WR-35
Rev. 8/23/13

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

API 47 - 061 - 01942 County Monongalia District Battelle
Quad Wadestown Pad Name Phoenix Field/Pool Name
Farm name Charles Wendell Moore & Frank M Chisler Well Number 9H
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 4388200.4 Easting 562460.4
Landing Point of Curve Northing 4388793.1 Easting 563070.6
Bottom Hole Northing 4391658.1 Easting 561093.2

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 11/3/23 Date drilling commenced 9/28/23 Date drilling ceased 12/24/23
Date completion activities began 2/6/24 Date completion activities ceased 3/12/24
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

APPROVED

Reviewed by: MJ

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API 47- 061 - 01942 Farm name Charles Wendell Moore & Frank M Chisler Well number 9H

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"	1,514'	N	54.5	222	Y
Coal							
Intermediate 1	12-1/4"	9-5/8"	2,828'	N	J-55/36	2494	Y
Intermediate 2							
Intermediate 3							
Production	8-3/4"	5-1/2"	20,696'	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	254	15.6			CTS	48
Surface	L, NCM-956	1365	15.6	1.14	1,550	CTS	8
Coal							
Intermediate 1	L, NCM-956	1060	15.6	1.13	1,195	CTS	8
Intermediate 2							
Intermediate 3							
Production	L, NCM-956	3795	14.5	1.16	4,395	2,077	48
Tubing							

Drillers TD (ft) 20,733' Loggers TD (ft) 20,708'
Deepest formation penetrated Marcellus Plug back to (ft) NA
Plug back procedure

Kick off depth (ft) 8,130'

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

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PERFORATION RECORD

Stage No.	Perforation date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formation(s)
	See attached				

Please insert additional pages as applicable.

STIMULATION INFORMATION PER STAGE

Complete a separate record for each stimulation stage.

Stage No.	Stimulations Date	Ave Pump Rate (BPM)	Ave Treatment Pressure (PSI)	Max Breakdown Pressure (PSI)	ISIP (PSI)	Amount of Proppant (lbs)	Amount of Water (bbls)	Amount of Nitrogen/other (units)
	See	Attached						

Please insert additional pages as applicable.

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PRODUCING FORMATION(S)	DEPTHS	
Marcellus	8,183 TVD	20,733 MD

Please insert additional pages as applicable.

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

SHUT-IN PRESSURE Surface 3605 psi Bottom Hole 5163 psi DURATION OF TEST 24 hrs

OPEN FLOW Gas 7182 mcfpd Oil ____ bpd NGL ____ bpd Water ____ bpd GAS MEASURED BY ☐ Estimated ■ Orifice ☐ Pilot

LITHOLOGY/ FORMATION NAME	TOP DEPTH IN FT TVD	BOTTOM DEPTH IN FT TVD	TOP DEPTH IN FT MD	BOTTOM DEPTH IN FT MD	DESCRIBE ROCK TYPE AND RECORD QUANTITY AND TYPE OF FLUID (FRESHWATER, BRINE, OIL, GAS, H_2S, ETC)
See attached	0		0		

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.

RECEIVED
Office of Oil and Gas
APR 09 2025
WV Department of Environmental Protection

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

Sec 07

Phoenix 9H

Stimulation Report

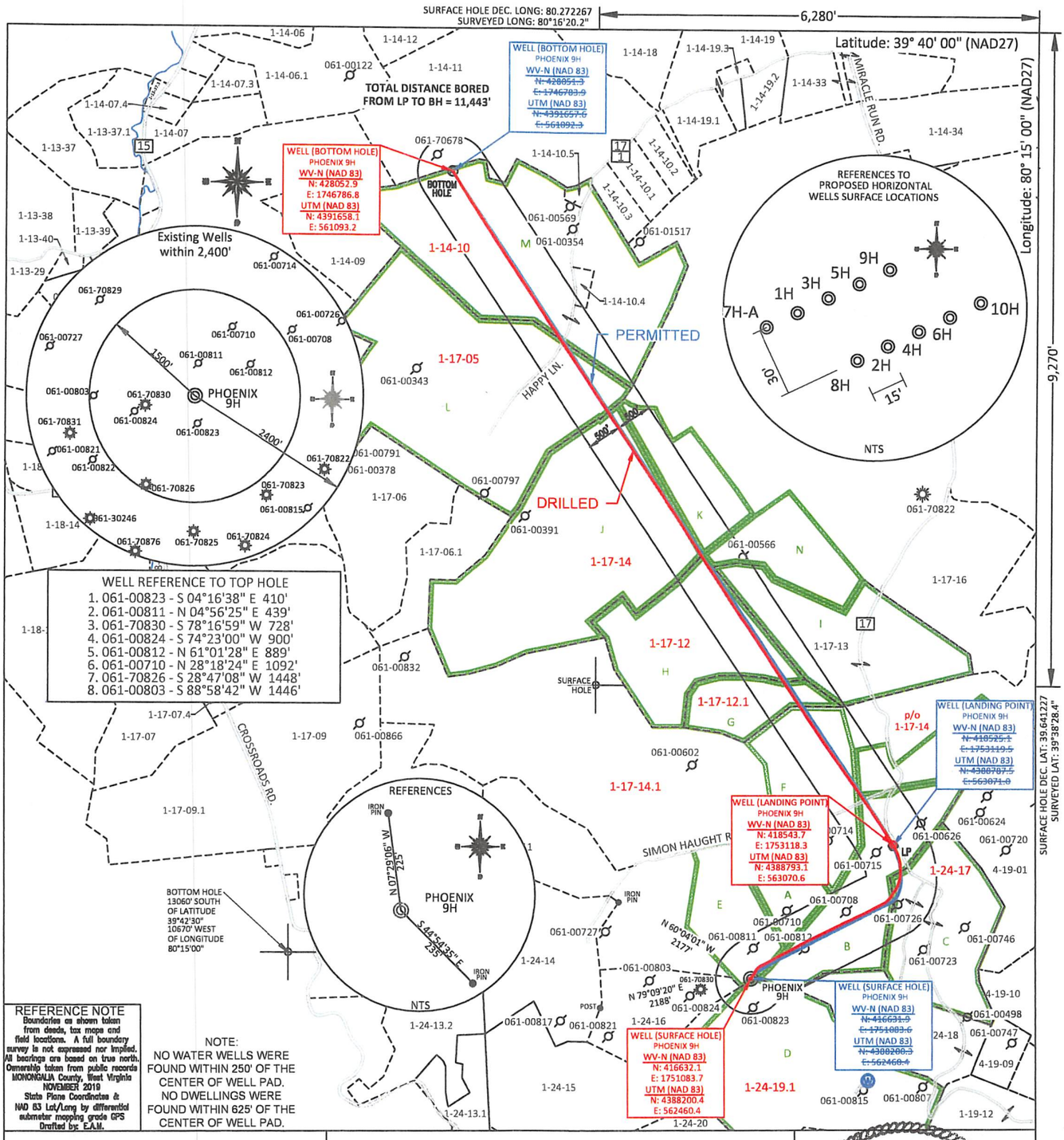
Stage Number	Report Date	ISIP (psi)	Breakdown Pressure (psi)	Avg Treating Pressure (psi)	Avg Treating Rate (BPM)	Pad Volume (bbls)	Total Clean Fluid (Bbls)	Total Proppant Amount (lbs)	Flush Volume (bbls)
1	2/6/2024	4,132		9,332	87	425	9,606	301,240	461
2	2/7/2024	5,056	6,704	9,745	91	479	9,626	455,600	467
3	2/7/2024	4,919	5,602	9,427	87	109	9,723	455,189	449
4	2/7/2024	5,241	7,180	9,711	93	55	9,583	455,647	452
5	2/8/2024	5,278	7,230	9,548	90	55	9,691	455,125	467
6	2/9/2024	7,037	5,513	9,758	92	69	9,664	455,115	441
7	2/9/2024	5,301	6,821	9,654	94	22	9,653	455,184	436
8	2/10/2024	6,109	6,920	9,524	90	31	9,588	455,161	425
9	2/10/2024	5,513	6,777	9,646	91	41	9,655	455,056	423
10	2/11/2024	5,413	6,875	9,562	88	83	9,598	455,091	415
11	2/12/2024	4,789	6,467	9,366	90	20	9,585	455,208	411
12	2/12/2024	5,449	6,172	9,409	91	50	9,665	455,023	407
13	2/13/2024	5,352	6,236	9,359	92	47	9,594	455,073	402
14	2/14/2024	5,463	6,572	9,494	94	72	9,650	455,061	398
15	2/14/2024	5,622	9,903	9,565	93	76	9,604	455,109	405
16	2/15/2024	7,030	6,639	9,449	93	12	9,606	455,445	396
17	2/16/2024	6,813	6,848	9,551	94	157	9,771	455,412	395
18	2/17/2024	5,311	6,632	9,344	91	52	9,645	455,059	388
19	2/17/2024	5,528	6,820	9,082	92	57	9,599	455,117	381
20	2/18/2024	5,906	6,844	9,252	91	60	9,576	455,112	376
21	2/19/2024	6,379	6,799	9,438	94	15	9,585	455,409	376
22	2/20/2024	5,141	6,510	9,345	91	65	9,577	455,169	364
23	2/20/2024	5,327	6,912	9,213	91	23	9,597	455,107	364
24	2/21/2024	5,952	6,824	9,303	93	31	9,590	455,421	361
25	2/21/2024	5,607	6,414	9,070	91	64	9,591	455,007	350
26	2/22/2024	6,006	6,656	9,344	94	19	9,575	455,440	352
27	2/23/2024	6,777	7,107	9,396	93	15	9,568	455,357	358
28	2/24/2024	6,618	6,452	8,781	94	19	9,512	455,250	336
29	2/24/2024	6,683	6,980	9,339	94	13	10,086	413,802	344
30	2/25/2024	7,332	6,745	9,338	94	19	9,527	455,417	336
31	2/26/2024	5,742	6,712	8,950	93	26	9,528	455,070	324
32	2/26/2024	6,056	6,836	9,241	93	15	9,520	455,032	320
33	2/27/2024	6,430	6,569	9,216	93	7	9,540	455,365	339
34	2/28/2024	5,975	6,410	9,299	91	7	9,969	455,120	310
35	2/28/2024	5,481	6,366	8,992	93	21	9,478	455,221	306
36	2/29/2024	5,133	6,800	8,898	93	40	9,470	455,164	302
37	2/29/2024	4,996	6,111	8,683	93	16	9,460	455,230	298
38	3/1/2024	5,592	6,190	8,856	94	13	9,447	455,140	289
39	3/1/2024	5,410	6,137	8,641	94	10	9,451	455,102	289
40	3/1/2024	5,438	6,312	8,643	92	33	9,453	455,104	284
41	3/1/2024	5,060	5,937	8,412	94	38	9,441	455,120	280
42	2/6/2024	5,975	5,874	8,420	94	9	9,465	455,262	295
43	3/2/2024	5,295	4,179	8,402	90	41	9,448	455,077	270
44	3/3/2024	5,021	6,383	8,349	93	33	10,153	455,214	266
45	3/3/2024	4,992	6,906	8,593	93	5	9,537	455,139	261

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	2/26/2024	5,650	6,070	8,429	93	38	9,430	443,430	451
47	3/5/2024	5,034	6,176	8,359	94	6	9,436	455,134	287
48	3/5/2024	5,273	6,340	8,219	94	55	9,495	455,116	248
49	3/6/2024	5,857	6,971	8,453	94	7	9,405	455,078	245
50	3/6/2024	5,183	6,736	8,492	94	14	9,407	455,100	239
51	3/7/2024	5,989	6,946	8,060	93	35	9,416	455,022	236
52	3/8/2024	5,054	7,064	8,296	93	90	9,515	455,108	240
53	3/8/2024	5,109	6,964	8,270	93	29	9,398	455,115	233
54	3/9/2024	5,142	6,699	8,247	93	34	9,465	455,642	232
55	3/10/2024	4,778	6,699	8,273	94	73	9,427	455,173	232
56	3/10/2024	5,081	6,602	8,245	93	70	9,468	455,157	215
57	3/11/2024	4,778	6,859	8,380	94	27	9,408	455,164	211
58	3/12/2024	5,494	7,002	8,456	94	50	9,393	455,051	205
59	3/12/2024	5,149	7,250	8,224	92	120	9,516	455,182	204

Phoenix 9H
Perforation Report

Stage Number	Report Date	Total Shots	Cluster 1 Top TD	Cluster 5 Bottom TD
1	2/6/2024	40		20,587
2	2/7/2024	40	20,546	20,388
3	2/7/2024	40	20,347	20,190
4	2/7/2024	40	20,148	19,991
5	2/8/2024	40	19,949	19,792
6	2/9/2024	40	19,750	19,593
7	2/9/2024	40	19,551	19,394
8	2/10/2024	40	19,353	19,196
9	2/10/2024	40	19,154	18,997
10	2/11/2024	40	18,955	18,798
11	2/12/2024	40	18,756	18,599
12	2/12/2024	40	18,557	18,400
13	2/13/2024	40	18,359	18,201
14	2/14/2024	40	18,160	18,003
15	2/14/2024	40	17,961	17,804
16	2/15/2024	40	17,762	17,605
17	2/16/2024	40	17,563	17,406
18	2/17/2024	40	17,364	17,207
19	2/17/2024	40	17,166	17,009
20	2/18/2024	40	16,967	16,810
21	2/19/2024	40	16,768	16,611
22	2/20/2024	40	16,569	16,412
23	2/20/2024	40	16,370	16,213
24	2/21/2024	40	16,171	16,014
25	2/21/2024	40	15,973	15,816
26	2/22/2024	40	15,774	15,617
27	2/23/2024	40	15,575	15,418
28	2/24/2024	40	15,376	15,219
29	2/24/2024	40	15,177	15,020
30	2/25/2024	40	14,979	14,822
31	2/26/2024	40	14,780	14,623
32	2/26/2024	40	14,581	14,424
33	2/27/2024	40	14,382	14,225
34	2/28/2024	40	14,183	14,026
35	2/28/2024	40	13,984	13,827
36	2/29/2024	40	13,786	13,629
37	2/29/2024	40	13,587	13,430
38	3/1/2024	40	13,388	13,231
39	3/1/2024	40	13,189	13,032
40	3/1/2024	40	12,990	12,833
41	3/1/2024	40	12,792	12,635
42	2/6/2024	40	12,593	12,436
43	3/2/2024	40	12,394	12,237
44	3/3/2024	40	12,195	12,038
45	3/3/2024	40	11,996	11,839
46	2/26/2024	40	11,797	11,640
47	3/5/2024	40	11,599	11,442

Stage Number	Report Date	Total Shots	Cluster 1 Top TD	Cluster 5 Bottom TD
48	3/5/2024	40	11,400	11,243
49	3/6/2024	40	11,201	11,044
50	3/6/2024	40	11,002	10,845
51	3/7/2024	40	10,803	10,646
52	3/8/2024	40	10,605	10,447
53	3/8/2024	40	10,406	10,249
54	3/9/2024	40	10,207	10,050
55	3/10/2024	40	10,008	9,851
56	3/10/2024	40	9,809	9,652
57	3/11/2024	40	9,610	9,453
58	3/12/2024	40	9,412	9,255
59	3/12/2024	40	9,213	9,056



FILE #: NNE16

DRAWING #: 3033

SCALE: PLAT: 1" = 2000' TICK: 1" = 2000'

MINIMUM DEGREE OF ACCURACY: 1/200

PROVEN SOURCE OF ELEVATION: SUBMETER MAPPING 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

ERNEST J. BENCHEK III LICENSED No. 2124 STATE OF WEST VIRGINIA PROFESSIONAL SURVEYOR

(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS

WVDEP
OFFICE OF OIL & GAS
601 57TH STREET
CHARLESTON, WV 25304

DATE: APRIL 2, 2025

OPERATOR'S WELL #: PHOENIX 9H AS-DRILLED

API WELL #: 47 (STATE) 61 (COUNTY) 01942 (PERMIT)

Well Type: ☐ Oil ☐ Waste Diposal ☐ Production ☐ Deep
☒ Gas ☐ Liquid Injection ☐ Storage ☒ Shallow

WATERSHED: DUNKARD CREEK

AS-BUILT ELEVATION: 1,503.50'

COUNTY/DISTRICT: MONONGALIA / BATTELLE

QUADRANGLE: WADESTOWN

SURFACE OWNER: CHARLES WENDELL MOORE & FRANK M. CHISLER

ACREAGE: 466.30 +/-

OIL & GAS ROYALTY OWNER: Pat L. Park, et al

ACREAGE: 1,336.618+/-

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

DRILLED DEPTH: TVD: 8,183' TMD: 20,733'

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

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	PROPERTY OWNER INDEX
1-14-10	MICHAEL A & ANITA K BRAGG (LIFE-GEORGE H FOLEY)
1-17-05	KENT A. & SHIRLEY A. LEONHARDT
1-17-12	ERP FEDERAL MINING COMPLEX LLC
1-17-12.1	NANCY MOORE & CATHERINE ANN MOORE
1-17-13	ERP FEDERAL MINING COMPLEX LLC
1-17-14	PHOENIX ENERGY RESOURCES, LLC
1-17-14.1	FRANK M. CHISLER
1-24-17	JOHN RAYMOND & JENNIFER L. HORNSBY MYERS
1-24-19.1	CHARLES WENDELL MOORE

	LEASE INDEX		
A	WV-061-004079-002	I	WV-061-003767-004
B	WV-061-003767-004	J	WV-061-004937-006
C	WV-061-005687-001	K	WV-061-004595-003
D	WV-061-004463-001	L	WV-061-005790-003
E	WV-061-004076-010	M	WV-061-004505-001
F	WV-061-004433-001	N	WV-061-004326-018
G	WV-061-004281-002	O	WV-061-003767-004
H	WV-061-004290-001		

FILE #: NEE14

DRAWING #: 3033

SCALE: N/A

DATE: APRIL 2, 2025

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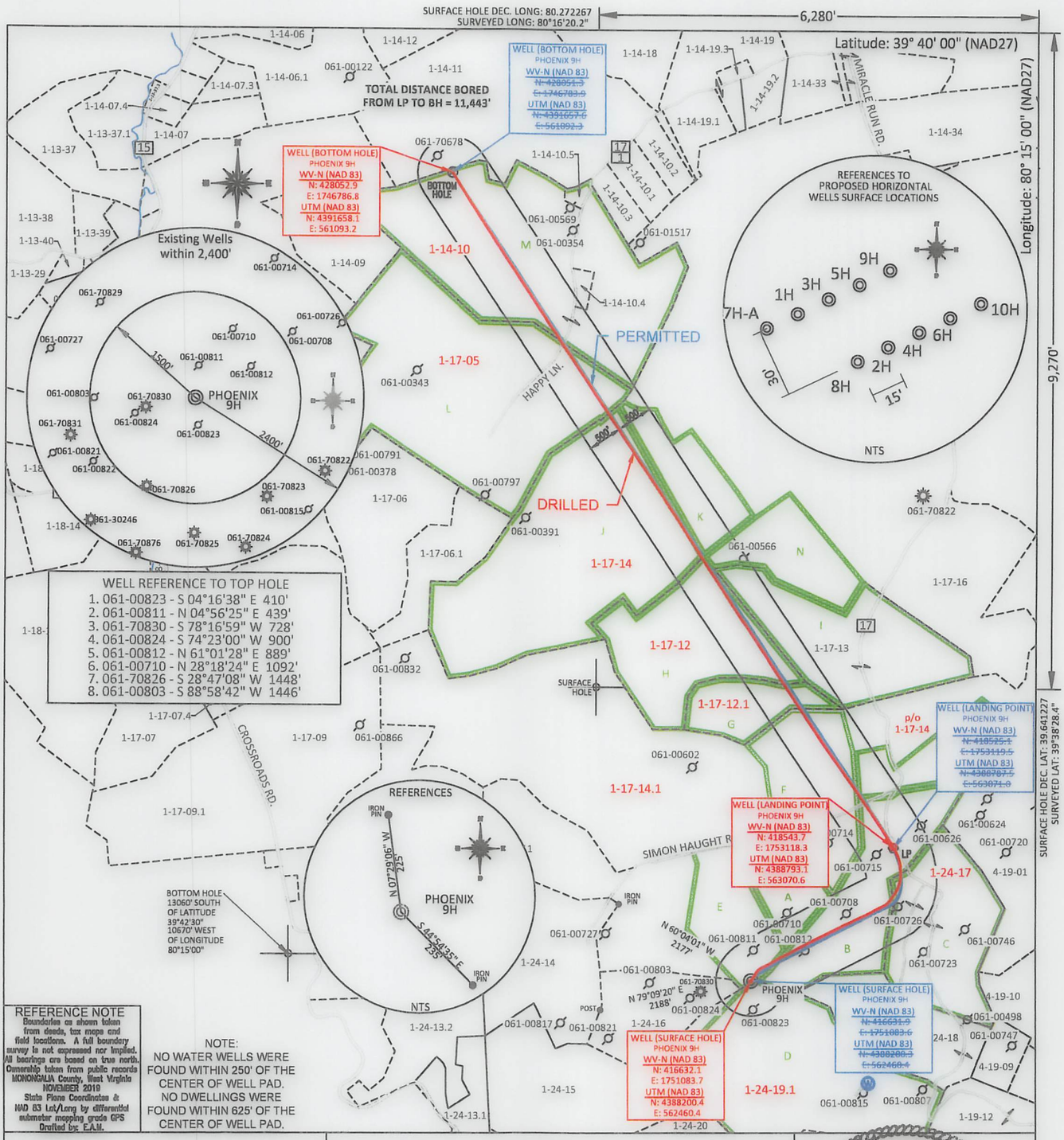

REFERENCE NOTE
Boundaries as shown taken from deeds, tax maps and field locations. A full boundary survey is not expressed nor implied. All bearings are based on true north. Ownership taken from public records MONONGALIA County, West Virginia NOVEMBER 2019
State Plane Coordinates & NAD 83 Lat/Long by differential submeter mapping grade GPS
Drafted by: E.A.M.

NOTE:
NO WATER WELLS WERE FOUND WITHIN 250' OF THE CENTER OF WELL PAD.
NO DWELLINGS WERE FOUND WITHIN 625' OF THE CENTER OF WELL PAD.

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MINIMUM DEGREE OF ACCURACY: 1/200

PROVEN SOURCE OF ELEVATION: SUBMETER MAPPING 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

ERNEST J. BENCHEK III
LICENSED
PROFESSIONAL SURVEYOR
No. 2124
STATE OF
WEST VIRGINIA

(+) DENOTES LOCATION OF WELL ON
UNITED STATES TOPOGRAPHIC MAPS

WVDEP
OFFICE OF OIL & GAS
601 57TH STREET
CHARLESTON, WV 25304

API WELL #: 47 / 61 / 01942
STATE / COUNTY / PERMIT

OPERATOR'S WELL #: PHOENIX 9H AS-DRILLED

DATE: APRIL 2, 2025

Well Type: ☐ Oil ☐ Waste Disposal ☐ Production ☐ Deep
☒ Gas ☐ Liquid Injection ☐ Storage ☒ Shallow

WATERSHED: DUNKARD CREEK ELEVATION: 1,503.50' AS-BUILT

COUNTY/DISTRICT: MONONGALIA / BATTELLE QUADRANGLE: WADESTOWN

SURFACE OWNER: CHARLES WENDELL MOORE & FRANK M. CHISLER ACREAGE: 466.30 +/-

OIL & GAS ROYALTY OWNER: Pat L. Park, et al ACREAGE: 1,336.618+/-

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 DRILLED DEPTH: TVD: 8,183', TMD: 20,733'

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

NORTHEAST NATURAL ENERGY, LLC

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

Slot: Slot 09
Well: Phoenix 9H
Wellbore: Phoenix 9H PWB

northeast NATURAL ENERGY

Baker Hughes

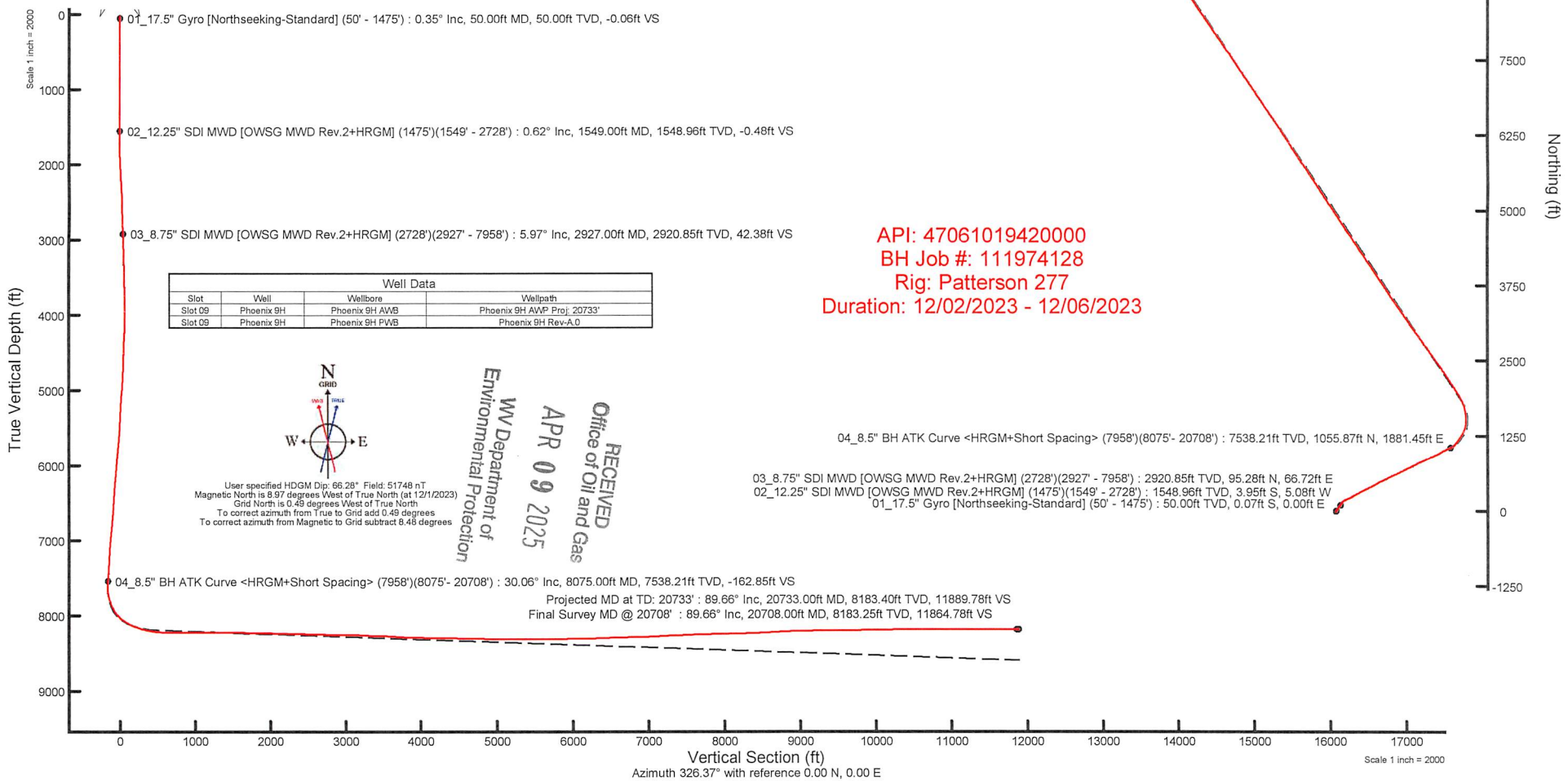
Plot reference wellpath is Phoenix 9H Rev-A.0	Grid System: NAD83 / Lambert West Virginia (3F, Northern Zone (4701), US feet
True vertical depths are referenced to Patterson 277 (RKB)	North Reference: Grid north
Reference wellpath measured depths are referenced to Patterson 277 (RKB)	Scale: True distance
Patterson 277 (RKB) to Mean Sea Level: 1531 feet	Coordinates are in feet referenced to Slot
Mean Sea Level to Ground level (At Slot: Slot 09) : -1503 feet	Depths are in feet
Offset wellpath MD's are referenced to each path's default MD datum	Created by : manlapitp on 2023-12-11, Database: WA_MPI_EASTERNUS_Defn

Location Information

Facility Name			Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
Phoenix Pad			1751051.980	416616.940	39°38'28.5589"N	80°16'19.8414"W
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
Slot 09	14.97	31.63	1751083.610	416631.910	39°38'28.7095"N	80°16'19.4387"W
Patterson 277 (RKB) to Ground level (At Slot: Slot 09)					28ft	
Mean Sea Level to Ground level (At Slot: Slot 09)					-1503ft	
Patterson 277 (RKB) to Mean Sea Level					1531ft	

Well Profile Data

Design Comment	MD (ft)	Inc (°)	Az (°)	TVD (ft)	Local N (ft)	Local E (ft)	DLS (°/100ft)	VS (ft)
Tie On	7958.00	30.540	62.040	7437.18	1029.71	1828.55	0.63	-155.33
Projection	8130.00	30.540	62.040	7585.32	1070.69	1905.75	0.00	-163.97
Build+Turn	8537.62	50.361	34.189	7896.42	1252.31	2088.68	6.49	-114.06
Landing Pt.	9293.07	88.000	326.373	8190.00	1893.34	2036.00	9.50	448.86
BHL	20741.37	88.000	326.373	8589.54	11420.12	-4299.96	0.00	11890.19



API: 47061019420000
BH Job #: 111974128
Rig: Patterson 277
Duration: 12/02/2023 - 12/06/2023

Well Data

Slot	Well	Wellbore	Wellpath
Slot 09	Phoenix 9H	Phoenix 9H AWB	Phoenix 9H AWP Proj: 20733'
Slot 09	Phoenix 9H	Phoenix 9H PWB	Phoenix 9H Rev-A.0

User specified HDGM Dip: 66.28° Field: 51748 nT
Magnetic North is 8.97 degrees West of True North (at 12/1/2023)
Grid North is 0.49 degrees West of True North
To correct azimuth from True to Grid add 0.49 degrees
To correct azimuth from Magnetic to Grid subtract 8.48 degrees

11837

Cement Job Log

NEXTIER

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

Customer:	NORTHEAST NATURAL ENERGY LLC	Date:	21-Nov-23	Serv. Supervisor:	Michael Franco
Cust. Rep.:		Ticket #:	BPA-2311-0024	Serv. Center	Black Lick - 1571
Well Name:	Phoenix N 9H	API Well #:	47-061-01942	County: Monongalia	State: WV
Well Type:		Rig:	Patterson 277	Type of Job:	CM-SURFACE CASING

Materials Furnished by NexTier

Plugs	Casing Hardware	Sacks of Cement	Fluid Density (lb/gal)	Excess	Yield (cuft/sk)	Mix Water (gal/sk)	Fluid Volume (bbls)	Fluid Volume (cuft)	Mix Water (bbls)
		Physical Slurry Properties							
6% Gel Spacer	+20.0 PPB NEX-020		8.7		4.62	33.66	25.00	-	
15.6 lb/gal Cement	100 % NCM-956 +1.5 % NAC-110+0.25 PPS NLM-600	1365	15.6	30%	1.14	4.79	276.17	1,550.72	156
Fresh Water Displacement			8.34				222.61		
0						-		-	
						-		-	
						-		-	
						-		-	
						-		-	
						-		-	

Displacement Chemicals:

RECEIVED
Office of Oil and Gas
APR 09 2025
WV Department of
Environmental Protection

OPEN HOLE DATA						TUBULAR DATA						
17.5 in. O.H. 100 to 1,520 ft			13.375 in. 54.5#, (0 to 1,520 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.							
42.0 °F		61.0 °F				13.375 54.5#	BTC	1514	J-55	12.615	2730	1130

PREVIOUS CASING DATA	PERFORATED INTERVAL DATA				CASING EQUIPMENT DEPTHS			
24 in. 100.5# (0 to 100 ft)	TOP	BTM	SPF	SIZE	SHOE	FLOAT	STAGE	ACP
					1514	1428		

WELL FLUID		DISPLACEMENT FLUID			DIFF PRESS	CSG LIFT	MAX PRESS	Mix H2O Chlorides	Mix H2O pH	Mix H2O Temp	WATER ON LOC
TYPE	DENSITY	VOLUME	TYPE	DENSITY	(psi)	(psi)	(psi)	(ppm)			(bbl)
H20	8.3 ppg	220.6 bbl	H20	8.3 ppg	535	520		3	6	52.0 °F	1600

Bumped Plug	Final Differential (psi)	Floats Held (Y/N)	PSI Left on Casing	Cement to Surface (bbl)	Top of Cement (ft)	Full Circ. During Job (Y/N)	Max Pump Pressure (psi)	Casing Rotation	Additional Hrs Charged (hrs)	Casing Reciprocation	Rathole Length (ft)
Yes	400.00	Y	-	5.00		No		No	1.00	No	45'

Comments/Additional Details:

Michael Franco — Service Supervisor

21-Nov-23 — Date

13 of 27

Cement Job Log

NEXTIER

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

Customer:	NORTHEAST NATURAL ENERGY LLC	Date:	27-Nov-23	Serv. Supervisor:	Tim Monoskey
Cust. Rep.:	NEIL	Ticket #:	BPA-2311-0033	Serv. Center	Black Lick - 1571
Well Name:	Phoenix N 9H	API Well #:	47-061-01942	County: Monongalia	State: WV
Well Type:		Rig:	PATTERSON 277	Type of Job:	CM-INTER. CASING

Materials Furnished by NexTier

Plugs	Casing Hardware
CUSTOMER SUPPLIED	NEXTIER 9 5/8 PLUG CONTAINER
TOP PLUG	

Physical Slurry Properties

		Sacks of Cement	Fluid Density (lb/gal)	Excess	Yield (cuft/sk)	Mix Water (gal/sk)	Fluid Volume (bbls)	Fluid Volume (cuft)	Mix Water (bbls)
6% Gel Spacer	+20.0 PPB NEX-020		8.7		4.62	33.66	25.00	-	
15.6 lb/gal Cement	100 % NCM-956 +0.5 % NAC-110	1060	15.6	30%	1.13	4.82	212.92	1,195.53	122
Fresh Water Displacement			8.33			-	213.38	-	
0						-		-	
						-		-	
						-		-	
						-		-	
						-		-	
						-		-	

Displacement Chemicals: N/A

OPEN HOLE DATA						TUBULAR DATA						
17.5 in. O.H. 1,500 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#	BTC	2828	J-55	8.835	3520	2020
40.0 °F	40.0 °F	43.0 °F	59.0 °F									

PREVIOUS CASING DATA	PERFORATED INTERVAL DATA				CASING EQUIPMENT DEPTHS			
	TOP	BTM	SPF	SIZE	SHOE	FLOAT	STAGE	ACP
13.375 in. 54.5# (0 to 1,500 ft)					2828	2782		

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)				
H20	8.3 ppg	215.4 bbl	REC	8.4 ppg		1052	1065	3500		7	42.0 °F	1600

Bumped Plug	Final Differential (psi)	Floats Held (Y/N)	PSI Left on Casing	Cement to Surface (bbl)	Top of Cement (ft)	Full Circ. During Job (Y/N)	Max Pump Pressure (psi)	Casing Rotation	Additional Hrs Charged (hrs)	Casing Reciprocation	Rathole Length (ft)
Yes	1,250.00	Y	-	36.00	-	No	3,500.00	No	1.00	No	20

Comments/Additional Details:

Tim Monoskey — Service Supervisor

27-Nov-23 — Date

Cement Job Log

NEXTIER

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

Customer:	NORTHEAST NATURAL ENERGY LLC	Date:	8-Dec-23	Serv. Supervisor:	Michael Franco
Cust. Rep.:		Ticket #:	BPA-2312-0005	Serv. Center	Black Lick - 1571
Well Name:	Phoenix N 9H	API Well #:	47-061-01942	County: Monongalia	State: WV
Well Type:		Rig:	Patterson 277	Type of Job:	CM-PROD. CASING

Materials Furnished by NexTier

Plugs	Casing Hardware	Sacks of Cement	Fluid Density (lb/gal)	Excess	Yield (cuft/sk)	Mix Water (gal/sk)	Fluid Volume (bbls)	Fluid Volume (cuft)	Mix Water (bbls)
		Physical Slurry Properties							
13.5 lb/gal PureScrub Spacer w/ Surfactant	+7.0 PPB NFP-703+5.0 PPB NSU-888+2.0 PPB NRT-221		13.5		5.65	26.44	80.00	-	
14.5 lb/gal Cement	50 % NCM-956+50 % NPZ-010 +0.2 % NFP-703+0.1 % NAS-504+0.2 % NRT-213+0.2 % NFL-549+0.2 % NTC-405	3795	14.5		1.16	5.08	782.83	4,395.59	459
Sugar Water Displacement	+5.0 PPB NRT-215					-	20.00	-	
Fresh Water Displacement						-	441.77	-	
						-		-	
						-		-	
						-		-	
						-		-	
						-		-	

Displacement Chemicals:

OPEN HOLE DATA			TUBULAR DATA								
8.75 in. O.H. 2,800 to 8,150 ft 8.5 in. O.H. 8,150 to 20,825 ft			5.5 in. 20#, (0 to 20,825 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.							
30.0 °F		49.0 °F				5.5 20#	BTC	20696	P-110	4.778	12640	11080

PREVIOUS CASING DATA	PERFORATED INTERVAL DATA				CASING EQUIPMENT DEPTHS			
	TOP	BTM	SPF	SIZE	SHOE	FLOAT	STAGE	ACP
9.625 in. 36# (0 to 2,800 ft)					20696			

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)				
OBM	12.8 ppg	459.3 bbl	H20	8.3 ppg	2515	14675		3	7	38.0 °F	2500

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)
Yes	3,200.00	Y	-	-	2,077	Yes		No	-	No	40'

Comments/Additional Details:

Michael Franco — Service Supervisor

8-Dec-23 — Date

Actual Wellpath Report

Phoenix 9H AWP Proj: 20733'

northeast NATURAL ENERGY

Baker Hughes

REFERENCE WELLPATH IDENTIFICATION

Operator	**NORTHEAST NATURAL ENERGY, LLC**	Well	**Phoenix 9H**
Field	**Monongalia**	API/Legal	
Facility	**Phoenix Pad**	Wellbore	**Phoenix 9H AWB**
Slot	**Slot 09**		

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	**12/11/2023 at 1:29:15 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	14.97	31.63	**1751083.61**	**416631.91**	39°38'28.7095"N	80°16'19.4387"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 09)	**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°**

15 of 27

Actual Wellpath Report

Phoenix 9H AWP Proj: 20733'

northeast NATURAL ENERGY

Baker Hughes™

REFERENCE WELLPATH IDENTIFICATION

Operator	NORTHEAST NATURAL ENERGY, LLC	Well	Phoenix 9H
Field	Monongalia	API/Legal	
Facility	Phoenix Pad	Wellbore	Phoenix 9H AWB
Slot	Slot 09		

WELLPATH DATA (237 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	177.630	0.00	-1531.00	0.00	0.00	0.00	1751083.61	416631.91	39°38'28.7095"N	80°16'19.4387"W	0.00	0.000	0.00	0.00	0.00
28.00	0.000	177.630	28.00	-1503.00	0.00	0.00	0.00	1751083.61	416631.91	39°38'28.7095"N	80°16'19.4387"W	0.00	0.000	0.00	0.00	0.00
50.00	0.350	177.630	50.00	-1481.00	-0.06	-0.07	0.00	1751083.61	416631.84	39°38'28.7089"N	80°16'19.4387"W	0.07	177.630	1.59	1.59	0.00
100.00	0.650	194.210	100.00	-1431.00	-0.38	-0.49	-0.06	1751083.55	416631.42	39°38'28.7047"N	80°16'19.4394"W	0.50	186.976	0.66	0.60	33.16
150.00	0.720	154.080	149.99	-1381.01	-0.88	-1.05	0.01	1751083.62	416630.86	39°38'28.6992"N	80°16'19.4385"W	1.05	179.609	0.95	0.14	-80.26
200.00	0.280	205.910	199.99	-1331.01	-1.25	-1.44	0.09	1751083.70	416630.47	39°38'28.6953"N	80°16'19.4374"W	1.45	176.391	1.18	-0.88	103.66
250.00	0.590	192.130	249.99	-1281.01	-1.49	-1.81	-0.02	1751083.59	416630.10	39°38'28.6917"N	80°16'19.4387"W	1.81	180.519	0.65	0.62	-27.56
300.00	0.220	127.910	299.99	-1231.01	-1.77	-2.12	0.01	1751083.62	416629.79	39°38'28.6886"N	80°16'19.4384"W	2.12	179.857	1.07	-0.74	-128.44
350.00	0.260	250.660	349.99	-1181.01	-1.83	-2.21	-0.03	1751083.58	416629.70	39°38'28.6877"N	80°16'19.4388"W	2.21	180.674	0.84	0.08	245.50
400.00	0.110	338.710	399.99	-1131.01	-1.75	-2.21	-0.15	1751083.46	416629.70	39°38'28.6877"N	80°16'19.4404"W	2.21	183.903	0.56	-0.30	176.10
450.00	0.320	263.970	449.99	-1081.01	-1.64	-2.18	-0.31	1751083.30	416629.73	39°38'28.6880"N	80°16'19.4424"W	2.20	188.024	0.62	0.42	-149.48
500.00	0.350	247.430	499.99	-1031.01	-1.55	-2.25	-0.59	1751083.02	416629.66	39°38'28.6873"N	80°16'19.4460"W	2.32	194.617	0.20	0.06	-33.08
550.00	0.100	151.270	549.99	-981.01	-1.56	-2.35	-0.71	1751082.90	416629.56	39°38'28.6863"N	80°16'19.4475"W	2.45	196.762	0.75	-0.50	-192.32
600.00	0.060	25.630	599.99	-931.01	-1.59	-2.36	-0.67	1751082.94	416629.55	39°38'28.6862"N	80°16'19.4471"W	2.46	195.942	0.29	-0.08	-251.28
650.00	0.280	320.460	649.99	-881.01	-1.46	-2.24	-0.74	1751082.87	416629.67	39°38'28.6873"N	80°16'19.4479"W	2.36	198.277	0.52	0.44	-130.34
700.00	0.390	269.020	699.99	-831.01	-1.24	-2.15	-0.99	1751082.62	416629.76	39°38'28.6882"N	80°16'19.4511"W	2.37	204.679	0.61	0.22	-102.88
750.00	0.480	237.860	749.99	-781.01	-1.15	-2.27	-1.34	1751082.27	416629.64	39°38'28.6870"N	80°16'19.4556"W	2.63	210.526	0.50	0.18	-62.32
800.00	0.320	207.930	799.98	-731.02	-1.21	-2.50	-1.58	1751082.03	416629.41	39°38'28.6847"N	80°16'19.4586"W	2.96	212.267	0.52	-0.32	-59.86
850.00	0.320	198.020	849.98	-681.02	-1.36	-2.76	-1.69	1751081.92	416629.15	39°38'28.6822"N	80°16'19.4600"W	3.23	211.470	0.11	0.00	-19.82
900.00	0.290	173.120	899.98	-631.02	-1.56	-3.02	-1.72	1751081.89	416628.89	39°38'28.6796"N	80°16'19.4603"W	3.47	209.637	0.27	-0.06	-49.80
950.00	0.140	146.970	949.98	-581.02	-1.73	-3.19	-1.67	1751081.94	416628.72	39°38'28.6779"N	80°16'19.4597"W	3.60	207.575	0.35	-0.30	-52.30
1000.00	0.080	108.070	999.98	-531.02	-1.82	-3.25	-1.60	1751082.01	416628.66	39°38'28.6773"N	80°16'19.4588"W	3.63	206.191	0.19	-0.12	-77.80
1050.00	0.110	348.540	1049.98	-481.02	-1.81	-3.22	-1.58	1751082.03	416628.69	39°38'28.6776"N	80°16'19.4585"W	3.58	206.107	0.33	0.06	-239.06
1100.00	0.170	320.250	1099.98	-431.02	-1.69	-3.11	-1.63	1751081.98	416628.80	39°38'28.6786"N	80°16'19.4593"W	3.52	207.687	0.18	0.12	-56.58
1150.00	0.230	296.720	1149.98	-381.02	-1.53	-3.01	-1.77	1751081.84	416628.90	39°38'28.6796"N	80°16'19.4610"W	3.49	210.456	0.20	0.12	-47.06
1200.00	0.200	288.740	1199.98	-331.02	-1.37	-2.94	-1.94	1751081.67	416628.97	39°38'28.6803"N	80°16'19.4632"W	3.52	213.476	0.08	-0.06	-15.96
1250.00	0.280	285.910	1249.98	-281.02	-1.21	-2.88	-2.14	1751081.47	416629.03	39°38'28.6809"N	80°16'19.4658"W	3.59	216.685	0.16	0.16	-5.66
1300.00	0.610	265.500	1299.98	-231.02	-0.99	-2.86	-2.53	1751081.08	416629.05	39°38'28.6810"N	80°16'19.4707"W	3.82	221.409	0.72	0.66	-40.82
1350.00	0.750	266.550	1349.98	-181.02	-0.69	-2.91	-3.12	1751080.49	416629.00	39°38'28.6806"N	80°16'19.4783"W	4.26	227.026	0.28	0.28	2.10
1400.00	0.780	232.000	1399.97	-131.03	-0.55	-3.13	-3.71	1751079.90	416628.78	39°38'28.6783"N	80°16'19.4858"W	4.86	229.831	0.91	0.06	-69.10

Actual Wellpath Report

Phoenix 9H AWP Proj: 20733'

northeast NATURAL ENERGY

Baker Hughes™

REFERENCE WELLPATH IDENTIFICATION

Operator	NORTHEAST NATURAL ENERGY, LLC	Well	Phoenix 9H
Field	Monongalia	API/Legal	
Facility	Phoenix Pad	Wellbore	Phoenix 9H AWB
Slot	Slot 09		

WELLPATH DATA (237 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	0.640	230.200	1449.97	-81.03	-0.61	-3.52	-4.20	1751079.41	416628.39	39°38'28.6744"N	80°16'19.4920"W	5.48	229.984	0.28	-0.28	-3.60
1475.00	0.520	246.840	1474.97	-56.03	-0.60	-3.66	-4.41	1751079.20	416628.25	39°38'28.6730"N	80°16'19.4947"W	5.73	230.318	0.82	-0.48	66.56
1549.00	0.620	245.960	1548.96	17.96	-0.48	-3.95	-5.08	1751078.53	416627.96	39°38'28.6701"N	80°16'19.5032"W	6.44	232.129	0.14	0.14	-1.19
1560.00	0.680	226.020	1559.96	28.96	-0.48	-4.02	-5.18	1751078.43	416627.89	39°38'28.6694"N	80°16'19.5045"W	6.56	232.193	2.12	0.55	-181.27
1592.00	0.510	129.290	1591.96	60.96	-0.65	-4.24	-5.21	1751078.40	416627.67	39°38'28.6672"N	80°16'19.5048"W	6.72	230.835	2.80	-0.53	-302.28
1687.00	2.780	69.240	1686.92	155.92	-1.57	-3.69	-2.73	1751080.88	416628.22	39°38'28.6728"N	80°16'19.4732"W	4.59	216.438	2.70	2.39	-63.21
1781.00	5.120	37.620	1780.70	249.70	-0.72	0.44	1.97	1751085.58	416632.35	39°38'28.7140"N	80°16'19.4136"W	2.01	77.472	3.31	2.49	-33.64
1876.00	6.820	31.020	1875.18	344.18	3.05	8.63	7.46	1751091.07	416640.54	39°38'28.7955"N	80°16'19.3443"W	11.41	40.845	1.93	1.79	-6.95
1971.00	6.040	31.930	1969.58	438.58	7.54	17.70	13.01	1751096.62	416649.61	39°38'28.8856"N	80°16'19.2744"W	21.97	36.310	0.83	-0.82	0.96
2065.00	5.330	34.210	2063.12	532.12	11.23	25.51	18.08	1751101.69	416657.42	39°38'28.9632"N	80°16'19.2104"W	31.27	35.325	0.79	-0.76	2.43
2160.00	5.660	31.490	2157.68	626.68	14.86	33.16	23.01	1751106.62	416665.06	39°38'29.0392"N	80°16'19.1483"W	40.36	34.758	0.44	0.35	-2.86
2255.00	6.550	30.150	2252.15	721.15	19.23	41.84	28.18	1751111.79	416673.74	39°38'29.1254"N	80°16'19.0831"W	50.44	33.960	0.95	0.94	-1.41
2349.00	5.840	35.970	2345.60	814.60	23.27	50.34	33.68	1751117.29	416682.25	39°38'29.2099"N	80°16'19.0137"W	60.57	33.782	1.01	-0.76	6.19
2444.00	4.840	41.550	2440.18	909.18	25.98	57.25	39.18	1751122.78	416689.16	39°38'29.2787"N	80°16'18.9442"W	69.37	34.382	1.18	-1.05	5.87
2539.00	5.330	42.560	2534.81	1003.81	28.05	63.50	44.82	1751128.43	416695.41	39°38'29.3409"N	80°16'18.8728"W	77.73	35.213	0.52	0.52	1.06
2633.00	6.050	43.160	2628.35	1097.35	30.23	70.33	51.16	1751134.77	416702.24	39°38'29.4090"N	80°16'18.7925"W	86.97	36.032	0.77	0.77	0.64
2728.00	5.600	35.590	2722.86	1191.86	33.02	77.75	57.28	1751140.89	416709.66	39°38'29.4828"N	80°16'18.7150"W	96.58	36.380	0.94	-0.47	-7.97
2927.00	5.970	21.470	2920.85	1389.85	42.38	95.28	66.72	1751150.33	416727.19	39°38'29.6568"N	80°16'18.5963"W	116.32	35.002	0.74	0.19	-7.10
3022.00	4.990	27.980	3015.42	1484.42	47.17	103.53	70.47	1751154.07	416735.43	39°38'29.7387"N	80°16'18.5493"W	125.24	34.242	1.22	-1.03	6.85
3116.00	4.620	32.830	3109.09	1578.09	50.63	110.32	74.44	1751158.04	416742.22	39°38'29.8061"N	80°16'18.4993"W	133.09	34.010	0.58	-0.39	5.16
3211.00	4.950	31.180	3203.76	1672.76	53.90	117.04	78.64	1751162.24	416748.94	39°38'29.8729"N	80°16'18.4464"W	141.00	33.896	0.38	0.35	-1.74
3305.00	4.130	37.050	3297.46	1766.46	56.75	123.21	82.77	1751166.38	416755.12	39°38'29.9342"N	80°16'18.3942"W	148.44	33.893	1.00	-0.87	6.24
3400.00	4.070	40.780	3392.22	1861.22	58.79	128.50	87.04	1751170.64	416760.40	39°38'29.9868"N	80°16'18.3403"W	155.20	34.112	0.29	-0.06	3.93
3495.00	4.420	39.990	3486.96	1955.96	60.72	133.85	91.59	1751175.20	416765.76	39°38'30.0401"N	80°16'18.2826"W	162.19	34.383	0.37	0.37	-0.83
3589.00	4.330	35.020	3580.68	2049.68	63.04	139.53	95.96	1751179.56	416771.44	39°38'30.0967"N	80°16'18.2275"W	169.34	34.516	0.41	-0.10	-5.29
3684.00	5.440	44.360	3675.34	2144.34	65.28	145.69	101.16	1751184.77	416777.59	39°38'30.1579"N	80°16'18.1616"W	177.37	34.775	1.43	1.17	9.83
3779.00	6.660	45.930	3769.81	2238.81	67.22	152.74	108.27	1751191.87	416784.64	39°38'30.2282"N	80°16'18.0715"W	187.22	35.330	1.30	1.28	1.65
3877.00	8.170	49.660	3866.99	2335.99	69.06	161.20	117.66	1751201.26	416793.10	39°38'30.3126"N	80°16'17.9524"W	199.58	36.125	1.62	1.54	3.81
3972.00	9.710	51.950	3960.83	2429.83	70.47	170.51	129.12	1751212.72	416802.41	39°38'30.4056"N	80°16'17.8070"W	213.88	37.134	1.66	1.62	2.41
4066.00	11.330	59.780	4053.25	2522.25	70.53	180.05	143.34	1751226.94	416811.95	39°38'30.5010"N	80°16'17.6263"W	230.14	38.524	2.29	1.72	8.33

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Actual Wellpath Report

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Field	Monongalia	API/Legal	
Facility	Phoenix Pad	Wellbore	Phoenix 9H AWB
Slot	Slot 09		

WELLPATH DATA (237 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]
4161.00	13.280	65.210	4146.07	2615.07	68.30	189.32	161.31	1751244.91	416821.22	39°38'30.5942"N	80°16'17.3975"W	248.72	40.433	2.38	2.05	5.72
4256.00	15.010	66.710	4238.18	2707.18	64.41	198.76	182.52	1751266.12	416830.66	39°38'30.6893"N	80°16'17.1275"W	269.85	42.561	1.86	1.82	1.58
4350.00	17.870	67.080	4328.33	2797.33	59.54	209.19	206.99	1751290.58	416841.09	39°38'30.7945"N	80°16'16.8159"W	294.29	44.697	3.04	3.04	0.39
4444.00	20.240	63.210	4417.18	2886.18	54.93	222.14	234.79	1751318.39	416854.03	39°38'30.9248"N	80°16'16.4619"W	323.22	46.586	2.86	2.52	-4.12
4539.00	22.130	60.330	4505.76	2974.76	51.73	238.40	265.01	1751348.60	416870.30	39°38'31.0881"N	80°16'16.0774"W	356.46	48.025	2.27	1.99	-3.03
4633.00	23.840	60.310	4592.29	3061.29	49.20	256.58	296.90	1751380.49	416888.47	39°38'31.2704"N	80°16'15.6717"W	392.41	49.167	1.82	1.82	-0.02
4728.00	25.210	59.980	4678.72	3147.72	46.61	276.21	331.10	1751414.69	416908.10	39°38'31.4673"N	80°16'15.2368"W	431.18	50.164	1.45	1.44	-0.35
4826.00	26.240	60.560	4767.00	3236.00	43.71	297.30	368.04	1751451.62	416929.19	39°38'31.6789"N	80°16'14.7669"W	473.12	51.068	1.08	1.05	0.59
4921.00	26.940	60.920	4851.96	3320.96	40.47	318.08	405.13	1751488.72	416949.97	39°38'31.8874"N	80°16'14.2950"W	515.08	51.863	0.76	0.74	0.38
5015.00	29.030	63.410	4934.96	3403.96	35.99	338.65	444.14	1751527.73	416970.53	39°38'32.0939"N	80°16'13.7986"W	558.52	52.676	2.55	2.22	2.65
5110.00	31.500	64.150	5017.01	3486.01	29.80	359.79	487.10	1751570.68	416991.68	39°38'32.3065"N	80°16'13.2518"W	605.57	53.549	2.63	2.60	0.78
5205.00	32.300	63.970	5097.66	3566.66	23.09	381.75	532.24	1751615.82	417013.63	39°38'32.5273"N	80°16'12.6772"W	654.99	54.350	0.85	0.84	-0.19
5300.00	32.820	62.400	5177.73	3646.73	17.02	404.81	577.87	1751661.44	417036.70	39°38'32.7592"N	80°16'12.0965"W	705.55	54.987	1.04	0.55	-1.65
5395.00	32.470	60.830	5257.72	3726.72	12.34	429.17	622.95	1751706.52	417061.06	39°38'33.0037"N	80°16'11.5229"W	756.47	55.436	0.96	-0.37	-1.65
5490.00	31.930	59.950	5338.11	3807.11	8.78	454.18	666.96	1751750.53	417086.06	39°38'33.2546"N	80°16'10.9630"W	806.92	55.746	0.75	-0.57	-0.93
5584.00	30.760	61.820	5418.39	3887.39	4.95	477.98	709.67	1751793.23	417109.86	39°38'33.4934"N	80°16'10.4197"W	855.63	56.039	1.62	-1.24	1.99
5679.00	30.500	61.800	5500.14	3969.14	0.36	500.85	752.33	1751835.89	417132.73	39°38'33.7230"N	80°16'9.8769"W	903.80	56.347	0.27	-0.27	-0.02
5777.00	31.580	64.140	5584.11	4053.11	-5.46	523.79	797.34	1751880.90	417155.67	39°38'33.9536"N	80°16'9.3040"W	954.00	56.698	1.65	1.10	2.39
5872.00	31.130	65.310	5665.23	4134.23	-12.64	544.90	842.04	1751925.60	417176.78	39°38'34.1659"N	80°16'8.7350"W	1002.97	57.092	0.80	-0.47	1.23
5967.00	32.160	64.210	5746.11	4215.11	-19.91	566.16	887.12	1751970.67	417198.03	39°38'34.3798"N	80°16'8.1611"W	1052.38	57.454	1.24	1.08	-1.16
6061.00	33.540	64.810	5825.08	4294.08	-27.13	588.10	933.14	1752016.69	417219.97	39°38'34.6005"N	80°16'7.5751"W	1103.00	57.780	1.51	1.47	0.64
6156.00	34.470	64.500	5903.83	4372.83	-34.79	610.84	981.16	1752064.71	417242.71	39°38'34.8294"N	80°16'6.9639"W	1155.77	58.095	1.00	0.98	-0.33
6251.00	34.960	63.410	5981.92	4450.92	-41.92	634.60	1029.76	1752113.31	417266.47	39°38'35.0683"N	80°16'6.3451"W	1209.60	58.356	0.83	0.52	-1.15
6346.00	33.560	63.410	6060.43	4529.43	-48.48	658.54	1077.58	1752161.13	417290.41	39°38'35.3089"N	80°16'5.7365"W	1262.88	58.570	1.47	-1.47	0.00
6440.00	33.200	63.800	6138.93	4607.93	-54.99	681.53	1123.91	1752207.45	417313.40	39°38'35.5400"N	80°16'5.1468"W	1314.40	58.768	0.45	-0.38	0.41
6535.00	32.850	64.320	6218.58	4687.58	-61.92	704.18	1170.47	1752254.01	417336.04	39°38'35.7678"N	80°16'4.5541"W	1365.96	58.968	0.47	-0.37	0.55
6629.00	31.120	63.010	6298.31	4767.31	-68.25	726.25	1215.09	1752298.63	417358.12	39°38'35.9897"N	80°16'3.9861"W	1415.59	59.134	1.98	-1.84	-1.39
6727.00	30.590	62.580	6382.44	4851.44	-73.88	749.23	1259.80	1752343.33	417381.09	39°38'36.2205"N	80°16'3.4172"W	1465.75	59.259	0.59	-0.54	-0.44
6822.00	29.970	62.560	6464.47	4933.47	-79.05	771.29	1302.31	1752385.84	417403.16	39°38'36.4422"N	80°16'2.8761"W	1513.57	59.364	0.65	-0.65	-0.02
6917.00	29.480	64.150	6546.98	5015.98	-84.78	792.42	1344.41	1752427.94	417424.28	39°38'36.6545"N	80°16'2.3403"W	1560.56	59.484	0.98	-0.52	1.67

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Actual Wellpath Report

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REFERENCE WELLPATH IDENTIFICATION

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Field	Monongalia	API/Legal	
Facility	Phoenix Pad	Wellbore	Phoenix 9H AWB
Slot	Slot 09		

WELLPATH DATA (237 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]
7012.00	31.000	65.410	6629.05	5098.05	-91.78	812.79	1387.69	1752471.22	417444.66	39°38'36.8595"N	80°16'1.7892"W	1608.21	59.642	1.73	1.60	1.33
7107.00	31.950	64.610	6710.07	5179.07	-99.23	833.75	1432.65	1752516.17	417465.61	39°38'37.0705"N	80°16'1.2168"W	1657.60	59.802	1.09	1.00	-0.84
7201.00	33.040	63.600	6789.35	5258.35	-106.02	855.81	1478.07	1752561.59	417487.67	39°38'37.2923"N	80°16'0.6386"W	1707.96	59.929	1.30	1.16	-1.07
7296.00	32.980	65.540	6869.02	5338.02	-113.40	878.03	1524.81	1752608.32	417509.89	39°38'37.5158"N	80°16'0.0436"W	1759.54	60.065	1.11	-0.06	2.04
7390.00	30.880	65.890	6948.79	5417.79	-121.47	898.48	1570.12	1752653.63	417530.34	39°38'37.7218"N	80°15'59.4666"W	1809.02	60.220	2.24	-2.23	0.37
7485.00	30.670	65.460	7030.41	5499.41	-129.33	918.51	1614.41	1752697.92	417550.36	39°38'37.9234"N	80°15'58.9026"W	1857.41	60.363	0.32	-0.22	-0.45
7579.00	30.710	64.470	7111.25	5580.25	-136.50	938.81	1657.88	1752741.39	417570.66	39°38'38.1277"N	80°15'58.3492"W	1905.24	60.478	0.54	0.04	-1.05
7674.00	30.990	60.700	7192.81	5661.81	-141.76	961.23	1701.10	1752784.61	417593.08	39°38'38.3529"N	80°15'57.7991"W	1953.90	60.531	2.06	0.29	-3.97
7770.00	30.660	60.730	7275.25	5744.25	-145.49	985.30	1744.01	1752827.51	417617.15	39°38'38.5943"N	80°15'57.2533"W	2003.09	60.535	0.34	-0.34	0.03
7864.00	30.470	63.190	7356.20	5825.20	-150.14	1007.76	1786.19	1752869.69	417639.61	39°38'38.8199"N	80°15'56.7165"W	2050.87	60.568	1.35	-0.20	2.62
7958.00	30.540	62.040	7437.18	5906.18	-155.33	1029.71	1828.55	1752912.05	417661.56	39°38'39.0404"N	80°15'56.1774"W	2098.55	60.615	0.63	0.07	-1.22
8075.00	30.060	65.360	7538.21	6007.21	-162.85	1055.87	1881.45	1752964.94	417687.71	39°38'39.3033"N	80°15'55.5040"W	2157.48	60.699	1.49	-0.41	2.84
8169.00	29.460	59.930	7619.83	6088.83	-167.96	1077.27	1922.86	1753006.35	417709.11	39°38'39.5183"N	80°15'54.9770"W	2204.06	60.741	2.94	-0.64	-5.78
8263.00	35.000	40.250	7699.53	6168.53	-161.89	1109.54	1960.41	1753043.90	417741.38	39°38'39.8404"N	80°15'54.5004"W	2252.62	60.491	12.56	5.89	-20.94
8357.00	41.940	38.770	7773.08	6242.08	-144.89	1154.66	1997.55	1753081.04	417786.50	39°38'40.2895"N	80°15'54.0307"W	2307.26	59.970	7.45	7.38	-1.57
8451.00	45.740	34.380	7840.89	6309.89	-122.77	1206.97	2036.25	1753119.74	417838.80	39°38'40.8096"N	80°15'53.5416"W	2367.08	59.343	5.18	4.04	-4.67
8545.00	50.550	30.970	7903.60	6372.60	-94.58	1265.91	2073.96	1753157.44	417897.74	39°38'41.3953"N	80°15'53.0660"W	2429.78	58.601	5.79	5.12	-3.63
8638.00	53.240	23.810	7961.03	6430.03	-59.09	1330.84	2107.51	1753190.99	417962.67	39°38'42.0398"N	80°15'52.6442"W	2492.54	57.729	6.71	2.89	-7.70
8733.00	56.040	13.010	8016.11	6485.11	-11.46	1404.21	2131.80	1753215.28	418036.03	39°38'42.7669"N	80°15'52.3417"W	2552.71	56.627	9.72	2.95	-11.37
8828.00	60.850	3.170	8065.90	6534.90	48.95	1484.20	2142.99	1753226.46	418116.02	39°38'43.5584"N	80°15'52.2074"W	2606.77	55.294	10.17	5.06	-10.36
8923.00	64.530	355.360	8109.53	6578.53	119.79	1568.50	2141.81	1753225.29	418200.31	39°38'44.3914"N	80°15'52.2316"W	2654.72	53.784	8.27	3.87	-8.22
9018.00	69.790	350.720	8146.41	6615.41	198.00	1655.33	2131.14	1753214.62	418287.14	39°38'45.2486"N	80°15'52.3774"W	2698.50	52.162	7.13	5.54	-4.88
9112.00	74.640	344.270	8175.14	6644.14	281.44	1742.62	2111.71	1753195.19	418374.43	39°38'46.1096"N	80°15'52.6353"W	2737.89	50.470	8.32	5.16	-6.86
9207.00	78.790	334.420	8197.02	6666.02	371.41	1828.98	2079.08	1753162.57	418460.77	39°38'46.9603"N	80°15'53.0618"W	2769.07	48.662	10.99	4.37	-10.37
9302.00	84.170	329.270	8211.10	6680.10	464.87	1911.74	2034.76	1753118.24	418543.53	39°38'47.7744"N	80°15'53.6374"W	2791.95	46.785	7.80	5.66	-5.42
9396.00	84.980	327.530	8219.99	6688.99	558.38	1991.44	1985.73	1753069.21	418623.23	39°38'48.5580"N	80°15'54.2729"W	2812.28	44.918	2.03	0.86	-1.85
9491.00	89.480	326.520	8224.58	6693.58	653.24	2071.02	1934.09	1753017.58	418702.80	39°38'49.3401"N	80°15'54.9416"W	2833.70	43.042	4.85	4.74	-1.06
9586.00	90.120	327.670	8224.91	6693.91	748.23	2150.78	1882.49	1752965.98	418782.55	39°38'50.1239"N	80°15'55.6100"W	2858.25	41.194	1.39	0.67	1.21
9681.00	91.480	326.870	8223.58	6692.58	843.21	2230.68	1831.13	1752914.63	418862.46	39°38'50.9093"N	80°15'56.2753"W	2886.00	39.382	1.66	1.43	-0.84
9775.00	90.180	325.680	8222.22	6691.22	937.19	2308.85	1778.95	1752862.45	418940.62	39°38'51.6774"N	80°15'56.9509"W	2914.69	37.614	1.87	-1.38	-1.27

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Actual Wellpath Report

Phoenix 9H AWP Proj: 20733'

northeast NATURAL ENERGY

Baker Hughes™

REFERENCE WELLPATH IDENTIFICATION

Operator	NORTHEAST NATURAL ENERGY, LLC	Well	Phoenix 9H
Field	Monongalia	API/Legal	
Facility	Phoenix Pad	Wellbore	Phoenix 9H AWB
Slot	Slot 09		

WELLPATH DATA (237 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]
9870.00	92.030	324.860	8220.39	6689.39	1032.15	2386.91	1724.84	1752808.34	419018.67	39°38'52.4443"N	80°15'57.6511"W	2944.89	35.853	2.13	1.95	-0.86
9964.00	87.540	322.740	8220.74	6689.74	1126.03	2462.74	1669.34	1752752.84	419094.50	39°38'53.1890"N	80°15'58.3689"W	2975.19	34.131	5.28	-4.78	-2.26
10059.00	91.750	327.140	8221.33	6690.33	1220.95	2540.46	1614.79	1752698.30	419172.22	39°38'53.9525"N	80°15'59.0746"W	3010.23	32.441	6.41	4.43	4.63
10154.00	89.290	324.760	8220.47	6689.47	1315.93	2619.16	1561.61	1752645.13	419250.91	39°38'54.7257"N	80°15'59.7631"W	3049.37	30.804	3.60	-2.59	-2.51
10249.00	89.820	324.870	8221.21	6690.21	1410.89	2696.80	1506.87	1752590.39	419328.55	39°38'55.4884"N	80°16'0.4713"W	3089.24	29.195	0.57	0.56	0.12
10343.00	89.420	326.070	8221.83	6690.83	1504.88	2774.24	1453.59	1752537.11	419405.98	39°38'56.2492"N	80°16'1.1609"W	3131.98	27.653	1.35	-0.43	1.28
10438.00	88.650	322.760	8223.43	6692.43	1599.80	2851.47	1398.33	1752481.85	419483.21	39°38'57.0078"N	80°16'1.8758"W	3175.88	26.123	3.58	-0.81	-3.48
10533.00	88.310	326.290	8225.95	6694.95	1694.70	2928.80	1343.22	1752426.75	419560.53	39°38'57.7673"N	80°16'2.5887"W	3222.13	24.637	3.73	-0.36	3.72
10628.00	90.180	324.450	8227.20	6696.20	1789.67	3006.96	1289.24	1752372.78	419638.68	39°38'58.5352"N	80°16'3.2873"W	3271.69	23.207	2.76	1.97	-1.94
10723.00	88.920	325.390	8227.95	6696.95	1884.63	3084.69	1234.65	1752318.18	419716.41	39°38'59.2988"N	80°16'3.9938"W	3322.60	21.814	1.65	-1.33	0.99
10818.00	88.030	324.440	8230.48	6699.48	1979.56	3162.40	1180.06	1752263.60	419794.12	39°39'0.0622"N	80°16'4.7001"W	3375.40	20.463	1.37	-0.94	-1.00
10912.00	88.770	324.260	8233.10	6702.10	2073.47	3238.76	1125.30	1752208.84	419870.47	39°39'0.8121"N	80°16'5.4085"W	3428.68	19.160	0.81	0.79	-0.19
11007.00	87.050	325.820	8236.57	6705.57	2168.37	3316.56	1070.90	1752154.45	419948.26	39°39'1.5764"N	80°16'6.1125"W	3485.17	17.895	2.44	-1.81	1.64
11102.00	89.690	324.980	8239.27	6708.27	2263.31	3394.71	1016.99	1752100.53	420026.42	39°39'2.3442"N	80°16'6.8103"W	3543.78	16.677	2.92	2.78	-0.88
11197.00	88.250	326.760	8240.98	6709.98	2358.29	3473.33	963.70	1752047.25	420105.03	39°39'3.1167"N	80°16'7.5002"W	3604.55	15.507	2.41	-1.52	1.87
11291.00	87.690	326.910	8244.31	6713.31	2452.22	3551.97	912.31	1751995.86	420183.66	39°39'3.8895"N	80°16'8.1658"W	3667.26	14.405	0.62	-0.60	0.16
11386.00	88.400	325.720	8247.55	6716.55	2547.17	3630.97	859.65	1751943.20	420262.66	39°39'4.6657"N	80°16'8.8476"W	3731.35	13.320	1.46	0.75	-1.25
11480.00	88.890	326.260	8249.77	6718.77	2641.14	3708.87	807.08	1751890.65	420340.55	39°39'5.4311"N	80°16'9.5281"W	3795.67	12.277	0.78	0.52	0.57
11575.00	88.710	326.650	8251.76	6720.76	2736.12	3788.03	754.60	1751838.16	420419.71	39°39'6.2090"N	80°16'10.2078"W	3862.46	11.266	0.45	-0.19	0.41
11670.00	89.420	325.930	8253.31	6722.31	2831.10	3867.05	701.88	1751785.45	420498.72	39°39'6.9854"N	80°16'10.8904"W	3930.23	10.287	1.06	0.75	-0.76
11764.00	89.230	327.300	8254.42	6723.42	2925.09	3945.53	650.16	1751733.73	420577.20	39°39'7.7566"N	80°16'11.5602"W	3998.74	9.357	1.47	-0.20	1.46
11859.00	89.600	327.320	8255.39	6724.39	3020.07	4025.48	598.86	1751682.43	420657.14	39°39'8.5424"N	80°16'12.2249"W	4069.78	8.462	0.39	0.39	0.02
11954.00	88.890	324.910	8256.64	6725.64	3115.06	4104.33	545.90	1751629.48	420735.99	39°39'9.3171"N	80°16'12.9105"W	4140.47	7.576	2.64	-0.75	-2.54
12048.00	87.630	326.720	8259.49	6728.49	3209.00	4182.05	493.11	1751576.69	420813.70	39°39'10.0807"N	80°16'13.5939"W	4211.02	6.725	2.35	-1.34	1.93
12143.00	85.940	325.740	8264.82	6733.82	3303.85	4260.89	440.39	1751523.98	420892.54	39°39'10.8554"N	80°16'14.2766"W	4283.59	5.901	2.06	-1.78	-1.03
12237.00	89.480	326.990	8268.58	6737.58	3397.76	4339.08	388.38	1751471.96	420970.72	39°39'11.6237"N	80°16'14.9502"W	4356.42	5.115	3.99	3.77	1.33
12332.00	89.320	328.120	8269.57	6738.57	3492.73	4419.24	337.42	1751421.00	421050.88	39°39'12.4116"N	80°16'15.6105"W	4432.11	4.366	1.20	-0.17	1.19
12427.00	86.400	325.960	8273.12	6742.12	3587.64	4498.89	285.78	1751369.37	421130.52	39°39'13.1943"N	80°16'16.2794"W	4507.95	3.635	3.82	-3.07	-2.27
12522.00	86.240	326.190	8279.22	6748.22	3682.44	4577.55	232.87	1751316.46	421209.18	39°39'13.9672"N	80°16'16.9645"W	4583.47	2.912	0.29	-0.17	0.24
12617.00	87.260	326.710	8284.60	6753.60	3777.29	4656.60	180.45	1751264.05	421288.22	39°39'14.7439"N	80°16'17.6434"W	4660.09	2.219	1.20	1.07	0.55

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Actual Wellpath Report

Phoenix 9H AWP Proj: 20733'

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Field	Monongalia	API/Legal	
Facility	Phoenix Pad	Wellbore	Phoenix 9H AWB
Slot	Slot 09		

WELLPATH DATA (237 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]
12712.00	88.310	324.850	8288.27	6757.27	3872.21	4735.09	127.07	1751210.67	421366.71	39°39'15.5151"N	80°16'18.3345"W	4736.79	1.537	2.25	1.11	-1.96
12806.00	89.200	327.880	8290.32	6759.32	3966.17	4813.32	75.02	1751158.62	421444.94	39°39'16.2838"N	80°16'19.0085"W	4813.90	0.893	3.36	0.95	3.22
12900.00	88.250	326.330	8292.41	6761.41	4060.14	4892.23	23.98	1751107.59	421523.84	39°39'17.0593"N	80°16'19.6697"W	4892.29	0.281	1.93	-1.01	-1.65
12995.00	91.350	326.490	8292.74	6761.74	4155.13	4971.35	-28.57	1751055.04	421602.96	39°39'17.8368"N	80°16'20.3502"W	4971.43	359.671	3.27	3.26	0.17
13090.00	87.780	324.520	8293.46	6762.46	4250.09	5049.63	-82.36	1751001.26	421681.23	39°39'18.6058"N	80°16'21.0465"W	5050.30	359.066	4.29	-3.76	-2.07
13184.00	89.290	324.990	8295.86	6764.86	4344.02	5126.37	-136.58	1750947.03	421757.97	39°39'19.3596"N	80°16'21.7482"W	5128.19	358.474	1.68	1.61	0.50
13279.00	89.020	328.110	8297.27	6766.27	4439.00	5205.62	-188.94	1750894.68	421837.21	39°39'20.1383"N	80°16'22.4263"W	5209.05	357.921	3.30	-0.28	3.28
13374.00	87.570	324.710	8300.09	6769.09	4533.94	5284.71	-241.46	1750842.16	421916.29	39°39'20.9154"N	80°16'23.1065"W	5290.22	357.384	3.89	-1.53	-3.58
13468.00	89.170	329.080	8302.77	6771.77	4627.87	5363.40	-292.77	1750790.86	421994.98	39°39'21.6887"N	80°16'23.7711"W	5371.38	356.876	4.95	1.70	4.65
13563.00	89.540	326.790	8303.84	6772.84	4722.83	5443.89	-343.19	1750740.44	422075.47	39°39'22.4799"N	80°16'24.4247"W	5454.70	356.393	2.44	0.39	-2.41
13658.00	89.350	327.120	8304.76	6773.76	4817.82	5523.52	-394.99	1750688.64	422155.09	39°39'23.2625"N	80°16'25.0958"W	5537.63	355.910	0.40	-0.20	0.35
13753.00	90.150	326.990	8305.17	6774.17	4912.81	5603.24	-446.66	1750636.98	422234.81	39°39'24.0459"N	80°16'25.7651"W	5621.02	355.442	0.85	0.84	-0.14
13847.00	89.200	327.810	8305.71	6774.71	5006.79	5682.43	-497.30	1750586.34	422313.99	39°39'24.8242"N	80°16'26.4213"W	5704.15	354.998	1.34	-1.01	0.87
13941.00	89.320	323.840	8306.92	6775.92	5100.76	5760.18	-550.09	1750533.56	422391.74	39°39'25.5880"N	80°16'27.1048"W	5786.38	354.545	4.22	0.13	-4.22
14036.00	87.010	327.140	8309.96	6778.96	5195.68	5838.40	-603.87	1750479.77	422469.96	39°39'26.3565"N	80°16'27.8011"W	5869.55	354.095	4.24	-2.43	3.47
14131.00	92.250	327.470	8310.58	6779.58	5290.63	5918.32	-655.17	1750428.48	422549.87	39°39'27.1419"N	80°16'28.4657"W	5954.48	353.683	5.53	5.52	0.35
14226.00	91.350	327.310	8307.59	6776.59	5385.57	5998.31	-706.34	1750377.31	422629.85	39°39'27.9280"N	80°16'29.1288"W	6039.75	353.284	0.96	-0.95	-0.17
14320.00	89.170	327.680	8307.17	6776.17	5479.54	6077.57	-756.85	1750326.81	422709.11	39°39'28.7071"N	80°16'29.7833"W	6124.52	352.901	2.35	-2.32	0.39
14415.00	89.350	326.790	8308.39	6777.39	5574.52	6157.45	-808.26	1750275.40	422788.98	39°39'29.4921"N	80°16'30.4494"W	6210.27	352.522	0.96	0.19	-0.94
14510.00	90.220	325.940	8308.75	6777.75	5669.52	6236.54	-860.88	1750222.78	422868.07	39°39'30.2693"N	80°16'31.1309"W	6295.68	352.141	1.28	0.92	-0.89
14604.00	90.280	329.230	8308.34	6777.34	5763.49	6315.89	-911.26	1750172.41	422947.41	39°39'31.0491"N	80°16'31.7838"W	6381.29	351.790	3.50	0.06	3.50
14699.00	91.390	327.370	8306.95	6775.95	5858.42	6396.70	-961.17	1750122.50	423028.22	39°39'31.8435"N	80°16'32.4309"W	6468.51	351.455	2.28	1.17	-1.96
14793.00	91.540	327.070	8304.55	6773.55	5952.38	6475.71	-1012.05	1750071.63	423107.22	39°39'32.6199"N	80°16'33.0901"W	6554.31	351.117	0.36	0.16	-0.32
14888.00	90.520	327.340	8302.84	6771.84	6047.35	6555.55	-1063.49	1750020.18	423187.06	39°39'33.4046"N	80°16'33.7567"W	6641.25	350.785	1.11	-1.07	0.28
14983.00	91.170	324.220	8301.44	6770.44	6142.32	6634.09	-1116.91	1749966.77	423265.59	39°39'34.1761"N	80°16'34.4483"W	6727.45	350.443	3.35	0.68	-3.28
15078.00	91.080	327.610	8299.58	6768.58	6237.29	6712.74	-1170.13	1749913.55	423344.24	39°39'34.9489"N	80°16'35.1375"W	6813.96	350.112	3.57	-0.09	3.57
15172.00	90.520	325.950	8298.26	6767.26	6331.27	6791.37	-1221.62	1749862.07	423422.86	39°39'35.7215"N	80°16'35.8046"W	6900.36	349.803	1.86	-0.60	-1.77
15267.00	93.320	325.970	8295.08	6764.08	6426.21	6870.04	-1274.76	1749808.93	423501.52	39°39'36.4944"N	80°16'36.4927"W	6987.30	349.488	2.95	2.95	0.02
15362.00	91.510	326.350	8291.08	6760.08	6521.12	6948.87	-1327.62	1749756.08	423580.35	39°39'37.2690"N	80°16'37.1773"W	7074.56	349.184	1.95	-1.91	0.40
15456.00	91.690	325.980	8288.45	6757.45	6615.08	7026.92	-1379.93	1749703.76	423658.40	39°39'38.0358"N	80°16'37.8548"W	7161.13	348.890	0.44	0.19	-0.39

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Actual Wellpath Report

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WELLPATH DATA (237 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]
15551.00	91.540	326.250	8285.78	6754.78	6710.04	7105.75	-1432.88	1749650.82	423737.23	39°39'38.8104"N	80°16'38.5405"W	7248.78	348.599	0.33	-0.16	0.28
15646.00	91.020	326.450	8283.65	6752.65	6805.02	7184.81	-1485.51	1749598.19	423816.28	39°39'39.5872"N	80°16'39.2222"W	7336.78	348.318	0.59	-0.55	0.21
15740.00	91.450	324.600	8281.63	6750.63	6898.98	7262.28	-1538.70	1749545.00	423893.75	39°39'40.3483"N	80°16'39.9109"W	7423.50	348.037	2.02	0.46	-1.97
15834.00	91.910	326.270	8278.87	6747.87	6992.92	7339.65	-1592.01	1749491.70	423971.11	39°39'41.1083"N	80°16'40.6010"W	7510.33	347.762	1.84	0.49	1.78
15929.00	92.890	327.330	8274.89	6743.89	7087.83	7419.07	-1643.98	1749439.73	424050.53	39°39'41.8887"N	80°16'41.2743"W	7599.03	347.506	1.52	1.03	1.12
16024.00	93.170	327.300	8269.87	6738.87	7182.69	7498.92	-1695.21	1749388.51	424130.37	39°39'42.6734"N	80°16'41.9382"W	7688.14	347.262	0.30	0.29	-0.03
16119.00	92.830	325.480	8264.90	6733.90	7277.55	7577.93	-1747.72	1749336.00	424209.37	39°39'43.4497"N	80°16'42.6184"W	7776.86	347.013	1.95	-0.36	-1.92
16213.00	91.720	325.570	8261.17	6730.17	7371.47	7655.36	-1800.88	1749282.84	424286.80	39°39'44.2104"N	80°16'43.3068"W	7864.33	346.762	1.18	-1.18	0.10
16307.00	92.710	325.940	8257.54	6726.54	7465.39	7733.00	-1853.74	1749229.98	424364.44	39°39'44.9732"N	80°16'43.9912"W	7952.08	346.520	1.12	1.05	0.39
16402.00	92.550	326.980	8253.18	6722.18	7560.29	7812.10	-1906.17	1749177.55	424443.53	39°39'45.7503"N	80°16'44.6704"W	8041.29	346.288	1.11	-0.17	1.09
16497.00	91.170	324.080	8250.09	6719.09	7655.22	7890.37	-1959.91	1749123.82	424521.79	39°39'46.5192"N	80°16'45.3662"W	8130.14	346.050	3.38	-1.45	-3.05
16591.00	91.170	326.850	8248.17	6717.17	7749.18	7967.78	-2013.18	1749070.55	424599.20	39°39'47.2797"N	80°16'46.0559"W	8218.17	345.820	2.95	0.00	2.95
16686.00	92.890	326.270	8244.81	6713.81	7844.11	8047.00	-2065.50	1749018.24	424678.42	39°39'48.0581"N	80°16'46.7337"W	8307.86	345.604	1.91	1.81	-0.61
16780.00	91.140	326.290	8241.50	6710.50	7938.05	8125.13	-2117.64	1748966.09	424756.55	39°39'48.8258"N	80°16'47.4091"W	8396.56	345.392	1.86	-1.86	0.02
16875.00	91.480	326.150	8239.33	6708.33	8033.03	8204.07	-2170.45	1748913.29	424835.48	39°39'49.6014"N	80°16'48.0931"W	8486.32	345.181	0.39	0.36	-0.15
16970.00	91.570	326.500	8236.80	6705.80	8127.99	8283.10	-2223.11	1748860.64	424914.51	39°39'50.3779"N	80°16'48.7752"W	8576.25	344.976	0.38	0.09	0.37
17064.00	91.720	326.830	8234.10	6703.10	8221.95	8361.61	-2274.74	1748809.01	424993.00	39°39'51.1493"N	80°16'49.4442"W	8665.50	344.781	0.39	0.16	0.35
17159.00	91.970	326.610	8231.05	6700.05	8316.90	8440.99	-2326.85	1748756.91	425072.38	39°39'51.9292"N	80°16'50.1192"W	8755.82	344.589	0.35	0.26	-0.23
17253.00	92.120	326.280	8227.69	6696.69	8410.84	8519.27	-2378.77	1748704.99	425150.66	39°39'52.6984"N	80°16'50.7918"W	8845.14	344.399	0.39	0.16	-0.35
17348.00	92.860	326.130	8223.56	6692.56	8505.75	8598.14	-2431.56	1748652.20	425229.53	39°39'53.4734"N	80°16'51.4756"W	8935.35	344.209	0.79	0.78	-0.16
17443.00	92.550	325.680	8219.08	6688.08	8600.64	8676.73	-2484.75	1748599.01	425308.10	39°39'54.2454"N	80°16'52.1646"W	9025.50	344.020	0.57	-0.33	-0.47
17538.00	93.480	326.640	8214.08	6683.08	8695.51	8755.52	-2537.58	1748546.18	425386.90	39°39'55.0196"N	80°16'52.8488"W	9115.84	343.837	1.41	0.98	1.01
17633.00	92.800	326.400	8208.88	6677.88	8790.36	8834.64	-2589.91	1748493.86	425466.01	39°39'55.7969"N	80°16'53.5268"W	9206.44	343.661	0.76	-0.72	-0.25
17728.00	92.120	324.240	8204.80	6673.80	8885.25	8912.68	-2643.91	1748439.86	425544.05	39°39'56.5636"N	80°16'54.2260"W	9296.57	343.477	2.38	-0.72	-2.27
17822.00	92.060	326.950	8201.37	6670.37	8979.17	8990.18	-2696.99	1748386.79	425621.54	39°39'57.3249"N	80°16'54.9132"W	9386.01	343.301	2.88	-0.06	2.88
17917.00	90.030	324.230	8199.64	6668.64	9074.13	9068.53	-2750.66	1748333.12	425699.89	39°39'58.0946"N	80°16'55.6082"W	9476.52	343.126	3.57	-2.14	-2.86
18012.00	91.540	327.400	8198.34	6667.34	9169.11	9147.10	-2804.02	1748279.76	425778.45	39°39'58.8664"N	80°16'56.2993"W	9567.23	342.957	3.70	1.59	3.34
18107.00	90.580	324.410	8196.58	6665.58	9264.07	9225.75	-2857.26	1748226.53	425857.09	39°39'59.6391"N	80°16'56.9889"W	9658.07	342.792	3.31	-1.01	-3.15
18201.00	90.180	326.900	8195.96	6664.96	9358.06	9303.35	-2910.28	1748173.50	425934.69	39°40'0.4014"N	80°16'57.6756"W	9747.93	342.629	2.68	-0.43	2.65
18296.00	90.490	326.560	8195.40	6664.40	9453.05	9382.78	-2962.40	1748121.39	426014.11	39°40'1.1819"N	80°16'58.3508"W	9839.33	342.478	0.48	0.33	-0.36

Actual Wellpath Report

Phoenix 9H AWP Proj: 20733'

northeast NATURAL ENERGY

Baker Hughes™

REFERENCE WELLPATH IDENTIFICATION

Operator	NORTHEAST NATURAL ENERGY, LLC	Well	Phoenix 9H
Field	Monongalia	API/Legal	
Facility	Phoenix Pad	Wellbore	Phoenix 9H AWB
Slot	Slot 09		

WELLPATH DATA (237 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]
18391.00	90.030	326.930	8194.97	6663.97	9548.05	9462.22	-3014.49	1748069.30	426093.55	39°40'1.9625"N	80°16'59.0258"W	9930.80	342.329	0.62	-0.48	0.39
18486.00	90.710	326.260	8194.36	6663.36	9643.05	9541.52	-3066.79	1748017.00	426172.85	39°40'2.7417"N	80°16'59.7035"W	10022.27	342.182	1.00	0.72	-0.71
18580.00	90.950	325.930	8193.00	6662.00	9737.04	9619.53	-3119.22	1747964.58	426250.85	39°40'3.5081"N	80°17'0.3826"W	10112.61	342.034	0.43	0.26	-0.35
18675.00	91.020	326.110	8191.36	6660.36	9832.02	9698.30	-3172.31	1747911.49	426329.61	39°40'4.2819"N	80°17'1.0702"W	10203.95	341.887	0.20	0.07	0.19
18769.00	90.710	326.240	8189.94	6658.94	9926.01	9776.38	-3224.63	1747859.18	426407.69	39°40'5.0490"N	80°17'1.7480"W	10294.45	341.745	0.36	-0.33	0.14
18864.00	91.420	326.300	8188.18	6657.18	10020.99	9855.37	-3277.37	1747806.44	426486.68	39°40'5.8251"N	80°17'2.4312"W	10386.02	341.606	0.75	0.75	0.06
18959.00	91.110	326.460	8186.08	6655.08	10115.97	9934.46	-3329.96	1747753.85	426565.76	39°40'6.6022"N	80°17'3.1125"W	10477.70	341.469	0.37	-0.33	0.17
19054.00	90.180	326.500	8185.01	6654.01	10210.96	10013.66	-3382.42	1747701.40	426644.95	39°40'7.3803"N	80°17'3.7922"W	10569.49	341.336	0.98	-0.98	0.04
19148.00	90.180	326.400	8184.72	6653.72	10304.96	10092.00	-3434.37	1747649.45	426723.29	39°40'8.1500"N	80°17'4.4652"W	10660.36	341.206	0.11	0.00	-0.11
19243.00	90.280	326.490	8184.33	6653.33	10399.96	10171.16	-3486.88	1747596.95	426802.45	39°40'8.9279"N	80°17'5.1455"W	10752.25	341.077	0.14	0.11	0.09
19337.00	90.580	326.300	8183.63	6652.63	10493.96	10249.45	-3538.90	1747544.92	426880.73	39°40'9.6971"N	80°17'5.8195"W	10843.20	340.951	0.38	0.32	-0.20
19432.00	90.150	326.360	8183.02	6652.02	10588.95	10328.51	-3591.57	1747492.26	426959.79	39°40'10.4738"N	80°17'6.5019"W	10935.15	340.826	0.46	-0.45	0.06
19527.00	90.490	327.380	8182.49	6651.49	10683.95	10408.07	-3643.49	1747440.34	427039.34	39°40'11.2556"N	80°17'7.1747"W	11027.37	340.707	1.13	0.36	1.07
19622.00	90.770	327.060	8181.45	6650.45	10778.93	10487.93	-3694.92	1747388.92	427119.20	39°40'12.0404"N	80°17'7.8413"W	11119.77	340.593	0.45	0.29	-0.34
19716.00	90.950	326.980	8180.04	6649.04	10872.91	10566.78	-3746.08	1747337.76	427198.04	39°40'12.8151"N	80°17'8.5044"W	11211.15	340.480	0.21	0.19	-0.09
19811.00	90.220	327.070	8179.07	6648.07	10967.90	10646.47	-3797.79	1747286.06	427277.73	39°40'13.5982"N	80°17'9.1745"W	11303.56	340.368	0.77	-0.77	0.09
19906.00	89.970	327.000	8178.91	6647.91	11062.90	10726.17	-3849.48	1747234.37	427357.43	39°40'14.3814"N	80°17'9.8444"W	11396.02	340.258	0.27	-0.26	-0.07
20000.00	89.940	327.170	8178.98	6647.98	11156.89	10805.08	-3900.56	1747183.29	427436.33	39°40'15.1569"N	80°17'10.5065"W	11487.57	340.151	0.18	-0.03	0.18
20095.00	89.510	326.940	8179.44	6648.44	11251.88	10884.81	-3952.22	1747131.63	427516.05	39°40'15.9402"N	80°17'11.1761"W	11580.12	340.044	0.51	-0.45	-0.24
20190.00	89.940	326.910	8179.90	6648.90	11346.87	10964.41	-4004.06	1747079.79	427595.65	39°40'16.7225"N	80°17'11.8480"W	11672.65	339.938	0.45	0.45	-0.03
20284.00	89.480	327.440	8180.37	6649.37	11440.86	11043.40	-4055.02	1747028.84	427674.63	39°40'17.4987"N	80°17'12.5084"W	11764.35	339.837	0.75	-0.49	0.56
20379.00	89.420	327.600	8181.28	6650.28	11535.84	11123.54	-4106.03	1746977.83	427754.77	39°40'18.2862"N	80°17'13.1697"W	11857.17	339.739	0.18	-0.06	0.17
20474.00	89.720	327.620	8182.00	6651.00	11630.81	11203.75	-4156.92	1746926.94	427834.98	39°40'19.0745"N	80°17'13.8295"W	11950.07	339.644	0.32	0.32	0.02
20568.00	89.690	327.040	8182.48	6651.48	11724.80	11282.88	-4207.66	1746876.21	427914.10	39°40'19.8521"N	80°17'14.4872"W	12041.92	339.548	0.62	-0.03	-0.62
20663.00	89.690	327.460	8182.99	6651.99	11819.79	11362.78	-4259.05	1746824.82	427993.99	39°40'20.6373"N	80°17'15.1534"W	12134.76	339.453	0.44	0.00	0.44
20708.00	89.660	326.820	8183.25	6652.25	11864.78	11400.58	-4283.47	1746800.40	428031.79	39°40'21.0087"N	80°17'15.4699"W	12178.72	339.408	1.42	-0.07	-1.42
20733.00‡	89.660	326.820	8183.40	6652.40	11889.78	11421.50	-4297.15	1746786.72	428052.71	39°40'21.2143"N	80°17'15.6472"W	12203.12	339.382	0.00	0.00	0.00

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Actual Wellpath Report

Phoenix 9H AWP Proj: 20733'

northeast NATURAL ENERGY

Baker Hughes

REFERENCE WELLPATH IDENTIFICATION

Operator	NORTHEAST NATURAL ENERGY, LLC	Well	Phoenix 9H
Field	Monongalia	API/Legal	
Facility	Phoenix Pad	Wellbore	Phoenix 9H AWB
Slot	Slot 09		

HOLE & CASING SECTIONS - Ref Wellbore: Phoenix 9H AWB Ref Wellpath: Phoenix 9H AWP Proj: 20733'

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	1544.00	1516.00	28.00	1543.96	0.00	0.00	-3.93	-5.03
13.375in Casing Surface	28.00	1514.00	1486.00	28.00	1513.97	0.00	0.00	-3.80	-4.75
12.25in Open Hole	1544.00	2858.00	1314.00	1543.96	2852.22	-3.93	-5.03	88.81	63.87
9.625in Casing Intermediate	28.00	2828.00	2800.00	28.00	2822.37	0.00	0.00	86.13	62.49
8.75in Open Hole	2858.00	8130.00	5272.00	2852.22	7585.91	88.81	63.87	1067.96	1906.02
8.5in Open Hole	8130.00	20733.00	12603.00	7585.91	8183.40	1067.96	1906.02	11421.50	-4297.15
5.5in Casing Production	28.00	20703.00	20675.00	28.00	8183.22	0.00	0.00	11396.39	-4280.73

TARGETS

Name	TVD [ft]	North [ft]	East [ft]	Grid East [US ft]	Grid North [US ft]	Latitude	Longitude	Shape
Phoenix 9H LP Rev-5	8190.00	1893.34	2036.00	**1753119.49**	**418525.13**	39°38'47.5927"N	80°15'53.6195"W	point
Phoenix 9H BHL Rev-5	8589.54	11420.12	-4299.96	**1746783.91**	**428051.33**	39°40'21.2003"N	80°17'15.6830"W	point

WELLPATH COMPOSITION - Ref Wellbore: Phoenix 9H AWB Ref Wellpath: Phoenix 9H AWP Proj: 20733'

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 9H AWB	12/1/2023
1475.00	2728.00	OWSG MWD rev2 + HRGM	02_12.25" SDI MWD [OWSG MWD Rev.2+HRGM] (1475')(1549' - 2728')	Phoenix 9H AWB	12/1/2023
2728.00	7958.00	OWSG MWD rev2 + HRGM	03_8.75" SDI MWD [OWSG MWD Rev.2+HRGM] (2728')(2927' - 7958')	Phoenix 9H AWB	12/1/2023
7958.00	20733.00	BH AutoTrak Curve/eXpress (2019) (HRGM, Short spacing)	04_8.5" BH ATK Curve <HRGM+Short Spacing> (7958')(8075'- 20708')	Phoenix 9H AWB	12/1/2023

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Actual Wellpath Report

Phoenix 9H AWP Proj: 20733'

REFERENCE WELLPATH IDENTIFICATION			
Operator	**NORTHEAST NATURAL ENERGY, LLC**	Well	**Phoenix 9H**
Field	**Monongalia**	API/Legal	
Facility	**Phoenix Pad**	Wellbore	**Phoenix 9H AWB**
Slot	**Slot 09**		

COMMENTS

Wellpath general comments
API: 47061019420000
BH Job #: 111974128
Rig: Patterson 277
Duration: 12/02/2023 - 12/06/2023

01_17.5" Gyro [Northseeking-Standard] (50' - 1475')
02_12.25" SDI MWD [OWSG MWD Rev.2+HRGM] (1475')(1549' - 2728')
03_8.75" SDI MWD [OWSG MWD Rev.2+HRGM] (2728')(2927' - 7958')
04_8.5" BH ATK Curve <HRGM+Short Spacing> (7958')(8075'- 20708')

Final Survey MD @ 20708'
Projected MD at TD: 20733'

LR 2958

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:	47-061-01942-00-00
Operator Name:	Northeast Natural Energy LLC
Well Name and Number:	PHOENIX 9H
Latitude:	39.641167
Longitude:	-80.272417
Datum:	NAD83
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	7012
Total Base Water Volume (gal)*:	23705514
Total Base Non Water Volume:	0

FracFocus
Chemical Disclosure Registry

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	88.03241	None
			Crystalline Silica in the form of Quartz	14808-60-7	99.90000	11.85747	None
			Acrylamide-Chloride Salt of Trimethylammonio-	69418-26-4	40.00000	0.02285	None

			Ethyl Acrylate Copolymer				
			Alkanes, C12-26-Branched and Linear	90622-53-0	40.00000	0.02285	None
			Hydrogen chloride	7647-01-0	28.00000	0.01104	None
			Glutaraldehyde	111-30-8	20.00000	0.00442	None
			Ethoxylated Alcohols (C12-16)	68551-12-2	5.00000	0.00286	None
			AA/Maleic Anhydride Co-polymer	9003-04-7	5.00000	0.00201	None
			AA/ATBS Co-polymer	9003-05-8	5.00000	0.00201	None
			Quaternary Ammonium Compounds	68424-85-1	3.00000	0.00066	None
			Didecyl dimethyl ammonium chloride	7173-51-5	3.00000	0.00066	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	0.00003	None
			Ethoxylated Alcohols	68439-50-9	15.00000	0.00003	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)