

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

API 47 - 061 - 01909 County Monongalia District Clay  
Quad Blacksville Pad Name Bunner Field/Pool Name \_\_\_\_\_  
Farm name Patricia A. Bunner Well Number 7H  
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 4390599.0 Easting 567099.6  
Landing Point of Curve Northing 4390531.6 Easting 566475.1  
Bottom Hole Northing 4394637.8 Easting 563646.5

Elevation (ft) 1,277' 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 9/19/2022 Date drilling commenced 10/11/2022 Date drilling ceased 12/27/2022  
Date completion activities began 2/13/2023 Date completion activities ceased 3/30/2023  
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 1,150' Open mine(s) (Y/N) depths N WV Department of Environmental Protection  
Salt water depth(s) ft 1,359' Void(s) encountered (Y/N) depths N  
Coal depth(s) ft 865' Cavern(s) encountered (Y/N) depths N

Is coal being mined in area (Y/N) \_\_\_\_\_

Reviewed by:  
*Wynn-K... D*  
**02/23/2024**

**APPROVED**

API 47-061 - 01909 Farm name Patricia A. Bunner Well number 7H

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"		N		NA	
Surface	17-1/2"	13-3/8"	1,293'	N	54.5	NA	Y, 42 bbl
Coal							
Intermediate 1	12-1/4"	9-5/8"	2,535'	N	40	NA	Y, 15 bbl
Intermediate 2							
Intermediate 3							
Production	8-3/4"	5-1/2"	25,085	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	4,500 PSI Grout						48
Surface	Class A + 2%	1,145	15.6	1.14	1,300	CTS	8
Coal							
Intermediate 1	Class A + 1%	895	15.6	1.13	1,009	CTS	8
Intermediate 2							
Intermediate 3							
Production	50:50 Class A + Additives	4,835	14.5	1.13	5,446	1,878	48
Tubing							

Drillers TD (ft) 25,060' Loggers TD (ft) 25,030'  
 Deepest formation penetrated Marcellus Plug back to (ft) \_\_\_\_\_  
 Plug back procedure \_\_\_\_\_

Kick off depth (ft) 7,384'

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

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WAS WELL COMPLETED AS SHOT HOLE  Yes  No DETAILS \_\_\_\_\_

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

WV Department of Environmental Protection

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

API 47- 061 - 01909 Farm name Patricia A. Bunner Well number 7H

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						

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PRODUCING FORMATION(S)	DEPTHS	
<u>Marcellus</u>	<u>8,113'</u> TVD	<u>25,060'</u> MD
_____	_____	_____
_____	_____	_____
_____	_____	_____

Please insert additional pages as applicable.

GAS TEST  Build up  Drawdown  Open Flow OIL TEST  Flow  Pump

SHUT-IN PRESSURE Surface 3362 psi Bottom Hole \_\_\_\_\_ psi DURATION OF TEST 24 hrs

OPEN FLOW Gas 3831 mcfpd Oil \_\_\_\_\_ bpd NGL \_\_\_\_\_ bpd Water \_\_\_\_\_ bpd GAS MEASURED BY  Estimated  Orifice  Pilot

LITHOLOGY/ FORMATION	TOP DEPTH IN FT NAME 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 <sub>2</sub> S, ETC)
<u>See attached</u>	<u>0</u>		<u>0</u>		

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 304-212-0422  
Signature  Title Regulatory Manager Date 1/25/2024

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

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## Bunner 7H 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	2/23/2023	5,817		9,788	85	295	7,117	299,900	562
2	2/24/2023	5,146	6,174	9,474	85	128	10,738	500,446	564
3	2/24/2023	5,337	6,027	9,888	89	449	11,497	501,270	558
4	2/25/2023	5,797	6,271	9,747	85	39	10,462	501,941	547
5	2/25/2023	5,954	7,950	9,874	81	17	10,448	497,100	541
6	2/26/2023	5,983	7,084	9,867	84	15	10,189	500,009	535
7	2/26/2023	5,628	7,964	9,708	79	25	10,738	500,920	526
8	2/27/2023	5,829	7,529	9,851	86	77	10,208	499,929	525
9	2/27/2023	5,474	6,952	9,742	87	42	10,593	501,240	525
10	2/28/2023	5,771	7,539	9,739	86	25	10,204	501,246	524
11	2/28/2023	6,631	7,772	9,509	88	38	11,915	500,240	509
12	3/1/2023	5,889	7,279	9,797	87	67	10,190	501,027	507
13	3/1/2023	5,991	7,145	9,695	85	35	11,255	500,120	500
14	3/2/2023	5,669	7,331	9,650	86	50	10,338	499,136	492
15	3/2/2023	5,766	7,089	9,832	89	70	10,676	499,440	485
16	3/3/2023	6,137	7,529	9,816	86	33	10,302	499,354	492
17	3/3/2023	5,412	7,009	9,822	88	92	10,831	499,580	470
18	3/4/2023	5,824	7,559	9,638	90	31	10,143	496,271	487
19	3/4/2023	5,452	8,148	9,984	87	51	10,597	500,060	468
20	3/5/2023	5,464	7,661	9,724	88	34	10,901	500,871	474
21	3/5/2023	5,455	6,979	9,800	89	73	10,763	499,920	468
22	3/6/2023	6,227	7,622	9,715	86	24	11,606	499,377	472
23	3/7/2023	5,760	7,383	9,650	87	79	11,741	501,900	465
24	3/7/2023	5,562	7,263	9,663	90	49	12,385	499,920	487
25	3/8/2023	6,309	7,245	9,613	88	35	10,442	502,870	460
26	3/8/2023	5,565	7,544	9,681	91	107	10,659	500,340	422
27	3/9/2023	6,772	7,484	9,383	90	135	10,800	501,660	452
28	3/10/2023	5,577	7,942	95	90	49	10,926	499,940	448
29	3/10/2023	5,465	7,834	9,641	90	37	10,448	501,980	439
30	3/11/2023	6,004	6,319	9,367	90	58	10,620	499,800	428
31	3/11/2023	6,242	8,885	9,714	88	32	10,483	501,960	431
32	3/11/2023	5,662	8,262	9,766	91	34	10,544	500,600	408
33	3/12/2023	5,439	750	9,526	90	37	10,505	501,040	420
34	3/12/2023	5,719	7,832	9,488	89	25	10,804	500,160	421
35	3/13/2023	5,677	8,309	9,604	89	19	10,530	500,660	413
36	3/13/2023	6,154	6,172	9,507	93	40	11,334	499,900	366
37	3/14/2023	5,719	8,789	9,633	90	30	10,544	498,735	403
38	3/14/2023	5,968	7,811	9,359	90	46	10,562	500,268	401
39	3/15/2023	5,723	8,314	9,311	91	58	10,871	500,933	397
40	3/15/2023	6,188	8,083	9,444	91	38	10,662	500,220	390
41	3/16/2023	6,692	8,035	9,317	89	45	10,293	502,578	400
42	3/16/2023	6,228	9,533	9,584	89	34	10,587	501,060	379
43	3/16/2023	5,819	8,010	9,306	90	52	10,003	501,114	361
44	3/17/2023	6,039	7,466	9,237	92	102	10,541	502,840	370
45	3/17/2023	5,550	8,614	9,182	92	74	8,030	499,359	379

02/23/2024

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46	3/18/2023	5,783	6,516	8,832	85	60	10,038	508,690	361
47	3/18/2023	5,857	7,750	9,099	91	68	10,325	501,840	355
48	3/19/2023	5,464	7,669	9,249	92	17	9,891	499,876	338
49	3/19/2023	5,987	7,718	9,065	92	66	10,205	499,820	344
50	3/19/2023	6,579	7,467	9,171	93	84	10,193	498,617	360
51	3/20/2023	5,941	7,622	9,115	89	52	10,169	500,480	336
52	3/20/2023	5,949	7,912	9,280	93	70	10,252	502,125	347
53	3/21/2023	5,605	7,572	9,041	92	103	10,512	500,260	327
54	3/21/2023	5,681	7,137	8,813	91	60	10,037	499,672	306
55	3/22/2023	6,443	7,591	8,730	92	53	9,889	500,257	704
56	3/22/2023	6,193	7,218	8,736	93	75	10,247	500,040	300
57	3/23/2023	6,131	7,416	8,987	93	45	10,391	501,544	620
58	3/23/2023	6,387	6,536	8,891	93	89	10,246	499,400	310
59	3/23/2023	6,184	8,077	8,962	92	36	10,735	498,049	298
60	3/24/2023	6,250	8,105	9,099	92	70	9,883	499,880	284
61	3/24/2023	5,722	8,119	9,034	92	100	10,537	500,296	237
62	3/25/2023	5,524	8,125	9,025	92	70	10,312	500,980	293
63	3/25/2023	5,729	8,490	8,951	92	83	10,391	499,509	235
64	3/26/2023	5,645	7,617	8,982	94	35	10,377	500,080	308
65	3/26/2023	5,666	8,835	8,890	92	66	9,917	500,080	278
66	3/27/2023	5,888	8,059	8,877	92	41	10,446	501,970	273
67	3/27/2023	5,935	8,832	8,801	92	44	10,045	500,120	258
68	3/27/2023	5,836	8,053	8,727	91	45	10,211	498,900	252
69	3/27/2023	5,490	7,751	8,681	92	50	9,996	502,713	241
70	3/27/2023	5,663	7,997	8,886	92	38	10,014	498,751	252
71	3/28/2023	6,221	7,301	8,847	92	44	10,492	500,782	241
72	3/28/2023	5,300	7,816	8,504	91	64	10,014	951,340	271
73	3/28/2023	5,664	7,906	8,584	92	43	9,871	501,480	227
74	3/28/2023	5,502	7,774	8,704	92	52	10,166	500,700	235
75	3/29/2023	5,974	7,639	8,561	93	63	9,949	501,710	227
76	3/29/2023	5,631	8,089	8,428	90	45	10,058	503,300	217
77	3/29/2023	6,087	7,907	8,469	92	58	9,928	501,720	217
78	3/29/2023	5,703	7,512	8,265	93	66	10,361	500,299	269
79	3/29/2023	5,622	7,815	8,211	93	33	9,860	501,380	218
80	3/29/2023	6,355	7,523	8,303	94	36	10,124	499,717	204
81	3/30/2023	5,679	8,089	8,386	94	47	10,363	505,837	380

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<b>Bunner 7H</b>				
<b>Perforation Report</b>				
Stage Number	Report Date	Total Shots	Cluster 1 Top TD	Cluster 5 Bottom TD
1	2/23/2023	40		24,929
2	2/24/2023	40	24,885	24,725
3	2/24/2023	40	24,683	24,524
4	2/25/2023	40	24,481	24,322
5	2/25/2023	40	24,280	24,121
6	2/26/2023	40	24,078	23,919
7	2/26/2023	40	23,877	23,718
8	2/27/2023	40	23,675	23,516
9	2/27/2023	40	23,474	23,314
10	2/28/2023	40	23,272	23,113
11	2/28/2023	40	23,071	22,911
12	3/1/2023	40	22,869	22,710
13	3/1/2023	40	22,667	22,508
14	3/2/2023	40	22,466	22,307
15	3/2/2023	40	22,264	22,105
16	3/3/2023	40	22,063	21,903
17	3/3/2023	40	21,861	21,702
18	3/4/2023	40	21,660	21,500
19	3/4/2023	40	21,458	21,299
20	3/5/2023	40	21,257	21,097
21	3/5/2023	40	21,055	20,896
22	3/6/2023	40	20,853	20,694
23	3/7/2023	40	20,652	20,493
24	3/7/2023	40	20,450	20,291
25	3/8/2023	40	20,249	20,089
26	3/8/2023	40	20,047	19,888
27	3/9/2023	40	19,846	19,686
28	3/10/2023	40	19,644	19,485
29	3/10/2023	40	19,442	19,283
30	3/11/2023	40	19,241	19,082
31	3/11/2023	40	19,039	18,880
32	3/11/2023	40	18,838	18,679
33	3/12/2023	40	18,636	18,477
34	3/12/2023	40	18,435	18,275
35	3/13/2023	40	18,233	18,074
36	3/13/2023	40	18,032	17,872
37	3/14/2023	40	17,830	17,671
38	3/14/2023	40	17,628	17,469
39	3/15/2023	40	17,427	17,268
40	3/15/2023	40	17,225	17,066
41	3/16/2023	40	17,024	16,864
42	3/16/2023	40	16,822	16,663
43	3/16/2023	40	16,621	16,461
44	3/17/2023	40	16,419	16,260
45	3/17/2023	40	16,218	16,058
46	3/18/2023	40	16,016	15,857
47	3/18/2023	40	15,814	15,655

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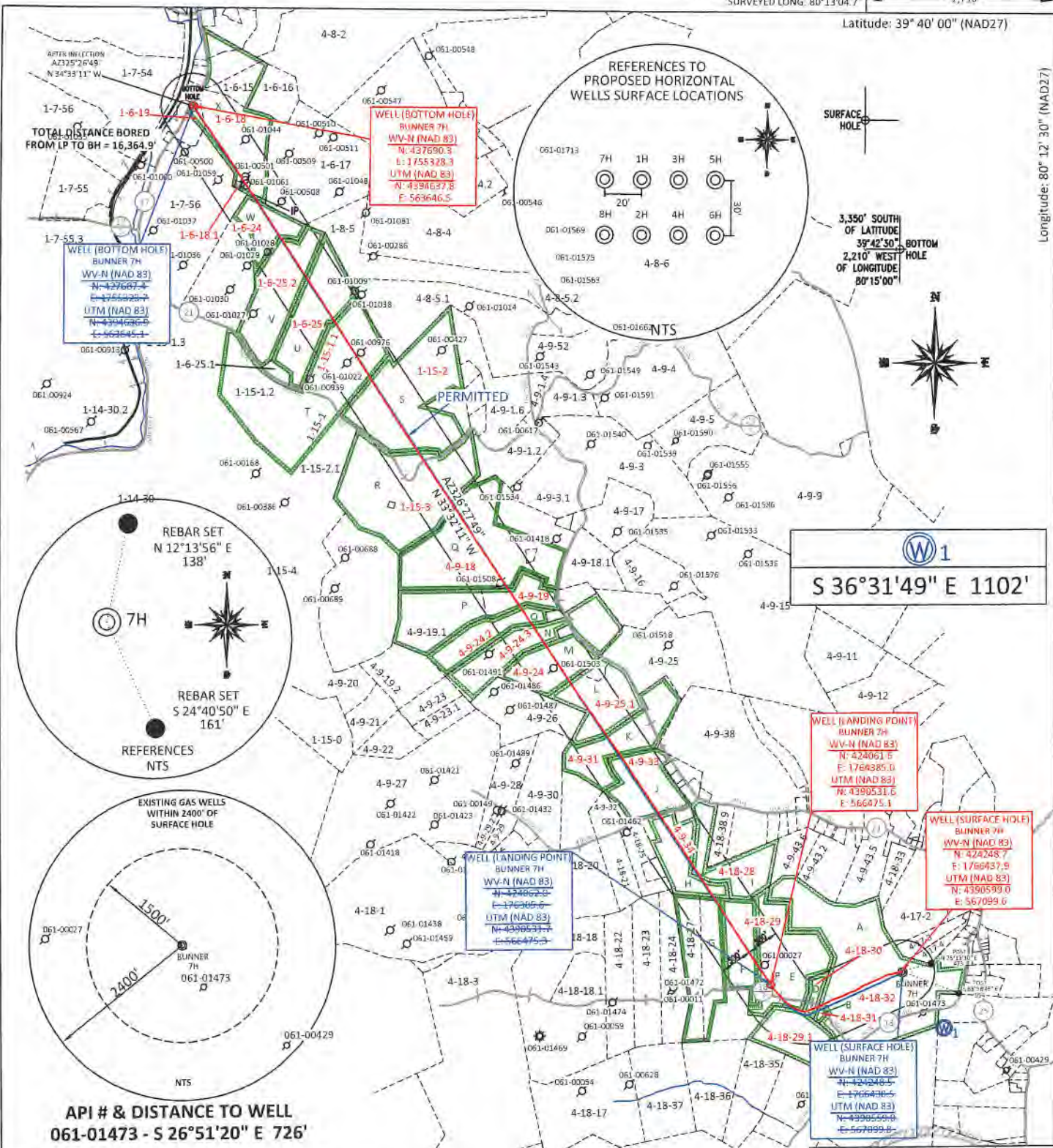
Stage Number	Report Date	Total Shots	Cluster 1 Top TD	Cluster 5 Bottom TD
48	3/19/2023	40	15,613	15,454
49	3/19/2023	40	15,411	15,252
50	3/19/2023	40	15,210	15,050
51	3/20/2023	40	15,008	14,849
52	3/20/2023	40	14,807	14,647
53	3/21/2023	40	14,605	14,446
54	3/21/2023	40	14,403	14,244
55	3/22/2023	40	14,202	14,043
56	3/22/2023	40	14,000	13,841
57	3/23/2023	40	13,799	13,640
58	3/23/2023	40	13,597	13,438
59	3/23/2023	40	13,396	13,236
60	3/24/2023	40	13,194	13,035
61	3/24/2023	40	12,993	12,833
62	3/25/2023	40	12,791	12,632
63	3/25/2023	40	12,589	12,430
64	3/26/2023	40	12,388	12,229
65	3/26/2023	40	12,186	12,027
66	3/27/2023	40	11,985	11,825
67	3/27/2023	40	11,783	11,624
68	3/27/2023	40	11,582	11,422
69	3/27/2023	40	11,380	11,221
70	3/27/2023	40	11,179	11,019
71	3/28/2023	40	10,977	10,818
72	3/28/2023	40	10,775	10,616
73	3/28/2023	40	10,574	10,415
74	3/28/2023	40	10,372	10,213
75	3/29/2023	40	10,171	10,011
76	3/29/2023	40	9,969	9,810
77	3/29/2023	40	9,768	9,608
78	3/29/2023	40	9,566	9,407
79	3/29/2023	40	9,364	9,205
80	3/29/2023	40	9,163	9,004
81	3/30/2023	40	8,961	8,802

02/23/2024



## Bunner 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	280	Sand/silt
silt/shale	280	520	silt/shale
sandstone	520	590	sandstone
coal	530	533	coal
coal	580	584	coal
sandstone	590	680	sandstone
siltstone/sandstone	680	715	siltstone/sandstone
sandstone/siltstone	715	767	sandstone/siltstone
sandstone/limestone	767	800	sandstone/limestone
Limestone/sandstone/shale	800	865	Limestone/sandstone/shale
Pittsburgh coal	865	873	Pittsburgh coal
Limestone/siltstone	873	910	Limestone/siltstone
Limestone	910	950	Limestone
sandstone/siltstone	950	974	sandstone/siltstone
coal	974	978	coal
sandstone/siltstone	978	1000	sandstone/siltstone
Limestone	1000	1040	Limestone
Limestone/siltstone	1040	1063	Limestone/siltstone
coal	1063	1066	coal
Limestone/siltstone	1066	1090	Limestone/siltstone
Maxon	1090	1110	Maxon
Limestone/siltstone	1110	1220	Limestone/siltstone
Red Rock/siltstone/limestone	1220	1440	Red Rock/siltstone/limestone
Limestone/siltstone	1440	1610	Limestone/siltstone
sandstone/siltstone	1610	2080	sandstone/siltstone
Little Lime	2080	2140	Little Lime
Big Lime	2140	2250	Big Lime
siltstone/sandstone	2250	2320	siltstone/sandstone
Big Injun	2320	2410	Big Injun
Gantz	2410	2420	Gantz
Sand/shale	2420	5560	Sand/shale
gray shale/siltstone	5560	7705	gray shale/siltstone
Middlesex	7395	7646	Middlesex
Burkett	7646	7819	Burkett
Geneseo	7819	7870	Geneseo
Tully	7870	7923	Tully
Hamilton	7923	8026	Hamilton
Marcellus	8026	TD	Marcellus



**W 1**  
S 36°31'49" E 1102'

**WELL (LANDING POINT) BUNNER 7H**  
WV-N (NAD 83)  
N: 424061.5  
E: 1766385.0  
UTM (NAD 83)  
N: 4390531.6  
E: 566675.1

**WELL (SURFACE HOLE) BUNNER 7H**  
WV-N (NAD 83)  
N: 424248.7  
E: 1766437.9  
UTM (NAD 83)  
N: 4390593.0  
E: 567099.6

**WELL (LANDING POINT) BUNNER 7H**  
WV-N (NAD 83)  
N: 424062.5  
E: 1766385.6  
UTM (NAD 83)  
N: 4390531.3  
E: 566675.3

**WELL (SURFACE HOLE) BUNNER 7H**  
WV-N (NAD 83)  
N: 424248.5  
E: 1766437.5  
UTM (NAD 83)  
N: 4390592.8  
E: 567099.8

**API # & DISTANCE TO WELL**  
061-01473 - S 26°51'20" E 726'

FILE #: NEE14  
DRAWING #: 3077  
SCALE: PLAT: 1" = 2200'  
TICK MARK: 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



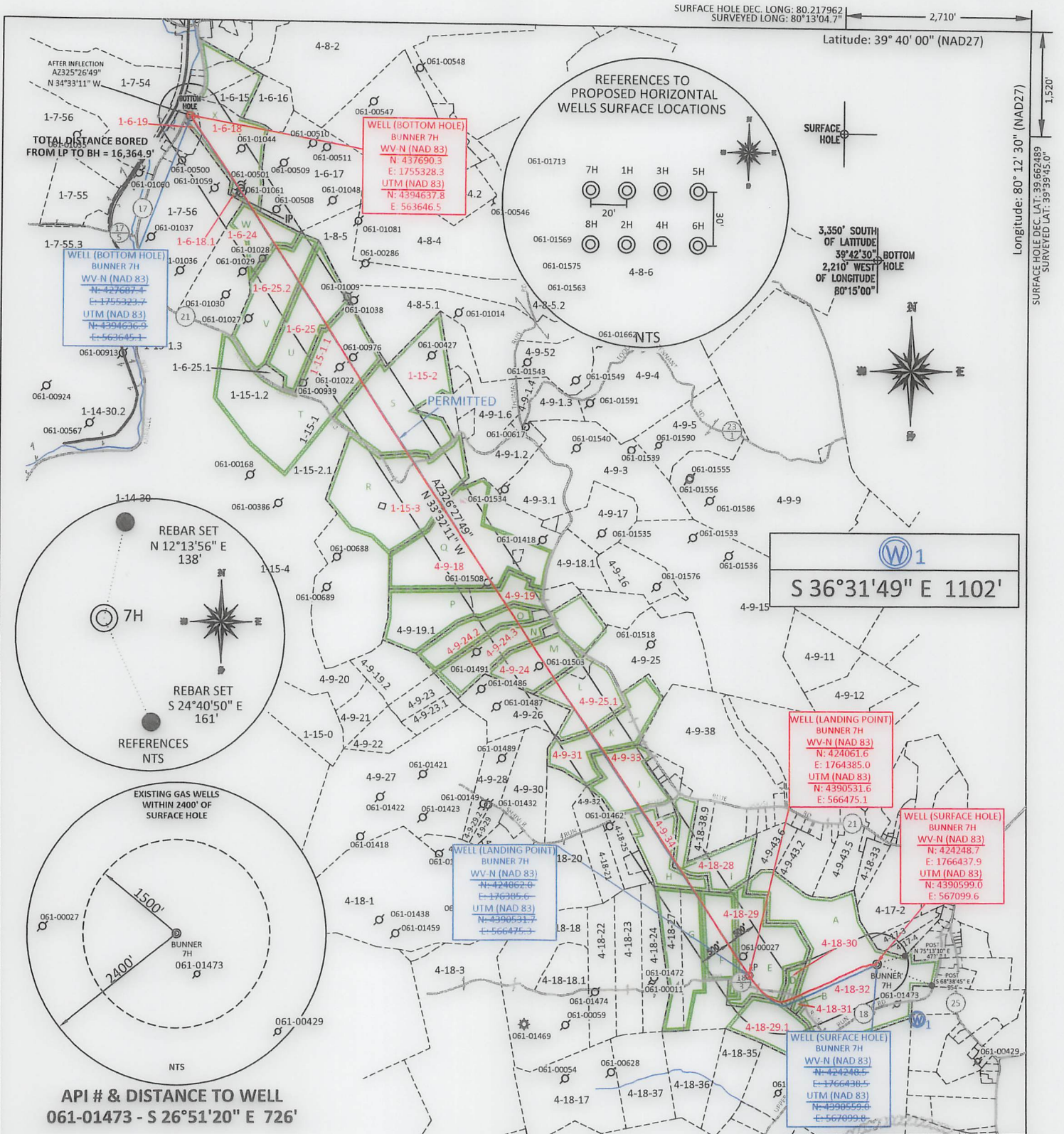
(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS  
WVDEP  
OFFICE OF OIL & GAS  
601 57TH STREET  
CHARLESTON, WV 25304  
Well Type:  Oil  Waste Dposal  Production  Deep  
 Gas  Liquid Injection  Storage  Shallow  
WATERSHED: DUNKARD CREEK  
COUNTY/DISTRICT: MONONGALIA / CLAY  
SURFACE OWNER: PATRICIA A. BUNNER  
OIL & GAS ROYALTY OWNER: PATRICIA BUNNER, et al  
LEASE NUMBERS:

DATE: JANUARY 10, 2024  
OPERATOR'S WELL #: BUNNER 7H DRILLED  
API WELL #: 47 61 0199  
STATE COUNTY PERMIT  
AS-BUILT  
ELEVATION: 1277.25'  
QUADRANGLE: BLACKSVILLE, WV  
ACREAGE: 94.72 +/-  
ACREAGE: 792.09 +/-

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  
DRILLED DEPTH: TVD: 8,113' TMD: 25,060'  
DESIGNATED AGENT: JOHN ADAMS  
ADDRESS: 707 VIRGINIA STREET EAST, SUITE 1200  
CITY: CHARLESTON STATE: WV ZIP CODE: 25301

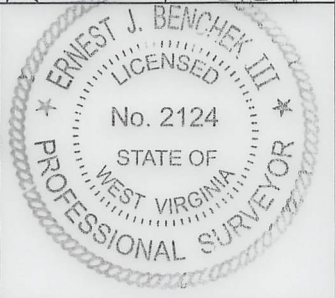
02/23/2024





FILE #: NEE14  
 DRAWING #: 3077  
 SCALE: PLAT: 1" = 2200'  
 TICK MARK: 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 WYDEP  
 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 / CLAY  
 SURFACE OWNER: PATRICIA A. BUNNER  
 OIL & GAS ROYALTY OWNER: PATRICIA BUNNER, et al  
 LEASE NUMBERS:

DATE: JANUARY 10, 2024  
 OPERATOR'S WELL #: BUNNER 7H DRILLED  
 API WELL #: 47 61 01909  
 STATE COUNTY PERMIT  
 AS-BUILT  
 ELEVATION: 1277.25'  
 QUADRANGLE: BLACKSVILLE, WV  
 ACREAGE: 94.72 +/-  
 ACREAGE: 792.09 +/-

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: 8,113' TMD: 25,060'  
 WELL OPERATOR: NORTHEAST NATURAL ENERGY LLC  
 ADDRESS: 707 VIRGINIA STREET EAST, SUITE 1200  
 CITY: CHARLESTON STATE: WV ZIP CODE: 25301  
 DESIGNATED AGENT: JOHN ADAMS  
 ADDRESS: 707 VIRGINIA STREET EAST, SUITE 1200  
 CITY: CHARLESTON STATE: WV ZIP CODE: 25301

02/23/2024



PROPERTY OWNER INDEX	
4-18-30	PRUDENCE G BERRY
4-18-32	PATRICIA A BUNNER
4-18-31	ROBERT ELDON BERRY; PRUDENCE G BERRY & DEBRA JEAN JONES
4-18-29.1	BILLY VON DEVINE
4-9-34	DANNY K & MONICA MOORE
4-18-28	SHANNON REEVES
4-18-29	GILBERT DONALD BERRY (LIFE-ROBERT E BERRY SR)
1-6-19	VERNON C VARNER & TAMMY R TENNANT
1-6-18	DAVID N & WILLA R HOWARD
1-6-18.1	CLAY BATTELLE PUBLIC SERVICE DISTRICT
1-6-24	ROGER E SWANSON; MELVIN L SWANSON, ET AL (LIFE SHELBY LEARY)
1-6-25.2	DANIEL A ROBBINS
1-6-25	JOSEPH T & DEBRA L MERCER
1-15-1.1	ROD L & DEBORAH E CARPENTER
1-15-2	ERP FEDERAL MINING COMPLEX LLC
4-9-18	JODIE DAWN & JEFFREY LANE SHRIVER
4-9-19	BART L, CHRIS M & BUCKEY L WILSON
1-15-3	SHUMAN INC
4-9-24.2	EVERETT D WILSON; DOTTIE REEMAN; CINDY DONALDSON
4-9-24.3	AARON D & CARLA R WILSON
4-9-24	HAMPTON D COTTRELL
4-9-25.1	JEFFREY J & SANDRA J MOORE
4-9-31	ALLEN K & VIRGINIA L MOORE
4-9-33	CHRISTOPHER BLAINE & SHARON WILSON

LEASE INDEX			
A	WV-061-004154-001	M	WV-061-004823-023
B	WV-061-005378-013	N	WV-061-004823-023
C	WV-061-005639-001	O	WV-061-004823-023
D	WV-061-005378-013	P	WV-061-004823-023
E	WV-061-005966-001	Q	WV-061-004821-004
F	WV-061-005899-001	R	WV-061-005889-001
G	WV-061-005890-001	S	WV-061-004139-001
H	WV-061-005189-001	T	WV-061-005889-001
I	WV-061-005189-011	U	WV-061-005806-001
J	WV-061-004996-001	V	WV-061-005829-001
K	WV-061-000160-001-LA	W	WV-061-005806-001
L	WV-061-000160-001-LA	X	WV-061-003896-005

02/23/2024

FILE #: NEE14

DRAWING #: 3077


SCALE: N/A

DATE: JANUARY 10, 2024

OPERATOR'S WELL #: BUNNER 7H DRILLED

API WELL #: 47 61 01907  
STATE COUNTY PERMIT

Cement Job Log

							NextTier Completion Solutions 3990 Rogerdale Rd., Houston, TX 77042 (713)325-6000						
Customer:	NORTHEAST NATURAL ENERGY LLC			Date:	14-Dec-22		Serv. Supervisor:	Drew Forsythe					
Cust. Rep.:	Josh			Ticket #:	BPA-2212-0019		Serv. Center:	Black Lick - 1571					
Well Name:	Bunner 7H			API Well #:	47-061-01809		County:	Monongalia	State:	WV			
Well Type:				Rig:	Patterson 277		Type of Job:	CM-SURFACE CASING					
Materials Furnished by NextTier													
Plugs		Casing Hardware				Physical Slurry Properties							
Top Rubber Plug	13.375" Single Plug Container w/ Buttress Crossover				Sacks of Cement	Fluid Density (lb/gal)	Excess	Yield (cuft/sk)	Mix Water (gal/sk)	Fluid Volume (bbls)	Fluid Volume (cuft)	Mix Water (bbls)	
Supplied by Customer													
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				1145	15.6	30%	1.14	4.79	231.66	1,300.79	131	
Fresh Water Displacement						8.33			-	187.06	-		
0									-		-		
									-		-		
									-		-		
									-		-		
									-		-		
									-		-		
									-		-		
									-		-		
									-		-		
									-		-		
									-		-		
									-		-		
Displacement Chemicals:													
OPEN HOLE DATA				TUBULAR DATA									
17.5 in. O.H. 128 to 1,250 ft			13.375 in. 54.5#, ( 0 to 1,250 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.	13.375" 54.5#	BTC	1293.4	J55	12.615	2730	1130	
42.0 °F		66.0 °F											
PREVIOUS CASING DATA			PERFORATED INTERVAL DATA					CASING EQUIPMENT DEPTHS					

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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:	16-Dec-22	Serv. Supervisor:	Robert Given
Cust. Rep.:	JOSH /SAM	Ticket #:	BPA-2212-0021	Serv. Center:	Black Lick - 1571
Well Name:	Bunner 7H	API Well #:	47-061-01909	County:	Monongalia State: WV
Well Type:	NATURAL GAS	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 (bbbls)	Fluid Volume (cuft)	Mix Water (bbbls)
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	895	15.6	30%	1.13	4.82	179.77	1,009.43	103
Fresh Water Displacement			8.33			-	190.18	-	
0						-		-	
						-		-	
						-		-	
						-		-	
						-		-	
						-		-	
						-		-	
						-		-	
						-		-	
						-		-	
						-		-	
						-		-	

Displacement Chemicals:

OPEN HOLE DATA					TUBULAR DATA									
12.375 in. O.H. 1,250 to 2,500 ft					9.625 in. 36#, ( 0 to 2,500 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.									
37.0 °F		59.0 °F				9.625/ 36#	STC	2535	J-55	8.921	3520	2020		

PREVIOUS CASING DATA		PERFORATED INTERVAL DATA				CASING EQUIPMENT DEPTHS			
13.375 in. 54.5# ( 0 to 1,250 ft)		TOP	BTM	SPF	SIZE	SHOE	FLOAT	STAGE	ACP
						2532.7	2488.7	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		(psf)	(psi)	(psi)				
H2O	8.3 ppg	H2O	PROCESSED	8.3 ppg		940	1253	1500	<400	7.4	53.0 °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	1,000.00	Y	-	15.00	-	Yes	1,500.00	No	2.00	No	50

Comments/Additional Details:

Robert Given  
Service Supervisor

16-Dec-22

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Cement Job Log



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

Customer: <b>NORTHEAST NATURAL ENERGY LLC</b>	Date: <b>27-Dec-22</b>	Serv. Supervisor: <b>Robert Given</b>
Cust. Rep.: <b>SHORTY/ NEAL</b>	Ticket #: <b>BPA-2212-0033</b>	Serv. Center: <b>Black Lick - 1571</b>
Well Name: <b>Bunner 7H</b>	API Well #: <b>47-061-01909</b>	County: <b>Monongalia</b> State: <b>WV</b>
Well Type: <b>NATURAL GAS</b>	Rig: <b>PATTERSON 277</b>	Type of Job: <b>CM-PROD. CASING</b>

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+5.0 PPB NSU-888		13.5		5.65	26.46	80.00	-	
14.5 lb/gal Cement	50% NCM-956+50% NPZ-010 +0.2% NFP-703+0.2% NAS-504+0.4% NRT-213+0.2% NPL-549+0.2% NTC-405	4835	14.5		1.13	4.84	969.94	5,446.21	534
Sugar Water Displacement	+5.0 PPB NRT-215					-	20.00	-	
Fresh Water Displacement						-	537.44	-	
						-		-	
						-		-	
						-		-	
						-		-	
						-		-	
						-		-	
						-		-	
						-		-	
						-		-	
						-		-	

Displacement Chemicals:  

OPEN HOLE DATA						TUBULAR DATA						
8.75 in. O.H. 2,600 to 7,600 ft			8.5 in. O.H. 7,600 to 26,139 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.							
20.0 °F		43.0 °F				5.5/ 20#	BTC	25085	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	
					25034.83			1	

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)					
OBM	13.7 ppg	556 bbl	H2O	8.3 ppg		2800	21074	6400	<400	7.4	30.0 °F	1600	

Bumped Plug	Final Differential (psi)	Floors 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 Reciproaction	Rathole Length (ft)
Yes	4,600.00	Y	-	-	1,878	Yes	5,200.00	No	7.00	No	50

Comments/Additional Details: Office of Oil and Gas

JAN 28 2024

<i><b>Robert Given</b></i> Service Supervisor	WV Department of Environmental Protection <i><b>27-Dec-22</b></i> Environmental Protection
--	--

02/23/2024



# Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	2/23/2023
Job End Date:	3/30/2023
State:	West Virginia
County:	Monongalia
API Number:	47-061-01909-00-00
Operator Name:	Northeast Natural Energy LLC
Well Name and Number:	Bunner 7H
Latitude:	39.66256800
Longitude:	-80.21775800
Datum:	NAD27
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	8,047
Total Base Water Volume (gal):	35,464,548
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	87.78652	None
Sand (100 Mesh Proppant)	ProFrac	Proppant	Silica Substrate	14808-60-7	100.00000	10.76871	None
Sand (40/70 White Proppant)	ProFrac	Proppant	Silica Substrate	14808-60-7	100.00000	1.20028	None
Hydrochloric Acid (7.5%)	CNR	Acidizing	Water	7732-18-5	85.00000	0.11397	None
			Hydrochloric Acid (Hydrogen Chloride)	7647-01-0	37.00000	0.04961	None
StimSTREAM FR 9800	Chemstream	Friction Reducer	Butene, homopolymer	9003-29-6	25.00000	0.01693	None
			alkanes, C16-20-iso-	90622-59-6	25.00000	0.01693	None
			Ethoxylated alcohols (C12-18)	68213-23-0	3.00000	0.00203	None
Clearal 268	Chemstream	Biocide	Non-hazardous substances	Proprietary	80.00000	0.01796	None

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			Glutaraldehyde	111-30-8	20.00000	0.00449	None
			Didecyl dimethyl ammonium chloride	7173-51-5	3.00000	0.00067	None
			Quaternary Ammonium Compounds	68424-85-1	3.00000	0.00067	None
			Ethanol	64-17-5	1.50000	0.00034	None
StimSTREAM SC 405	Chemstream	Scale Control					
			Non-Hazardous Substances	Proprietary	70.00000	0.01363	None
			2-Phosphono-1,2,4-butanetricarboxylic acid (PBTC)	37971-36-1	10.00000	0.00195	None
			Diethylenetriamine penta (methylene phosphonic acid) (DTPMP)	15827-60-8	10.00000	0.00195	None
			Citric Acid	77-92-9	10.00000	0.00195	None
ProHib 100	CNR	Acid Inhibitor					
			2-Butoxyethanol	111-76-2	60.00000	0.00025	None
			Proprietary material	Proprietary	30.00000	0.00012	None
			Proprietary non-ionic surfactant	Proprietary	20.00000	0.00008	None
			Proprietary corrosion inhibitor	Proprietary	10.00000	0.00004	None
			Proprietary ethoxylated alcohol	Proprietary	10.00000	0.00004	None
ProFE 105	CNR	Iron Control					
			Citric Acid	77-92-9	20.00000	0.00007	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	0.11397	
			Non-hazardous substances	Proprietary	80.00000	0.01796	
			Butene, homopolymer	9003-29-6	25.00000	0.01693	
			Non-Hazardous Substances	Proprietary	70.00000	0.01363	
			Ethoxylated alcohols (C12-18)	68213-23-0	3.00000	0.00203	
			Diethylenetriamine penta (methylene phosphonic acid) (DTPMP)	15827-60-8	10.00000	0.00195	
			Citric Acid	77-92-9	10.00000	0.00195	
			Didecyl dimethyl ammonium chloride	7173-51-5	3.00000	0.00067	
			Quaternary Ammonium Compounds	68424-85-1	3.00000	0.00067	
			Ethanol	64-17-5	1.50000	0.00034	
			Proprietary material	Proprietary	30.00000	0.00012	
			Proprietary non-ionic surfactant	Proprietary	20.00000	0.00008	
			Proprietary ethoxylated alcohol	Proprietary	10.00000	0.00004	
			Proprietary corrosion inhibitor	Proprietary	10.00000	0.00004	
			Acetic Acid	64-19-7	5.00000	0.00002	

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\* 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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