

MAY - 1 2020

WR-35  
Rev. 8/23/13

WV Department of  
Environmental Protection

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

API 47 - 061 - 01861 County Monongalia District Clay  
Quad Blacksville, WV Pad Name Lemley Field/Pool Name \_\_\_\_\_  
Farm name Clarence W. Jr. & Charlotte E. Lemley Well Number 14H  
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 4391570.4 Easting 573999.9  
Landing Point of Curve Northing 4391788.1 Easting 574600.9  
Bottom Hole Northing 4389247.1 Easting 576273.4

Elevation (ft) 1,539' GL Type of Well  New  Existing Type of Report  Interim  Final  
Permit Type  Deviated  Horizontal  Horizontal 6A  Vertical Depth Type  Deep  Shallow  
Type of Operation  Convert  Deepen  Drill  Plug Back  Redrilling  Rework  Stimulate  
Well Type  Brine Disposal  CBM  Gas  Oil  Secondary Recovery  Solution Mining  Storage  Other \_\_\_\_\_  
Type of Completion  Single  Multiple Fluids Produced  Brine  Gas  NGL  Oil  Other \_\_\_\_\_  
Drilled with  Cable  Rotary

Drilling Media Surface hole  Air  Mud  Fresh Water Intermediate hole  Air  Mud  Fresh Water  Brine  
Production hole  Air  Mud  Fresh Water  Brine

Mud Type(s) and Additive(s)  
SYNTHETIC BASED MUD FOR HORIZONTAL SECTION; BIO-BASE 365, CALCIUM CHLORIDE POWDER, G-Seal Plus, HRP, Lime, M-I WATE (BARITE), M-I-X II MEDIUM,  
MEGADRIL P SYSTEM, MEGADRIL P SYSTEM RENTAL, MEGAMUL, SAFE-CARB 250, VERSATHIN HF, VERSAWET, VG-PLUS, VINSEAL MEDIUM, WALNUT NUT PLUG MEDIUM

Date permit issued 9/25/2019 Date drilling commenced 8/14/2019 Date drilling ceased 11/5/2019  
Date completion activities began 2/2/2020 Date completion activities ceased 2/21/2020  
Verbal plugging (Y/N) N Date permission granted NA Granted by NA

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

Freshwater depth(s) ft 440', 1060' Open mine(s) (Y/N) depths N  
Salt water depth(s) ft 2140' Void(s) encountered (Y/N) depths N  
Coal depth(s) ft 500', 630', 740', 1060' Cavern(s) encountered (Y/N) depths N  
Is coal being mined in area (Y/N) N

Reviewed by:  
*Haynes K. D.*  
6/5/2020

API 47-061 - 01861

Farm name Clarence W. Jr. & Charlotte E. Lemley Well number 14H

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"	50'	N		NA	Y
Surface	17.5"	13-3/8"	1,518'	N	54.5	NA	Y, 10 bbl
Coal							
Intermediate 1	12.25"	9-5/8"	2,585'	N	36	NA	Y, 20 bbl
Intermediate 2							
Intermediate 3							
Production	8.5"	5.5"	19,151'	N	20	NA	Y, 6 bbl
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	4500 psi ready mix	123			364	CTS	48
Surface	Class A	1,230	15.6	0.96	1,190	CTS	8
Coal							
Intermediate 1	Class A	970	15.6	1.18	1,145	CTS	8
Intermediate 2							
Intermediate 3							
Production	Class A	3,455	14.5	1.16	4,003	2,085'	48
Tubing							

Drillers TD (ft) 19,185' Loggers TD (ft) 19,155'

Deepest formation penetrated Marcellus Plug back to (ft) NA

Plug back procedure NA

Kick off depth (ft) 7,289'

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 \_\_\_\_\_

API 47- 061 - 01861 Farm name Clarence W. Jr. & Charlotte E. Lemley Well number 14H

**PERFORATION RECORD**

Stage No.	Perforation date	Perforated from MD ft.	Perforated to MD ft.	Number of Perforations	Formation(s)
	<b>See Attached</b>				

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)
	<b>See</b>	<b>Attached</b>						

Please insert additional pages as applicable.

API 47- 061 - 01861 Farm name Clarence W. Jr. & Charlotte E. Lemley Well number 14H

<u>PRODUCING FORMATION(S)</u>	<u>DEPTHS</u>	
Marcellus	8,129'	TVD 19,185' MD
_____	_____	_____
_____	_____	_____
_____	_____	_____

Please insert additional pages as applicable.

GAS TEST  Build up  Drawdown  Open Flow OIL TEST  Flow  Pump

SHUT-IN PRESSURE Surface 2,327 psi Bottom Hole 4,467 psi DURATION OF TEST 24 hrs

OPEN FLOW Gas 1,209 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)
See Attached	0		0		

Please insert additional pages as applicable.

Drilling Contractor Patterson-UT1  
Address 4000 Town Center Blvd, Suite 240 City Canonsburg State PA Zip 15317

Logging Company Bakers 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 4/23/2020

**Lemley 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	180	Sand/silt
silt/red shale	180	390	silt/red shale
siltstone/sandstone/limestone	390	440	siltstone/sandstone/limestone
limestone/siltstone/sandstone	440	500	limestone/siltstone/sandstone
coal	500	510	coal
siltstone/limestone/shale	510	630	siltstone/limestone/shale
coal	630	640	coal
siltstone/sandstone	640	740	siltstone/sandstone
coal	740	750	coal
sandstone/siltstone/limestone	750	1060	sandstone/siltstone/limestone
coal-Pittsburgh	1060	1070	coal-Pittsburgh
sandstone/limestone	1070	1190	sandstone/limestone
red shale/siltstone	1190	1480	red shale/siltstone
Limestone/siltstone	1480	1730	Limestone/siltstone
sandstone	1730	1860	sandstone
sandstone/siltstone/red shale	1860	2050	sandstone/siltstone/red shale
siltstone/sandstone	2050	2110	siltstone/sandstone
sandstone	2110	2140	sandstone
sandstone/siltstone/red shale	2140	2300	sandstone/siltstone/red shale
Big Lime	2300	2420	Big Lime
Big Injun Sandstone	2420	2520	Big Injun Sandstone
siltstone/sandstone	2520	2810	siltstone/sandstone
Berea Sandstone	2810	2820	Berea Sandstone
Upper Devonian Sands/silts	2820	3350	Upper Devonian Sands/silts
shale/siltstone	3350	7514	shale/siltstone
Middlesex shale/silt	7514	7737	Middlesex shale/silt
Burkett shale	7737	7918	Burkett shale
Genesee shale	7918	7969	Genesee shale
Tully Limestone	7969	8044	Tully Limestone
Hamilton shale	8044	8129	Hamilton shale
Marcellus shale	8129	TD	Marcellus shale

### Lemley 14H Perforation Information

Stage Number	Report Date	Total Shots	Cluster 1 Top TD	Cluster 5 Bottom TD
1	2/4/20	0	0	19,018
2	2/4/20	40	18,975	18,819
3	2/5/20	40	18,778	18,622
4	2/5/20	40	18,580	18,425
5	2/5/20	40	18,383	18,227
6	2/5/20	40	18,186	18,030
7	2/6/20	40	17,989	17,833
8	2/6/20	40	17,791	17,636
9	2/6/20	40	17,594	17,438
10	2/7/20	40	17,397	17,241
11	2/7/20	40	17,200	17,044
12	2/8/20	40	17,002	16,846
13	2/8/20	40	16,805	16,649
14	2/8/20	40	16,608	16,452
15	2/9/20	40	16,410	16,255
16	2/9/20	40	16,213	16,057
17	2/9/20	40	16,016	15,860
18	2/10/20	40	15,819	15,663
19	2/10/20	40	15,621	15,465
20	2/10/20	40	15,424	15,268
21	2/11/20	40	15,227	15,071
22	2/11/20	40	15,029	14,874
23	2/11/20	40	14,832	14,676
24	2/11/20	40	14,635	14,479
25	2/12/20	40	14,438	14,282
26	2/12/20	40	14,240	14,085
27	2/13/20	40	14,043	13,887
28	2/13/20	40	13,846	13,690
29	2/13/20	40	13,648	13,493
30	2/13/20	40	13,451	13,295
31	2/14/20	40	13,254	13,098
32	2/14/20	40	13,057	12,901
33	2/14/20	40	12,859	12,704
34	2/15/20	40	12,662	12,506
35	2/16/20	40	12,465	12,309
36	2/16/20	40	12,268	12,112
37	2/16/20	40	12,070	11,914
38	2/17/20	40	11,873	11,717
39	2/17/20	40	11,676	11,520
40	2/17/20	40	11,478	11,323
41	2/17/20	40	11,281	11,125
42	2/18/20	40	11,084	10,928
43	2/18/20	40	10,887	10,731
44	2/18/20	40	10,689	10,533
45	2/19/20	40	10,492	10,336
46	2/19/20	40	10,295	10,139
47	2/20/20	40	10,097	9,942
48	2/20/20	40	9,900	9,744
49	2/20/20	40	9,703	9,547
50	2/20/20	40	9,506	9,350
51	2/21/20	40	9,308	9,153

### Lemley 14H Stimulation Information

Stage Number	Report Date	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	2/4/20	11,107	9,624	89	129	6,317	300,600	425
2	2/4/20	11,107	9,259	88	365	11,802	550,600	428
3	2/5/20	6,216	9,035	89	797	12,090	550,320	425
4	2/5/20	6,242	9,573	89	46	11,247	552,010	415
5	2/5/20	6,331	9,674	90	399	11,329	548,180	410
6	2/5/20	6,344	9,584	89	471	11,109	550,660	480
7	2/6/20	6,303	9,674	89	36	11,143	549,840	400
8	2/6/20	6,391	9,547	86	43	10,841	550,660	400
9	2/6/20	6,600	9,556	90	421	11,364	550,260	403
10	2/7/20	6,394	9,746	90	59	10,918	550,660	390
11	2/7/20	6,600	9,602	90	407	11,374	550,900	385
12	2/8/20	6,789	9,536	90	382	12,108	550,720	382
13	2/8/20	6,540	9,453	89	61	10,822	550,340	375
14	2/8/20	6,500	9,326	90	368	11,025	550,780	371
15	2/9/20	6,600	9,397	89	391	11,069	553,080	363
16	2/9/20	6,952	9,278	89	75	10,905	550,780	362
17	2/9/20	6,600	8,950	90	368	11,353	550,520	356
18	2/10/20	6,600	9,006	90	345	10,556	550,220	359
19	2/10/20	6,466	9,094	90	45	10,802	550,640	350
20	2/10/20	6,200	8,905	91	333	11,045	549,380	342
21	2/11/20	6,600	8,966	91	333	10,830	550,500	343
22	2/11/20	6,068	8,734	90	61	10,754	550,300	385
23	2/11/20	6,400	8,843	91	331	10,910	550,100	332
24	2/11/20	6,600	8,613	91	322	11,291	550,880	324
25	2/12/20	6,475	8,654	90	55	10,560	550,780	320
26	2/12/20	6,079	8,522	89	15	10,341	550,780	317
27	2/13/20	6,137	8,731	90	21	10,631	550,880	315
28	2/13/20	6,454	8,868	95	31	10,631	550,580	310
29	2/13/20	6,132	9,041	94	37	10,807	550,640	305
30	2/13/20	6,457	9,147	94	20	10,380	550,960	300
31	2/14/20	6,575	8,946	95	50	10,825	554,560	295
32	2/14/20	6,449	9,000	94	61	10,568	550,340	292
33	2/14/20	6,322	9,047	93	22	10,542	550,760	289
34	2/15/20	6,399	8,720	94	31	10,416	554,810	285
35	2/16/20	6,171	8,647	94	26	10,506	550,340	278
36	2/16/20	6,006	8,723	95	33	10,611	550,400	275
37	2/16/20	6,297	8,664	94	35	10,362	550,880	271
38	2/17/20	6,103	8,689	94	25	10,411	550,160	265
39	2/17/20	6,929	8,910	95	80	10,653	548,850	260
40	2/17/20	6,472	8,731	94	69	10,400	550,760	255
41	2/17/20	6,366	8,669	94	18	10,612	549,700	252
42	2/18/20	6,637	8,379	95	50	10,665	549,060	245
43	2/18/20	6,220	8,717	94	21	10,505	550,640	241
44	2/18/20	6,477	8,817	93	37	10,721	550,120	238
45	2/19/20	6,881	8,729	95	68	10,930	550,020	234
46	2/19/20	7,098	8,550	94	24	10,428	550,100	230
47	2/20/20	6,566	8,571	94	24	10,237	550,500	225
48	2/20/20	6,469	8,340	95	20	10,603	549,840	219
49	2/20/20	6,618	8,480	93	21	10,638	549,100	219
50	2/20/20	7,135	8,286	86	26	10,416	541,700	211
51	2/21/20	7,124	8,207	92	64	10,611	551,080	207

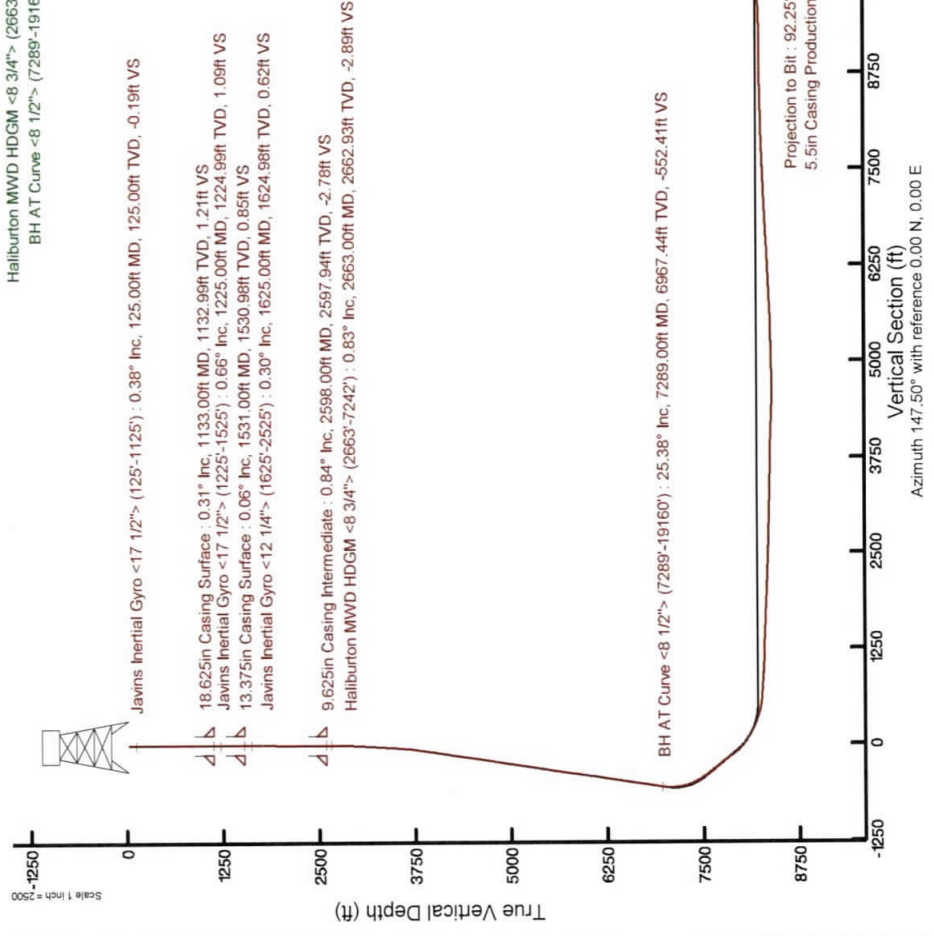
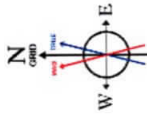


# NORTHEAST NATURAL ENERGY, LLC

Location: Monongalia County, WV  
 Slot: Slot 14H  
 Well: Lemley 14H  
 Field: Monongalia  
 Facility: Lemley Pad  
 Wellbore: Lemley 14H PWB

Plot reference wellbore is Lemley 14H PWB Rev C.0	Grid System: NAD83 / Lambert West Virginia SP, Northern Zone (4702), US feet
True vertical depths are referenced to Patterson 334 (KB)	North Reference: Grid north
Measured depths are referenced to Patterson 334 (KB)	Scale: True distance
Patterson 334 (KB) to Mean Sea Level: 1534 feet	Depths are in feet
Mean Sea Level to Ground level (At Slot: Slot 14H): -1534 feet	Created by: mjenjen on 2019-11-08
Coordinates are in feet referenced to Slot	Database: WA_MPL_EASTERNUS_Dbn

(User specified Dip: 0.64° Field: 62124.4°  
 Magnetic North is 9.18° East of True North (at 10/31/2019)  
 Grid North is 0.41° degrees West of True North  
 To correct azimuth from True to Grid add 0.41 degrees  
 To correct azimuth from Magnetic to Grid subtract 0.77 degrees



Javins Inertial Gyro <17 1/2"> (125°-1125°) : 125.00ft TVD, 0.31ft N, 0.12ft E  
 Javins Inertial Gyro <17 1/2"> (1225°-1525°) : 1224.99ft TVD, 1.85ft S, 0.87ft W  
 Javins Inertial Gyro <12 1/4"> (1625°-2525°) : 1624.98ft TVD, 2.57ft S, 2.89ft W  
 Halliburton MWD HDGM <8 3/4"> (2663°-7242°) : 2662.93ft TVD, 3.73ft S, 11.23ft W  
 BH AT Curve <8 1/2"> (7289°-19160°) : 6967.44ft TVD, 1276.66ft N, 975.83ft E

Javins Inertial Gyro <17 1/2"> : 0.38° Inc, 125.00ft MD, 125.00ft TVD, -0.19ft VS  
 18.625in Casing Surface : 0.31° Inc, 1133.00ft MD, 1132.99ft TVD, 1.21ft VS  
 Javins Inertial Gyro <17 1/2"> (1225°-1525°) : 0.66° Inc, 1225.00ft MD, 1224.99ft TVD, 1.09ft VS  
 13.375in Casing Surface : 0.06° Inc, 1531.00ft MD, 1530.98ft TVD, 0.85ft VS  
 Javins Inertial Gyro <12 1/4"> (1625°-2525°) : 0.30° Inc, 1625.00ft MD, 1624.98ft TVD, 0.62ft VS  
 9.625in Casing Intermediate : 0.84° Inc, 2598.00ft MD, 2597.94ft TVD, -2.78ft VS  
 Halliburton MWD HDGM <8 3/4"> (2663°-7242°) : 0.83° Inc, 2663.00ft MD, 2662.93ft TVD, -2.89ft VS

BH AT Curve <8 1/2"> (7289°-19160°) : 25.38° Inc, 7289.00ft MD, 6967.44ft TVD, -552.41ft VS

Location Information			
Facility Name	Grid East (US ft)	Grid North (US ft)	Longitude
Lemley Pad	1789033.100	427062.900	80°08'15.259"W
Local N (ft)	Local E (ft)	Grid North (US ft)	Longitude
-5.15	99.88	427057.754	80°08'13.981"W
Slot	Local N (ft)	Grid North (US ft)	Longitude
Slot 14H	99.88	427057.754	80°08'13.981"W
Patterson 334 (KB) to Ground level (At Slot: Slot 14H)			
Mean Sea Level to Ground level (At Slot: Slot 14H)			
Patterson 334 (KB) to Mean Sea Level			
25ft			
-1534ft			
1559ft			
Comments			
API: 47-061-01861-0000			
BH Job #: 110103086A			
Rig: Patterson 334			
Duration: 10/31/2019 - 11/04/2019			







Ticket #:  
0

Remit to:  
Lightning Energy Services  
104 Heliport Loop Road  
Bridgeport, WV 26330

Job Times				
	On Loc:	Job Start:	Job End:	Off Loc:
Date:	08/27/19			
Time:	9:00AM	5:30pm	8:00pm	10:00pm

Customer and Well Information					
Customer: NORTHEAST		Well Name: LEMELY		Well #: 14H	Well Type: GAS
County:	State: WV	AFE #/API #: 100504-602	PO #/Permit #:	Well Class:	
Field:		Lease: LEMLEY	Rig Name/# : Dicker rig 8		
Wellbore Information					
Bit Size (Inches): 12.25	Well MD (ft):	Well TVD (ft): 2630	BHST (F°):	BHCT (F°):	Deviation (°):
Drilling Fluid Type:	Drilling Fluid Density (ppg):	Packer Depth (ft):	Treating Down:		
Previous Casing/Liner					
Size (Inches): 13.375	Weight (lb/ft): 54.5	Thread:	Grade:	Total Footage (ft): 1551	
Casing/Liner/Tubing					
Size (Inches): 9 5/8	Weight (lb/ft): 36	Thread:	Grade:	Total Footage (ft): 2585	
Job					
Job Type:		Connection to Well: YES		Top Plug: YES	
Lift Pressure (PSI): 1480	Max Annulus Pressure (PSI):	Mix Water Temp (F°):		Bottom Plug: No	
Casing/Tubing Secured : YES	Pipe Rotated: No	Cement Return to Surface (bbl):	Top Job (bbl): no		
Pipe Reciprocated : No	Circulation Lost: yes	Job Completed:			

Cement Job Log

<b>NEXTIER</b>		Customer: NORTHEAST NATURAL ENERGY LLC		Date: 11/4/2019		Serv. Supervisor: Aaron Shreve					
Cust. Rep.: Jamie		Ticket #: JWV1910-0009		Serv. Center: Jane Lew - 3044							
Lease: Lemley - 14H		API Well #: 47-061-01861		County: Monongalia State: WV							
Well Type:		Rig: Patterson 334		Type of Job: CM-PROD. CASING							
Materials Furnished by C&J ENERGY SERVICES											
Plugs		Casing Hardware			Physical Slurry Properties						
					Sacks of Cement	Fluid Dense (lb/gal)	Excess	Yield (cuft/sk)	Mix Water (gal/sk)	Fluid Volume (bbls)	Mix Water (bbls)
13.5 ppg PureScrub Spacer w/Surfactant		+7.0 PPB CIX157011+55.0 PPB C1111+1.1 GPB C1880				13.5				100.00	
14.5 ppg Cement		50 % C1010-74+50 % C1910 +0.2 % CIX157011+0.25 % C1FCP013+0.4 % C1415+0.15 % C1504+0.3 % C1511			3455	14.5		1.16	4.88	713.51	401
Displacement										419.99	
0											
Displacement Chemicals:											
OPEN HOLE DATA				TUBULAR DATA							
8.75 in. O.H. (2,585 to 7,313 ft)		5.5 in. 20#, ( 0 to 19,151 ft)		SIZE WEIGHT	THREAD	DEPTH (ft)	GRADE	ID (in)	BURST (psi)	COLLAPSE (psi)	
8.5 in. O.H. (7,313 to 19,185 ft)				5.5	BTC	19151					
Mix Cement Temperature °F	Lead Temp.	Middle Temp.	Tail Temp.								
75.0 °F			75.0 °F	9.825	BTC	2585					
PREVIOUS CASING DATA			PERFORATED INTERVAL DATA				CASING EQUIPMENT DEPTHS				
9.825 in. 30# ( 0 to 2,585 ft)			TOP	BTM	SPF	SIZE	SHOE	FLOAT	STAGE	ACP	
							45'	19106			
WELL FLUID		DISPLACEMENT FLUID		DIFF PRESS (psi)	CAS LIFT (psi)	MAX PRESS (psi)	Total Number of Flows		WATER ON LOG (bbl)		
TYPE	DENSITY	VOLUME	TYPE	DENSITY							
		424 bbl	Fresh	8.3 ppg	3511	6664			1600		

# Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	2/4/2020
Job End Date:	2/21/2020
State:	West Virginia
County:	Monongalia
API Number:	47-061-01861-00-00
Operator Name:	Northeast Natural Energy LLC
Well Name and Number:	Lemley 14H
Latitude:	39.67075000
Longitude:	-80.13721700
Datum:	NAD83
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	8,408
Total Base Water Volume (gal):	23,557,566
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	87.39048	None
Sand (100 Mesh Proppant)	ProFrac	Proppant					
			Silica Substrate	14808-60-7	100.00000	8.64255	None
Sand (40/70 White Proppant)	ProFrac	Proppant					
			Silica Substrate	14808-60-7	100.00000	3.72514	None
Hydrochloric Acid (7.5%)	PVS	Acidizing					
			Water	7732-18-5	85.00000	0.13570	None
			Hydrochloric Acid (Hydrogen Chloride)	7647-01-0	36.00000	0.05747	None
StimSTREAM FR 9800	ChemStream	Friction Reducer					
			Butene, homopolymer	9003-29-6	25.00000	0.01124	None
			Alkanes, C16-20-iso-	90622-59-6	25.00000	0.01124	None
			Ethoxylated alcohols (C12-18)	68213-23-0	3.00000	0.00135	None
Clearal 268	ChemStream	Biocide					
			Non-hazardous substances	Proprietary	90.00000	0.01643	None



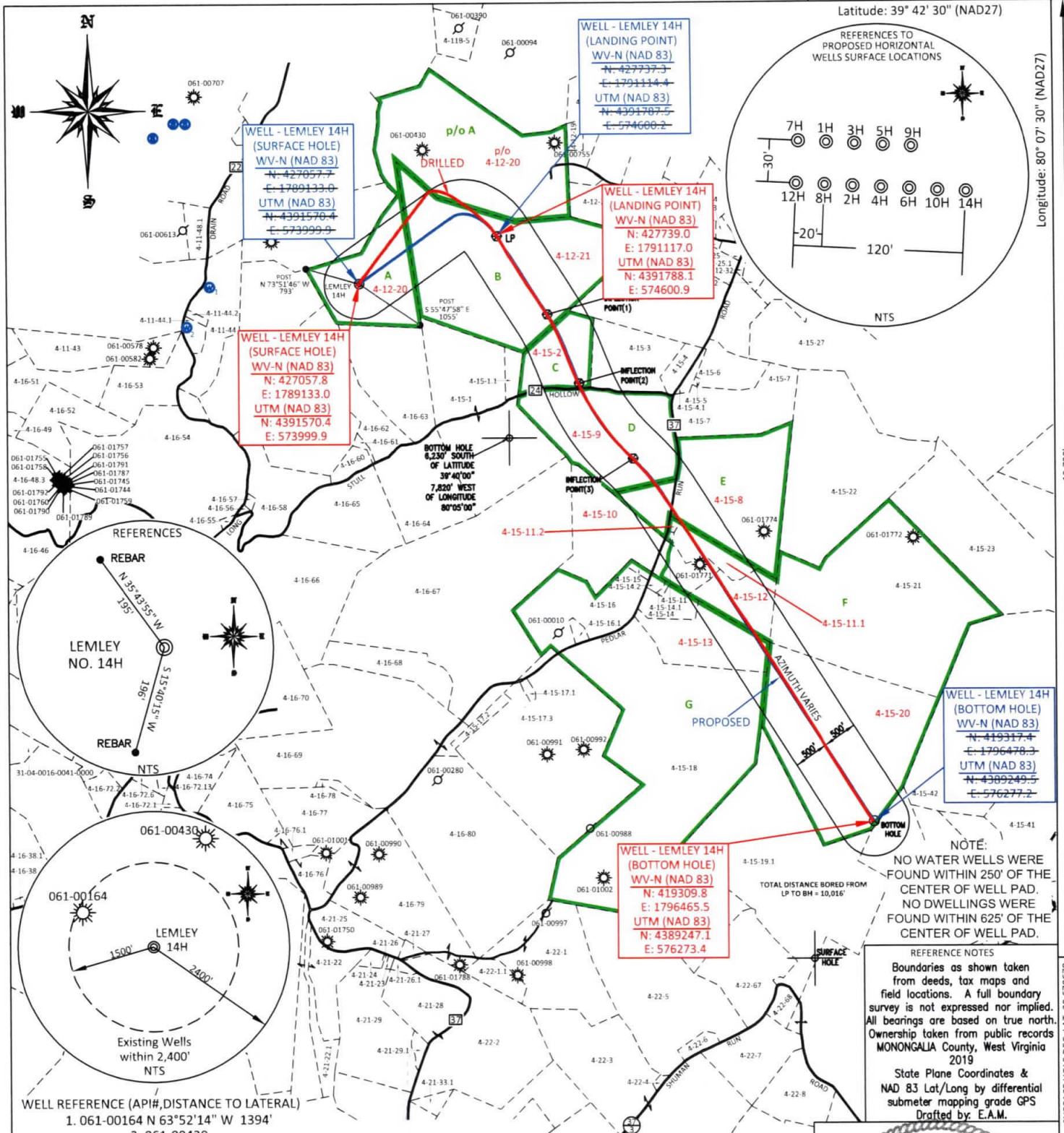
				Glutaraldehyde	111-30-8	20.00000	0.00365	None
				Alkyl dimethyl benzyl ammonium chloride	68391-01-5	3.00000	0.00055	None
				Didecyl dimethyl ammonium chloride	7173-51-5	3.00000	0.00055	None
StimSTREAM SC-398	ChemStream	Scale Inhibitor		Non-hazardous substances	Proprietary	100.00000	0.01798	None
				Bis(Hexamethylene Triamine Penta(Methylene Phosphonic Acid) (BHMT)	34690-00-1	10.00000	0.00180	None
ProFE 105	ProFrac	Iron Control		Citric Acid	77-92-9	50.50000	0.00029	None
				Water	7732-18-5	49.50000	0.00029	None
ProHib 100	ProFrac	Acid Inhibitor		Methyl alcohol	67-56-1	45.00000	0.00018	None
				Ethylene glycol	107-21-1	20.00000	0.00008	None
				Isoquinoline	119-65-3	15.00000	0.00006	None
				N,N-Dimethylformamide	68-12-2	10.00000	0.00004	None
				Water	7732-18-5	10.00000	0.00004	None
				2-Butoxyethanol	111-76-2	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	0.13570	
				Non-hazardous substances	Proprietary	100.00000	0.01798	
				Non-hazardous substances	Proprietary	90.00000	0.01643	
				Butene, homopolymer	9003-29-6	25.00000	0.01124	
				Ethoxylated alcohols (C-12-18)	88213-23-0	3.00000	0.00135	
				Didecyl dimethyl ammonium chloride	7173-51-5	3.00000	0.00055	
				Alkyl dimethyl benzyl ammonium chloride	68391-01-5	3.00000	0.00055	
				Water	7732-18-5	49.50000	0.00029	
				Ethylene glycol	107-21-1	20.00000	0.00008	
				Isoquinoline	119-65-3	15.00000	0.00006	
				N,N-Dimethylformamide	68-12-2	10.00000	0.00004	
				Water	7732-18-5	10.00000	0.00004	
				2-Butoxyethanol	111-76-2	5.00000	0.00002	

\* 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%

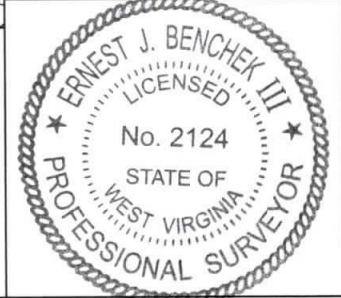
Note: For Field Development Products (products that begin with FDP), MSDS level only information has been provided. Ingredient information for chemicals subject to 29 CFR 1910.1200(i) and Appendix D are obtained from suppliers Material Safety Data Sheets (MSDS)





FILE #: NEE14  
DRAWING #: 2909  
SCALE: PLAT: 1" = 2000'  
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: CLARENCE W. LEMLEY JR. & CHARLOTTE E. LEMLEY  
OIL & GAS ROYALTY OWNER: LEROY TENNANT, et al  
LEASE NUMBERS:

DATE: APRIL 20, 2020  
OPERATOR'S WELL #: LEMLEY 14H AS-DRILLED  
API WELL #: 47 61 01861  
STATE COUNTY PERMIT  
AS-BUILT ELEVATION: 1,539.47'  
QUADRANGLE: BLACKSVILLE, WV  
ACREAGE: 128.58 +/-  
ACREAGE: 787.024 +/-

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  
AS-DRILLED DEPTH: TVD: 8,228' TMD: 19,185'  
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

SURFACE HOLE DEC. LAT: 39.706270 SURVEYED LAT: 39 40 14.4