbore	Phoenix 1H AWB
Slot	Slot 01		

WELLPATH DATA (258 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	133.300	0.00	-1531.00	0.00	0.00	0.00	1751042.94	416612.66	39°38'28.5158"N	80°16'19.9565"W	0.00	0.000	0.00	0.00	0.00
28.00	0.000	133.300	28.00	-1503.00	0.00	0.00	0.00	1751042.94	416612.66	39°38'28.5158"N	80°16'19.9565"W	0.00	0.000	0.00	0.00	0.00
50.00	0.310	133.300	50.00	-1481.00	-0.06	-0.04	0.04	1751042.98	416612.62	39°38'28.5154"N	80°16'19.9559"W	0.06	133.300	1.41	1.41	0.00
100.00	0.330	151.770	100.00	-1431.00	-0.33	-0.26	0.21	1751043.15	416612.40	39°38'28.5133"N	80°16'19.9538"W	0.33	141.139	0.21	0.04	36.94
150.00	0.040	129.630	150.00	-1381.00	-0.49	-0.40	0.29	1751043.23	416612.26	39°38'28.5119"N	80°16'19.9527"W	0.49	143.819	0.59	-0.58	-44.28
200.00	0.380	140.800	200.00	-1331.00	-0.67	-0.54	0.41	1751043.35	416612.12	39°38'28.5106"N	80°16'19.9512"W	0.68	142.716	0.68	0.68	22.34
250.00	0.120	48.710	250.00	-1281.00	-0.83	-0.63	0.55	1751043.49	416612.03	39°38'28.5096"N	80°16'19.9494"W	0.84	138.774	0.81	-0.52	-184.18
300.00	0.300	130.420	300.00	-1231.00	-0.95	-0.68	0.69	1751043.63	416611.98	39°38'28.5092"N	80°16'19.9476"W	0.97	134.564	0.61	0.36	163.42
350.00	0.150	335.690	350.00	-1181.00	-1.01	-0.71	0.77	1751043.71	416611.95	39°38'28.5089"N	80°16'19.9466"W	1.04	132.747	0.88	-0.30	-309.46
400.00	0.200	124.180	400.00	-1131.00	-1.03	-0.70	0.81	1751043.75	416611.96	39°38'28.5090"N	80°16'19.9461"W	1.07	130.683	0.67	0.10	296.98
450.00	0.170	298.970	450.00	-1081.00	-1.04	-0.71	0.82	1751043.76	416611.95	39°38'28.5089"N	80°16'19.9460"W	1.08	130.957	0.74	-0.06	349.58
500.00	0.160	137.040	500.00	-1031.00	-1.05	-0.73	0.80	1751043.74	416611.93	39°38'28.5087"N	80°16'19.9462"W	1.08	132.166	0.65	-0.02	-323.86
550.00	0.230	235.940	550.00	-981.00	-1.12	-0.83	0.77	1751043.71	416611.83	39°38'28.5077"N	80°16'19.9466"W	1.13	137.413	0.60	0.14	197.80
600.00	0.120	129.500	600.00	-931.00	-1.17	-0.92	0.72	1751043.66	416611.74	39°38'28.5068"N	80°16'19.9472"W	1.17	141.920	0.58	-0.22	-212.88
650.00	0.310	171.030	650.00	-881.00	-1.34	-1.09	0.78	1751043.72	416611.57	39°38'28.5051"N	80°16'19.9464"W	1.34	144.250	0.47	0.38	83.06
700.00	0.130	56.070	700.00	-831.00	-1.46	-1.19	0.85	1751043.79	416611.47	39°38'28.5041"N	80°16'19.9455"W	1.46	144.416	0.77	-0.36	-229.92
750.00	0.200	124.480	750.00	-781.00	-1.54	-1.21	0.97	1751043.91	416611.45	39°38'28.5040"N	80°16'19.9440"W	1.55	141.219	0.39	0.14	136.82
800.00	0.210	284.540	800.00	-731.00	-1.56	-1.24	0.95	1751043.89	416611.43	39°38'28.5037"N	80°16'19.9442"W	1.56	142.306	0.81	0.02	320.12
850.00	0.290	344.940	850.00	-681.00	-1.37	-1.09	0.83	1751043.77	416611.57	39°38'28.5051"N	80°16'19.9457"W	1.37	142.616	0.52	0.16	120.80
900.00	0.110	208.890	900.00	-631.00	-1.27	-1.01	0.78	1751043.72	416611.65	39°38'28.5059"N	80°16'19.9465"W	1.27	142.431	0.75	-0.86	-272.10
950.00	0.240	250.030	950.00	-581.00	-1.27	-1.09	0.66	1751043.60	416611.57	39°38'28.5052"N	80°16'19.9480"W	1.27	148.936	0.35	0.26	82.28
1000.00	0.080	251.640	1000.00	-531.00	-1.23	-1.13	0.52	1751043.46	416611.53	39°38'28.5047"N	80°16'19.9497"W	1.25	155.228	0.32	-0.32	3.22
1050.00	0.250	218.420	1049.99	-481.01	-1.26	-1.23	0.42	1751043.36	416611.43	39°38'28.5037"N	80°16'19.9510"W	1.30	161.048	0.38	0.34	-66.44
1100.00	0.310	283.700	1099.99	-431.01	-1.19	-1.28	0.22	1751043.16	416611.38	39°38'28.5032"N	80°16'19.9535"W	1.30	170.131	0.61	0.12	130.56
1150.00	0.260	283.150	1149.99	-381.01	-1.01	-1.23	-0.02	1751042.92	416611.43	39°38'28.5037"N	80°16'19.9566"W	1.23	180.864	0.10	-0.10	-1.10
1200.00	0.500	216.720	1199.99	-331.01	-1.00	-1.38	-0.26	1751042.88	416611.28	39°38'28.5022"N	80°16'19.9597"W	1.40	190.682	0.92	0.48	-132.86
1250.00	1.430	211.670	1249.99	-281.01	-0.34	-2.08	-0.72	1751042.22	416610.58	39°38'28.4952"N	80°16'19.9654"W	2.20	199.020	1.87	1.86	-10.10
1300.00	2.670	204.860	1299.95	-231.05	-0.20	-3.67	-1.53	1751041.41	416608.99	39°38'28.4795"N	80°16'19.9757"W	3.98	202.698	2.52	2.48	-13.62
1350.00	3.110	206.570	1349.89	-181.11	-0.49	-5.94	-2.63	1751040.31	416606.72	39°38'28.4569"N	80°16'19.9895"W	6.50	203.894	0.90	0.88	3.42
1400.00	3.030	201.770	1399.82	-131.18	-0.97	-8.38	-3.73	1751039.21	416604.28	39°38'28.4327"N	80°16'20.0032"W	9.17	203.983	0.54	-0.16	-9.60

2025
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Function

2025/10/08/29

Actual Wellpath Report

Phoenix 1H AWP Proj: 23008'

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REFERENCE WELLPATH IDENTIFICATION

Operator	NORTHEAST NATURAL ENERGY, LLC	Well	Phoenix 1H
Field	Monongalia	API/Legal	
Facility	Phoenix Pad	Wellbore	Phoenix 1H AWB
Slot	Slot 01		

WELLPATH DATA (258 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	2.900	202.450	1449.75	-81.25	-6.37	-10.78	-4.70	1751038.24	416601.89	39°38'28.4090"N	80°16'20.0154"W	11.76	203.570	0.27	-0.26	1.36
1475.00	3.070	204.440	1474.72	-56.28	-7.08	-11.97	-5.22	1751037.72	416600.69	39°38'28.3971"N	80°16'20.0219"W	13.06	203.560	0.80	0.68	7.96
1583.00	2.640	207.540	1582.58	51.58	-9.80	-16.81	-7.57	1751035.37	416595.85	39°38'28.3491"N	80°16'20.0514"W	18.43	204.235	0.42	-0.40	2.87
1771.00	0.970	218.840	1770.48	239.48	-12.37	-21.89	-10.57	1751032.37	416590.77	39°38'28.2987"N	80°16'20.0892"W	24.30	205.770	0.90	-0.89	6.01
1886.00	0.290	297.990	1885.48	334.48	-12.40	-22.40	-11.28	1751031.66	416590.26	39°38'28.2935"N	80°16'20.0983"W	25.08	206.734	1.01	-0.72	83.32
1961.00	0.900	358.940	1960.47	429.47	-11.56	-21.54	-11.51	1751031.43	416591.12	39°38'28.3020"N	80°16'20.1012"W	24.42	208.114	0.84	0.64	64.16
2056.00	0.840	7.530	2055.46	524.46	-10.41	-20.10	-11.43	1751031.51	416592.56	39°38'28.3162"N	80°16'20.1004"W	23.13	209.622	0.15	-0.06	9.04
2150.00	1.520	0.180	2149.44	618.44	-8.85	-18.17	-11.34	1751031.60	416594.49	39°38'28.3353"N	80°16'20.0994"W	21.42	211.955	0.74	0.72	-7.82
2245.00	2.240	1.810	2244.39	713.39	-6.29	-15.06	-11.28	1751031.66	416597.60	39°38'28.3661"N	80°16'20.0990"W	18.82	216.837	0.76	0.76	1.51
2340.00	2.900	0.510	2339.29	808.29	-2.79	-10.80	-11.21	1751031.73	416601.86	39°38'28.4082"N	80°16'20.0986"W	15.56	226.060	0.70	0.69	-1.16
2434.00	3.510	0.800	2433.15	902.15	1.56	-5.55	-11.15	1751031.79	416607.12	39°38'28.4601"N	80°16'20.0984"W	12.45	243.550	0.65	0.65	0.31
2529.00	3.960	357.670	2527.94	996.94	6.76	0.64	-11.24	1751031.70	416613.30	39°38'28.5212"N	80°16'20.1002"W	11.26	273.261	0.52	0.47	-3.29
2624.00	3.380	354.930	2622.75	1091.75	12.02	6.71	-11.62	1751031.32	416619.37	39°38'28.5811"N	80°16'20.1058"W	13.42	299.996	0.64	-0.61	-2.88
2719.00	2.340	356.030	2717.63	1186.63	16.17	11.43	-12.00	1751030.94	416624.09	39°38'28.6278"N	80°16'20.1112"W	16.57	313.608	1.10	-1.09	1.16
2915.00	2.290	1.260	2913.47	1382.47	32.85	19.34	-12.19	1751030.75	416632.00	39°38'28.7059"N	80°16'20.1145"W	22.86	327.770	0.11	-0.03	2.67
3010.00	2.900	340.440	3008.37	1477.37	26.74	23.50	-12.96	1751029.99	416636.16	39°38'28.7470"N	80°16'20.1247"W	26.84	331.134	1.17	0.64	-21.92
3104.00	4.160	322.040	3102.20	1571.20	32.45	28.43	-15.85	1751027.09	416641.09	39°38'28.7955"N	80°16'20.1622"W	32.55	330.862	1.79	1.34	-19.57
3199.00	4.800	314.510	3196.91	1665.91	39.77	33.93	-20.80	1751022.14	416646.59	39°38'28.8494"N	80°16'20.2261"W	39.80	328.490	0.91	0.67	-7.93
3294.00	3.420	313.720	3291.66	1760.66	46.43	38.68	-25.69	1751017.26	416651.34	39°38'28.8959"N	80°16'20.2891"W	46.43	326.413	1.45	-1.45	-0.83
3389.00	3.300	313.000	3386.50	1855.50	51.85	42.50	-29.73	1751013.21	416655.16	39°38'28.9333"N	80°16'20.3412"W	51.87	325.024	0.13	-0.13	-0.76
3484.00	3.240	313.810	3481.34	1950.34	57.14	46.22	-33.67	1751009.27	416658.88	39°38'28.9698"N	80°16'20.3920"W	57.19	323.930	0.08	-0.06	0.85
3579.00	1.590	310.630	3576.25	2045.25	61.02	48.94	-36.61	1751006.33	416661.60	39°38'28.9964"N	80°16'20.4298"W	61.12	323.204	1.74	-1.74	-3.35
3673.00	1.330	288.550	3670.22	2139.22	63.14	50.14	-38.63	1751004.31	416662.79	39°38'29.0081"N	80°16'20.4558"W	63.29	322.385	0.65	-0.28	-23.49
3768.00	1.160	286.540	3765.20	2234.20	64.75	50.76	-40.60	1751002.34	416663.42	39°38'29.0141"N	80°16'20.4810"W	65.00	321.348	0.18	-0.18	-2.12
3866.00	0.700	271.280	3863.19	2332.19	65.86	51.06	-42.15	1751000.79	416663.71	39°38'29.0168"N	80°16'20.5009"W	66.21	320.480	0.53	-0.47	-15.57
3961.00	0.540	182.780	3958.18	2427.18	65.83	50.62	-42.75	1751000.19	416663.28	39°38'29.0125"N	80°16'20.5085"W	66.26	319.820	0.92	-0.17	-93.16
4056.00	2.480	143.650	4053.15	2522.15	63.41	48.52	-41.55	1751001.39	416661.18	39°38'28.9918"N	80°16'20.4930"W	63.88	319.423	2.20	2.04	-41.19
4151.00	3.950	152.610	4148.00	2617.00	58.11	43.96	-38.83	1751004.11	416656.62	39°38'28.9470"N	80°16'20.4577"W	58.65	318.546	1.63	1.55	9.43
4245.00	5.630	155.340	4241.67	2710.67	50.33	36.89	-35.42	1751007.53	416649.55	39°38'28.8774"N	80°16'20.4133"W	51.14	316.171	1.80	1.79	2.90
4340.00	6.030	154.650	4336.17	2805.17	40.79	28.15	-31.84	1751011.61	416640.81	39°38'28.7914"N	80°16'20.3601"W	42.12	311.935	0.43	0.42	-0.73

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Actual Wellpath Report

Phoenix 1H AWP Proj: 23008'

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REFERENCE WELLPATH IDENTIFICATION

Operator	NORTHEAST NATURAL ENERGY, LLC	Well	Phoenix 1H
Field	Monongalia	API/Legal	
Facility	Phoenix Pad	Wellbore	Phoenix 1H AWB
Slot	Slot 01		

WELLPATH DATA (258 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]
4435.00	5.800	155.540	4430.67	2899.67	31.12	19.27	-27.21	1751015.73	416631.93	39°38'28.7040"N	80°16'20.3065"W	33.34	305.306	0.26	-0.24	0.94
4529.00	5.490	162.010	4524.21	2993.21	22.10	10.67	-23.86	1751019.09	416623.33	39°38'25.6193"N	80°16'20.2626"W	26.13	294.100	0.75	-0.33	6.88
4623.00	6.060	161.930	4617.74	3086.74	12.99	1.68	-20.93	1751022.01	416614.34	39°38'28.5306"N	80°16'20.2242"W	21.00	274.582	0.61	0.61	-0.09
4718.00	6.110	160.380	4712.20	3181.20	3.25	-7.85	-17.68	1751025.27	416604.81	39°38'28.4367"N	80°16'20.1816"W	19.34	246.047	0.18	0.05	-1.63
4816.00	6.170	155.480	4809.64	3278.64	-7.01	-17.56	-13.74	1751029.20	416595.10	39°38'28.3412"N	80°16'20.1302"W	22.28	218.045	0.54	0.06	-5.00
4911.00	5.590	149.450	4904.14	3373.14	-16.67	-26.19	-9.27	1751033.67	416586.48	39°38'28.2563"N	80°16'20.0721"W	27.78	199.490	0.89	-0.61	-6.35
5005.00	6.280	153.430	4997.64	3466.64	-26.34	-34.73	-4.64	1751038.30	416577.94	39°38'28.1723"N	80°16'20.0120"W	35.04	187.612	0.85	0.73	4.23
5100.00	6.260	154.710	5092.07	3561.07	-36.63	-44.06	-0.10	1751042.84	416568.61	39°38'28.0804"N	80°16'19.9530"W	44.06	180.136	0.15	-0.02	1.35
5195.00	5.180	147.430	5186.59	3655.59	-46.04	-52.35	4.42	1751047.36	416560.31	39°38'27.9988"N	80°16'19.8943"W	52.54	175.177	1.37	-1.14	-7.66
5289.00	5.940	150.460	5280.15	3749.15	-55.13	-60.16	9.10	1751052.04	416552.50	39°38'27.9221"N	80°16'19.8336"W	60.85	171.399	0.87	0.81	3.22
5384.00	6.110	153.230	5374.63	3843.63	-65.06	-68.95	13.80	1751056.74	416543.71	39°38'27.8356"N	80°16'19.7725"W	70.32	168.682	0.35	0.18	2.92
5479.00	6.100	153.610	5469.09	3938.09	-75.08	-77.99	18.32	1751061.26	416534.68	39°38'27.7467"N	80°16'19.7137"W	80.11	166.780	0.04	-0.01	0.40
5574.00	6.390	166.840	5563.53	4032.53	-85.04	-87.66	21.77	1751064.71	416525.01	39°38'27.6514"N	80°16'19.6686"W	90.32	166.054	1.54	0.31	13.93
5668.00	7.370	170.750	5656.85	4125.85	-95.44	-98.70	23.93	1751066.87	416513.96	39°38'27.5424"N	80°16'19.6398"W	101.56	166.373	1.15	1.04	4.16
5763.00	7.260	165.610	5751.08	4220.08	-106.65	-110.53	26.40	1751069.34	416502.14	39°38'27.4258"N	80°16'19.6069"W	113.64	166.567	0.70	-0.12	-5.41
5861.00	6.650	162.250	5848.36	4317.36	-117.96	-121.93	29.67	1751072.61	416490.73	39°38'27.3133"N	80°16'19.5639"W	125.49	166.325	0.75	-0.62	-3.43
5956.00	7.040	162.340	5942.68	4411.68	-128.84	-132.72	33.11	1751076.05	416479.95	39°38'27.2070"N	80°16'19.5187"W	136.79	165.992	0.41	0.41	0.09
6051.00	6.790	159.990	6036.99	4505.99	-139.90	-143.54	36.80	1751079.74	416469.12	39°38'27.1004"N	80°16'19.4703"W	148.19	165.621	0.40	-0.26	-2.47
6145.00	6.610	156.570	6130.35	4599.35	-150.63	-153.73	40.85	1751083.79	416458.94	39°38'27.0001"N	80°16'19.4174"W	159.07	165.118	0.47	-0.19	-3.64
6240.00	6.280	151.420	6224.75	4693.75	-161.18	-163.31	45.51	1751088.45	416449.36	39°38'26.9058"N	80°16'19.3588"W	169.53	164.428	0.70	-0.35	-5.42
6335.00	6.500	158.630	6319.16	4788.16	-171.61	-172.88	49.96	1751092.89	416439.79	39°38'26.8116"N	80°16'19.2989"W	179.95	163.882	0.88	0.23	7.59
6430.00	6.140	155.220	6413.58	4882.58	-181.89	-182.50	54.05	1751096.98	416430.17	39°38'26.7169"N	80°16'19.2456"W	190.33	163.504	0.55	-0.38	-3.59
6524.00	5.280	151.450	6507.12	4976.12	-191.16	-190.86	58.22	1751101.16	416421.81	39°38'26.6346"N	80°16'19.1913"W	199.55	163.036	1.00	-0.91	-4.01
6619.00	6.010	150.970	6601.65	5070.65	-200.47	-199.05	62.72	1751105.66	416413.62	39°38'26.5540"N	80°16'19.1329"W	208.70	162.510	0.77	0.77	-0.51
6713.00	6.590	162.290	6695.09	5164.09	-210.57	-208.49	66.75	1751109.69	416404.18	39°38'26.4611"N	80°16'19.0803"W	218.92	162.247	1.46	0.62	12.04
6808.00	6.390	161.520	6789.48	5258.48	-220.91	-218.70	70.09	1751113.02	416393.97	39°38'26.3605"N	80°16'19.0366"W	229.66	162.231	0.23	-0.21	-0.81
6906.00	6.120	161.190	6886.90	5355.90	-231.23	-228.82	73.50	1751116.43	416383.86	39°38'26.2608"N	80°16'18.9919"W	240.33	162.192	0.28	-0.28	-0.34
7000.00	5.250	162.120	6980.43	5449.43	-240.21	-237.65	76.43	1751119.37	416375.02	39°38'26.1737"N	80°16'18.9534"W	249.64	162.171	0.93	-0.93	0.99
7095.00	5.880	162.660	7074.99	5543.99	-249.06	-246.44	79.22	1751122.15	416366.24	39°38'26.0872"N	80°16'18.9168"W	258.86	162.179	0.67	0.66	0.57
7190.00	6.080	166.350	7169.47	5638.47	-258.46	-255.97	81.86	1751124.79	416356.71	39°38'25.9932"N	80°16'18.8821"W	268.74	162.266	0.46	0.21	3.88

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Actual Wellpath Report

Phoenix 1H AWP Proj: 23008'

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REFERENCE WELLPATH IDENTIFICATION

Operator	NORTHEAST NATURAL ENERGY, LLC	Well	Phoenix 1H
Field	Monangalia	API/Legal	
Facility	Phoenix Pad	Wellbore	Phoenix 1H AWB
Slot	Slot 01		

WELLPATH DATA (258 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]
7284.00	5.670	164.860	7262.98	5731.98	-267.54	-265.29	84.24	1751127.18	416347.39	39°38'25.9013"N	80°16'18.8505"W	278.34	162.382	0.47	-0.44	-1.59
7417.00	5.640	160.900	7395.33	5864.33	-280.10	-277.81	88.10	1751131.03	416334.87	39°38'25.7779"N	80°16'18.7999"W	291.44	162.405	0.29	-0.02	-2.98
7511.00	4.270	229.700	7489.05	5958.05	-284.98	-284.44	86.94	1751129.88	416328.24	39°38'25.7122"N	80°16'18.8139"W	297.43	163.004	6.07	-1.46	73.19
7605.00	7.690	290.090	7582.60	6051.60	-280.32	-284.54	78.36	1751121.29	416328.13	39°38'25.7105"N	80°16'18.9237"W	295.13	164.604	7.12	3.64	64.24
7700.00	14.290	325.480	7675.90	6144.90	-263.43	-272.67	65.72	1751108.65	416340.00	39°38'25.8267"N	80°16'19.0865"W	280.48	165.450	9.63	6.95	37.25
7794.00	22.190	319.460	7765.12	6234.12	-234.16	-249.59	47.57	1751090.51	416363.09	39°38'26.0533"N	80°16'19.3210"W	254.08	169.209	8.63	8.40	-6.40
7888.00	28.230	322.190	7850.13	6319.13	-194.33	-218.50	22.38	1751065.32	416394.17	39°38'26.3584"N	80°16'19.6464"W	219.65	174.151	6.54	6.43	2.90
7982.00	36.120	322.680	7929.63	6398.63	-144.43	-178.84	-8.09	1751034.85	416433.83	39°38'26.7477"N	80°16'20.0403"W	179.03	182.591	8.40	8.39	0.52
8075.00	43.940	318.900	8000.80	6469.80	-84.98	-132.65	-45.99	1750996.96	416480.02	39°38'27.2010"N	80°16'20.5297"W	140.40	199.120	8.80	8.41	-4.06
8169.00	51.280	319.100	8064.12	6533.12	-16.18	-80.29	-91.50	1750951.45	416532.38	39°38'27.7146"N	80°16'21.1172"W	121.73	228.734	7.81	7.81	0.21
8263.00	59.600	319.230	8117.40	6586.40	60.56	-21.77	-142.07	1750900.88	416590.90	39°38'28.2887"N	80°16'21.7701"W	143.73	261.289	8.85	8.85	0.14
8357.00	65.910	318.820	8160.41	6629.41	143.40	41.29	-196.85	1750846.11	416653.95	39°38'28.9072"N	80°16'22.4772"W	201.13	281.847	6.72	6.71	-0.44
8451.00	72.630	319.380	8193.67	6662.67	230.56	107.71	-254.37	1750788.59	416720.36	39°38'29.5587"N	80°16'23.2198"W	276.23	292.950	7.17	7.15	0.60
8545.00	80.080	323.530	8215.83	6684.83	321.49	179.12	-311.19	1750731.77	416791.77	39°38'30.2595"N	80°16'23.9540"W	359.06	299.924	9.01	7.93	4.41
8639.00	83.800	325.650	8229.01	6698.01	414.49	254.96	-365.10	1750677.86	416867.61	39°38'31.0045"N	80°16'24.6515"W	445.31	304.928	4.54	3.96	2.26
8733.00	86.710	325.820	8236.79	6705.79	508.15	332.37	-417.84	1750625.13	416945.01	39°38'31.7650"N	80°16'25.3341"W	533.91	308.501	3.10	3.10	0.18
8828.00	84.760	325.550	8243.85	6712.85	602.88	410.62	-471.24	1750571.73	417023.25	39°38'32.5337"N	80°16'26.0254"W	625.04	311.067	2.07	-2.05	-0.28
8923.00	84.950	325.310	8252.37	6721.37	697.48	488.53	-524.93	1750518.04	417101.16	39°38'33.2991"N	80°16'26.7202"W	717.09	312.843	0.32	0.20	-0.25
9018.00	86.830	325.630	8259.18	6728.18	792.22	566.59	-578.64	1750464.34	417179.21	39°38'34.0660"N	80°16'27.4154"W	809.84	314.397	2.01	1.98	0.34
9113.00	86.980	326.030	8264.31	6733.31	887.08	645.07	-631.92	1750411.06	417257.69	39°38'34.8371"N	80°16'28.1051"W	903.02	315.590	0.45	0.16	0.42
9208.00	88.220	325.980	8268.29	6737.29	981.99	723.77	-684.99	1750358.00	417336.38	39°38'35.6102"N	80°16'28.7921"W	996.52	316.577	1.31	1.31	-0.05
9302.00	89.630	326.680	8270.05	6739.05	1075.97	801.98	-737.09	1750305.90	417414.59	39°38'36.3787"N	80°16'29.4668"W	1089.25	317.414	1.67	1.50	0.74
9397.00	88.770	325.370	8271.38	6740.38	1170.96	880.75	-790.17	1750252.82	417493.36	39°38'37.1527"N	80°16'30.1540"W	1183.26	318.103	1.65	-0.91	-1.38
9491.00	88.120	325.100	8273.93	6742.93	1264.91	957.94	-843.75	1750199.24	417570.55	39°38'37.9110"N	80°16'30.8474"W	1276.55	318.627	0.75	-0.69	-0.29
9586.00	87.940	325.660	8277.19	6746.19	1359.84	1036.08	-897.69	1750145.30	417648.67	39°38'38.6786"N	80°16'31.5456"W	1370.88	319.093	0.82	-0.19	0.59
9681.00	88.920	325.050	8279.80	6748.80	1454.78	1114.20	-951.68	1750091.32	417726.79	39°38'39.4460"N	80°16'32.2443"W	1465.31	319.498	1.21	1.03	-0.64
9775.00	88.920	326.580	8281.57	6750.57	1548.76	1191.94	-1004.48	1750038.52	417804.53	39°38'40.2098"N	80°16'32.9279"W	1558.75	319.878	1.63	0.00	1.63
9870.00	89.420	325.600	8282.95	6751.95	1643.75	1270.78	-1057.47	1749985.53	417883.36	39°38'40.9843"N	80°16'33.6140"W	1653.22	320.235	1.16	0.53	-1.03
9965.00	89.350	325.530	8283.97	6752.97	1738.73	1349.13	-1111.19	1749931.82	417961.70	39°38'41.7540"N	80°16'34.3093"W	1747.82	320.524	0.10	-0.07	-0.07
10059.00	88.920	325.340	8285.38	6754.38	1832.71	1426.52	-1164.52	1749878.50	418039.10	39°38'42.5144"N	80°16'34.9995"W	1841.48	320.774	0.50	-0.46	-0.20

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Actual Wellpath Report

Phoenix 1H AWP Proj: 23008'

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REFERENCE WELLPATH IDENTIFICATION

Operator	NORTHEAST NATURAL ENERGY, LLC	Well	Phoenix 1H
Field	Monongalia	API/Legal	
Facility	Phoenix Pad	Wellbore	Phoenix 1H AWB
Slot	Slot 01		

WELLPATH DATA (258 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]
10154.00	88.000	323.750	8287.94	6756.94	1927.62	1503.88	-1219.60	1749823.42	418116.45	39°38'43.2741"N	80°16'35.7122"W	1936.25	320.959	1.93	-0.97	-1.67
10249.00	88.950	325.090	8290.47	6759.47	2022.53	1581.11	-1274.85	1749768.17	418193.67	39°38'44.0327"N	80°16'36.4271"W	2031.05	321.121	1.73	1.00	1.41
10344.00	88.650	326.370	8292.46	6761.46	2117.50	1659.60	-1328.33	1749714.69	418272.16	39°38'44.8038"N	80°16'37.1194"W	2125.73	321.326	1.38	-0.32	1.35
10439.00	89.570	327.260	8293.93	6762.93	2212.49	1739.09	-1380.32	1749662.70	418351.65	39°38'45.5849"N	80°16'37.7928"W	2220.30	321.561	1.35	0.97	0.94
10533.00	88.830	327.110	8295.24	6764.24	2306.47	1818.09	-1431.26	1749611.77	418430.64	39°38'46.3612"N	80°16'38.4527"W	2313.86	321.789	0.80	-0.79	-0.16
10628.00	90.180	325.640	8296.06	6765.06	2401.46	1897.18	-1483.86	1749559.17	418509.73	39°38'47.1384"N	80°16'39.1339"W	2408.56	321.970	2.10	1.42	-1.55
10723.00	90.150	325.650	8295.79	6764.79	2496.45	1975.61	-1537.47	1749505.56	418588.15	39°38'47.9089"N	80°16'39.8279"W	2503.37	322.109	0.03	-0.03	0.01
10818.00	88.610	325.980	8296.82	6765.82	2591.44	2054.19	-1590.84	1749452.19	418666.73	39°38'48.6809"N	80°16'40.5189"W	2598.17	322.244	1.66	-1.62	0.35
10913.00	89.320	326.560	8298.53	6767.53	2686.42	2133.18	-1643.59	1749399.45	418745.71	39°38'49.4570"N	80°16'41.2018"W	2692.93	322.386	0.96	0.75	0.61
11007.00	88.830	326.390	8300.05	6769.05	2780.41	2211.54	-1695.50	1749347.55	418824.06	39°38'50.2269"N	80°16'41.8741"W	2786.68	322.524	0.55	-0.52	-0.18
11102.00	90.180	326.240	8300.87	6769.87	2875.40	2290.58	-1748.18	1749294.87	418903.10	39°38'51.0036"N	80°16'42.5564"W	2881.48	322.649	1.43	1.42	-0.16
11197.00	89.510	327.220	8301.13	6770.13	2970.40	2370.01	-1800.30	1749242.75	418982.52	39°38'51.7840"N	80°16'43.2314"W	2976.24	322.779	1.25	-0.71	1.03
11292.00	90.000	327.220	8301.54	6770.54	3065.39	2449.88	-1851.73	1749191.32	419062.39	39°38'52.5690"N	80°16'43.8978"W	3070.96	322.916	0.52	0.52	0.00
11386.00	90.220	326.990	8301.36	6770.36	3159.38	2528.81	-1902.78	1749140.28	419141.31	39°38'53.3446"N	80°16'44.5591"W	3164.72	323.041	0.34	0.23	-0.24
11481.00	90.650	327.410	8300.63	6769.63	3254.37	2608.66	-1954.24	1749088.82	419221.16	39°38'54.1293"N	80°16'45.2259"W	3259.47	323.162	0.63	0.45	0.44
11576.00	90.430	327.580	8299.74	6768.74	3349.34	2688.77	-2005.29	1749037.77	419301.27	39°38'54.9167"N	80°16'45.8873"W	3354.21	323.284	0.29	-0.23	0.18
11670.00	90.340	326.470	8299.11	6768.11	3443.33	2767.63	-2056.45	1748986.62	419380.12	39°38'55.6916"N	80°16'46.5501"W	3448.01	323.386	1.18	-0.10	-1.18
11765.00	90.620	326.660	8298.31	6767.31	3538.33	2846.90	-2108.79	1748934.28	419459.39	39°38'56.4705"N	80°16'47.2280"W	3542.86	323.471	0.36	0.29	0.20
11859.00	90.520	327.440	8297.38	6766.38	3632.32	2925.78	-2159.92	1748883.16	419538.26	39°38'57.2456"N	80°16'47.8904"W	3636.68	323.564	0.84	-0.11	0.83
11954.00	92.120	327.510	8295.19	6764.19	3727.27	3005.86	-2210.98	1748832.10	419618.33	39°38'58.0326"N	80°16'48.5520"W	3731.43	323.683	1.69	1.68	0.07
12048.00	91.880	327.930	8291.91	6760.91	3821.19	3085.28	-2261.15	1748781.93	419697.75	39°38'58.8132"N	80°16'49.2022"W	3825.15	323.763	0.51	-0.26	0.45
12143.00	91.080	328.420	8289.45	6758.45	3916.11	3165.97	-2311.23	1748731.85	419778.44	39°38'59.6063"N	80°16'49.8514"W	3919.84	323.870	0.99	-0.84	0.52
12237.00	90.920	326.740	8287.81	6756.81	4010.07	3245.30	-2361.61	1748681.47	419857.76	39°39'0.3860"N	80°16'50.5044"W	4013.63	323.957	1.80	-0.17	-1.79
12332.00	90.580	326.990	8286.57	6755.57	4105.06	3324.85	-2413.54	1748629.55	419937.30	39°39'1.1677"N	80°16'51.1770"W	4108.50	324.024	0.44	-0.36	0.26
12427.00	91.350	326.650	8284.97	6753.97	4200.04	3404.35	-2465.52	1748577.57	420016.80	39°39'1.9488"N	80°16'51.8504"W	4203.88	324.087	0.89	0.81	-0.36
12522.00	91.660	326.290	8282.47	6751.47	4295.01	3483.51	-2517.98	1748525.12	420095.96	39°39'2.7267"N	80°16'52.5298"W	4298.26	324.140	0.50	0.33	-0.38
12617.00	91.910	326.270	8279.52	6748.52	4389.96	3562.49	-2570.69	1748472.41	420174.93	39°39'3.5027"N	80°16'53.2125"W	4393.15	324.186	0.26	0.26	-0.02
12712.00	91.780	326.450	8276.46	6745.46	4484.91	3641.54	-2623.29	1748419.81	420253.98	39°39'4.2794"N	80°16'53.8938"W	4488.04	324.232	0.23	-0.14	0.19
12806.00	92.400	326.390	8273.03	6742.03	4578.85	3719.80	-2675.25	1748367.86	420332.23	39°39'5.0483"N	80°16'54.5667"W	4581.91	324.277	0.66	0.66	-0.06
12901.00	92.220	326.670	8269.20	6738.20	4673.77	3798.98	-2727.60	1748315.51	420411.41	39°39'5.8263"N	80°16'55.2448"W	4676.76	324.322	0.35	-0.19	0.29

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Actual Wellpath Report

Phoenix 1H AWP Proj: 23008'

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REFERENCE WELLPATH IDENTIFICATION

Operator	NORTHEAST NATURAL ENERGY, LLC	Well	Phoenix 1H
Field	Monongalia	API/Legal	
Facility	Phoenix Pad	Wellbore	Phoenix 1H AWB
Slot	Slot 01		

WELLPATH DATA (258 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]
12996.00	92.150	327.710	8265.58	6734.58	4768.69	3878.77	-2779.04	1748264.07	420491.19	39°39'6.6104"N	80°16'55.9112"W	4771.57	324.379	1.10	-0.07	1.09
13090.00	92.250	326.850	8261.97	6730.97	4862.61	3957.79	-2829.81	1748213.31	420570.21	39°39'7.3870"N	80°16'56.5691"W	4865.38	324.435	0.92	0.11	-0.91
13185.00	91.320	323.760	8259.01	6728.01	4957.53	4035.85	-2883.85	1748159.27	420648.27	39°39'8.1538"N	80°16'57.2687"W	4960.31	324.452	3.40	-0.98	-3.25
13279.00	92.890	326.180	8255.56	6724.56	5051.43	4112.76	-2937.76	1748105.36	420725.17	39°39'8.9092"N	80°16'57.9666"W	5054.23	324.462	3.07	1.67	2.57
13374.00	91.780	326.300	8251.69	6720.69	5146.35	4191.68	-2990.51	1748052.61	420804.08	39°39'9.6845"N	80°16'58.6497"W	5149.11	324.494	1.18	-1.17	0.13
13469.00	94.340	325.820	8246.61	6715.61	5241.21	4270.37	-3043.47	1747999.65	420882.77	39°39'10.4577"N	80°16'59.3356"W	5243.93	324.523	2.74	2.69	-0.51
13564.00	91.570	326.310	8241.72	6710.72	5336.07	4349.08	-3096.43	1747946.70	420961.47	39°39'11.2309"N	80°17'0.0214"W	5338.76	324.550	2.96	-2.92	0.52
13658.00	92.030	323.650	8238.76	6707.76	5429.99	4426.02	-3150.34	1747892.79	421038.40	39°39'11.9866"N	80°17'0.7192"W	5432.70	324.558	2.87	0.49	-2.83
13753.00	91.750	326.420	8235.63	6704.63	5524.90	4503.82	-3204.75	1747838.39	421116.20	39°39'12.7508"N	80°17'1.4235"W	5527.64	324.566	2.93	-0.29	2.92
13848.00	92.150	326.330	8232.40	6701.40	5619.84	4582.88	-3257.33	1747785.81	421195.26	39°39'13.5278"N	80°17'2.1045"W	5622.54	324.596	0.43	0.42	-0.09
13942.00	93.200	326.630	8228.01	6697.01	5713.74	4661.16	-3309.18	1747733.96	421273.53	39°39'14.2967"N	80°17'2.7761"W	5716.38	324.627	1.16	1.12	0.32
14037.00	92.340	326.360	8223.42	6692.42	5808.63	4740.28	-3361.56	1747681.59	421352.65	39°39'15.0741"N	80°17'3.4546"W	5811.22	324.658	0.95	-0.91	-0.28
14131.00	91.910	325.930	8219.93	6688.93	5902.56	4818.29	-3413.89	1747629.26	421430.65	39°39'15.8405"N	80°17'4.1324"W	5905.13	324.681	0.65	-0.46	-0.46
14226.00	93.670	326.210	8215.31	6684.31	5997.44	4897.01	-3466.85	1747576.30	421509.37	39°39'16.6140"N	80°17'4.8183"W	5999.98	324.703	1.88	1.85	0.29
14321.00	93.050	327.510	8209.74	6678.74	6092.27	4976.42	-3518.69	1747524.45	421588.78	39°39'17.3942"N	80°17'5.4900"W	6094.75	324.737	1.51	-0.65	1.37
14415.00	92.400	326.740	8205.27	6674.27	6186.16	5055.28	-3569.66	1747473.50	421667.63	39°39'18.1691"N	80°17'6.1504"W	6188.56	324.773	1.07	-0.69	-0.82
14510.00	91.140	326.190	8202.34	6671.34	6281.11	5134.43	-3622.12	1747421.05	421746.77	39°39'18.9468"N	80°17'6.8299"W	6283.47	324.799	1.45	-1.33	-0.58
14605.00	91.260	324.620	8200.35	6669.35	6376.07	5212.61	-3676.04	1747367.12	421824.95	39°39'19.7148"N	80°17'7.5281"W	6378.45	324.808	1.66	0.13	-1.65
14700.00	91.020	326.070	8198.46	6667.46	6471.04	5290.74	-3730.05	1747313.12	421903.07	39°39'20.4822"N	80°17'8.2273"W	6473.42	324.816	1.55	-0.25	1.53
14794.00	91.350	325.220	8196.52	6665.52	6565.01	5368.32	-3783.08	1747260.09	421980.65	39°39'21.2444"N	80°17'8.9140"W	6567.39	324.827	0.97	0.35	-0.90
14888.00	91.940	326.340	8193.82	6662.82	6658.96	5446.02	-3835.92	1747207.25	422058.34	39°39'22.0076"N	80°17'9.5983"W	6661.34	324.841	1.35	0.63	1.19
14983.00	91.630	326.420	8190.86	6659.86	6753.92	5525.09	-3888.50	1747154.68	422137.41	39°39'22.7845"N	80°17'10.2793"W	6756.26	324.863	0.34	-0.33	0.08
15078.00	91.940	325.940	8187.90	6656.90	6848.87	5603.97	-3941.35	1747101.83	422216.29	39°39'23.5595"N	80°17'10.9638"W	6851.18	324.881	0.60	0.33	-0.51
15173.00	92.400	325.880	8184.30	6653.30	6943.80	5682.59	-3994.56	1747048.63	422294.90	39°39'24.3318"N	80°17'11.6529"W	6946.10	324.895	0.49	0.48	-0.06
15267.00	91.720	326.180	8180.92	6649.92	7037.74	5760.50	-4047.04	1746996.14	422372.80	39°39'25.0972"N	80°17'12.3327"W	7040.02	324.910	0.79	-0.72	0.32
15362.00	91.890	327.020	8178.10	6647.10	7132.69	5839.77	-4099.32	1746943.87	422452.07	39°39'25.8761"N	80°17'13.0099"W	7134.94	324.932	0.88	-0.03	0.88
15457.00	91.350	326.430	8175.58	6644.58	7227.66	5919.17	-4151.42	1746891.77	422531.47	39°39'26.6562"N	80°17'13.6850"W	7229.86	324.956	0.72	-0.36	-0.62
15552.00	90.620	326.090	8173.94	6642.94	7322.64	5998.15	-4204.18	1746839.02	422610.45	39°39'27.4323"N	80°17'14.3684"W	7324.82	324.973	0.85	-0.77	-0.36
15646.00	91.230	326.550	8172.43	6641.43	7416.63	6076.37	-4256.30	1746786.90	422688.65	39°39'28.2007"N	80°17'15.0435"W	7418.78	324.990	0.81	0.65	0.49
15740.00	91.320	326.810	8170.33	6639.33	7510.60	6154.44	-4308.60	1746734.60	422766.72	39°39'28.9677"N	80°17'15.7210"W	7512.74	325.005	0.79	-0.10	-0.79

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REFERENCE WELLPATH IDENTIFICATION

Operator	NORTHEAST NATURAL ENERGY, LLC	Well	Phoenix 1H
Field	Monongalia	API/Legal	
Facility	Phoenix Pad	Wellbore	Phoenix 1H AWB
Slot	Slot 01		

WELLPATH DATA (258 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]
15835.00	91.230	326.100	8168.22	6637.22	7605.58	6233.14	-4361.78	1746681.43	422845.42	39°39'29.7408"N	80°17'16.4097"W	7607.70	325.017	0.32	-0.09	0.31
15930.00	90.980	326.370	8166.39	6635.39	7700.56	6312.10	-4414.57	1746628.64	422924.37	39°39'30.5166"N	80°17'17.0935"W	7702.66	325.032	0.39	-0.26	0.28
16024.00	90.280	326.410	8165.35	6634.35	7794.55	6390.38	-4466.59	1746576.62	423002.65	39°39'31.2857"N	80°17'17.7675"W	7796.63	325.048	0.75	-0.74	0.04
16119.00	91.140	326.750	8164.18	6633.18	7889.54	6469.66	-4518.91	1746524.30	423081.93	39°39'32.0647"N	80°17'18.4453"W	7891.59	325.067	0.97	0.91	0.36
16214.00	90.740	326.380	8162.62	6631.62	7984.53	6548.93	-4571.25	1746471.97	423161.19	39°39'32.8435"N	80°17'19.1234"W	7986.54	325.084	0.57	-0.42	-0.39
16308.00	90.620	326.440	8161.50	6630.50	8078.52	6627.23	-4623.25	1746419.97	423239.48	39°39'33.6128"N	80°17'19.7971"W	8080.51	325.100	0.14	-0.13	0.06
16403.00	90.580	325.530	8160.51	6629.51	8173.52	6705.97	-4676.39	1746366.83	423318.22	39°39'34.3863"N	80°17'20.4854"W	8175.49	325.110	0.96	-0.04	-0.96
16497.00	90.180	326.290	8159.88	6628.88	8267.51	6783.81	-4729.08	1746314.15	423396.06	39°39'35.1510"N	80°17'21.1677"W	8269.48	325.119	0.91	-0.43	0.81
16592.00	90.000	326.900	8159.74	6628.74	8362.51	6863.12	-4781.38	1746261.85	423475.36	39°39'35.9302"N	80°17'21.8454"W	8364.45	325.136	0.67	-0.19	-0.64
16686.00	89.690	327.440	8159.99	6628.99	8456.50	6942.10	-4832.34	1746210.89	423554.34	39°39'36.7064"N	80°17'22.5058"W	8458.39	325.159	0.66	-0.33	0.57
16780.00	90.220	326.840	8160.06	6629.06	8550.49	7021.06	-4883.34	1746159.89	423633.29	39°39'37.4823"N	80°17'23.1668"W	8552.33	325.180	0.85	0.56	-0.64
16875.00	89.320	326.670	8160.45	6629.45	8645.48	7100.51	-4935.42	1746107.82	423712.74	39°39'38.2629"N	80°17'23.8417"W	8647.30	325.198	0.96	-0.95	-0.18
16970.00	90.310	324.660	8160.75	6629.75	8740.47	7178.96	-4989.00	1746054.24	423791.18	39°39'39.0335"N	80°17'24.5356"W	8742.29	325.203	2.36	1.04	-2.12
17064.00	90.180	327.890	8160.35	6629.35	8834.46	7257.13	-5041.19	1746002.06	423869.34	39°39'39.8014"N	80°17'25.2116"W	8836.26	325.214	3.44	-0.14	3.44
17159.00	89.940	327.160	8160.25	6629.25	8929.44	7337.27	-5092.19	1745951.06	423949.48	39°39'40.5890"N	80°17'25.8728"W	8931.18	325.239	0.81	-0.25	-0.77
17254.00	89.570	326.600	8160.66	6629.66	9024.43	7416.83	-5144.10	1745899.15	424029.04	39°39'41.3708"N	80°17'26.5454"W	9026.14	325.256	0.71	-0.39	-0.59
17349.00	89.480	326.170	8161.44	6630.44	9119.43	7495.94	-5196.69	1745846.57	424108.14	39°39'42.1480"N	80°17'27.2268"W	9121.12	325.268	0.46	-0.09	-0.45
17444.00	89.630	325.090	8162.18	6631.18	9214.42	7574.35	-5250.32	1745792.94	424186.55	39°39'42.9183"N	80°17'27.9213"W	9216.11	325.271	1.15	0.16	-1.14
17538.00	90.400	327.980	8162.16	6631.16	9308.41	7652.76	-5302.15	1745741.12	424264.95	39°39'43.6886"N	80°17'28.5928"W	9310.08	325.284	3.18	0.82	3.07
17633.00	90.150	327.430	8161.70	6630.70	9403.38	7733.07	-5352.90	1745690.36	424345.25	39°39'44.4778"N	80°17'29.2508"W	9404.99	325.309	0.64	-0.26	-0.58
17728.00	90.030	327.370	8161.55	6630.55	9498.36	7813.10	-5404.09	1745639.18	424425.28	39°39'45.2643"N	80°17'29.9143"W	9499.93	325.330	0.14	-0.13	-0.06
17823.00	90.280	328.590	8161.30	6630.30	9593.32	7893.64	-5454.46	1745588.82	424505.82	39°39'46.0559"N	80°17'30.5674"W	9594.83	325.356	1.31	0.28	1.28
17918.00	90.250	327.910	8160.86	6629.86	9688.27	7974.43	-5504.45	1745538.83	424586.60	39°39'46.8498"N	80°17'31.2157"W	9689.70	325.384	0.72	-0.03	-0.72
18012.00	89.690	326.210	8160.91	6629.91	9782.26	8053.31	-5555.56	1745487.72	424665.48	39°39'47.6250"N	80°17'31.8782"W	9783.66	325.400	1.90	-0.60	-1.81
18107.00	90.280	327.010	8160.93	6629.93	9877.26	8132.63	-5607.84	1745435.45	424744.79	39°39'48.4043"N	80°17'32.5556"W	9878.64	325.412	1.05	0.62	0.84
18202.00	90.090	327.060	8160.62	6629.62	9972.25	8212.33	-5659.53	1745383.76	424824.49	39°39'49.1875"N	80°17'33.2255"W	9973.60	325.427	0.21	-0.20	0.05
18296.00	89.820	327.290	8160.70	6629.70	10066.24	8291.33	-5710.48	1745332.81	424903.48	39°39'49.9636"N	80°17'33.8860"W	10067.56	325.444	0.38	-0.29	0.24
18391.00	90.220	327.260	8160.66	6629.66	10161.23	8371.25	-5761.84	1745281.45	424983.39	39°39'50.7490"N	80°17'34.5517"W	10162.51	325.461	0.42	0.42	-0.03
18486.00	90.120	327.650	8160.38	6629.38	10256.21	8451.33	-5812.95	1745230.35	425063.47	39°39'51.5359"N	80°17'35.2142"W	10257.45	325.479	0.42	-0.11	0.41
18581.00	90.340	326.600	8160.00	6629.00	10351.20	8531.11	-5864.51	1745178.79	425143.25	39°39'52.3199"N	80°17'35.8826"W	10352.41	325.494	1.13	0.23	-1.11

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Operator	NORTHEAST NATURAL ENERGY, LLC	Well	Phoenix 1H
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Facility	Phoenix Pad	Wellbore	Phoenix 1H AWB
Slot	Slot 01		

WELLPATH DATA (258 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]
18675.00	90.090	326.060	8159.65	6628.65	10445.20	8609.34	-5916.63	1745126.67	425221.48	39°39'53.0885"N	80°17'36.5578"W	10446.40	325.502	0.63	-0.27	-0.57
18770.00	89.510	325.960	8159.98	6628.98	10540.20	8688.11	-5969.74	1745073.57	425300.24	39°39'53.8622"N	80°17'37.2458"W	10541.39	325.506	0.62	-0.61	-0.11
18865.00	89.390	326.030	8160.89	6629.89	10635.19	8766.86	-6022.86	1745020.44	425378.98	39°39'54.6359"N	80°17'37.9340"W	10636.39	325.511	0.15	-0.13	0.07
18959.00	89.690	326.160	8161.65	6630.65	10729.19	8844.87	-6075.30	1744968.01	425456.99	39°39'55.4023"N	80°17'38.6133"W	10730.38	325.516	0.35	0.32	0.14
19054.00	89.290	325.920	8162.49	6631.49	10824.18	8923.67	-6128.36	1744914.95	425535.78	39°39'56.1763"N	80°17'39.3008"W	10825.37	325.521	0.49	-0.42	-0.25
19149.00	89.720	325.780	8163.31	6632.31	10919.17	9002.28	-6181.69	1744861.63	425614.39	39°39'56.9485"N	80°17'39.9915"W	10920.37	325.523	0.48	0.45	-0.15
19243.00	89.630	325.560	8163.85	6632.85	11013.16	9079.91	-6234.70	1744808.62	425692.01	39°39'57.7110"N	80°17'40.6782"W	11014.38	325.525	0.25	-0.10	-0.23
19338.00	90.120	326.290	8164.05	6633.05	11108.16	9158.59	-6287.93	1744755.40	425770.69	39°39'58.4840"N	80°17'41.3677"W	11109.36	325.528	0.93	0.52	0.77
19433.00	90.340	326.410	8163.67	6632.67	11203.16	9237.68	-6340.57	1744702.76	425849.77	39°39'59.2609"N	80°17'42.0498"W	11204.35	325.535	0.26	0.23	0.13
19527.00	90.180	326.030	8163.24	6632.24	11297.16	9315.80	-6392.83	1744650.50	425927.89	39°40'0.0285"N	80°17'42.7269"W	11298.34	325.541	0.44	-0.17	-0.40
19622.00	90.280	326.180	8162.86	6631.86	11392.16	9394.66	-6445.81	1744597.52	426006.74	39°40'0.8031"N	80°17'43.4133"W	11393.34	325.545	0.19	0.11	0.16
19717.00	89.600	325.770	8162.96	6631.96	11487.15	9473.39	-6498.97	1744544.37	426085.47	39°40'1.5766"N	80°17'44.1019"W	11488.33	325.549	0.84	-0.72	-0.43
19812.00	89.940	326.000	8163.34	6632.34	11582.15	9552.05	-6552.25	1744491.09	426164.12	39°40'2.3492"N	80°17'44.7921"W	11583.33	325.552	0.43	0.36	0.24
19906.00	89.660	326.190	8163.67	6632.67	11676.15	9630.06	-6604.68	1744438.66	426242.13	39°40'3.1156"N	80°17'45.4715"W	11677.33	325.556	0.36	-0.30	0.20
20001.00	90.310	326.100	8163.70	6632.70	11771.15	9708.95	-6657.61	1744385.74	426321.02	39°40'3.8906"N	80°17'46.1572"W	11772.32	325.561	0.69	0.68	-0.09
20096.00	90.000	326.490	8163.44	6632.44	11866.15	9787.98	-6710.32	1744333.03	426400.05	39°40'4.6870"N	80°17'46.8402"W	11867.31	325.567	0.52	-0.33	0.41
20190.00	89.880	326.150	8163.54	6632.54	11960.15	9866.21	-6762.45	1744280.90	426478.26	39°40'5.4355"N	80°17'47.5157"W	11961.30	325.573	0.38	-0.13	-0.36
20285.00	89.690	326.110	8163.90	6632.90	12055.14	9945.08	-6815.40	1744227.96	426557.14	39°40'6.2103"N	80°17'48.2017"W	12056.30	325.577	0.20	-0.20	-0.04
20379.00	90.150	326.280	8164.03	6633.03	12149.14	10023.18	-6867.71	1744175.65	426635.23	39°40'6.9776"N	80°17'48.8795"W	12150.29	325.582	0.51	0.49	0.16
20474.00	89.780	325.710	8164.08	6633.08	12244.14	10101.93	-6920.85	1744122.51	426713.97	39°40'7.7511"N	80°17'49.5680"W	12245.29	325.585	0.70	-0.39	-0.58
20569.00	90.000	325.990	8164.27	6633.27	12339.14	10180.55	-6974.18	1744069.19	426792.58	39°40'8.5234"N	80°17'50.2588"W	12340.29	325.587	0.37	0.23	0.29
20664.00	90.030	326.200	8164.24	6633.24	12434.13	10259.39	-7027.17	1744016.20	426871.42	39°40'9.2979"N	80°17'50.9454"W	12435.28	325.591	0.22	0.03	0.22
20758.00	89.910	326.030	8164.29	6633.29	12528.13	10337.43	-7079.58	1743963.79	426949.45	39°40'10.0645"N	80°17'51.6245"W	12529.28	325.595	0.22	-0.13	-0.18
20853.00	89.910	326.240	8164.44	6633.44	12623.13	10416.31	-7132.52	1743910.86	427028.33	39°40'10.8394"N	80°17'52.3104"W	12624.28	325.599	0.22	0.00	0.22
20947.00	90.250	326.090	8164.31	6633.31	12717.13	10494.39	-7184.86	1743858.52	427106.41	39°40'11.6064"N	80°17'52.9885"W	12718.27	325.603	0.40	0.36	-0.16
21042.00	89.690	326.150	8164.36	6633.36	12812.13	10573.26	-7237.82	1743805.57	427185.27	39°40'12.3812"N	80°17'53.6747"W	12813.27	325.607	0.59	-0.59	0.06
21137.00	90.120	326.100	8164.52	6633.52	12907.13	10652.13	-7290.77	1743752.62	427264.14	39°40'13.1560"N	80°17'54.3608"W	12908.26	325.611	0.46	0.45	-0.05
21231.00	90.120	326.440	8164.32	6633.32	13001.13	10730.31	-7342.96	1743700.43	427342.31	39°40'13.9240"N	80°17'55.0372"W	13002.26	325.615	0.36	0.00	0.36
21326.00	90.000	326.220	8164.22	6633.22	13096.13	10809.37	-7395.63	1743647.76	427421.37	39°40'14.7007"N	80°17'55.7197"W	13097.25	325.621	0.26	-0.13	-0.23
21421.00	90.120	326.210	8164.12	6633.12	13191.13	10888.33	-7448.46	1743594.94	427500.32	39°40'15.4764"N	80°17'56.4042"W	13192.24	325.625	0.13	0.13	-0.01

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REFERENCE WELLPATH IDENTIFICATION

Operator	NORTHEAST NATURAL ENERGY, LLC	Well	Phoenix 1H
Field	Monongalia	API/Legal	
Facility	Phoenix Pad	Wellbore	Phoenix 1H AWB
Slot	Slot 01		

WELLPATH DATA (258 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]
21515.00	89.880	325.930	8164.12	6633.12	13285.13	10966.32	-7500.93	1743542.47	427578.31	39°40'16.2426"N	80°17'57.0841"W	13286.24	325.628	0.39	-0.26	-0.30
21610.00	89.630	326.040	8164.53	6633.53	13380.12	11045.07	-7554.07	1743489.33	427657.05	39°40'17.0161"N	80°17'57.7726"W	13381.24	325.631	0.29	-0.26	0.12
21704.00	90.030	325.730	8164.81	6633.81	13474.12	11122.89	-7606.79	1743436.61	427734.87	39°40'17.7805"N	80°17'58.4557"W	13475.24	325.632	0.54	0.43	-0.33
21799.00	89.780	326.020	8164.96	6633.96	13569.12	11201.53	-7660.09	1743383.32	427813.51	39°40'18.5530"N	80°17'59.1462"W	13570.24	325.634	0.40	-0.26	0.31
21893.00	90.030	325.410	8165.12	6634.12	13663.11	11279.20	-7713.04	1743330.38	427891.17	39°40'19.3159"N	80°17'59.8321"W	13664.23	325.635	0.70	0.27	-0.65
21988.00	90.460	325.890	8164.71	6633.71	13758.10	11357.63	-7766.64	1743276.78	427969.60	39°40'20.0863"N	80°18'0.5266"W	13759.23	325.635	0.68	0.45	0.51
22083.00	90.400	326.890	8164.00	6633.00	13853.10	11436.75	-7819.22	1743224.20	428048.71	39°40'20.8635"N	80°18'1.2080"W	13854.22	325.640	1.05	-0.06	1.05
22177.00	90.180	327.130	8163.52	6632.52	13947.09	11515.59	-7870.40	1743173.02	428127.55	39°40'21.6382"N	80°18'1.8715"W	13948.19	325.649	0.35	-0.23	0.26
22272.00	90.800	326.860	8162.71	6631.71	14042.08	11595.26	-7922.15	1743121.27	428207.21	39°40'22.4209"N	80°18'2.5423"W	14043.16	325.658	0.71	0.65	-0.28
22366.00	90.950	327.200	8161.28	6630.28	14136.06	11674.11	-7973.30	1743070.13	428286.05	39°40'23.1956"N	80°18'3.2054"W	14137.13	325.667	0.40	0.16	0.36
22460.00	90.800	326.980	8159.84	6628.84	14230.04	11753.01	-8024.37	1743019.07	428364.95	39°40'23.9709"N	80°18'3.8675"W	14231.09	325.677	0.28	-0.16	-0.23
22554.00	91.290	326.810	8158.13	6627.13	14324.02	11831.74	-8075.70	1742967.74	428443.68	39°40'24.7444"N	80°18'4.5329"W	14325.05	325.685	0.55	0.52	-0.18
22649.00	91.350	327.200	8155.94	6624.94	14418.99	11911.40	-8127.42	1742916.02	428523.33	39°40'25.5271"N	80°18'5.2034"W	14420.00	325.693	0.42	0.06	0.41
22744.00	91.050	326.610	8153.95	6622.95	14513.97	11990.97	-8179.28	1742864.16	428602.89	39°40'26.3089"N	80°18'5.8757"W	14514.96	325.701	0.70	-0.32	-0.62
22838.00	90.800	327.000	8152.43	6621.43	14607.95	12069.62	-8230.74	1742812.71	428681.54	39°40'27.0816"N	80°18'6.5428"W	14608.93	325.708	0.49	-0.27	0.41
22932.00	90.120	326.150	8151.68	6620.68	14701.95	12148.07	-8282.51	1742760.93	428759.98	39°40'27.8523"N	80°18'7.2139"W	14702.91	325.714	1.16	-0.72	-0.90
22983.00	90.580	326.930	8151.36	6620.36	14752.94	12190.61	-8310.63	1742732.82	428802.53	39°40'28.2703"N	80°18'7.5783"W	14753.90	325.717	1.78	0.90	1.53
23008.00†	90.580	326.930	8151.11	6620.11	14777.94	12211.56	-8324.27	1742719.18	428823.48	39°40'28.4761"N	80°18'7.7552"W	14778.90	325.719	0.00	0.00	0.00

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Phoenix 1H AWP Proj: 23008'
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REFERENCE WELLPATH IDENTIFICATION

Operator	NORTHEAST NATURAL ENERGY, LLC	Well	Phoenix 1H
Field	Monongalia	API/Legal	
Facility	Phoenix Pad	Wellbore	Phoenix 1H AWB
Slot	Slot 01		

HOLE & CASING SECTIONS - Ref Wellbore: Phoenix 1H AWB Ref Wellpath: Phoenix 1H AWP Proj: 23008'

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	1533.00	1505.00	28.00	1532.64	0.00	0.00	-14.67	-6.49
13.375in Casing Surface	28.00	1503.00	1475.00	28.00	1502.68	0.00	0.00	-13.31	-5.84
12.25in Open Hole	1533.00	2852.00	1319.00	1532.64	2850.52	-14.67	-6.49	16.81	-12.21
9.625in Casing Intermediate	28.00	2822.00	2794.00	28.00	2820.54	0.00	0.00	15.61	-12.19
8.75in Open Hole	2852.00	7458.00	4606.00	2850.52	7436.18	16.81	-12.21	-281.22	88.62
8.5in Open Hole	7458.00	23008.00	15550.00	7436.18	8151.11	-281.22	88.62	12211.56	-8324.27
5.5in Casing Production	28.00	22978.00	22950.00	28.00	8151.41	0.00	0.00	12186.43	-8307.90

TARGETS

Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
Phoenix 1H BHL Rev-5	8228.00	12212.26	-8324.85	1742718.60	428824.17	39°40'28.4829"N	80°18'7.7626"W	point
Phoenix 1H LP Rev-6	8228.00	274.94	-385.69	1750657.27	416887.59	39°38'31.2002"N	80°16'24.9169"W	point
Phoenix Pad Hardline (2.12.21)	8528.00	602.44	4985.36	1756027.99	417215.07	39°38'34.8882"N	80°15'16.2957"W	polygon
2D Polygon: dimensions not calculated								

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REFERENCE WELLPATH IDENTIFICATION

Operator	NORTHEAST NATURAL ENERGY, LLC	Well	Phoenix 1H
Field	Monongalia	API/Legal	
Facility	Phoenix Pad	Wellbore	Phoenix 1H AWB
Slot	Slot 01		

WELLPATH COMPOSITION - Ref Wellbore: Phoenix 1H AWB Ref Wellpath: Phoenix 1H AWP Proj: 23008'

Start MD [ft]	End MD [ft]	Positional Uncertainty Model	Log Name/Comment	Wellbore	Survey Date
28.00	1475.00	BH Generic gyro - northseeking (Standard)	01_17.5" Gyro [Northseeking-Standard] (50' - 1475')	Phoenix 1H AWB	10/12/2023
1475.00	2719.00	OWSG MWD rev2 + HRGM	02_12.25" SDI MWD [OWSG MWD Rev.2+HRGM] (1475')(1583' - 2719')	Phoenix 1H AWB	10/12/2023
2719.00	7284.00	OWSG MWD rev2 + HRGM	03_8.75" SDI MWD [OWSG MWD Rev.2+HRGM] (2719')(2915' - 7284')	Phoenix 1H AWB	10/12/2023
7284.00	23008.00	BH AutoTrak Curve/eXpress (2019) (HRGM, Short spacing)	04_8.5" BH ATK Curve <HRGM+Short Spacing> (7284')(7417' - 22983')	Phoenix 1H AWB	10/12/2023

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REFERENCE WELLPATH IDENTIFICATION

Operator	NORTHEAST NATURAL ENERGY, LLC	Well	Phoenix 1H
Field	Monongalia	API/Legal	
Facility	Phoenix Pad	Wellbore	Phoenix 1H AWB
Slot	Slot 01		

COMMENTS

Wellpath general comments

API: 47061019380000

BH Job #: 111974121

Rig: Patterson 277

Duration: 10/13/2023 - 10/16/2023

01_17.5" Gyro [Northseeking-Standard] (50' - 1475')

02_12.25" SDI MWD [OWSG MWD Rev.2+HRGM] (1475')(1583' - 2719')

03_8.75" SDI MWD [OWSG MWD Rev.2+HRGM] (2719')(2915' - 7284')

04_8.5" BH ATK Curve <HRGM+Short Spacing> (7284')(7417' - 22983')

Final Survey MD @ 22983'

Projected MD at TD: 23008'

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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:	47-061-01938-00-00
Operator Name:	Northeast Natural Energy LLC
Well Name and Number:	PHOENIX 1H
Latitude:	39.641167
Longitude:	-80.272417
Datum:	NAD83
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	7700
Total Base Water Volume (gal)*:	28953624
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	88.03089	None
			Crystalline Silica in the form of Quartz	14808-60-7	99.90000	11.86500	None
			Acrylamide-Chloride Salt of Trimethylammonio-	69418-26-4	40.00000	0.02239	None

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			Ethyl Acrylate Copolymer				
			Alkanes, C12-26- Branched and Linear	90622-53-0	40.00000	0.02239	None
			Hydrogen chloride	7647-01-0	28.00000	0.00970	None
			Glutaraldehyde	111-30-8	20.00000	0.00445	None
			Ethoxylated Alcohols (C12-16)	68551-12-2	5.00000	0.00280	None
			AA/Maleic Anhydride Co-polymer	9003-04-7	5.00000	0.00188	None
			AA/ATBS Co-polymer	9003-05-8	5.00000	0.00188	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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