

WR-35
Rev. 8/23/13

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

WV Department of
Environmental Protection

API 47 - 061 - 01847 County Monongalia District Clay
Quad Blacksville, WV Pad Name Lemley Field/Pool Name _____
Farm name Clarence W. Jr. & Charlotte E. Lemley Well Number 6H
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 4391570.9 Easting 573987.7
Landing Point of Curve Northing 4391651.6 Easting 574130.6
Bottom Hole Northing 4388747.4 Easting 576058.7

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

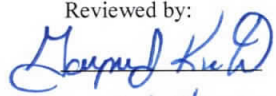
Drilling Media Surface hole Air Mud Fresh Water Intermediate hole Air Mud Fresh Water Brine
Production hole Air Mud Fresh Water Brine

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 8/29/2019 Date drilling commenced 9/4/2019 Date drilling ceased 11/12/2019
Date completion activities began 1/13/2020 Date completion activities ceased 2/1/2020
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:

6/5/2020

API 47-061 - 01847

Farm name Clarence W. Jr. & Charlotte E. Lemley Well number 6H

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	NA	CTS
Surface	17.5"	13-3/8"	1,188'	N	54.5	NA	CTS, 30 bbl
Coal							
Intermediate 1	12.25"	9-5/8"	2,621'	N	36	NA	CTS, 60 bbl
Intermediate 2							
Intermediate 3							
Production	8.5"	5.5"	20,143'	N	20	NA	N
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	4500 psi ready mix	36				CTS	48
Surface	Class A	984	15.6	1.18	1,162	CTS	8
Coal							
Intermediate 1	Class A	1,200	15.6	1.18	1,414	CTS	8
Intermediate 2							
Intermediate 3							
Production	Class A	3,675	14.5	1.16	4,255	2,021'	48
Tubing							

Drillers TD (ft) 20,169'

Loggers TD (ft) 20,139'

Deepest formation penetrated Marcellus

Plug back to (ft) NA

Plug back procedure NA

Kick off depth (ft) 7,182'

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 - 01847 Farm name Clarence W. Jr. & Charlotte E. Lemley Well number 6H

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.

API 47- 061 - 01847 Farm name Clarence W. Jr. & Charlotte E. Lemley Well number 6H

<u>PRODUCING FORMATION(S)</u>	<u>DEPTHS</u>	
Marcellus	8,129'	TVD 20,169' MD
_____	_____	_____
_____	_____	_____
_____	_____	_____

Please insert additional pages as applicable.

GAS TEST Build up Drawdown Open Flow OIL TEST Flow Pump

SHUT-IN PRESSURE Surface 3536 psi Bottom Hole _____ psi DURATION OF TEST 24 hrs

OPEN FLOW Gas 1793 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		See Attached

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 6H Perforation Information

Stage Number	Report Date	Cluster 5 Bottom TD	Cluster 1 Top TD	Total Shots
1	1/13/20	20,010	0	0
2	1/13/20	19,807	19,966	40
3	1/14/20	19,606	19,765	40
4	1/14/20	19,404	19,563	40
5	1/14/20	19,203	19,362	40
6	1/15/20	19,001	19,161	40
7	1/15/20	18,800	18,859	40
8	1/15/20	18,599	18,758	40
9	1/16/20	18,397	18,556	40
10	1/16/20	18,196	18,355	40
11	1/17/20	17,994	18,153	40
12	1/17/20	17,793	17,952	40
13	1/17/20	17,591	17,750	40
14	1/18/20	17,390	17,549	40
15	1/18/20	17,188	17,348	40
16	1/18/20	16,987	17,146	40
17	1/19/20	16,786	16,945	40
18	1/19/20	16,584	16,743	40
19	1/19/20	16,383	16,542	40
20	1/20/20	16,181	16,340	40
21	1/20/20	15,980	16,139	40
22	1/20/20	15,778	15,938	40
23	1/21/20	15,577	15,736	40
24	1/21/20	15,375	15,535	40
25	1/21/20	15,174	15,333	40
26	1/22/20	14,973	15,132	40
27	1/22/20	14,771	14,930	4
28	1/22/20	14,570	14,729	40
29	1/23/20	14,368	14,527	40
30	1/23/20	14,167	14,326	40
31	1/23/20	13,965	14,125	40
32	1/24/20	13,764	13,923	40
33	1/24/20	13,563	13,722	40
34	1/24/20	13,361	13,520	40
35	1/25/20	13,160	13,319	40
36	1/25/20	12,958	13,117	40
37	1/26/20	12,757	12,916	40
38	1/26/20	12,556	12,715	40
39	1/26/20	12,354	12,513	40
40	1/26/20	12,152	12,312	40
41	1/27/20	11,951	12,110	40
42	1/27/20	11,750	11,909	40
43	1/28/20	11,548	11,707	40
44	1/28/20	11,347	11,506	40
45	1/28/20	11,145	11,304	40
46	1/29/20	10,944	11,103	40
47	1/29/20	10,742	10,902	40
48	1/29/20	10,541	10,700	40
49	1/30/20	10,339	10,499	40
50	1/30/20	10,138	10,297	40
51	1/31/20	9,937	10,096	40
52	1/31/20	9,735	9,894	40
53	1/31/20	9,534	9,693	40
54	1/31/20	9,332	9,491	40
55	2/1/20	9,131	9,290	40
56	2/1/20	8,929	9,089	40
57	2/1/20	8,727	8,887	40
58	2/2/20	8,527	8,686	40

Lemley 6H Frac Summary

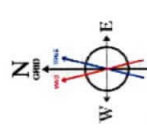
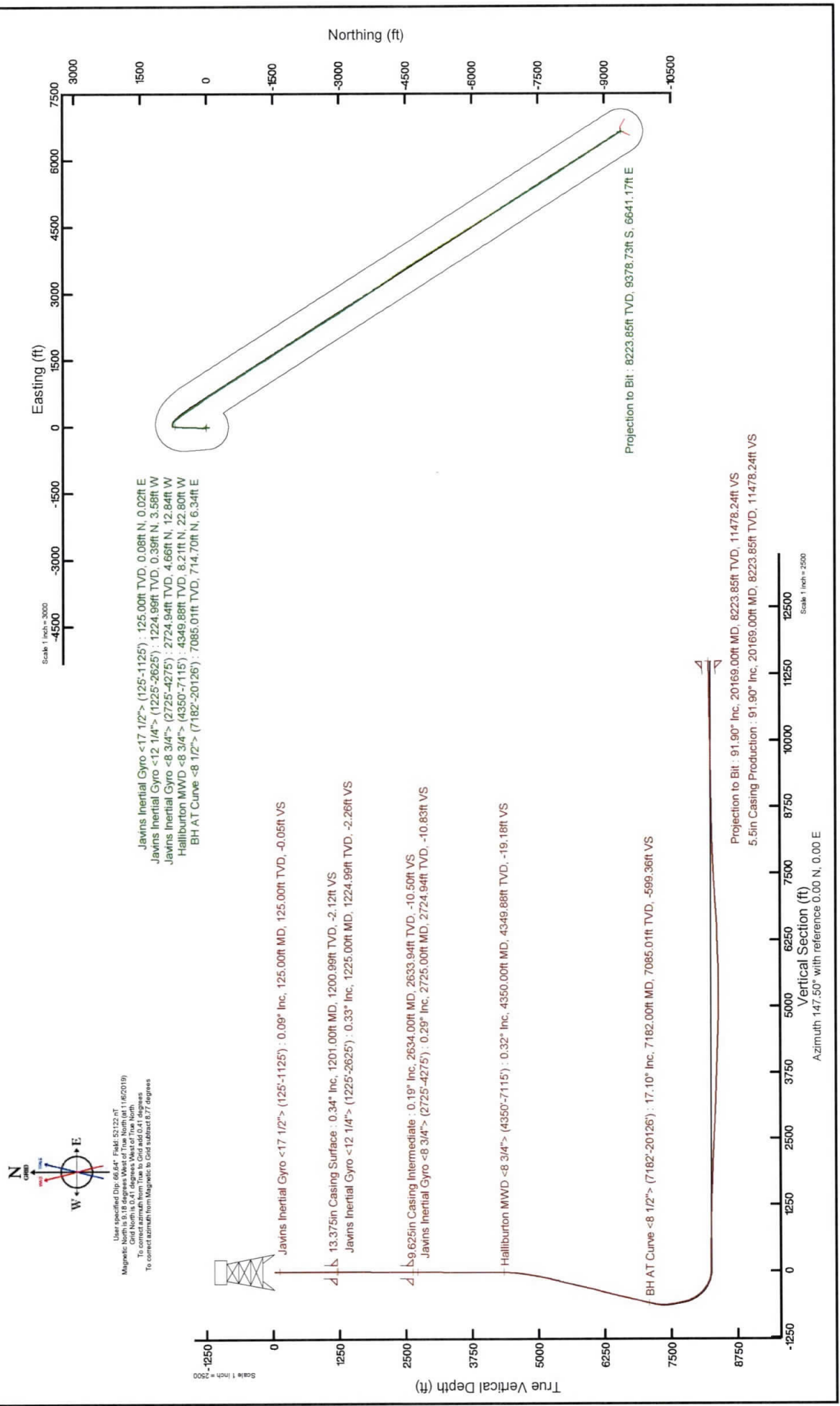
Stage Number	Report Date	ISIP (psi)	Breakdown Pressure (psi)	Avg Treating Pressure (psi)	Avg Treating Rate (BPM)	Pad Volume (bbls)	Total Clean Fluid (Bbls)	Total Proppant Amount (lbs)	Flush Volume (bbls)
1	1/13/20	5,946	0	9,318	89	378	6,927	309,980	450
2	1/13/20	5,552	7,135	9,390	84	165	10,617	500,380	443
3	1/14/20	5,940	6,311	9,275	89	52	10,674	504,540	440
4	1/14/20	6,091	6,501	9,478	90	215	10,713	500,400	433
5	1/14/20	6,029	6,209	9,159	83	18	10,302	501,720	429
6	1/15/20	6,091	6,296	9,691	90	64	10,444	500,080	425
7	1/15/20	5,527	6,124	9,488	87	104	10,072	500,360	420
8	1/15/20		6,460	9,353	80	59	9,443	475,280	152
9	1/16/20	6,320	6,507	9,742	89	89	10,544	500,320	414
10	1/16/20	5,611	6,083	8,879	83	38	10,349	500,530	407
11	1/17/20	6,320	6,272	9,568	90	55	10,439	500,920	402
12	1/17/20	5,953	6,288	9,641	89	74	10,235	500,460	400
13	1/17/20	5,880	6,133	9,055	85	58	10,147	500,000	394
14	1/18/20	6,240	6,590	8,946	81	77	10,162	499,300	390
15	1/18/20	6,127	6,594	9,669	88	80	10,002	500,680	385
16	1/18/20	6,482	6,343	9,054	83	36	9,839	500,580	381
17	1/19/20	5,601	6,671	9,217	81	24	9,573	475,040	400
18	1/19/20	6,261	6,482	9,614	87	65	10,102	501,120	375
19	1/19/20	6,501	6,165	8,869	82	110	10,159	500,000	367
20	1/20/20	6,365	6,611	9,069	80	7	9,285	466,480	361
21	1/20/20	6,004	6,032	9,276	89	73	10,322	500,260	360
22	1/20/20	6,067	5,929	8,632	83	51	10,649	500,480	354
23	1/21/20	5,987	6,163	8,885	86	82	9,656	500,980	352
24	1/21/20	6,135	5,310	9,007	85	28	9,820	500,880	345
25	1/21/20	6,242	6,130	8,734	84	49	9,583	500,640	341
26	1/22/20	6,112	6,057	9,034	89	14	10,280	500,460	344
27	1/22/20	6,034	5,836	8,532	85	68	10,414	500,960	332
28	1/22/20	5,817	5,979	8,687	84	22	9,198	464,160	329
29	1/23/20	6,119	5,940	8,626	89	31	10,284	500,400	332
30	1/23/20	5,918	6,232	8,495	87	23	10,013	501,160	318
31	1/23/20	6,213	6,251	8,446	85	64	9,663	500,040	314
32	1/24/20	5,938	6,336	8,932	89	30	10,497	500,960	316
33	1/24/20	5,931	6,375	8,626	84	49	9,869	500,620	305
34	1/24/20	6,171	6,340	8,910	83	25	9,410	468,040	300
35	1/25/20	6,021	6,198	8,576	90	22	10,058	500,640	300
36	1/25/20	5,943	6,035	8,472	90	39	9,702	505,800	292
37	1/26/20	6,030	6,119	8,400	90	29	10,038	500,040	289
38	1/26/20	5,922	6,667	8,476	89	33	10,146	500,800	317
39	1/26/20	5,243	5,689	8,450	89	32	9,562	504,080	278
40	1/26/20	6,158	6,372	8,380	89	37	9,308	501,120	273
41	1/27/20	5,187	6,344	8,629	90	30	9,910	497,140	269
42	1/27/20		6,498	8,863	89	62	8,652	450,680	0
43	1/28/20	5,737	6,564	8,712	87	32	10,595	500,440	259
44	1/28/20	5,836	6,273	8,266	89	24	10,086	500,420	256
45	1/28/20	6,295	6,465	8,090	89	99	10,023	500,520	251
46	1/29/20	6,111	6,946	8,323	88	32	10,200	500,180	246
47	1/29/20	5,894	6,681	8,682	88	30	10,323	500,800	242
48	1/29/20	6,131	6,001	8,607	90	67	9,861	498,580	238
49	1/30/20	5,856	6,523	8,768	90	27	10,118	500,860	232
50	1/30/20	5,854	6,196	8,405	90	29	10,095	500,540	230
51	1/31/20	6,184	5,719	8,494	89	67	9,779	509,320	126
52	1/31/20	5,969	6,268	8,114	90	16	9,965	500,160	219
53	1/31/20	5,993	5,945	8,389	90	27	10,126	499,960	215
54	1/31/20	5,568	5,662	8,041	90	206	9,672	504,280	0
55	2/1/20	6,045	6,052	8,170	94	239	9,407	500,120	205
56	2/1/20	6,305	6,440	7,981	90	38	9,944	500,020	201
57	2/1/20	6,288	5,500	7,990	89	231	9,435	504,100	0
58	2/2/20	4,988	5,025	8,358	88	136	9,128	463,640	193

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
Geneseo shale	7918	7969	Geneseo shale
Tully Limestone	7969	8044	Tully Limestone
Hamilton shale	8044	8129	Hamilton shale
Marcellus shale	8129	TD	Marcellus shale

Location Information			
Facility Name	Grid East (US ft)	Grid North (US ft)	Longitude
Lemley Pad	1789033.100	427062.900	80°08'15.259"W
Slot	Local N (ft)	Local E (ft)	Latitude
Slot 6H	-3.04	59.92	39°40'14.718"N
Patterson 334 (KB) to Ground level (At Slot: Slot 6H)			
Mean Sea Level to Ground level (At Slot: Slot 6H)	25ft		
Patterson 334 (KB) to Mean Sea Level	-1534ft		
Comments			
API: 47-061-01947-0000			
BH Job #: 11012362A			
Rig: Patterson 334			
Duration: 11/07/2019 - 11/11/2019			



NORTHEAST NATURAL ENERGY, LLC	
Location: Monongalia County, WV	Slot: Slot 6H
Field: Monongalia	Well: Lemley 6H
Facility: Lemley Pad	Wellbore: Lemley 6H PWB
Photoreference wellbore is Lemley 6H PWB Rev 6.0	
Grid System: NAD83 / Lambert West Virginia SP, Northern Zone (4701), US feet	
True vertical depths are referenced to Patterson 334 (KB)	
North Reference: Grid north	
Scale: True distance	
Measured depths are referenced to Patterson 334 (KB)	
Depths are in feet	
Patterson 334 (KB) to Mean Sea Level: 1534 feet	
Mean Sea Level to Ground level (At Slot: Slot 6H): -1534 feet	
Coordinates are in feet referenced to Slot	
Created by atemp on 2019-11-11	
Database: WA_MPL_EASTERNUS_Datn	



User specified Dip: 66.64° Field: 52122.NT
Magnetic North is 9.18 degrees West of True North (at 11/05/2019)
To correct azimuth from True to Grid add 0.41 degrees
To correct azimuth from Magnetic to Grid subtract 8.77 degrees

Javins Inertial Gyro <17 1/2'>: 125.00ft TVD, 0.08ft N, 0.02ft E
Javins Inertial Gyro <12 1/4'>: 1225.00ft TVD, 0.39ft N, 3.59ft W
Halliburton MWD <8 3/4'>: 2724.94ft TVD, 4.66ft N, 12.84ft W
BH AT Curve <8 1/2'>: 7085.01ft TVD, 714.70ft N, 6.34ft E



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:	09/04/19	09/05/19		
Time:	5:pm	2:57am	5:30am	7:30am

Customer and Well Information					
Customer: NORTHEAST		Well Name: LEMELY		Well #: 6H	Well Type: GAS
County:	State: WV	AFE #/API #: 100368-602		PO #/Permit #:	Well Class:
Field:		Lease: LEMLEY		Rig Name/# : Dicker rig 8	
Wellbore Information					
Bit Size (Inches): 17.5	Well MD (ft):	Well TVD (ft): 1269	BHST (F°):	BHCT (F°):	Deviation (°):
Drilling Fluid Type:	Drilling Fluid Density (ppg):		Packer Depth (ft):	Treating Down:	
Previous Casing/Liner					
Size (Inches): 24	Weight (lb/ft):	Thread:	Grade:	Total Footage (ft): 50	
Casing/Liner/Tubing					
Size (Inches): 13 3/8	Weight (lb/ft): 54.5	Thread:	Grade:	Total Footage (ft): 1188	
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): 30		Top Job (bbl): no	
Pipe Reciprocated : No	Circulation Lost: yes	Job Completed: yes			



Ticket #: 0

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

Job Times				
Date:	On Loc: 09/11/19	Job Start: 09/11/19	Job End: 09/12/19	Off Loc: 09/12/19
Time:	12:pm	11:25pm	2:00am	4:00am

Customer and Well Information					
Customer: NORTHEAST		Well Name: LEMLEY		Well #: 6H	Well Type: GAS
County:	State: WV	AFE #/API #: 100368-602		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): 2714	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): 1188	
Casing/Liner/Tubing					
Size (Inches): 9 5/8	Weight (lb/ft): 36	Thread:	Grade:	Total Footage (ft): 2621	
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): 60	Top Job (bbl): no	
Pipe Reciprocated : No	Circulation Lost: yes	Job Completed: yes			

Cement Job Log



Customer: NORTHEAST NATURAL ENERGY LLC	Date: 11/11/2019	Serv. Supervisor: Jason Beeson							
Cust. Rep.: Josh Grim	Ticket #: JWV1911-0002	Serv. Center: Jane Lew - 3044							
Lease: Lemley - 6H	API Well #: 47-061-01847	County: Monongalia	State: WV						
Well Type: Production	Rig: Patterson 334	Type of Job: CM-P2A-PERM.							
Materials Furnished by C&J ENERGY SERVICES									
Plugs	Casing Hardware				Physical Slurry Properties				
		Sacks of Cement	Fluid Dens (lb/gal)	Excess	Yield (cuft/sk)	Mix Water (gal/sk)	Fluid Volume (bbls)	Mix Water (bbls)	
13.5 ppg PureScrub Space w/Surfactant	+7.0 PPB CIX157011+55.0 PPB CJ111+1.1 GPB CJ880		13.5				100.00		
14.5 ppg Cement	50 % CJ010-74+50 % CJ910 +0.2 % CIX157011+0.2 % CJFCP013+0.4 % CJ415+0.15 % CJ504+0.3 % CJ511	3675	14.5		1.16	4.88	758.74	427	
Displacement							445.87		
0									
Displacement Chemicals:									
TUBULAR DATA									
OPEN HOLE DATA		TUBULAR DATA							
8.75 in. O.H. (2,621 to 7,200 ft) 8.5 in. O.H. (7,200 to 20,179 ft)		5.5 in. 20#, (0 to 20,143 ft)	SIZE WEIGHT	THREAD	DEPTH (ft)	GRADE	ID (in)	BURST (psi)	COLLAPSE (psi)
Mix Cemt. Temperature °F	Lead Temp.	Middle Temp.	Tail Temp.	5.5 20#	blc	20193			
23.0 °F			59.0 °F	9.625 36#		2621			
PREVIOUS CASING DATA		PERFORATED INTERVAL DATA				CASING EQUIPMENT DEPTHS			
9.625 in. 36# (0 to 2,621 ft)		TOP	BTM	SPF	SIZE	SHOE	FLOAT	STAGE	ACP
WELL FLUID		DISPLACEMENT FLUID		DIFF PRESS (psi)	CSG LIFT (psi)	MAX PRESS (psi)	Total Number of Runs		WATER ON Loc (bbl)
TYPE	DENSITY	VOLUME	TYPE	DENSITY					
		444 bbl	fresh	8.3 ppg	2206	6921			900

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	1/13/2020
Job End Date:	2/2/2020
State:	West Virginia
County:	Monongalia
API Number:	47-061-01847-00-00
Operator Name:	Northeast Natural Energy LLC
Well Name and Number:	Lemley 6H
Latitude:	39.67075500
Longitude:	-80.13735900
Datum:	NAD83
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	8,403
Total Base Water Volume (gal):	24,855,404
Total Base Non Water Volume:	0



Hydraulic Fracturing Fluid Composition:

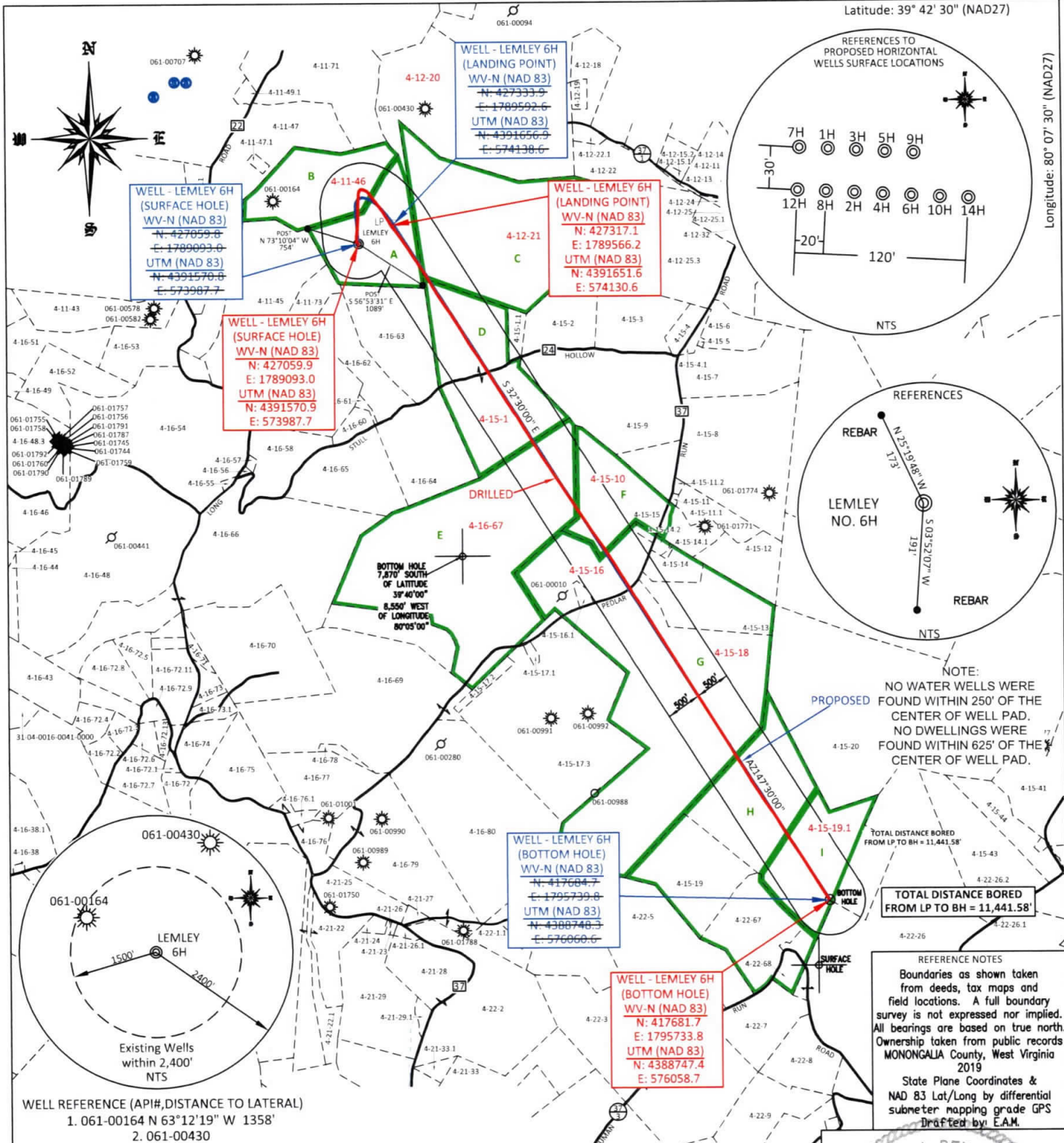
Trade Name	Supplier	Purpose	Ingredients	Chemical Abstract Service Number (CAS #)	Maximum Ingredient Concentration in Additive (% by mass)**	Maximum Ingredient Concentration in HF Fluid (% by mass)**	Comments
Water	Northeast Natural Energy	Carrier/Base Fluid					
			Water	7732-18-5	100.00000	87.65819	None
Sand (100 Mesh Proppant)	ProFrac	Proppant					
			Silica Substrate	14808-60-7	100.00000	8.49755	None
Sand (40/70 White Proppant)	ProFrac	Proppant					
			Silica Substrate	14808-60-7	100.00000	3.59835	None
Hydrochloric Acid (7.5%)	PVS	Acidizing					
			Water	7732-18-5	85.00000	0.13678	None
			Hydrochloric Acid (Hydrogen Chloride)	7647-01-0	36.00000	0.05793	None
StimSTREAM FR 9800	ChemStream	Friction Reducer					
			Alkanes, C16-20-iso-	90622-59-6	25.00000	0.01183	None
			Butene, homopolymer	9003-29-6	25.00000	0.01183	None
			Ethoxylated alcohols (C12-18)	68213-23-0	3.00000	0.00142	None
Clearal 268	ChemStream	Biocide					
			Non-hazardous substances	Proprietary	90.00000	0.01658	None

				111-30-8	20.00000	0.00368	None
				Alkyl dimethyl benzyl ammonium chloride	3.00000	0.00055	None
				7173-51-5	3.00000	0.00055	None
StimSTREAM SC-398	ChemStream	Scale Inhibitor		Proprietary	100.00000	0.01843	None
				34690-00-1	10.00000	0.00184	None
ProFE 105	ProFrac	Iron Control					
				77-92-9	50.50000	0.00025	None
				Water	49.50000	0.00024	None
ProHib 100	ProFrac	Acid Inhibitor					
				67-56-1	45.00000	0.00015	None
				107-21-1	20.00000	0.00007	None
				119-65-3	15.00000	0.00005	None
				N,N-Dimethylformamide	10.00000	0.00003	None
				Water	10.00000	0.00003	None
				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	85.00000	0.13678	
				Non-hazardous substances	100.00000	0.01843	
				Non-hazardous substances	90.00000	0.01658	
				Butene, homopolymer	25.00000	0.01183	
				Ethoxylated alcohols (C12-18)	3.00000	0.00142	
				7173-51-5	3.00000	0.00055	
				Alkyl dimethyl benzyl ammonium chloride	3.00000	0.00055	
				Water	49.50000	0.00024	
				Ethylene glycol	20.00000	0.00007	
				Isoquinoline	15.00000	0.00005	
				Water	10.00000	0.00003	
				N,N-Dimethylformamide	10.00000	0.00003	
				2-Butoxyethanol	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)



NOTE:
NO WATER WELLS WERE FOUND WITHIN 250' OF THE CENTER OF WELL PAD.
NO DWELLINGS WERE FOUND WITHIN 625' OF THE CENTER OF WELL PAD.

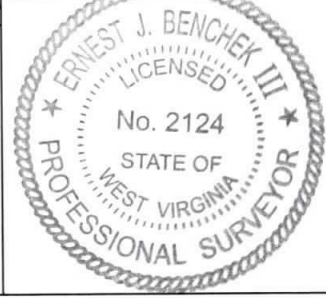
TOTAL DISTANCE BORED FROM LP TO BH = 11,441.58'

REFERENCE NOTES
Boundaries as shown taken from deeds, tax maps and field locations. A full boundary survey is not expressed nor implied. All bearings are based on true north. Ownership taken from public records MONONGALIA County, West Virginia 2019
State Plane Coordinates & NAD 83 Lat/Long by differential submeter mapping grade GPS
Drafted by: E.A.M.

WELL REFERENCE (API#, DISTANCE TO LATERAL)
1. 061-00164 N 63°12'19" W 1358'
2. 061-00430

FILE #: NEE14
DRAWING #: 2904
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:
TARGET FORMATION: MARCELLUS
WELL OPERATOR: NORTHEAST NATURAL ENERGY LLC
ADDRESS: 707 VIRGINIA STREET EAST, SUITE 1200
CITY: CHARLESTON STATE: WV ZIP CODE: 25301

DATE: APRIL 20, 2020
OPERATOR'S WELL #: LEMLEY 6H AS-DRILLED
API WELL #: 47 61 01847
STATE COUNTY PERMIT
AS-BUILT ELEVATION: 1,539.47'
QUADRANGLE: BLACKSVILLE, WV
ACREAGE: 128.58 +/-
ACREAGE: 827.771 +/-
DRILL CONVERT DRILL DEEPER REDRILL FRACTURE OR STIMULATE
PLUG OFF FORMATION PERFORATE NEW FORMATION PLUG & ABANDON
CLEAN OUT & REPLUG OTHER CHANGE (SPECIFY):
AS-DRILLED DEPTH: TVD: 8,223' TMD: 20,169'
DESIGNATED AGENT: JOHN ADAMS
ADDRESS: 707 VIRGINIA STREET EAST, SUITE 1200
CITY: CHARLESTON STATE: WV ZIP CODE: 25301