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west virginia department of environmental protection

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Office of Oil and Gas  
601 57<sup>th</sup> Street, S.E.  
Charleston, WV 25304  
(304) 926-0450  
fax: (304) 926-0452

Austin Caperton, Cabinet Secretary  
[www.dep.wv.gov](http://www.dep.wv.gov)

Wednesday, June 13, 2018  
WELL WORK PERMIT  
Horizontal 6A / New Drill

NORTHEAST NATURAL ENERGY LLC  
707 VIRGINIA STREET EAST  
STE 1200  
CHARLESTON, WV 25301

Re: Permit approval for BOGCESS NO 5H  
47-061-01802-00-00

This well work permit is evidence of permission granted to perform the specified well work at the location described on the attached pages and located on the attached plat, subject to the provisions of Chapter 22 of the West Virginia Code of 1931, as amended, and all rules and regulations promulgated thereunder, and to any additional specific conditions and provisions outlined in the pages attached hereto. Notification shall be given by the operator to the Oil and Gas Inspector at least 24 hours prior to the construction of roads, locations, and/or pits for any permitted work. In addition, the well operator shall notify the same inspector 24 hours before any actual well work is commenced and prior to running and cementing casing. Spills or emergency discharges must be promptly reported by the operator to 1-800-642-3074 and to the Oil and Gas Inspector.

Please be advised that form WR-35, Well Operators Report of Well Work is to be submitted to this office within 90 days of completion of permitted well work, as should form WR-34 Discharge Monitoring Report within 30 days of discharge of pits, if applicable. Failure to abide by all statutory and regulatory provisions governing all duties and operations hereunder may result in suspension or revocation of this permit and, in addition, may result in civil and/or criminal penalties being imposed upon the operators.

Per 35 CSR 4-5.2.g this permit will expire in two (2) years from the issue date unless permitted well work is commenced. If there are any questions, please feel free to contact me at (304) 926- 0450.

James A. Martin  
Chief

Operator's Well Number: BOGCESS NO 5H  
Farm Name: BLAKE R. & PRESTON H. BOC  
U.S. WELL NUMBER: 47-061-01802-00-00  
Horizontal 6A New Drill  
Date Issued: 6/13/2018

**PERMIT CONDITIONS 4706101802**

West Virginia Code § 22-6A-8(d) allows the Office of Oil and Gas to place specific conditions upon this permit. Permit conditions have the same effect as law. Failure to adhere to the specified permit conditions may result in enforcement action.

**CONDITIONS**

1. This proposed activity may require permit coverage from the United States Army Corps of Engineers (USACE). Through this permit, you are hereby being advised to consult with USACE regarding this proposed activity.
2. If the operator encounters an unanticipated void, or an anticipated void at an unanticipated depth, the operator shall notify the inspector within 24 hours. Modifications to the casing program may be necessary to comply with W. Va. Code § 22-6A-5a (12), which requires drilling to a minimum depth of thirty feet below the bottom of the void, and installing a minimum of twenty (20) feet of casing. Under no circumstance should the operator drill more than one hundred (100) feet below the bottom of the void or install less than twenty (20) feet of casing below the bottom of the void.
3. When compacting fills, each lift before compaction shall not be more than 12 inches in height, and the moisture content of the fill material shall be within limits as determined by the Standard Proctor Density test of the actual soils used in specific engineered fill, ASTM D698, Standard Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort, to achieve 95 % compaction of the optimum density. Each lift shall be tested for compaction, with a minimum of two tests per lift per acre of fill. All test results shall be maintained on site and available for review.
4. Operator shall install signage per § 22-6A-8g (6) (B) at all source water locations included in their approved water management plan within 24 hours of water management plan activation.
5. Oil and gas water supply wells will be registered with the Office of Oil and Gas and all such wells will be constructed and plugged in accordance with the standards of the Bureau for Public Health set forth in its Legislative rule entitled *Water Well Regulations*, 64 C.S.R. 19. Operator is to contact the Bureau of Public Health regarding permit requirements. In lieu of plugging, the operator may transfer the well to the surface owner upon agreement of the parties. All drinking water wells within fifteen hundred feet of the water supply well shall be flow tested by the operator upon request of the drinking well owner prior to operating the water supply well.
6. Pursuant to the requirements pertaining to the sampling of domestic water supply wells/springs the operator shall, no later than thirty (30) days after receipt of analytical data provide a written copy to the Chief and any of the users who may have requested such analyses.
7. 24 hours prior to the initiation of the completion process the operator shall notify the Chief or his designee.
8. During the completion process the operator shall monitor annular pressures and report any anomaly noticed to the chief or his designee immediately.
9. If any explosion or other accident causing loss of life or serious personal injury occurs in or about a well or well work on a well, the well operator or its contractor shall give notice, stating the particulars of the explosion or accident, to the oil and gas inspector and the Chief, within 24 hours of said accident.
10. During the casing and cementing process, in the event cement does not return to the surface, the oil and gas inspector shall be notified within 24 hours.

API Number:

**4706101802**

## **PERMIT CONDITIONS**

11. The operator shall provide to the Office of Oil and Gas the dates of each of the following within 30 days of their occurrence: completion of construction of the well pad, commencement of drilling, cessation of drilling, completion of any other permitted well work, and completion of the well. Such notice shall be provided by sending an email to [DEPOOGNotify@wv.gov](mailto:DEPOOGNotify@wv.gov).

06/15/2018

WW-6B  
(04/15)

API NO. 47-\_\_\_\_\_  
OPERATOR WELL NO. Bogges 5H  
Well Pad Name: Bogges

STATE OF WEST VIRGINIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS  
WELL WORK PERMIT APPLICATION

1) Well Operator: Northeast Natural Energy LLC 494498281 Monongalia Clay Osage, WV  
Operator ID County District Quadrangle

2) Operator's Well Number: Bogges 5H Well Pad Name: Bogges

3) Farm Name/Surface Owner: Blake R. & H. Preston Bogges Public Road Access: Mason Dixon Hwy (State Rt 7)

4) Elevation, current ground: 1,280' Elevation, proposed post-construction: 1,268'

5) Well Type (a) Gas X Oil \_\_\_\_\_ Underground Storage \_\_\_\_\_  
Other \_\_\_\_\_

(b) If Gas Shallow X Deep \_\_\_\_\_  
Horizontal X

6) Existing Pad: Yes or No No *MGR 2/13/2018*

7) Proposed Target Formation(s), Depth(s), Anticipated Thickness and Expected Pressure(s):  
Marcellus, 8,074', 103', 3,600 psi

8) Proposed Total Vertical Depth: 8,074'

9) Formation at Total Vertical Depth: Marcellus

10) Proposed Total Measured Depth: 16,105.92'

11) Proposed Horizontal Leg Length: 7,457'

12) Approximate Fresh Water Strata Depths: 50' ; 1,209'

13) Method to Determine Fresh Water Depths: Driller's Log from Offset Wells

14) Approximate Saltwater Depths: 1,784' ; 2,435'

15) Approximate Coal Seam Depths: 934' ; 1,207'

16) Approximate Depth to Possible Void (coal mine, karst, other): N/A

17) Does Proposed well location contain coal seams directly overlying or adjacent to an active mine? Yes \_\_\_\_\_ No X

(a) If Yes, provide Mine Info: Name: \_\_\_\_\_  
Depth: \_\_\_\_\_  
Seam: \_\_\_\_\_  
Owner: \_\_\_\_\_

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WW-6B  
(04/15)

API NO. 47- \_\_\_\_\_  
 OPERATOR WELL NO. Boggett 5H  
 Well Pad Name: Boggett

18) CASING AND TUBING PROGRAM

TYPE	Size (in)	New or Used	Grade	Weight per ft. (lb/ft)	FOOTAGE: For Drilling (ft)	INTERVALS: Left in Well (ft)	CEMENT: Fill-up (Cu. Ft.)/CTS
Conductor	24"	New	NA	94.71	40'	40'	GTS
Fresh Water	13-3/8"	New	J-55	54.5	1,267'	1,260'	CTS
Coal							
Intermediate	9-5/8"	New	J-55	40	2,530'	2,500'	CTS
Production	5-1/2"	New	P-110	20	16,105.92'	16,075.92'	3,760 Cu. Ft.
Tubing	2-7/8"	New	N-80	6.5	NA	8,500'	NA
Liners							

Northeast Natural Energy LLC requests the ability to drill beyond elevation for the purpose of isolating the Red Rock Formation.  
*MSK 2/13/2018*

TYPE	Size (in)	Wellbore Diameter (in)	Wall Thickness (in)	Burst Pressure (psi)	Anticipated Max. Internal Pressure (psi)	Cement Type	Cement Yield (cu. ft./k)
Conductor	24"	30"	.375	415		4,500 psi Grout	NA
Fresh Water	13-3/8"	17 1/2"	.38"	2,760	2,000	Type 1	1.18
Coal							
Intermediate	9-5/8"	12 1/4"	.395"	3,950	3,000	Type 1	1.18
Production	5-1/2"	8 3/4"	.361"	12,530	9,700	50:50 Poz	1.21
Tubing	2-7/8"	NA	.217"	10,570	3,600	NA	NA
Liners							

PACKERS

Kind:				
Sizes:				
Depths Set:				

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WW-6B  
(10/14)

**4706101802**  
API NO. 47- \_\_\_\_\_  
OPERATOR WELL NO. Bogges 5H  
Well Pad Name: Bogges

19) Describe proposed well work, including the drilling and plugging back of any pilot hole:

Drilling and completion of a horizontal Marcellus well. The well will be drilled on air to an approximate depth of 6,539.96' TVD/MD. The well will then be horizontally drilled on synthetic based mud from the KOP to approximately 8,074' TVD / 16,105.92' MD along a 329° azimuth.

20) Describe fracturing/stimulating methods in detail, including anticipated max pressure and max rate:

Multi-stage / high-rate slickwater fracture treatment using various size sands as proppant. First stage will be initiated via pressurization against a burst disc ran in the production casing string or perforated with coiled tubing. Subsequent stages will be perforated with pumped down guns ran on wireline. Individual stages will be isolated with composite frac plugs. Maximum pump rate during any stage will be 110 BPM with a maximum allowable surface pressure of 9,500 PSI. Composite bridge plugs will be set at the end of the last stage to isolate the treated formation.

21) Total Area to be disturbed, including roads, stockpile area, pits, etc., (acres): 20.18

22) Area to be disturbed for well pad only, less access road (acres): 11.67

23) Describe centralizer placement for each casing string:

Surface and intermediate casing strings will have bow spring centralizers placed every third joint (~120') from the shoe joint to surface. Production casing will have rigid body centralizers placed at a minimum of every fourth joint (~160') from TD to surface.

24) Describe all cement additives associated with each cement type:

Surface string cement will be a Type 1 + Max 3% bwoc Calcium Chloride Fresh Water blend. Intermediate string cement will be a Type 1 Cement + Max 3% bwoc Calcium Chloride + Fresh Water. Production string cement will be (50:50) Poz (Fly Ash):Type I Cement with a gas migration additive.

25) Proposed borehole conditioning procedures:

Surface string will use a 25.0 bbls Gel Pill + LCM + 25 lbs Cello Flake + 20 lbs/bbl Bentonite @ 8.4 ppg & 10 bbls fresh water spacer prior to cement. Intermediate string will use a 25.0 bbls Gel Pill + LCM + 25 lbs Cello Flake + 20 lbs/bbl Bentonite @ 8.4 ppg & 10 bbls fresh water spacer prior to cement. Production string will use a 50.0 bbls SealBond 25 + 1 gal/bbl US-40 + 275 lbs/bbl Barite + 1 gal/bbl SS-2 Spacer @ 13.5 ppg prior to cement.

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\*Note: Attach additional sheets as needed.

# Universal Pressure Pumping, Inc. Cement Data

## Type I, 1% CaCl<sub>2</sub>

**Typical Use:** Conductor, Surface Casing  
**Typical Area of Application:** All Locations

### Slurry Properties:

Density: 15.6 #/gal  
 Yield: 1.18 ft<sup>3</sup>/sk  
 Water Requirement: 5.2 gal/sk

Component	Percentage	Amount per Sack
Type I	100%	94 lb
CaCl <sub>2</sub>	1%	0.94 lb

Temp (F)	50 psi (hr:min)	500 psi (hr:min)	8 hr (psi)	12 hr (psi)	1 Day (psi)	3 Day (psi)	7 Day (psi)
60	6:48	13:43	112	367	1574		
65	4:38	10:05	300	732	2646		
70	4:15	9:00	384	953	2808		
80	3:15	6:33	803	1887	3509	5805	

Temp (F)	4 hr (psi)	6 hr (psi)	8 hr (psi)	10 hr (psi)	12 hr (psi)	1 Day (psi)	3 Day (psi)
60	Wet	< 50	200	425	650	2600	5175
70	< 50	75	525	1000	1300	3825	5700
80	< 50	300	1275	1775	2450	4925	7125

Test	Result	Conditions
Fluid Loss		
Free Water	0.3%	70F, Vertical

Thickening Time to 70 Bc @ 70F & 1500 psi: 2 hr 36 min  
 Thickening Time to 70 Bc @ 80F & 1000 psi: 1 hr 53 min  
 Thickening Time to 70 Bc @ 80F & 1500 psi: 1 hr 55 min

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The cement data presented above represents the most up-to-date average cement properties for the given blend as of October 2017 under lab conditions. This data should be used as a reference and should not be considered to be absolute. The actual properties of the cement blend used on a job may differ somewhat based on variations in cement, fly ash and water sources.

**Note: For internal use only.** Technical information contained in this document is property of Universal Pressure Pumping, Inc., and is not to be distributed or copied. Customer information requests must be handled through the Chemical Technology Group.

06/15/2018

# Universal Pressure Pumping, Inc. Cement Data

Type I, 2% CaCl<sub>2</sub>

**Typical Use:** Conductor, Surface Casing  
**Typical Area of Application:** All Locations

## Slurry Properties:

Density: 15.6 #/gal  
 Yield: 1.19 ft<sup>3</sup>/sk  
 Water Requirement: 5.2 gal/sk

Component	Percentage	Amount per Sack
Type I	100%	94 lb
CaCl <sub>2</sub>	2%	1.88 lb

Temp (F)	50 psi (hr:min)	500 psi (hr:min)	8 hr (psi)	12 hr (psi)	1 Day (psi)	3 Day (psi)	7 Day (psi)
60	5:50	13:22	155	406	1276		
70	2:54	7:55	508	887	1914	3395	
75	1:30	5:33	799	1264	2288		

Temp (F)	8 hr (psi)	10 hr (psi)	12 hr (psi)	1 Day (psi)	3 Day (psi)
60	275	425	625	2300	4175
70	600	900	1175	3150	4775
80	1325	1725	2325	4300	6425

Test	Result	Conditions
Fluid Loss		100F, 1000 psi
Free Water	0.0%	80F, Vertical

Thickening Time to 70 Bc @ 60F & 1000 psi: 3 hr 14 min  
 Thickening Time to 70 Bc @ 70F & 1000 psi: 2 hr 26 min  
 Thickening Time to 70 Bc @ 70F & 1500 psi: 2 hr 10 min  
 Thickening Time to 70 Bc @ 80F & 1000 psi: 1 hr 33 min  
 Thickening Time to 70 Bc @ 80F & 1500 psi: 1 hr 45 min

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The cement data presented above represents the most up-to-date average cement properties for the given blend as of October 2017, under lab conditions. This data should be used as a reference and should not be considered to be absolute. The actual properties of the cement blend used on a job may differ somewhat based on variations in cement, fly ash and water sources.

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# NORTHEAST NATURAL ENERGY, LLC

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

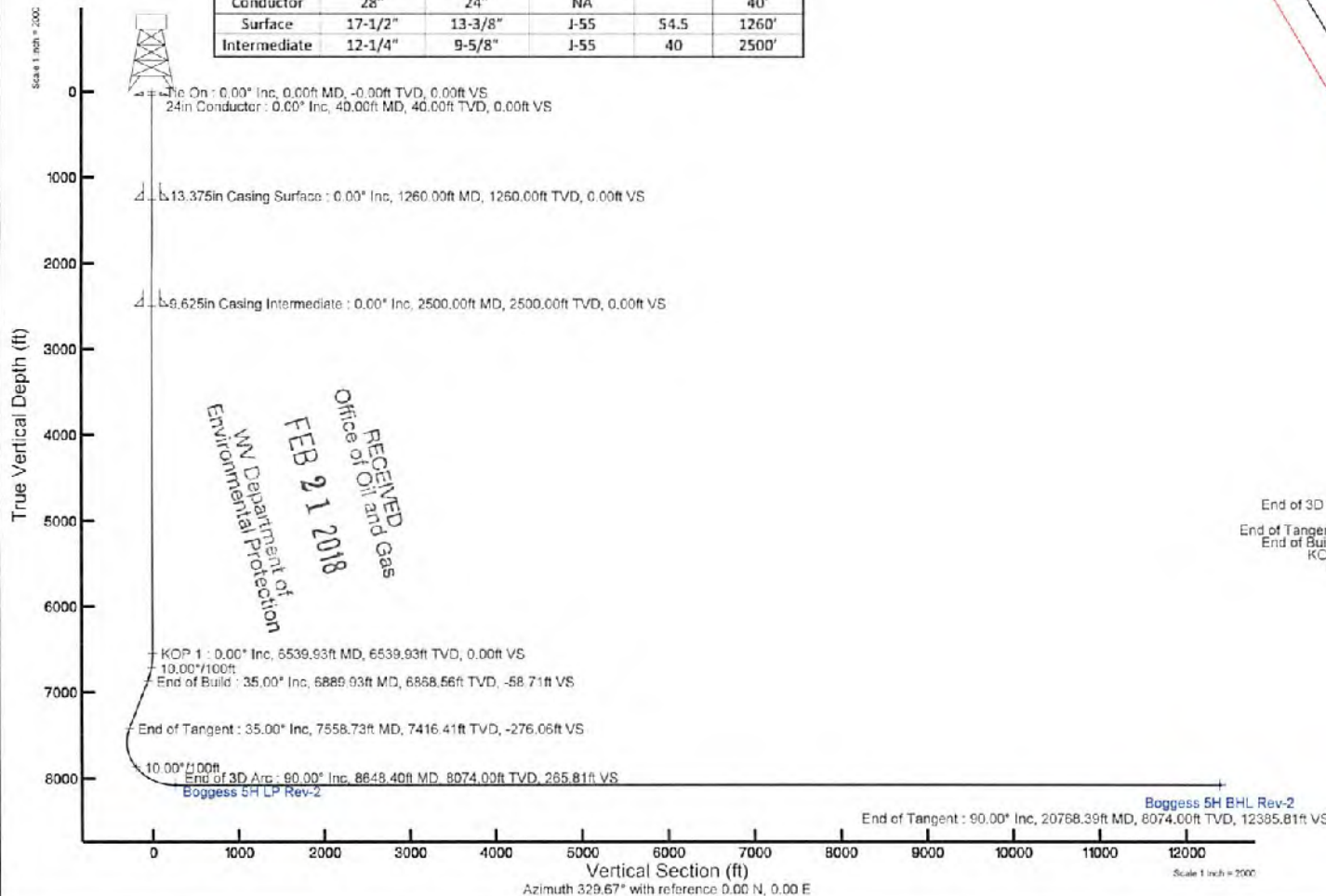
Slot: Slot 05  
 Well: Boggress 5H  
 Wellbore: Boggress 5H PWB



Location Information				
Facility Name	Grid East (US ft)	Grid North (US ft)	Latitude	Longitude
Boggress Pad	1501481.600	425749.600	39°40'12.480"N	80°05'35.030"W
Slot	Local N (ft)	Local E (ft)	Grid East (US ft)	Grid North (US ft)
Slot 05	24.13	31.27	1501512.870	425773.730
Ground Level (GL) to Ground level (At Slot: Slot 05)			CR	
Mean Sea Level to Ground level (At Slot: Slot 05)			-1266ft	
Ground Level (GL) to Mean Sea Level			1266ft	

Formation	Depth (KBTV)D
Geneseo	7788'
Tully	7840'
Hamilton	7904'
Upper Marcellus	8011'
Cherry Valley	8052'
Lower Marcellus	8056'
Onondaga	8114'

Type	Hole Size	Casing Size	Grade		GL Depth (Csg)
Conductor	28"	24"	NA		40'
Surface	17-1/2"	13-3/8"	J-55	54.5	1260'
Intermediate	12-1/4"	9-5/8"	J-55	40	2500'



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Azimuth 329.67° with reference 0.00 N, 0.00 E

**Northeast Natural Energy LLC Mine Contingency Plan**



On all wells drilled, Northeast Natural Energy LLC ("NNE") has contingency strategies in place should an unanticipated void or mine be encountered while drilling the surface section of the well. If encountered, any accumulated gases will be diverted a safe distance away from the drilling operations through the blooey line and/or flare.

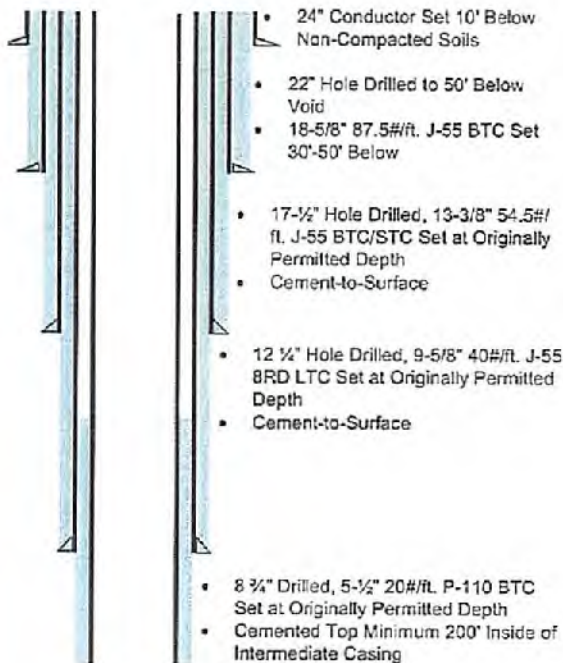
All casings programs submitted to the state incorporate the use of a 24" conductor over the previously used 20" that has long been the industry standard for a typical Marcellus design. The use of 24" conductor casing allows the use of a 22" bit to ream the surface hole, and drill 50' below the void to run a string of 18-5/8" 87.50#/ft J-55 through the section when needed.

The 18-5/8" would be set 30-50' below the void with cement baskets placed directly above and below. The section of pipe below the void would be cemented using the balance method with 100% excess. The section above the void would be cemented separately by using remedial top fill techniques and 30% excess.

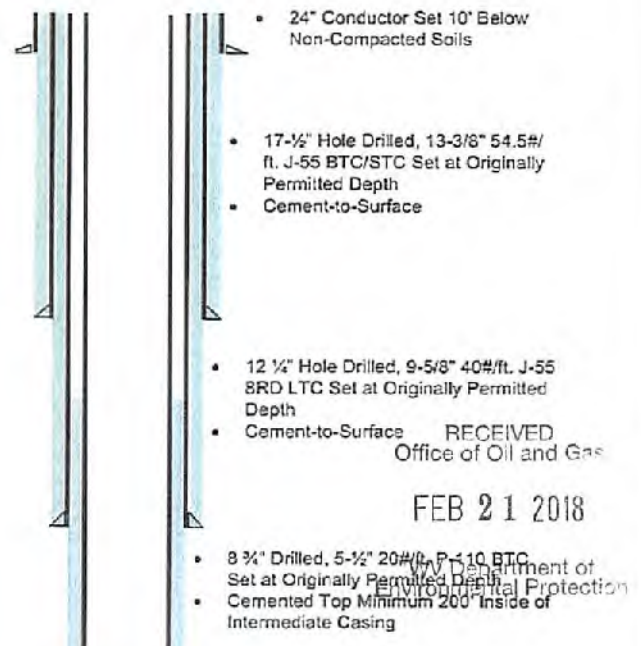
With the use of these string sizes and techniques, the surface and intermediate strings do not need to be altered. After a proper WOC time, the surface section of the well would continue to be drilled with a 17-1/2" bit and the 13-3/8" 54.50#/ft freshwater casing would be set at the originally permitted depth.

*\*The diagram below visually shows the alternative casing plan should an unanticipated void be encountered.*

**Casing Schematic w/ Mine String**



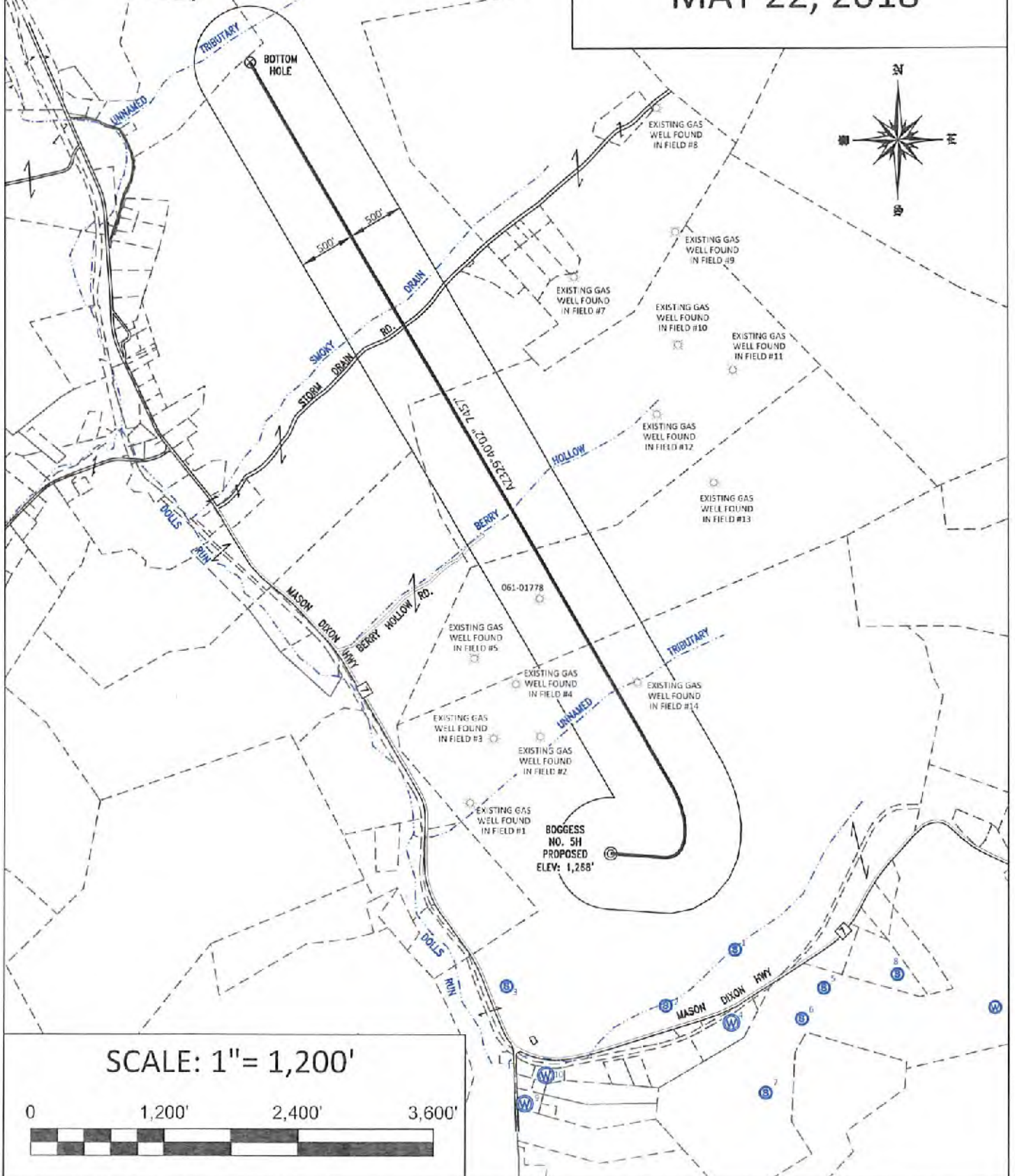
**Casing Schematic w/o Mine String**



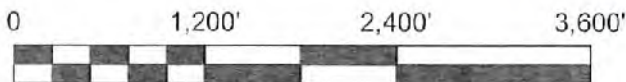
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# BOGGESS 5H EXISTING GAS WELLS MAY 22, 2018



SCALE: 1" = 1,200'



4706101802

Bogges 5H Area of Review

API Number	Well Name	Well Number	Operator	Latitude (NAD 83)	Longitude (NAD 83)	TMP	TVD	Producing Formation
061-01778	S. BARRICKMAN	4	NOUMENON CORPORATION	39.676431	-80.095564	4-12-64	NA	NA
FOUND IN FIELD #14	NA	NA	NA	39.674401	-80.092423	4-12-65	NA	Possibly 061-71771

4706101802

WW-9  
(4/16)

API Number 47 - \_\_\_\_\_ - \_\_\_\_\_

Operator's Well No. Boggass 5H

STATE OF WEST VIRGINIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
OFFICE OF OIL AND GAS

FLUIDS/ CUTTINGS DISPOSAL & RECLAMATION PLAN

Operator Name Northeast Natural Energy LLC OP Code 494498281

Watershed (HUC 10) Dunkard Creek Quadrangle Osage, WV

Do you anticipate using more than 5,000 bbls of water to complete the proposed well work? Yes  No

Will a pit be used? Yes  No

If so, please describe anticipated pit waste: N/A

Will a synthetic liner be used in the pit? Yes  No  If so, what ml.? N/A

Proposed Disposal Method For Treated Pit Wastes:

- Land Application
- Underground Injection ( UIC Permit Number \_\_\_\_\_ )
- Reuse (at API Number unknown at this time, TBD )
- Off Site Disposal (Supply form WW-9 for disposal location)
- Other (Explain \_\_\_\_\_)

Will closed loop system be used? If so, describe: Yes - See Attachment "A"

Drilling medium anticipated for this well (vertical and horizontal)? Air, freshwater, oil based, etc. Air - Vertical/Oil Based-Curve & Horizontal

-If oil based, what type? Synthetic, petroleum, etc. Synthetic Oil Based Mud

Additives to be used in drilling medium? Organophilic Clay Viscosifiers, Lime, Unsaturated Fatty Acids, CaCl, Barite, Emulsifiers, Mica LCM, Water Loss Agents

Drill cuttings disposal method? Leave in pit, landfill, removed offsite, etc. Removed Offsite - See Attachment "A"

-If left in pit and plan to solidify what medium will be used? (cement, lime, sawdust)

-Landfill or offsite name/permit number? See Attachment "A"

Permittee shall provide written notice to the Office of Oil and Gas of any load of drill cuttings or associated waste rejected at any West Virginia solid waste facility. The notice shall be provided within 24 hours of rejection and the permittee shall also disclose where it was properly disposed.

I certify that I understand and agree to the terms and conditions of the GENERAL WATER POLLUTION PERMIT issued on August 1, 2005, by the Office of Oil and Gas of the West Virginia Department of Environmental Protection. I understand that the provisions of the permit are enforceable by law. Violations of any term or condition of the general permit and/or other applicable law or regulation can lead to enforcement action.

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this application form and all attachments thereto 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 or imprisonment.

Company Official Signature Hollie Medley  
Company Official (Typed Name) Hollie Medley  
Company Official Title Regulatory Manager

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Subscribed and sworn before me this 13<sup>th</sup> day of February, 20 18  
Christalle Patt Notary Public

My commission expires June 18, 2018



Northeast Natural Energy LLC

Proposed Revegetation Treatment: Acres Disturbed 20.18 Prevegetation pH unknown

Lime 3 Tons/acre or to correct to pH 7

Fertilizer type 10-20-20

Fertilizer amount 500 lbs/acre

Mulch 3 Tons/acre

Seed Mixtures

Temporary

Permanent

Seed Type	lbs/acre
Orchard Grass	46
Red Clover	8
Tetraploid Perrennial Rye	16
Timothy - 15 and Annual Rye- 15	

Seed Type	lbs/acre
Orchard Grass	46
Red Clover	8
Tetraploid Perrennial Rye	16
Timothy - 15 and Annual Rye - 15	

Attach:

Maps(s) of road, location, pit and proposed area for land application (unless engineered plans including this info have been provided). If water from the pit will be land applied, include dimensions (L x W x D) of the pit, and dimensions (L x W), and area in acreage, of the land application area.

Photocopied section of involved 7.5' topographic sheet.

Plan Approved by:

*Haym Q. Kuntz*

Comments:

Title: Inspector

Date: 2/13/2018

Field Reviewed? (  ) Yes (  ) No

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Attachment A to WW-9

Northeast Natural Energy LLC (“NNE”) plans to utilize a closed loop process for its drilling of the Boggess 5H well. Return flow from the well will be separated into its liquid and solid form. Liquids will be held in steel tanks and reused in the drilling and completion process or disposed of at an approved facility listed below. Solids removed from the stream will be diverted to steel half-round tanks where they will be solidified on site and taken to disposal as they are accumulated.

Boggess 5H Drill Cuttings will be taken to disposal at one or more of the following disposal/approved waste facilities, unless listed facilities are no longer approved to accept waste at time of disposal:

- Westmoreland Landfill (Tervita) – Belle Vernon, PA (Permit # 100277)
- Meadowfill Landfill (Waste Management) – Bridgeport, WV (Permit # SWF 103298)
- Max Environmental – Yukon, PA (PAD004835146 and 301071)
- Max Environmental – Bulger, PA (PAD059087072 and 301359)
- Chestnut Valley Landfill (Advanced Disposal) – Export, PA (Permit # 101421)

NNE plans to reuse and recycle all flowback fluid and/or reach out to other operators in the area who may be able to reuse and recycle such fluid. However, in the event that reuse is not obtainable the fluid will be disposed of at one, or multiple, of the following disposal/approved waste facilities unless listed facilities are no longer approved to accept waste at time of disposal:

- Fairmont Brine Processing (WV NPDES #0116408)
- Green Hunter M. E. Elder 1 Disposal Well (Permit # 47-085-05151)
- Green Hunter Mason 1 Disposal Well (Permit #47-085-09721)
- Green Hunter Warren Disposal Well (Permit #34-121-2-3995)
- Green Hunter Travis Unit Disposal Well (Permit #34-121-2-4086)
- Viking Energy Corporation 20320 Disposal Well (Permit#47-039-02210)
- Ohio Oil Gathering Killbuck Disposal Well (Permit #34-075-24527)
- Ohio Oil Gathering Moran Disposal Well (Permit #34-089-24792)
- Ohio Oil Gathering Bells Run Disposal Well (Permit #34-167-29395)
- Ohio Oil Gathering Long Run Disposal Well (Permit #34-167-29658)
- Ohio Oil Gathering Newell Run Disposal Well (Permit #34-167-29685)
- Appalachian Oil Purchaser Greens Run Disposal Well (Permit #2D0732540)
- Appalachian Oil Purchaser BW#4 Disposal Well (Permit # 2D0732523)

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NATURAL ENERGY

**Bogges 5H**

**SITE SAFETY PLAN**

January 31, 2018

*Haynes J. Kuntz*  
*2/13/2018*

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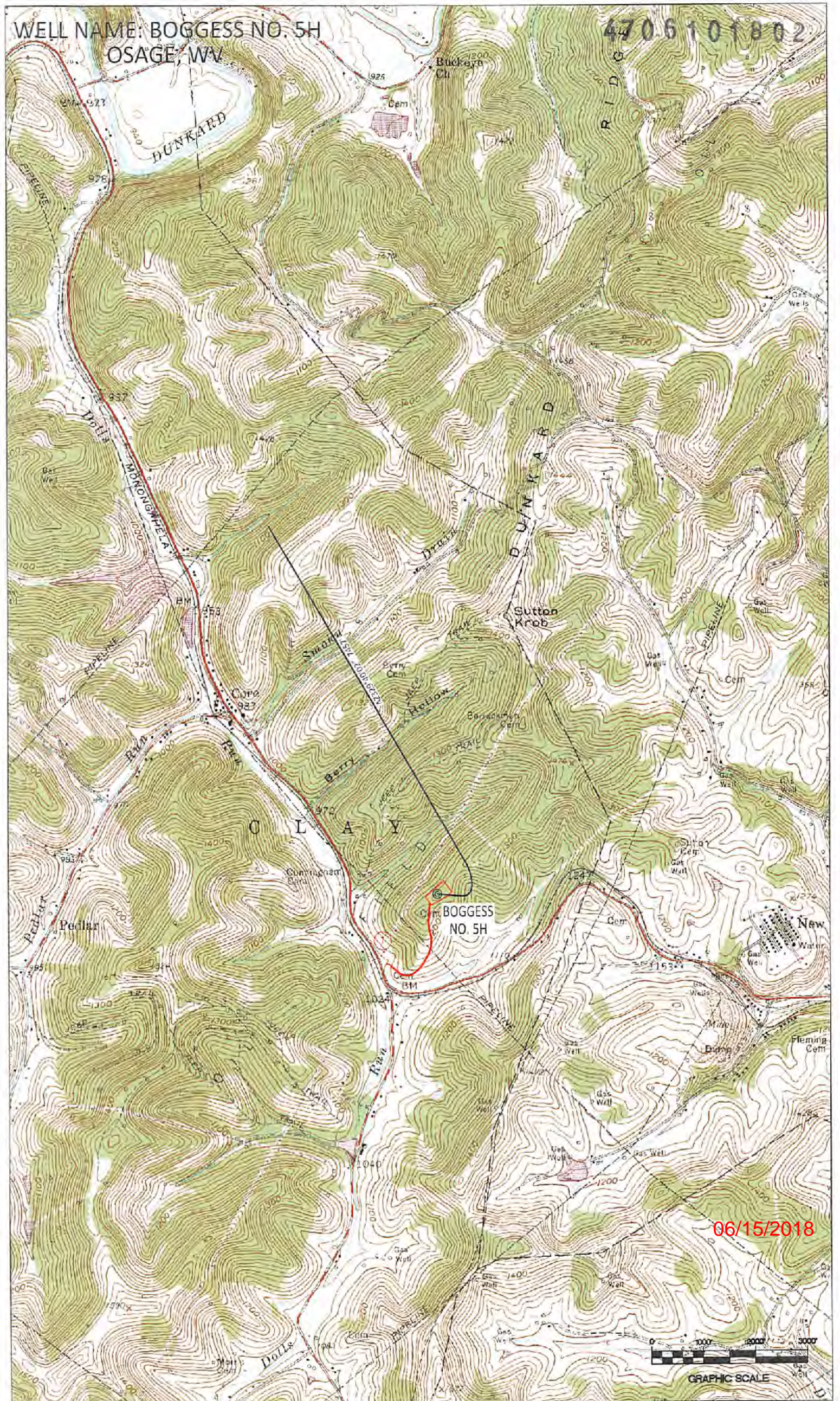
WV Department of  
Environmental Protection

06/15/2018



WELL NAME: BOGGESS NO. 5H  
OSAGE, WV

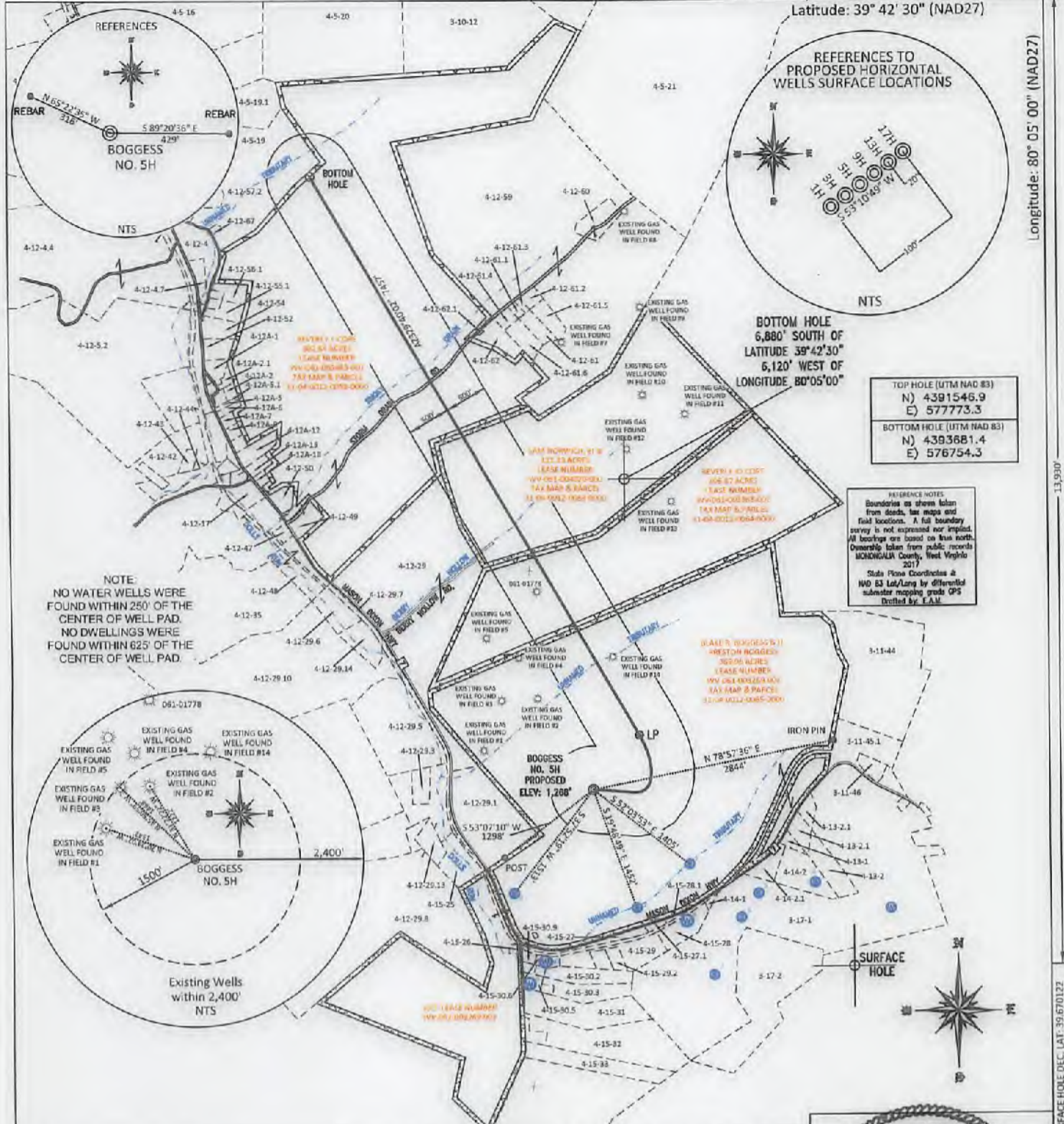
4706101802



06/15/2018



GRAPHIC SCALE



TOP HOLE (UTM NAD 83)
N) 4391546.9
E) 577773.3
BOTTOM HOLE (UTM NAD 83)
N) 4393681.4
E) 576754.3

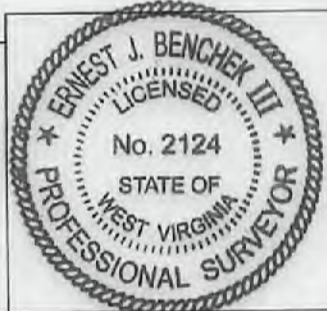
REFERENCE NOTES  
 Boundaries as shown taken from deeds, tax maps and field locations. A full boundary survey is not expressed nor implied. All bearings are based on true north. Ownership taken from public records MONONGALIA County, West Virginia 2017  
 State Plane Coordinates & NAD 83 Lat/Long by differential submeter mapping grade GPS  
 Drafted by E.A.M.

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.



FILE #: NEE14  
 DRAWING #: 2827  
 SCALE: PLAT: 1" = 1600'  
 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 WYDEP  
 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: BLAKE R. & PRESTON H. BOGCESS  
 OIL & GAS ROYALTY OWNER: BLAKE R. & PRESTON H. BOGCESS et al  
 LEASE NUMBERS:

DATE: MAY 22, 2018  
 OPERATOR'S WELL #: BOGCESS NO. 5H  
 API WELL #: 47 61 01802 HLA  
 STATE COUNTY PERMIT  
 PROPOSED ELEVATION: 1,268'  
 CURRENT ELEVATION: 1,280'  
 QUADRANGLE: OSAGE, WV  
 ACREAGE: 389.96 +/-  
 ACREAGE: 920.50 + 06/15/2018

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: 8,074' TMD: 16,105.92'  
 WELL OPERATOR: NORTHEAST NATURAL ENERGY LLC  
 ADDRESS: 707 VIRGINIA STREET EAST, SUITE 1200  
 CITY: CHARLESTON STATE: WV ZIP CODE: 25301  
 DESIGNATED AGENT: JOHN ADAMS  
 ADDRESS: 707 VIRGINIA STREET EAST, SUITE 1200  
 CITY: CHARLESTON STATE: WV ZIP CODE: 25301

SURFACE HOLE DEC. LAT: 39.710132 SURVEYED LAT: 39° 40' 12.4"

WW-6A1  
(5/13)

Operator's Well No. Boguess 5H

**INFORMATION SUPPLIED UNDER WEST VIRGINIA CODE  
Chapter 22, Article 6A, Section 5(a)(5)  
IN LIEU OF FILING LEASE(S) AND OTHER CONTINUING CONTRACT(S)**

Under the oath required to make the verification on page 1 of this Notice and Application, I depose and say that I am the person who signed the Notice and Application for the Applicant, and that –

- (1) the tract of land is the same tract described in this Application, partly or wholly depicted in the accompanying plat, and described in the Construction and Reclamation Plan;
- (2) the parties and recordation data (if recorded) for lease(s) or other continuing contract(s) by which the Applicant claims the right to extract, produce or market the oil or gas are as follows:

Lease Name or Number	Grantor, Lessor, etc.	Grantee, Lessee, etc.	Royalty	Book/Page
Please See Attachment				

**Acknowledgement of Possible Permitting/Approval  
In Addition to the Office of Oil and Gas**

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The permit applicant for the proposed well work addressed in this application hereby acknowledges the possibility of the need for permits and/or approvals from local, state, or federal entities in addition to the DEP, Office of Oil and Gas, including but not limited to the following:

- WV Division of Water and Waste Management
- WV Division of Natural Resources WV Division of Highways
- U.S. Army Corps of Engineers
- U.S. Fish and Wildlife Service
- County Floodplain Coordinator

The applicant further acknowledges that any Office of Oil and Gas permit in no way overrides, replaces, or nullifies the need for other permits/approvals that may be necessary and further affirms that all needed permits/approvals should be acquired from the appropriate authority before the affected activity is initiated.

Well Operator: Northeast Natural Energy LLC  
 By: Hollie M. Medley  
 Its: Regulatory Manager

WV-6A1	Operator's Well No.	Bogges 5H		
NNE LEASE NUMBER	LESSOR NAME	LESSEE NAME	ROYALTY	BOOK/PG
✓ WV-061-003269-003	Blake R. Bogges	Northeast Natural Energy LLC	0.125 OR GREATER	1509/698
WV-061-003269-004	H. Preston Bogges	Northeast Natural Energy LLC	0.125 OR GREATER	1510/607
WV-061-003592-001	Shuman Inc.	Northeast Natural Energy LLC	0.125 OR GREATER	1526/462
✓ WV-061-003363-002	Sanford Barrickman	South Penn Oil Co.	0.125 OR GREATER	100/39
✓ WV-061-004020-000	Mark V. Eddy and Betty A. Eddy	Northeast Natural Energy LLC	DEED	1505/572
WV-061-001368-002	Joy S. Henderson, AKA Joy Sue Henderson	CHESAPEAKE APPALACHIA, L.L.C.	0.125 OR GREATER	1377/166
WV-061-001368-001	June C. Myers	CHESAPEAKE APPALACHIA, L.L.C.	0.125 OR GREATER	1374/205
WV-061-001368-003	June Core Myers	Northeast Natural Energy LLC	0.125 OR GREATER	1601/817
✓ WV-061-003485-001	Harold Eugene DeGarmo, Jr.	Northeast Natural Energy LLC	0.125 OR GREATER	1517/843
WV-061-003485-002	Wanda N. Ignance	Northeast Natural Energy LLC	0.125 OR GREATER	1517/0391
WV-061-003485-003	Alan Boyd Core	Northeast Natural Energy LLC	0.125 OR GREATER	1517/0393
WV-061-003485-004	Karen Mariele Core	Northeast Natural Energy LLC	0.125 OR GREATER	1521/139
WV-061-003485-005	Howard Arthur Cole	Northeast Natural Energy LLC	0.125 OR GREATER	1517/0405
WV-061-003485-006	Tanis L. Domarsky	Northeast Natural Energy LLC	0.125 OR GREATER	1517/352
WV-061-003485-007	Virginia Elaine Carter	Northeast Natural Energy LLC	0.125 OR GREATER	1517/346
WV-061-003485-008	Tracey Lynne Dornberger	Northeast Natural Energy LLC	0.125 OR GREATER	1517/364
WV-061-003485-009	Denise Marie Kakascik	Northeast Natural Energy LLC	0.125 OR GREATER	1521/709
WV-061-003485-010	Darlene E. Kerwood	Northeast Natural Energy LLC	0.125 OR GREATER	1517/0397
WV-061-003485-011	Romayne L. Grim	Northeast Natural Energy LLC	0.125 OR GREATER	1516/0771
WV-061-003485-012	Douglas E. Barcus	Northeast Natural Energy LLC	0.125 OR GREATER	1517/358
WV-061-003485-013	Dale J. Barcus Jr.	Northeast Natural Energy LLC	0.125 OR GREATER	1519/820
WV-061-003485-014	Richard M. Carter Sr.	Northeast Natural Energy LLC	0.125 OR GREATER	1523/789
WV-061-003485-015	Marsha Lynn Core	Northeast Natural Energy LLC	0.125 OR GREATER	1524/321
WV-061-003485-016	Carol Ann Garcia	Northeast Natural Energy LLC	0.125 OR GREATER	1524/443
WV-061-003485-017	Tyra Kay Greene	Northeast Natural Energy LLC	0.125 OR GREATER	1526/94
WV-061-003485-018	Craig Bennett Core	Northeast Natural Energy LLC	0.125 OR GREATER	1524/340
WV-061-003485-019	Michael Bruce Hancock	Northeast Natural Energy LLC	0.125 OR GREATER	1528/97
WV-061-003485-020	Donald Richard Blackburn and Linda Lou Blackburn	Northeast Natural Energy LLC	0.125 OR GREATER	1541/319
WV-061-003485-021	John Wayne Blackburn	Northeast Natural Energy LLC	0.125 OR GREATER	1535/714
WV-061-003485-022	Courtney L. Dalrymple	Northeast Natural Energy LLC	0.125 OR GREATER	1536/275
WV-061-003485-023	David Lynn Barker	Northeast Natural Energy LLC	DEED	1542/126
WV-061-003485-024	James Brian Malone	Northeast Natural Energy LLC	DEED	1559/126
WV-061-003485-025	Bethany Leigh Meyers	Northeast Natural Energy LLC	DEED	1557/278
WV-061-003485-026	Brandon Jon Dalrymple and Melinda K. Dalrymple	Northeast Natural Energy LLC	0.125 OR GREATER	1565/451
WV-061-003485-027	Melva Lynn Marcum and Michael C. Marcum	Northeast Natural Energy LLC	0.125 OR GREATER	1564/329
WV-061-003485-029	Terri Sue Yanda	Northeast Natural Energy LLC	0.125 OR GREATER	1604/388
WV-061-003485-030	Donna J. Yanda	Northeast Natural Energy LLC	0.125 OR GREATER	1604/390
WV-061-003586-001	Charles L. Core aka Charles Lawrence Core	Northeast Natural Energy LLC	0.125 OR GREATER	1523/710
WV-061-003586-002	Kimberly Dawn Schnopp	Northeast Natural Energy LLC	0.125 OR GREATER	1600/590
WV-061-003631-001	Charles L. Core aka Charles Lawrence Core	Northeast Natural Energy LLC	0.125 OR GREATER	1535/637
WV-061-004308-001	William B. Core and Neoma K. Core	Northeast Natural Energy LLC	0.125 OR GREATER	1573/476
WV-061-004690-005	Daniel E. Strupe	Northeast Natural Energy LLC	0.125 OR GREATER	1604/420
WV-061-004690-006	Doris J. Schayes	Northeast Natural Energy LLC	0.125 OR GREATER	1604/422
WV-061-004690-007	Brian A. Ware	Northeast Natural Energy LLC	0.125 OR GREATER	1604/424
WV-061-004690-008	Danika D. Sanz	Northeast Natural Energy LLC	0.125 OR GREATER	1604/426
WV-061-001368-001	June C. Myers	CHESAPEAKE APPALACHIA, L.L.C.	0.125 OR GREATER	1374/205
WV-061-001368-002	Joy S. Henderson, AKA Joy Sue Henderson	CHESAPEAKE APPALACHIA, L.L.C.	0.125 OR GREATER	1377/166
WV-061-004263-001	Paula Kay Jenkins	Northeast Natural Energy LLC	0.125 OR GREATER	1574/97
WV-061-004265-001	Susan Beth Kish, aka Susan Core Kish	Northeast Natural Energy LLC	0.125 OR GREATER	1571/574

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WV-061-004266-001	Kimberly Schnopp	Northeast Natural Energy LLC	0.125 OR GREATER	1571/576
WV-061-004267-001	Beverly J. Core	Northeast Natural Energy LLC	0.125 OR GREATER	1571/578
WV-061-001368-003	June Core Myers	Northeast Natural Energy LLC	0.125 OR GREATER	1601/817
WV-061-003586-001	Charles L. Core aka Charles Lawrence Core	Northeast Natural Energy LLC	0.125 OR GREATER	1523/710
WV-061-003586-002	Kimberly Dawn Schnopp	Northeast Natural Energy LLC	0.125 OR GREATER	1600/590
WV-061-004308-001	William B. Core and Neoma K. Core	Northeast Natural Energy LLC	0.125 OR GREATER	1573/476
WV-061-004263-001	Paula Kay Jenkins	Northeast Natural Energy LLC	0.125 OR GREATER	1574/97
WV-061-004265-001	Susan Beth Kish, aka Susan Core Kish	Northeast Natural Energy LLC	0.125 OR GREATER	1571/574
WV-061-004267-001	Beverly J. Core	Northeast Natural Energy LLC	0.125 OR GREATER	1571/578
WV-061-004263-001	Paula Kay Jenkins	Northeast Natural Energy LLC	0.125 OR GREATER	1574/97
WV-061-004265-001	Susan Beth Kish, aka Susan Core Kish	Northeast Natural Energy LLC	0.125 OR GREATER	1571/574
WV-061-004267-001	Beverly J. Core	Northeast Natural Energy LLC	0.125 OR GREATER	1571/578

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South Penn Oil Company  
 Assignment  
 DR 32/240  
 South Penn Oil Company  
 |  
 South Penn Natural Gas Company  
 Assingment  
 DR 304/547  
 South Penn Natural Gas Company  
 |  
 South Penn Oil Company  
 Assignment  
 DR 580/311  
 South Penn Oil Company merged with  
 Pennzoil Company and United Gas  
 |  
 Pennzoil United Inc.  
 Assignment  
 DR 672/665  
 Pennzoil United Inc.  
 |  
 W. H. Allen  
 Assignment  
 DR 695/557  
 W. H. Allen  
 |  
 Union Trust & Deposit Company  
 Assignment  
 DR 695/556  
 W.H. Allen and James A. Allen

Edwin Associates, Inc.  
 Assignment  
 DR 754/594  
 Union Trust National Bank, as successor by conversion of Union  
 Trust & Deposit Company  
 |  
 Edwin Associates, Inc.  
 Edwin Associates, Inc.  
 |  
 J. T. Carson  
 Assignment  
 DR 754/600  
 J. T. Carson  
 |  
 Thompson/Texas Associates Partnership  
 Assignment  
 DR 754/606  
 Thompson/Texas Associates Partnership, Thompson Pipe and Supply Company, Jack O.  
 Thompson, Harold J. Arnsteen, Equidyne Investment Associates, Inc., individually and as  
 partners and/or joint venturers in that entity known as Thompson/Texas Associates  
 Partnership  
 |  
 Mark Eddy  
 Assignment  
 AR 21/22  
 |  
 Beth Eddy, Debbie Eddy and Melissa Eddy  
 Assignment  
 AR 21/582  
 Beth Stewart, Debbie Morris and Melissa Matheny  
 |  
 Mark V. Eddy  
 Assignment  
 AR 102/275  
 Mark V. Eddy & Betty Eddy (h&w) & Eddy Brothers  
 |  
 Northeast Natural Energy LLC  
 Assignment  
 AB 123/363

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Chesapeake Appalachia, LLC.



Northeast Natural Energy  
Assignment  
BK 120/769

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February 5, 2018

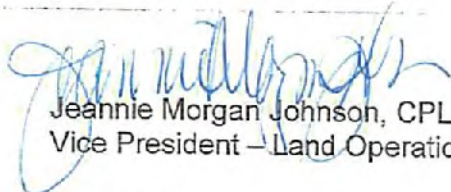
WV Department of Environmental Protection  
Office of Oil and Gas Management  
601 57<sup>th</sup> Street, SE  
Charleston, West Virginia 25304

RE: Boggess 5H and 9H

Dear Permit Reviewer:

Please be advised that Northeast Natural Energy LLC has the right to drill, extract and produce the minerals beneath the roads identified as Smokey Drain Road (County Rte. 28) and Berry Hollow Road (State Route 7/14) on the enclosed survey plat.

Sincerely,



Jeannie Morgan Johnson, CPL  
Vice President – Land Operations

Enclosure

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STATE OF WEST VIRGINIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS  
NOTICE CERTIFICATION

Date of Notice Certification: 02/15/2018

API No. 47- \_\_\_\_\_ - \_\_\_\_\_

Operator's Well No. Boggress 5H

Well Pad Name: Boggress

**Notice has been given:**

Pursuant to the provisions in West Virginia Code § 22-6A, the Operator has provided the required parties with the Notice Forms listed below for the tract of land as follows:

State: <u>West Virginia</u>	UTM NAD 83	Easting: <u>57773.3</u>
County: <u>Monongalia</u>		Northing: <u>4391546.9</u>
District: <u>Clay</u>	Public Road Access: <u>Mason Dixon Hwy (State Rt. 7)</u>	
Quadrangle: <u>Osage, WV</u>	Generally used farm name: <u>Boggress</u>	
Watershed: <u>Dunkard</u>		

Pursuant to West Virginia Code § 22-6A-7(b), every permit application filed under this section shall be on a form as may be prescribed by the secretary, shall be verified and shall contain the following information: (14) A certification from the operator that (i) it has provided the owners of the surface described in subdivisions (1), (2) and (4), subsection (b), section ten of this article, the information required by subsections (b) and (c), section sixteen of this article; (ii) that the requirement was deemed satisfied as a result of giving the surface owner notice of entry to survey pursuant to subsection (a), section ten of this article six-a; or (iii) the notice requirements of subsection (b), section sixteen of this article were waived in writing by the surface owner; and Pursuant to West Virginia Code § 22-6A-11(b), the applicant shall tender proof of and certify to the secretary that the notice requirements of section ten of this article have been completed by the applicant.

Pursuant to West Virginia Code § 22-6A, the Operator has attached proof to this Notice Certification that the Operator has properly served the required parties with the following: *PLEASE CHECK ALL THAT APPLY <input type="checkbox"/> 1. NOTICE OF SEISMIC ACTIVITY or <input checked="" type="checkbox"/> NOTICE NOT REQUIRED BECAUSE NO SEISMIC ACTIVITY WAS CONDUCTED <input checked="" type="checkbox"/> 2. NOTICE OF ENTRY FOR PLAT SURVEY or <input type="checkbox"/> NO PLAT SURVEY WAS CONDUCTED <input checked="" type="checkbox"/> 3. NOTICE OF INTENT TO DRILL or <input type="checkbox"/> NOTICE NOT REQUIRED BECAUSE NOTICE OF ENTRY FOR PLAT SURVEY WAS CONDUCTED or <input type="checkbox"/> WRITTEN WAIVER BY SURFACE OWNER (PLEASE ATTACH) <input checked="" type="checkbox"/> 4. NOTICE OF PLANNED OPERATION <input checked="" type="checkbox"/> 5. PUBLIC NOTICE <input checked="" type="checkbox"/> 6. NOTICE OF APPLICATION		<b>OOG OFFICE USE ONLY</b> <input type="checkbox"/> RECEIVED/ NOT REQUIRED <input checked="" type="checkbox"/> RECEIVED <input checked="" type="checkbox"/> RECEIVED/ NOT REQUIRED <input checked="" type="checkbox"/> RECEIVED <input checked="" type="checkbox"/> RECEIVED <input checked="" type="checkbox"/> RECEIVED <input checked="" type="checkbox"/> RECEIVED Office of Oil and Gas <b>FEB 21 2018</b>
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**Required Attachments:**

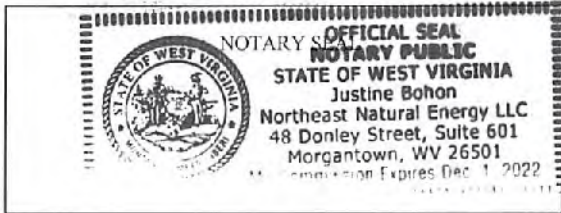
The Operator shall attach to this Notice Certification Form all Notice Forms and Certifications of Notice that have been provided to the required parties and/or any associated written waivers. For the Public Notice, the operator shall attach a copy of the Class II Legal Advertisement with publication date verification or the associated Affidavit of Publication. The attached Notice Forms and Certifications of Notice shall serve as proof that the required parties have been noticed as required under West Virginia Code § 22-6A. Pursuant to West Virginia Code § 22-6A-11(b), the Certification of Notice to the person may be made by affidavit of personal service, the return receipt card or other postal receipt for certified mailing.

WV Department of Environmental Protection

**Certification of Notice is hereby given:**

THEREFORE, I Hollie M. Medley, have read and understand the notice requirements within West Virginia Code § 22-6A. I certify that as required under West Virginia Code § 22-6A, I have served the attached copies of the Notice Forms, identified above, to the required parties through personal service, by registered mail or by any method of delivery that requires a receipt or signature confirmation. I certify under penalty of law that I have personally examined and am familiar with the information submitted in this Notice Certification and all 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.

Well Operator:	<u>Northeast Natural Energy LLC</u>	Address:	<u>707 Virginia Street East, Suite 1200</u>
By:	<u>Hollie M. Medley</u>		<u>Charleston, WV 25301</u>
Its:	<u>Regulatory Manager</u>	Facsimile:	<u>304-241-5972</u>
Telephone:	<u>304-212-0422</u>	Email:	<u>hmedley@nne-llc.com</u>



*Hollie M. Medley*  
 Subscribed and sworn before me this 15 day of February 2018.  
*Justine Bohon* Notary Public  
 My Commission Expires 12/1/2022

**Oil and Gas Privacy Notice:**

The Office of Oil and Gas processes your personal information, such as name, address and telephone number, as part of our regulatory duties. Your personal information may be disclosed to other State agencies or third parties in the normal course of business or as needed to comply with statutory or regulatory requirements, including Freedom of Information Act requests. Our office will appropriately secure your personal information. If you have any questions about our use or your personal information, please contact DEP's Chief Privacy Officer at [depprivacyofficer@wv.gov](mailto:depprivacyofficer@wv.gov).

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**STATE OF WEST VIRGINIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS  
NOTICE OF APPLICATION**

**Notice Time Requirement:** notice shall be provided no later than the **filing date of permit application.**

**Date of Notice:** 2/1/2018    **Date Permit Application Filed:** 2/15/2018

**Notice of:**

- PERMIT FOR ANY WELL WORK
- CERTIFICATE OF APPROVAL FOR THE CONSTRUCTION OF AN IMPOUNDMENT OR PIT

**Delivery method pursuant to West Virginia Code § 22-6A-10(b)**

- PERSONAL SERVICE
- REGISTERED MAIL
- METHOD OF DELIVERY THAT REQUIRES A RECEIPT OR SIGNATURE CONFIRMATION

Pursuant to W. Va. Code § 22-6A-10(b) no later than the filing date of the application, the applicant for a permit for any well work or for a certificate of approval for the construction of an impoundment or pit as required by this article shall deliver, by personal service or by registered mail or by any method of delivery that requires a receipt or signature confirmation, copies of the application, the erosion and sediment control plan required by section seven of this article, and the well plat to each of the following persons: (1) The owners of record of the surface of the tract on which the well is or is proposed to be located; (2) The owners of record of the surface tract or tracts overlying the oil and gas leasehold being developed by the proposed well work, if the surface tract is to be used for roads or other land disturbance as described in the erosion and sediment control plan submitted pursuant to subsection (c), section seven of this article; (3) The coal owner, operator or lessee, in the event the tract of land on which the well proposed to be drilled is located [sic] is known to be underlain by one or more coal seams; (4) The owners of record of the surface tract or tracts overlying the oil and gas leasehold being developed by the proposed well work, if the surface tract is to be used for the placement, construction, enlargement, alteration, repair, removal or abandonment of any impoundment or pit as described in section nine of this article; (5) Any surface owner or water purveyor who is known to the applicant to have a water well, spring or water supply source located within one thousand five hundred feet of the center of the well pad which is used to provide water for consumption by humans or domestic animals; and (6) The operator of any natural gas storage field within which the proposed well work activity is to take place. (c)(1) If more than three tenants in common or other co-owners of interests described in subsection (b) of this section hold interests in the lands, the applicant may serve the documents required upon the person described in the records of the sheriff required to be maintained pursuant to section eight, article one, chapter eleven-a of this code. (2) Notwithstanding any provision of this article to the contrary, notice to a lien holder is not notice to a landowner, unless the lien holder is the landowner. W. Va. Code R. § 35-8-5.7.a requires, in part, that the operator shall also provide the Well Site Safety Plan ("WSSP") to the surface owner and any water purveyor or surface owner subject to notice and water testing as provided in section 15 of this rule.

Application Notice    WSSP Notice    E&S Plan Notice    Well Plat Notice   is hereby provided to:

SURFACE OWNER(s)  
Name: See Attachment  
Address: \_\_\_\_\_

Name: \_\_\_\_\_  
Address: \_\_\_\_\_

SURFACE OWNER(s) (Road and/or Other Disturbance)  
Name: See Attachment  
Address: \_\_\_\_\_

Name: \_\_\_\_\_  
Address: \_\_\_\_\_

SURFACE OWNER(s) (Impoundments or Pits)  
Name: \_\_\_\_\_  
Address: \_\_\_\_\_

COAL OWNER OR LESSEE  
Name: See Attachment  
Address: \_\_\_\_\_

COAL OPERATOR  
Name: \_\_\_\_\_  
Address: \_\_\_\_\_

SURFACE OWNER OF WATER WELL AND/OR WATER PURVEYOR(s)  
Name: See Attachment  
Address: \_\_\_\_\_

OPERATOR OF ANY NATURAL GAS STORAGE FIELD  
Name: \_\_\_\_\_  
Address: \_\_\_\_\_

\*Please attach additional forms if necessary

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**FEB 21 2018**  
WV Department of  
Environmental Protection

**Notice is hereby given:**

Pursuant to West Virginia Code § 22-6A-10(b), notice is hereby given that the undersigned well operator has applied for a permit for well work or for a certificate of approval for the construction of an impoundment or pit.

**This Notice Shall Include:**

Pursuant to W. Va. Code § 22-6A-10(b), this notice shall include: (1) copies of the application; (2) the erosion and sediment control plan required by section seven of this article; and (3) the well plat.

Pursuant to W. Va. Code § 22-6A-10(f), this notice shall include: (1) a statement of the time limits for filing written comments; (2) who may file written comments; (3) the name and address of the secretary for the purpose of filing the comments and obtaining additional information; and (4) a statement that the persons may request, at the time of submitting written comments, notice of the permit decision and a list of persons qualified to test water.

Pursuant to W. Va. Code R. § 35-8-5.7.a, the operator shall provide the Well Site Safety Plan to the surface owner and any water purveyor or surface owner subject to notice and water testing as provided in section 15 of this rule.

Pursuant to W. Va. Code R. § 35-8-15.2.c, this notice shall: (1) contain a statement of the surface owner's and water purveyor's right to request sampling and analysis; (2) advise the surface owner and water purveyor of the rebuttable presumption for contamination or deprivation of a fresh water source or supply; advise the surface owner and water purveyor that refusal to allow the operator to conduct a pre-drilling water well test constitutes a method to rebut the presumption of liability; (3) advise the surface owner and water purveyor of his or her independent right to sample and analyze any water supply at his or her own expense; advise the surface owner and water purveyor whether or not the operator will utilize an independent laboratory to analyze any sample; and (4) advise the surface owner and or water purveyor that he or she can obtain from the Chief a list of water testing laboratories in the subject area capable of and qualified to test water supplies in accordance with standard acceptable methods.

Additional information related to horizontal drilling may be obtained from the Secretary, at the WV Department of Environmental and Gas Protection headquarters, located at 601 57<sup>th</sup> Street, SE, Charleston, WV 25304 (304-926-0450) or by visiting [www.dep.wv.gov/oil-and-gas/pages/default.aspx](http://www.dep.wv.gov/oil-and-gas/pages/default.aspx).

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**Well Location Restrictions**

Pursuant to W. Va. Code § 22-6A-12, Wells may not be drilled within two hundred fifty feet measured horizontally from any existing water well or developed spring used for human or domestic animal consumption. The center of well pads may not be located within six hundred twenty-five feet of an occupied dwelling structure, or a building two thousand five hundred square feet or larger used to house or shelter dairy cattle or poultry husbandry. This limitation is applicable to those wells, developed springs, dwellings or agricultural buildings that existed on the date a notice to the surface owner of planned entry for surveying or staking as provided in section ten of this article or a notice of intent to drill a horizontal well as provided in subsection (b), section sixteen of this article was provided, whichever occurs first, and to any dwelling under construction prior to that date. This limitation may be waived by written consent of the surface owner transmitted to the department and recorded in the real property records maintained by the clerk of the county commission for the county in which such property is located. Furthermore, the well operator may be granted a variance by the secretary from these distance restrictions upon submission of a plan which identifies the sufficient measures, facilities or practices to be employed during well site construction, drilling and operations. The variance, if granted, shall include terms and conditions the department requires to ensure the safety and protection of affected persons and property. The terms and conditions may include insurance, bonding and indemnification, as well as technical requirements. (b) No well pad may be prepared or well drilled within one hundred feet measured horizontally from any perennial stream, natural or artificial lake, pond or reservoir, or a wetland, or within three hundred feet of a naturally reproducing trout stream. No well pad may be located within one thousand feet of a surface or ground water intake of a public water supply. The distance from the public water supply as identified by the department shall be measured as follows: (1) For a surface water intake on a lake or reservoir, the distance shall be measured from the boundary of the lake or reservoir. (2) For a surface water intake on a flowing stream, the distance shall be measured from a semicircular radius extending upstream of the surface water intake. (3) For a groundwater source, the distance shall be measured from the wellhead or spring. The department may, in its discretion, waive these distance restrictions upon submission of a plan identifying sufficient measures, facilities or practices to be employed during well site construction, drilling and operations to protect the waters of the state. A waiver, if granted, shall impose any permit conditions as the secretary considers necessary. (c) Notwithstanding the foregoing provisions of this section, nothing contained in this section prevents an operator from conducting the activities permitted or authorized by a Clean Water Act Section 404 permit or other approval from the United States Army Corps of Engineers within any waters of the state or within the restricted areas referenced in this section. (d) The well location restrictions set forth in this section shall not apply to any well on a multiple well pad if at least one of the wells was permitted prior to the effective date of this article. (e) The secretary shall, by December 31, 2012, report to the Legislature on the noise, light, dust and volatile organic compounds generated by the drilling of horizontal wells as they relate to the well location restrictions regarding occupied dwelling structures pursuant to this section. Upon a finding, if any, by the secretary that the well location restrictions regarding occupied dwelling structures are inadequate or otherwise require alteration to address the items

WV Department of  
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examined in the study required by this subsection, the secretary shall have the authority to propose for promulgation legislative rules establishing guidelines and procedures regarding reasonable levels of noise, light, dust and volatile organic compounds relating to drilling horizontal wells, including reasonable means of mitigating such factors, if necessary.

**Water Well Testing:**

Pursuant to West Virginia Code § 22-6A-10(d), notification shall be made, with respect to surface landowners identified in subsection (b) or water purveyors identified in subdivision (5), subsection (b) of this section, of the opportunity for testing their water well. The operator shall provide an analysis to such surface landowner or water purveyor at their request.

**Water Testing Laboratories:**

Pursuant to West Virginia Code § 22-6A-10(i), persons entitled to notice pursuant to subsection (b) of this section may contact the department to ascertain the names and locations of water testing laboratories in the subject area capable and qualified to test water supplies in accordance with standard accepted methods. In compiling that list of names the department shall consult with the state Bureau for Public Health and local health departments. A surface owner and water purveyor has an independent right to sample and analyze any water supply at his or her own expense. The laboratory utilized by the operator shall be approved by the agency as being certified and capable of performing sample analyses in accordance with this section.

**Rebuttable Presumption for Contamination or Deprivation of a Fresh Water Source or Supply:**

W. Va. Code § 22-6A-18 requires that (b) unless rebutted by one of the defenses established in subsection (c) of this section, in any action for contamination or deprivation of a fresh water source or supply within one thousand five hundred feet of the center of the well pad for horizontal well, there is a rebuttable presumption that the drilling and the oil or gas well or either was the proximate cause of the contamination or deprivation of the fresh water source or supply. (c) In order to rebut the presumption of liability established in subsection (b) of this section, the operator must prove by a preponderance of the evidence one of the following defenses: (1) The pollution existed prior to the drilling or alteration activity as determined by a predrilling or prealteration water well test. (2) The landowner or water purveyor refused to allow the operator access to the property to conduct a predrilling or prealteration water well test. (3) The water supply is not within one thousand five hundred feet of the well. (4) The pollution occurred more than six months after completion of drilling or alteration activities. (5) The pollution occurred as the result of some cause other than the drilling or alteration activity. (d) Any operator electing to preserve its defenses under subdivision (1), subsection (c) of this section shall retain the services of an independent certified laboratory to conduct the predrilling or prealteration water well test. A copy of the results of the test shall be submitted to the department and the surface owner or water purveyor in a manner prescribed by the secretary. (e) Any operator shall replace the water supply of an owner of interest in real property who obtains all or part of that owner's supply of water for domestic, agricultural, industrial or other legitimate use from an underground or surface source with a comparable water supply where the secretary determines that the water supply has been affected by contamination, diminution or interruption proximately caused by the oil or gas operation, unless waived in writing by that owner. (f) The secretary may order the operator conducting the oil or gas operation to: (1) Provide an emergency drinking water supply within twenty-four hours; (2) Provide temporary water supply within seventy-two hours; (3) Within thirty days begin activities to establish a permanent water supply or submit a proposal to the secretary outlining the measures and timetables to be used in establishing a permanent supply. The total time in providing a permanent water supply may not exceed two years. If the operator demonstrates that providing a permanent replacement water supply cannot be completed within two years, the secretary may extend the time frame on case-by-case basis; and (4) Pay all reasonable costs incurred by the real property owner in securing a water supply. (g) A person as described in subsection (b) of this section aggrieved under the provisions of subsections (b), (e) or (f) of this section may seek relief in court... (i) Notwithstanding the denial of the operator of responsibility for the damage to the real property owner's water supply or the status of any appeal on determination of liability for the damage to the real property owner's water supply, the operator may not discontinue providing the required water service and is authorized to do so by the secretary or a court of competent jurisdiction.

**Written Comment:**

Pursuant to West Virginia Code § 22-6A-11(a), all persons described in subsection (b), section ten of this article may file written comments with the secretary as to the location or construction of the applicant's proposed well work within thirty days after the application is filed with the secretary. All persons described in West Virginia Code § 22-6A-10(b) may file written comments as to the location or construction of the applicant's proposed well work to the Secretary at:

Chief, Office of Oil and Gas  
Department of Environmental Protection  
601 57<sup>th</sup> St. SE  
Charleston, WV 25304  
(304) 926-0450

Such persons may request, at the time of submitting written comments, notice of the permit decision and a list of persons qualified to test water. **NOTE: YOU ARE NOT REQUIRED TO FILE ANY COMMENT.**

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**Time Limits and Methods for Filing Comments.**

The law requires these materials to be served on or before the date the operator files its Application. You have **THIRTY (30) DAYS** after the filing date to file your comments. Comments must be filed in person or received in the mail by the Chief's office by the time stated above. You may call the Chief's office to be sure of the date. Check with your postmaster to ensure adequate delivery time or to arrange special expedited handling. If you have been contacted by the well operator and you have signed a "voluntary statement of no objection" to the planned work described in these materials, then the permit may be issued at any time.

Pursuant to West Virginia Code § 22-6A-11(c)(2), Any objections of the affected coal operators and coal seam owners and lessees shall be addressed through the processes and procedures that exist under sections fifteen, seventeen and forty, article six of this chapter, as applicable and as incorporated into this article by section five of this article. The written comments filed by the parties entitled to notice under subdivisions (1), (2), (4), (5) and (6), subsection (b), section ten of this article shall be considered by the secretary in the permit issuance process, but the parties are not entitled to participate in the processes and proceedings that exist under sections fifteen, seventeen or forty, article six of this chapter, as applicable and as incorporated into this article by section five of this article.

**Comment Requirements**

Your comments must be in writing and include your name, address and telephone number, the well operator's name and well number and the approximate location of the proposed well site including district and county from the application. You may add other documents, such as sketches, maps or photographs to support your comments.

Disclaimer: All comments received will be placed on our web site <http://www.dep.wv.gov/oil-and-gas/Horizontal-Permits/Pages/default.aspx> and the applicant will automatically be forwarded an email notice that such comments have been submitted. The applicant will be expected to provide a response to comments submitted by any surface owner, water purveyor or natural gas storage operator noticed within the application.

**Permit Denial or Condition**

The Chief has the power to deny or condition a well work permit. Pursuant to West Virginia Code § 22-6A-8(d), the permit may not be issued or be conditioned, including conditions with respect to the location of the well and access roads prior to issuance if the director determines that:

- (1) The proposed well work will constitute a hazard to the safety of persons;
- (2) The plan for soil erosion and sediment control is not adequate or effective;
- (3) Damage would occur to publicly owned lands or resources; or
- (4) The proposed well work fails to protect fresh water sources or supplies.

A permit may also be denied under West Virginia Code § 22-6A-7(k), the secretary shall deny the issuance of a permit if the secretary determines that the applicant has committed a substantial violation of a previously issued permit for a horizontal well, including the applicable erosion and sediment control plan associated with the previously issued permit, or a substantial violation of one or more of the rules promulgated under this article, and in each instance has failed to abate or seek review of the violation within the time prescribed by the secretary pursuant to the provisions of subdivisions (1) and (2), subsection (a), section five of this article and the rules promulgated hereunder, which time may not be unreasonable.

Pursuant to West Virginia Code § 22-6A-10(g), any person entitled to submit written comments to the secretary pursuant to subsection (a), section eleven of this article, shall also be entitled to receive from the secretary a copy of the permit as issued or a copy of the order modifying or denying the permit if the person requests receipt of them as a part of the written comments submitted concerning the permit application. Such persons may request, at the time of submitting written comments, notice of the permit decision and a list of persons qualified to test water.

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WW-6A  
(8-13)

4706101802

API NO. 47- \_\_\_\_\_  
OPERATOR WELL NO. Bogges 5H  
Well Pad Name: Bogges

**Notice is hereby given by:**

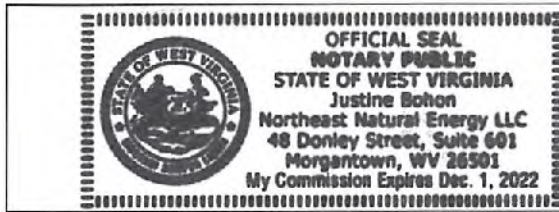
Well Operator: Northeast Natural Energy LLC  
Telephone: 304-212-0422  
Email: hmedley@nne-llc.com

Address: 707 Virginia Street E., Suite 1200  
Charleston, WV 25301  
Facsimile: 304-241-5972

**Oil and Gas Privacy Notice:**

The Office of Oil and Gas processes your personal information, such as name, address and telephone number, as part of our regulatory duties. Your personal information may be disclosed to other State agencies or third parties in the normal course of business or as needed to comply with statutory or regulatory requirements, including Freedom of Information Act requests. Our office will appropriately secure your personal information. If you have any questions about our use or your personal information, please contact DEP's Chief Privacy Officer at [depprivacyofficer@wv.gov](mailto:depprivacyofficer@wv.gov).

*Hell-money*



Subscribed and sworn before me this 15 day of 2, 2018.

*Justine Bohon*

Notary Public

My Commission Expires 12/1/2022

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06/15/2018

**Surface Owner(s):**

Blake Boggess /  
1584 Mason Dixon HWY  
Maidsville, WV 26541

H. Preston Boggess /  
119 Pine Springs Drive  
Copper Hill, VA 24079

**Surface Owner(s) – Road and/or Other Disturbance:**

Blake Boggess /  
1584 Mason Dixon HWY  
Maidsville, WV 26541

H. Preston Boggess /  
119 Pine Springs Drive  
Copper Hill, VA 24079

**Coal Owner(s) or Lessee:**

CONSOL Mining Company LLC /  
Attn: Analyst  
Engineering and Operations Support - Coal  
CNX Center, 1000 Consol Energy Drive  
Canonsburg, PA 15317

Murray Energy Corporation  
Attn: Alex P. O'Neill, Coal- Oil and Gas Relations Manager  
46226 National Road  
St. Clairsville, OH 43950

**Surface Owner of Water Well and/or Water Purveyor:**

Chad C. Forman /  
1543 Mason Dixon HWY  
Core, WV 26541

Dave and Donna Jones /  
3106 Little Indian Creek Rd.  
Core, WV 26541

Roy L. Eddy /  
1169 Mason Dixon HWY  
Maidsville, WV 26541

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# BOGCESS WATER WELL

## EXHIBIT

JANUARY 31, 2018

SCALE - (1"=600')



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## Water Well/Spring Location - Boggess Pad

Water Source	Latitude/Longitude	TMP	Owner	Address	Distance From Center of Wells
#1 Spring	39.667851, -80.089273	4-12-65	Blake R. and H. Preston Boggess		1,388'
#2 Spring	39.666461, -80.091450	4-12-65	Blake R. and H. Preston Boggess		1,441'
#3 Spring	39.666906, -80.096503	4-12-65	Blake R. and H. Preston Boggess		1,519'
#4 Well	39.666045, -80.089375	4-15-28	Chad C. Foreman		1,848'
#5 Spring	39.666920, -80.086435	3-17-01	Roy L. Eddy		2,238'
#6 Spring	39.666154, -80.087130	3-17-01	Roy L. Eddy		2,247'
#7 Spring	39.664326, -80.088255	3-17-01	Roy L. Eddy		2,544'
#8 Spring	39.667265, -80.084095	4-14-02	Roy L. Eddy		2,767'
#9 Well	39.664022, -80.095902	4-15-30.5	Dave and Donna Jones		2,374'

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STATE OF WEST VIRGINIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS  
NOTICE OF ENTRY FOR PLAT SURVEY

**Notice Time Requirement:** Notice shall be provided at least SEVEN (7) days but no more than FORTY-FIVE (45) days prior to entry

**Date of Notice:** 5/21/2014      **Date of Planned Entry:** 5/28/2014

**Delivery method pursuant to West Virginia Code § 22-6A-10a**

- PERSONAL SERVICE
- REGISTERED MAIL
- METHOD OF DELIVERY THAT REQUIRES A RECEIPT OR SIGNATURE CONFIRMATION

Pursuant to West Virginia Code § 22-6A-10(a), Prior to filing a permit application, the operator shall provide notice of planned entry on to the surface tract to conduct any plat surveys required pursuant to this article. Such notice shall be provided at least seven days but no more than forty-five days prior to such entry to: (1) The surface owner of such tract; (2) to any owner or lessee of coal seams beneath such tract that has filed a declaration pursuant to section thirty-six, article six, chapter twenty-two of this code; and (3) any owner of minerals underlying such tract in the county tax records. The notice shall include a statement that copies of the state Erosion and Sediment Control Manual and the statutes and rules related to oil and gas exploration and production may be obtained from the Secretary, which statement shall include contact information, including the address for a web page on the Secretary's web site, to enable the surface owner to obtain copies from the secretary.

**Notice is hereby provided to:**

SURFACE OWNER(s)  
 Name: H. Preston Bogges  
 Address: 1145 Meadow Run Rd.  
Copper Hill, VA 24079  
 Name: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 Name: \_\_\_\_\_  
 Address: \_\_\_\_\_

COAL OWNER OR LESSEE  
 Name: Consolidated Coal Co.  
 Address: 1000 Consol Energy Dr.  
Ganonsburg, PA 15317

MINERAL OWNER(s)  
 Name: H. Preston Bogges  
 Address: 1145 Meadow Run Rd.  
Copper Hill, VA 24079  
 \*please attach additional forms if necessary

**Notice is hereby given:**

Pursuant to West Virginia Code § 22-6A-10(a), notice is hereby given that the undersigned well operator is planning entry to conduct a plat survey on the tract of land as follows:

State: <u>West Virginia</u>	Approx. Latitude & Longitude: <u>39.6704400, -80.0928805 (NAD 83)</u>
County: <u>Monongalia</u>	Public Road Access: <u>State Route 7</u>
District: <u>Clay</u>	Watershed: <u>Dunkard Creek</u>
Quadrangle: <u>Osage, WV</u>	Generally used farm name: <u>Bogges</u>

Copies of the state Erosion and Sediment Control Manual and the statutes and rules related to oil and gas exploration and production may be obtained from the Secretary, at the WV Department of Environmental Protection headquarters, located at 601 57<sup>th</sup> Street, SE, Charleston, WV 25304 (304-926-0450). Copies of such documents or additional information related to horizontal drilling may be obtained from the Secretary by visiting [www.dep.wv.gov/oil-and-gas/pages/default.aspx](http://www.dep.wv.gov/oil-and-gas/pages/default.aspx).

**Notice is hereby given by:**

Well Operator: Northeast Natural Energy LLC  
 Telephone: 304.212.0422  
 Email: hmedley@nne-llc.com

Address: 707 Virginia Street East, Suite 1200  
Charleston, WV 2501  
 Facsimile: 304.241.5972

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**Oil and Gas Privacy Notice:**

The Office of Oil and Gas processes your personal information, such as name, address and telephone number, as part of our regulatory duties. Your personal information may be disclosed to other State agencies or third parties in the normal course of business or as needed to comply with statutory or regulatory requirements, including Freedom of Information Act requests. Our office will appropriately secure your personal information. If you have any questions about our use or your personal information, please contact DEP's Chief Privacy Officer at [depprivacyofficer@wv.gov](mailto:depprivacyofficer@wv.gov).

STATE OF WEST VIRGINIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS  
NOTICE OF INTENT TO DRILL

Pursuant to W. Va. Code § 22-6A-16(b), the Notice of Intent to Drill is only required if the notice requirements of W. Va. Code § 22-6A-10(a) have NOT been met or if the Notice of Intent to Drill requirement has NOT been waived in writing by the surface owner.

**Notice Time Requirement:** Notice shall be provided at least TEN (10) days prior to filing a permit application.

**Date of Notice:** 02/01/2018      **Date Permit Application Filed:** 02/15/2018

**Delivery method pursuant to West Virginia Code § 22-6A-16(b)**

HAND DELIVERY       CERTIFIED MAIL  
RETURN RECEIPT REQUESTED

Pursuant to W. Va. Code § 22-6A-16(b), at least ten days prior to filing a permit application, an operator shall, by certified mail return receipt requested or hand delivery, give the surface owner notice of its intent to enter upon the surface owner's land for the purpose of drilling a horizontal well: *Provided*, That notice given pursuant to subsection (a), section ten of this article satisfies the requirements of this subsection as of the date the notice was provided to the surface owner: *Provided, however*, That the notice requirements of this subsection may be waived in writing by the surface owner. The notice, if required, shall include the name, address, telephone number, and if available, facsimile number and electronic mail address of the operator and the operator's authorized representative.

**Notice is hereby provided to the SURFACE OWNER(s):**

Name: Bleke R. Bogges  
Address: 1584 Mason Dixon Highway  
Maidsville, WV 26541

Name: H. Preston Bogges  
Address: 119 Pine Springs Drive  
Copper Hill, VA 24079

**Notice is hereby given:**

Pursuant to West Virginia Code § 22-6A-16(b), notice is hereby given that the undersigned well operator has an intent to enter upon the surface owner's land for the purpose of drilling a horizontal well on the tract of land as follows:

State: West Virginia      UTM NAD 83      Easting: 577773.3  
County: Monongalia      Northing: 4391546.9  
District: Clay      Public Road Access: State Route 7 (Mason Dixon Highway)  
Quadrangle: Osage, WV      Generally used farm name: Bogges  
Watershed: Dunkard

**This Notice Shall Include:**

Pursuant to West Virginia Code § 22-6A-16(b), this notice shall include the name, address, telephone number, and if available, facsimile number and electronic mail address of the operator and the operator's authorized representative. Additional information related to horizontal drilling may be obtained from the Secretary, at the WV Department of Environmental Protection headquarters, located at 601 57<sup>th</sup> Street, SE, Charleston, WV 25304 (304-926-0450) or by visiting [www.dep.wv.gov/oil-and-gas/pages/default.aspx](http://www.dep.wv.gov/oil-and-gas/pages/default.aspx).

**Notice is hereby given by:**

Well Operator: Northeast Natural Energy LLC  
Address: 707 Virginia Street East, Suite 1200  
Charleston, WV 25301  
Telephone: 304-212-0422  
Email: hmedley@nne-llc.com  
Facsimile: 304-241-5972

Authorized Representative: Hollie Medley, Regulatory Manager  
Address: 48 Donley Street, Suite 1200  
Morgantown, WV 26501  
Telephone: 304-212-0422  
Email: hmedley@nne-llc.com  
Facsimile: 304-241-5972

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**Oil and Gas Privacy Notice:**

The Office of Oil and Gas processes your personal information, such as name, address and telephone number, as part of our regulatory duties. Your personal information may be disclosed to other State agencies or third parties in the normal course of business or as needed to comply with statutory or regulatory requirements, including Freedom of Information Act requests. Our office will appropriately secure your personal information. If you have any questions about our use or your personal information, please contact DEP's Chief Privacy Officer at [depprivacyofficer@wv.gov](mailto:depprivacyofficer@wv.gov).

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**STATE OF WEST VIRGINIA**  
**DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS**  
**NOTICE OF PLANNED OPERATION**

**Notice Time Requirement:** notice shall be provided no later than the filing date of permit application.

**Date of Notice:** 02/01/2018      **Date Permit Application Filed:** 02/15/2018

**Delivery method pursuant to West Virginia Code § 22-6A-16(c)**

CERTIFIED MAIL                                       HAND  
RETURN RECEIPT REQUESTED                                      DELIVERY

Pursuant to W. Va. Code § 22-6A-16(c), no later than the date for filing the permit application, an operator shall, by certified mail return receipt requested or hand delivery, give the surface owner whose land will be used for the drilling of a horizontal well notice of the planned operation. The notice required by this subsection shall include: (1) A copy of this code section; (2) The information required to be provided by subsection (b), section ten of this article to a surface owner whose land will be used in conjunction with the drilling of a horizontal well; and (3) A proposed surface use and compensation agreement containing an offer of compensation for damages to the surface affected by oil and gas operations to the extent the damages are compensable under article six-b of this chapter. (d) The notices required by this section shall be given to the surface owner at the address listed in the records of the sheriff at the time of notice.

**Notice is hereby provided to the SURFACE OWNER(s)**  
(at the address listed in the records of the sheriff at the time of notice):

Name: Blake Boggett  
Address: 1584 Mason Dixon Highway  
Malden, WV 26541

Name: H. Preston Boggett  
Address: 119 Pine Springs Drive  
Copper Hill, VA 24079

**Notice is hereby given:**

Pursuant to West Virginia Code § 22-6A-16(c), notice is hereby given that the undersigned well operator has developed a planned operation on the surface owner's land for the purpose of drilling a horizontal well on the tract of land as follows:

State:	<u>West Virginia</u>	UTM NAD 83    Easting:	<u>577773.3</u>
County:	<u>Monongalia</u>	Northing:	<u>4391546.9</u>
District:	<u>Clay</u>	Public Road Access:	<u>State Route 7 (Mason Dixon Highway)</u>
Quadrangle:	<u>Osage, WV</u>	Generally used farm name:	<u>Boggett</u>
Watershed:	<u>Dunkard Creek</u>		

**This Notice Shall Include:**

Pursuant to West Virginia Code § 22-6A-16(c), this notice shall include: (1) A copy of this code section; (2) The information required to be provided by W. Va. Code § 22-6A-10(b) to a surface owner whose land will be used in conjunction with the drilling of a horizontal well; and (3) A proposed surface use and compensation agreement containing an offer of compensation for damages to the surface affected by oil and gas operations to the extent the damages are compensable under article six-b of this chapter. Additional information related to horizontal drilling may be obtained from the Secretary, at the WV Department of Environmental Protection headquarters, located at 601 57<sup>th</sup> Street, SE, Charleston, WV 25304 (304-926-0450) or by visiting [www.dep.wv.gov/oil-and-gas/pages/default.aspx](http://www.dep.wv.gov/oil-and-gas/pages/default.aspx).

Well Operator: Northeast Natural Energy LLC  
Telephone: 304-212-0422  
Email: hmedley@nne-llc.com

Address: 707 Virginia Street East, Suite 1200  
Charleston, WV 25301  
Facsimile: 304-241-5972

**Oil and Gas Privacy Notice:**

The Office of Oil and Gas processes your personal information, such as name, address and telephone number, as part of our regulatory duties. Your personal information may be disclosed to other State agencies or third parties in the normal course of business or as needed to comply with statutory or regulatory requirements, including Freedom of Information Act requests. Our office will appropriately secure your personal information. If you have any questions about our use or your personal information, please contact DEP's Chief Privacy Officer at [depprivacyofficer@wv.gov](mailto:depprivacyofficer@wv.gov).

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06/15/2018

**STATE OF WEST VIRGINIA**  
**DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS**  
**VOLUNTARY STATEMENT OF NO OBJECTION**

**Instructions to Persons Named on Page WW-6A**

The well operator named on page WW-6A is applying for a permit from the State of West Virginia to conduct oil or gas well work. Well work permits are valid for twenty-four (24) months. Please contact the listed well operator and the Office of Oil and Gas if you do not own any interest in the listed surface tract.

**Comment and Waiver Provisions**

Pursuant to West Virginia Code § 22-6A-11(a), all persons described in subsection (b), section ten of this article may file written comments with the secretary as to the location or construction of the applicant's proposed well work within thirty days after the application is filed with the secretary.

Pursuant to West Virginia Code § 22-6A-8(b) No permit may be issued less than thirty days after the filing date of the application for any well work except plugging or replugging; and no permit for plugging or replugging may be issued less than five days after the filing date of the application except a permit for plugging or replugging a dry hole: *Provided*, That if the applicant certifies that all persons entitled to notice of the application under the provisions of subsection (b), section ten of this article have been served in person or by certified mail, return receipt requested, with a copy of the well work application, including the erosion and sediment control plan, if required, and the well plat, and further files written statements of no objection by all such persons, the secretary may issue the well work permit at any time.

**VOLUNTARY STATEMENT OF NO OBJECTION**

I, H. Preston Bogness, hereby state that I have read the Instructions to Persons Named on Page WW-6A and the associated provisions listed above, and that I have received copies of a Notice of Application, an Application for a Well Work Permit on Form WW-6A and attachments consisting of pages one (1) through \_\_\_\_\_, including the erosion and sediment control plan, if required, and the well plat, all for proposed well work on the tract of land as follows:

State: <u>West Virginia</u>	UTM NAD 83 Easting: <u>(5H): 577773.3 ; (9H): 577778.2</u>
County: <u>Monongalia</u>	Northing: <u>(5H): 4391546.9 ; (9H): 4391550.6</u>
District: <u>Clay</u>	Public Road Access: <u>State Route 7 (Mason Dixon Highway)</u>
Quadrangle: <u>Osage, WV</u>	Generally used farm name: <u>Bogness</u>
Watershed: <u>Dunkard Creek</u>	

I further state that I have no objection to the planned work described in these materials, and I have no objection to a permit being issued on those materials.

<p>*Please check the box that applies</p> <p><input checked="" type="checkbox"/> SURFACE OWNER</p> <p><input checked="" type="checkbox"/> SURFACE OWNER (Road and/or Other Disturbance)</p> <p><input type="checkbox"/> SURFACE OWNER (Impoundments/Pits)</p> <p><input type="checkbox"/> COAL OWNER OR LESSEE</p> <p><input type="checkbox"/> COAL OPERATOR</p> <p><input type="checkbox"/> WATER PURVEYOR</p> <p><input type="checkbox"/> OPERATOR OF ANY NATURAL GAS STORAGE FIELD</p>	<p><b>FOR EXECUTION BY A NATURAL PERSON</b></p> <p>Signature: <u>H. Preston Bogness</u></p> <p>Print Name: <u>H. PRESTON BOGNESS</u></p> <p>Date: <u>2/16/18</u></p> <p><b>FOR EXECUTION BY A CORPORATION, ETC.</b></p> <p>Company: _____</p> <p>By: _____</p> <p>Its: _____</p> <p>Signature: _____</p> <p>Date: _____</p>
---	---

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Office of Oil and Gas

FEB 21 2018

WV Department of  
Environmental Protection

**Oil and Gas Privacy Notice:**

The Office of Oil and Gas processes your personal information, such as name, address and telephone number, as part of our regulatory duties. Your personal information may be disclosed to other State agencies or third parties in the normal course of business or as needed to comply with statutory or regulatory requirements, including Freedom of Information Act requests. Our office will appropriately secure your personal information. If you have any questions about our use of your personal information, please contact DEP's Chief Privacy Officer at [depprivacvofficer@wv.gov](mailto:depprivacvofficer@wv.gov).



WEST VIRGINIA DEPARTMENT OF TRANSPORTATION

**Division of Highways**

1900 Kanawha Boulevard East • Building Five • Room 110  
Charleston, West Virginia 25305-0430 • (304) 558-3505

Thomas J. Smith, P. E.  
Secretary of Transportation/  
Commissioner of Highways  
Jill M. Newman  
Deputy Commissioner

Reissued February 20, 2018

James A. Martin, Chief  
Office of Oil and Gas  
Department of Environmental Protection  
601 57<sup>th</sup> Street, SE  
Charleston, WV 25304

Subject: DOH Permit for the Boggess Pad, Monongalia County  
Boggess 5H

Dear Mr. Martin,

This well site will be accessed from permit #04-2014-1051 issued to by Northeast Natural Energy Corporation for access to the State Road for a well site located off of WV Route 7.

The operator has signed a DISTRICT WIDE OIL AND GAS ROAD MAINTENANCE BONDING AGREEMENT and provided the required Bond. This operator is currently in compliance with the DOH OIL AND GAS POLICY dated January 3, 2012.

Very Truly Yours,

Gary K. Clayton, P.E.  
Regional Maintenance Engineer  
Central Office O&G Coordinator

Cc: Hollie Medley  
Northeast Natural Energy Corporation  
CH, OM, D-4  
File

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Office of Oil and Gas

FEB 21 2018

WV Department of  
Environmental Protection

4706101802

## Planned Additives to be used in Fracturing Stimulations

Trade Name	Purpose	Ingredients	Chemical Abstract Service Number (CAS#)
Water	Carrier	Water	7732-18-5
HCl, 10.1-15%	Acidizing	Hydrochloric Acid Water	7647-01-0 7732-18-5
Alpha 1427	Biocide	Alkyl Dimethyl Benzyl Ammonium Chloride (C12-16) Ethanol Glutaraldehyde Quaternary Ammonium Chloride Water	68424-85-1 64-17-5 111-30-8 7173-51-5 7732-18-5
Enzyme G-NE	Breaker	Hemicellulase Enzyme Concentrate Water	9025-56-3 7732-18-5
CI-14	Corrosion Inhibitor	Fatty Acids Methanol Olefin Polyoxyalkylenes Propargyl Alcohol	N.A. 67-56-1 N.A. N.A. 107-19-7
FRW-18	Friction Reducer	Hydrotreated Light Distillate	64742-47-8
GW-3LDF	Gelling Agent	Guar Gum Petroleum Distillate Blend	9000-30-0 CBI
Ferrotrol 300L	Iron Control	Citric Acid	77-92-9
Sand, White, 40/70	Proppant	Crystalline Silica (Quartz)	14808-60-7
Sand, White, 100 mesh	Proppant	Crystalline Silica (Quartz)	14808-60-7
Scaletrol 720	Scale Inhibitor	Diethylene Glycol	111-46-6

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FEB 21 2013  
WV Department of Environmental Protection



# EROSION & SEDIMENT CONTROL PLAN

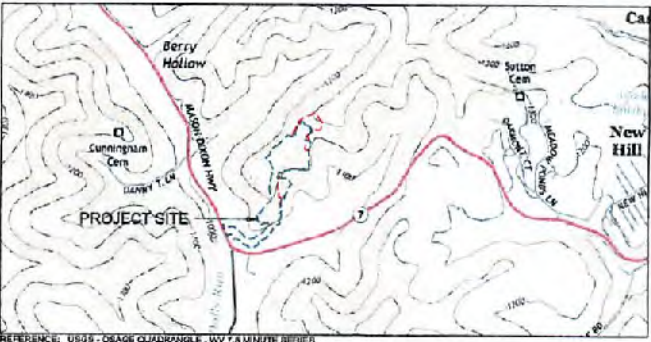
## BOGGESS WELL PAD

### MODIFICATION

#### MONONGALIA COUNTY, WEST VIRGINIA

#### FOR

## NORTHEAST NATURAL ENERGY LLC



REFERENCE: USGS - OROGRAPHIC MAPS, WV 7.5 MINUTE SERIES

LOCATION MAP  
750' 0 1000' 2000'

SCALE: PROJECT NO. 1438006

JUNE 2015

DIEFFENBAUCH & HRITZ, LLC



API# 6101690  
API# 6101691

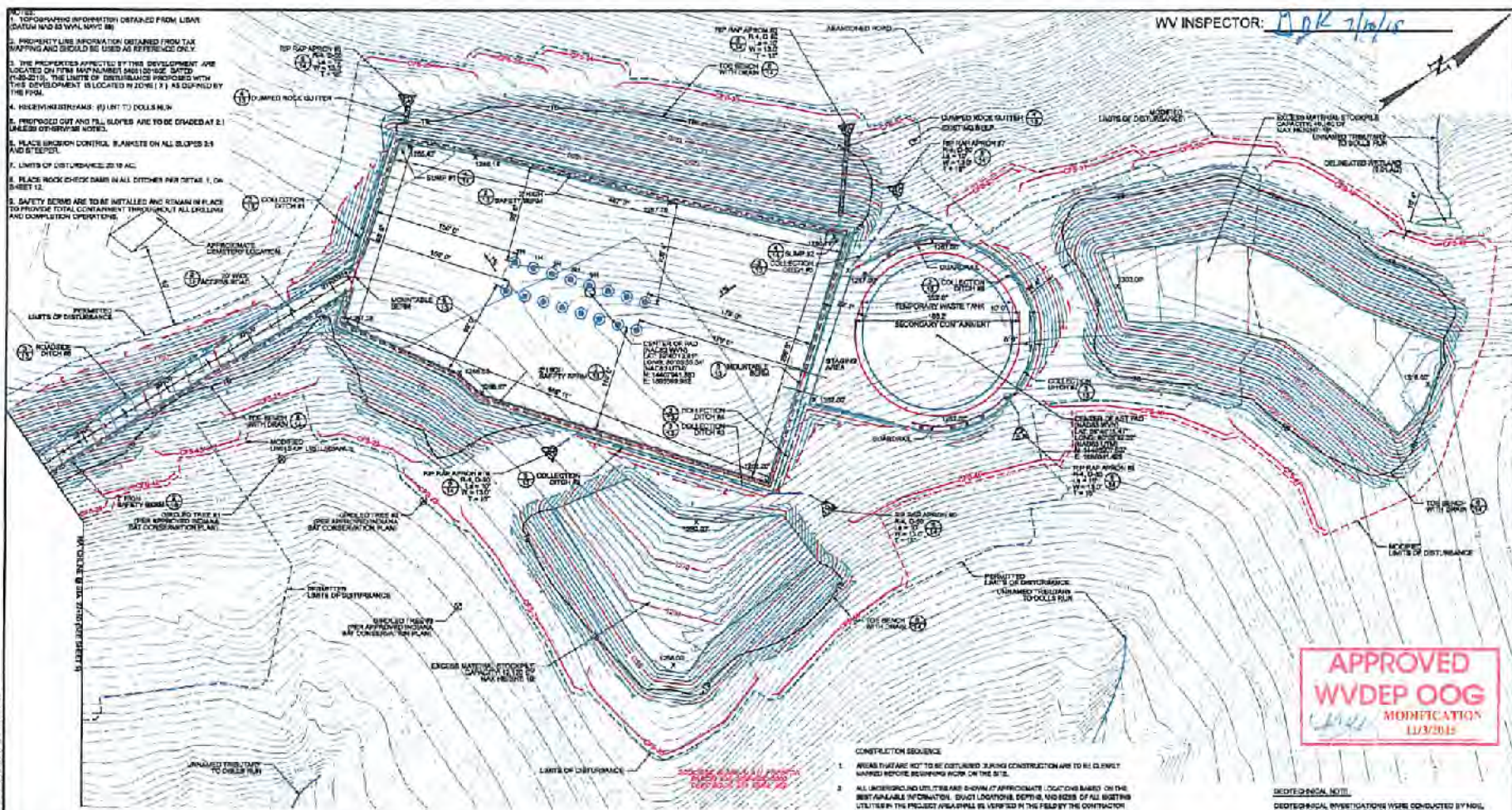
INDEX	
DRAWING NO.	TITLE
1	TITLE SHEET
2	GENERAL NOTES
3	EXISTING SITE PLAN
4	OVERALL SITE PLAN
5-6	HYDROLOG SITE PLAN
7	ACCESS ROAD PROFILE
8-8	SITE RESTORATION PLAN
10	SOILS PLAN
11	TYPICAL SECTIONS
12-14	DRS DETAILS

**LIMITS OF DISTURBANCE SUMMARY:**  
 PERMITTED LIMITS OF DISTURBANCE: 19.9 AC  
 WORKED LIMITS OF DISTURBANCE: 22.18 AC  
 DIFFERENCE IN LIMITS OF DISTURBANCE: +2.28 AC  
**PROPOSED PERMANENT ELEMENTS:**  
 ACCESS ROAD: 0.21 AC  
 WELL PAD: 11.87 AC

WV INSPECTOR: \_\_\_\_\_

NO.	DATE	REVISIONS
DIEFFENBAUCH & HRITZ MONROVIA, WV		
NORTHEAST NATURAL ENERGY LLC		
BOGGESS WELL PAD MODIFICATION		
TITLE SHEET		
1		

WV INSPECTOR: Mark J. Hertz



1. TOPOGRAPHIC INFORMATION OBTAINED FROM LIDAR DATUM AND IS WALKWAYS IS.
2. PROPERTY LINE INFORMATION OBTAINED FROM TAX MAPPING AND SHOULD BE USED AS REFERENCE ONLY.
3. THE PROPERTIES AFFECTED BY THIS DEVELOPMENT ARE LOCATED ON THE MAP NUMBER AND SHEET DATED 11-20-2015. THE LIMITS OF DISTURBANCE PROPOSED WITH THIS DEVELOPMENT IS LOCATED IN 2015 ( ) AS OUTLINED BY THE PLAN.
4. HIGHWAY DISTANCE: (S) LEFT TO COLLS RUN.
5. PROPOSED CUT AND FILL SLOPES ARE TO BE GRADED AT 1:1 UNLESS OTHERWISE NOTED.
6. PLACE EROSION CONTROL BLANKETS ON ALL SLOPES 2:1 AND STEPER.
7. LIMITS OF DISTURBANCE IS 10 AC.
8. PLACE ROCK CHECK DAMS IN ALL DITCHES PER DETAIL 1, ON SHEET 12.
9. SAFETY BERMS ARE TO BE INSTALLED AND REMAIN IN PLACE TO PROVIDE TOTAL CONTAINMENT THROUGHOUT ALL INSTALLATION AND COMPLETION OPERATIONS.

LEGEND	
EXISTING PAVED DRIVE	EXISTING INTERMEDIATE CONTAINMENT LINE
EXISTING ROAD	PROPOSED ROCK CONTAINMENT LINE (R)
EXISTING RIGHT-OF-WAY	PROPOSED INTERMEDIATE CONTAINMENT LINE
PROPOSED RIGHT-OF-WAY	CHANNEL FLOW DIRECTION
PROPERTY LINE	STREAM
MUNICIPAL BOUNDARY	DELIMITED STREAM
EXISTING FENCE	DELIMITED METALLIC BOUNDARY
EXISTING ELECTRICAL LINE	FOLLOWWAY BOUNDARY
EXISTING GAS LINE	APPROXIMATE LOCATION
PROPOSED GAS LINE	PROPOSED COMPOST FILTER BASK (CFB)
PROPOSED WATER LINE	PERMITTED TRIPLE CFB STACK
FILL LIMITS	MATERIAL LAMPED 1' P.F. IN STACK (CFB)
CUT LIMITS	MODIFIED TRIPLE CFB STACK
TOP BENCH WITH DRAIN	CFB SEGMENT 'MAP'
ROADWAY CENTERLINE	PROPOSED SPOT ELEVATION
SAFETY BERMS	EXISTING STRUCTURE
PROPOSED LIMITS OF DISTURBANCE	
MODIFIED LIMITS OF DISTURBANCE	
FOOTPRINT LIMITS OF DISTURBANCE	

WELL HEAD COORDINATES	
WELL SLOTT 11 (NAD83) LAT: 39° 42' 42.40" LONG: 80° 52' 58.54"	WELL SLOTT 12 (NAD83) LAT: 39° 42' 42.40" LONG: 80° 52' 58.54"
WELL SLOTT 14 (NAD83) LAT: 39° 42' 42.40" LONG: 80° 52' 58.54"	WELL SLOTT 15 (NAD83) LAT: 39° 42' 42.40" LONG: 80° 52' 58.54"
WELL SLOTT 16 (NAD83) LAT: 39° 42' 42.40" LONG: 80° 52' 58.54"	WELL SLOTT 17 (NAD83) LAT: 39° 42' 42.40" LONG: 80° 52' 58.54"

LIMITS OF DISTURBANCE SUMMARY	
PERMITTED LIMITS OF DISTURBANCE =	15.95 AC
MODIFIED LIMITS OF DISTURBANCE =	25.18 AC
DIFFERENCE IN LIMITS OF DISTURBANCE =	+9.23 AC

**APPROVED**  
**WV DEP OOG**  
 MODIFICATION  
 11/3/2015

- CONSTRUCTION SEQUENCE**
1. AREAS THAT ARE NOT TO BE DISTURBED DURING CONSTRUCTION ARE TO BE CLEARLY MARKED BEFORE BEGINNING WORK ON THE SITE.
  2. ALL UNDERGROUND UTILITIES ARE SHOWN AT APPROXIMATE LOCATIONS BASED ON THE BEST AVAILABLE INFORMATION. EXACT LOCATIONS, DEPTHS, AND SIZES OF ALL EXISTING UTILITIES IN THE PROJECT AREA SHALL BE VERIFIED BY THE FIELD BY THE CONTRACTOR WITH A REPRESENTATIVE FROM THE APPROPRIATE UTILITY COMPANY. THE CONTRACTOR IS TO BE RESPONSIBLE FOR NOTIFYING ALL UTILITY COMPANIES AT LEAST SEVENTY TWO (72) HOURS BEFORE ANY WORK IS COMMENCED ON THIS PROJECT.
  3. PROVISION AND ADOPTED CONTROL DIVISION AS REQUIRED BY THE ENGINEER AND SEWERAGE CONTROL PLANS AND CONTROLLED BY FIELD CONDITIONS AND TO BE INSTALLED PRIOR TO COMMENCING ANY CONSTRUCTION ACTIVITY ON THE SITE.
  4. CONSTRUCTION ACTIVITY WILL BEGIN WITH THE CLEARING AND GRADING OF THE ACCESS ROAD FROM THE SITE POINT OF ACCESS TO THE DRILL PAD AND TO LOCATIONS.
  5. TEMPORARY ACCESS PERMANENT BEARING AND WEIGHING SHALL FOLLOW EARLY-MORNING ACT WITH AN ALLOWED FOR PROBLEMS SHOULD BE AVOIDED WITH IN A LATE OF ANY OPERATION OF OPERATING ACTIVITIES.
  6. THE REMAINING PROJECT AREA WILL THEN BE CLEARING AND GRADING FOLLOWING SEPARATION OF THE EXISTING A PERMANENT CONTROL DEVICES AT THE DRILL PAD AND OTHER LOCATIONS.
  7. THE DRILL PAD AND ACCESS ROAD LOCATIONS WILL THEN BE CONSTRUCTED. FINAL GRADING COMPLETED. GRAVEL WILL BE PLACED ON THE PAD AND ACCESS ROAD AND SOLARISMS WILL BE PERFORMED AND PERMANENTLY BEARING AND MAINTAINED.
  8. FOLLOWING COMPLETION OF OPERATIONS, THE GRAVEL PAD SURFACE WILL BE REMOVED. SOIL WILL BE BROADCAST, TOPSOILED (IF AVAILABLE) AND SEEDS.
  9. LONG TERM WEED CONTROL SHALL BE IN PLACE UNTIL A 100% PERMANENT VEGETATIVE COVER IS ESTABLISHED.
- GEOTECHNICAL NOTE**
- GEOTECHNICAL INVESTIGATIONS WERE CONDUCTED BY PAUL LEE AS PART OF THE SITE DESIGN. REFER TO THE GEOTECHNICAL INVESTIGATION REPORT (W-2014-01) DATED 10/20/2014 FOR DETAILED DATA. ADJUSTMENTS TO CUT AND FILL SLOPES SHOULD NOT BE MADE UNLESS REVIEWED BY PAUL LEE AND SUPERVISOR A HERTZ, LLC.
- CONSTRUCTION RECOMMENDATIONS**
1. SOIL FILL SHOULD BE PLACED IN MAXIMUM 12-INCH THICK LAYERS. EACH LIFT OF SOIL SHOULD BE COMPACTED TO AT LEAST 95% OF THE MAXIMUM DRY DENSITY AS DETERMINED BY THE STANDARD PRACTICE LABORATORY TEST (ASTM D1557). ALL SOIL FILL SHOULD BE MOISTURE CONDITION TO WITHIN THREE PERCENTAGE POINTS OF THE NATURAL OPTIMUM MOISTURE CONTENT AS DETERMINED BY THE STANDARD PRACTICE LABORATORY TEST. COMPACTED SOIL FILL SHOULD BE ACCOMPANIED BY A MINIMUM 10-TON STATIC WEIGHT SHEEPS FOOT ROLLER. COMPACTED OR GRANULAR FILL SHOULD BE PERFORMED USING A VIBRATORY 2-TON DRUM ROLLER. A SUFFICIENT NUMBER OF FIELD MOISTURE DENSITY TESTS SHOULD BE PERFORMED ON EACH LIFT OF SOIL FILL TO VERIFY AND DOCUMENT THAT THE REQUIRED FILL DENSITY IS ACHIEVED.
  2. EARTHEN FILL SHALL NOT INCLUDE ANY FROZEN OR OCEANIC MATERIAL.

PROJECT	BOGGS WELL PAD MODIFICATION
CLIENT	NORTHEAST NATURAL ENERGY, LLC
DATE	JUNE 2015
SCALE	AS SHOWN
DESIGNER	DIFFENBACH & HERTZ, INC.
PROJECT NO.	143000
DATE	JUNE 2015
SCALE	AS SHOWN
PROJECT	BOGGS WELL PAD MODIFICATION
CLIENT	NORTHEAST NATURAL ENERGY, LLC
DATE	JUNE 2015
SCALE	AS SHOWN
DESIGNER	DIFFENBACH & HERTZ, INC.
PROJECT NO.	143000
DATE	JUNE 2015
SCALE	AS SHOWN