

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

API 47 - 061 - 01890 County Monongalia District Battelle
Quad Wadestown Pad Name Phoenix Field/Pool Name _____
Farm name Phoenix Well Number 6H
Operator (as registered with the OOG) Northeast Natural Energy LLC
Address 707 Virginia St. E, Suite 1200 City Charleston State WV Zip 25301

As Drilled location NAD 83/UTM Attach an as-drilled plat, profile view, and deviation survey
Top hole Northing 4388194.4 Easting 562468.7
Landing Point of Curve Northing 4388363.0 Easting 562992.2
Bottom Hole Northing 4383313.6 Easting 566474.9

Elevation (ft) 1,503.5' 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 10/27/2021 Date drilling commenced 12/27/2021 Date drilling ceased 3/28/2022
Date completion activities began 11/1/2022 Date completion activities ceased 1/27/2023
Verbal plugging (Y/N) _____ 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 1,240 Open mine(s) (Y/N) depths Y, Federal #2 @1,230
Salt water depth(s) ft 2,760 Void(s) encountered (Y/N) depths N
Coal depth(s) ft 1,230 Cavern(s) encountered (Y/N) depths N
Is coal being mined in area (Y/N) N

APPROVED

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JAN 16 2024

WV Department of
Environmental Protection

Reviewed by:
Daquan J. Ford
1/31/2024

02/23/2024

API 47- 061 - 01890 Farm name Phoenix Well number 6H

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'	N		NA	Y
Surface	17-1/2"	13-3/8"	1,522'	N	54.5	NA	Y, 34 bbl
Coal							
Intermediate 1	12-1/4"	9-5/8"	2,758'	N	36	NA	Y
Intermediate 2							
Intermediate 3							
Production	8-3/4"	5-1/2"	29,037'	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 ³ /sks)	Volume (ft ³)	Cement Top (MD)	WOC (hrs)
Conductor	4500 psi ready mix					CTS	48
Surface	Class A	2,395	15.6	1.19	2,845	CTS	8
Coal							
Intermediate 1	Class A	905	15.6	1.19	1,075	Grout 500'	8
Intermediate 2							
Intermediate 3							
Production	50:50 poz	5,410	14.5	1.16	1,1115	939	48
Tubing							

Drillers TD (ft) 29,062' Loggers TD (ft) 29,032'
 Deepest formation penetrated Marcellus Plug back to (ft) _____
 Plug back procedure _____

Kick off depth (ft) 7,496'

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: Rigid body centralizers placed at a minimum of every other joint (~80') 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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WV Department of Environmental Protection 02/23/2024

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<u>PRODUCING FORMATION(S)</u>	<u>DEPTHS</u>		
Marcellus	8,212	TVD	9,008 MD
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Please insert additional pages as applicable.

GAS TEST Build up Drawdown Open Flow OIL TEST Flow Pump

SHUT-IN PRESSURE Surface 3228 psi Bottom Hole _____ psi DURATION OF TEST 24 hrs

OPEN FLOW Gas 3642 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 ₂ S, ETC)
	DEPTH IN FT NAME TVD	DEPTH IN FT TVD	DEPTH IN FT MD	DEPTH IN FT MD	
See Attached	0		0		

Please insert additional pages as applicable.

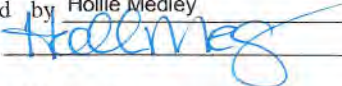
Drilling Contractor Patterson UTI
Address 4000 Town Center Blvd, Suite 240 City Canonsburg State PA Zip 15317

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

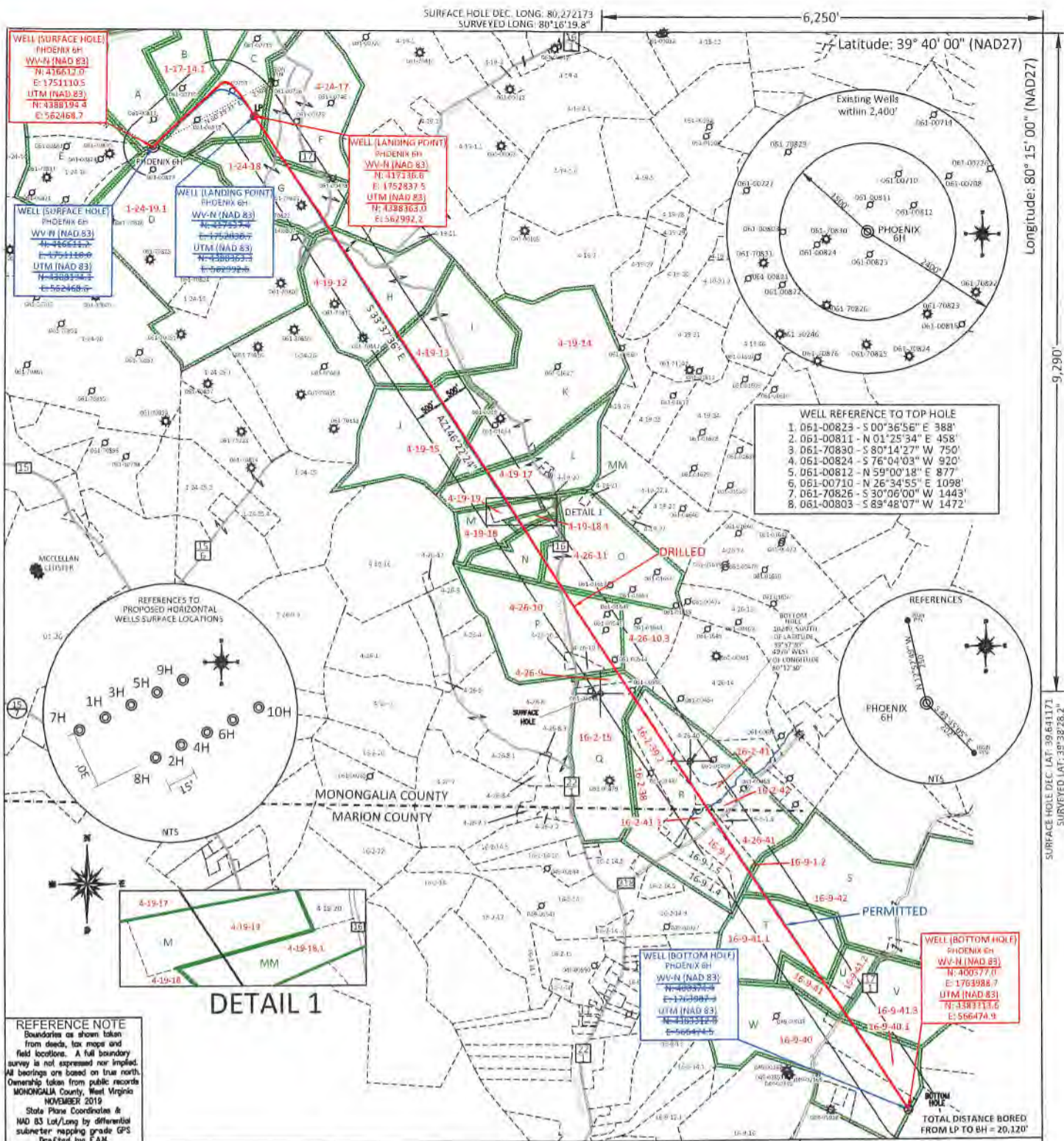
Stimulating Company Pro Frac
Address 800 Mountain View Drive City Smithfield State PA Zip 15478

Please insert additional pages as applicable.

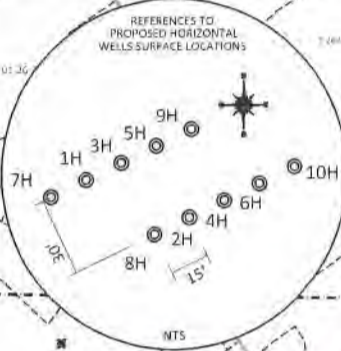
Completed by Hollie Medley Telephone _____
Signature  Title Regulatory Manager Date 1/10/2024

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

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02/23/2024
Department of Environmental Protection



- WELL REFERENCE TO TOP HOLE**
- 061-00823 - S 00°36'56" E 388'
 - 061-00811 - N 01°25'34" E 458'
 - 061-70830 - S 80°14'27" W 750'
 - 061-00824 - S 76°04'03" W 920'
 - 061-00812 - N 59°00'18" E 877'
 - 061-00710 - N 26°34'55" E 1098'
 - 061-70826 - S 30°06'00" W 1443'
 - 061-00803 - S 83°48'07" W 1472'



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 EAM

FILE #: _____
 DRAWING #: 2959
 SCALE: PLAT: 1" = 2400'
 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: *[Signature]*
 L.L.S. #2124: Ernest J. Benchek III



(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS
 WYDEP
 OFFICE OF OIL & GAS
 601 57TH STREET
 CHARLESTON, WV 25304
 Well Type: Oil Waste Dipsal Production Deep
 Gas Liquid Injection Storage Shallow
 WATERSHED: DUNKARD CREEK
 COUNTY/DISTRICT: MONONGALIA / BATTLETTOWN
 SURFACE OWNER: CHARLES WENDELL MOORE & FRANK M. CHISLER
 OIL & GAS ROYALTY OWNER: Pat L. Park, et al
 LEASE NUMBERS: SEE PAGE 2
 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: MAY 30, 2023
 OPERATOR'S WELL #: PHOENIX 6H AS-DRILLED
 API WELL #: 47 61 01890
 STATE COUNTY PERMIT
 AS-BUILT ELEVATION: 1,503.5'
 QUADRANGLE: WADESTOWN
 ACREAGE: 466.30 +/-
 ACREAGE: 1679.56
 02/23/2024
 DRILLED DEPTH: TVD: 7,957' TMD: 29,087'
 DESIGNATED AGENT: JOHN ADAMS
 ADDRESS: 707 VIRGINIA STREET EAST, SUITE 1200
 CITY: CHARLESTON STATE: WV ZIP CODE: 25301

SURFACE HOLE DEC. LONG: 80 272173
SURVEYED LONG: 80°16'19.8"

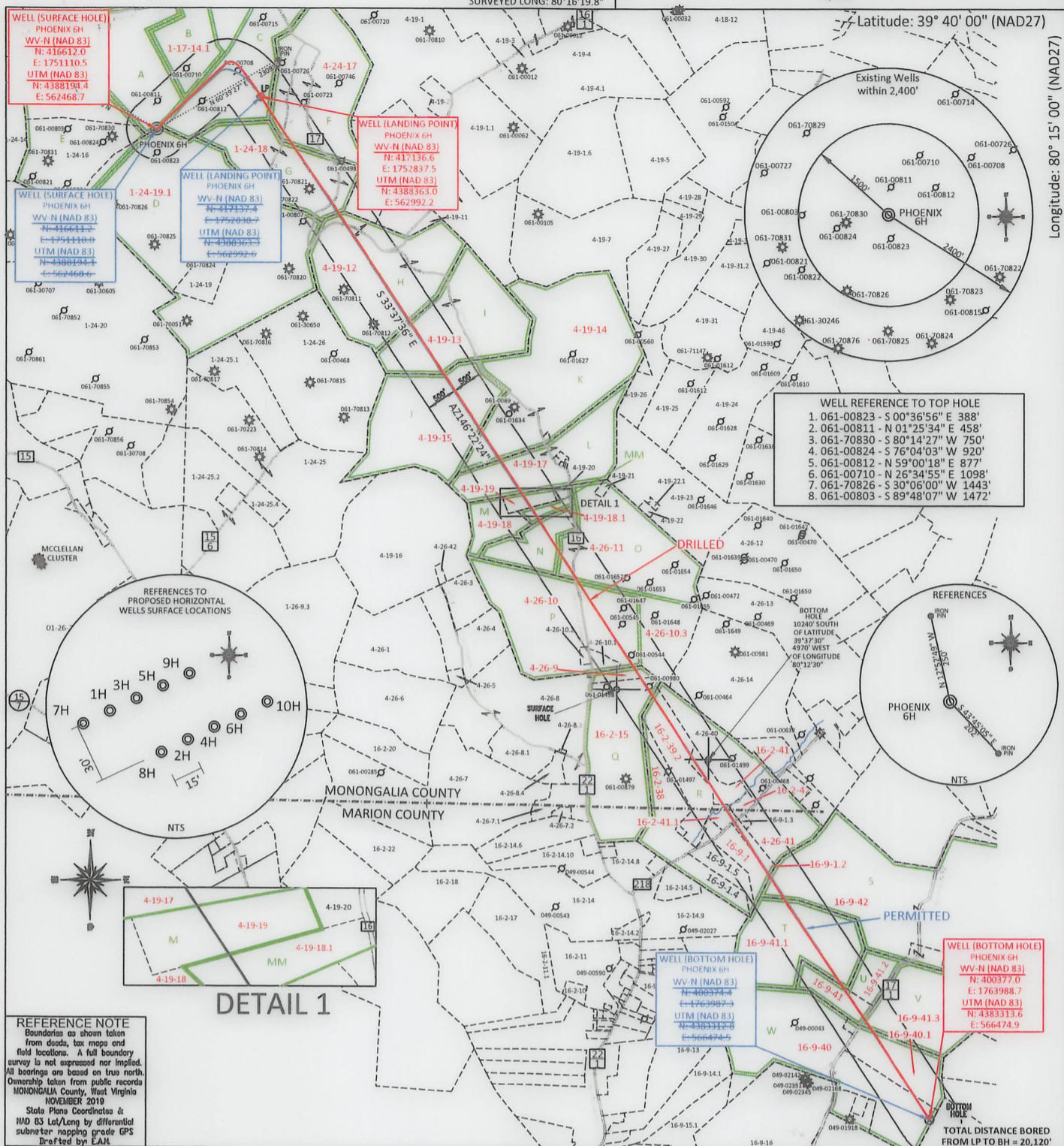
6,250'

Latitude: 39° 40' 00" (NAD27)

Longitude: 80° 15' 00" (NAD27)

9,290'

SURFACE HOLE DEC. LAT: 39.641171
SURVEYED LAT: 39°38'28.2"



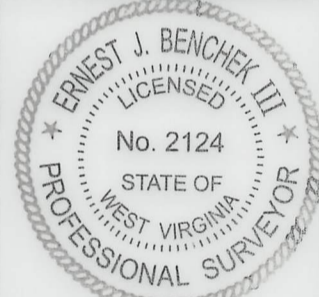
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DRILL CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE
PLUG OFF FORMATION PERFORATE NEW FORMATION PLUG & ABANDON
CLEAN OUT & REPLUG OTHER CHANGE (SPECIFY): _____

TARGET FORMATION: MARCELLUS
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DESIGNATED AGENT: JOHN ADAMS
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CITY: CHARLESTON STATE: WV ZIP CODE: 25301

PROPERTY OWNER INDEX	
1-17-14.1	FRANK M. CHISLER
4-24-17	DAVID A POLING
1-24-18	JOHN RAYMOND & JENNIFER L. HORNSBY MYERS
4-19-12	EDITH L DARRAH
4-19-14	PENNY S QUICKLE
4-19-18	CAROLYN S PAYTON
4-26-11	CAROLYN S PAYTON
4-19-15	TIMOTHY ALAN DARRAH
4-19-13	DOUGLAS L & DEBRA DARRAH
4-19-17	LEWIS M MAXWELL II & SHERRY E MAXWELL
4-19-19	LYDELL T & CONNIE S OWENS
4-19-18.1	LYDELL T & CONNIE S OWENS
4-26-10	BILLY C & BETTY A HAUGHT
4-26-10.3	WILLIAM R & KATHY L ICE
1-24-19.1	CHARLES WENDEL MOORE
4-26-9	GARY A & TAMMY L NICHOLSON
16-2-15	BILLY C & BETTY A HAUGHT
16-2-39.2	ROBERT E & LUELLA R CONAWAY
16-2-41	ROBERT E & LUELLA R CONAWAY
16-2-42	ROBERTA K ACUFF
16-2-38	ROBERT E & LUELLA R CONAWAY
16-2-41.1	HAROLD R BELL
4-26-41	THOMAS ALLEN KEANE JR & JUDITH LOUISE KEANE
16-9-1	THOMAS ALLEN KEANE JR & JUDITH LOUISE KEANE
16-9-1.2	FRANK J & HELEN R SCRITCHFIELD
16-9-42	JAMES P & URSULA A MCDONALD
16-9-41.1	JAMES R MOORE
16-9-41.2	JEFFREY J & SANDRA J MOORE
16-9-41	JEFFREY J & SANDRA J MOORE
16-9-41.3	ROYAL E & ELIZABETH J MOORE
16-9-40	JOHN & SANDRA J MOORE
16-9-40.1	ROYAL E & ELIZABETH J MOORE

LEASE INDEX			
A	WV-061-004079-001		
B	WV-061-004079-001	M	WV-061-004956-011; WV-061-005626-002
C	WV-061-003767-004		
D	WV-061-004463-001	N	WV-061-004956-011
E	WV-061-004076-010	O	WV-061-004846-030
F	WV-061-005687-001	P	WV-061-005699-002
G	WV-061-005687-001	Q	WV-061-000146-001-LOI
H	WV-061-001730-004	R	WV-061-000146-001-LOI
I	WV-061-001941-031	S	WV-061-000146-001-LOI
J	WV-061-005588-001	T	WV-061-000146-001-LOI
K	WV-061-000146-001-LOI	U	WV-061-000146-001-LOI
L	WV-061-001422-002	V	WV-061-000146-001-LOI
		W	WV-061-000146-001-LOI

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WV Department of
Environmental Protection
02/23/2024

FILE #: <u>NEE14</u>	DATE: <u>MAY 30, 2023</u>
DRAWING #: <u>2959</u>	OPERATOR'S WELL #: <u>PHOENIX 6H AS-DRILLED</u>
SCALE: <u>N/A</u>	API WELL #: <u>47</u> <u>61</u> <u>01890</u> STATE COUNTY PERMIT

Phoenix 6H 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	11/1/22	4,681		9,694	87	706	8,476	295,580	724
2	11/1/22	5,006	5,727	9,378	84	161	7,777	390,000	657
3	11/2/22	4,886	5,658	9,815	84	138	8,850	390,000	637
4	11/2/22	5,346	5,373	9,509	86	705	8,866	389,620	711
5	11/2/22	6,279	5,136	9,214	79	8	8,453	391,400	692
6	11/2/22	4,985	6,152	9,584	89	4	8,531	390,520	696
7	11/3/22	5,447	6,195	9,437	82	10	8,651	396,130	687
8	11/3/22	5,427	6,884	9,508	84	152	8,572	390,380	685
9	11/3/22	5,851	7,086	9,556	80	37	8,612	750,150	675
10	11/4/22	5,755	6,997	9,513	80	18	8,610	389,960	685
11	11/4/22	6,325	6,484	9,623	82	10	8,758	390,930	676
12	11/5/22	5,497	7,489	9,497	78	39	8,283	386,960	670
13	11/5/22	5,251	5,701	9,511	80	79	8,799	389,080	680
14	11/6/22	5,202	7,044	9,573	81	46	8,635	390,520	657
15	11/6/22	5,796	7,408	9,717	83	8	8,558	391,270	657
16	11/7/22	5,914	6,836	9,551	81	35	8,597	390,640	654
17	11/7/22	6,148	6,929	9,593	84	12	8,554	392,470	655
18	11/8/22	6,160	6,833	9,433	80	3	8,556	390,870	644
19	11/8/22	6,306	7,206	9,561	82	20	8,544	391,290	634
20	11/9/22	6,080	7,828	9,355	78	25	8,555	392,220	631
21	11/10/22	5,959	7,640	9,608	81	39	8,353	392,180	630
22	11/11/22	6,338	6,623	9,606	82	62	8,549	392,040	632
23	11/11/22	6,236	6,515	9,669	84	36	8,480	391,820	624
24	11/12/22	5,588	6,344	9,441	88	76	8,454	391,348	654
25	11/12/22	6,605	7,404	9,404	93	58	8,421	388,582	3
26	11/12/22	5,735	6,344	9,465	87	49	8,420	390,391	24
27	11/13/22	6,398	6,684	9,544	85	26	8,124	390,380	615
28	11/13/22	6,001	7,145	9,543	84	35	8,508	391,900	602
29	11/13/22	5,514	7,767	9,546	87	47	8,229	390,063	109
30	11/14/22	5,310	7,147	9,583	88	27	8,634	390,103	567
31	11/14/22	6,414	7,128	9,664	87	91	8,814	390,981	608
32	11/13/22	6,407	6,909	9,587	84	8	8,448	385,300	543
33	11/14/22	5,611	6,916	9,672	91	33	8,558	390,317	565
34	11/14/22	6,717	9,879	9,570	91	58	8,395	389,140	561
35	11/15/22	6,439	7,095	9,494	88	60	8,440	392,771	544
36	11/15/22	5,547	6,513	9,188	88	114	8,602	390,378	472
37	11/16/22	5,894	7,581	9,434	89	108	8,688	402,105	526
38	11/16/22	5,708	6,569	9,577	94	77	8,319	390,000	500
39	11/16/22	5,445	8,633	9,643	94	57	8,259	390,000	508
40	11/16/22	6,532	7,366	9,158	88	51	8,471	390,617	506
41	11/17/22	6,349	7,123	9,088	88	77	9,255	390,807	496
42	11/17/22	5,890	7,273	9,441	90	21	8,535	390,000	492
43	11/17/22	6,090	6,878	9,553	94	19	8,322	392,700	485

02/23/2024

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)
44	1/10/23	5,563	6,156	8,715	82	48	9,281	393,200	485
45	1/11/23	6,026	6,027	9,004	87	235	8,615	391,591	485
46	1/11/23	5,808	7,264	9,338	85	38	8,400	393,104	485
47	1/11/23	5,970	7,246	9,395	86	44	8,776	394,020	470
48	1/11/23	5,626	6,808	9,365	87	110	8,700	385,340	472
49	1/12/23	5,958	5,810	9,353	87	52	8,626	398,200	462
50	1/12/23	5,815	8,157	9,413	88	53	8,370	392,347	457
51	1/13/23	6,142	7,706	9,426	87	88	8,746	391,960	729
52	1/13/23	5,477	8,453	9,160	87	33	8,657	394,604	452
53	1/13/23	5,383	8,224	9,432	87	51	8,347	390,683	446
54	1/13/23	6,052	8,498	9,370	85	39	8,281	389,180	446
55	1/13/23	5,883	8,780	9,389	84	67	8,636	392,900	443
56	1/14/23	5,348	9,196	9,435	83	46	8,370	392,209	481
57	1/14/23	5,542	8,430	9,526	85	52	8,576	392,768	482
58	1/14/23	6,020	8,217	9,472	87	40	8,561	391,832	428
59	1/14/23	6,322	5,605	9,477	86	48	8,367	392,850	437
60	1/15/23	6,222	8,570	9,501	87	76	9,203	388,510	418
61	1/15/23	5,781	9,093	9,489	87	83	8,254	390,581	435
62	1/15/23	6,171	7,597	9,507	87	59	8,819	391,785	461
63	1/15/23	5,711	8,606	9,514	83	89	8,429	387,680	415
64	1/15/23	5,771	8,464	9,659	85	82	8,652	391,110	412
65	1/16/23	6,242	7,597	9,804	87	8	8,645	54,200	403
66	1/16/23	5,890	8,358	9,588	77	66	8,532	393,092	403
67	1/16/23	5,362	7,480	9,510	78	59	8,435	390,885	403
68	1/16/23	5,826	8,543	9,639	80	83	8,957	396,650	389
69	1/17/23	6,407	7,199	9,731	84	74	8,458	392,020	388
70	1/17/23	8,739	7,158	9,385	81	50	8,512	391,931	433
71	1/17/23	5,343	7,200	9,217	79	40	8,686	393,162	430
72	1/17/23	5,548	7,065	9,464	82	53	8,485	393,238	369
73	1/17/23	5,126	6,321	9,224	88	66	8,315	388,400	378
74	1/18/23	5,283	6,191	9,244	86	41	8,323	389,020	354
75	1/18/23	5,979	7,663	8,959	85	66	8,352	392,402	442
76	1/18/23	5,698	7,116	8,891	83	57	9,097	394,353	1,857
77	1/18/23	5,454	6,621	9,085	88	122	8,654	391,420	355
78	1/19/23	5,573	6,836	9,014	80	46	8,338	390,500	340
79	1/19/23	5,866	7,472	8,947	84	64	8,412	392,768	393
80	1/19/23	5,713	7,247	8,997	83	71	8,533	392,838	392
81	1/19/23	5,690	7,191	9,155	89	90	8,401	390,080	342
82	1/19/23	5,664	6,019	8,974	88	42	8,243	390,900	341
83	1/20/23	6,156	7,308	8,707	85	68	8,454	393,765	371
84	1/20/23	5,491	5,995	8,645	86	55	8,358	391,040	369
85	1/20/23	5,402	5,995	9,280	84	32	8,267	389,780	321
86	1/21/23	5,485	6,412	9,225	87	67	8,377	390,800	312
87	1/21/23	5,741	6,710	8,672	87	83	8,498	392,366	366
88	1/21/23	5,641	6,604	8,758	86	77	8,232	394,804	371
89	1/21/23	5,644	7,110	9,022	87	64	8,280	390,980	382

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)
90	1/21/23	5,342	6,762	9,191	87	34	8,124	390,860	303
91	1/22/23	5,488	6,333	9,198	86	51	8,287	389,500	320
92	1/22/23	5,723	8,308	8,803	86	82	8,825	390,774	164
93	1/22/23	5,897	7,552	8,648	87	73	8,445	394,051	388
94	1/22/23	6,345	6,628	8,886	88	32	8,286	389,340	293
95	1/22/23	5,540	5,863	8,896	88	33	8,307	390,460	295
96	1/23/23	5,999	7,582	8,523	87	77	8,340	389,698	330
97	1/23/23	5,570	7,384	8,763	88	66	8,405	391,432	354
98	1/23/23	6,317	5,840	8,658	87	56	8,240	390,907	319
99	1/23/23	5,723	6,089	8,606	87	15	8,185	389,900	254
100	1/24/23	5,751	6,307	8,559	91	15	8,522	391,260	278
101	1/24/23	5,754	6,036	8,574	87	14	9,302	392,580	312
102	1/24/23	6,377	6,329	8,735	92	14	8,519	390,480	307
103	1/24/23	5,907	6,542	8,471	89	15	8,463	391,020	255
104	1/24/23	5,507	6,982	8,370	90	18	8,314	390,480	226
105	1/25/23	5,507	5,957	8,330	89	15	8,462	390,860	247
106	1/25/23	5,631	6,083	8,236	88	15	8,348	393,420	292
107	1/25/23	5,724	7,521	8,293	89	15	8,262	391,390	287
108	1/25/23	5,233	7,277	8,307	89	15	8,150	389,160	242
109	1/25/23	5,742	6,326	8,111	89	15	8,281	390,320	251
110	1/26/23	5,230	6,567	8,153	89	15	8,374	390,240	229
111	1/26/23	6,167	6,392	7,992	90	14	8,370	392,410	291
112	1/26/23	6,069	7,610	7,958	90	15	8,157	395,320	271
113	1/26/23	5,863	6,900	8,028	92	15	8,386	391,040	231
114	1/27/23	5,374	6,904	8,021	93	15	8,190	389,260	215
115	1/27/23	5,954	7,065	7,852	91	15	8,300	392,760	254
116	1/27/23	5,455	6,926	7,880	90	15	8,241	378,330	262

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Phoenix 6H Perforation Report				
Stage Number	Report Date	Total Shots	Cluster 1 Top TD	Cluster 5 Bottom TD
1	11/1/2022	40		28,927
2	11/1/2022	40	28,888	28,750
3	11/2/2022	40	28,713	28,575
4	11/2/2022	40	28,538	28,400
5	11/2/2022	40	28,363	28,225
6	11/2/2022	40	28,188	28,050
7	11/3/2022	40	28,013	27,875
8	11/3/2022	40	27,838	27,700
9	11/3/2022	40	27,663	27,525
10	11/4/2022	40	27,488	27,350
11	11/4/2022	40	27,313	27,175
12	11/5/2022	40	27,138	27,000
13	11/5/2022	40	26,963	26,825
14	11/6/2022	40	26,788	26,650
15	11/6/2022	40	26,613	26,475
16	11/7/2022	40	26,438	26,300
17	11/7/2022	40	26,263	26,125
18	11/8/2022	40	26,088	25,950
19	11/8/2022	40	25,913	25,775
20	11/9/2022	40	25,738	25,600
21	11/10/2022	40	25,563	25,424
22	11/11/2022	40	25,387	25,249
23	11/11/2022	40	25,212	25,074
24	11/12/2022	40	25,037	24,899
25	11/12/2022	40	24,862	24,724
26	11/12/2022	40	24,687	24,549
27	11/13/2022	40	24,512	24,374
28	11/13/2022	40	24,337	24,199
29	11/13/2022	40	24,162	24,024
30	11/14/2022	40	23,987	23,849
31	11/14/2022	40	23,812	23,674
32	11/13/2022	40	23,637	23,499
33	11/14/2022	40	23,462	23,324
34	11/14/2022	40	23,287	23,149
35	11/15/2022	40	23,112	22,974
36	11/15/2022	40	22,937	22,799
37	11/16/2022	40	22,762	22,624
38	11/16/2022	40	22,587	22,449
39	11/16/2022	40	22,412	22,274
40	11/16/2022	40	22,237	22,099
41	11/17/2022	40	22,062	21,924
42	11/17/2022	40	21,887	21,749
43	11/17/2022	40	21,712	21,574
44	1/10/2023	40	21,537	21,399
45	1/11/2023	40	21,362	21,224
46	1/11/2023	40	21,187	21,049
47	1/11/2023	40	21,012	20,874

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Stage Number	Report Date	Total Shots	Cluster 1 Top TD	Cluster 5 Bottom TD
48	1/11/2023	40	20,837	20,699
49	1/12/2023	40	20,662	20,524
50	1/12/2023	40	20,487	20,349
51	1/13/2023	40	20,312	20,174
52	1/13/2023	40	20,137	19,999
53	1/13/2023	40	19,962	19,824
54	1/13/2023	40	19,787	19,649
55	1/13/2023	40	19,612	19,474
56	1/14/2023	40	19,437	19,299
57	1/14/2023	40	19,262	19,124
58	1/14/2023	40	19,087	18,949
59	1/14/2023	40	18,912	18,774
60	1/15/2023	40	18,737	18,599
61	1/15/2023	40	18,562	18,424
62	1/15/2023	40	18,387	18,249
63	1/15/2023	40	18,212	18,074
64	1/15/2023	40	18,037	17,899
65	1/16/2023	40	17,862	17,724
66	1/16/2023	40	17,687	17,549
67	1/16/2023	40	17,512	17,374
68	1/16/2023	40	17,337	17,199
69	1/17/2023	40	17,162	17,024
70	1/17/2023	40	16,987	16,849
71	1/17/2023	40	16,812	16,673
72	1/17/2023	40	16,636	16,498
73	1/17/2023	40	16,461	16,323
74	1/18/2023	40	16,286	16,148
75	1/18/2023	40	16,111	15,973
76	1/18/2023	40	15,936	15,798
77	1/18/2023	40	15,761	15,623
78	1/19/2023	40	15,586	15,448
79	1/19/2023	40	15,411	15,273
80	1/19/2023	40	15,236	15,098
81	1/19/2023	40	15,061	14,923
82	1/19/2023	40	14,886	14,748
83	1/20/2023	40	14,711	14,573
84	1/20/2023	40	14,536	14,398
85	1/20/2023	40	14,361	14,223
86	1/21/2023	40	14,186	14,048
87	1/21/2023	40	14,011	13,873
88	1/21/2023	40	13,836	13,698
89	1/21/2023	40	13,661	13,523
90	1/21/2023	40	13,486	13,348
91	1/22/2023	40	13,311	13,173
92	1/22/2023	40	13,136	12,998
93	1/22/2023	40	12,961	12,823
94	1/22/2023	40	12,786	12,648
95	1/22/2023	40	12,611	12,473
96	1/23/2023	40	12,436	12,298

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Stage Number	Report Date	Total Shots	Cluster 1 Top TD	Cluster 5 Bottom TD
97	1/23/2023	40	12,261	12,123
98	1/23/2023	40	12,086	11,948
99	1/23/2023	40	11,911	11,773
100	1/24/2023	40	11,736	11,598
101	1/24/2023	40	11,561	11,423
102	1/24/2023	40	11,386	11,248
103	1/24/2023	40	11,211	11,073
104	1/24/2023	40	11,036	10,898
105	1/25/2023	40	10,861	10,723
106	1/25/2023	40	10,686	10,548
107	1/25/2023	40	10,511	10,373
108	1/25/2023	40	10,336	10,198
109	1/25/2023	40	10,161	10,023
110	1/26/2023	40	9,986	9,848
111	1/26/2023	40	9,811	9,673
112	1/26/2023	40	9,636	9,498
113	1/26/2023	40	9,461	9,323
114	1/27/2023	40	9,286	9,148
115	1/27/2023	40	9,111	8,973
116	1/27/2023	40	8,936	8,798

02/23/2024

Cement Job Log

NEXTIER

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

Customer:	NORTHEAST NATURAL ENERGY LLC	Date:	12-Mar-22	Serv. Supervisor:	Steven Long
Cust. Rep.:	TROY	Ticket #:	BPA-2203-0017	Serv. Center	Black Lick - 1571
Well Name:	Phoenix 6H	API Well #:	47-061-01890	County:	Monongalia
Well Type:		Rig:	PATTERSON 277	State:	WV
			Type of Job:	CM-SURFACE 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)
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+0.25 PPS NLM-600	2395	15.6	12%	1.19	5.21	506.68	2,845.01	297
Fresh Water Displacement			8.33			-	225.39	-	
0						-		-	
						-		-	
						-		-	
						-		-	
						-		-	
						-		-	
						-		-	
						-		-	
						-		-	
						-		-	
						-		-	
						-		-	
						-		-	
						-		-	
						-		-	
						-		-	

Displacement Chemicals:

OPEN HOLE DATA				TUBULAR DATA									
22 In. O.H. 128 to 1,498 ft				13,375 in. 54.5#, (0 to 1,498 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.	13.375	54.5	BTC	1522	J-55	12.615	2730	1130
26.0 °F		50.0 °F											
PREVIOUS CASING DATA				PERFORATED INTERVAL DATA				CASING EQUIPMENT DEPTHS					
24 In. 97.4# (0 to 128 ft)				TOP	BTM	SPF	SIZE	SHOE	FLOAT	STAGE	ACP		
								1522	1476.8				
WELL FLUID			DISPLACEMENT FLUID			DIFF PRESS	CSG LIFT	MAX PRESS	Mix H2O Chlorides (ppm)	Mix H2O pH	Mix H2O Temp	WATER ON LOC (bbl)	
TYPE	DENSITY	VOLUME	TYPE	DENSITY		(psi)	(psi)	(psi)					
P.H2O	8.3 ppg	228 bbl	P. H2O	8.3 ppg		569	459	2184	< 200	7	41.0 °F	890	
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	550.00	Y	-	34.00	-	Yes	1,050.00	No	21.00	No			

Comments/Additional Details:

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WV Department of Environmental Protection

Steven Long
Service Supervisor

12-Mar-22
Date

02/23/2024

Cement Job Log



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

Customer:	NORTHEAST NATURAL ENERGY LLC	Date:	15-Mar-22	Serv. Supervisor:	Anthony Barbara
Cust. Rep.:	Troy	Ticket #:	BPA-2203-0018	Serv. Center	Black Lick - 1571
Well Name:	Phoenix 6H	API Well #:	47-061-01890	County:	Monongalia State: WV
Well Type:		Rig:	Patterson 277	Type of Job:	CM-INTER. 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)
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	905	15.6	30%	1.19	5.24	191.46	1,075.05	113
Fresh Water Displacement			8.33			-	210.13	-	
0						-		-	
						-		-	
						-		-	
						-		-	
						-		-	
						-		-	
						-		-	
						-		-	
						-		-	
						-		-	
						-		-	
						-		-	

Displacement Chemicals:

OPEN HOLE DATA						TUBULAR DATA					
12.25 in. O.H. 1,498 to 2,758 ft						9.625 in. 36#, (0 to 2,758 ft)					
Ambient Tmp.		Bulk Tmp.		Slurry 1 Tmp.		Slurry 2 Tmp.		Slurry 3 Tmp.		Slurry 4 Tmp.	
58.0 °F				57.0 °F							
						SIZE WEIGHT		THRDR		DEPTH (ft)	
						9.625" 36#		BTC		2758	
						GRADE		ID (in)		BURST (psi)	
						J-55		8.921		3520	
						COLLAPSE (psi)				2020	

PREVIOUS CASING DATA				PERFORATED INTERVAL DATA				CASING EQUIPMENT DEPTHS							
13.375 in. 54.5# (0 to 1,498 ft)				TOP		BTM		SPF		SIZE		SHOE			
												2758		2718	

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)		(psi)		(ppm)							
		210 bbl	H2O	8.3 ppg								<200	8	50.0 °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	800.00	Y				Yes	1,100.00	No	2.00	No	15								

Comments/Additional Details:

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Anthony Barbara
Service Supervisor

15-Mar-22
Date

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Cement Job Log



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

Customer:	NORTHEAST NATURAL ENERGY LLC	Date:	27-Mar-22	Serv. Supervisor:	Steven Long
Cust. Rep.:	JOSH	Ticket #:	BPA-2203-0040	Serv. Center:	Black Lick - 1571
Well Name:	Phoenix 6H	API Well #:	47-061-01890	County:	Monongalia
Well Type:		Rig:	PATTERSON 277	State:	WV
				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+1.0 GPB NSU-887L	110	13.5		5.65	26.73	80.00	621.66	70
14.5 lb/gal Cement	50 % NCM-910+50 % NPZ-010 +0.2 % NFP-703+0.15 % NAS-504+0.35 % NRT-213+0.15 % NFL-549+0.1 % NTC-405	5410	14.5		1.16	4.90	1,115.94	6,266.02	631
Sugar Water Displacement	+5.0 PPB NRT-215					-	20.00	-	
Fresh Water Displacement						-	621.96	-	
						-		-	
						-		-	
						-		-	
						-		-	
						-		-	
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						-		-	
						-		-	

Displacement Chemicals:

OPEN HOLE DATA					TUBULAR DATA									
8.75 in. O.H. 2,758 to 8,228 ft 8.5 in. O.H. 8,228 to 28,950 ft					5.5 in. 20#, (0 to 28,950 ft)			SIZE WEIGHT	THR	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.	5.5 20#	BTC	29037	P-110	4.778	12640	11080		
29.0 °F		57.0 °F												

PREVIOUS CASING DATA		PERFORATED INTERVAL DATA				CASING EQUIPMENT DEPTHS			
9.625 in. 36# (0 to 2,758 ft)		TOP	BTM	SPF	SIZE	SHOE	FLOAT	STAGE	ACP
						29037			

WELL FLUID			DISPLACEMENT FLUID			DIFF PRESS	CSG LFT	MAX PRESS	Mix H2O Chlorides (ppm)	Mix H2O pH	Mix H2O Temp	WATER ON LOG (bbl)
TYPE	DENSITY	VOLUME	TYPE	DENSITY	(psi)	(psi)	(psi)	< 200	7	41.0 °F	1600	
OBM	12.5 ppg	644.6 bbl	H2O	8.4 ppg	5300		7000					
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	5,400.00	Y	-	-	939	Yes	6,200.00	No		No		

Comments/Additional Details:

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Steven Long
Service Supervisor

27-Mar-22
Date

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WV Department of
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02/23/2024

Hydraulic Fracturing Fluid Product Component Information Disclosure



Job Start Date:	11/1/2022
Job End Date:	2/17/2023
State:	West Virginia
County:	Monongalia
API Number:	47-061-01890-00-00
Operator Name:	Northeast Natural Energy LLC
Well Name and Number:	Phoenix 6H
Latitude:	39.64125900
Longitude:	-80.27197500
Datum:	NAD27
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	8,178
Total Base Water Volume (gal):	41,380,836
Total Base Non Water Volume:	0

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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	88.11975	None
Sand (100 Mesh Proppant)	ProFrac	Proppant					
			Silica Substrate	14808-60-7	100.00000	10.36358	None
Sand (40/70 White Proppant)	ProFrac	Proppant					
			Silica Substrate	14808-60-7	100.00000	1.18993	None
Hydrochloric Acid (7.5%)	CNR	Acidizing					
			Water	7732-18-5	85.00000	0.18095	None
			Hydrochloric Acid (Hydrogen Chloride)	7647-01-0	37.00000	0.07877	None
StimSTREAM FR 2800	Chemstream	Friction Reducer					
			Non-Hazardous Substances	Proprietary	70.00000	0.01867	None
			Petroleum Distillates, Hydrotreated Light	64742-47-8	25.00000	0.00667	None
			Ethoxylated alcohols (C11-14)	78330-21-9	5.00000	0.00133	None
StimSTREAM FR 9800	Chemstream	Friction Reducer					
			Butene, homopolymer	9003-29-6	25.00000	0.01208	None

			alkanes, C16-20-iso-	90622-59-6	25.00000	0.01208	None
			Ethoxylated alcohols (C12-18)	68213-23-0	3.00000	0.00145	None
Clearal 268	Chemstream	Biocide					
			Non-hazardous substances	Proprietary	80.00000	0.01516	None
			Glutaraldehyde	111-30-8	20.00000	0.00379	None
			Didecyl dimethyl ammonium chloride	7173-51-5	3.00000	0.00057	None
			Quaternary Ammonium Compounds	68424-85-1	3.00000	0.00057	None
			Ethanol	64-17-5	1.50000	0.00028	None
StimSTREAM SC 405	Chemstream	Scale Control					
			Non-Hazardous Substances	Proprietary	70.00000	0.01295	None
			Citric Acid	77-92-9	10.00000	0.00185	None
			2-Phosphono-1,2,4-butanetricarboxylic acid (PBTC)	37971-36-1	10.00000	0.00185	None
			Diethylenetriamine penta (methylene phosphonic acid) (DTPMP)	15827-60-8	10.00000	0.00185	None
ProHib 100	CNR	Acid Inhibitor					
			2-Butoxyethanol	111-76-2	60.00000	0.00046	None
			Proprietary material	Proprietary	30.00000	0.00023	None
			Proprietary non-ionic surfactant	Proprietary	20.00000	0.00015	None
			Proprietary ethoxylated alcohol	Proprietary	10.00000	0.00008	None
			Proprietary corrosion inhibitor	Proprietary	10.00000	0.00008	None
ProFE 105	CNR	Iron Control					
			Citric Acid	77-92-9	20.00000	0.00013	None
			Acetic Acid	64-19-7	5.00000	0.00003	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	0.18095	
			Non-Hazardous Substances	Proprietary	70.00000	0.01867	
			Non-hazardous substances	Proprietary	80.00000	0.01516	
			Non-Hazardous Substances	Proprietary	70.00000	0.01295	
			Butene, homopolymer	9003-29-6	25.00000	0.01208	
			Citric Acid	77-92-9	10.00000	0.00185	
			Diethylenetriamine penta (methylene phosphonic acid) (DTPMP)	15827-60-8	10.00000	0.00185	
			Ethoxylated alcohols (C12-18)	68213-23-0	3.00000	0.00145	
			Ethoxylated alcohols (C11-14)	78330-21-9	5.00000	0.00133	
			Quaternary Ammonium Compounds	68424-85-1	3.00000	0.00057	
			Didecyl dimethyl ammonium chloride	7173-51-5	3.00000	0.00057	
			Ethanol	64-17-5	1.50000	0.00028	
			Proprietary material	Proprietary	30.00000	0.00023	
			Proprietary non-ionic surfactant	Proprietary	20.00000	0.00015	
			Proprietary ethoxylated alcohol	Proprietary	10.00000	0.00008	

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			Proprietary corrosion inhibitor	Proprietary	10.00000	0.00008
			Acetic Acid	64-19-7	5.00000	0.00003

* 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)

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