

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

API 47 - 061 - 01831 County Monongalia District Clay
Quad Blacksville, WV Pad Name Matteo Field/Pool Name _____
Farm name Samuel W. & Stacey L. Matteo Well Number 4H
Operator (as registered with the OOG) Northeast Natural Energy LLC
Address 707 Virginia St. E, Suite 1200 City Charleston State WV Zip 25301

As Drilled location NAD 83/UTM Attach an as-drilled plat, profile view, and deviation survey
Top hole Northing 4389913.5 Easting 568698.0
Landing Point of Curve Northing 4390059.0 Easting 569046.7
Bottom Hole Northing 4387170.8 Easting 571180.4

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 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 8/12/2019 Date drilling commenced 5/11/2019 Date drilling ceased 8/5/2019
Date completion activities began 10/11/2019 Date completion activities ceased 11/13/2019
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 915', 1,050' Open mine(s) (Y/N) depths N
Salt water depth(s) ft 2,308' Void(s) encountered (Y/N) depths N
Coal depth(s) ft 710', 984' Cavern(s) encountered (Y/N) depths N
Is coal being mined in area (Y/N) N

Reviewed by:

API 47-061 - 01831 Farm name Samuel W. & Stacey L. Matteo Well number 4H

CASING STRINGS	Hole Size	Casing Size	Depth	New or Used	Grade wt/ft	Basket Depth(s)	Did cement circulate (Y/N) * Provide details below*
Conductor	30"	24"	40'	N	NA	NA	Y
Surface	17.5"	13-3/8"	1,160'	N	54.5	NA	Y, 10 bbl
Coal							
Intermediate 1	12.25"	9.63"	2,719'	N	40	NA	Y, 1 bbl
Intermediate 2							
Intermediate 3							
Production	8.5"	5.5"	20,647'	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		.75	27	CTS	48
Surface	Class A	176	15.6	1.21	1,137	CTS	8
Coal							
Intermediate 1	Class A	910	15.6	1.19	1,080	CTS	8
Intermediate 2							
Intermediate 3							
Production	Class A	3,700	14.5	1.16	4,294	1,745'	48
Tubing							

Drillers TD (ft) 20,676' Loggers TD (ft) 20,646'

Deepest formation penetrated Marcellus Plug back to (ft) NA

Plug back procedure NA

Kick off depth (ft) 5,428'

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 _____

Matteo 4H Perforation Information

Stage Number	Report Date	Cluster 5 Bottom TD	Cluster 1 Top TD	Total Shots
1	10/18/19	20,504	0	0
2	10/18/19	20,305	20,461	40
3	10/19/19	20,107	20,263	40
4	10/19/19	19,909	20,065	40
5	10/19/19	19,712	19,868	40
6	10/19/19	19,514	19,670	40
7	10/20/19	19,316	19,472	40
8	10/20/19	19,119	19,275	40
9	10/20/19	18,921	19,077	40
10	10/20/19	18,723	18,879	40
11	10/21/19	18,526	18,682	40
12	10/21/19	18,328	18,484	40
13	10/21/19	18,130	18,286	40
14	10/21/19	17,933	18,089	40
15	10/21/19	17,735	17,891	40
16	10/22/19	17,537	17,693	40
17	10/22/19	17,340	17,496	40
18	10/22/19	17,142	17,298	40
19	10/22/19	16,944	17,100	40
20	10/22/19	16,747	16,903	40
21	10/23/19	16,549	16,705	40
22	10/23/19	16,351	16,507	40
23	10/24/19	16,154	16,310	40
24	10/25/19	15,956	16,112	40
25	10/25/19	15,758	15,914	40
26	10/26/19	15,561	15,717	40
27	10/26/19	15,363	15,519	40
28	10/27/19	15,165	15,322	40
29	10/27/19	14,968	15,124	40
30	10/27/19	14,770	14,926	40
31	10/28/19	14,572	14,729	40
32	10/28/19	14,375	14,531	40
33	10/29/19	14,177	14,333	40
34	10/30/19	13,979	14,136	40
35	10/30/19	13,782	13,938	40
36	10/30/19	13,584	13,740	40
37	10/31/19	13,386	13,543	40
38	10/31/19	13,189	13,345	40
39	11/1/19	12,991	13,147	40
40	11/1/19	12,793	12,950	40
41	11/2/19	12,596	12,752	40
42	11/2/19	12,398	12,554	40
43	11/2/19	12,200	12,357	40
44	11/3/19	12,003	12,159	40
45	11/3/19	11,805	11,961	40
46	11/4/19	11,608	11,764	40
47	11/4/19	11,410	11,566	40

48	11/4/19	11,212	11,368	40
49	11/5/19	11,015	11,171	40
50	11/5/19	10,817	10,973	40
51	11/6/19	10,619	10,775	40
52	11/6/19	10,422	10,578	40
53	11/6/19	10,224	10,380	40
54	11/7/19	10,026	10,182	40
55	11/7/19	9,829	9,985	40
56	11/8/19	9,631	9,787	40
57	11/8/19	9,432	9,589	40
58	11/9/19	9,236	9,392	40
59	11/9/19	9,038	9,194	40

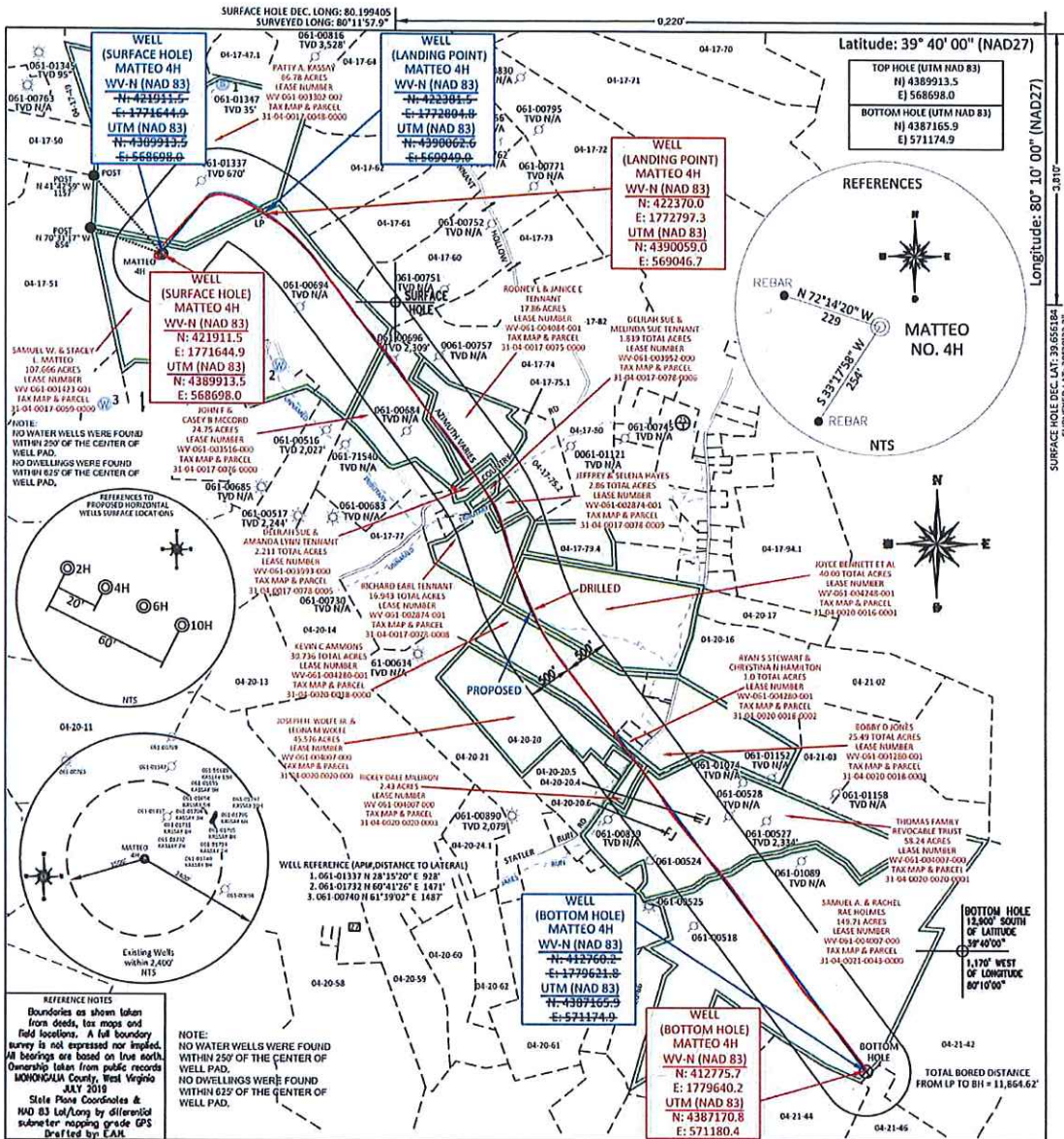
Matteo 4H Stimulation Information

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	10/18/19	5,940	7,391	8,409	67	3,267	9,749	302,600	553
2	10/18/19	5,223	7,723	9,027	85	447	10,192	449,860	453
3	10/19/19	4,958	6,448	9,219	86	89	9,758	450,060	454
4	10/19/19	5,280	6,462	8,906	85	106	9,843	450,460	495
5	10/19/19	5,421	6,480	9,086	85	95	9,771	450,480	440
6	10/19/19	5,954	6,966	9,032	85	42	10,671	449,680	435
7	10/20/19	5,266	6,280	9,302	90	39	9,112	450,390	432
8	10/20/19	5,471	6,598	9,312	90	31	9,350	450,960	437
9	10/20/19	5,275	6,752	9,422	88	70	9,764	449,980	426
10	10/20/19	6,253	6,358	9,034	85	168	9,786	450,420	418
11	10/21/19	5,957	6,387	9,447	85	57	9,297	450,560	465
12	10/21/19	5,839	6,434	9,394	88	36	9,740	449,980	411
13	10/21/19	6,662	6,155	9,314	90	89	9,709	450,500	405
14	10/21/19	6,234	6,239	9,191	90	13	8,397	450,380	402
15	10/21/19	6,369	6,262	9,242	90	465	9,433	450,660	395
16	10/22/19	5,944	6,343	9,422	93	72	8,802	450,720	393
17	10/22/19	6,453	6,313	9,387	90	56	9,257	443,440	429
18	10/22/19	6,062	6,255	9,146	90	84	9,291	450,720	382
19	10/22/19	6,762	6,463	9,237	91	42	8,909	454,220	380
20	10/22/19	6,744	6,389	8,978	88	43	8,694	450,400	375
21	10/23/19	6,885	6,483	9,164	90	29	8,660	450,380	369
22	10/23/19	6,209	6,365	9,072	91	30	9,439	450,660	365
23	10/24/19	6,349	6,581	9,077	89	50	7,597	400,520	361
24	10/25/19	6,431	6,364	8,766	85	30	8,055	397,800	357
25	10/25/19	6,339	6,271	8,988	90	34	8,050	400,700	350
26	10/26/19	6,288	6,286	8,537	83	24	7,494	398,620	349
27	10/26/19	5,954	6,439	8,355	80	116	7,654	400,750	396
28	10/27/19	6,473	6,184	8,101	76	92	7,394	400,380	340
29	10/27/19	6,270	6,429	8,160	80	84	7,588	400,580	333
30	10/27/19	5,856	6,647	8,378	77	62	7,152	401,880	330
31	10/28/19	6,298	6,582	8,267	80	64	7,514	400,400	327
32	10/28/19		6,874	8,476	76	90	6,827	396,020	50
33	10/29/19	6,800	6,488	8,358	80	60	7,920	400,960	318
34	10/30/19	5,825	6,822	8,013	76	88	7,956	401,200	313
35	10/30/19	5,909	7,430	8,400	80	37	7,717	400,620	310
36	10/30/19	6,259	6,448	8,034	76	82	7,983	400,920	358
37	10/31/19	5,441	7,018	8,260	79	52	7,619	400,940	301
38	10/31/19	5,534	6,761	7,877	76	90	7,687	391,630	266
39	11/1/19	5,677	6,734	8,097	76	48	7,840	400,980	292
40	11/1/19	6,179	6,800	7,991	77	29	7,636	400,270	288
41	11/2/19	5,405	7,122	8,065	77	39	7,881	400,680	282
42	11/2/19	5,412	6,838	7,901	80	73	7,766	400,260	280
43	11/2/19	5,476	7,155	8,101	76	66	7,862	402,260	275
44	11/3/19	5,656	7,414	8,055	79	59	7,898	400,520	270
45	11/3/19	5,618	6,712	7,799	81	56	7,859	400,850	406

46	11/4/19	5,504	6,848	7,641	76	44	7,801	400,880	261
47	11/4/19	6,597	7,214	7,846	80	43	7,677	402,960	258
48	11/4/19	5,846	7,174	7,633	76	59	7,742	400,640	253
49	11/5/19	6,203	7,715	7,840	80	34	7,766	399,900	250
50	11/5/19	6,111	6,915	7,670	77	35	7,625	400,840	245
51	11/6/19	6,187	7,458	8,066	76	42	7,670	401,920	240
52	11/6/19	5,886	7,378	8,038	80	33	7,632	401,220	236
53	11/6/19	5,884	7,732	7,974	77	50	7,614	400,140	231
54	11/7/19	6,007	7,121	7,657	77	53	7,610	400,440	226
55	11/7/19	5,615	7,268	7,999	78	53	7,823	346,440	322
56	11/8/19	5,468	7,008	8,308	76	36	8,106	400,880	219
57	11/8/19	6,708	7,312	7,759	78	64	7,590	408,140	215
58	11/9/19	6,742	8,150	8,091	76	42	7,291	368,120	215
59	11/9/19	7,251	6,987	7,846	78	27	7,903	404,400	225

Matteo 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	280	Sand/silt
silt/shale	280	520	silt/shale
sandstone	520	590	sandstone
siltstone/sandstone	590	630	siltstone/sandstone
coal	630	634	coal
siltstone/sandstone	634	650	siltstone/sandstone
sandstone	650	680	sandstone
siltstone/sandstone	680	710	siltstone/sandstone
coal	710	715	coal
sandstone/siltstone	715	767	sandstone/siltstone
coal	767	769	coal
sandstone/limestone	769	800	sandstone/limestone
Limestone/sandstone/shale	800	870	Limestone/sandstone/shale
Limestone/siltstone	870	910	Limestone/siltstone
Limestone	910	950	Limestone
sandstone/siltstone	950	974	sandstone/siltstone
coal	974	978	coal
sandstone/siltstone	978	1000	sandstone/siltstone
Limestone	1000	1040	Limestone
Limestone/siltstone	1040	1063	Limestone/siltstone
coal	1063	1066	coal
Limestone/siltstone	1066	1090	Limestone/siltstone
Maxon	1090	1110	Maxon
Limestone/siltstone	1110	1220	Limestone/siltstone
Red Rock/siltstone/limestone	1220	1440	Red Rock/siltstone/limestone
Limestone/siltstone	1440	1550	Limestone/siltstone
Big Injun	1550	1610	Big Injun
sandstone/siltstone	1610	1820	sandstone/siltstone
sandstone	1820	1860	sandstone
sand/shale	1860	2100	sand/shale
Red Rock/siltstone/limestone	2100	2125	Red Rock/siltstone/limestone
sand/shale	2125	2390	sand/shale
Sand/shale	2390	5560	Sand/shale
gray shale/siltstone	5560	7705	gray shale/siltstone
Middlesex	7527	7754	Middlesex
Burkett	7754	7931	Burkett
Geneseo	7931	7978	Geneseo
Tully	7978	8022	Tully
Hamilton	8022	8122	Hamilton
Marcellus	8122	TD	Marcellus



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.

FILE #: NNE15
 DRAWING #: 2870
 SCALE: PLAT: 1" = 1600'
TICK: 1" = 2000'
 MINIMUM DEGREE OF ACCURACY: 1/200
 PROVEN SOURCE OF ELEVATION: SUBMETER MAPPING GRADE GPS

Signed: [Signature]
 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
 Well Type: Oil Waste Diposal Production Deep
 Gas Liquid Injection Storage Shallow

DATE: FEBRUARY 4, 2020
 OPERATOR'S WELL #: MATTEO 4H
 API WELL #: 47 61 01831
 STATE COUNTY PERMIT

WATERSHED: DUNKARD CREEK AS-BUILT ELEVATION: 1,492.50'
 COUNTY/DISTRICT: MONONGALIA / CLAY QUADRANGLE: BLACKSVILLE
 SURFACE OWNER: SAMUEL W. & STACEY L. MATTEO ACREAGE: 107.666 +/-
 OIL & GAS ROYALTY OWNER: LULA HAZE TENNANT JONES, et al ACREAGE: 642.373 +/-
 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 ESTIMATED DEPTH: TVD: 8,067' TMD: 20,676'
 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

NORTHEAST NATURAL ENERGY, LLC

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

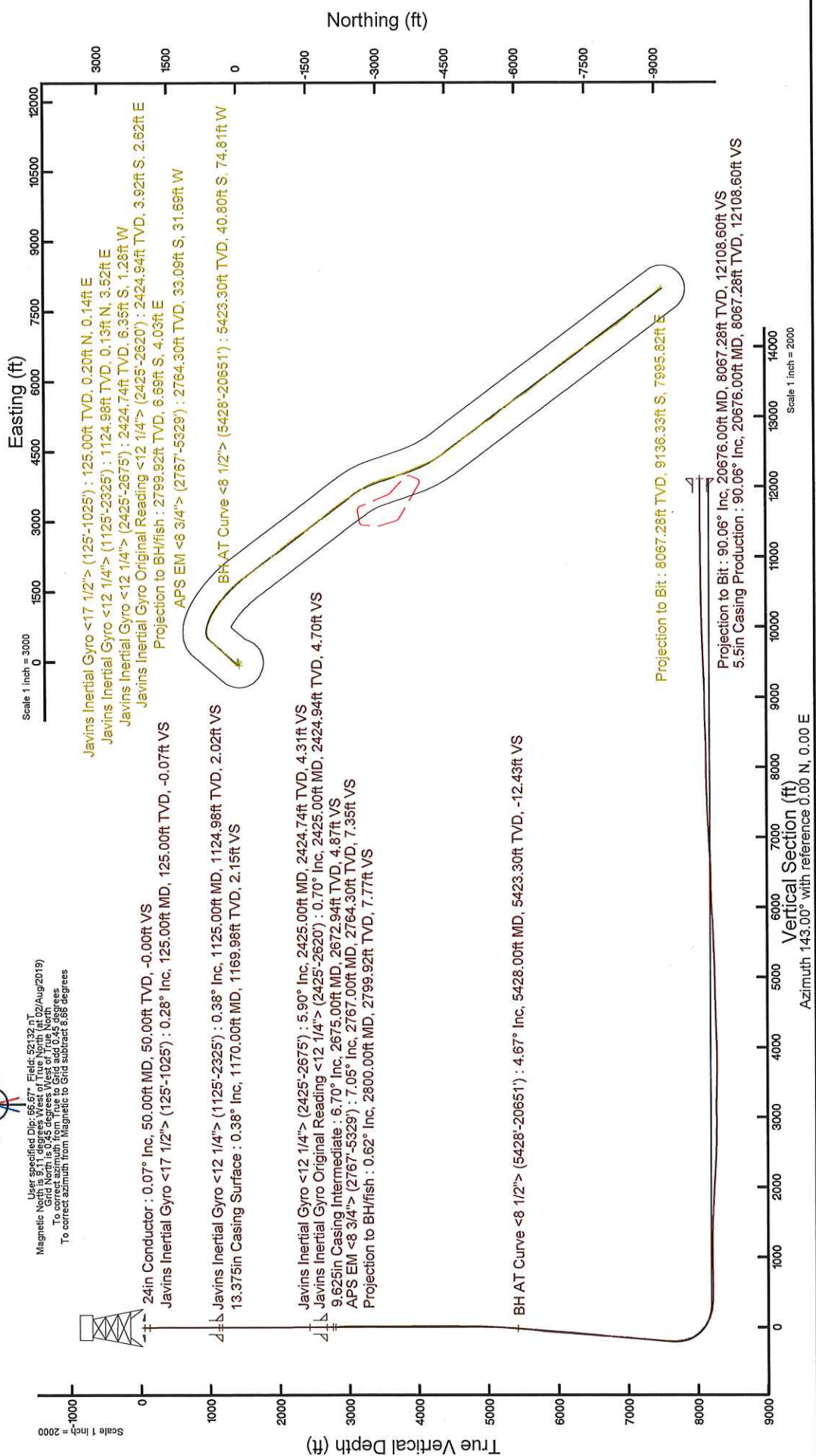
Slot: Slot 4H
 Well: Matteo 4H ST01
 Wellbore: Matteo 4H ST01 PWB

Plot reference wellpath is Matteo 4H ST01 PWB Rev-B.0
 North Reference: Grid north
 Scale: True distance
 Measured depths are referenced to Patterson 334 (KB)
 Patterson 334 (KB) to Mean Sea Level: 1517.5 feet
 Mean Sea Level to Ground level (At Slot: Slot 4H): -1492.5 feet
 Coordinates are in their referenced to Slot

Grid System: NAD83 Lambert West Virginia SP, Northern Zone (4701), US feet
 North Reference: Grid north
 Scale: True distance
 Measured depths are referenced to Patterson 334 (KB)
 Patterson 334 (KB) to Mean Sea Level: 1517.5 feet
 Mean Sea Level to Ground level (At Slot: Slot 4H): -1492.5 feet
 Coordinates are in their referenced to Slot



Location Information			
Facility Name	Grid East (US ft)	Grid North (US ft)	Longitude
Matteo Pad	1771627.000	421920.400	80°11'57.351"W
Slot	Local N (ft)	Local E (ft)	Latitude
Slot 4H	-8.90	17.90	39°39'22.553"N
Patterson 334 (KB) to Ground level (At Slot: Slot 4H)	25ft		
Mean Sea Level to Ground level (At Slot: Slot 4H)	-1492.5ft		
Patterson 334 (KB) to Mean Sea Level	1517.5ft		
Comments			
API: 47-061-071831-0000			
BH Job #: 109896391A			
Rig: Patterson 334			
Duration: 08/12/2019 - 08/23/2019			
API: 47-061-071831-0000			
BH Job #: 109896391A			
Rig: Patterson 334			
Duration: 08/12/2019 - 08/23/2019			



State of West Virginia
Department of Environmental Protection - Office of Oil and Gas
Discharge Monitoring Report
Oil and Gas General Permit

Company Name: Northeast Natural Energy LLC
API No: 47-061-01831 County: Monongalia
District: Clay Well No: Matteo 4H
Farm Name: Samuel W. & Stacey L. Matteo

Discharge Date/s From:(MMDDYY) NA To: (MMDDYY) NA
Discharge Times. From: _____ To: _____

Total Volume to be Disposed from this facility (gallons): _____

Disposal Option(s) Utilized (write volumes in gallons):

- (1) Land Application: _____ (Include a topographical map of the Area.)
- (2) UIC: _____ Permit No. _____
- (3) Offsite Disposal: _____ Site Location: _____
- (4) Reuse: _____ Alternate Permit Number: _____
- (5) Centralized Facility: _____ Permit No. _____
- (6) Other method: _____ (Include an explanation)

Follow Instructions below to determine your treatment category:

Optional Pretreatment test: _____ Cl- mg/l _____ DO mg/l

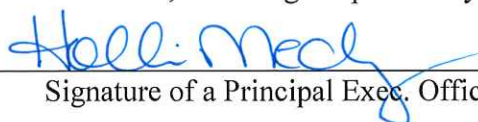
1. Do you have permission to use expedited treatment from the Director or his representative?
(Y/N) _____ If yes, who? _____ and place a four (4) on line 7.
If not go to line 2
2. Was Frac Fluid or flowback put into the pit? (Y/N) _____ If yes, go to line 5. If not, go to line 3.
3. Do you have a chloride value pretreatment (see above)? (Y/N) _____ If yes, go to line 4
If not, go to line 5.
4. Is the Chloride level less than 5000 mg/l? (Y/N) _____ If yes, then enter a one (1) on line 7.
5. Do you have a pretreatment value for DO? (See above) (Y/N) _____ If yes, go to line 6
If not, enter a three (3) in line 7.
6. Is the DO level greater than 2.5 mg/l?(Y/N) _____ If yes, enter a two (2) on line 7. If not, enter a three (3) on line 7.
7. _____ is the category of your pit. Use the Appropriate section.
8. Comments on Pit condition: Utilized a closed loop system

Name of Principal Exec. Officer: Hollie Medley

Title of Officer: Regulatory Manager

Date Completed: 2/6/2020

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this document and all the attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.



Signature of a Principal Exec. Officer or Authorized agent.

Category 1
Sampling Results
API No : _____

Parameter	Predischarge		Discharge		Units
	Limits	Reported	Limits	Reported	
pH	6-10	_____	6-10	_____	S.U
Settling Time	5	_____	N/A	N/A	Days
Fe	6	_____	6	_____	mg/l
D.O.	2.5	_____	2.5	_____	mg/l
Settleable Sol.	0.5	_____	0.5	_____	mg/l
Cl	5,000	_____	5,000	_____	mg/l
Oil	Trace	_____	Trace	_____	Obs.
TOC**			Monitor	_____	mg/l
Oil and Grease			Monitor	_____	mg/l
Total Al***			Monitor	_____	mg/l
TSS			Monitor	_____	mg/l
Total Mn	Monitor	_____	Monitor	_____	mg/l
Volume			Monitor	_____	Gal
Flow			Monitor	_____	Gal/min
Disposal Area			Monitor	_____	Acres

*** Al is only reported if the pH is above 9.0

Category 2
Sampling Results
API No : _____

Parameter	Predischarge		Discharge		Units
	Limits	Reported	Limits	Reported	
pH	6-10	_____	6-10	_____	S.U
Settling Time	10	_____	N/A	N/A	Days
Fe	6	_____	6	_____	mg/l
D.O.	2.5	_____	2.5	_____	mg/l
Settleable Sol.	0.5	_____	0.5	_____	mg/l
Cl*	12,500	_____	12,500	_____	mg/l
Oil	Trace	_____	Trace	_____	Obs.
TOC**			Monitor	_____	mg/l
Oil and Grease			Monitor	_____	mg/l
Total Al***			Monitor	_____	mg/l
TSS			Monitor	_____	mg/l
Total Mn	Monitor	_____	Monitor	_____	mg/l
Volume			Monitor	_____	Gal
Flow			Monitor	_____	Gal/min
Disposal Area			Monitor	_____	Acres

* Can be 25,000 with inspector's approval,

(Inspector's signature): _____

Date: _____

** Include a description of your aeration technique.

Aeration Code: _____

*** Al is only reported if the pH is above 9.0

Category 3
Sampling Results
API No : _____

Parameter	Predischarge		Discharge		Units
	Limits	Reported	Limits	Reported	
pH	6-10	_____	6-10	_____	S.U
Settling Time	20	_____	N/A	N/A	Days
Fe	6	_____	6	_____	mg/l
D.O.	2.5	_____	2.5	_____	mg/l
Settleable Sol.	0.5	_____	0.5	_____	mg/l
Cl*	12,500	_____	12,500	_____	mg/l
Oil	Trace	_____	Trace	_____	Obs.
TOC**		_____	Monitor	_____	mg/l
Oil and Grease		_____	Monitor	_____	mg/l
Total Al***		_____	Monitor	_____	mg/l
TSS		_____	Monitor	_____	mg/l
Total Mn	Monitor	_____	Monitor	_____	mg/l
Volume		_____	Monitor	_____	Gal
Flow		_____	Monitor	_____	Gal/min
Disposal Area		_____	Monitor	_____	Acres

* Can be 25,000 with inspector's approval,

(Inspector's signature): _____

Date: _____

** Include a description of your aeration technique.

Aeration Code: _____

*** Al is only reported if the pH is above 9.0.

Category 4
Sampling Results
API No: _____

Parameter	Predischarge		Discharge		Units
	Limits	Reported	Limits	Reported	
pH	6-10	_____	6-10	_____	S.U
Settling Time	1	_____	N/A	N/A	Days
Fe	Monitor	_____	Monitor	_____	mg/l
D.O.	Monitor	_____	Monitor	_____	mg/l
Settleable Sol.	Monitor	_____	Monitor	_____	mg/l
Cl*	12,500	_____	12,500	_____	mg/l
Oil	Trace	_____	Trace	_____	Obs.
TOC**		_____	Monitor	_____	mg/l
Oil and Grease		_____	Monitor	_____	mg/l
TSS		_____	Monitor	_____	mg/l
Total Mn	Monitor	_____	Monitor	_____	mg/l
Volume		_____	Monitor	_____	Gal
Flow		_____	Monitor	_____	Gal/min
Activated Carbon (0.175)		_____	N/A	N/A	lb/bl
Date Site Reclaimed	N/A	N/A		_____	10 days from dis.
Disposal Area		_____	Monitor	_____	Acres

* Can be 25,000 with inspector's approval,

(Inspector's signature): _____

Date: _____

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	10/17/2019
Job End Date:	11/9/2019
State:	West Virginia
County:	Monongalia
API Number:	47-061-01831-00-00
Operator Name:	Northeast Natural Energy LLC
Well Name and Number:	Matteo 4H
Latitude:	39.65626500
Longitude:	-80.19920000
Datum:	NAD83
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	8,281
Total Base Water Volume (gal):	21,394,854
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
Sand (100 Mesh Proppant)	ProFrac	Proppant					
			Silica Substrate	14808-60-7	100.00000	56.34244	None
Water	Northeast Natural Energy	Carrier/Base Fluid					
			Water	7732-18-5	100.00000	24.76986	None
Sand (40/70 White Proppant)	ProFrac	Proppant					
			Silica Substrate	14808-60-7	100.00000	18.80659	None
Hydrochloric Acid (7.5%)	PVS	Acidizing					
			Water	7732-18-5	85.00000	0.05051	None
			Hydrochloric Acid (Hydrogen Chloride)	7647-01-0	36.00000	0.02139	None
StimSTREAM FR 9800	ChemStream	Friction Reducer					
			Butene, homopolymer	9003-29-6	25.00000	0.00311	None
			Alkanes, C16-20-iso-	90622-59-6	25.00000	0.00311	None
			Ethoxylated alcohols (C12-18)	68213-23-0	3.00000	0.00037	None
StimSTREAM SC-398	ChemStream	Scale Inhibitor					
			Non-hazardous substances	Proprietary	100.00000	0.00504	None

			Bis(HexaMethylene Triamine Penta(Methylene Phosphonic Acid) (BHMT)	34690-00-1	10.00000	0.00050	None
Clearal 268	ChemStream	Biocide					
			Non-hazardous substances	Proprietary	90.00000	0.00347	None
			Glutaraldehyde	111-30-8	20.00000	0.00077	None
			Alkyl dimethyl benzyl ammonium chloride	68391-01-5	3.00000	0.00012	None
			Didecyl dimethyl ammonium chloride	7173-51-5	3.00000	0.00012	None
ProFE 105	ProFrac	Iron Control					
			Citric Acid	77-92-9	50.50000	0.00011	None
			Water	7732-18-5	49.50000	0.00010	None
ProHib 100	ProFrac	Acid Inhibitor					
			Methyl alcohol	67-56-1	45.00000	0.00007	None
			Ethylene glycol	107-21-1	20.00000	0.00003	None
			Isoquinoline	119-65-3	15.00000	0.00002	None
			Water	7732-18-5	10.00000	0.00001	None
			N,N-Dimethylformamide	68-12-2	10.00000	0.00001	None
			2-Butoxyethanol	111-76-2	5.00000	0.00001	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	0.05051	
			Non-hazardous substances	Proprietary	100.00000	0.00504	
			Non-hazardous substances	Proprietary	90.00000	0.00347	
			Butene, homopolymer	9003-29-6	25.00000	0.00311	
			Ethoxylated alcohols (C12-18)	68213-23-0	3.00000	0.00037	
			Alkyl dimethyl benzyl ammonium chloride	68391-01-5	3.00000	0.00012	
			Didecyl dimethyl ammonium chloride	7173-51-5	3.00000	0.00012	
			Water	7732-18-5	49.50000	0.00010	
			Ethylene glycol	107-21-1	20.00000	0.00003	
			Isoquinoline	119-65-3	15.00000	0.00002	
			Water	7732-18-5	10.00000	0.00001	
			N,N-Dimethylformamide	68-12-2	10.00000	0.00001	
			2-Butoxyethanol	111-76-2	5.00000	0.00001	

* 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)