

MAY - 1 2020

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 - 01839 County Monongalia District Clay  
Quad Blacksville, WV Pad Name Cummins Field/Pool Name \_\_\_\_\_  
Farm name Jerry L. Yost et al Well Number 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 4390560.3 Easting 570274.6  
Landing Point of Curve Northing 4390870.3 Easting 570749.1  
Bottom Hole Northing 4387919.5 Easting 573065.5

Elevation (ft) 1,358' 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 5/10/2019 Date drilling commenced 7/11/2019 Date drilling ceased 9/29/2019  
Date completion activities began 11/23/2019 Date completion activities ceased 12/24/2019  
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 750', 906', 1,248' Open mine(s) (Y/N) depths N  
Salt water depth(s) ft 2,123' Void(s) encountered (Y/N) depths N  
Coal depth(s) ft 530', 906', 1,248' Cavern(s) encountered (Y/N) depths N  
Is coal being mined in area (Y/N) N

Reviewed by:  
*Dan J. Kn...*  
6/5/2020

API 47-061 - 01839 Farm name Jerry L. Yost et al Well number 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"	50'	N	NA	NA	Y
Surface	17.5"	13.375"	1,325'	N	54.5	NA	Y, 60 bbl
Coal							
Intermediate 1	12.25"	9.63"	2,480'	N	40	NA	Y, 30 bbl
Intermediate 2							
Intermediate 3							
Production	8.5"	5.5"	21,594'	N	20	NA	Y, 7 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	36		.75	27	CTS	48
Surface	Class A	1,200	15.6	1.18	1,420	CTS	8
Coal							
Intermediate 1	Class A	861	15.6	1.18	1,016	CTS	8
Intermediate 2							
Intermediate 3							
Production	Class A	3,955'	14.5	1.16	4,590	1,980	48
Tubing							

Drillers TD (ft) 21,635' Loggers TD (ft) 21,605'  
 Deepest formation penetrated Marcellus Plug back to (ft) NA  
 Plug back procedure NA

Kick off depth (ft) 5,705'

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 \_\_\_\_\_





### Cummins 10H Perforation Information

Stage Number	Report Date	Cluster 5 Bottom TD	Cluster 1 Top TD	Total Shots
1	11/23/19	21,458	0	0
2	11/24/19	21,258	21,415	40
3	11/24/19	21,060	21,217	40
4	11/25/19	20,861	21,018	40
5	11/25/19	20,663	20,820	40
6	11/25/19	20,465	20,621	40
7	11/25/19	20,266	20,423	40
8	11/26/19	20,068	20,224	40
9	11/26/19	19,869	20,026	40
10	11/27/19	19,671	19,828	40
11	11/27/19	19,472	19,629	40
12	11/28/19	19,274	19,431	40
13	11/28/19	19,075	19,232	40
14	11/29/19	18,877	19,034	40
15	11/29/19	18,565	18,720	40
16	11/30/19	18,480	18,637	40
17	11/30/19	18,480	18,637	40
18	12/1/19	18,083	18,240	40
19	12/1/19	17,885	18,041	40
20	12/1/19	17,686	17,843	40
21	12/2/19	17,488	17,645	40
22	12/3/19	17,289	17,446	40
23	12/3/19	17,091	17,248	40
24	12/4/19	16,892	17,049	40
25	12/4/19	16,694	16,851	40
26	12/5/19	16,496	16,652	40
27	12/5/19	16,297	16,454	40
28	12/6/19	16,099	16,255	40
29	12/6/19	15,900	16,057	40
30	12/6/19	15,702	15,859	40
31	12/7/19	15,503	15,660	40
32	12/8/19	15,305	15,462	40
33	12/8/19	15,106	15,263	40
34	12/9/19	14,908	15,065	40
35	12/9/19	14,710	14,866	40
36	12/9/19	14,511	14,668	40
37	12/10/19	14,313	14,469	40
38	12/10/19	14,114	14,271	40
39	12/10/19	13,916	14,072	40
40	12/11/19	13,717	13,874	40
41	12/12/19	13,519	13,676	40
42	12/12/19	13,320	13,477	40
43	12/13/19	13,122	13,279	40
44	12/13/19	12,923	13,080	40
45	12/14/19	12,725	12,882	40
46	12/14/19	12,527	12,683	40
47	12/15/19	12,328	12,485	40
48	12/15/19	12,130	12,286	40
49	12/16/19	11,931	12,088	40
50	12/16/19	11,733	11,890	40
51	12/16/19	11,534	11,691	40
52	12/17/19	11,336	11,493	40
53	12/18/19	11,137	11,294	40
54	12/18/19	10,939	11,096	40
55	12/19/19	10,741	10,897	40
56	12/19/19	10,542	10,699	40
57	12/19/19	10,344	10,500	40
58	12/20/19	10,145	10,302	40
59	12/20/19	9,947	10,103	40
60	12/21/19	9,748	9,905	40
61	12/21/19	9,550	9,707	40
62	12/22/19	9,351	9,508	40
63	12/22/19	9,153	9,310	40

**Cummins 10H Stimulation Information**

Stage Number	Report Date	ISIP (psi)	Breakdown Pressure (psi)	Avg Treating Pressure (psi)	Avg Treating Rate (BPM)	Pad Volume (bbbls)	Total Clean Fluid (Bbls)	Total Proppant Amount (lbs)	Flush Volume (bbbls)
1	11/23/19		0	0	0	842	1,252	0	0
2	11/24/19	5,119	6,569	9,822	71	628	9,339	392,080	476
3	11/24/19	6,527	6,400	9,441	80	463	10,310	450,100	482
4	11/25/19	6,251	6,259	9,545	81	253	9,945	450,380	470
5	11/25/19	5,076	6,270	10,047	83	25	9,394	450,480	469
6	11/25/19	5,931	6,193	9,968	83	19	9,521	450,520	468
7	11/25/19	6,134	6,675	9,897	83	25	9,171	453,400	461
8	11/26/19	5,396	6,712	9,874	83	107	9,469	450,140	453
9	11/26/19	6,200	5,754	9,773	85	54	9,387	450,150	451
10	11/27/19	6,153	4,919	9,606	83	188	9,368	449,940	448
11	11/27/19	5,415	6,806	9,858	81	28	9,273	440,080	434
12	11/28/19	5,754	6,259	9,890	86	24	9,501	454,580	432
13	11/28/19	6,274	7,050	9,828	86	123	9,426	450,160	430
14	11/29/19	5,433	5,315	9,818	85	32	9,390	450,060	417
15	11/29/19	5,822	6,438	9,700	84	327	9,759	450,340	426
16	11/30/19	5,492	5,729	9,866	89	27	9,064	450,640	411
17	11/30/19	5,758	6,016	9,910	88	22	9,314	450,820	406
18	12/1/19	6,459	6,185	9,478	85	195	9,353	456,140	406
19	12/1/19	5,174	6,013	9,970	88	15	9,851	439,560	428
20	12/1/19	6,403	6,162	9,654	85	48	9,068	455,500	395
21	12/2/19	6,285	6,028	9,581	82	18	8,896	432,340	392
22	12/3/19	6,074	5,788	9,698	83	15	10,303	452,900	1,203
23	12/3/19	5,400	5,966	9,556	85	20	9,339	450,720	380
24	12/4/19	5,508	5,908	9,372	86	75	9,509	450,420	382
25	12/4/19	6,336	5,919	9,365	86	122	9,232	450,100	374
26	12/5/19	6,290	6,143	9,099	81	8	9,156	449,960	374
27	12/5/19	6,042	6,160	9,479	85	89	9,268	450,620	368
28	12/6/19	6,220	5,191	9,538	81	108	9,391	450,520	361
29	12/6/19	5,880	6,319	9,461	81	86	9,900	450,700	360
30	12/6/19	5,969	6,162	9,558	84	41	8,955	445,060	352
31	12/7/19	6,277	6,074	9,554	87	14	9,299	450,520	348
32	12/8/19	6,293	6,107	9,368	86	54	9,425	456,860	444
33	12/8/19	5,410	5,897	8,956	86	67	9,245	451,060	346
34	12/9/19	5,435	5,974	9,024	81	22	8,283	449,820	331
35	12/9/19	6,272	6,147	8,996	84	107	9,335	450,580	331
36	12/9/19	6,196	6,232	8,964	79	35	9,320	450,160	330
37	12/10/19	5,974	6,268	9,409	87	28	9,006	450,460	325
38	12/10/19	5,669	6,449	9,063	84	47	9,124	450,720	325
39	12/10/19	5,926	6,392	8,899	84	53	8,685	451,500	313
40	12/11/19	6,528	6,082	8,938	86	12	8,639	452,660	306
41	12/12/19	6,221	6,851	9,072	86	180	12,062	455,500	311
42	12/12/19	5,978	6,014	8,720	82	38	10,463	450,640	298
43	12/13/19	6,271	6,150	8,814	88	26	9,318	453,340	294
44	12/13/19	6,502	6,310	8,380	79	12	9,314	450,760	295
45	12/14/19	6,035	6,465	8,995	89	66	9,264	450,200	285
46	12/14/19	5,440	6,496	9,061	87	17	9,277	450,760	280
47	12/15/19	6,241	6,322	8,638	81	22	9,182	449,980	277
48	12/15/19	6,514	6,560	8,969	88	29	9,208	450,440	272
49	12/16/19	6,171	6,308	8,789	86	86	9,430	450,980	267
50	12/16/19	6,689	6,368	8,674	89	25	9,245	450,820	263
51	12/16/19	6,082	6,213	8,546	86	30	9,218	451,920	258
52	12/17/19	6,179	6,586	8,731	86	27	8,939	451,520	253
53	12/18/19	6,603	6,666	8,966	88	25	9,351	450,220	252
54	12/18/19	6,453	6,158	8,564	89	40	9,193	450,860	246
55	12/19/19	6,615	6,555	8,730	89	77	9,214	450,740	242
56	12/19/19	6,069	6,241	8,464	88	39	9,098	451,740	240
57	12/19/19	5,846	6,343	7,974	80	57	9,104	450,840	240
58	12/20/19	6,407	6,442	8,469	90	69	9,009	449,840	230
59	12/20/19	6,142	5,012	8,290	87	80	9,246	450,160	230
60	12/21/19	6,940	6,585	8,497	89	52	9,169	450,960	220
61	12/21/19	6,189	6,046	7,815	80	35	8,983	450,760	216
62	12/22/19	5,994	6,696	8,486	88	38	8,784	443,180	211
63	12/22/19	5,770	8,160	8,607	89	58	9,111	451,020	208

**Cummins Lithology**

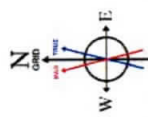
Lithology/Formation	Top Depth in FT TVD	Bottom Depth in FT TVD	Describe rock type and record quantity and type of fluid (freshwater, brine, oil, gas, H2S, etc)
Sand/silt	0	210	Sand/silt
silt/red shale	210	382	silt/red shale
coal/silt	382	400	coal/silt
limestone/siltstone/sandstone	400	530	limestone/siltstone/sandstone
coal	530	540	coal
siltstone/limestone/shale	540	710	siltstone/limestone/shale
limestone/siltstone	710	750	limestone/siltstone
siltstone/sandstone	750	802	siltstone/sandstone
coal	802	810	coal
sandstone/siltstone/limestone	810	862	sandstone/siltstone/limestone
coal	862	866	coal
sandstone/limestone	866	906	sandstone/limestone
coal - Pittsburgh	906	915	coal - Pittsburgh
Limestone/siltstone	915	1010	Limestone/siltstone
sandstone	1010	1030	sandstone
sandstone/siltstone/red shale	1030	1250	sandstone/siltstone/red shale
siltstone/sandstone	1250	1330	siltstone/sandstone
sandstone	1330	1340	sandstone
sandstone/siltstone/shale	1340	2010	sandstone/siltstone/shale
sandstone	2010	2040	sandstone
sandstone/siltstone/red shale	2040	2120	sandstone/siltstone/red shale
Little Lime	2123	2204	Little Lime
Big Lime	2204	2270	Big Lime
Big Injun Sandstone	2270	2365	Big Injun Sandstone
Siltstone	2365	2460	Siltstone
Berea Sandstone	2460	2470	Berea Sandstone
siltstone/shale	2470	2721	siltstone/shale
Gantz sandstone	2721	2730	Gantz sandstone
Gordon Sandstones	2730	3210	Gordon Sandstones
Upper Devonian Sands/silts	3210	5800	Upper Devonian Sands/silts
Eik siltstones and shales	5800	6500	Eik siltstones and shales
siltstone/gray shale	6500	7364	siltstone/gray shale
Middlesex shale/silt	7364	7667	Middlesex shale/silt
Burkett shale	7667	7846	Burkett shale
Geneseo shale	7846	7899	Geneseo shale
Tully Limestone	7899	7980	Tully Limestone
Hamilton shale	7980	8084	Hamilton shale
Marcellus shale	8084	TD	Marcellus shale

# NORTHEAST NATURAL ENERGY, LLC

Location: Monongalia County, WV  
 Field: Monongalia  
 Facility: Cummins Pad

Slot: Slot #10	Grid System: NAD83 / Lambert West Virginia SP, Northern Zone (4701), US feet
Well: Cummins 10H	North Reference: Grid north
Wellbore: Cummins 10H PWB	Scale: True distance
	Depths are in feet
	Patterson 334 (KB) to Mean Sea Level: 1383 feet
	Created by: atenjen on 2019-10-01
	Database: WA_MPL_EASTERNUS_Defn

Plot reference wellpath is Cummins 10H PWB Rev-A.1  
 Measured depths are referenced to Patterson 334 (KB)  
 Patterson 334 (KB) to Mean Sea Level: 1383 feet  
 Coordinates are in feet referenced to Slot



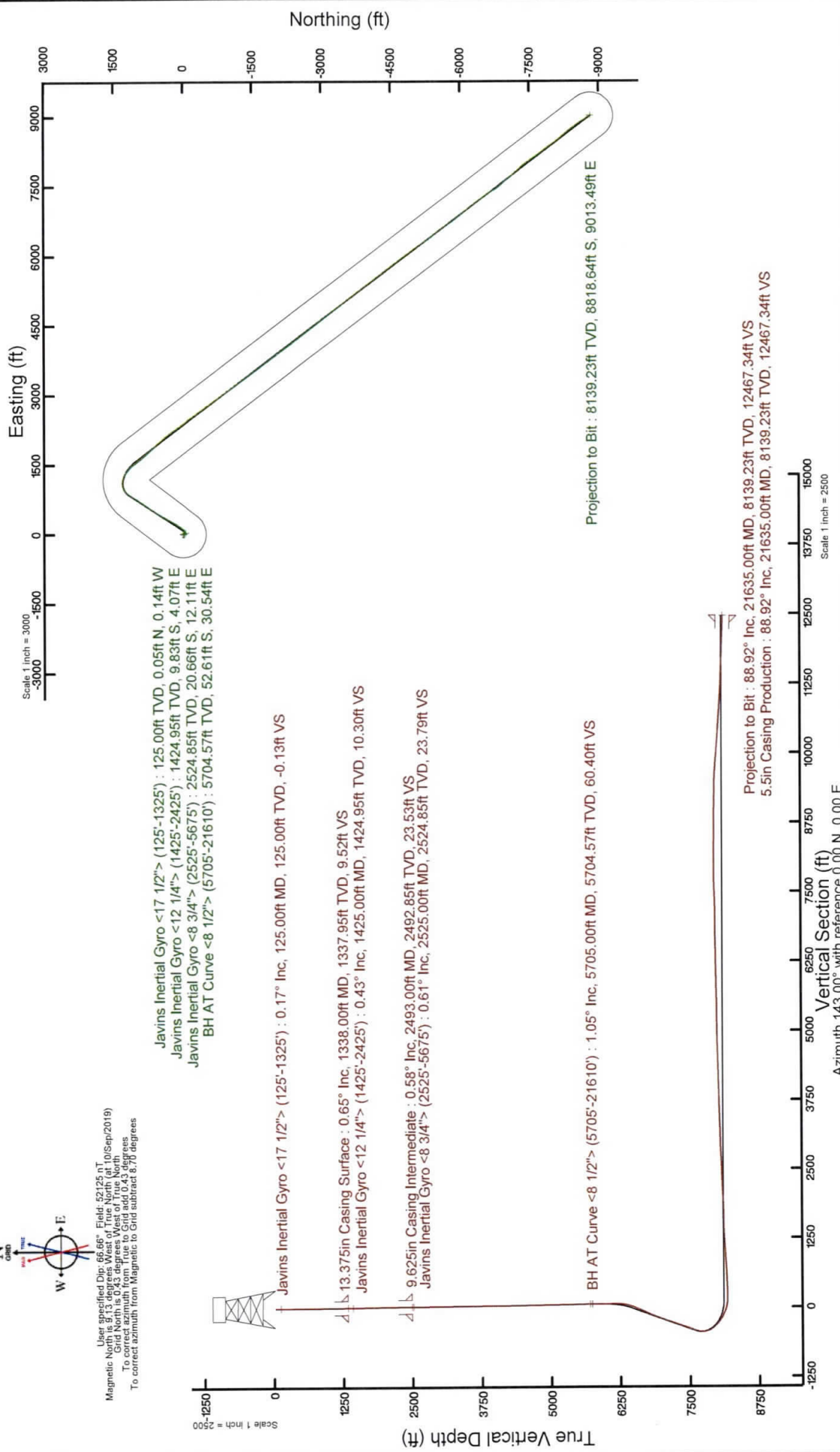
User specified Dip: 66.66° Field: 52125 nT  
 True vertical depths are referenced to Patterson 334 (KB)  
 Magnetic North is 9.13 degrees West of True North (at 10/Sep/2019)  
 To correct azimuth from Magnetic to Grid subtract 8.70 degrees  
 To correct azimuth from Magnetic to True subtract 84.39 degrees

## Location Information

Facility Name	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
Cummins Pad	1776796.000	423931.400	39°39'42.907"N	80°10'51.454"W
Slot	Local E (ft)	Grid East (US ft)	Latitude	Longitude
Slot #10	16.10	1776853.941	39°39'43.070"N	80°10'50.714"W
Patterson 334 (KB) to Ground level (At Slot: Slot #10)	57.94	423947.496	25ft	
Mean Sea Level to Ground level (At Slot: Slot #10)			-1358ft	
Patterson 334 (KB) to Mean Sea Level			1383ft	

## Comments

API: 47-061-01839-0000  
 BH Job #: 110026878A  
 Rig: Patterson 334  
 Duration: 09/19/2019 - 09/28/2019







Ticket #: 0

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

Job Times				
Date:	On Loc: 07/13/19	Job Start: 07/13/19	Job End: 07/13/19	Off Loc: 07/13/19
Time:	1:00am	5:44am	8:03AM	10:00AM

Customer and Well Information					
Customer: NORTHEAST		Well Name: CUMMINS		Well #: 10 H	Well Type: GAS
County:	State: WV	AFE #/API #: 100420-602		PO #/Permit #:	Well Class:
Field:		Lease: CUMMINS		Rig Name/# : DECKER RIG 8	
Wellbore Information					
Bit Size (Inches): 17.5	Well MD (ft):	Well TVD (ft): 1375	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): 13.375	Weight (lb/ft): 54.5	Thread:	Grade:	Total Footage (ft): 1325	
Job					
Job Type: surface		Connection to Well: YES		Top Plug: YES	
Lift Pressure (PSI): 578	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: No	Job Completed:- YES			



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: 07/15/19			07/15/19	
Time: 5:00am	10:19am	1:00pm	3:00am	

Customer and Well Information					
Customer: NORTHEAST		Well Name: CUMMINS		Well #: 10 H	Well Type: GAS
County:	State: WV	AFE #/API #: 100420-602		PO #/Permit #:	Well Class:
Field:		Lease: CUMMINS		Rig Name/# : DECKER RIG 8	
Wellbore Information					
Bit Size (Inches): 12.25	Well MD (ft):	Well TVD (ft): 2594	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): 1325	
Casing/Liner/Tubing					
Size (Inches): 9.625	Weight (lb/ft): 40	Thread:	Grade:	Total Footage (ft): 2480	
Job					
Job Type: surface		Connection to Well: YES		Top Plug: YES	
Lift Pressure (PSI): 1400	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: No	Job Completed: YES			



# Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	11/23/2019
Job End Date:	12/22/2019
State:	West Virginia
County:	Monongalia
API Number:	47-061-01839-00-00
Operator Name:	Northeast Natural Energy LLC
Well Name and Number:	Cummins 10H
Latitude:	39.66196400
Longitude:	-80.18075400
Datum:	NAD83
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	8,181
Total Base Water Volume (gal):	25,150,503
Total Base Non Water Volume:	0



## Hydraulic Fracturing Fluid Composition:

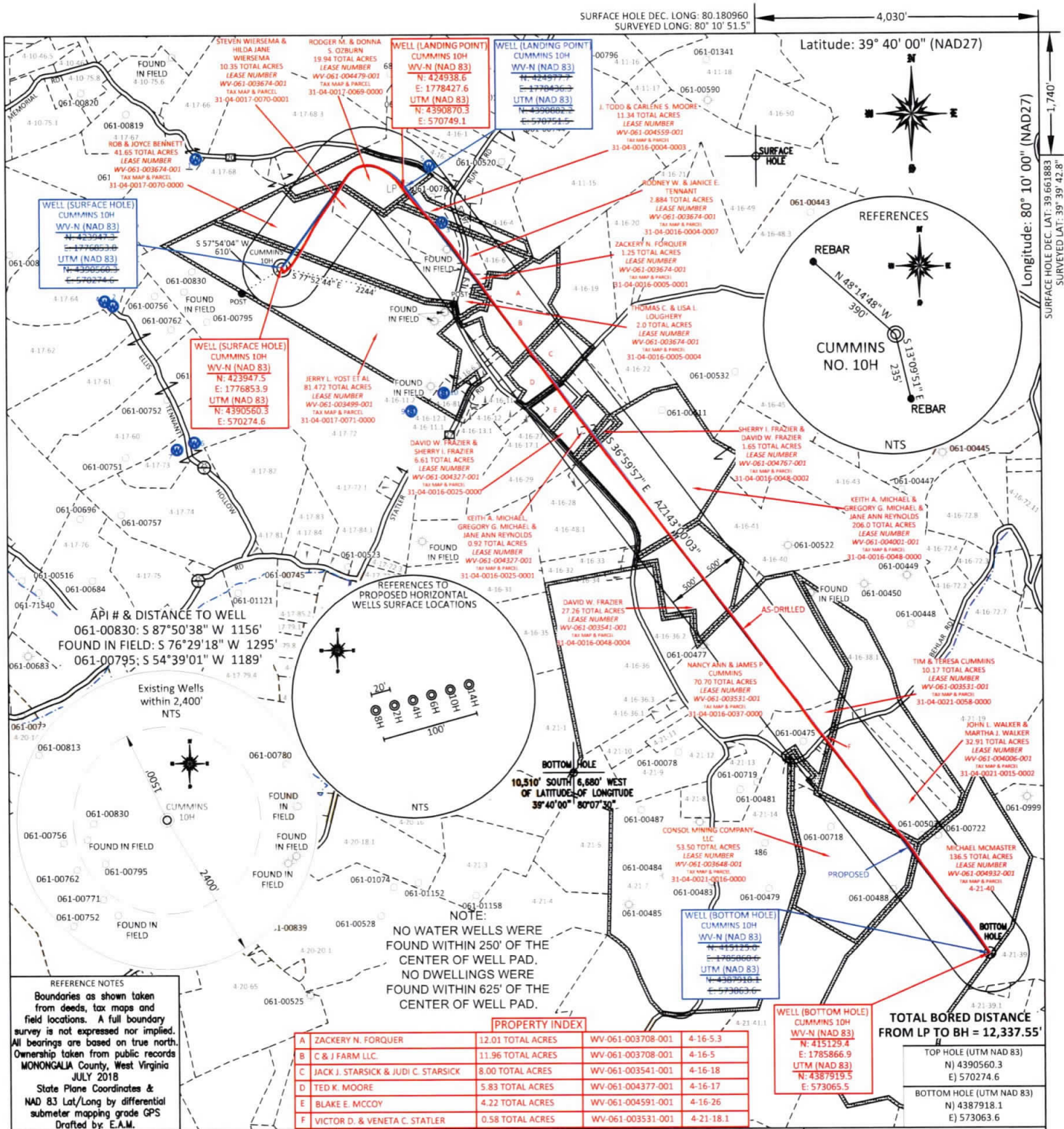
Trade Name	Supplier	Purpose	Ingredients	Chemical Abstract Service Number (CAS #)	Maximum Ingredient Concentration in Additive (% by mass)**	Maximum Ingredient Concentration in HF Fluid (% by mass)**	Comments
Water	Northeast Natural Energy	Carrier/Base Fluid					
			Water	7732-18-5	100.00000	88.00795	None
Sand (100 Mesh Proppant)	ProFrac	Proppant					
			Silica Substrate	14808-60-7	100.00000	8.78610	None
Sand (40/70 White Proppant)	ProFrac	Proppant					
			Silica Substrate	14808-60-7	100.00000	2.89700	None
Hydrochloric Acid (7.5%)	PVS	Acidizing					
			Water	7732-18-5	85.00000	0.18815	None
			Hydrochloric Acid (Hydrogen Chloride)	7647-01-0	36.00000	0.07969	None
StimSTREAM FR 9800	ChemStream	Friction Reducer					
			Alkanes, C16-20-iso-	90622-59-6	25.00000	0.01203	None
			Butene, homopolymer	9003-29-6	25.00000	0.01203	None
			Ethoxylated alcohols (C12-18)	68213-23-0	3.00000	0.00144	None
Clearal 268	ChemStream	Biocide					
			Non-hazardous substances	Proprietary	90.00000	0.01614	None

				Glutaraldehyde	111-30-8	20.00000	0.00359	None
				Alkyl dimethyl benzyl ammonium chloride	68391-01-5	3.00000	0.00054	None
				Didecyl dimethyl ammonium chloride	7173-51-5	3.00000	0.00054	None
StimSTREAM SC-398	ChemStream	Scale Inhibitor		Non-hazardous substances	Proprietary	100.00000	0.01815	None
				Bis(HexaMethylene Triamine Penta(Methylene Phosphonic Acid) (BHMT)	34690-00-1	10.00000	0.00181	None
ProFE 105	ProFrac	Iron Control		Citric Acid	77-92-9	50.50000	0.00041	None
				Water	7732-18-5	49.50000	0.00040	None
ProSlick 700	ProFrac	Friction Reducer		Distillates (petroleum), hydrotreated light	64742-47-8	30.00000	0.00060	None
				Alcohols, C11-14-iso-, C13-rich, ethoxylated	78330-21-9	5.00000	0.00010	None
ProHib 100	ProFrac	Acid Inhibitor		Methyl alcohol	67-56-1	45.00000	0.00025	None
				Ethylene glycol	107-21-1	20.00000	0.00011	None
				Isoquinoline	119-65-3	15.00000	0.00008	None
				N,N-Dimethylformamide	68-12-2	10.00000	0.00006	None
				Water	7732-18-5	10.00000	0.00006	None
				2-Butoxyethanol	111-76-2	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	0.18815	
				Non-hazardous substances	Proprietary	100.00000	0.01815	
				Non-hazardous substances	Proprietary	90.00000	0.01614	
				Butene, homopolymer	9003-29-6	25.00000	0.01203	
				Ethoxylated alcohols (C12-18)	68213-23-0	3.00000	0.00144	
				Alkyl dimethyl benzyl ammonium chloride	68391-01-5	3.00000	0.00054	
				Didecyl dimethyl ammonium chloride	7173-51-5	3.00000	0.00054	
				Water	7732-18-5	49.50000	0.00040	
				Ethylene glycol	107-21-1	20.00000	0.00011	
				Alcohols, C11-14-iso-, C13-rich, ethoxylated	78330-21-9	5.00000	0.00010	
				Isoquinoline	119-65-3	15.00000	0.00008	
				Water	7732-18-5	10.00000	0.00006	
				N,N-Dimethylformamide	68-12-2	10.00000	0.00006	
				2-Butoxyethanol	111-76-2	5.00000	0.00003	

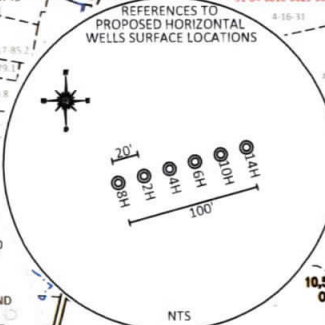
\* Total Water Volume sources may include fresh water, produced water, and/or recycled water

\*\* 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)



API # & DISTANCE TO WELL  
 061-00830: S 87°50'38" W 1156'  
 FOUND IN FIELD: S 76°29'18" W 1295'  
 061-00795: S 54°39'01" W 1189'



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.

PROPERTY INDEX			
A	ZACKERY N. FORQUER	12.01 TOTAL ACRES	WV-061-003708-001 4-16-5.3
B	C & J FARM LLC	11.96 TOTAL ACRES	WV-061-003708-001 4-16-5
C	JACK J. STARSICK & JUDI C. STARSICK	8.00 TOTAL ACRES	WV-061-003541-001 4-16-18
D	TED K. MOORE	5.83 TOTAL ACRES	WV-061-004377-001 4-16-17
E	BLAKE E. MCCOY	4.22 TOTAL ACRES	WV-061-004591-001 4-16-26
F	VICTOR D. & VENETA C. STATLER	0.58 TOTAL ACRES	WV-061-003531-001 4-21-18.1

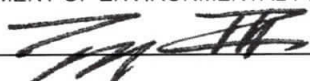
WELL (BOTTOM HOLE) CUMMINS 10H  
 WV-N (NAD 83)  
 N: 415129.4  
 E: 1705066.6  
 UTM (NAD 83)  
 N: 4387919.5  
 E: 573065.5

TOTAL BORED DISTANCE FROM LP TO BH = 12,337.55'

TOP HOLE (UTM NAD 83)	N) 4390560.3	E) 570274.6
BOTTOM HOLE (UTM NAD 83)	N) 4387918.1	E) 573063.6

FILE #: NNE15  
 DRAWING #: 2893  
 SCALE: PLAT: 1" = 1800'  
 TICK: 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



(+) 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: JERRY L. YOST ET AL  
 OIL & GAS ROYALTY OWNER: NNE LLC, et al  
 LEASE NUMBERS:

DATE: APRIL 21, 2020  
 OPERATOR'S WELL #: CUMMINS 10H  
 API WELL #: 47 61 01839  
 STATE COUNTY PERMIT

AS-BUILT ELEVATION: 1,358.80'  
 QUADRANGLE: BLACKSVILLE  
 ACREAGE: 81.472 +/-  
 ACREAGE: 759.996 +/-

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  
 ESTIMATED DEPTH: TVD: 8,139' TMD: 21,635'  
 WELL OPERATOR: NORTHEAST NATURAL ENERGY LLC  
 ADDRESS: 707 VIRGINIA STREET EAST, SUITE 1200  
 CITY: CHARLESTON STATE: WV ZIP CODE: 25301