

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

API 47 - 061 - 01908 County Monongalia District Clay
Quad Blacksville Pad Name Bunner Field/Pool Name _____
Farm name Patricia A. Bunner Well Number 5H
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 4390599.3 Easting 567118.0
Landing Point of Curve Northing 4390761.1 Easting 567431.7
Bottom Hole Northing 4395314.2 Easting 564281.2

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

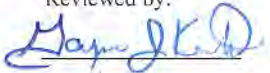
Date permit issued 9/19/2022 Date drilling commenced 10/11/2022 Date drilling ceased 11/04/2022
Date completion activities began 2/13/2023 Date completion activities ceased 3/30/2023
Verbal plugging (Y/N) NA Date permission granted _____ Granted by _____

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 _____
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) _____

APPROVED

Reviewed by:

02/23/2024

RECEIVED
Office of Oil and Gas

JAN 19 2024

WV Department of
Environmental Protection

API 47-061 - 01908 Farm name Patricia A. Bunner Well number 5H

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"	1,226'	N	54.5	NA	Y, 31 bbl
Coal							
Intermediate 1	12-1/4"	9-5/8"	2,492'	N	40	NA	Y, 20 bbl
Intermediate 2							
Intermediate 3							
Production	8-3/4"	5-1/2"	26,839'	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	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	5,195	14.5	1.13	5,851	665	48
Tubing							

Drillers TD (ft) 26,835' Loggers TD (ft) 26,805'

Deepest formation penetrated Marcellus Plug back to (ft) _____

Plug back procedure _____

Kick off depth (ft) 7,230'

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 _____

RECEIVED
Office of Oil and Gas

JAN 29 2024

WV Department of
Environmental Protection

API 47-061 - 01908 Farm name Patricia A. Bunner Well number 5H

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						
								RECEIVED Office of Oil and Gas
								JAN 29 2024

Please insert additional pages as applicable.

WV Department of
Environmental Protection

02/23/2024

API 47- 061 - 01908 Farm name Patricia A. Bunner Well number 5H

<u>PRODUCING FORMATION(S)</u>	<u>DEPTHS</u>			
Marcellus	8,138'	TVD	26,835'	MD
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

Please insert additional pages as applicable.

GAS TEST Build up Drawdown Open Flow OIL TEST Flow Pump

SHUT-IN PRESSURE Surface 3653 psi Bottom Hole _____ psi DURATION OF TEST 24 hrs

OPEN FLOW Gas 2776 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 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 *Hollie Medley* Title Regulatory Manager Date 1/25/2024

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

RECEIVED
Office of Oil and Gas
JAN 29 2024
WV Department of
Environmental Protection

02/23/2024

Bunner 5H 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	2/13/2023	5,539	6,778	8,435	84	487	7,488	300,580	595
2	2/13/2023	5,820	6,505	8,767	85	51	10,589	495,014	592
3	2/13/2023	5,030	5,081	9,142	82	162	11,508	500,453	603
4	2/14/2023	5,564	5,129	9,159	83	5	10,609	499,340	585
5	2/14/2023	6,202	6,160	9,563	86	19	10,841	500,140	583
6	2/14/2023	5,931	5,797	9,781	86	3	10,813	498,800	577
7	2/14/2023	5,754	6,700	9,769	87	17	11,092	501,850	575
8	2/15/2023	5,109	6,086	9,425	85	31	10,812	499,960	569
9	2/15/2023	5,527	6,604	9,572	88	59	10,850	505,310	563
10	2/16/2023	6,162	6,729	9,732	88	91	10,806	500,420	545
11	2/16/2023	5,472	6,907	9,641	87	84	10,903	501,320	571
12	2/17/2023	5,334	7,256	9,491	87	143	10,784	499,860	552
13	2/17/2023	5,291	6,676	9,650	88	89	10,831	499,920	531
14	2/17/2023	5,940	5,649	9,476	88	94	10,685	504,300	538
15	2/18/2023	5,606	6,283	9,668	88	36	10,741	500,200	541
16	2/18/2023	6,213	5,510	9,644	89	129	10,802	502,600	531
17	2/19/2023	5,531	6,788	9,636	87	46	10,657	499,860	531
18	2/19/2023	5,971	5,749	9,428	91	82	10,576	500,106	511
19	2/19/2023	5,813	6,150	9,174	89	100	11,023	501,980	520
20	2/20/2023	5,242	6,535	9,332	90	36	10,487	500,280	498
21	2/20/2023	5,447	7,185	9,321	88	53	11,533	500,940	511
22	2/21/2023	5,935	7,209	9,571	88	69	10,831	499,070	503
23	2/21/2023	5,457	8,013	9,645	87	27	10,572	503,180	509
24	2/22/2023	5,680	7,464	9,583	90	102	10,329	499,786	501
25	2/22/2023	5,350	7,562	9,569	90	78	10,832	504,510	494
26	2/22/2023	5,477	7,944	9,551	90	49	10,645	501,280	488
27	2/23/2023	5,264	8,061	9,543	86	46	9,853	500,580	487
28	2/24/2023	5,495	7,684	9,733	88	43	10,691	498,540	484
29	2/24/2023	5,281	6,320	9,585	90	113	10,348	500,202	483
30	2/24/2023	5,476	7,569	9,769	85	100	10,780	501,540	476
31	2/25/2023	5,467	7,935	9,731	87	60	10,357	500,784	461
32	2/25/2023	5,752	7,847	9,651	85	21	10,560	498,410	466
33	2/26/2023	5,552	7,831	9,625	89	78	10,161	499,655	459
34	2/26/2023	5,765	7,944	9,657	84	51	10,602	501,840	452
35	2/27/2023	5,179	8,851	9,825	87	58	10,241	497,945	447
36	2/27/2023	5,799	8,188	9,668	89	24	10,591	501,380	454
37	2/28/2023	5,382	8,140	9,249	87	19	10,101	499,822	450
38	2/28/2023	5,987	8,463	9,600	88	45	10,560	500,260	449
39	3/1/2023	5,619	8,576	9,774	88	68	10,091	500,483	420
40	3/1/2023	5,280	8,434	9,628	89	31	10,606	499,880	438
41	3/2/2023	5,418	7,464	9,474	90	41	10,016	500,866	432
42	3/2/2023	5,438	7,520	9,627	90	80	10,584	499,700	417
43	3/3/2023	5,598	7,625	9,443	87	100	10,372	499,552	416
44	3/3/2023	5,485	7,657	9,786	90	73	10,760	500,140	406
45	3/4/2023	6,131	8,368	9,536	90	17	9,958	497,477	394

RECEIVED
Office of Oil and Gas
3/2/2023
420
438
432
417
3/2/2023

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	3/5/2023	5,950	8,360	9,605	88	30	10,509	499,535	396
47	3/5/2023	5,967	8,206	9,251	90	69	10,606	500,120	397
48	3/6/2023	5,857	8,497	9,497	90	59	10,698	499,779	406
49	3/6/2023	5,765	8,153	9,326	90	69	10,890	499,960	473
50	3/7/2023	5,831	7,749	9,380	90	53	10,780	501,580	389
51	3/7/2023	5,730	7,978	9,300	92	178	12,291	500,220	381
52	3/8/2023	5,721	8,418	9,364	88	34	10,366	501,230	377
53	3/9/2023	5,479	7,915	9,317	92	63	10,591	500,240	376
54	3/9/2023	5,705	8,203	9,305	90	31	10,552	501,820	370
55	3/10/2023	5,526	8,174	9,285	92	42	10,681	500,020	348
56	3/10/2023	5,559	7,938	9,272	90	33	10,246	501,400	361
57	3/11/2023	5,542	7,705	9,207	91	65	10,638	499,440	357
58	3/11/2023	5,883	7,995	9,281	90	40	10,659	501,140	353
59	3/12/2023	5,196	7,996	9,386	92	57	10,556	500,320	340
60	3/12/2023	5,969	8,079	9,320	90	32	9,467	454,580	350
61	3/12/2023	5,687	8,134	9,246	90	10	9,687	454,440	340
62	3/13/2023	5,845	8,399	9,377	92	114	9,683	455,980	444
63	3/13/2023	5,703	8,165	9,235	93	93	9,673	455,460	347
64	3/14/2023	5,707	8,163	9,101	92	38	9,378	455,820	321
65	3/14/2023	6,027	8,146	8,899	90	30	9,681	454,354	323
66	3/15/2023	6,171	8,102	8,923	90	22	9,615	457,100	302
67	3/15/2023	6,307	6,028	8,665	90	65	9,544	454,469	303
68	3/16/2023	6,055	7,359	8,967	86	88	9,041	458,536	318
69	3/16/2023	5,821	8,434	8,796	89	38	9,600	455,413	317
70	3/17/2023	6,176	8,045	8,874	91	22	8,767	458,818	445
71	3/17/2023	6,401	7,516	8,634	89	51	9,848	456,000	290
72	3/17/2023	6,224	7,849	8,821	92	34	9,026	455,927	283
73	3/18/2023	6,551	8,246	8,824	93	87	9,543	454,680	276
74	3/18/2023	6,333	7,760	8,981	94	85	9,404	455,325	284
75	3/19/2023	6,416	7,895	8,725	90	19	8,874	453,213	281
76	3/19/2023	6,748	7,398	8,859	92	67	9,578	455,680	265
77	3/20/2023	5,951	8,291	8,902	91	34	9,169	457,663	226
78	3/20/2023	5,944	7,079	8,763	93	75	9,429	454,980	254
79	3/20/2023	6,008	7,569	8,667	91	62	8,977	454,614	217
80	3/21/2023	6,183	7,316	8,567	92	68	9,126	454,800	258
81	3/21/2023	6,477	6,813	8,493	93	62	8,382	456,945	241
82	3/22/2023	6,080	6,638	8,529	93	71	9,266	456,100	245
83	3/22/2023	5,845	7,647	8,733	94	168	9,265	454,558	232
84	3/23/2023	6,534	7,950	8,774	94	45	9,687	409,673	236
85	3/23/2023	5,993	7,671	9,013	92	64	9,484	456,060	229
86	3/24/2023	6,227	6,755	8,639	93	46	9,469	457,123	230
87	3/24/2023	6,497	7,391	8,667	93	60	9,291	455,520	214
88	3/24/2023	6,438	7,289	8,568	93	36	9,549	456,748	220
89	3/25/2023	6,614	7,661	8,561	94	55	9,262	456,060	203
90	3/25/2023	6,080	7,590	8,740	94	51	9,332	457,599	205
91	3/26/2023	5,964	7,667	8,601	93	67	10,127	455,060	194
92	3/26/2023	5,796	8,124	8,621	92	60	9,281	454,004	200

02/23/2024

Bunner 5H				
Perforation Report				
Stage Number	Report Date	Total Shots	Cluster 1 Top TD	Cluster 5 Bottom TD
1	2/13/2023		26,822	
2	2/13/2023	40	26,686	26,528
3	2/13/2023	40	26,486	26,328
4	2/14/2023	40	26,286	26,127
5	2/14/2023	40	26,085	25,927
6	2/14/2023	40	25,885	25,727
7	2/14/2023	40	25,685	25,527
8	2/15/2023	40	25,485	25,326
9	2/15/2023	40	25,284	25,126
10	2/16/2023	40	25,084	24,926
11	2/16/2023	40	24,884	24,726
12	2/17/2023	40	24,684	24,526
13	2/17/2023	40	24,484	24,325
14	2/17/2023	40	24,283	24,125
15	2/18/2023	40	24,083	23,925
16	2/18/2023	40	23,883	23,725
17	2/19/2023	40	23,683	23,524
18	2/19/2023	40	23,482	23,324
19	2/19/2023	40	23,282	23,124
20	2/20/2023	40	23,082	22,924
21	2/20/2023	40	22,882	22,724
22	2/21/2023	40	22,682	22,523
23	2/21/2023	40	22,481	22,323
24	2/22/2023	40	22,281	22,123
25	2/22/2023	40	22,081	21,923
26	2/22/2023	40	21,881	21,722
27	2/23/2023	40	21,680	21,522
28	2/24/2023	40	21,480	21,322
29	2/24/2023	40	21,280	21,122
30	2/24/2023	40	21,080	20,922
31	2/25/2023	40	20,880	20,721
32	2/25/2023	40	20,679	20,521
33	2/26/2023	40	20,479	20,321
34	2/26/2023	40	20,279	20,121
35	2/27/2023	40	20,079	19,921
36	2/27/2023	40	19,878	19,720
37	2/28/2023	40	19,678	19,520
38	2/28/2023	40	19,478	19,320
39	3/1/2023	40	19,278	19,120
40	3/1/2023	40	19,078	18,919
41	3/2/2023	40	18,877	18,719
42	3/2/2023	40	18,677	18,519
43	3/3/2023	40	18,477	18,319
44	3/3/2023	40	18,277	18,119
45	3/4/2023	40	18,076	17,918
46	3/5/2023	40	17,876	17,718
47	3/5/2023	40	17,676	17,518

RECEIVED
Office of Oil and Gas
JAN 29
WV Department of
Environmental Protection

02/23/2024

Stage Number	Report Date	Total Shots	Cluster 1 Top TD	Cluster 5 Bottom TD
48	3/6/2023	40	17,476	17,318
49	3/6/2023	40	17,276	17,117
50	3/7/2023	40	17,075	16,917
51	3/7/2023	40	16,875	16,717
52	3/8/2023	40	16,675	16,517
53	3/9/2023	40	16,475	16,317
54	3/9/2023	40	16,275	16,116
55	3/10/2023	40	16,074	15,916
56	3/10/2023	40	15,874	15,716
57	3/11/2023	40	15,674	15,516
58	3/11/2023	40	15,474	15,315
59	3/12/2023	40	15,273	15,115
60	3/12/2023	40	15,073	14,915
61	3/12/2023	40	14,873	14,715
62	3/13/2023	40	14,673	14,515
63	3/13/2023	40	14,473	14,314
64	3/14/2023	40	14,272	14,114
65	3/14/2023	40	14,072	13,914
66	3/15/2023	40	13,872	13,714
67	3/15/2023	40	13,672	13,513
68	3/16/2023	40	13,471	13,313
69	3/16/2023	40	13,271	13,113
70	3/17/2023	40	13,071	12,913
71	3/17/2023	40	12,871	12,713
72	3/17/2023	40	12,671	12,512
73	3/18/2023	40	12,470	12,312
74	3/18/2023	40	12,270	12,112
75	3/19/2023	40	12,070	11,912
76	3/19/2023	40	11,870	11,711
77	3/20/2023	40	11,669	11,511
78	3/20/2023	40	11,469	11,311
79	3/20/2023	40	11,269	11,111
80	3/21/2023	40	11,069	10,911
81	3/21/2023	40	10,869	10,710
82	3/22/2023	40	10,668	10,510
83	3/22/2023	40	10,468	10,310
84	3/23/2023	40	10,268	10,110
85	3/23/2023	40	10,068	9,910
86	3/24/2023	40	9,867	9,709
87	3/24/2023	40	9,667	9,509
88	3/24/2023	40	9,467	9,309
89	3/25/2023	40	9,267	9,109
90	3/25/2023	40	9,067	8,908
91	3/26/2023	40	8,866	8,708
92	3/26/2023	40	8,666	8,508

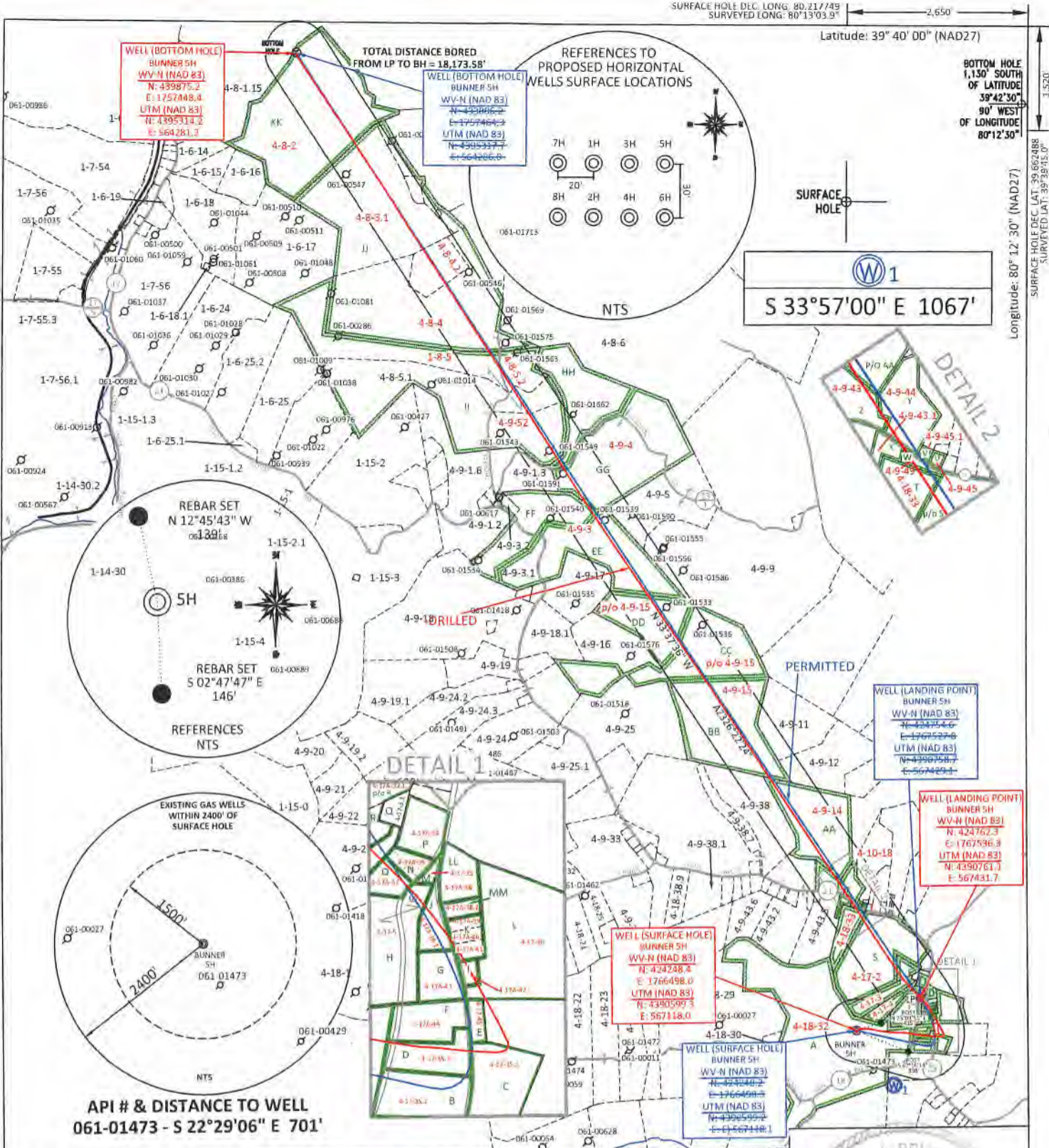
RECEIVED
Office of Oil and Gas
JAN 29
WV Department of
Environmental Protection

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

RECEIVED
 Office of Oil and Gas
 JAN 29 2024
 WV Department of
 Environmental Protection



FILE #: NEE14
 DRAWING #: 3076
 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 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 5H DRILLED

API WELL #: 47 STATE 61 COUNTY 01908 PERMIT

AS-BUILT ELEVATION: 1277.25'

QUADRANGLE: BLACKSVILLE, WV

ACREAGE: 94.72 +/-

ACREAGE: 839.16 +/-

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

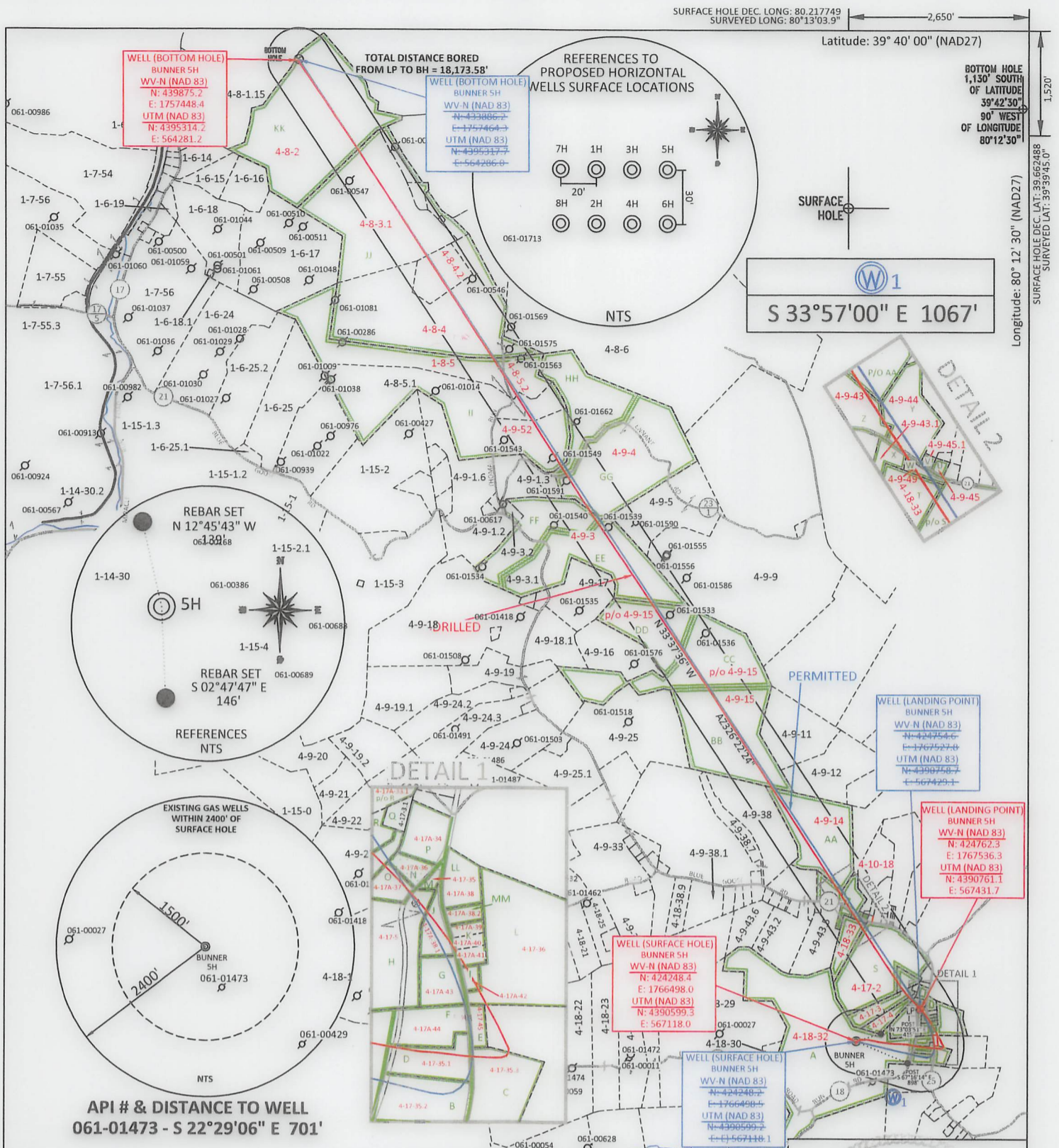
CITY: CHARLESTON STATE: WV ZIP CODE: 25301

DRILLED DEPTH: TVD: 8,138' TMD: 26,835'

DESIGNATED AGENT: JOHN ADAMS

ADDRESS: 707 VIRGINIA STREET EAST, SUITE 1200

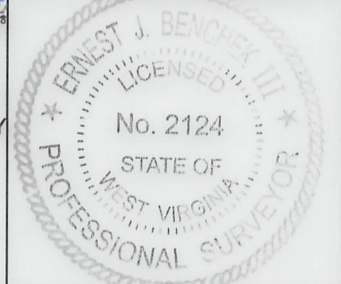
CITY: CHARLESTON STATE: WV ZIP CODE: 25301



FILE #: NEE14
DRAWING #: 3076
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 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 5H DRILLED
API WELL #: 47 61 01908
STATE COUNTY PERMIT
AS-BUILT
ELEVATION: 1277.25'

QUADRANGLE: BLACKSVILLE, WV
ACREAGE: 94.72
ACREAGE: 839.16 +/-

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: 8,138' TMD: 26,835'
DESIGNATED AGENT: JOHN ADAMS
ADDRESS: 707 VIRGINIA STREET EAST, SUITE 1200
CITY: CHARLESTON STATE: WV ZIP CODE: 25301

PROPERTY OWNER INDEX	
4-9-44	MAKAYLA ROSE, HALEY BROOKE & ABAGAIL PAIGE BARR
4-9-43	CHISLER INC
4-9-43.1	CHARLES W & KENALL L MOORE; JASON T MOORE ET AL
4-9-45.1	JERRY WILSON ET AL
4-9-49	RONNIE LYNN MCCORD
4-18-33	4 BROTHERS LLC
4-9-45	JERRY WILSON ET AL
4-17A-39	EDWARD BAEZ JR & TERESA BAEZ
4-17A-40	EDWARD BAEZ JR & TERESA BAEZ
4-17A-36	GLENNA D OWENS
4-17A-37	DAYBROOK CHURCH OF CHRIST
4-17-5	JUDITH R SINE
4-17A-43	GARY L & ANNA M SIMPSON
4-17A-44	CHRISTOPHER MARK TENNANT JR
4-17-33.1	LINDSAY J & PATRICIA A TENNANT
4-9-15	LOIS J MCCOY ET AL
4-9-3	JEFFREY TODD & CARLENE SUE MOORE ET AL
4-9-4	BRUCE & CATHY L CHISLER
4-9-14	FRED A MASON
4-17-2	ANGELA L CHISLER
4-17-3	ANGELA L CHISLER
4-17-4	DAYBROOK CHURCH OF CHRIST
4-18-32	PATRICIA A BUNNER
4-17A-41	EDWARD BAEZ JR & TERESA BAEZ
4-17A-38.1	EVERETT & DOROTHY BARR
4-17-35	CNX LAND LLC
4-17A-34	ANTIOCH CHRISTIAN CHURCH
4-8-2	KATHY LYNN SNYDER, ELIZABETH ANN REESE & JOHN M BUTCHER SR
4-8-3.1	RAYMOND L ALLEN
4-8-4.2	CRISTY G MCHENRY & LEONARD D TENNANT
4-8-4	L DOUGLAS & VICKI L TENNANT
1-8-5	KENNETH W & DONNA P EFAW
4-8-5.2	KIEARA PAIGE SNYDER
4-9-52	SANDRA BLEIGH
4-17-35.1	JEFFREY & MARSHA GUM
4-17-35.2	LISA JO BARNETTE A/K/A/ LISA BARNETT & JEFFERY WAYNE
4-17-35.3	JACKIE P GUM
4-17-45	JACK L MCCOY JR & BARBARA S PHILLIPS
4-17A-42	EDWARD BAEZ JR & TERESA BAEZ
4-17-36	EDWARD BAEZ JR & TERESA BAEZ
4-18-33	4 BROTHERS LLC
4-17A-38	EDWARD BAEZ JR & TERESA BAEZ
4-17A-38.2	EDWARD BAEZ JR & TERESA BAEZ

LEASE INDEX					
A	WV-061-004154-001	N	WV-061-003959-010	AA	WV-061-003887-001
B	WV-061-005157-033	O	WV-061-004096-000	BB	WV-061-005813-001
C	WV-061-005157-033	P	WV-061-004110-000	CC	WV-061-004183-001
D	WV-061-005157-033	Q	WV-061-005711-001	DD	WV-061-005837-001
E	WV-061-005157-033	R	WV-061-005711-001	EE	WV-061-003670-037
F	WV-061-004824-001	S	WV-061-005711-001	FF	WV-061-003670-037
G	WV-061-003958-000	T	WV-061-005878-001	GG	WV-061-005946-002
H	WV-061-002341-000	U	WV-061-005808-002	HH	WV-061-00161-01-LA
I	WV-061-005118-000	V	WV-061-004983-001	II	WV-061-006004-001
J	WV-061-003958-000	W	WV-061-005826-001	JJ	WV-061-000160-001-LA
K	WV-061-005118-000	X	WV-061-005884-005	KK	WV-061-005863-002
L	WV-061-003849-000	Y	WV-061-004968-001	LL	WV-061-005147-000
M	WV-061-003959-010	Z	WV-061-005884-005	MM	WV-061-005118-000

02/23/2024

FILE #: NEE14

DRAWING #: 3076

SCALE: N/A

DATE: JANUARY 10, 2024

OPERATOR'S WELL #: BUNNER 5H DRILLED

API WELL #: 47 61 01908
STATE COUNTY PERMIT

Cement Job Log



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

Customer:	NORTHEAST NATURAL ENERGY LLC	Date:	18-Oct-22	Serv. Supervisor:	Robert Given
Cust. Rep.:	TROY SHORTY	Ticket #:	BPA-2210-0044	Serv. Center:	Black Lick - 1571
Well Name:	Bunner 5H	API Well #:	47-061-01908	County:	Monongalia
Well Type:	NATURAL GAS	Rig:	PATTERSON 277	State:	WV
			Type of Job:	CM-SURFACE 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-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						-		-	
						-		-	
						-		-	
						-		-	
						-		-	
						-		-	
						-		-	
						-		-	
						-		-	
						-		-	
						-		-	

RECEIVED
Office of Oil and Gas
JAN 23 2024
WV Department of Environmental Protection

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 Temp.	Bulk Temp.	Slurry 1 Temp.	Slurry 2 Temp.	Slurry 3 Temp.	Slurry 4 Temp.							
40.0 °F		67.0 °F				13.375/54.5	BTC	1226.3	J-55	12.615	2730	1130
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		
							1226.3	1182.5	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	182.81 bbl	H2O	8.3 ppg		447	475	1000	<500	7.4	55.0 °F	1200
Bumped Plug	Final Differential (psi)	Floats Held (Y/N)	PSI Lost 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 Redirection	Rathole Length (ft)	
Yes	600.00	Y	-	31.00	-	Yes	1,100.00	No		No	2	

Comments/Additional Details:

Robert Given
 Service Supervisor

18-Oct-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:	21-Oct-22	Serv. Supervisor:	
Cust. Rep.:		Ticket #:	BPA-2210-0046	Serv. Center:	Black Lick - 1571
Well Name:	Bunner 5H	API Well #:	47-051-01908	County:	Monongalia
Well Type:	NATURAL GAS	Rig:	PATTERSON 277	State:	WV
				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 (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						-		-		
						-		-		
						-		-		
						-		-		
						-		-		
						-		-		
						-		-		
						-		-		
						-		-		
						-		-		
						-		-		

RECEIVED
Office of Oil and Gas
JAN 20 2024
WV Department of Environmental Protection

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	SRST (psi)	COLLAPSE (psi)
Ambient Temp.	Bulk Temp.	Slurry 1 Temp.	Slurry 2 Temp.	Slurry 3 Temp.	Slurry 4 Temp.	9.625/36	BTC	2492	J-55	6,921	3520	202	
36.0 °F		52.0 °F											

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
						2492	2447	1	

WELL FLUID			DISPLACEMENT FLUID				DIF 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	189 bbl	H2O	8.3 ppg		925	1232	1600	<400	7.4	45.0 °F	1200	

Bumped Plug	Final Differential (psi)	Floater Held (Y/N)	PSI Left on Casing	Cement to Surface (bbl)	Top of Cement (ft)	Full Circ. During Job (Y/N)	Max Pump Pressure (ppg)	Casing Rotation	Additional Hrs Charged (hrs)	Casing Recirculation	Rathole Length (ft)
Yes	1,400.00	Y	-	20.00	-	Yes	1,917.00	No		No	36

Comments/Additional Details:

	21-Oct-22
	Date

Service Supervisor

Cement Job Log

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



Customer: NORTHEAST NATURAL ENERGY LLC	Date: 4-Nov-22	Serv. Supervisor: Ron Stephenson
Cust. Rep.: JOSH	Ticket #: BPA-2211-0007	Serv. Center: Black Lick - 1571
Well Name: Bunner 5H	API Well #: 47-061-01908	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+5.0 PPB NSU-888		13.5		5.65	26.46	80.00	-	
14.5 lb/gal Cement	50 % NCM-956+50 % NP2-010 +0.2 % NFP-703+0.2 % NAs-504+0.4 % NRT-213+0.2 % NFL-549+0.2 % NTC-405	5195	14.5		1.13	4.64	1,042.16	5,851.71	574
Sugar Water Displacement	+5.0 PPB NRT-215					-	20.00	-	
Fresh Water Displacement						-	577.87	-	
						-		-	
						-		-	
						-		-	
						-		-	
						-		-	
						-		-	
						-		-	
						-		-	
						-		-	
						-		-	
						-		-	

Displacement Chemicals:

OPEN HOLE DATA						TUBULAR DATA						
8.75 in. O.H. 2,500 to 7,300 ft		5.5 in. 20#, (0 to 26,962 ft)				SIZE WEIGHT	THRD	DEPTH (ft)	GRADE	ID (in)	BURST (psi)	COLLAPSE (psi)
8.5 in. O.H. 7,300 to 26,962 ft												
Ambient Temp.	Bulk Temp.	Slurry 1 Temp.	Slurry 2 Temp.	Slurry 3 Temp.	Slurry 4 Temp.							
70.0 °F		72.0 °F				5.5/20#	BTC	26839	P-110	4.778	12640	11080

PREVIOUS CASING DATA	PERFORATED INTERVAL DATA				CASING EQUIPMENT DEPTHS			
9.625 in. 36# (0 to 2,500 ft)	TOP	BTM	SPF	SIZE	SHOE	FLOAT	STAGE	ACP
						26835.8		

WELL FLUID			DISPLACEMENT FLUID			DIFF PRESS	CSG LIFT	MAX PRESS	Mix H2O Chlorides (ppm)	Mix H2O pH	Mix H2O Temp	WATER ON LOG (bbl)
TYPE	DENSITY	VOLUME	TYPE	DENSITY		(psi)	(psi)	(psi)				
O.B.M	12.5 ppg	595.75 bbl	PROCESSED	8.3 ppg		3474		6000	<200	8	65.5 °F	1820

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	4,500.00	Y			665	Yes	4,600.00	No	3.00	No	20

Comments/Additional Details:

Ron Stephenson
 Service Supervisor

4-Nov-22
 Date

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	2/13/2023
Job End Date:	3/26/2023
State:	West Virginia
County:	Monongalia
API Number:	47-061-01908-00-00
Operator Name:	Northeast Natural Energy LLC
Well Name and Number:	Bunner 5H
Latitude:	39.66256800
Longitude:	-80.21754500
Datum:	NAD27
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	8,063
Total Base Water Volume (gal):	39,230,142
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	87.82556	None
Sand (100 Mesh Proppant)	ProFrac	Proppant					
			Silica Substrate	14808-60-7	100.00000	10.71655	None
Sand (40/70 White Proppant)	ProFrac	Proppant					
			Silica Substrate	14808-60-7	100.00000	1.18527	None
Hydrochloric Acid (7.5%)	CNR	Acidizing					
			Water	7732-18-5	85.00000	0.12976	None
			Hydrochloric Acid (Hydrogen Chloride)	7647-01-0	37.00000	0.05648	None
StimSTREAM FR 9800	Chemstream	Friction Reducer					
			alkanes, C16-20-iso-	90622-59-6	25.00000	0.01928	None
			Butene, homopolymer	9003-29-6	25.00000	0.01928	None
			Ethoxylated alcohols (C12-18)	68213-23-0	3.00000	0.00231	None
Clearal 268	Chemstream	Biocide					
			Non-hazardous substances	Proprietary	80.00000	0.01800	None

			Glutaraldehyde	111-30-8	20.00000	0.00450	None
			Didecyl dimethyl ammonium chloride	7173-51-5	3.00000	0.00068	None
			Quaternary Ammonium Compounds	68424-85-1	3.00000	0.00068	None
			Ethanol	64-17-5	1.50000	0.00034	None
StimSTREAM SC 405	Chemstream	Scale Control					
			Non-Hazardous Substances	Proprietary	70.00000	0.01364	None
			Citric Acid	77-92-9	10.00000	0.00195	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
ProHib 100	CNR	Acid Inhibitor					
			2-Butoxyethanol	111-76-2	60.00000	0.00029	None
			Proprietary material	Proprietary	30.00000	0.00014	None
			Proprietary non-ionic surfactant	Proprietary	20.00000	0.00010	None
			Proprietary corrosion inhibitor	Proprietary	10.00000	0.00005	None
			Proprietary ethoxylated alcohol	Proprietary	10.00000	0.00005	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	0.12976	
			Butene, homopolymer	9003-29-6	25.00000	0.01928	
			Non-hazardous substances	Proprietary	80.00000	0.01800	
			Non-Hazardous Substances	Proprietary	70.00000	0.01364	
			Ethoxylated alcohols (C12-18)	68213-23-0	3.00000	0.00231	
			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	0.00068	
			Quaternary Ammonium Compounds	68424-85-1	3.00000	0.00068	
			Ethanol	64-17-5	1.50000	0.00034	
			Proprietary material	Proprietary	30.00000	0.00014	
			Proprietary non-ionic surfactant	Proprietary	20.00000	0.00010	
			Proprietary ethoxylated alcohol	Proprietary	10.00000	0.00005	
			Proprietary corrosion inhibitor	Proprietary	10.00000	0.00005	
			Acetic Acid	64-19-7	5.00000	0.00002	

RECEIVED
 Office of Oil and Gas
 Environmental Protection
 W/Department
 JAN 18 2011

* 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)