

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

API 47 - 061 - 01893 County Monongalia District Clay  
Quad Blacksville Pad Name Yost Field/Pool Name \_\_\_\_\_  
Farm name Yost Heritage, Inc. Well Number Yost 4H  
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 4388303.3 Easting 567079.3  
Landing Point of Curve Northing 4387792.5 Easting 566726.7  
Bottom Hole Northing 4384778.9 Easting 568911.5

Elevation (ft) 1,492' 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 12/1/2021 Date drilling commenced 3/1/2022 Date drilling ceased 6/26/2022  
Date completion activities began 8/21/2022 Date completion activities ceased 9/7/2022  
Verbal plugging (Y/N) N Date permission granted NA Granted by \_\_\_\_\_

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

Freshwater depth(s) ft 180', 480', 1,378' Open mine(s) (Y/N) depths N  
Salt water depth(s) ft 2,410' Void(s) encountered (Y/N) depths N  
Coal depth(s) ft 775', 930', 1,115' Cavern(s) encountered (Y/N) depths N  
Is coal being mined in area (Y/N) N

**APPROVED**

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Reviewed by:  
*[Signature]*  
1/31/2024  
02/23/2024

API 47-061 - 01893 Farm name Yost Heritage, Inc. Well number Yost 4H

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	
Surface	17-1/2"	13-3/8"	1,469'	N	54.5	NA	Y, 15 bbl
Coal							
Intermediate 1	12-1/4"	9-5/8"	2,668'	N	40	NA	Y, 20 bbl
Intermediate 2							
Intermediate 3							
Production	8-3/4"	5-1/2"	21,164'	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					CTS	48
Surface	Class A + 2%	1,255	15.6	1.19	1,490	CTS	8
Coal							
Intermediate 1	Class A + 1%	890	15.6	1.18	1,053	CTS	8
Intermediate 2							
Intermediate 3							
Production	50:50 Class A + Additives	3,890	14.5	1.16	4,506	2,083	48
Tubing							

Drillers TD (ft) 21,184' Loggers TD (ft) 21,154'

Deepest formation penetrated Marcellus Plug back to (ft) \_\_\_\_\_

Plug back procedure \_\_\_\_\_

Kick off depth (ft) 7,416'

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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**Yost 4H**  
Perforation Report

Stage Number	Report Date	Total Shots	Cluster 1 Top TD	Cluster 5 Bottom TD
1	8/21/2022	0	21,146	0
2	8/21/2022	40	21,014	20,877
3	8/21/2022	40	20,840	20,702
4	8/21/2022	40	20,665	20,528
5	8/22/2022	40	20,491	20,353
6	8/22/2022	40	20,316	20,179
7	8/22/2022	40	20,142	20,004
8	8/22/2022	40	19,967	19,830
9	8/22/2022	40	19,973	19,655
10	8/23/2022	40	19,618	19,481
11	8/23/2022	40	19,444	19,306
12	8/23/2022	40	19,269	19,132
13	8/23/2022	40	19,095	18,957
14	8/23/2022	40	18,920	18,783
15	8/24/2022	40	18,746	18,608
16	8/24/2022	40	18,571	18,434
17	8/24/2022	40	18,397	18,259
18	8/24/2022	40	18,222	18,085
19	8/25/2022	40	18,048	17,910
20	8/25/2022	40	17,873	17,736
21	8/25/2022	40	17,699	17,561
22	8/25/2022	40	17,524	17,387
23	8/26/2022	40	17,350	17,212
24	8/26/2022	40	17,175	17,038
25	8/26/2022	40	17,001	16,863
26	8/26/2022	40	16,826	16,689
27	8/27/2022	40	16,652	16,514
28	8/27/2022	40	16,477	16,340
29	8/27/2022	40	16,303	16,165
30	8/27/2022	40	16,128	15,991
31	8/28/2022	40	15,954	15,816
32	8/28/2022	40	15,780	15,642
33	8/28/2022	40	15,605	15,467
34	8/29/2022	40	15,431	15,293
35	8/29/2022	40	15,256	15,118
36	8/29/2022	40	15,082	14,944
37	8/29/2022	40	14,907	14,769
38	8/29/2022	40	14,733	14,595
39	8/30/2022	40	14,558	14,420
40	8/30/2022	40	14,384	14,246
41	8/30/2022	40	14,209	14,071
42	8/30/2022	40	14,035	13,897
43	8/31/2022	40	13,860	13,723
44	8/31/2022	40	13,686	13,548
45	8/31/2022	40	13,511	13,374

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Stage Number	Report Date	Total Shots	Cluster 1 Top TD	Cluster 5 Bottom TD
46	8/31/2022	40	13,337	13,199
47	9/1/2022	40	13,162	13,025
48	9/1/2022	40	12,988	12,850
49	9/1/2022	40	12,813	12,676
50	9/1/2022	40	12,639	12,501
51	9/2/2022	40	12,464	12,327
52	9/2/2022	40	12,290	12,152
53	9/2/2022	40	12,115	11,978
54	9/2/2022	40	11,941	11,803
55	9/3/2022	40	11,766	11,629
56	9/3/2022	40	11,592	11,454
57	9/3/2022	40	11,417	11,280
58	9/3/2022	40	11,243	11,105
59	9/4/2022	40	11,068	10,931
60	9/4/2022	40	10,894	10,756
61	9/4/2022	40	10,719	10,582
62	9/4/2022	40	10,545	10,407
63	9/5/2022	40	10,370	10,233
64	9/5/2022	40	10,196	10,058
65	9/5/2022	40	10,021	9,884
66	9/5/2022	40	9,847	9,709
67	9/5/2022	40	9,672	9,535
68	9/6/2022	40	9,498	9,360
69	9/6/2022	40	9,323	9,186
70	9/6/2022	40	9,149	9,011
71	9/6/2022	40	8,974	8,837

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## Yost 4H 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	8/21/2022	6,040	8,426	9,404	88	403	7,429	300,060	531
2	8/21/2022	6,119	7,056	9,298	85	103	8,477	389,960	527
3	8/21/2022	6,198	6,575	9,579	92	112	8,428	391,740	493
4	8/21/2022	5,868	6,389	9,548	93	9	8,259	393,714	511
5	8/22/2022	5,629	6,398	9,546	94	22	8,235	390,142	528
6	8/22/2022	6,015	6,443	9,585	93	38	8,265	390,740	496
7	8/22/2022	5,856	7,108	9,477	91	36	8,274	391,000	496
8	8/22/2022	6,429	7,241	9,353	92	29	8,283	390,580	486
9	8/22/2022	5,310	7,169	9,432	92	10	8,041	389,958	465
10	8/23/2022	5,463	7,228	9,499	93	60	8,159	389,494	455
11	8/23/2022	5,145	7,156	9,424	91	2	8,224	389,240	483
12	8/23/2022	5,336	6,173	9,378	92	55	8,273	391,440	480
13	8/23/2022	5,297	7,543	9,536	94	24	8,115	390,640	485
14	8/23/2022	6,037	7,341	9,485	93	44	7,857	390,883	464
15	8/24/2022	6,807	6,683	9,379	94	27	7,846	390,123	455
16	8/24/2022	9,072	6,393	9,218	94	52	8,277	391,540	470
17	8/24/2022	5,184	5,151	9,008	93	50	8,269	390,880	462
18	8/24/2022	5,496	7,605	8,883	93	57	7,727	391,300	411
19	8/25/2022	5,340	4,312	9,135	93	36	7,867	391,340	405
20	8/25/2022	5,852	5,784	9,036	92	26	8,320	389,880	445
21	8/25/2022	5,236	6,709	9,147	92	38	8,294	388,680	506
22	8/25/2022	5,793	6,552	8,989	92	36	7,598	391,720	485
23	8/26/2022	5,511	7,043	8,837	92	56	7,656	391,340	480
24	8/26/2022	5,987	5,052	8,941	90	7	8,035	391,400	422
25	8/26/2022	4,891	7,005	8,992	88	14	8,233	391,000	409
26	8/26/2022	5,799	7,322	9,093	91	40	8,007	391,300	426
27	8/27/2022	5,775	46	8,909	92	35	7,985	391,060	415
28	8/27/2022	5,526	6,512	8,888	93	28	8,169	391,618	426
29	8/27/2022	6,017	6,512	8,888	93	28	7,931	392,860	457
30	8/27/2022	6,217	7,017	8,807	92	41	7,748	391,920	458
31	8/28/2022	5,843	6,632	8,698	93	30	7,939	391,240	403
32	8/28/2022	4,842	7,714	8,963	90	24	8,357	390,640	409
33	8/28/2022	5,495	7,415	8,730	92	32	8,071	392,040	413
34	8/29/2022	5,384	6,818	8,798	92	24	8,001	390,080	419
35	8/29/2022	5,037	7,273	8,759	92	20	7,758	390,500	417
36	8/29/2022	5,378	7,119	8,878	92	12	8,175	390,120	371
37	8/29/2022	5,381	7,205	8,704	93	13	8,066	392,040	372
38	8/29/2022	5,457	7,850	8,685	92	39	7,728	391,600	370
39	8/30/2022	5,130	7,490	8,622	91	27	7,845	389,080	454
40	8/30/2022	4,760	7,323	8,701	92	52	8,147	390,680	390
41	8/30/2022	5,187	5,680	8,602	92	44	7,988	389,660	370
42	8/30/2022	5,507	7,415	8,625	93	48	7,839	391,480	366
43	8/31/2022	6,034	7,094	8,648	93	30	7,759	390,200	364
44	8/31/2022	4,966	6,084	8,635	93	7	8,229	391,400	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)
45	8/31/2022	4,843	6,541	8,719	94	2	7,918	388,420	355
46	8/31/2022	5,416	6,566	8,580	92	24	7,631	388,480	303
47	9/1/2022	5,715	6,901	8,430	93	31	8,099	391,100	289
48	9/1/2022	5,143	7,372	8,409	92	37	7,751	389,160	348
49	9/1/2022	5,657	6,946	8,342	94	18	7,840	390,680	302
50	9/1/2022	5,746	7,227	8,370	94	23	8,015	395,300	334
51	9/2/2022	5,260	7,387	8,351	93	9	7,830	392,400	285
52	9/2/2022	5,251	7,425	8,347	93	8	7,766	382,720	331
53	9/2/2022	5,115	7,513	8,561	93	30	7,874	391,800	311
54	9/2/2022	6,625	6,937	8,196	93	38	8,747	389,920	268
55	9/3/2022	5,537	7,567	8,290	91	29	7,965	391,820	259
56	9/3/2022	5,253	7,378	8,066	93	13	7,599	392,140	308
57	9/3/2022	6,085	7,476	8,211	93	51	7,999	390,880	297
58	9/3/2022	6,056	7,290	8,355	93	11	8,079	391,470	295
59	9/4/2022	5,534	6,990	8,219	93	47	8,027	391,620	293
60	9/4/2022	5,948	7,619	8,290	91	55	9,098	389,380	292
61	9/4/2022	5,973	7,138	8,309	93	35	7,994	390,120	293
62	9/4/2022	6,119	7,177	8,013	94	19	7,985	391,200	286
63	9/5/2022	5,939	7,361	8,069	93	18	8,309	390,700	283
64	9/5/2022	5,822	7,005	8,077	93	24	7,975	378,600	284
65	9/5/2022	6,140	7,113	7,889	94	4	7,903	389,680	272
66	9/5/2022	5,779	6,757	7,986	92	8	7,982	390,103	269
67	9/5/2022	6,492	7,316	7,726	94	92	8,075	388,860	272
68	9/6/2022	6,784	7,274	7,814	94	13	7,837	390,940	257
69	9/6/2022	5,372	7,469	7,903	94	5	7,711	389,860	254
70	9/6/2022	5,828	7,487	7,845	94	4	7,764	395,700	241
71	9/6/2022	5,672	8,285	8,120	94	30	7,891	392,980	259

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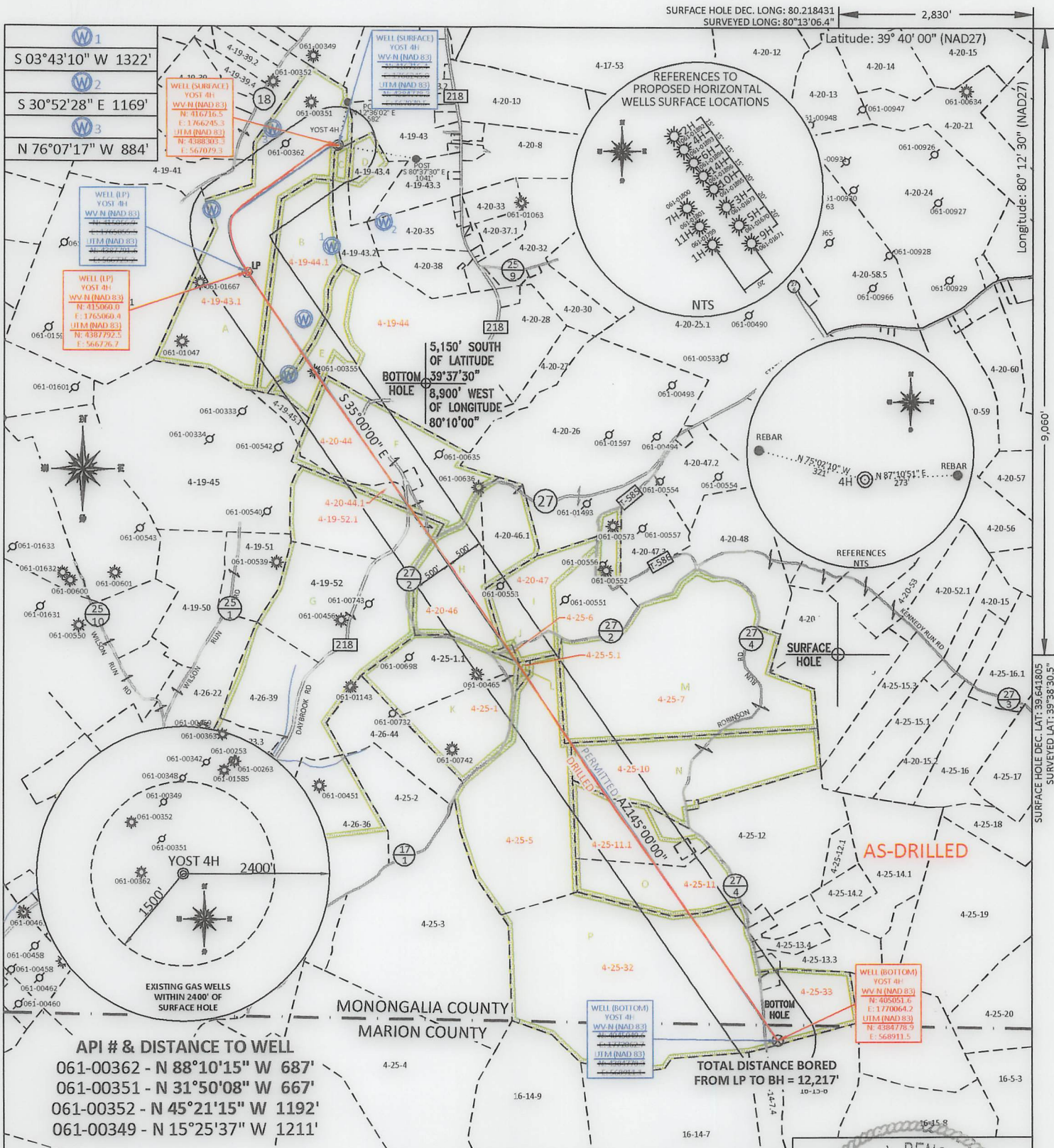
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Lithology/Formation	Top Depth in FT TVD	Bottom Depth in FT TVD	Describe rock type and record quantity and type of fluid (freshwater, brine, oil, gas, H2S, etc)
Shale/Sand	0	120	Shale/Sand
Shale/sand/silt	120	390	Shale/sand/silt with water @ 180'
sand/shale	390	510	sand/shale with water @ 480'
sandstone/siltstone	510	775	sandstone/siltstone
coal	775	780	coal
sandstone/limestone	780	930	sandstone/limestone
coal	930	940	coal
sandstone/limestone	940	1020	sandstone/limestone
Limestone	1020	1050	Limestone
Limestone/siltstone	1050	1110	Limestone/siltstone
coal	1110	1115	coal
Limestone	1115	1140	Limestone
Limestone/sandstone/shale	1114	1260	Limestone/sandstone/shale
red shale/siltstone	1260	1440	red shale/siltstone with water @ 1378'
sandstone/siltstone	1440	1680	sandstone/siltstone
sandstone/siltstone/lime	1680	2310	sandstone/siltstone/lime
Big Lime	2310	2400	Big Lime
Big Injun	2400	2580	Big Injun
siltstone	2580	2620	siltstone
Gantz	2620	2680	Gantz
siltstone	2680	3050	siltstone
Sandstone	3050	3180	Sandstone
Upper Devonian undifferentiated	3180	6000	Upper Devonian undifferentiated
siltstone/shale/gray shale	6000	6450	siltstone/shale/gray shale
Devonian silt/sand/shale	6450	7550	Devonian silt/sand/shale
Middlesex	7550	7770	Middlesex
Burkett	7770	7960	Burkett
Geneseo	7960	8011	Geneseo
Tully	8011	8062	Tully
Hamilton	8062	8176	Hamilton
Marcellus	8176	TD	Marcellus

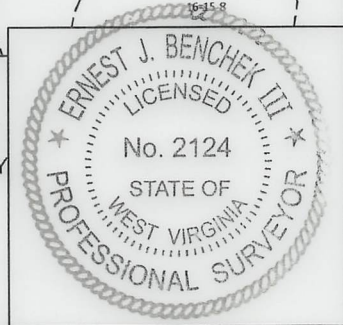
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**API # & DISTANCE TO WELL**  
 061-00362 - N 88°10'15" W 687'  
 061-00351 - N 31°50'08" W 667'  
 061-00352 - N 45°21'15" W 1192'  
 061-00349 - N 15°25'37" W 1211'

FILE #: NEE14  
 DRAWING #: 3036  
 SCALE: PLAT: 1" = 1800'  
 TICK MARK: 1" = 2000'  
 MINIMUM DEGREE OF ACCURACY: 1/200  
 PROVEN SOURCE: SUBMETER MAPPING  
 OF ELEVATION: 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: YOST HERITAGE INC  
 OIL & GAS ROYALTY OWNER:  
 LEASE NUMBERS:

DATE: OCTOBER 26, 2022  
 OPERATOR'S WELL #: YOST 4H  
 API WELL #: 47 61 01893  
 STATE COUNTY PERMIT

AS-BUILT ELEVATION: 1,494.93'  
 QUADRANGLE: BLACKSVILLE, WV  
 ACREAGE: 93.08 **02/23/2024**  
 ACREAGE: 1104.079 +/-

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: 8,270' TMD: 21,184'  
 WELL OPERATOR: NORTHEAST NATURAL ENERGY LLC  
 DESIGNATED AGENT: JOHN ADAMS  
 ADDRESS: 707 VIRGINIA STREET EAST, SUITE 1200  
 ADDRESS: 707 VIRGINIA STREET EAST, SUITE 1200  
 CITY: CHARLESTON STATE: WV ZIP CODE: 25301  
 CITY: CHARLESTON STATE: WV ZIP CODE: 25301

PROPERTY OWNER INDEX	
4-19-43.1	YOST HERITAGE INC
4-19-44.1	YOST HERITAGE INC
4-19-44	LOIS JEAN MCCOY, SANDY L MOORE ET AL
4-20-44	GARY D YOST
4-20-44.1	YOST HERITAGE INC
4-19-52.1	YOST HERITAGE INC
4-19-52	LARRY F & BRENDA KAY KUHN
4-25-11.1	KITTY S HAYES
4-25-1	JOHN G & PATRICIA CONAWAY
4-25-5	EDWARD & KARLA STROSNIDER
4-25-11	KITTY S HAYES
4-25-32	EDWARD & KARLA STROSNIDER
4-20-46	YOST & YOST PIPE CO
4-20-47	DARRELL E EDDY
4-25-6	JOHN G & PATRICIA CONAWAY
4-25-1	JOHN G & PATRICIA CONAWAY
4-25-5.1	EQUITRANS LP
4-25-7	EVA V & ROGER A TULANOWSKI; RONALD T TULANOWSKI II
4-25-10	KITTY S WOLFE & CRYSTAL L HAYES
4-25-33	EDWARD & KARLA STROSNIDER

LEASE INDEX			
A	WV-061-001043-002	H	WV-061-004923-001
B	WV-061-001043-002	I	WV-061-005854-001
C	WV-061-001043-002	J	WV-061-004923-001
D	WV-061-003452-000	K	WV-061-004016-013
E	WV-061-001043-002	L	WV-049-004080-001
F	WV-061-004923-001	M	WV-061-005853-001
G	WV-061-005854-001	N	WV-061-005853-001
		O	WV-061-005854-001
		P	WV-049-004080-001

02/23/2024

FILE #: NEE14

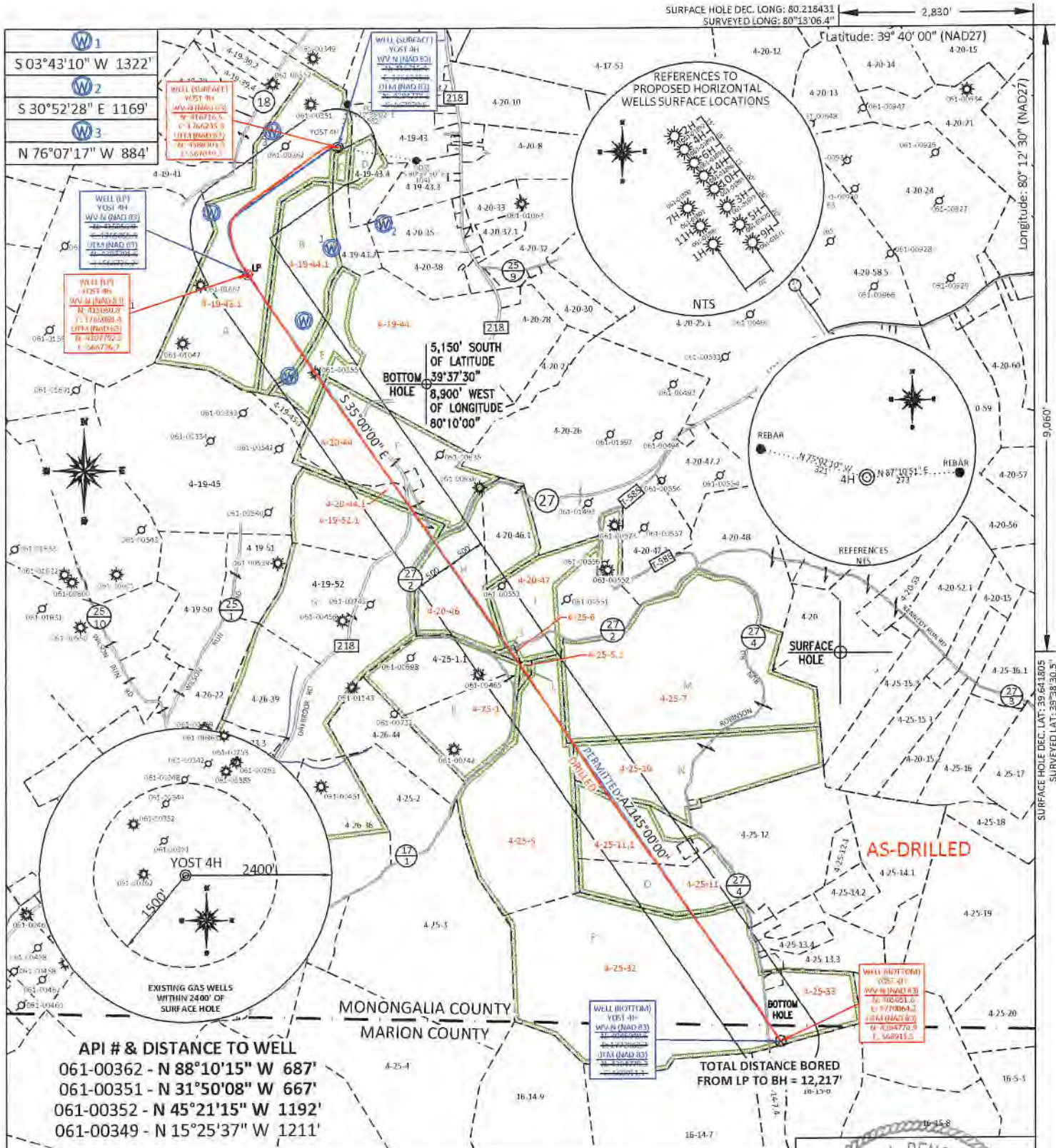
DRAWING #: 2977

SCALE: N/A

DATE: OCTOBER 26, 2022

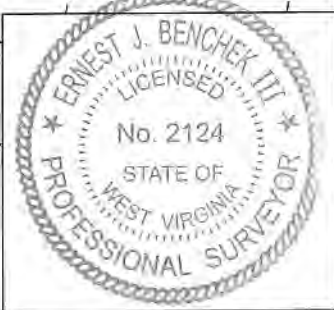
OPERATOR'S WELL #: YOST 4H

API WELL #: 47 61 01893  
STATE COUNTY PERMIT



FILE #: NEE14  
 DRAWING #: 3036  
 SCALE: PLAT: 1" = 1800'  
 TICK MARK: 1" = 2000'  
 MINIMUM DEGREE OF ACCURACY: 1/200  
 PROVEN SOURCE: SUBMETER MAPPING OF ELEVATION: 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 Dipsal  Production  Deep  
 Gas  Liquid Injection  Storage  Shallow  
 WATERSHED: DUNKARD CREEK  
 COUNTY/DISTRICT: MONONGALIA / CLAY  
 SURFACE OWNER: YOST HERITAGE INC  
 OIL & GAS ROYALTY OWNER:  
 LEASE NUMBERS:

DATE: OCTOBER 26, 2022  
 OPERATOR'S WELL #: YOST 4H  
 API WELL #: 47 61 01893  
 STATE COUNTY PERMIT  
 AS-BUILT ELEVATION: 1,494.93'  
 QUADRANGLE: BLACKSVILLE, WV  
 ACREAGE: 93.08 **02/23/2024**  
 ACREAGE: 1104.079 +/-

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: 8,270' TMD: 21,184'  
 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

PROPERTY OWNER INDEX	
4-19-43.1	YOST HERITAGE INC
4-19-44.1	YOST HERITAGE INC
4-19-44	LOIS JEAN MCCOY, SANDY L MOORE ET AL
4-20-44	GARY D YOST
4-20-44.1	YOST HERITAGE INC
4-19-52.1	YOST HERITAGE INC
4-19-52	LARRY F & BRENDA KAY KUHN
4-25-11.1	KITTY S HAYES
4-25-1	JOHN G & PATRICIA CONAWAY
4-25-5	EDWARD & KARLA STROSNIDER
4-25-11	KITTY S HAYES
4-25-32	EDWARD & KARLA STROSNIDER
4-20-46	YOST & YOST PIPE CO
4-20-47	DARRELL E EDDY
4-25-6	JOHN G & PATRICIA CONAWAY
4-25-1	JOHN G & PATRICIA CONAWAY
4-25-5.1	EQUITRANS LP
4-25-7	EVA V & ROGER A TULANOWSKI; RONALD T TULANOWSKI II
4-25-10	KITTY S WOLFE & CRYSTAL L HAYES
4-25-33	EDWARD & KARLA STROSNIDER

LEASE INDEX			
A	WV-061-001043-002	H	WV-061-004923-001
B	WV-061-001043-002	I	WV-061-005854-001
C	WV-061-001043-002	J	WV-061-004923-001
D	WV-061-003452-000	K	WV-061-004016-013
E	WV-061-001043-002	L	WV-049-004080-001
F	WV-061-004923-001	M	WV-061-005853-001
G	WV-061-005854-001	N	WV-061-005853-001
		O	WV-061-005854-001
		P	WV-049-004080-001

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JAN 16 2024  
WV Department of  
Environmental Protection

02/23/2024

FILE #: NEE14  
DRAWING #: 2977  
SCALE: N/A

DATE: OCTOBER 26, 2022  
OPERATOR'S WELL #: YOST 4H  
API WELL #: 47 61 01893  
STATE COUNTY PERMIT









# Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	8/21/2022
Job End Date:	9/6/2022
State:	West Virginia
County:	Monongalia
API Number:	47-061-01893-00-00
Operator Name:	Northeast Natural Energy LLC
Well Name and Number:	Yost 4H
Latitude:	39.64189300
Longitude:	-80.21823100
Datum:	NAD27
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	8,123
Total Base Water Volume (gal):	23,933,448
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	87.56359	None
Sand (100 Mesh Proppant)	ProFrac	Proppant					
			Silica Substrate	14808-60-7	100.00000	9.70503	None
Sand (40/70 White Proppant)	ProFrac	Proppant					
			Silica Substrate	14808-60-7	100.00000	2.41453	None
Hydrochloric Acid (7.5%)	CNR	Acidizing					
			Water	7732-18-5	85.00000	0.18114	None
			Hydrochloric Acid (Hydrogen Chloride)	7647-01-0	37.00000	0.07885	None
StimSTREAM FR 9800	Chemstream	Friction Reducer					
			Butene, homopolymer	9003-29-6	25.00000	0.01392	None
			alkanes, C16-20-iso-	90622-59-6	25.00000	0.01392	None
			Ethoxylated alcohols (C12-18)	68213-23-0	3.00000	0.00167	None
Clearal 268	Chemstream	Biocide					
			Non-hazardous substances	Proprietary	80.00000	0.02120	None

			Glutaraldehyde	111-30-8	20.00000	0.00530	None
			Didecyl dimethyl ammonium chloride	7173-51-5	3.00000	0.00079	None
			Quaternary Ammonium Compounds	68424-85-1	3.00000	0.00079	None
			Ethanol	64-17-5	1.50000	0.00040	None
StimSTREAM SC 405	Chemstream	Scale Control					
			Non-Hazardous Substances	Proprietary	70.00000	0.01425	None
			Diethylenetriamine penta (methylene phosphonic acid) (DTPMP)	15827-60-8	10.00000	0.00204	None
			2-Phosphono-1,2,4-butanetricarboxylic acid (PBTC)	37971-36-1	10.00000	0.00204	None
			Citric Acid	77-92-9	10.00000	0.00204	None
ProHib 100	CNR	Acid Inhibitor					
			2-Butoxyethanol	111-76-2	60.00000	0.00043	None
			Proprietary material	Proprietary	30.00000	0.00021	None
			Proprietary non-ionic surfactant	Proprietary	20.00000	0.00014	None
			Proprietary corrosion inhibitor	Proprietary	10.00000	0.00007	None
			Proprietary ethoxylated alcohol	Proprietary	10.00000	0.00007	None
ProFE 105	CNR	Iron Control					
			Citric Acid	77-92-9	20.00000	0.00010	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	0.18114	
			Non-hazardous substances	Proprietary	80.00000	0.02120	
			Non-Hazardous Substances	Proprietary	70.00000	0.01425	
			Butene, homopolymer	9003-29-6	25.00000	0.01392	
			Citric Acid	77-92-9	10.00000	0.00204	
			Diethylenetriamine penta (methylene phosphonic acid) (DTPMP)	15827-60-8	10.00000	0.00204	
			Ethoxylated alcohols (C12-18)	68213-23-0	3.00000	0.00167	
			Quaternary Ammonium Compounds	68424-85-1	3.00000	0.00079	
			Didecyl dimethyl ammonium chloride	7173-51-5	3.00000	0.00079	
			Ethanol	64-17-5	1.50000	0.00040	
			Proprietary material	Proprietary	30.00000	0.00021	
			Proprietary non-ionic surfactant	Proprietary	20.00000	0.00014	
			Proprietary ethoxylated alcohol	Proprietary	10.00000	0.00007	
			Proprietary corrosion inhibitor	Proprietary	10.00000	0.00007	
			Acetic Acid	64-19-7	5.00000	0.00003	

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