WR-35
Rev. 8/23/13

Page ___ of ___

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

API 47- 061 - 01895 County Monongalia District Clay
Quad Blacksville Pad Name Yost Field/Pool Name
Farm name Yost Heritage, Inc. Well Number Yost 10H
Operator (as registered with the OOG) Northeast Natural Energy LLC
Address 707 Virginia St. E., Suite 1200 City Charleston State WV Zip 25301

As Drilled location NAD 83/UTM Attach an as-drilled plat, profile view, and deviation survey
Top hole Northing 4388292.3 Easting 567087.7
Landing Point of Curve Northing 4388106.1 Easting 567249.0
Bottom Hole Northing 4385228.3 Easting 569330.9

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 5/15/2022
Date completion activities began 7/28/2022 Date completion activities ceased 8/20/2022
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

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02/23/2024

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API 47- 061 - 01895 Farm name Yost Heritage, Inc. Well number Yost 10H

CASING STRINGS	Hole Size	Casing Size	Depth	New or Used	Grade wt/ft	Basket Depth(s)	Did cement circulate (Y/ N) * Provide details below*
Conductor	30"	24"	100'	N		NA	
Surface	17-1/2"	13-3/8"	1,457'	N	54.5	NA	Y, 48 bbl
Coal							
Intermediate 1	12-1/4"	9-5/8"	2,657'	N	40	NA	Y, 1 bbl
Intermediate 2							
Intermediate 3							
Production	8-3/4"	5-1/2"	20,328	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					CTS	48
Surface	Class A + 2%	1,250	15.6	1.19	1,495	CTS	8
Coal							
Intermediate 1	Class A + 1%	885	15.6	1.18	1,051	CTS	8
Intermediate 2							
Intermediate 3							
Production	50:50 Class A + Additives	3,725	14.5	1.16	4,312	2,039	48
Tubing							

Drillers TD (ft) 20,365' Loggers TD (ft) 20,335'
Deepest formation penetrated Marcellus Plug back to (ft)
Plug back procedure

Kick off depth (ft) 7,132'

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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PRODUCING FORMATION(S)	DEPTHS		
Marcellus	7,990' TVD	20,365' MD	

Please insert additional pages as applicable.

GAS TEST □ Build up □ Drawdown ■ Open Flow OIL TEST □ Flow □ Pump

SHUT-IN PRESSURE Surface ____ psi Bottom Hole 2094 psi DURATION OF TEST 24 hrs

OPEN FLOW Gas 730 mcfpd Oil ____ bpd NGL ____ bpd Water ____ bpd GAS MEASURED BY □ Estimated ■ Orifice □ Pilot

LITHOLOGY/ FORMATION NAME	TOP DEPTH IN FT 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_2S, ETC)
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 Dr 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 1/10/2024

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

02/23/2024

Yost 14H

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	7/27/2022	4,542	0	9,359	84	479	8,240	300,200	725
2	7/28/2022	5,116	6,322	8,953	90	37	9,021	458,211	432
3	7/28/2022	5,257	6,314	8,892	90	59	9,529	455,500	588
4	7/29/2022	5,204	6,168	8,869	91	6	9,400	454,780	489
5	7/29/2022	5,754	6,725	8,950	92	45	9,283	457,108	445
6	7/29/2022	5,382	8,354	8,691	87	471	8,691	454,960	463
7	7/30/2022	5,696	6,617	8,929	92	41	9,381	454,586	425
8	7/30/2022	5,587	6,919	8,754	91	13	9,267	455,370	438
9	7/31/2022	5,458	6,914	8,934	92	37	9,405	455,360	435
10	8/1/2022	5,461	6,938	8,811	92	31	9,275	455,546	434
11	8/1/2022	6,161	6,946	8,940	92	13	9,116	455,360	400
12	8/1/2022	6,200	7,035	9,099	91	39	9,618	456,220	439
13	8/2/2022	6,293	8,068	9,226	92	42	9,310	455,214	395
14	8/2/2022	6,486	7,343	9,056	91	26	9,206	455,140	451
15	8/3/2022	5,533	7,826	9,289	91	22	9,469	455,400	423
16	8/3/2022	5,879	7,092	9,048	92	47	9,266	460,062	380
17	8/3/2022	5,227	6,608	9,195	91	25	9,964	456,060	379
18	8/4/2022	5,842	6,934	9,128	92	30	9,294	456,072	365
19	8/4/2022	5,273	7,081	9,296	92	46	9,277	451,137	370
20	8/5/2022	5,670	7,674	9,224	91	62	9,355	456,400	412
21	8/5/2022	5,405	7,375	9,179	92	70	9,326	461,958	360
22	8/5/2022	5,634	6,602	8,989	92	51	9,033	455,656	350
23	8/5/2022	5,375	6,900	8,853	91	66	9,423	453,360	394
24	8/6/2022	5,550	7,035	8,862	92	14	9,263	455,735	345
25	8/6/2022	5,895	8,011	8,809	92	40	9,089	455,067	342
26	8/6/2022	5,539	6,777	8,728	92	18	9,293	455,720	404
27	8/7/2022	5,787	7,460	8,724	92	27	9,029	455,289	395
28	8/7/2022	5,638	6,640	8,723	92	46	9,003	455,318	393
29	8/8/2022	5,869	6,858	8,658	92	23	9,279	455,840	402
30	8/8/2022	5,966	6,753	8,785	91	33	9,186	457,202	372
31	8/8/2022	5,787	6,728	8,656	91	17	10,146	455,277	344
32	8/9/2022	5,346	7,084	8,749	92	13	9,098	456,540	382
33	8/9/2022	5,627	5,159	8,481	92	134	9,218	455,560	301
34	8/9/2022	5,413	6,449	8,260	92	21	9,160	457,860	301
35	8/9/2022	6,085	6,865	8,365	94	13	9,058	457,020	349
36	8/10/2022	5,537	6,668	8,260	94	67	9,040	456,000	304
37	8/10/2022	5,630	6,439	8,312	93	40	9,200	455,020	303
38	8/10/2022	5,698	6,575	8,485	94	2	9,004	453,860	320
39	8/11/2022	5,491	7,180	8,445	94	34	9,261	455,220	338
40	8/11/2022	5,681	7,657	8,319	92	30	8,975	455,640	326
41	8/12/2022	5,949	7,011	8,451	94	34	9,156	457,100	318
42	8/12/2022	5,715	7,279	8,275	94	242	9,315	456,260	323
43	8/13/2022	5,406	6,817	8,078	94	13	9,150	456,920	311
44	8/13/2022	5,324	7,037	8,040	93	36	9,239	455,580	296
45	8/13/2022	5,508	6,984	8,568	94	38	9,121	455,700	284

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)
46	8/14/2022	5,186	6,941	8,308	94	19	9,201	454,100	309
47	8/14/2022	5,934	6,421	8,253	93	48	9,243	455,770	275
48	8/14/2022	5,126	6,609	8,191	93	611	8,926	456,200	268
49	8/14/2022	4,948	6,513	7,832	91	6	9,513	457,020	310
50	8/15/2022	5,381	7,029	8,078	94	14	9,271	459,200	290
51	8/15/2022	5,099	6,991	8,090	94	37	9,077	455,540	229
52	8/15/2022	5,254	6,566	7,775	93	49	8,865	455,460	278
53	8/16/2022	5,037	6,622	7,891	94	19	9,309	455,200	281
54	8/16/2022	5,626	6,383	7,857	94	38	9,044	456,300	235
55	8/16/2022	5,898	6,155	7,811	94	34	9,199	455,524	258
56	8/17/2022	5,179	6,982	7,847	94	10	9,121	459,038	285

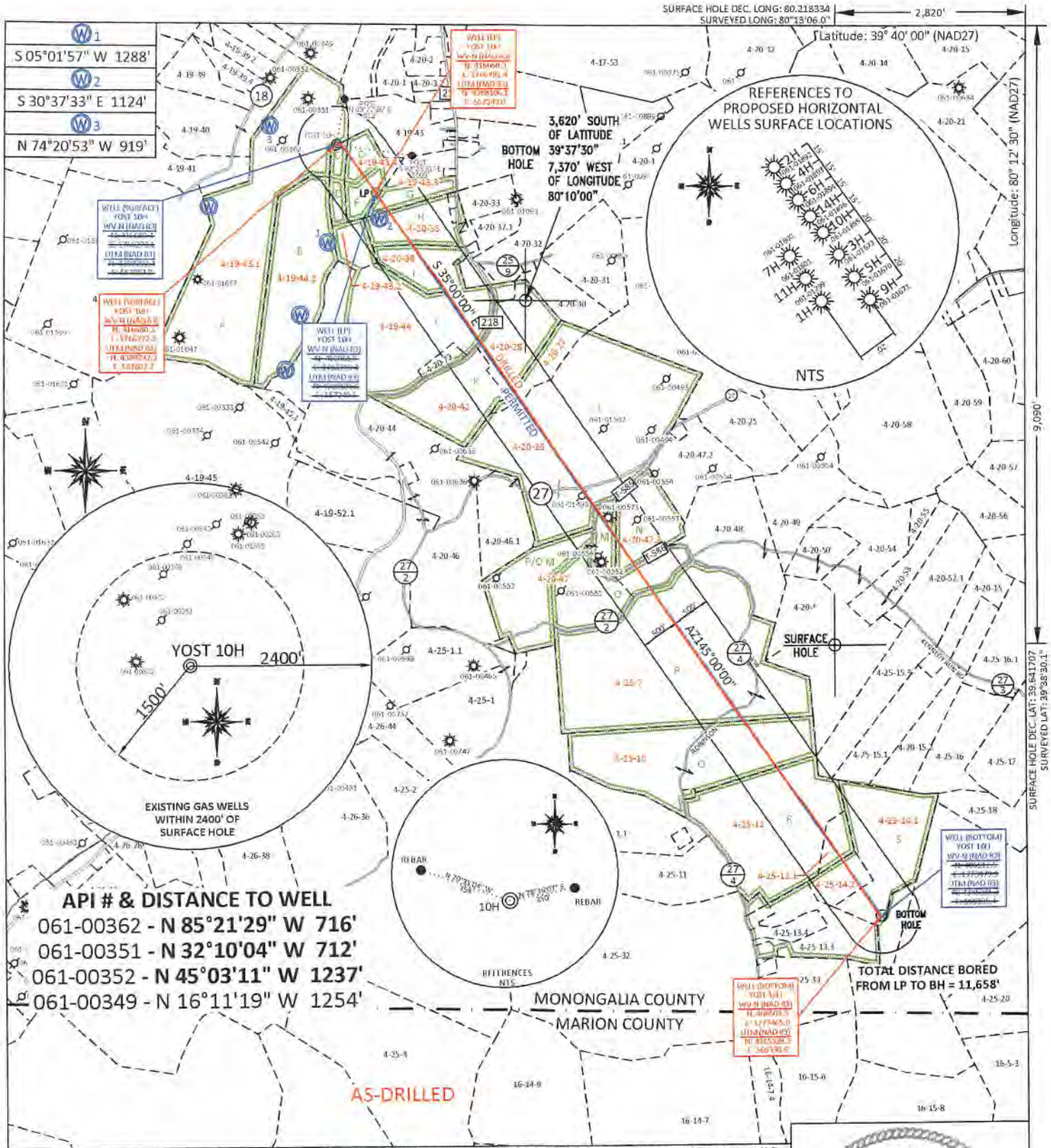
02/23/2024

Yost 14H
Perforation Report

Stage Number	Report Date	Total Shots	Cluster 1 Top TD	Cluster 5 Bottom TD
1	7/27/2022	0	0	19,680
2	7/28/2022	40	19,638	19,479
3	7/28/2022	40	19,437	19,279
4	7/29/2022	40	19,237	19,078
5	7/29/2022	40	19,036	18,878
6	7/29/2022	40	18,835	18,677
7	7/30/2022	40	18,635	18,677
8	7/30/2022	40	18,434	18,276
9	7/31/2022	40	18,234	18,075
10	8/1/2022	40	18,033	17,875
11	8/1/2022	40	17,833	17,674
12	8/1/2022	40	17,632	17,474
13	8/2/2022	40	17,431	17,273
14	8/2/2022	40	17,231	17,072
15	8/3/2022	40	17,030	16,872
16	8/3/2022	40	16,830	16,671
17	8/3/2022	40	16,629	16,471
18	8/4/2022	40	16,429	16,270
19	8/4/2022	40	16,228	16,069
20	8/5/2022	40	16,027	15,869
21	8/5/2022	40	15,827	15,668
22	8/5/2022	40	15,626	15,468
23	8/5/2022	40	15,426	15,267
24	8/6/2022	40	15,225	15,067
25	8/6/2022	40	15,024	14,866
26	8/6/2022	40	14,824	14,665
27	8/7/2022	40	14,623	14,465
28	8/7/2022	40	14,423	14,264
29	8/8/2022	40	14,222	14,064
30	8/8/2022	40	14,022	13,863
31	8/8/2022	40	13,821	13,662
32	8/9/2022	40	13,620	13,462
33	8/9/2022	40	13,420	13,261
34	8/9/2022	40	13,219	13,061
35	8/9/2022	40	13,019	12,860
36	8/10/2022	40	12,818	12,660
37	8/10/2022	40	12,617	12,459
38	8/10/2022	40	12,417	12,258
39	8/11/2022	40	12,216	12,058
40	8/11/2022	40	12,016	11,857
41	8/12/2022	40	11,815	11,657
42	8/12/2022	40	11,615	11,456
43	8/13/2022	40	11,414	11,256
44	8/13/2022	40	11,213	11,055
45	8/13/2022	40	11,013	10,854

Stage Number	Report Date	Total Shots	Cluster 1 Top TD	Cluster 5 Bottom TD
46	8/14/2022	40	10,812	10,654
47	8/14/2022	40	10,612	10,453
48	8/14/2022	40	10,411	10,253
49	8/14/2022	40	10,211	10,052
50	8/15/2022	40	10,010	9,851
51	8/15/2022	40	9,809	9,651
52	8/15/2022	40	9,609	9,450
53	8/16/2022	40	9,408	9,250
54	8/16/2022	40	9,208	9,049
55	8/16/2022	40	9,007	8,849
56	8/17/2022	40	8,806	8,648

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/silstone/lime	1680	2310	sandstone/silstone/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
silstone/shale/gray shale	6000	6450	silstone/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



FILE #: NEE14

DRAWING #: 3038

SCALE: PLAT: 1" = 1800' 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:

L.L.S. #2124 : Ernest J. Benchek III

ERNEST J. BENCHEK III LICENSED No. 2124 STATE OF WEST VIRGINIA PROFESSIONAL SURVEYOR

(+) DENOTES LOCATION OF WELL ON UNITED STATES TOPOGRAPHIC MAPS

WVDEP
OFFICE OF OIL & GAS
601 57TH STREET
CHARLESTON, WV 25304

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JAN 16 2024
WV Department of Environmental Protection

DATE: OCTOBER 26, 2022

OPERATOR'S WELL #: YOST 10H

API WELL #: 47 (STATE) 61 (COUNTY) 01895 (PERMIT)

Well Type: ☐ Oil ☐ Waste Diposal ☐ Production ☐ Deep ☒ Gas ☐ Liquid Injection ☐ Storage ☒ Shallow

WATERSHED: DUNKARD CREEK

AS-BUILT ELEVATION: 1,494.93'

COUNTY/DISTRICT: MONONGALIA / CLAY

QUADRANGLE: BLACKSVILLE, WV

SURFACE OWNER: YOST HERITAGE INC

ACREAGE: 93.08 02/23/2024

OIL & GAS ROYALTY OWNER:

ACREAGE: 799.420 +/-

LEASE NUMBERS:

DRILL ☒ CONVERT ☐ DRILL DEEPER ☐ REDRILL ☐ FRACTURE OR STIMULATE ☒

PLUG OFF FORMATION ☐ PERFORATE NEW FORMATION ☐ PLUG & ABANDON ☐

CLEAN OUT & REPLUG ☐ OTHER CHANGE ☐ (SPECIFY):

TARGET FORMATION: MARCELLUS

DRILLED DEPTH: TVD: 8,308' TMD: 20,340'

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

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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
4-19-43.4	YOST HERITAGE INC
4-19-43.3	DONALD LEE & ROGER KIETH WILLIAMS ET AL
4-20-26	RANDY D & VICKY S AMMONS (LIFE DELBERT E & LOLA HARTLEY)
4-20-35	DAVID R SAXON
4-20-47	DARRELL E EDDY
4-25-7	EVA V, ROGER A & RONALD T TULANOWSKI II
4-25-10	KITTY S & CRYSTAL L HAYES
4-20-38	PATRICIA DIANE FOLEY
4-25-12	KITTY S HAYES
4-20-28	BRANDEN L NUTTER
4-20-27	BRUCE ARNETT
4-20-42	THOMAS R & NORA M MCCOY
4-20-47.3	NINA FRANCES DEAN EDDY
4-25-12.1	AARON & DEBBIE CLEVENGER
4-25-14.1	AARON & DEBBIE CLEVENGER
4-25-14.2	AARON & DEBBIE CLEVENGER

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H	WV-061-003862-004	Q	WV-061-005853-001
I	WV-061-005686-001	R	WV-061-005853-001
		S	WV-061-005851-001

RECEIVED
Office of Oil and Gas
JAN 16 2024
WV Department of
Environmental Protection

02/23/2024

FILE #: NEE14
DRAWING #: 2979
SCALE: N/A

DATE: OCTOBER 26, 2022
OPERATOR'S WELL #: YOST 10H
API WELL #: 47 (STATE) 61 (COUNTY) 01895 (PERMIT)

LIGHTNING ENERGY SERVICES

104 Heliport Loop Rd
Bridgeport Wv 26330
Office 304-933-3544

DETAILED TREATMENT LOG

COMPANY NAME:	NNE	SUPERVISOR:	Jason Starcher
FIELD:	Yost	PUMP NUMBER:	CPTK04
WELL #:		COMPANY REP:	
DATE:		TYPE OF JOB:	

TIME (Hr:Min)	PRESSURE (PSI)	Wellhead Pressure	RATE (BPM)	FLUID TYPE	STAGE BBLS	COMMENTS:
10:20	1500			Water		Pressure Test Lines
10:25	200		6	Water	250	Pump Water Ahead
11:00	200		6	Gel	25	Pump Gel Spacer
11:07	200				10	Pump Water Spacer
11:10	250		6	Cement	263	Pump Cement
12:15						Release Plug
12:16	450		7	water	220	Pump Displacement
13:15	1200					Plug Land
13:25						Float Did Not Hold, Put 500 psi on well and shut in head


Northeast Sureface Yost.irc
art View
Report Options
Settings
Help
Northeast
Yost 14H
PRESSURE TEST LINES
BEGIN WATER AHEAD
BEGIN GEL
BEGIN WATER SPACER
BATCH UP CEMENT
BEGIN PUMPING CEMENT
SHUT DOWN RELEASE PLUG
BEGIN DISPLACEMENT
PLUG LAND
RELEASE PRESSURE, FLOAT NOT HOLDING
ATTEMPT TO PRESSURE BACK UP ON FLOAT
20.7
41.4
62.1
82.8
103.5
124.2
144.9
165.6
186.3

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:	28-May-22	Serv. Supervisor:	Adam Pavelchick
Cust. Rep.:	JOSH	Ticket #:	BPA-2205-0037	Serv. Center	Black Lick - 1571
Well Name:	Yost 14H	API Well #:	47-061-01896	County: Monongalia	State: PA
Well Type:		Rig:	PATTERSON 277	Type of Job:	CM-PROD. CASING

Materials Furnished by NexTier

Plugs	Casing Hardware	Sacks of Cement	Fluid Density (lb/gal)	Excess	Yield (cuft/sk)	Mix Water (gal/sk)	Fluid Volume (bbls)	Fluid Volume (cuft)	Mix Water (bbls)
CUSTOMER SUPPLIED	5.5 HEAD AND BOWL								
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-910+50 % NPZ-010 +0.2 % NFP-703+0.15 % NAS-504+0.2 % NRT-213+0.2 % NFL-549+0.1 % NTC-405	3615	14.5		1.16	4.90	745.36	4,185.19	422
Sugar Water Displacement	+5.0 PPB NRT-215					-	20.00	-	
Fresh Water Displacement						-	418.97	-	
						-		-	
						-		-	
						-		-	
						-		-	
						-		-	
Displacement Chemicals:									

OPEN HOLE DATA			TUBULAR DATA									
8.75 in. O.H. 2,630 to 7,521 ft 8.5 in. O.H. 7,521 to 19,797 ft			5.5 in. 20#, (0 to 19,797 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.	5.5 20#	BTC	19791	P-110	4.778	12640	11080
65.0 °F	65.0 °F											

PREVIOUS CASING DATA	PERFORATED INTERVAL DATA				CASING EQUIPMENT DEPTHS			
	TOP	BTM	SPF	SIZE	SHOE	FLOAT	STAGE	ACP
9.625 in. 36# (0 to 2,630 ft)					19787.9	19791		

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)				
OBM	12.4 ppg	439.4 bbl	H2O	8.3 ppg	3230		8000	<300	7	71.0 °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	3,300.00	Y	-	-	2,260	Yes	8,000.00	No	-	No	49

Comments/Additional Details:

TOP OF CEMENT IS AT 2260' AND TOP OF SPACER IS AT 536'. 24 BBL OF OBM LEFT IN THE HOLE.

Adam Pavelchick — Service Supervisor — 28-May-22 — Date

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:	19-May-22	Serv. Supervisor:	Drew Forsythe
Cust. Rep.:	Josh	Ticket #:	BPA-2205-0025	Serv. Center	Black Lick - 1571
Well Name:	Yost 14H	API Well #:	47-061-01896	County: Monongalia	State: PA
Well Type:		Rig:	Patterson 277	Type of Job:	CM-INTER. CASING

Materials Furnished by NexTier

Plugs	Casing Hardware
Top Plug Supplied by	9.625 Single Plug Container w/ Buttress Crossover
Customer	
6% Gel Spacer	+20.0 PPB NEX-020
15.6 lb/gal Cement	100 % NCM-910 +0.5 % NAC-110
Fresh Water Displacement	
0	
Displacement Chemicals:	

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)
	8.7		4.62	33.66	25.00	-	
890	15.6	30%	1.18	5.23	187.62	1,053.46	111
	8.33			-	200.23	-	
				-		-	
				-		-	
				-		-	
				-		-	
				-		-	
				-		-	

OPEN HOLE DATA

12.375 in. O.H. 1,460 to 2,630 ft

Ambient Tmp.	Bulk Tmp.	Slurry 1 Tmp.	Slurry 2 Tmp.	Slurry 3 Tmp.	Slurry 4 Tmp.
75.0 °F		79.0 °F			

TUBULAR DATA

9.625 in. 36#, (0 to 2,630 ft)

SIZE WEIGHT	THRD	DEPTH (ft)	GRADE	ID (in)	BURST (psi)	COLLAPSE (psi)
9.625" 36#	STC	2661	J55	8.835"	3520	2020

PREVIOUS CASING DATA

13.375 in. 54.5# (0 to 1,460 ft)

PERFORATED INTERVAL DATA

TOP	BTM	SPF	SIZE

CASING EQUIPMENT DEPTHS

SHOE	FLOAT	STAGE	ACP
2659	2614.4		

WELL FLUID TYPE	WELL FLUID DENSITY	DISPLACEMENT FLUID VOLUME	DISPLACEMENT FLUID TYPE	DISPLACEMENT FLUID DENSITY	DIFF PRESS (psi)	CSG LIFT (psi)	MAX PRESS (psi)	Mix H2O Chlorides (ppm)	Mix H2O pH	Mix H2O Temp	WATER ON LOC (bbl)
H2O	8.3 ppg	202.1 bbl	H2O	8.3 ppg	987	1002	2500		7	68.0 °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	1,200.00	Y	-	22.00	-	Yes	1,200.00	No	5.00	No	50

Comments/Additional Details:

RECEIVED
Office of Oil and Gas
JAN 16 2024
WV Department of
Environmental Protection

Drew Forsythe — Service Supervisor

19-May-22 — Date

02/23/2024

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	7/27/2022
Job End Date:	8/17/2022
State:	West Virginia
County:	Monongalia
API Number:	47-061-01896-00-00
Operator Name:	Northeast Natural Energy LLC
Well Name and Number:	Yost 14H
Latitude:	39.64182700
Longitude:	-80.21816800
Datum:	NAD27
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	8,139
Total Base Water Volume (gal):	21,678,888
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	87.45285	None
Sand (100 Mesh Proppant)	ProFrac	Proppant					
			Silica Substrate	14808-60-7	100.00000	9.49538	None
Sand (40/70 White Proppant)	ProFrac	Proppant					
			Silica Substrate	14808-60-7	100.00000	2.77281	None
Hydrochloric Acid (7.5%)	CNR	Acidizing					
			Water	7732-18-5	85.00000	0.15514	None
			Hydrochloric Acid (Hydrogen Chloride)	7647-01-0	37.00000	0.06753	None
Clearal 268	Chemstream	Biocide					
			Non-hazardous substances	Proprietary	80.00000	0.02121	None
			Glutaraldehyde	111-30-8	20.00000	0.00530	None
			Quaternary Ammonium Compounds	68424-85-1	3.00000	0.00080	None
			Didecyl dimethyl ammonium chloride	7173-51-5	3.00000	0.00080	None

			Ethanol	64-17-5	1.50000	0.00040	None
StimSTREAM FR 9800	Chemstream	Friction Reducer					
			alkanes, C16-20-iso-	90622-59-6	25.00000	0.01280	None
			Butene, homopolymer	9003-29-6	25.00000	0.01280	None
			Ethoxylated alcohols (C12-18)	68213-23-0	3.00000	0.00154	None
StimSTREAM SC 405	Chemstream	Scale Control					
			Non-Hazardous Substances	Proprietary	70.00000	0.01234	None
			Citric Acid	77-92-9	10.00000	0.00176	None
			2-Phosphono-1,2,4-butanetricarboxylic acid (PBTC)	37971-36-1	10.00000	0.00176	None
			Diethylenetriamine penta (methylene phosphonic acid) (DTPMP)	15827-60-8	10.00000	0.00176	None
ProHib 100	CNR	Acid Inhibitor					
			2-Butoxyethanol	111-76-2	60.00000	0.00036	None
			Proprietary material	Proprietary	30.00000	0.00018	None
			Proprietary non-ionic surfactant	Proprietary	20.00000	0.00012	None
			Proprietary ethoxylated alcohol	Proprietary	10.00000	0.00006	None
			Proprietary corrosion inhibitor	Proprietary	10.00000	0.00006	None
ProFE 105	CNR	Iron Control					
			Citric Acid	77-92-9	20.00000	0.00010	None
			Acetic Acid	64-19-7	5.00000	0.00002	None
Ingredients shown above are subject to 29 CFR 1910.1200(i) and appear on Material Safety Data Sheets (MSDS). Ingredients shown below are Non-MSDS.							
Other Chemical(s)	Listed Above	See Trade Name(s) List					
			Water	7732-18-5	85.00000	0.15514	
			Non-hazardous substances	Proprietary	80.00000	0.02121	
			Butene, homopolymer	9003-29-6	25.00000	0.01280	
			Non-Hazardous Substances	Proprietary	70.00000	0.01234	
			Diethylenetriamine penta (methylene phosphonic acid) (DTPMP)	15827-60-8	10.00000	0.00176	
			Citric Acid	77-92-9	10.00000	0.00176	
			Ethoxylated alcohols (C12-18)	68213-23-0	3.00000	0.00154	
			Didecyl dimethyl ammonium chloride	7173-51-5	3.00000	0.00080	
			Quaternary Ammonium Compounds	68424-85-1	3.00000	0.00080	
			Ethanol	64-17-5	1.50000	0.00040	
			Proprietary material	Proprietary	30.00000	0.00018	
			Proprietary non-ionic surfactant	Proprietary	20.00000	0.00012	
			Proprietary corrosion inhibitor	Proprietary	10.00000	0.00006	
			Proprietary ethoxylated alcohol	Proprietary	10.00000	0.00006	
			Acetic Acid	64-19-7	5.00000	0.00002	