

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

API 47 - 061 - 01881 County Monongalia District Battelle  
Quad Wadestown Pad Name ERP Field/Pool Name \_\_\_\_\_  
Farm name Phoenix Energy Resources, LLC Well Number 10H  
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 4391808.2 Easting 562331.1  
Landing Point of Curve Northing 4391876.7 Easting 562870.0  
Bottom Hole Northing 4388848.8 Easting 564947.4

Elevation (ft) 1,338' 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 FOR 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 6/22/2022 Date drilling commenced 8/30/2022 Date drilling ceased 9/12/2022  
Date completion activities began 12/21/2021 Date completion activities ceased 2/1/2022  
Verbal plugging (Y/N) NA Date permission granted \_\_\_\_\_ Granted by \_\_\_\_\_

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

Freshwater depth(s) ft 1,217' Open mine(s) (Y/N) depths N WV Department of Environmental Protection  
Salt water depth(s) ft 2,470' Void(s) encountered (Y/N) depths N  
Coal depth(s) ft 1,119' Cavern(s) encountered (Y/N) depths N  
Is coal being mined in area (Y/N) N

Reviewed by:  
MAK 2/23/2023  
03/17/2023

**APPROVED**

API 47-061 - 01881 Farm name Phoenix Energy Resources, LLC Well number 10H

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	30"	24"	100'				
Surface	17-1/2"	13-3/8"	1,296'	N	54.5	NA	Y, 4 bbl
Coal							
Intermediate 1	12-3/8"	9-5/8"	2,593'	N	36	NA	Y, 25 bbl
Intermediate 2							
Intermediate 3							
Production	8-3/4" & 8-1/2"	5-1/2"	20,777'	N	20	NA	Y
Tubing							
Packer type and depth set							

Comment Details \_\_\_\_\_

CEMENT DATA	Class/Type of Cement	Number of Sacks	Slurry wt (ppg)	Yield (ft <sup>3</sup> /sks)	Volume (ft <sup>3</sup> )	Cement Top (MD)	WOC (hrs)
Conductor	Type 1	36					48
Surface	Class A	1,130	15.6	1.20	1,351	CTS	8
Coal							
Intermediate 1	Class A	880	15.6	1.19	1,045	CTS	8
Intermediate 2							
Intermediate 3							
Production	50:50 poz	4,090	14.5	1.16	4,732	1,173	48
Tubing							

Drillers TD (ft) 20,825' Loggers TD (ft) 20,795'

Deepest formation penetrated Marcellus Plug back to (ft) NA

Plug back procedure NA

Kick off depth (ft) 7,826'

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 \_\_\_\_\_ RECEIVED

Surface: Bow spring centralizers every 3rd joint or approximately 120' Office of Oil and Gas

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

Production: Rigid body centralizers placed at a minimum of every other joint (~80') from TD to surface FEB 06 2023

WAS WELL COMPLETED AS SHOT HOLE  Yes  No DETAILS \_\_\_\_\_ Wv Department of Environmental Protection

WAS WELL COMPLETED OPEN HOLE?  Yes  No DETAILS \_\_\_\_\_

WERE TRACERS USED  Yes  No TYPE OF TRACER(S) USED \_\_\_\_\_

API 47-061 - 01881 Farm name Phoenix Energy Resources, LLC Well number 10H

**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.

03/17/2023

API 47- 061 - 01881 Farm name Phoenix Energy Resources, LLC Well number 10H

<u>PRODUCING FORMATION(S)</u>	<u>DEPTHS</u>	
<u>Marcellus</u>	<u>8,079'</u> TVD	<u>20,853'</u> MD
_____	_____	_____
_____	_____	_____
_____	_____	_____

Please insert additional pages as applicable.

GAS TEST  Build up  Drawdown  Open Flow OIL TEST  Flow  Pump

SHUT-IN PRESSURE Surface \_\_\_\_\_ psi Bottom Hole 3522 psi DURATION OF TEST 24 hrs

OPEN FLOW Gas 4252 mcfpd Oil \_\_\_\_\_ bpd NGL \_\_\_\_\_ bpd Water \_\_\_\_\_ bpd  
 GAS MEASURED BY  Estimated  Orifice  Pilot

LITHOLOGY/ FORMATION	TOP	BOTTOM	TOP	BOTTOM	DESCRIBE ROCK TYPE AND RECORD QUANTITY AND TYPE OF FLUID (FRESHWATER, BRINE, OIL, GAS, H <sub>2</sub> S, ETC)
	DEPTH IN FT NAME TVD	DEPTH IN FT TVD	DEPTH IN FT MD	DEPTH IN FT MD	

See attached	0		0		
					RECEIVED Office of Oil and Gas
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					WV Department of Environmental Protection

Please insert additional pages as applicable.

Drilling Contractor Patterson UTI  
 Address 4000 Town Center Blvd, Suite 240 City Canonsburg State PA Zip 15317

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

Cementing Company NextTier  
 Address 4000 Town Center Blvd City Canonsburg State PA Zip 15317

Stimulating Company ProFrac  
 Address 800 Mountain View Drive City Smithfield State PA Zip 15478

Please insert additional pages as applicable.

Completed by Hollie Medley Telephone 304-414-7060  
 Signature  Title Regulatory Manager Date 2-1-23

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

03/17/2023



Cement Job Log



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

Customer:	NORTHEAST NATURAL ENERGY LLC	Date:	1-Sep-21	Serv. Supervisor:	Steven Long
Cust. Rep.:	JOSH	Ticket #:	BPA-2109-0004	Serv. Center:	Black Lick - 1571
Well Name:	ERP 10H	API Well #:	47-061-01881	County:	Monongalia
Well Type:	GAS	Rig:	PATTERSON 277	State:	WV
				Type of Job:	CM-SURFACE CASING

Materials Furnished by NexTier

Pags	Casing Hardware	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)
	+20.0 PPB NEX-020		8.7		4.62	33.66	25.00	-	
	100 % NCM-910 +2.0 % NAC-110+0.25 PPS NLM-600	1130	15.6	30%	1.20	5.21	240.77	1,351.90	140
	Fresh Water Displacement		8.33			-	200.35	-	
	0					-		-	

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Displacement Chemicals:

OPEN HOLE DATA				TUBULAR DATA								
17.5 in. O.H. 100 to 1,336 ft		13.375 in. 54.5#, ( 0 to 1,336 ft)		SIZE WEIGHT	THRD	DEPTH (ft)	GRADE					
Ambient Tmp.	Bulk Tmp.	Slurry 1 Tmp.	Slurry 2 Tmp.	Slurry 3 Tmp.	Slurry 4 Tmp.	13.375 54.5#	BTC	1324	J-55	12.615	2730	1130

PREVIOUS CASING DATA		PERFORATED INTERVAL DATA				CASING EQUIPMENT DEPTHS			
24 in. 97.4# ( 0 to 100 ft)		TOP	BTM	SPF	SIZE	SHOE	FLOAT	STAGE	ACP
						1324	1279.1		

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	8.3 ppg	197.7 bbl	H2O	8.3 ppg		483	391	2184	< 200	7	68.3 °F	1400

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	650.00	N	360.00	4.00	-	No	650.00	No	14.00	No	41

Comments/Additional Details:

Steven Long  
Service Supervisor

1-Sep-21  
Date

03/17/2023



Cement Job Log



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

Customer: NORTHEAST NATURAL ENERGY LLC	Date: 2-Sep-21	Serv. Supervisor: Michael Franco
Cust. Rep.: Josh	Ticket #: BPA-2109-0002	Serv. Center: Black Lick - 1571
Well Name: ERP 10H	API Well #: 47-061-01881	County: Monongalia State: WV
Well Type:	Rig: Patterson 277	Type of Job: CM-INTER. CASING

Plugs	Casing Hardware	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-910 +1.0 % NAC-110	880	15.6	30%	1.19	5.24	186.17	1,045.35	110
Fresh Water Displacement			8.33			-	197.91	-	
0						-		-	
						-		-	
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Displacement Chemicals:

OPEN HOLE DATA			TUBULAR DATA									
12.375 in. O.H. 1,336 to 2,600 ft			9.625 in. 36#, (0 to 2,600 ft)			SIZE WEIGHT	THRD	DEPTH (ft)	GRADE	ID (in)	BURST (psi)	COLLAPSE (psi)
Ambient Temp.	Bulk Temp.	Slurry 1 Temp.	Slurry 2 Temp.	Slurry 3 Temp.	Slurry 4 Temp.	9.625 36#	BTC	2621	J-55	8.835	3520	2020
		69.0 °F										

PREVIOUS CASING DATA		PERFORATED INTERVAL DATA				CASING EQUIPMENT DEPTHS			
13.375 in. 54.5# (0 to 1,336 ft)		TOP	BTM	SPF	SIZE	SHOE	FLOAT	STAGE	ACP
						2621	2576.5		

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	8.3 ppg	199.1 bbl	H2O	8.3 ppg			980	1130							2	6			81.0 °F		2000	
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	1,100.00	Y	-	25.00		Yes		No		No	29'											

Comments/Additional Details:

Michael Franco Service Supervisor  
2-Sep-21 Date

03/17/2023



Cement Job Log



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

Customer: NORTHEAST NATURAL ENERGY LLC	Date: 12-Sep-21	Serv. Supervisor: Anthony Barbara
Cust. Rep.: Josh	Ticket #: BPA-2109-0011	Serv. Center: Black Lick - 1571
Well Name: ERP 10H	API Well #: 47-061-01881	County: Monongalia State: WV
Well Type:	Rig: Patterson 277	Type of Job: CM-PROD. CASING

Materials Furnished by NexTier

Plugs	Casing Hardware	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)
13.5 lb/gal PureScrub Spacer w/Surfactant	+7.0 PPB NFP-703+1.2 GPB NSU-887L	100	13.5		5.65	26.78	80.00	565.17	64
14.5 lb/gal Cement	50 % NCM-910+50 % NPZ-010 +0.2 % NFP-703+0.15 % NAS-504+0.25 % NRT-213+0.15 % NFL-549+0.1 % NTC-405	4090	14.5	6%	1.16	4.90	843.31	4,735.16	477
Sugar Water Displacement	+5.0 PPB NRT-215					-	20.00	-	
Fresh Water Displacement						-	445.29	-	
						-			
						-			
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Displacement Chemicals:

OPEN HOLE DATA					TUBULAR DATA							
8.75 in. O.H. 2,600 to 8,932 ft		5.5 in. 20#, ( 0 to 20,984 ft)			SIZE WEIGHT	THRD	DEPTH (ft)	GRADE	ID (in)	BURST (psi)	COLLAPSE (psi)	
Ambient Temp.	Bulk Temp.	Slurry 1 Temp.	Slurry 2 Temp.	Slurry 3 Temp.	Slurry 4 Temp.							
80.0 °F		75.4 °F	76.3 °F			5.5" 20#	BTC	20805	P-110	4.778	12640	11080
PREVIOUS CASING DATA					PERFORATED INTERVAL DATA				CASING EQUIPMENT DEPTHS			
9.625 in. 36# ( 0 to 2,600 ft)					TOP	BTM	SPF	SIZE	SHOE	FLOAT	STAGE	ACP
									20805	20802		
WELL FLUID		DISPLACEMENT FLUID			DIFF PRESS (psi)	CSG LIFT (psi)	MAX PRESS (psi)	Mix H2O Chlorides (ppm)	Mix H2O pH	Mix H2O Temp	WATER ON LOC (bbl)	
TYPE	DENSITY	VOLUME	TYPE	DENSITY								
Mud	12.9 ppg	462 bbl	H2O	8.3 ppg	2550	15416	6500	<200	8	70.4 °F	1200	
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	3,400.00	Y			1,173	Yes	4,550.00	No	-	No	48	

Comments/Additional Details:

Anthony Barbara  
Service Supervisor  
12-Sep-21  
Date

03/17/2023

# ERP 10H

## 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	12/27/2021	4,793	8,647	9,395	75	408	7,407	300,075	505
2	12/27/2021	5,473	7,307	9,527	85	410	9,432	413,160	476
3	12/28/2021	6,094	7,194	9,676	87	41	9,338	444,500	467
4	12/29/2021	5,678	7,392	9,715	88	5	9,406	444,460	481
5	12/30/2021	5,852	6,021	9,715	92	9	9,412	445,030	499
6	12/31/2021	6,001	7,680	9,553	92	4	9,340	444,832	441
7	1/1/2022	5,376	8,468	9,620	91	39	9,260	445,000	452
8	1/2/2022	5,626	7,828	9,648	91	0	8,714	445,000	473
9	1/2/2022	5,753	5,967	9,512	90	11	9,237	444,950	440
10	1/3/2022	6,152	5,973	9,313	90	15	9,197	445,000	444
11	1/4/2022	5,504	7,273	9,631	92	47	9,274	445,000	423
12	1/5/2022	5,981	7,983	9,545	90	5	9,220	437,960	421
13	1/5/2022	5,791	10,117	9,824	89	10	9,131	445,000	424
14	1/5/2022	5,824	6,125	9,704	90	59	9,323	444,950	422
15	1/6/2022	5,609	6,577	9,687	91	0	9,505	445,000	425
16	1/6/2022	5,894	7,493	9,762	88	13	9,350	445,000	420
17	1/7/2022	5,506	8,990	9,769	89	7	9,755	445,000	392
18	1/8/2022	5,641	10,004	9,827	89	7	9,303	445,000	401
19	1/8/2022	5,654	7,683	9,882	89	14	9,209	445,000	389
20	1/9/2022	5,435	7,432	9,776	87	8	9,163	445,100	394
21	1/10/2022	5,877	7,344	9,771	91	34	8,800	445,000	420
22	1/10/2022	5,339	8,464	9,719	89	7	9,273	445,080	373
23	1/11/2022	5,820	6,714	9,663	91	82	9,246	445,000	356
24	1/11/2022	5,401	6,746	9,326	91	12	9,179	444,870	368
25	1/12/2022	5,920	7,582	9,708	91	20	9,316	444,950	369
26	1/12/2022	5,900	7,354	9,418	91	26	9,128	444,975	365
27	1/12/2022	5,879	5,542	9,454	91	28	9,191	445,060	370
28	1/13/2022	5,970	7,912	9,440	91	96	9,395	445,000	346
29	1/13/2022	5,882	5,957	9,348	91	36	9,186	445,000	340
30	1/14/2022	6,350	7,079	9,396	91	16	9,136	445,050	341
31	1/14/2022	6,150	7,074	9,179	92	39	9,205	445,000	332
32	1/15/2022	5,801	7,075	9,290	92	10	9,185	445,000	342
33	1/15/2022	5,834	7,734	9,454	92	36	9,262	445,000	344
34	1/15/2022	5,939	7,884	9,177	91	409	9,274	444,947	323
35	1/16/2022	6,062	7,375	9,101	92	18	9,172	445,050	315
36	1/18/2022	6,178	6,881	9,144	92	48	9,329	445,000	310
37	1/19/2022	5,469	6,656	8,938	92	57	8,694	445,000	315
38	1/19/2022	5,620	6,748	8,755	92	22	9,219	445,050	301
39	1/20/2022	5,562	6,598	8,847	92	158	9,304	445,000	297
40	1/20/2022	5,844	6,784	8,698	91	27	8,992	445,000	297
41	1/21/2022	5,897	7,376	8,750	92	12	9,241	445,000	297
42	1/21/2022	5,880	7,226	8,865	91	25	9,107	445,000	288
43	1/22/2022	5,570	7,474	8,829	92	69	9,144	445,000	280
44	1/22/2022	5,979	7,712	8,868	92	104	9,170	445,000	281
45	1/22/2022	5,281	7,475	8,906	92	22	8,941	445,000	279

03/17/2023



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	1/23/2022	6,787	7,429	8,857	92	87	9,224	445,000	265
47	1/23/2022	5,951	7,428	9,002	92	21	9,086	445,000	263
48	1/24/2022	5,699	7,164	8,598	93	15	8,985	445,000	262
49	1/24/2022	5,589	7,500	8,585	92	70	9,136	445,000	255
50	1/25/2022	5,380	7,109	8,666	91	19	8,531	391,250	257
51	1/25/2022	5,754	6,615	8,549	92	38	9,145	445,000	243
52	1/26/2022	6,622	6,908	8,375	92	84	9,071	445,000	242
53	1/26/2022	6,573	7,390	8,684	92	77	9,120	444,950	243
54	1/27/2022	5,965	6,761	8,401	93	175	9,230	445,000	234
55	1/27/2022	6,274	7,038	8,362	92	119	9,084	444,800	235
56	1/28/2022	6,089	6,769	8,291	93	158	9,169	445,000	221
57	1/28/2022	8,740	6,510	9,416	64	66	9,073	443,400	237
58	1/29/2022	6,669	6,889	9,109	91	90	9,863	445,000	215
59	1/29/2022	6,018	6,900	8,371	92	51	9,124	445,000	217
60	1/30/2022	6,099	7,271	8,438	92	47	9,021	445,000	228
61	1/31/2022	6,161	7,271	8,417	93	56	8,984	445,000	221
62	1/31/2022	5,782	7,333	8,519	91	29	8,900	445,000	199

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**ERP 10H**  
**Perforation Report**

Stage Number	Report Date	Total Shots	Cluster 1 Top TD	Cluster 5 Bottom TD
1	12/27/2021	0	0	20,695
2	12/27/2021	40	20,652	20,495
3	12/28/2021	40	20,453	20,297
4	12/29/2021	40	20,255	20,098
5	12/30/2021	40	20,057	19,900
6	12/31/2021	40	19,858	19,702
7	1/1/2022	40	19,660	19,504
8	1/2/2022	40	19,462	19,305
9	1/2/2022	40	19,264	19,107
10	1/3/2022	40	19,065	18,909
11	1/4/2022	40	18,867	18,710
12	1/5/2022	40	18,669	18,512
13	1/5/2022	40	18,470	18,314
14	1/5/2022	40	18,272	18,115
15	1/6/2022	40	18,074	17,917
16	1/6/2022	40	17,875	17,719
17	1/7/2022	40	17,677	17,521
18	1/8/2022	40	17,479	17,322
19	1/8/2022	40	17,281	17,124
20	1/9/2022	40	17,082	16,926
21	1/10/2022	40	16,884	16,727
22	1/10/2022	40	16,686	16,529
23	1/11/2022	40	16,487	16,331
24	1/11/2022	40	16,289	16,132
25	1/12/2022	40	16,091	15,934
26	1/12/2022	40	15,892	15,736
27	1/12/2022	40	15,694	15,538
28	1/13/2022	40	15,496	15,339
29	1/13/2022	40	15,298	15,141
30	1/14/2022	40	15,099	14,943
31	1/14/2022	40	14,901	14,744
32	1/15/2022	40	14,703	14,546
33	1/15/2022	40	14,504	14,348
34	1/15/2022	40	14,306	14,149
35	1/16/2022	40	14,108	13,951
36	1/18/2022	40	13,909	13,753
37	1/19/2022	40	13,711	13,555
38	1/19/2022	40	13,513	13,356
39	1/20/2022	40	13,315	13,158
40	1/20/2022	40	13,116	12,960
41	1/21/2022	40	12,918	12,761
42	1/21/2022	40	12,720	12,563
43	1/22/2022	40	12,521	12,365
44	1/22/2022	40	12,323	12,166
45	1/22/2022	40	12,125	11,968
46	1/23/2022	40	11,926	11,770

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Stage Number	Report Date	Total Shots	Cluster 1 Top TD	Cluster 5 Bottom TD
47	1/23/2022	40	11,728	11,572
48	1/24/2022	40	11,530	11,373
49	1/24/2022	40	11,332	11,175
50	1/25/2022	40	11,133	10,977
51	1/25/2022	40	10,935	10,778
52	1/26/2022	40	10,737	10,580
53	1/26/2022	40	10,538	10,382
54	1/27/2022	40	10,340	10,183
55	1/27/2022	40	10,142	9,985
56	1/28/2022	40	9,943	9,787
57	1/28/2022	40	9,745	9,589
58	1/29/2022	40	9,547	9,390
59	1/29/2022	40	9,349	9,192
60	1/30/2022	40	9,150	8,994
61	1/31/2022	40	8,952	8,795
62	1/31/2022	40	8,754	8,597

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ERP Completion Lithology			
Lithology/Formation	Top Depth in FT TVD	Bottom Depth in FT TVD	Describe rock type and record quantity and type of fluid (freshwater, brine, oil, gas, H2S, etc)
Sand/silt	0	175	Sand/silt
Sand/red shale	175	280	sand with reddish shale
sandstone/shale	280	620	sandstone/shale
coal	550	555	coal
coal	610	614	coal
sandstone	620	680	sandstone
Washington Coal	665	668	coal
siltstone/sandstone	680	715	siltstone/sandstone
sandstone/siltstone	715	767	sandstone/siltstone
Waynesburg Coal	734	737	Waynesburg Coal
Limestone/sandstone/shale	767	865	Limestone/sandstone/shale
Limestone/siltstone	873	910	Limestone/siltstone
Limestone	910	950	Limestone
sandstone/siltstone	950	994	sandstone/siltstone
Sewickley coal	994	998	Sewickley coal
Limestone	998	1040	Limestone
Limestone/siltstone	1040	1114	Limestone/siltstone
Pittsburgh coal	1114	1119	Pittsburgh coal
Limestone/siltstone	1119	1220	Limestone/siltstone
Maxon	1450	1500	Maxon
Red Rock/siltstone/limestone	1500	2149	Red Rock/siltstone/limestone
Little Lime	2149	2217	Little Lime
Big Lime	2217	2367	Big Lime
Big Injun	2367	2470	Big Injun
Sand/silt	2470	2546	Sand/silt
Gantz	2546	2590	Gantz
Sand/shale	2590	5540	Sand/shale
gray shale/siltstone	5540	7399	gray shale/siltstone
Middlesex	7399	7655	Middlesex
Burkett	7655	7820	Burkett
Geneseo	7820	7865	Geneseo
Tully	7865	7913	Tully
Hamilton	7913	8001	Hamilton
Marcellus	8001	TD	Marcellus

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# Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	12/17/2021
Job End Date:	1/31/2022
State:	West Virginia
County:	Monongalia
API Number:	47-061-01881-00-00
Operator Name:	Northeast Natural Energy LLC
Well Name and Number:	ERP 10H
Latitude:	39.67383100
Longitude:	-80.27323600
Datum:	NAD27
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	8,084
Total Base Water Volume (gal):	23,849,322
Total Base Non Water Volume:	0



## 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
Water	Northeast Natural Energy	Carrier/Base Fluid	Water	7732-18-5	100.00000	87.66307	None
Sand (100 Mesh Proppant)	ProFrac	Proppant	Silica Substrate	14808-60-7	100.00000	9.29839	None
Sand (40/70 White Proppant)	ProFrac	Proppant	Silica Substrate	14808-60-7	100.00000	2.75125	None
Hydrochloric Acid (7.5%)	CNR	Acidizing	Water	7732-18-5	85.00000	0.14934	None
			Hydrochloric Acid (Hydrogen Chloride)	7647-01-0	37.00000	0.06501	None
StimSTREAM SC 405	Chemstream	Scale Control	Non-Hazardous Substances	Proprietary	70.00000	0.02189	None
			Diethylenetriamine penta (methylene phosphonic acid) (DTPMP)	15827-60-8	10.00000	0.00313	None
			2-Phosphono-1,2,4-butanetricarboxylic acid (PBTC)	37971-36-1	10.00000	0.00313	None
			Citric Acid	77-92-9	10.00000	0.00313	None

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Clearal 268	Chemstream	Biocide					
			Non-Hazardous Substances	Proprietary	80.00000	0.02135	None
			Glutaraldehyde	111-30-8	20.00000	0.00534	None
			Didecyl dimethyl ammonium chloride	7173-51-5	3.00000	0.00080	None
			Quaternary Ammonim Compounds	68424-85-1	3.00000	0.00080	None
			Ethanol	64-17-5	1.50000	0.00040	None
StimSTREAM FR 9800	Chemstream	Friction Reducer					
			Alkanes, C16-20-iso-	90622-59-6	25.00000	0.01313	None
			Butene, homopolymer	9003-29-6	25.00000	0.01313	None
			Ethoxylated alcohols (C12-18)	68213-23-0	3.00000	0.00158	None
ProHib 100	CNR	Acid Inhibitor					
			2-Butoxyethanol	111-76-2	60.00000	0.00038	None
			Proprietary material	Proprietary	30.00000	0.00019	None
			Proprietary non-ionic surfactant	Proprietary	20.00000	0.00013	None
			Proprietary corrosion inhibitor	Proprietary	10.00000	0.00006	None
			Proprietary ethoxylated alcohol	Proprietary	10.00000	0.00006	None
ProFE 105	CNR	Iron Control					
			Citric Acid	77-92-9	20.00000	0.00010	None
			Acetic Acid	64-19-7	5.00000	0.00002	None
Ingredients shown above are subject to 29 CFR 1910.1200(i) and appear on Material Safety Data Sheets (MSDS). Ingredients shown below are Non-MSDS.							
Other Chemical(s)	Listed Above	See Trade Name(s) List					
			Water	7732-18-5	85.00000	0.14934	
			Non-Hazardous Substances	Proprietary	70.00000	0.02189	
			Non-Hazardous Substances	Proprietary	80.00000	0.02135	
			Butene, homopolymer	9003-29-6	25.00000	0.01313	
			Diethylenetriamine penta (methylene phosphonic acid) (DTPMP)	15827-60-8	10.00000	0.00313	
			Citric Acid	77-92-9	10.00000	0.00313	
			Ethoxylated alcohols (C12-18)	68213-23-0	3.00000	0.00158	
			Didecyl dimethyl ammonium chloride	7173-51-5	3.00000	0.00080	
			Quaternary Ammonim Compounds	68424-85-1	3.00000	0.00080	
			Ethanol	64-17-5	1.50000	0.00040	
			Proprietary material	Proprietary	30.00000	0.00019	
			Proprietary non-ionic surfactant	Proprietary	20.00000	0.00013	
			Proprietary ethoxylated alcohol	Proprietary	10.00000	0.00006	
			Proprietary corrosion inhibitor	Proprietary	10.00000	0.00006	
			Acetic Acid	64-19-7	5.00000	0.00002	

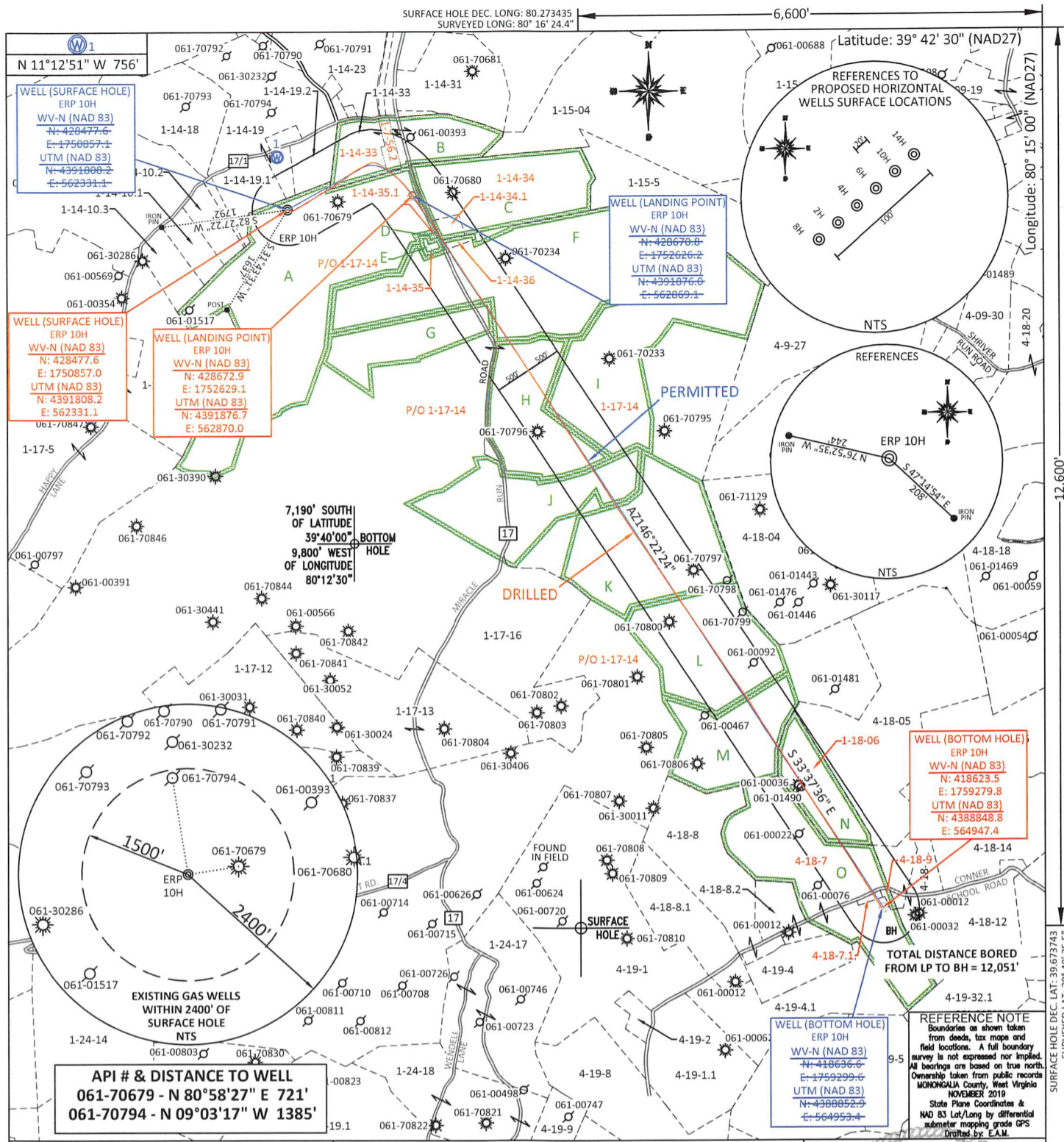
\* Total Water Volume sources may include fresh water, produced water, and/or recycled water

\*\* 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)





FILE #: NNE20  
 DRAWING #: 2990  
 SCALE: PLAT: 1" = 2000'  
 TICK: 1" = 2000'  
 MINIMUM DEGREE OF ACCURACY: 1/200  
 PROVEN SOURCE OF ELEVATION: SUBMETER MAPPING GRADE GPS

I, THE UNDERSIGNED, HEREBY CERTIFY THAT THIS 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: [Signature]  
 L.L.S. #2124 : Ernest J. Benchek III



(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS WVDEP  
 OFFICE OF OIL & GAS  
 601 57TH STREET  
 CHARLESTON, WV 25304  
 Well Type:  Oil  Waste Diposal  Production  Deep  
 Gas  Liquid Injection  Storage  Shallow  
 WATERSHED: DUNKARD CREEK  
 COUNTY/DISTRICT: MONONGALIA / BATTELLE  
 SURFACE OWNER: Phoenix Energy Resources, LLC  
 OIL & GAS ROYALTY OWNER: Phoenix Energy Resources, LLC, 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: NOVEMBER 18, 2021  
 OPERATOR'S WELL #: ERP 10H (AS-DRILLED)  
 API WELL #: 47 61 01881  
 STATE COUNTY PERMIT  
 AS-BUILT ELEVATION: 1,338.60'  
 QUADRANGLE: WADESTOWN  
 ACREAGE: 1510.488 +/-  
 ACREAGE: 912.455 +/-  
 DRILLED DEPTH: TVD: 8,079' TMD: 20,853'  
 DESIGNATED AGENT: JOHN ADAMS  
 ADDRESS: 707 VIRGINIA STREET EAST, SUITE 1200  
 CITY: CHARLESTON STATE: WV ZIP CODE: 25301

03/17/2023

PROPERTY OWNER INDEX	
1-14-33	GLENN N & ORPHA J REED
1-7-56.2	PENNSYLVANIA LINES LLC
1-17-14	PHOENIX ENERGY RESOURCES, LLC
1-14-34	EASTERN ASSOCIATED COAL CORP.
1-14-34.1	MIRACLE RUN UNITED METHODIST CHURCH
1-14-35	MIRACLE RUN UNITED METHODIST CHURCH
1-14-35.1	MIRACLE RUN UNITED METHODIST CHURCH
1-14-36	MIRACLE RUN UNITED METHODIST CHURCH
1-18-6	RODDY D. & CAROLYN CHISLER
4-18-7	RODDY D. & CAROLYN CHISLER
4-18-9	DONLEY R. & LOIS E. SHRIVER
4-18-7.1	RONNIE E. & LORI A. GADD

LEASE INDEX			
A	WV-061-005667-001	I	WV-061-005329-001
B	WV-061-005782-001	J	WV-061-004975-001
C	WV-061-005667-001	K	WV-061-003767-004
D	WV-061-005667-002	L	WV-061-004605-001
E	WV-061-005763-001	M	WV-061-004605-001
F	WV-061-003767-004	N	WV-061-004706-008
G	WV-061-003767-004	O	WV-061-005747-001
H	WV-061-003534-004		

03/17/2023

FILE #: NEE20

DRAWING #: 2990

SCALE: N/A

DATE: NOVEMBER 18, 2021

OPERATOR'S WELL #: ERP 10H

API WELL #: 47 61 01881  
STATE COUNTY PERMIT