



 west virginia department of environmental protection

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

Austin Caperton, Cabinet Secretary
www.dep.wv.gov

Tuesday, May 7, 2019
 WELL WORK PERMIT
 Horizontal 6A / New Drill

HG ENERGY II APPALACHIA, LLC
 5260 DUPONT ROAD

PARKERSBURG, WV 26101

Re: Permit approval for 1208 N-4H
 47-033-05954-00-00

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: 1208 N-4H
 Farm Name: LINDA & WILLIAM W. BROOKS
 U.S. WELL NUMBER: 47-033-05954-00-00
 Horizontal 6A New Drill
 Date Issued: 5/7/2019

PERMIT CONDITIONS

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.

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.

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

1) Well Operator: HG Energy II Appalachia, L.P. 494519932 Harrison Union West Milford 7.5'
Operator ID County District Quadrangle

2) Operator's Well Number: Nutter 1208 N-4H Well Pad Name: Nutter 1208

3) Farm Name/Surface Owner: Nutter Public Road Access: SR 19

4) Elevation, current ground: 1162' Elevation, proposed post-construction: 1149'

5) Well Type (a) Gas Oil _____ Underground Storage _____

Other _____

(b) If Gas Shallow Deep _____

Horizontal _____

*SDW
1/28/2019*

6) Existing Pad: Yes or No No

7) Proposed Target Formation(s), Depth(s), Anticipated Thickness and Expected Pressure(s):
Marcellus at 7013'/7064' and 51' in thickness. Anticipated pressure at 4314#.

8) Proposed Total Vertical Depth: 7050'

9) Formation at Total Vertical Depth: Marcellus

10) Proposed Total Measured Depth: 19,223' ✓

11) Proposed Horizontal Leg Length: 11,652' ✓

12) Approximate Fresh Water Strata Depths: 135', 500' ✓

13) Method to Determine Fresh Water Depths: Nearest offset well data

14) Approximate Saltwater Depths: 1299', 1675'

15) Approximate Coal Seam Depths: 810' to 815'

16) Approximate Depth to Possible Void (coal mine, karst, other): None

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

(a) If Yes, provide Mine Info: Name: _____
Depth: _____
Seam: _____
Owner: _____
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WV Department of
Environmental Protection

WW-6B
(04/15)

API NO. 47- _____ - _____
 OPERATOR WELL NO. Nutter 1208 N-4H
 Well Pad Name: Nutter 1208

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	30"	New	LS	157.5	120'	120'	Drilled In
Fresh Water	20"	NEW	J-55	94	650'	650'	CTS
Coal/Storage	13 3/8"	NEW	J-55	68	1890'	1890'	CTS
Intermediate	9 5/8"	NEW	J-55	40	2700'	2700'	CTS
Production	5 1/2"	NEW	P-110	23	19,223'	19223'	CTS
Tubing							
Liners							

SDW
5/11/2019

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	30"	30"	.500				Drilled In
Fresh Water	20"	26"	.438	2110	1200	Type 1, Class A	40% excess yield = 1.20, CTS
Coal/Storage	13 3/8"	17 1/2"	.480	3450		Type 1/Class A	Lead 40% excess, Tail 0% excess
Intermediate	9 5/8"	12 1/4"	.395	3950		Type 1/Class A	Lead 40% excess, Tail 0% excess
Production	5 1/2"	8 1/2"	.415	14520	12000	Type 1/Class A	20% excess yield = 1.19, Tail yield 1.20
Tubing							
Liners							

PACKERS

Kind:				
Sizes:				
Depths Set:				

WW-6B
(10/14)

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

Drill the vertical depth to the Marcellus at an estimated total vertical depth of approximately 7050 feet. Drill horizontal leg to estimated 11652 lateral length, 19223 TMD. Hydraulically fracture stimulate and be capable of producing from the Marcellus Formation. Should we encounter an unanticipated void in the coal, we will install a minimum of 20' of casing below the void but not more than 100' below the void, set a basket and grout to surface. We plan to run an ECP above the Gantz/Dominion Storage interval to aid in sealing off and isolating the storage interval.

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

The stimulation will be completed with multiple stages divided over the lateral length of the well. Stage spacing is dependent upon engineering design. Slickwater fracturing technique will be utilized on each stage using sand, water, and chemicals. See attached list. Maximum pressure not to exceed 12,500 psi.

21) Total Area to be disturbed, including roads, stockpile area, pits, etc., (acres): 22.420 acres

22) Area to be disturbed for well pad only, less access road (acres): 15.399 acres

23) Describe centralizer placement for each casing string:

No centralizers will be used with conductor casing.
Freshwater - centralized every 3 joints to surface.
Coal - Bow Spring on every joint, we'll also be running ECP for isolating storage zone
Intermediate - Bow Spring on first 2 joints then every third joint to 100' from surface.
Production - Run 1 spiral centralizer every 5 joints from the top of the curve to surface. Run 1 spiral centralizer every 3 joints from the 1st 5.5' long joint to the top of the curve.

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

Conductor - N/A. Casing to be drilled in w/ Dual Rotary Rig.
Fresh Water - 15.8 ppg PNE-1 + 3% bwoc CaCl₂, 40% Excess Yield = 1.20, CTS
Coal - Lead: 15.4 ppg PNE-1 + 2.5% bwoc CaCl₂, 40% Excess / Tail: 15.9 ppg PNE-1 + 2.5% bwoc CaCl₂ zero% Excess, CTS
Intermediate - Lead: 15.4 ppg PNE-1 + 2.5% bwoc CaCl₂, 40% Excess, Tail: 15.9 ppg PNE-1 + 2.5% bwoc CaCl₂ zero% Excess, CTS
Production - Lead: 14.5 ppg POZ:PNE-1 + 0.3% bwoc R3 + 1% bwoc EC1 + 0.75 gal/sk FP13L + 0.3% bwoc MPA170, Tail: 14.8 ppg PNE-1 + 0.35% bwoc R3 + 0.75 gal/sk FP13L + 50% bwoc ASCA1 + 0.5% bwoc MPA170 20% Excess, Lead Yield=1.19, Tail Yield=1.94, CTS

25) Proposed borehole conditioning procedures:

Conductor - Ensure the hole is clean at TD.
Fresh Water - Once casing is at setting depth, circulate a minimum of one hole volume with Fresh Water prior to pumping cement.
Coal - Once casing is at setting depth, circulate and condition at TD. Circulate a minimum of one hole volume prior to pumping cement.
Intermediate - Once casing is at setting depth, circulate and condition mud at TD. Circulate a minimum of one hole volume prior to pumping cement.
Production - Once on bottom/TD with casing, circulate at max allowable pump rate for at least 2x bottoms up, or until returns and pump pressures indicate the hole is clean. Circulate a minimum of one hole volume prior to pumping cement.

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*Note: Attach additional sheets as needed.

Nutter 1208 Well Pad (N-1H to N-5H, S-6H to S-10H)

Cement Additives

Material Name	Material Type	Material Description	CAS #																		
Premium NE-1	Portland Cement	Premium NE-1 is a portland cement with early compressive strength properties.	<table border="1"> <thead> <tr> <th>Ingredient name</th> <th>%</th> <th>CAS number</th> </tr> </thead> <tbody> <tr> <td>Portland cement</td> <td>90 - 100</td> <td>65997-15-1</td> </tr> <tr> <td>Calcium oxide</td> <td>1 - 5</td> <td>1305-78-8</td> </tr> <tr> <td>Magnesium oxide</td> <td>1 - 5</td> <td>1309-48-4</td> </tr> <tr> <td>Crystalline silica: Quartz (SiO2)</td> <td>0.1 - 1</td> <td>14808-60-7</td> </tr> </tbody> </table>	Ingredient name	%	CAS number	Portland cement	90 - 100	65997-15-1	Calcium oxide	1 - 5	1305-78-8	Magnesium oxide	1 - 5	1309-48-4	Crystalline silica: Quartz (SiO2)	0.1 - 1	14808-60-7			
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Bentonite	Extender	Commonly called gel, it is a clay material used as a cement extender and to control excessive free water.	<table border="1"> <thead> <tr> <th>Ingredient name</th> <th>%</th> <th>CAS number</th> </tr> </thead> <tbody> <tr> <td>bentonite</td> <td>90 - 100</td> <td>1302-78-9</td> </tr> <tr> <td>Crystalline silica: Quartz (SiO2)</td> <td>5 - 10</td> <td>14808-60-7</td> </tr> </tbody> </table>	Ingredient name	%	CAS number	bentonite	90 - 100	1302-78-9	Crystalline silica: Quartz (SiO2)	5 - 10	14808-60-7									
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Calcium Chloride	Accelerator	A powdered, flaked or pelletized material used to decrease thickening time and increase the rate of strength development	<table border="1"> <thead> <tr> <th>Ingredient name</th> <th>%</th> <th>CAS number</th> </tr> </thead> <tbody> <tr> <td>Calcium chloride</td> <td>90 - 100</td> <td>10043-52-4</td> </tr> </tbody> </table>	Ingredient name	%	CAS number	Calcium chloride	90 - 100	10043-52-4												
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Cello Flake	Lost Circulation	Graded (3/8 to 3/4 inch) cellophane flakes used as a lost circulation material.	<table border="1"> <thead> <tr> <th>Ingredient name</th> <th>%</th> <th>CAS number</th> </tr> </thead> <tbody> <tr> <td>No hazardous ingredient</td> <td></td> <td></td> </tr> </tbody> </table>	Ingredient name	%	CAS number	No hazardous ingredient														
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FP-13L	Foam Preventer	FP-13L is a clear liquid organic phosphate antifoaming agent used in cementing operations. It is very effective minimizing air entrapment and preventing foaming tendencies of latex systems.	<table border="1"> <thead> <tr> <th>Ingredient name</th> <th>%</th> <th>CAS number</th> </tr> </thead> <tbody> <tr> <td>Tributyl phosphate</td> <td>90 - 100</td> <td>126-73-8</td> </tr> </tbody> </table>	Ingredient name	%	CAS number	Tributyl phosphate	90 - 100	126-73-8												
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Granulated Sugar	Retarder	Used to retard cement returns at surface. A proprietary product that provides expansive properties and improves bonding at low to moderate temperatures.	<table border="1"> <thead> <tr> <th>Ingredient name</th> <th>%</th> <th>CAS number</th> </tr> </thead> <tbody> <tr> <td>Sucrose</td> <td>90 - 100</td> <td>57-50-1</td> </tr> </tbody> </table>	Ingredient name	%	CAS number	Sucrose	90 - 100	57-50-1												
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EC-1	Gas Migration	Multi-purpose polymer additive used to control free fluid, fluid loss, rheology, and gas migration.	<table border="1"> <thead> <tr> <th>Ingredient name</th> <th>%</th> <th>CAS number</th> </tr> </thead> <tbody> <tr> <td>No hazardous ingredient</td> <td></td> <td></td> </tr> </tbody> </table>	Ingredient name	%	CAS number	No hazardous ingredient														
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Poz (Fly Ash)	Base	A synthetic pozzolan, (primarily Silicon Dioxide). When blended with cement, Pozzolan can be used to create lightweight cement slurries used as either a filler slurry or a sulfate resistant completion cement.	<table border="1"> <thead> <tr> <th>Ingredient name</th> <th>%</th> <th>CAS number</th> </tr> </thead> <tbody> <tr> <td>Crystalline silica: Quartz (SiO2)</td> <td>5 - 10</td> <td>14808-60-7</td> </tr> <tr> <td>Calcium oxide</td> <td>1 - 5</td> <td>1305-78-8</td> </tr> </tbody> </table>	Ingredient name	%	CAS number	Crystalline silica: Quartz (SiO2)	5 - 10	14808-60-7	Calcium oxide	1 - 5	1305-78-8									
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R-3	Retarder	A low temperature retarder used in a wide range of slurry formulations to extend the slurry thickening time.	<table border="1"> <thead> <tr> <th>Ingredient name</th> <th>%</th> <th>CAS number</th> </tr> </thead> <tbody> <tr> <td>Organic acid salt</td> <td>40 - 50</td> <td>Trade secret.</td> </tr> </tbody> </table>	Ingredient name	%	CAS number	Organic acid salt	40 - 50	Trade secret.												
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S-5	Surfactant	Used to water wet casing and formation to facilitate cement bonding.	<table border="1"> <thead> <tr> <th>Ingredient name</th> <th>%</th> <th>CAS number</th> </tr> </thead> <tbody> <tr> <td>2-Butoxyethanol</td> <td>20 - 30</td> <td>111-76-2</td> </tr> <tr> <td>Proprietary surfactant</td> <td>10 - 20</td> <td>Trade secret.</td> </tr> <tr> <td>D-Glucopyranose, oligomeric, C10-16-alkyl glycosides</td> <td>5 - 10</td> <td>110615-47-9</td> </tr> <tr> <td>Alkylarylsulfonate amine salt</td> <td>1 - 5</td> <td>Trade secret.</td> </tr> <tr> <td>Polyoxyalkylenes</td> <td>0.1 - 1</td> <td>Trade secret.</td> </tr> </tbody> </table>	Ingredient name	%	CAS number	2-Butoxyethanol	20 - 30	111-76-2	Proprietary surfactant	10 - 20	Trade secret.	D-Glucopyranose, oligomeric, C10-16-alkyl glycosides	5 - 10	110615-47-9	Alkylarylsulfonate amine salt	1 - 5	Trade secret.	Polyoxyalkylenes	0.1 - 1	Trade secret.
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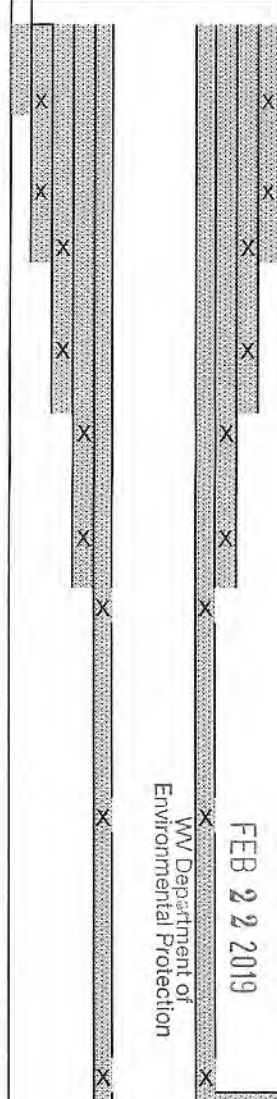
WV Department of
Environmental Protection



4703305954

1208 N-4H
 Marcellus Shale Horizontal
 Harrison County, WV

Ground Elevation		1149'		1208 N-4H SHL				14219013.96N 1803616.94E		
Azm		340.538°		1208 N-4H LP				14219577.29N 1804282.13E		
WELLBORE DIAGRAM		340.538°		1208 N-4H BHL				14230563.54N 1800400E		
HOLE	CASING	GEOLOGY	TOP	BASE	MUD	CEMENT	CENTRALIZERS	CONDITIONING	COMMENTS	
30"	30" 157.5# LS	Conductor	0	120	AIR	N/A, Casing to be drilled in w/ Dual Rotary Rig	N/A	Ensure the hole is clean at TD.	Conductor casing = 0.5" wall thickness	
26"	20" 94# J-55	Fresh Water	0	135	AIR	15.6 ppg PNE-1 + 3% bwoc CaCl 40% Excess Yield=1.20 / CTS	Centralized every 3 joints to surface	Once casing is at setting depth, circulate a minimum of one hole volume with Fresh Water prior to pumping cement.	Surface casing = 0.438" wall thickness Burst=2110 psi	
		Fresh Water	0	650						
17.5"	13-3/8" 68# J-55 BTC	Kittaning Coal	810	815	AIR / KCL Salt Polymer	Lead: 15.4 ppg PNE-1 + 2.5% bwoc CaCl 40% Excess / Tail: 15.9 ppg PNE-1 + 2.5% bwoc CaCl zero% Excess. CTS	Bow Spring on every joint <i>*will also be running ECP for isolating storage zone*</i>	Once casing is at setting depth, Circulate and condition at TD. Circulate a minimum of one hole volume prior to pumping cement.	Intermediate casing = 0.480" wall thickness Burst=3450 psi	
		Little/Big Lime	1276 / 1317	1301 / 1393						
		Injun / Gantz (Storage)	1393 / 1680	1499 / 1740						
		Intermediate 1	0	1890						
12.25"	9-5/8" 40# J-55 BTC	Fifty / Thirty Foot	1800 / 1880	1847 / 1892	AIR / KCL Salt Polymer	Lead: 15.4 ppg PNE-1 + 2.5% bwoc CaCl 40% Excess / Tail: 15.9 ppg PNE-1 + 2.5% bwoc CaCl zero% Excess. CTS	Bow Spring on first 2 joints then every third joint to 100' form surface	Once casing is at setting depth, Circulate and condition mud at TD. Circulate a minimum of one hole volume prior to pumping cement.	Intermediate casing = 0.395" wall thickness Burst=3950 psi	
		Gordon Stray / Gordon	1935 / 2000	2000 / 2090						
		5th Sand	2185	2220						
		Bayard Sand	2275	2310						
8.5" Vertical	5-1/2" 23# P-110 HC CDC HTQ	Speechley	2895	2913	9.0ppg SOBM	Lead: 14.5 ppg POZ:PNE-1 + 0.3% bwoc R3 + 1% bwoc EC1 + 0.75 gal/sk FP13L + 0.3% bwoc MPA170 Tail: 14.8 ppg PNE-1 + 0.35% bwoc R3 + 0.75 gal/sk FP13L + 50% bwoc ASCA1 + 0.5% bwoc MPA170 20% Excess Lead Yield=1.19 Tail Yield=1.94 CTS	Run 1 spiral centralizer every 5 joints from the top of the curve to surface.	Once on bottom/TD with casing, circulate at max allowable pump rate for at least 2x bottoms up, or until returns and pump pressures indicate the hole is clean. Circulate a minimum of one hole volume prior to pumping cement.	Production casing = 0.415" wall thickness Burst=14520 psi Note: Actual centralizer schedules may be changed due to hole conditions.	
		Balltown	3115	3155						
		Benson	4200	4233						
		West Falls	4770	6015						
		8.5" Curve	5-1/2" 23# P-110 HC CDC HTQ	Rhinestreet	6015		6290			11.5ppg-12.5ppg SOBM
				Cashaqua	6290		6491			
				Middlesex	6491		6571			
				West River	6571		6664			
				Burkett	6664		6690			
				Tully Limestone	6690		6794			
				Hamilton	6794		7013			
				Marcellus	7013		7064			
				TMD / TVD (Production)	19223		7050			
Onondaga	7064									
8.5" Lateral					11.5ppg-12.5ppg SOBM					



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LP @ 7050' TVD / 7566' MD 8.5" Hole - Cemented Long String +/-11657' ft Lateral TD @ +/-7050' TVD +/-19223' MD

X=centralizers

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

- 1) Well Operator: HG Energy II Appalachia, Inc.

<u>494519932</u>	<u>Harrison</u>	<u>Union</u>	<u>West Milford 7.5'</u>
------------------	-----------------	--------------	--------------------------

Operator ID County District Quadrangle
- 2) Operator's Well Number: Nutter 1208 N-4H Well Pad Name: Nutter 1208
- 3) Farm Name/Surface Owner: Nutter Public Road Access: SR 19
- 4) Elevation, current ground: 1162' Elevation, proposed post-construction: 1149'
- 5) Well Type (a) Gas Oil _____ Underground Storage _____
Other _____
(b) If Gas Shallow Deep _____
Horizontal _____
- 6) Existing Pad: Yes or No No *SDW*
1/28/2019
- 7) Proposed Target Formation(s), Depth(s), Anticipated Thickness and Expected Pressure(s):
Marcellus at 7013'/7064' and 51' in thickness. Anticipated pressure at 4314#.
- 8) Proposed Total Vertical Depth: 7050'
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- 12) Approximate Fresh Water Strata Depths: 135', 500'
- 13) Method to Determine Fresh Water Depths: Nearest offset well data
- 14) Approximate Saltwater Depths: 1299', 1675'
- 15) Approximate Coal Seam Depths: 810' to 815'
- 16) Approximate Depth to Possible Void (coal mine, karst, other): None
- 17) Does Proposed well location contain coal seams directly overlying or adjacent to an active mine? Yes _____ No
- (a) If Yes, provide Mine Info: Name: _____
Depth: _____
Seam: _____
Owner: _____

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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	30"	New	LS	157.5	120'	120'	Drilled In
Fresh Water	20"	NEW	J-55	94	650'	650'	40% excess yield = 1.20, CTS
Coal/Storage	13 3/8"	NEW	J-55	68	1890'	1890'	40% excess yield = 1.20, CTS
Intermediate	9 5/8"	NEW	J-55	40	2700'	2700'	40% excess yield Lead 0% Excess Tail
Production	5 1/2"	NEW	P-110	23	19,223'	19223'	20% excess yield = 1.18, tail yield = 1.00
Tubing							
Liners							

SDW
1/28/2019

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	30"	30"	.500				Drilled In
Fresh Water	20"	26"	.438	2110	1200	Type 1, Class A	40% excess yield = 1.20, CTS
Coal/Storage	13 3/8"	17 1/2"	.480	3450		Type 1/Class A	Lead 40% excess, Tail 0% excess
Intermediate	9 5/8"	12 1/4"	.395	3950		Type 1/Class A	Lead 40% excess, Tail 0% Excess
Production	5 1/2"	8 1/2"	.415	14520	12500	Type 1/Class A	20% excess yield = 1.18, tail yield = 1.00
Tubing							
Liners							

PACKERS

Kind:				
Sizes:				
Depths Set:				

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1208 N-4H
Marcellus Shale Horizontal
Harrison County, WV

Ground Elevation		1149'		1208 N-4H SHL				14219013.96N 1803616.94E		
Azim		340.538°		1208 N-4H LP				14219577.29N 1804282.13E		
WELLBORE DIAGRAM		340.538°		1208 N-4H BHL				14230563.54N 1800400E		
HOLE	CASING	GEOLOGY	TOP	BASE	MUD	CEMENT	CENTRALIZERS	CONDITIONING	COMMENTS	
30"	30" 157.5# LS	Conductor	0	120	AIR	N/A, Casing to be drilled in w/ Dual Rotary Rig	N/A	Ensure the hole is clean at TD.	Conductor casing = 0.5" wall thickness	
26"	20" 94# J-55	Fresh Water	0	135	AIR	15.6 ppg PNE-1 + 3% bwoc CaCl 40% Excess Yield=1.20 / CTS	Centralized every 3 joints to surface	Once casing is at setting depth, circulate a minimum of one hole volume with Fresh Water prior to pumping cement.	Surface casing = 0.438" wall thickness Burst=2110 psi	
		Fresh Water	0	650						
17.5"	13-3/8" 68# J-55 BTC	Kilnning Coal	810	815	AIR / KCL Salt Polymer	Lead: 15.4 ppg PNE-1 + 2.5% bwoc CaCl 40% Excess / Tail: 15.9 ppg PNE-1 + 2.5% bwoc CaCl zero% Excess. CTS	Bow Spring on every joint <i>"will also be running ECP for isolating storage zone"</i>	Once casing is at setting depth, Circulate and condition at TD. Circulate a minimum of one hole volume prior to pumping cement.	Intermediate casing = 0.480" wall thickness Burst=3450 psi	
		Little/Big Lime	1276 / 1317	1301 / 1393						
		Injun / Gantz (Storage)	1393 / 1680	1499 / 1740						
		Intermediate 1	0	1890						
12.25"	9-5/8" 40# J-55 BTC	Fifty / Thirty Foot	1800 / 1880	1847 / 1892	AIR / KCL Salt Polymer	Lead: 15.4 ppg PNE-1 + 2.5% bwoc CaCl 40% Excess / Tail: 15.9 ppg PNE-1 + 2.5% bwoc CaCl zero% Excess. CTS	Bow Spring on first 2 joints then every third joint to 100' form surface	Once casing is at setting depth, Circulate and condition mud at TD. Circulate a minimum of one hole volume prior to pumping cement.	Intermediate casing = 0.395" wall thickness Burst=3950 psi	
		Gordon Sirey / Gordon	1935 / 2000	2000 / 2090						
		5th Sand	2185	2220						
		Bayard Sand	2275	2310						
8.5" Vertical	5-1/2" 23# P-110 HC CDC HTQ	Speechley	2895	2913	9.0ppg SOBMM	Lead: 14.5 ppg POZ:PNE-1 + 0.3% bwoc R3 + 1% bwoc EC1 + 0.75 gal/sk FP13L + 0.3% bwoc MPA170 Tail: 14.8 ppg PNE-1 + 0.35% bwoc R3 + 0.75 gal/sk FP13L + 50% bwoc ASCA1 + 0.5% bwoc MPA170 20% Excess Lead Yield=1.19 Tail Yield=1.94 CTS	Run 1 spiral centralizer every 5 joints from the top of the curve to surface.	Once on bottom/TD with casing, circulate at max allowable pump rate for at least 2x bottoms up, or until returns and pump pressures indicate the hole is clean. Circulate a minimum of one hole volume prior to pumping cement.	Production casing = 0.415" wall thickness Burst=14520 psi Note:Actual centralizer schedules may be changed due to hole conditions	
		Balltown	3115	3155						
		Benson	4200	4233						
		West Falls	4770	6015						
		Rhineastreet	6015	6290						
		Cashaqua	6290	6491						
		Middlesex	6491	6571						
		West River	6571	6664						
		Burkett	6664	6690						
		Tully Limestone	6690	6794						
Hamilton	6794	7013								
8.5" Curve	5-1/2" 23# P-110 HC CDC HTQ	Marcellus	7013	7064	11.5ppg-12.5ppg SOBMM		Run 1 spiral centralizer every 3 joints from the top of the curve.			
		TMD / TVD (Production)	19223	7050						
		Onondaga	7064							
8.5" Lateral					11.5ppg-12.5ppg SOBMM					

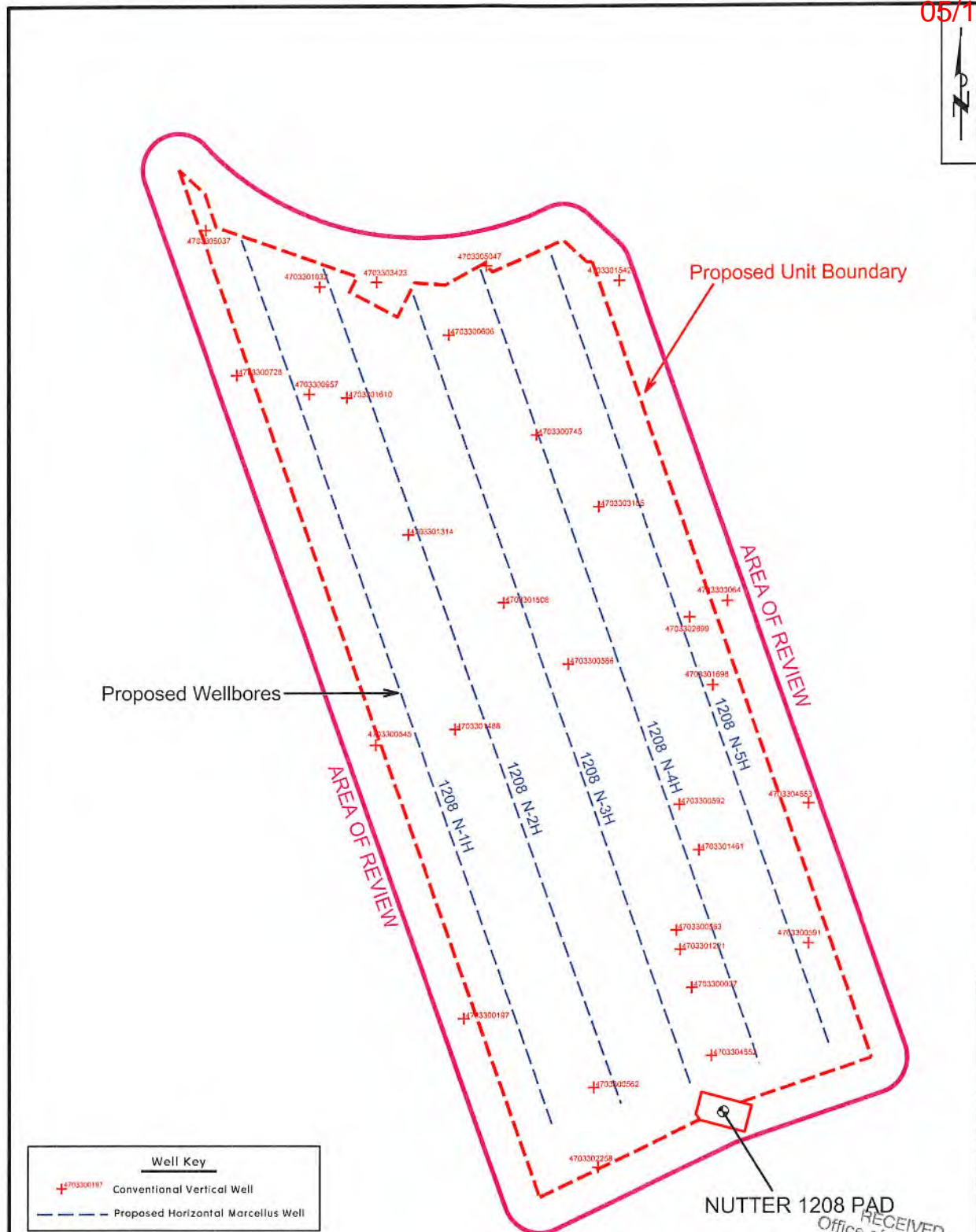
LP @ 7050' TVD / 7566' MD

8.5" Hole - Cemented Long String
5-1/2" 23# P-110 HC CDC HTQ

+/-11657' ft Lateral

TD @ +/-7050' TVD
+/-19223' MD

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WV Department of
Environmental Protection
FEB 22 2019



Proposed Wellbores

Proposed Unit Boundary

AREA OF REVIEW

AREA OF REVIEW

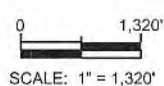
Well Key	
	Conventional Vertical Well
	Proposed Horizontal Marcellus Well

NOTE:
 See Attached Spreadsheet for Well Data
 DATA SOURCE
 WVGES Data Set - 2017; WVDEP Website

NUTTER 1208 PAD
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 FEB 22 2019
 WV Department of
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Area of Review for:
NUTTER 1208 UNIT
 Proposed 1208 N-1H Proposed 1208 N-2H
 Proposed 1208 N-3H Proposed 1208 N-4H
 Proposed 1208 N-5H
 Grant & Union Districts, Harrison County, W.Va.

HG ENERGY, II APPALACHIA, LLC
 5260 DuPont Road, Parkersburg, WV 26101



EXISTING WELLS LOCATED WITHIN THE AREA OF REVIEW FOR:
NUTTER 1208 NORTH UNIT AND PROPOSED WELLS N-1H, N-2H, N-3H, N-4H & N-5H

CT	API	COUNTY	FARM	OPERATOR NAME	FORMATION NAME	WELL TYPE	TVD	STATUS	LATITUDE	LONGITUDE
1	4703300037	Harrison	Leeman Maxwell 5	Dominion Energy Transmission Inc.	Belltown	Storage	3186	ACTIVE	39.157905	-80.425238
2	4703300197	Harrison	Leeman Maxwell	Dominion Energy Transmission Inc.	Fifty-foot	Storage	3216	ACTIVE	39.156758	-80.436644
3	4703300545	Harrison	Mary Burrisle	Dominion Energy Transmission Inc.	Benson	Gas	4225	ACTIVE	39.167206	-80.440704
4	4703300562	Harrison	J B Gusman	Dominion Energy Transmission Inc.	Benson	Gas	4315	ACTIVE	39.154132	-80.430082
5	4703300563	Harrison	Leeman Maxwell	Dominion Energy Transmission Inc.	Benson	Gas	4332	ACTIVE	39.150867	-80.42598
6	4703300586	Harrison	Brooks Vanosey	Dominion Energy Transmission Inc.	Greenland Gap Frn	Gas	4316	ACTIVE	39.170253	-80.431202
7	4703300591	Harrison	William W Broadwater III	Dominion Energy Transmission Inc.	Benson	Gas	4488	ACTIVE	39.159553	-80.419511
8	4703300592	Harrison	William Broadwater	Dominion Energy Transmission Inc.	Greenland Gap Frn	Gas	4382	ACTIVE	39.164871	-80.425798
9	4703300606	Harrison	Bruce Cayton	Dominion Energy Transmission Inc.	Greenland Gap Frn	Gas	4225	ACTIVE	39.182756	-80.436977
10	4703300728	Harrison	Jacob P Post	Dominion Energy Transmission Inc.	Belltown	Gas	3129	ACTIVE	39.181284	-80.447414
11	4703300745	Harrison	G W Washburn	Dominion Energy Transmission Inc.	Greenland Gap Frn	Gas	2765	ACTIVE	39.178961	-80.432692
12	4703300957	Harrison	O E Washburn	EQT Production Co.	Benson	Gas	4234	ACTIVE	39.180558	-80.443873
13	4703301032	Harrison	Jacob P Post	EQT Production Co.	Benson	Gas	4265	ACTIVE	39.180558	-80.443873
14	4703301221	Harrison	William W Broadwater Jr	Dominion Energy Transmission Inc.	Greenland Gap Frn	Gas	4415	ACTIVE	39.184622	-80.443314
15	4703301314	Harrison	W Burnsle	Dominion Energy Transmission Inc.	Fifth	Gas w/ Oil Show	2051	ACTIVE	39.175188	-80.425797
16	4703301461	Harrison	Broadwater CW-130	Dominion Energy Transmission Inc.	Gantz	Storage	1836	ACTIVE	39.167786	-80.436792
17	4703301488	Harrison	N Post	Dominion Energy Transmission Inc.	UNKNOWN	Gas	-	ACTIVE	39.167786	-80.436792
18	4703301508	Harrison	J Cheuvront	Dominion Energy Transmission Inc.	UNKNOWN	Gas	-	ACTIVE	39.167786	-80.436792
19	4703301542	Harrison	Stephen Hinkle	Ross & Wharton Gas Co, LLC	Greenland Gap Frn	Gas	2799	ACTIVE	39.184786	-80.428592
20	4703301610	Harrison	W Burnsle	Dominion Energy Transmission Inc.	Fifth	Gas	2102	PLUGGED	39.180413	-80.442009
21	4703301698	Harrison	L Maxwell	Dominion Energy Transmission Inc.	Benson	Gas	4516	ACTIVE	39.169414	-80.424118
22	4703302258	Harrison	J B Gusman	Dominion Energy Transmission Inc.	UNKNOWN	Storage	1760	ACTIVE	39.151084	-80.428986
23	4703302899	Harrison	K M Patton/R Reed 1	Dominion Energy Transmission Inc.	Greenland Gap Frn	Gas	3011	PLUGGED	39.171995	-80.425239
24	4703303064	Harrison	J Cheuvront (CW-154)	Dominion Energy Transmission Inc.	Greenland Gap Frn	Gas	2933	PLUGGED	39.172605	-80.423373
25	4703303185	Harrison	Joseph Cheuvront	Dominion Energy Transmission Inc.	Hampshire Grp	Gas	1749	ACTIVE	39.176214	-80.429658
26	4703303423	Harrison	Thad Curry	Dominion Energy Transmission Inc.	Hampshire Grp	Observation	1980	PLUGGED	39.184786	-80.440518
27	4703304552	Harrison	Ill	Dominion Energy Transmission Inc.	Misc Sands-BNSN/BRLR	Gas	4480	ACTIVE	39.155302	-80.424303
28	4703304553	Harrison	Linda J Maxwell	Dominion Energy Transmission Inc.	Misc Sands-BNSN/BRLR	Gas	4638	ACTIVE	39.164873	-80.419461
29	4703305037	Harrison	Post Heritage LLC	Dominion Energy Transmission Inc.	Greenland Gap Frn	Gas	5126	ACTIVE	39.186816	-80.448904
30	4703305047	Harrison	Robert M Lewis/C J Lewis	Alliance Petroleum Corp.	Greenland Gap Frn	Gas	4418	ACTIVE	39.185366	-80.435114

SOURCE: WVGES DATASET (2017) and WVDEP WEBSITE

05/10/2019



HG Energy, LLC
5260 Dupont Road
Parkersburg, WV 26101
(304) 420-1100 - Office
(304) 863-3172 - Fax

35 05254

December 5, 2018

Dominion Energy Transmission
Attn: Charles Cunningham
2397 Davisson Run Road
Clarksburg, WV 26301

RE: Area of Review – Nutter 1208 Well Pad (N-1H to N-5H)
Hydraulic Fracturing Notice

Dear Sir:

HG Energy II Appalachia, LLC, has developed a Marcellus pad (Nutter 1208 pad) located in Harrison County, WV. As an owner or operator of a conventional natural gas well in this area, we are requesting your assistance in this matter.

Due to the apparent presence of unique geological conditions, the potential for communication between deep geologic zones exists in this area. This potential communication, via natural gas, water or both, may occur between hydraulically fractured wells in the Marcellus formation (approximately 7050' TVD) and existing conventional natural gas wells.

HG Energy anticipates conducting hydraulic fracturing of the Nutter 1208 Pad during the fourth quarter of 2019. We have identified conventional natural gas wells operated by your company within 500' of one of the newly planned laterals (Nutter 1208 N-1H). A plat for the well is attached.

We recommend conventional well operators conduct the following activities before, during and after the fracturing operation.

1. Inspect surface equipment prior to fracturing to establish integrity and well conditions.
2. Observe wells closely during and after fracturing and monitor for abnormal increases in gas, water or pressure.
3. Inspect or install master valves rated at 3,000 psi or other necessary equipment for wellhead integrity.
4. Notify the OOG and HG Energy if any changes in water, gas production, pressure or other anomalies are identified.

Should you have any questions or desire further information, please contact me at 304-420-1119 or dwhite@hgenergyllc.com. You may also contact the WV Office of Oil and Gas at 304-926-0444.

Sincerely,

Diane White

Diane White

Enclosure

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05/10/2019



HG Energy, LLC
5260 Dupont Road
Parkersburg, WV 26101
(304) 420-1100 - Office
(304) 863-3172 - Fax

33 059 54

December 5, 2018

EQT Production Company
115 Professional Place
Bridgeport, WV 26330

RE: Area of Review – Nutter 1208 Well Pad (N-1H to N-5H)
Hydraulic Fracturing Notice

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Should you have any questions or desire further information, please contact me at 304-420-1119 or dwhite@hgenergyllc.com. You may also contact the WV Office of Oil and Gas at 304-926-0444.

Sincerely,

Diane White

Enclosure

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HG Energy, LLC
5260 Dupont Road
Parkersburg, WV 26101
(304) 420-1100 - Office
(304) 863-3172 - Fax

33 05954 05/10/2019



December 5, 2018

Alliance Petroleum Corporation
67 Collins Run Road
Glenville, WV 26351

RE: Area of Review – Nutter 1208 Well Pad (N-1H to N-5H)
Hydraulic Fracturing Notice

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Sincerely,

Diane White

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HG Energy, LLC
5260 Dupont Road
Parkersburg, WV 26101
(304) 420-1100 - Office
(304) 863-3172 - Fax

33 059 54

05/10/2019

December 5, 2018

Ross & Wharton Gas Company
29 Morton Avenue
Buckhannon, WV 26201

RE: Area of Review – Nutter 1208 Well Pad (N-1H to N-5H)
Hydraulic Fracturing Notice

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Sincerely,

Diane White

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Environmental Protection

05/10/2019

33 05954

List of Frac Additives by Chemical Name and CAS #Nutter 1208 Well Pad (N-1H to N-5H, S-6H to S-10H)

Chemical Name	CAS #	Multiple CAS #'s
Pro Shale Slik 405	Mixture	68551-12-2 7647-14-5 12125-02-9 64742-47-8
Pro Hib II	Mixture	68412-54-4 68607-28-3 107-21-1 111-76-2 67-56-1 107-19-7
Silica Sand and Ground Sand	Mixture	14808-60-7 1344-28-1 1309-37-1 13463-67-7
Hydrochloric Acid 22 DEG BE	7647-01-0	
PROGEL - 4.5	64742-96-7	
BIO CLEAR 2000	Mixture	25322-68-3 10222-01-2
SCALE CLEAR SI 112	107-21-1	
PROBREAK 4	Mixture	57-50-1 107-21-1
Sulfamic Acid	5329-14-6	
PRO - Flow - 102-N	Mixture	67-63-0 68439-45-2 2687-96-9
PROGEL - 4	9000-30-0	

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WW-9
(4/16)

API Number 47 - 33 - 05954
Operator's Well No. Nutter 1208 N-4H

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

FLUIDS/ CUTTINGS DISPOSAL & RECLAMATION PLAN

Operator Name HG Energy II Appalachia, LLC OP Code 494501907

Watershed (HUC 10) Middle West Fork Creek Quadrangle West Milford 7.5'

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: NA

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

Proposed Disposal Method For Treated Pit Wastes:

- Land Application
- Underground Injection (UIC Permit Number _____)
- Reuse (at API Number TBD - At next anticipated well)
- Off Site Disposal (Supply form WW-9 for disposal location)
- Other (Explain _____)

*SDW
5/1/2019*

Will closed loop system be used? If so, describe: Yes, cuttings and fluids will be collected in a closed loop system, re-used or hauled to an approved disposal site or landfill.

Drilling medium anticipated for this well (vertical and horizontal)? Air, freshwater, oil based, etc. Vertical - Air, Air/KCL, SOBAL Horizontal - SOBAM

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

Additives to be used in drilling medium? Water, Soap, KCl, Barite, Base Oil, Wetting Agents

Drill cuttings disposal method? Leave in pit, landfill, removed offsite, etc. Approved Landfill

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

-Landfill or offsite name/permit number? See Attached

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 Diane White

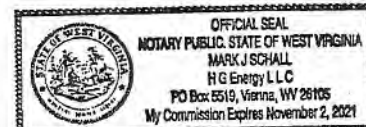
Company Official (Typed Name) Diane White

Company Official Title Agent

Subscribed and sworn before me this 17th day of April, 2019

[Signature] Notary Public

My commission expires 11/21/2021



HG Energy II Appalachia, LLC

Proposed Revegetation Treatment: Acres Disturbed 22.420 Prevegetation pH _____

Lime 3 Tons/acre or to correct to pH 6.5

Fertilizer type 10-20-20

Fertilizer amount 500 lbs/acre

Mulch Hay 2 Tons/acre

Seed Mixtures

Temporary		Permanent	
Seed Type	lbs/acre	Seed Type	lbs/acre
Tall Fescue	40	Tall Fescue	40
Ladino Clover	5	Ladino Clover	5

Maintain E&S controls through the drilling and completion process

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: S. J. D. Ward

Comments: Pre-seed/mulch as soon as reasonably possible per regulation.
Upgrade E&S if needed per WV DEP E&S manual.

Title: Oil & Gas Inspector

Date: 1/28/2019

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Field Reviewed? Yes No

Cuttings Disposal/Site Water

Cuttings -Haul off Company:

Eap Industries, Inc. DOT # 0876278
1875 Smith Two State Rd. Atlasburg, PA 15004
1-888-294-5227

05/10/2019

Waste Management
200 Rangos Lane
Washington, PA 15301
724-222-3272

Environmental Coordination Services & Recycling (ECS&R)
8287 US Highway 18
Cochran, PA 16314
814-425-7773

Disposal Locations:

Apex Environmental, LLC Permit # 06-08488
1.1 County Road 78
Amsterdam, OH 43903
740-548-4889

Westmoreland Waste, LLC Permit # 100277
1.1.1 Conner Lane
Belle Vernon, PA 15012
724-929-7884

Sycamore Landfill Inc, Permit #R80-079001.05-2010
4301 Sycamore Ridge Road
Hurricane, WV 25526
304-562-2611

Max Environmental Technologies, Inc. Facility Permit # PAD004885146 / 901071
233 Max Lane
Yukon, PA 25968
724-722-3500

Max Environmental Technologies, Inc. Facility Permit # PAD05087072 / 901359
200 Max Drive
Bulger, PA 15019
724-796-1571

Waste Management Kelly Run Permit # 100663
1901 Park Side Drive
Elizabeth, PA 15037
412-884-7569

Waste Management South Hills (Arnoni) Permit # 100582
3100 Hill Road
Library, PA 15129
724-348-7013
412-884-7569

Waste Management Arden Permit # 100172
200 Rangos Lane
Washington, PA 15301
724-222-3272

Waste Management Meadowfill Permit # 1032
1488 Dawson Drive
Bridgeport, WV 26330

Brooke County Landfill Permit # SWR-103-87 / WV 0109029
Rd 2 Box 410
Collfers, WV 26035
304-748-0014

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Office of Oil and Gas

FEB 22 2019

WV Department of
Environmental Protection

Wetzel County Landfill Permit # SWF-1021-97 / WV 0109185
 Rt 1, Box 158A
 New Martinsville, WV 26035
 804-455-3800

05/10/2019

Energy Solutions, LLC Permit # UT 2300249
 423 West 300 South
 Suite 200
 Salt Lake City, UT 84101

Energy Solutions Services, Inc. Permit # R-73006-124
 1560 Bear Creek Road
 Oak Ridge, TN 37830

Northern A-J Environmental Services Permit ID MID020906814
 8947 US 131 North, PO Box 1030
 Kalkaska, MI 49646
 231-258-9961

Water Haul off Companies:

Dynamic Structures, Clear Creek DOT # 720485
 3790 State Route 7
 New Waterford, OH 44445
 330-892-0184

CMS of Delaware Inc. DBA CMS Oilfield Serv
 301 Commerce Drive
 Moorestown, NJ 08057

Nahors Completion & Production Services Co.
 PO Box 975682
 Dallas, TX 75397-5682

Force, Inc.
 1380 Rte. 288 Hwy. E, Suite 303
 Indiana, PA 15701

Select Energy Services, LLC
 PO Box 208997
 Dallas, TX 75320-8997

Solo Construction
 P.O. Box 544
 St. Mary's, WV 26170

Nuverra Environmental Solutions
 11942 Veterans Memorial Highway
 Masontown, WV 26542

Equipment Transport
 1 Tyler Court
 Carlisle, PA 17015

Mustang Oilfield Services LLC
 PO Box 739
 St. Clairsville, OH 43950

Myers Well Service,
 2001 Ballpark Court
 Export, PA 15682

Wilson's Outdoor Services, LLC
 456 Cracraft Road
 Washington, PA 15301

Burns Drilling & Excavating
 618 Crabapple Road P.O. Box
 Wind Ridge, PA 15880

Disposal Locations:

Solidification
 Waste Management, Arden Landfill Permit # 100172
 200 Rangos Lane
 Washington, PA 15301
 724-225-1589

Nichols 1-A (SWIW #13)
 Permit # 8862
 300 Charrington Pkwy, Suite 200
 Coraopolis, PA 15108
 412-829-7275

Solidification/Incineration
 Soil Remediation, Inc. Permit # 02-20753
 6065 Arrel-Smith Road
 Lowellville, OH 44436
 330-536-6825

Grosella (SWIW #34)
 Permit # 4096
 Rt. 88
 Garrattsville, OH
 719-275-4816

Adams #1 (Buckeye Brine, LLC)
 Permit # 34-031-2-7177
 22988 Airport Road
 Coshocton, OH 43812
 740-575-4484
 512-478-6545

Kamble 1-D Well
 Permit # 8780
 7675 East Pike
 Norwich, Oh 43767
 614-648-8898
 740-796-6485

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Adams #2 (Buckeye Brine, LLC)
2205 Westover Road
Austin Tx 78703
Permit # 34-031-2-7178
740-575-4484
612-478-6545

Adams #3 (Buckeye Brine, LLC)
Permit # 34-031-2-7241-00-00
2680 Exposition, Suite 117
Austin, TX 78703
612-478-6545

Mozana #1 Well (SWIW # 13)
Permit # 34-157-2-5511-00-00
5367 E. State Street
Newcomerstown, OH 43882
740-763-3968

Goff SWD #1 (SWIW # 27)
Permit # 34-119-2-8776-000
300 Cherrington Pkwy, Suite 200
Coraopolis, PA 15108
412-829-7276

SCS D#1 (SWIW #12)
Permit # 34-059-2-4202-00-00
Silcor Oilfield Services, Inc.
2999 Hubbard Road
Youngstown, OH 44505

Dudley #1 UIC (SWIW #1)
Permit # 34-121-2-2459-00-00
Select Energy Services, LLC
7994 S. Pleasants Hwy
St. Marys, WV 26170
304-665-2652

OH UIC #1 Buckeye UIC Barnesville 1 & 2
CNX Gas Company, LLC
1000 Consol Energy Drive
Permit # 34-013-2-0609-00-00
Permit # 34-013-2-0614-00-00
304-823-6568

US Steale 11385
Permit # 47-001-00561
200 Evergreen Drive
Waynesburg, PA 15780
304-823-6568

Chapin #7 UIC (SWIW #7)
Permit # 34-083-2-4187-00-00
Elkhead Gas & Oil Company
12163 Marne Rd. NE
Newark, OH 43055
740-763-3968

05/10/2019

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Environmental Protection

HG Energy II Appalachia, LLC

Site Safety Plan

**Nutter 1208 Well Pad
104 Hidden Valley Rd Jane Lew
Harrison County, WV 26378**

November 2018: Version 1

**For Submission to
West Virginia Department of Environmental Protection,
Office of Oil and Gas**

HG Energy II Appalachia, LLC

5260 Dupont Road

Parkersburg, WV 26101

RECEIVED
Office of Oil and Gas

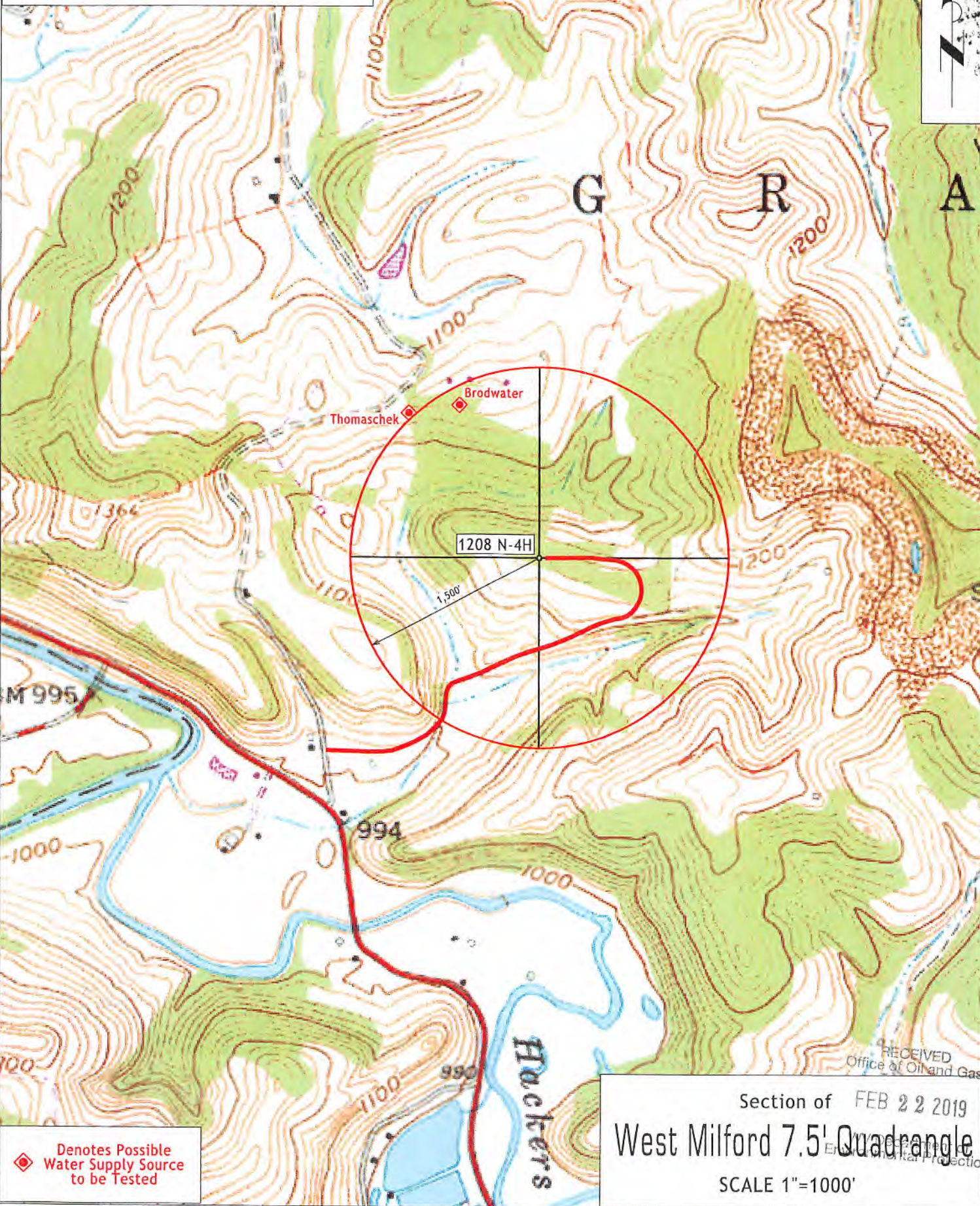
FEB 22 2019

WV Department of
Environmental Protection

SDW

1/28/2019

SUBJECT WELL
1208 UNIT N-4H



◆ Denotes Possible Water Supply Source to be Tested

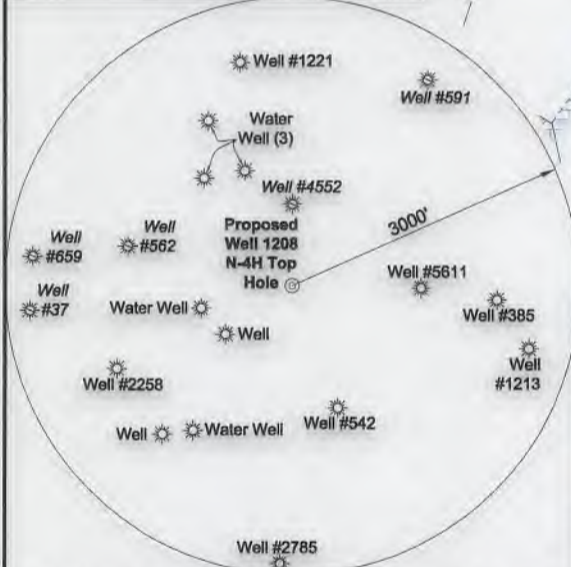
Section of FEB 22 2019
West Milford 7.5' Quadrangle
SCALE 1"=1000'

Tag	Bearing	Dist.
L1	N 87°45' W	1,341.5'
L2	N 65°18' W	1,186.8'
L3	S 39°04' E	1,190.0'
L4	S 23°11' E	1,194.5'
L5	N 49°44' E	871.7'



Notes:
Well No. 1208 N-4H
UTM NAD 1983 (USSF)
Top Hole Coordinates
N: 14,219,013.96' E: 1,803,616.94'
Landing Point Coordinates
N: 14,219,577.29' E: 1,804,282.13'
Bottom Hole Coordinates
N: 14,230,563.54' E: 1,800,400.00'

Notes: Well No. 1208 N-4H
West Virginia Coordinate System of 1927, South Zone
based upon Differential GPS Measurements.
Top Hole coordinates Bottom Hole coordinates
Latitude: 39°09'12.12" Latitude: 39°11'06.52"
Longitude: 80°25'28.14" Longitude: 80°26'08.07"
UTM Zone 17, NAD 1983
Top Hole Coordinates Bottom Hole Coordinates
N: 4,333,964.123m N: 4,337,484.442m
E: 549,743.543m E: 548,763.018m
Plat orientation and corner and well references
are based upon the grid north meridian.
Well location references are based upon the magnetic
meridian.



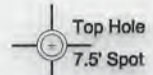
Note: 5 water wells were found within 2000' of proposed well. No occupied dwellings or buildings 2,500 square feet or larger used to house or shelter dairy cattle or poultry husbandry are located within 625' of the center of the well pad.

5,358' to Bottom Hole
2,216' to Top Hole
BTM LATITUDE 39 - 12 - 30
TOP LATITUDE 39 - 10 - 00

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 rules issued and prescribed by the Department of Environmental Protection.

Dwayne D. Matheny, P.S. 2070

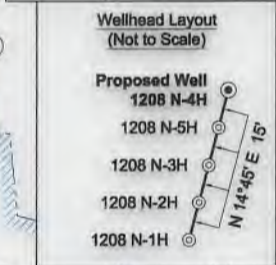
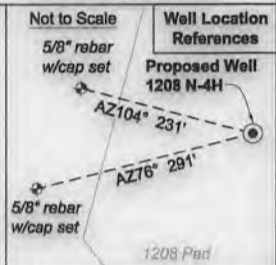
05/10/2019



SEAL

Legend

- ⊙ Proposed gas well
- ⊕ Well Reference, as noted
- ⊛ Monument, as noted
- ⊙ Existing Well, as noted
- ⊙ Existing Plugged Well, as noted
- ⊙ Digitized Well, as noted
- Creek or Drain
- Existing Road
- Surface boundary (approx.)
- Interior surface tracts (approx.)



FILE NO: 195-36-G-18
DRAWING NO: 1208 N-4H Well Plat
SCALE: 1" = 1500'
MINIMUM DEGREE OF ACCURACY: Submeter
PROVEN SOURCE OF ELEVATION: CORS, Bridgeport, WV

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

DATE: January 24 20 19
OPERATOR'S WELL NO. 1208 N-4H
API WELL NO
47 - 033 - 05154 H/A
STATE COUNTY PERMIT

WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL
(IF GAS) PRODUCTION: STORAGE DEEP SHALLOW

LOCATION: ELEVATION: 1,149' WATERSHED: Middle West Fork Creek
DISTRICT: Grant / Union
SURFACE OWNER: Linda & William W. Brodwater III
ROYALTY OWNER: Leeman B. Maxwell Heirs, et al

QUADRANGLE: West Milford
COUNTY: Harrison
ACREAGE: 200

LEASE NO: _____ ACREAGE: 247.84
PROPOSED WORK: DRILL CONVERT DRILL DEEPER FRACTURE OR STIMULATE PLUG OFF OLD FORMATION
 PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE IN WELL (SPECIFY) _____
 PLUG AND ABANDON CLEAN OUT AND REPLUG TARGET FORMATION: Marcellus Shale ESTIMATED DEPTH: 7,050' TVD
19,223' MD

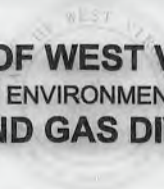
WELL OPERATOR: HG Energy II Appalachia, LLC
ADDRESS: 5260 Dupont Road
Parkersburg, WV 26101

DESIGNATED AGENT: Diane C. White
ADDRESS: 5260 Dupont Road
Parkersburg, WV 26101

05/10/2019

No.	TM / Par	Owner	Bk / Pg	Ac.
35	404 / 17.1	Dameon Tyler Hall	1556 / 320	0.75
34	404 / 19	Terry Weidon & Regina T. Tallman	1357 / 569	3.56
33	404 / 18	Russell A. Suder	1113 / 88	2.02
32	404 / 17	Mary Jo Short	808 / 456	0.83
31	404 / 16.1		761 / 822	1.82
30	404 / 16.2	Richard Vance Short	1262 / 155	0.06
29	404 / 16	Jeffrey & Victoria J. Roark	1518 / 173	3.06
28	404 / 22	John L. & Mary Beth Stenger	1280 / 455	70.90
27	405 / 59	Terence L. Washburn	1294 / 433	43.40
26	404 / 34	Callwell J. & Patricia F. Hutson	1209 / 163	11.00
25	404 / 35	Bruce W. & Luella R. Cayton	1029 / 339	12.80
24	404 / 36	Dennis J. Bunside	1326 / 149	16.30
23	404 / 37	Lary & Rebecca Myers	WB146 / 1089	18.10
22	404 / 55			54.74
21	404 / 38	Rebecca D. Arther	1504 / 1251	34.48
20	404 / 56	Jacob Walter & Karen A. Post	1350 / 1076	5.50
19	405 / 75	William Michael McDonald	1377 / 99	202.18
18	425 / 1	Joel B. Shuman, et al	WB166/472	89.00
17	425 / 25.4	Ronald L. & Mary Jo Hitt	1193 / 304	4.55
16	425 / 2.1	Del Marie Brenn	1339 / 100	7.40
15	425 / 2	Lonzo A. & Erica Martin	1569 / 1076	5.035
14	425 / 25.2	Laurinda R. Beckstead	1420 / 941	83.199
13	425 / 2.2	Jennifer Irene McWhorter	1422 / 1117	26.66
12	425 / 33	David A. & Julie Keesucker	1262 / 81	34.70
11	425 / 33.4	David J. & Angeena K. Keesucker	1439 / 457	3.01
10	425 / 33.3	Earl Milton Jenkins	1285 / 521	2.00
9	425 / 24	Linda J. Maxwell Revocable Trust	1302 / 793	19.60
8	425 / 25			212.80
7	425 / 31.3	Gary S. & Melinda M. Brodwater	1354 / 175	2.00
6	425 / 31.1	Dona R. & David R. Scarff	1360 / 652	1.00
5	425 / 31.2	Linda & William W. Brodwater III	1343 / 1279	1.16
4	445 / 1		- / -	87.78
3	445 / 10	Lisa M. Nutter	WB 687 / 445	66.87
2	445 / 2			84.57
1	425 / 31	Linda & William W. Brodwater III	1410 / 1045	247.84

ID	Lease
1	Jerome B. Gusman
2	Leeman B. Maxwell Heirs
6	Leeman B. Maxwell Heirs
7	Leeman Maxwell, et ux
9	Rebecca F. Reed, et al
10	Rebecca D. Reed, et al
14	Joseph Cheuvront, et al
15	Howard W. Vanscoy, et al
16	Howard W. Vanscoy, et al
18	George W. Washburn, et al
19	Lloyd Washburn, et al

FILE NO: 195-36-G-18	 STATE OF WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION OIL AND GAS DIVISION	DATE: January 24 20 19
DRAWING NO: 1208 N-4H Well Plat		OPERATOR'S WELL NO. 1208 N-4H
SCALE: 1" = 1500'		API WELL NO <u>46A</u>
MINIMUM DEGREE OF ACCURACY: Submeter		47 — 033 — <u>05954</u>
PROVEN SOURCE OF ELEVATION: CORS, Bridgeport, WV		STATE COUNTY PERMIT

WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL
(IF GAS) PRODUCTION: STORAGE DEEP SHALLOW

LOCATION: ELEVATION: 1,149' WATERSHED: Middle West Fork Creek QUADRANGLE: West Milford
DISTRICT: Grant / Union COUNTY: Harrison
SURFACE OWNER: Linda & William W. Brodwater III ACREAGE: 200
ROYALTY OWNER: Leeman B. Maxwell Heirs, et al LEASE NO: _____ ACREAGE: 247.84

PROPOSED WORK: DRILL CONVERT DRILL DEEPER FRACTURE OR STIMULATE PLUG OFF OLD FORMATION
 PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE IN WELL (SPECIFY) _____ 7,050' TVD
 PLUG AND ABANDON CLEAN OUT AND REPLUG TARGET FORMATION: Marcellus Shale ESTIMATED DEPTH: 19,223' MD

WELL OPERATOR: <u>HG Energy II Appalachia, LLC</u>	DESIGNATED AGENT: <u>Diane C. White</u>
ADDRESS: <u>5260 Dupont Road</u> <u>Parkersburg, WV 26101</u>	ADDRESS: <u>5260 Dupont Road</u> <u>Parkersburg, WV 26101</u>

WW-6A1
(5/13)

Operator's Well No. Nutter 1208 N-4H

**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
-------------------------	-----------------------	-----------------------	---------	-----------

****See Attached****

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

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: HG Energy II Appalachia, LLC
 By: Diane White *Diane White*
 Its: Agent

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Office of Oil and Gas
FEB 22 2019
WV Department of
Environmental Protection

33 05954

HG Energy II Appalachia, LLC - 1208 N-4H LEASE CHAIN

TRACT #	LEGACY LEASE NUMBER	TAX MAP	LEASE NUMBER	GRANTOR/LESSOR	GRANTEE/LESSEE	ROYALTY	DEED BOOK	PAGE				
6 ✓	LC014207	17-12-0425-0031-0003 17-12-425-0031-0000	Q101051000	NATHAN POST ET AL	RESERVE GAS COMPANY	NOT LESS THAN 1/8	179	412				
				RESERVE GAS COMPANY	HOPE NATURAL GAS COMPANY	MERGER/NAME CHANGE	508	573				
				HOPE NATURAL GAS COMPANY	CONSOLIDATED GAS SUPPLY CORPORATION	MERGER/NAME CHANGE	903	179				
				CONSOLIDATED GAS SUPPLY CORPORATION	CONSOLIDATED GAS TRANSMISSION CORPORATION	ASSIGNMENT	1136	250				
				CONSOLIDATED GAS TRANSMISSION CORPORATION	CNG TRANSMISSION CORPORATION	MERGER/NAME CHANGE	51	795				
				CNG TRANSMISSION CORPORATION	DOMINION TRANSMISSION, INC.	MERGER/NAME CHANGE	58	362				
				DOMINION TRANSMISSION, INC.	DOMINION EXPLORATION & PRODUCTION, INC.	MERGER/NAME CHANGE	1325	874				
				DOMINION TRANSMISSION, INC.	DOMINION EXPLORATION & PRODUCTION, INC.	ASSIGNMENT	1427	829				
				DOMINION TRANSMISSION, INC.	CNX GAS COMPANY LLC	MEMORANDUM FARMOUT AGREEMENT	1522	33				
				CNX GAS COMPANY LLC	NOBLE ENERGY, INC.	LIMITED PARTIAL ASSIGNMENT (50%)	1543	1235				
				DOMINION TRANSMISSION, INC.	CNX GAS COMPANY LLC AND NOBLE ENERGY, INC.	PARTIAL ASSIGNMENT (32%)	1576	125				
				CNX GAS COMPANY LLC	NOBLE ENERGY, INC.	ASSIGNMENT	1584	942				
				NOBLE ENERGY, INC.	HG ENERGY II APPALACHIA, LLC	ASSIGNMENT	1600	660				
				NOBLE ENERGY, INC.	HG ENERGY II APPALACHIA, LLC	ASSIGNMENT	1600	692				
				DOMINION TRANSMISSION, INC.	DOMINION ENERGY TRANSMISSION, INC.	MERGER/NAME CHANGE	WVSOS					
DOMINION ENERGY TRANSMISSION, INC.	HG ENERGY II APPALACHIA, LLC	SECOND AMENDMENT TO MEMORANDUM OF FARMOUT AGREEMENT	1601	581								
2 ✓	FK065462	17-12-0424-0052-0000 17-12-0424-0052-0001 17-12-0424-0052-0002 17-12-0424-0052-0003 17-12-0424-0052-0004 p/o 17-12-0425-0031-0000 p/o 17-12-0425-0031-0003 17-12-0425-0032-0000 p/o 17-12-0425-0033-0000 17-12-0425-0033-0001 17-12-0425-0033-0002 17-12-0425-0033-0003 p/o 17-12-0425-0033-0004 17-12-0425-0033-0005	Q101063000	L. BASSELL MAXWELL AND BLONDA MAXWELL, HIS WIFE; AND, JANE M. HENDERSON, WIDOW	HOPE NATURAL GAS COMPANY	NOT LESS THAN 1/8	745	5				
				HOPE NATURAL GAS COMPANY	CONSOLIDATED GAS SUPPLY CORPORATION	MERGER/NAME CHANGE	903	179				
				CONSOLIDATED GAS SUPPLY CORPORATION	CONSOLIDATED GAS TRANSMISSION CORPORATION	ASSIGNMENT	1136	250				
				CONSOLIDATED GAS TRANSMISSION CORPORATION	CNG TRANSMISSION CORPORATION	MERGER/NAME CHANGE	51	795				
				CNG TRANSMISSION CORPORATION	DOMINION TRANSMISSION, INC.	MERGER/NAME CHANGE	58	362				
				DOMINION TRANSMISSION, INC.	CNX GAS COMPANY, LLC	MEMORANDUM FARMOUT AGREEMENT	1522	33				
				CNX GAS COMPANY LLC	NOBLE ENERGY, INC.	LIMITED PARTIAL ASSIGNMENT (50%)	1543	1245				
				DOMINION TRANSMISSION, INC.	CNX GAS COMPANY LLC AND NOBLE ENERGY, INC.	PARTIAL ASSIGNMENT (32%)	1576	125				
				CNX GAS COMPANY LLC	NOBLE ENERGY, INC.	ASSIGNMENT	1584	942				
				NOBLE ENERGY, INC.	HG ENERGY II APPALACHIA, LLC	ASSIGNMENT	1600	660				
				NOBLE ENERGY, INC.	HG ENERGY II APPALACHIA, LLC	ASSIGNMENT	1600	692				
				DOMINION TRANSMISSION, INC.	DOMINION ENERGY TRANSMISSION, INC.	MERGER/NAME CHANGE	WVSOS					
				DOMINION ENERGY TRANSMISSION, INC.	HG ENERGY II APPALACHIA, LLC	SECOND AMENDMENT TO MEMORANDUM OF FARMOUT AGREEMENT	1601	581				
				10 ✓	FK068583	17-12-0425-0002-0000 17-12-0425-0002-0002 17-12-0425-0002-0001 17-12-0425-0001-0000	Q100571000	REBECCA F. REED ET AL	HOPE NATURAL GAS COMPANY	NOT LESS THAN 1/8	822	87
								HOPE NATURAL GAS COMPANY	CONSOLIDATED GAS SUPPLY CORPORATION	MERGER/NAME CHANGE	903	179
CONSOLIDATED GAS SUPPLY CORPORATION	CONSOLIDATED GAS TRANSMISSION CORPORATION	ASSIGNMENT	1136					250				
CONSOLIDATED GAS TRANSMISSION CORPORATION	CNG TRANSMISSION CORPORATION	MERGER/NAME CHANGE	51					795				
CNG TRANSMISSION CORPORATION	DOMINION TRANSMISSION, INC.	MERGER/NAME CHANGE	58					362				
DOMINION TRANSMISSION, INC.	CNX GAS COMPANY, LLC	MEMORANDUM FARMOUT AGREEMENT	1522					33				
CNX GAS COMPANY LLC	NOBLE ENERGY, INC.	LIMITED PARTIAL ASSIGNMENT (50%)	1543					1245				
DOMINION TRANSMISSION, INC.	CNX GAS COMPANY LLC AND NOBLE ENERGY, INC.	PARTIAL ASSIGNMENT (32%)	1576					125				
CNX GAS COMPANY LLC	NOBLE ENERGY, INC.	ASSIGNMENT	1584					942				
NOBLE ENERGY, INC.	HG ENERGY II APPALACHIA, LLC	ASSIGNMENT	1600					660				

33 05954

				NOBLE ENERGY, INC.	HG ENERGY II APPALACHIA, LLC	ASSIGNMENT	1600	692
				DOMINION TRANSMISSION, INC.	DOMINION ENERGY TRANSMISSION, INC.	MERGER/NAME CHANGE	WVSOS	
				DOMINION ENERGY TRANSMISSION, INC.	HG ENERGY II APPALACHIA, LLC	FARMOUT AGREEMENT	1601	581
				JOSEPH CHEUVRON ET AL	P. H. GAFFNEY	NOT LESS THAN 1/8	184	309
				F.E. WILLIAMSON AND P.H GAFFNEY, DBA F.E. WILLIAMSON & CO.	J.F. DONALDSON	ASSIGNMENT	222	83
				J. F. DONALDSON	THE PHILADELPHIA COMPANY OF WEST VIRGINIA	ASSIGNMENT	222	79
				THE PHILADELPHIA COMPANY OF WEST VIRGINIA	PITTSBURGH AND WEST VIRGINIA GAS COMPNAY	ASSIGNMENT	236	111
				PITTSBURGH AND WEST VIRGINA GAS COMPNAY, PHILADELPHIA OIL COMPANY	HOPE NATURAL GAS COMPANY	ASSIGNMENT/BENSON SAND AND ABOVE	504	353
				PITTSBURGH AND WEST VIRGINA GAS COMPNAY, PHILADELPHIA OIL COMPANY	EQUIATABLE GAS COMPANY	ASSIGNMENT	714	159
				EQUITABLE GAS COMPANY AND PHILADELPHIA OIL COMPANY	HOPE NATURAL GAS COMPANY	ASSIGNMENT/BELOW BENSON SAND	790	135
				HOPE NATURAL GAS COMPANY	CONSOLIDATED GAS SUPPLY CORPORATION	MERGER/NAME CHANGE	903	179
				CONSOLIDATED GAS SUPPLY CORPORATION	CONSOLIDATED GAS TRANSMISSION CORPORATION	ASSIGNMENT	1136	250
				CONSOLIDATED GAS TRANSMISSION CORPORATION	CNG TRANSMISSION CORPORATION	MERGER/NAME CHANGE	51	795
				CNG TRANSMISSION CORPORATION	DOMINION TRANSMISSION, INC.	MERGER/NAME CHANGE	58	362
				DOMINION TRANSMISSION, INC.	CNX GAS COMPANY, LLC	MEMORANDUM FARMOUT AGREEMENT	1522	33
				CNX GAS COMPANY LLC	NOBLE ENERGY, INC.	LIMITED PARTIAL ASSIGNMENT (50%)	1543	1245
				DOMINION TRANSMISSION, INC.	CNX GAS COMPANY LLC AND NOBLE ENERGY, INC.	PARTIAL ASSIGNMENT (32%)	1576	125
				CNX GAS COMPANY LLC	NOBLE ENERGY, INC.	ASSIGNMENT	1584	942
				NOBLE ENERGY, INC.	HG ENERGY II APPALACHIA, LLC	ASSIGNMENT	1600	660
				NOBLE ENERGY, INC.	HG ENERGY II APPALACHIA, LLC	ASSIGNMENT	1600	692
				DOMINION TRANSMISSION, INC.	DOMINION ENERGY TRANSMISSION, INC.	MERGER/NAME CHANGE	WVSOS	
				DOMINION ENERGY TRANSMISSION, INC.	HG ENERGY II APPALACHIA, LLC	SECOND AMENDMENT TO MEMORANDUM OF	1601	581
				GEO W WASHBURN ET AL	RESERVE GAS COMPANY	NOT LESS THAN 1/8	179	404
				RESERVE GAS COMPANY	HOPE NATURAL GAS COMPANY	MERGER/NAME CHANGE	508	573
				HOPE NATURAL GAS COMPANY	CONSOLIDATED GAS SUPPLY CORPORATION	MERGER/NAME CHANGE	903	179
				CONSOLIDATED GAS SUPPLY CORPORATION	CONSOLIDATED GAS TRANSMISSION CORPORATION	ASSIGNMENT	1136	250
				CONSOLIDATED GAS TRANSMISSION CORPORATION	CNG TRANSMISSION CORPORATION	MERGER/NAME CHANGE	51	795
				CNG TRANSMISSION CORPORATION	EMAX OIL COMPANY	WELLBORE ASSIGNMENT	1261	1021
				EMAX OIL COMPANY	CABOT OI AND GAS CORPORATION	COUNTERPART ASSIGNMENT	1244	755
				CABOT OIL AND GS CORPORATION	ENERVEST APPALACHIA L.P.	CONVEYANCE	1314	1012
				CNG TRANSMISSION CORPORATION	DOMINION TRANSMISSION, INC.	MERGER/NAME CHANGE	58	362
				DOMINION TRANSMISSION, INC.	DOMINION ENERGY TRANSMISSION, INC.	MERGER/NAME CHANGE	WVSOS	
				DOMINION ENERGY TRANSMISSION, INC.	HG ENERGY II APPALACHIA, LLC	SECOND AMENDMENT TO MEMORANDUM OF FARMOUT AGREEMENT	1621	1295
				LARA BETH RAMSBURG	HG ENERGY II APPALACHIA LLC	NOT LESS THAN 1/8	1615	673
				CAROLYN S.J. HOOVER	HG ENERGY II APPALACHIA LLC	NOT LESS THAN 1/8	1615	680
				JOE LAW	HG ENERGY II APPALACHIA LLC	MINERAL DEED	1606	779
				LLOYD WASHBURN ET AL	SOUTH PENN OIL COMPANY	NOT LESS THAN 1/8	1443	0975
				SOUTH PENN OIL COMPANY	RESERVE GAS COMPANY	ASSIGNMENT	215	351

14 ✓

18 ✓

33 05954

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19 ✓

FK052855

17-20-0404-0037-0000
 17-20-0404-0036-0000
 17-20-0404-0035-0000
 17-20-0404-0034-0000, 17-20-2901-0100-000 ET AL

Q101019000

RESERVE GAS COMPANY	HOPE NATURAL GAS COMPANY	MERGER/NAME CHANGE	WVSOS	
HOPE NATURAL GAS COMPANY	CONSOLIDATED GAS SUPPLY CORPORATION	MERGER/NAME CHANGE	903	179
CONSOLIDATED GAS SUPPLY CORPORATION	CONSOLIDATED GAS TRANSMISSION CORPORATION	ASSIGNMENT	1136	250
CONSOLIDATED GAS TRANSMISSION CORPORATION	CNG TRANSMISSION CORPORATION	MERGER/NAME CHANGE	51	795
CNG TRANSMISSION CORPORATION	DOMINION TRANSMISSION, INC.	MERGER/NAME CHANGE	58	362
DOMINION TRANSMISSION, INC.	CNX GAS COMPANY, LLC	MEMORANDUM FARMOUT AGREEMENT	1522	33
CNX GAS COMPANY LLC	NOBLE ENERGY, INC.	LIMITED PARTIAL ASSIGNMENT (50%)	1543	1245
DOMINION TRANSMISSION, INC.	CNX GAS COMPANY LLC AND NOBLE ENERGY, INC.	PARTIAL ASSIGNMENT (32%)	1576	125
CNX GAS COMPANY LLC	NOBLE ENERGY, INC.	ASSIGNMENT	1584	942
NOBLE ENERGY, INC.	HG ENERGY II APPALACHIA, LLC	ASSIGNMENT	1600	660
NOBLE ENERGY, INC.	HG ENERGY II APPALACHIA, LLC	ASSIGNMENT	1600	692
DOMINION TRANSMISSION, INC.	DOMINION ENERGY TRANSMISSION, INC.	MERGER/NAME CHANGE	WVSOS	
DOMINION ENERGY TRANSMISSION, INC.	HG ENERGY II APPALACHIA, LLC	SECOND AMENDMENT TO MEMORANDUM OF FARMOUT AGREEMENT	1601	581



HG Energy, LLC
5260 Dupont Road
Parkersburg, WV 26101
(304) 420-1100 - Office
(304) 863-3172 - Fax

4703305954
05/10/2019

February 11, 2019

Laura Adkins
WV DEP
Division of Oil & Gas
601 57th Street
Charleston, WV 25304

RE: Drilling Under Roads – Nutter 1208 N-4H
Union District, Harrison County
West Virginia

Dear Ms. Adkins:

HG Energy II Appalachia, LLC, has the right to drill, stimulate and produce wells that are drilled under the County and State Roads as designated on the plats.

Should you have any questions or desire further information, please contact me at dwhite@hgenergyllc.com or 304-420-1119.

Very truly yours,

Diane White

Diane C. White

Enclosures

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WV Department of
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**STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
NOTICE CERTIFICATION**

Date of Notice Certification: 02/15/2019

API No. 47- _____ - _____

Operator's Well No. Nutter 1208 N-4H

Well Pad Name: Nutter Well Pad

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>549743.5</u>
County:	<u>Harrison</u>		Northing:	<u>4333964.1</u>
District:	<u>Grant</u>	Public Road Access:		<u>SR 19</u>
Quadrangle:	<u>West Milford</u>	Generally used farm name:		<u>Nutter</u>
Watershed:	<u>Middle West Fork Creek</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.

<p>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:</p> <p>*PLEASE CHECK ALL THAT APPLY</p> <p><input type="checkbox"/> 1. NOTICE OF SEISMIC ACTIVITY or <input checked="" type="checkbox"/> NOTICE NOT REQUIRED BECAUSE NO SEISMIC ACTIVITY WAS CONDUCTED</p> <p><input checked="" type="checkbox"/> 2. NOTICE OF ENTRY FOR PLAT SURVEY or <input type="checkbox"/> NO PLAT SURVEY WAS CONDUCTED</p> <p><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</p> <p style="padding-left: 40px;"><input type="checkbox"/> WRITTEN WAIVER BY SURFACE OWNER (PLEASE ATTACH)</p> <p><input checked="" type="checkbox"/> 4. NOTICE OF PLANNED OPERATION</p> <p><input checked="" type="checkbox"/> 5. PUBLIC NOTICE</p> <p><input checked="" type="checkbox"/> 6. NOTICE OF APPLICATION</p>	<p align="center">OOG OFFICE USE ONLY</p> <p><input type="checkbox"/> RECEIVED/ NOT REQUIRED</p> <p><input type="checkbox"/> RECEIVED</p> <p><input type="checkbox"/> RECEIVED/ NOT REQUIRED</p> <p><input type="checkbox"/> RECEIVED</p> <p><input type="checkbox"/> RECEIVED</p> <p><input type="checkbox"/> RECEIVED</p>
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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.

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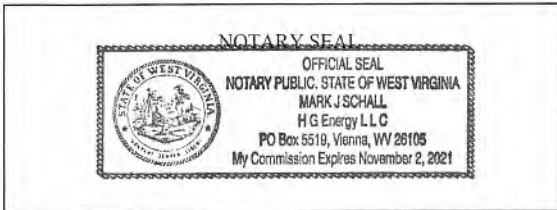
05/10/2019

WW-6AC
(1/12)

Certification of Notice is hereby given:

THEREFORE, I Diane White, 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>HG II Appalachia, LLC</u>	Address:	<u>5260 Dupont Road</u>
By:	<u>Diane White <i>Diane White</i></u>		<u>Parkersburg, WV 26101</u>
Its:	<u>Agent</u>	Facsimile:	<u>304-863-3172</u>
Telephone:	<u>304-420-1119</u>	Email:	<u>dwhite@hgenergyllc.com</u>



Subscribed and sworn before me this 15th day of February, 2019.

Mark J. Schall Notary Public

My Commission Expires 11/2/2021

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 deprivacyofficer@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: 02/15/19 **Date Permit Application Filed:** 02/21/19

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: Lisa M. Nutter (Surface and Surface Road) ✓
 Address: 382 Hidden Valley Road
Jane Lew, WV 26378

Name: William W. & Linda Broadwater (Surface & Water Well) ✓
 Address: 132 Praise Lane
Jane Lew, WV 26378

SURFACE OWNER(s) (Road and/or Other Disturbance)

Name: _____
 Address: _____

Name: _____
 Address: _____

SURFACE OWNER(s) (Impoundments or Pits)

Name: _____
 Address: _____

COAL OWNER OR LESSEE

Name: _____
 Address: _____

COAL OPERATOR

Name: _____
 Address: _____

SURFACE OWNER OF WATER WELL AND/OR WATER PURVEYOR(s)

Name: William & Connie Thomaschek ✓
 Address: 40 Praise Lane
Jane Lew, WV 26378

OPERATOR OF ANY NATURAL GAS STORAGE FIELD

Name: Dominion Energy Transmission - Attn: Ronald Waldren
 Address: 925 White Oaks Blvd
Bridgeport, WV 26330

*Please attach additional forms if necessary

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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 Protection headquarters, located at 601 57th Street, SE, Charleston, WV 25304 (304-926-0450) or by visiting www.dep.wv.gov/oil-and-gas/pages/default.aspx.

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

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33 05954
API NO. 47- - 05/10/2019
OPERATOR WELL NO. Nutter 1208 N-4H
Well Pad Name: Nutter 1208

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 until 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 57th St. SE
Charleston, WV 25304
(304) 926-0450

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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.**

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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API NO. 33 05954 05/10/2019
OPERATOR WELL NO. Nutter 1208 N-4H
Well Pad Name: Nutter 1208

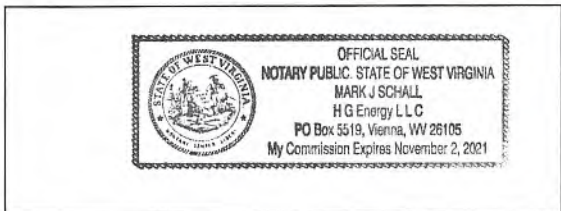
Notice is hereby given by:

Well Operator: HG Energy II Appalachia, LLC
Telephone: 304-420-1119
Email: dwhite@hgenergyllc.com *Diane White*

Address: 5260 Dupont Road
Parkersburg, WV 26101
Facsimile: 304-863-2172

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.



Subscribed and sworn before me this 15th day of February, 2019.

Mark J Schall Notary Public

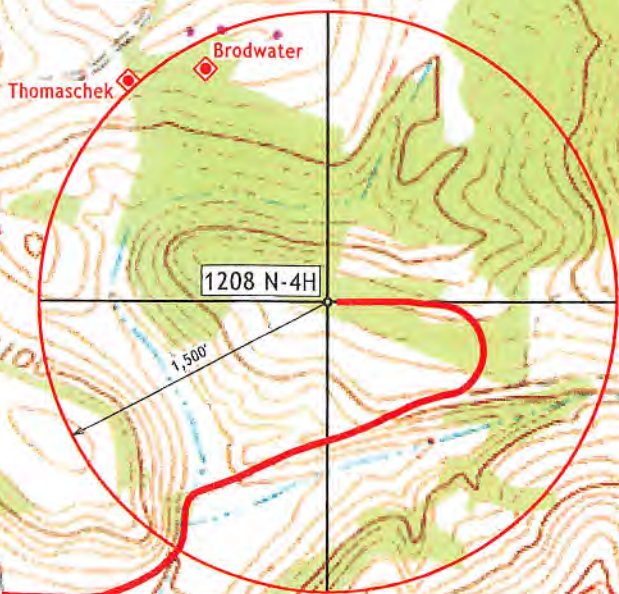
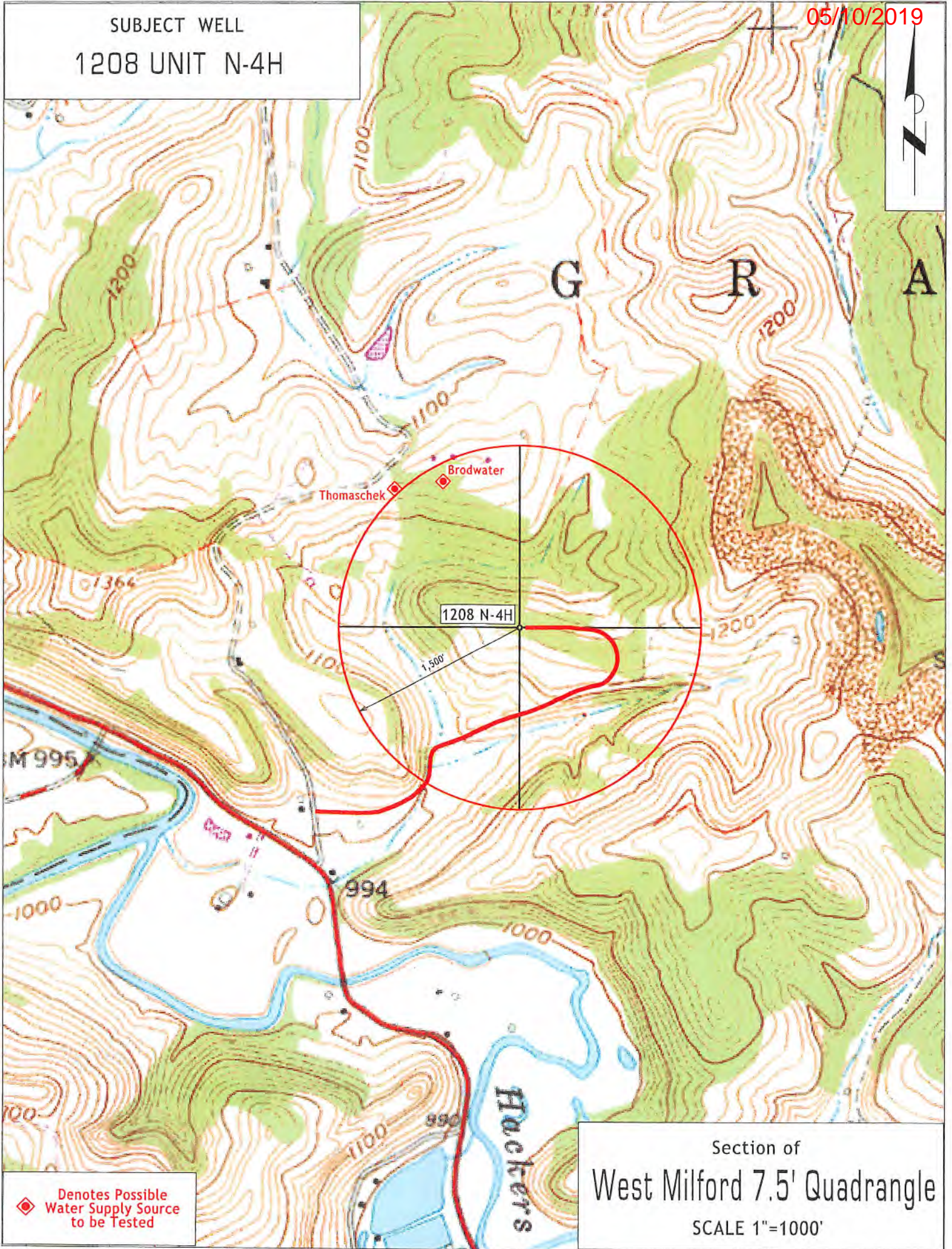
My Commission Expires 11/2/2021

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SUBJECT WELL
1208 UNIT N-4H



1208 N-4H

1,500'

Thomaschek
Brodwater

GR A

Hackers

◆ Denotes Possible
Water Supply Source
to be Tested

Section of
West Milford 7.5' Quadrangle
SCALE 1"=1000'

Diane White

From: Diane White
Sent: Monday, November 26, 2018 5:02 PM
To: Vickie Hoops (vhoops@sturmenvironmental.com)
Subject: Pre Drill Water Testing for the Nutter 1208 Well Pad

Vicki,
Good afternoon. We need to have two possible water sources tested if the surface owners will allow it.

Nutter 1208 Well Pad, Harrison County, Grant District, West Milford WV 7.5' Quadrangle, Middle West Fork Creek Watershed, LAT/LONG (DD NAD 83) - 39.153300, -80.424351

- 1 - William & Connie Thomaschek, 40 Praise Lane, Jane Lew, WV 26378
- 2 - William & Linda Broadwater, 132 Praise Lane, Jane Lew, WV 26378 304-884-6406

Please ask the Technician to identify the testing sheets with Nutter 1208 Well Pad please.
Thank You,
Diane

Diane C. White



HG Energy, LLC
5260 Dupont Road
Parkersburg, WV 26101
304-420-1119 (O)
304-482-0108 (C)
dwhite@hgenergvllc.com

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05/10/2019

33 05054

Sturm Environmental Services

JOHN W. STURM, PRESIDENT

COMPANY: H.G. ENERGY, LLC.

DATE/TIME SAMPLED: 11-29-18 1115

SAMPLE ID: WILLIAM THOMASCHECK
NUTTER 1208 PAD

DATE/TIME RECEIVED: 11-29-18 1232

SAMPLED BY: K. WILLIAMS

LABORATORY ID: HG 181129-1

PARAMETER	TEST RESULTS	UNITS	METHOD	METHOD DETECTION LIMIT	DATE/TIME ANALYZED	ANALYST
FIELD pH	7.3	units			11-29-18 1115	KW
FIELD TEMP	21.5	°C			11-29-18 1115	KW
FIELD COND	480	µmhos			11-29-18 1115	KW
LATTITUDE	39°09'23.81"	N			11-29-18 1115	KW
LONGITUDE	80°25'38.03"	W			11-29-18 1115	KW
pH	O 7.3	units	SM 22 nd 4500 H B	.1	11-30-18 0912	KH
Fe	U	mg/L	EPA 200.7 Rev 4.4-1994	.02	12-01-18 0657	DB
TDS	247	mg/L	USGS I-1750-85	4	12-03-18 1400	MRS
Cl ⁻	10.3	mg/L	EPA 300.0 Rev 2.1-1993	.50	12-05-18 0552	DC
MBAS	U	mg/L	SM22 nd 5540C	.01	11-30-18 2136	SW

*Client Provided

**See Attached. The following results meet or exceed requirements and standards set forth by the certifying authority except where noted.

Data Qualifiers

- B Analyte found in reagent blank. Indicates possible reagent or background contamination.
- E Estimated Reported value exceeded calibration range.
- J Reported value is an estimate because concentration is less than reporting limit.
- PND Precision not determined.
- R Sample results rejected because of gross deficiencies in QC or method performance. Re-sampling and/or re-analysis is necessary.
- RND Recovery not determined.
- U Compound was analyzed for, but not detected.
- O Out of holding. Time does not meet 40 CFR 136/141 compliance.
- T This result is not supported by our certification ID.
- A Does not meet 40 CFR 136/141 compliance.
- C Does not meet 47 CSR 32 compliance.

Narrative:

Approved Douglas H Banta

MAIN OFFICE AND LABORATORY—POST OFFICE BOX 650 • BRIDGEPORT, WEST VIRGINIA 26330 • (304) 623-6549
CHARLESTON FIELD OFFICE—POST OFFICE BOX 8337 • SOUTH CHARLESTON, WEST VIRGINIA 25303-0337 • (304) 744-9854

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Sturm Environmental Services

JOHN W. STURM, PRESIDENT

COMPANY: H.G. ENERGY, LLC.
 SAMPLE ID: WILLIAM BROADWATERS
 NUTTER 1208 PAD
 SAMPLED BY: K. WILLIAMS

DATE/TIME SAMPLED: 11-29-18 1125
 DATE/TIME RECEIVED: 11-29-18 1232
 LABORATORY ID: HG 181129-2

PARAMETER	TEST RESULTS	UNITS	METHOD	METHOD DETECTION LIMIT	DATE/TIME ANALYZED	ANALYST
FIELD pH	7.8	units			11-29-18 1125	KW
FIELD TEMP	24.8	°C			11-29-18 1125	KW
FIELD COND	420	µmhos			11-29-18 1125	KW
LATITUDE	39°09'24.84"	N			11-29-18 1125	KW
LONGITUDE	80°25'31.97"	W			11-29-18 1125	KW
pH O	7.6	units	SM 22 nd 4500 H B	.1	11-30-18 0912	KH
Fe	.13 J	mg/L	EPA 200.7 Rev 4.4-1994	.02	12-01-18 0657	DB
TDS	218	mg/L	USGS I-1750-85	4	12-03-18 1400	MRS
Cl ⁻	3.60	mg/L	EPA 300.0 Rev 2.1-1993	.50	12-05-18 0552	DC
MBAS	.02	mg/L	SM22 nd 5540C	.01	11-30-18 2136	SW

*Client Provided
 **See Attached. The following results meet or exceed requirements and standards set forth by the certifying authority except where noted.
 Data Qualifiers
 B Analyte found in reagent blank. Indicates possible reagent or background contamination.
 E Estimated Reported value exceeded calibration range.
 J Reported value is an estimate because concentration is less than reporting limit.
 PND Precision not determined.
 R Sample results rejected because of gross deficiencies in QC or method performance. Re-sampling and/or re-analysis is necessary.
 RND Recovery not determined.
 U Compound was analyzed for, but not detected.
 O Out of holding. Time does not meet 40 CFR 136/141 compliance.
 T This result is not supported by our certification ID.
 A Does not meet 40 CFR 136/141 compliance.
 C Does not meet 47 CSR 32 compliance.
 Narrative:

Approved Doyle H. Burt

MAIN OFFICE AND LABORATORY—POST OFFICE BOX 650 • BRIDGEPORT, WEST VIRGINIA 26330 • (304) 623-6549
 CHARLESTON FIELD OFFICE—POST OFFICE BOX 8337 • SOUTH CHARLESTON, WEST VIRGINIA 25303-8337 • (304) 744-9864

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05/10/2019

STURM ENVIRONMENTAL SERVICES

CHAIN OF CUSTODY RECORD

Main Office:
 STURM ENVIRONMENTAL SERVICES
 BRUSHY FORK ROAD
 P.O. BOX 680
 BRIDGEPORT, WV 26030
 PHONE: 304-622-6848
 FAX: 304-622-6852

STURM ENVIRONMENTAL SERVICES
 810 D STREET
 P.O. BOX 6247
 S.D. CHARLINGTON, WV 26030
 PHONE: 304-744-4884
 FAX: 304-744-7888

REPORT TO: Client Name: **H&E Energy**
 Address:
 City/State/Zip:
 Contact Person:
 Telephone Number:
 Email Address:
 Sample Name (Print):
 Project Name:
 Special Reporting:

BILL TO: Client Name:
 Address:
 City/State/Zip:
 Contact Person:
 Telephone Number:
 Email Address:
 Purchase Order #:
 TURN AROUND TIME:
 Standard
 RUBH (pre-packed) samples (w/ supply) Please Check One
 1 DAY 2 DAY 3 DAY

Williams Thomaschink
 39 09 23.61
 80 25 35.03
 39 09 24.84
 80 25 21.97
 Trucks 3 boxes de 1 drill

William Thomaschink
 1208 Rad
 1125
 pre-drill

START DATE	START TIME	END DATE	END TIME	DATE	TIME	ROW	OTHER	RES	SPGH	H ₂ SO ₄ Plastic	H ₂ SO ₄ Glass	None	PCW	Groundwater	Wastewater	Drinking Water	Sliming	Soil	Other (specify):	ADULTERATION	# of Bottles	Flow (gpm, cfs, mgd) check one	Field pH	Field Conductivity	Field DO	Field Chloride (mg/L or eq/L) check one	Field Temp (°F or °C) check one
				12/28/18	11:50																3		7.3	480		215	
				12/25/18																	3		7.8	420		248	

Subsampled by: **William Thomaschink**
 Date Used: **11-29-18**
 Time Used: **12:32**
 Preserved by: **C. Kuebler**
 Date Preserved: **12/23/18**
 Time Preserved: **12:33**

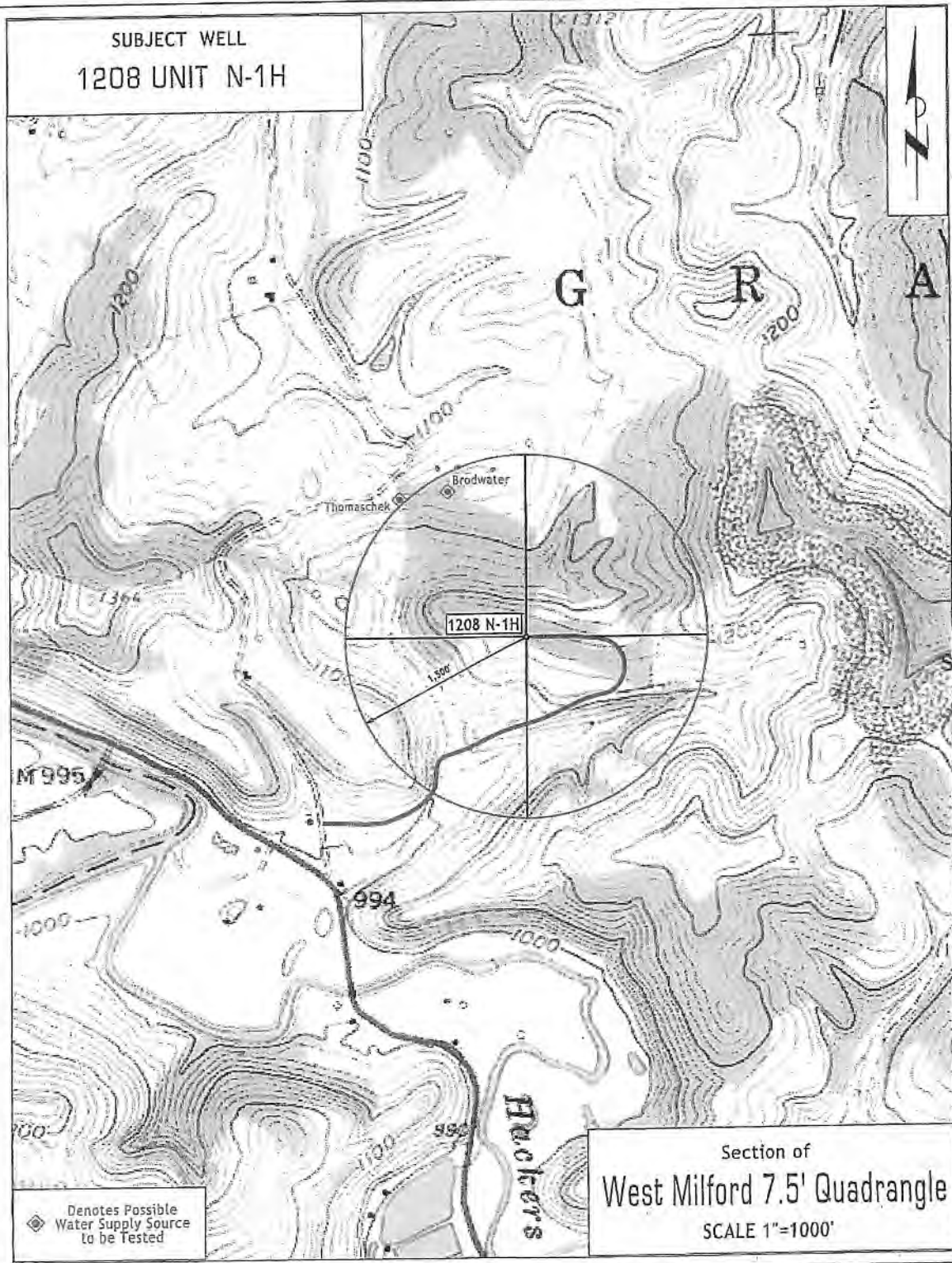
Analysis retained for 9 years

Laboratory Comments:
 Temperature Upon Receipt:
 Bottle Preserved:
N

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WW-6A3
(1/12)

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: 02/05/2019 **Date of Planned Entry:** 02/13/2019

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: Lisa Nutter
Address: 382 Hidden Valley Road
Jane Lew, WV 26378

Name: William W. & Linda Broadwater
Address: 132 Praise Lane
Jane Lew, WV 26376

Name: _____
Address: _____

COAL OWNER OR LESSEE

Name: NA
Address: _____

MINERAL OWNER(s)

Name: **See Attached List**
Address: _____

*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: West Virginia
County: Harrison
District: Grant
Quadrangle: West Milford, WV 7.5'

Approx. Latitude & Longitude: 39.153459 / -80.424296
Public Road Access: SR 19
Watershed: Middle West Fork Creek
Generally used farm name: Nutter

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 57th 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.

Notice is hereby given by:

Well Operator: HG Energy II Appalachia, LLC
Telephone: 304-420-1119
Email: dwhite@hgenergyllc.com

Address: 5260 Dupont Road
Parkersburg, WV 26101
Facsimile: 304-863-3172

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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.

WW-6A31208N - 4H(1-12)Page 1 ContinuedMineral Owners

Adam Lee Carder /
58 Washburn St
Lost Creek, WV 26385

Amber Campbell /
245 Washburn Street
Lost Creek, WV 26385

Amy M. Blankenship /
1908 Huber Rd
Charleston, WV 25314

Argent Company,
Agent for Charles L Maxwell /
621 N. Robinson Suite 100
Oklahoma City, OK 73102

Argent Company,
Agent for Deborah Bell Meyer /
621 N. Robinson Suite 100
Oklahoma City, OK 73102

Argent Company, Agent for Jane R
Gray Koubek and Terry Dean Koubek /
621 N. Robinson Suite 100
Oklahoma City, OK 73102

Argent Company,
Agent for Mary Virginia Gray Trust /
621 N. Robinson Suite 100
Oklahoma City, OK 73102

Argent Company,
Agent for Piala Living Trust /
621 N. Robinson Suite 100
Oklahoma City, OK 73102

Alfred Lee Cork /
486 1/2 Lee Avenue
Clarksburg, WV 26301-3638

Amy Geraldine Brown /
258B Brown Rd
Jane Lew, WV 26378

Annette C. Nichols /
RR 1 Box 124
Lost Creek, WV 26385-9721

Argent Company,
Agent for David Maxwell Gray /
621 N. Robinson Suite 100
Oklahoma City, OK 73102

Argent Company,
Agent for Donna Frumento /
621 N. Robinson Suite 100
Oklahoma City, OK 73102

Argent Company, /
Agent for Joseph L Maxwell
621 N. Robinson Suite 100
Oklahoma City, OK 73102

Argent Company, Agent
for Pamela Jane Bell Revocable Trust
621 N. Robinson Suite 100
Oklahoma City, OK 73102

Argent Company,
Agent for Robert Nimorwicz /
621 N. Robinson Suite 100
Oklahoma City, OK 73102

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WW-6A3
(1-12)

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Mineral Owners

Argent Company,
Agent for Steven L Maxwell ✓
621 N. Robinson Suite 100
Oklahoma City, OK 73102

Billie Jean Sandy
113 Euclid Ave
Clarksburg, WV 26301

Brian L. Rhoades
165 Fowler Rd
Jane Lew, WV 26385

Chun H. Underwood
RR 1 Box 130B
Lost Creek, WV 26385

Dawn Marie Posey
2184 Jennings Run Rd
Weston, WV 26452

Diane Burnside West
by POA William Holmes West
40 Fenton Place
Clarksburg, WV 26301

Donald L. & Karen Sinclair (Life Estate)
M Sinclair & CR Sinclair, Remainderman
408 Michigan Ave
Nutter Fort, WV 26301

Duane Burnside ✓
5870 Heartwood Ct
Harrisburg, NC 28075-7594

Argent Company,
Agent for Susan Brown Yunker
621 N. Robinson Suite 100
Oklahoma City, OK 73102

Bradford Cottrill & Nicholas Cottrill
116 Washington Drive
Lost Creek, WV 26385

Charles E. Steffich
RR 1 Box 132
Lost Creek, WV 26385

Darren Gail Burnside
217 Clay Street
Hambleton, WV 26269

Dennis J. Burnside, Jr.
265 Fenton Pl
Clarksburg, WV 26301

Dixie L. Quickle ✓
RR 1 Box 138C
Lost Creek, WV 26385

Donna Hefley Tucker
628 Hwy 77 South
Davis, OK 73030

Edna Alexander ✓
1806 Artisan Ave
Huntington, WV 25703

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Page 1 Continued

Mineral Owners

Edward H. Burnside
144 D Street
Keyser, WV 26726

Elizabeth A Beveridge
243 Shady Lane
Alma, WV 26320

Eugene B Ward Jr & Gary Michael Ward
10 New England Court
Fairmont, WV 26554

Gina Burnside
42723 Cool Breeze Square
Leesburg, VA 20176

Gregory G. Burnside
504 Long Run Rd
Lost Creek, WV 26385

Heirs of John W. Toothman,
Successors and/or Assigns
84 Washburn St
Lost Creek, WV 26385

Jackson Lodge No. 35 A.F. & A.M. and
Jackson Lodge No. 36 A.F. & A.M.
Route 19 South
Good Hope, WV 26451

Jane M Hardin
225 Watchung FRK
Westfield, NJ 07090

Jane Rae White May
2447 Merrigan Place
Tallahassee, FL 32309

Jeanne Jones Beck
129 W 5th St
Russell, KS 67665-2716

Joe R. Law
3814 Fairmont Ave
Fairmont, WV 26554-5479

John Horner and Dreama Horner
RR 2 Box 210B
Jane Lew, WV 26378

John Scott Skinner
24 Washburn St
Lost Creek, WV 26385

Jon S. & Wendy J. Skinner
24 Washburn St
Lost Creek, WV 26385

JP Morgan Chase Bank,
Trustee Will E. Morris Trust
PO Box 659
Wichita Falls, TX 76307-0659

K. Rodney McCall & Charlene McCall
83 Westfall Ave
Lost Creek, WV 26385

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Karen M Henderson /
190 Sapphire Lane /
Meadowbrook, WV 26404

Karen M Henderson /
190 Sapphire Lane /
Meadowbrook, WV 26404

Kimberly A. Taylor /
2 Washburn St
Lost Creek, WV 26385

Larry W. Myers and Rebecca E. Myers /
9183 Good Hope Pike
Lost Creek, WV 26385

Leona J Skinner Auvil /
222 S Maple Ave /
Clarksburg, WV 26301

Lewis Wayne Davis /
P.O. Box 2078 /
Buckhannon, WV 26201

Lisa Painter /
301 Devonshire Court /
Cranberry Township, PA 16066

Lynwood D. Burnside /
22 Southgate Hills Dr /
Clarksburg, WV 26301

Mal R. Burnside /
fka Richard Burnside /
2349 Pattison Ave /
Cheyenne, WY 82009

Mary L. Tinney (Life Estate) /
PTinner G Tinney C Haycox (Remnder) /
8971 Good Hope Pike /
Lost Creek, WV 26385

Michael C. Burnside /
42723 Cool Breeze Square /
Leesburg, VA 20176

Mike Ross Inc /
P.O. Box 219 /
Coalton, WV 26258-0219

New Beginnings Church (Good Hope
Prayer Chapel) TE Sears II, President
8901 Good Hope Pike
Lost Creek, WV 26385/

Okey F. Gallien, Jr. & Leatrice C. Gallien /
13 Norris Ridge Road /
Philippi, WV 26416

Okey G. Allawat /
229 Washburn Street /
Lost Creek, WV 26385

Oscar Lee Rhoades /
14 Perine St /
Lost Creek, WV 26385

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WW-6A3
(1-12)Page 1 ContinuedMineral Owners

Pamela J. Everitt ✓
63 Washburn St
Lost Creek, WV 26385

Rebecca A. Bennett ✓
122 Perine St
Lost Creek, WV 26385

Robert D. Wilt ✓
9057 Good Hope Pike
Lost Creek, WV 26385

Robert G. Allman and Martha Allman ✓
8937 Good Hope Pike
Lost Creek, WV 26385

Sabrina Burnside ✓
55 S Main St
Keyser, WV 26726

Timothy E. and Anissa K. Davis ✓
862 Saddletree Rd
Mt. Clare, WV 26408

Waco Oil & Gas Co, Inc. ✓
PO Box 880
Glennville, WV 26351-0880

William Michael Davis ✓
3109 Maplawn Ave NW
Roanoke, VA 24012

Prayer Chapel of Good Hope ✓
RR 5 Box 341
Clarksburg, WV 26301

Rhonda J. Arrington ✓
fka Rhonda Burnside
11377 N 1720 Rd
Sweetwater, OK 73666-6311

Robert Dean Davis ✓
15617 South 7th St
Phoenix, AZ 85048

Ronzel C. Richards & Sandra K. Richards ✓
86 Isaacs Creek Rd
Lost Creek, WV 26385

Seneca-Upshur Petroleum LLC ✓
PO Box 2048
Buckhannon, WV 26201-2048

New Bethel United Methodist Church, ✓
Trustees
43 Bran Acres Dr
Lost Creek, WV 26385

William E. Wagner ✓
513 Vantage Dr
Morgantown, WV 26508-2635

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4703305954

Operator Well No. Nutt 263 0-47 **05/16/2019**

WW-6A4
(1/12)

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: 02/11/2019 **Date Permit Application Filed:** 02/21/2019

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: Lisa M. Nutter
Address: 382 Hidden Valley Road
Jane Lew, WV 26378

Name: William W. & Linda Broadwater
Address: 132 Praise Lane
Jane Lew, WV 26378

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: 549743.5
County: Harrison Northing: 4333964.1
District: Grant Public Road Access: SR 19
Quadrangle: West Milford WV 7.5' Generally used farm name: Nutter
Watershed: Middle West Fork Creek

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 57th Street, SE, Charleston, WV 25304 (304-926-0450) or by visiting www.dep.wv.gov/oil-and-gas/pages/default.aspx.

Notice is hereby given by:

Well Operator: HG Energy II Appalachia, LLC
Address: 5260 Dupont Road
Parkersburg, WV 26101
Telephone: 304-420-1119
Email: dwhite@hgenergyllc.com *Diane White*
Facsimile: 304-863-3172

Authorized Representative: Diane White
Address: 5260 Dupont Road
Parkersburg, WV 26101
Telephone: 304-420-1119
Email: dwhite@hgenergyllc.com
Facsimile: 304-863-3172

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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.

WW-6A5
(1/12)

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: 02/13/2019 **Date Permit Application Filed:** 02/21/2019

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: Lisa M. Nutter
Address: 382 Hidden Valley Road
Jane Lew, WV 26378

Name: William W. & Linda Broadwater
Address: 132 Praise Lane
Jane Lew, WV 26378

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>549743.5</u>
County: <u>Harrison</u>		Northing: <u>4333964.1</u>
District: <u>Grant</u>	Public Road Access: <u>SR 19</u>	
Quadrangle: <u>West Milford WV 7.5'</u>	Generally used farm name: <u>Nutter</u>	
Watershed: <u>Middle West Fork 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 57th Street, SE, Charleston, WV 25304 (304-926-0450) or by visiting www.dep.wv.gov/oil-and-gas/pages/default.aspx.

Well Operator: HG Energy II Appalachia, LLC
Telephone: 304-420-1119
Email: dwhite@hgenergyllc.com *Diane White*

Address: 5260 Dupont Road
Parkersburg, WV 26101
Facsimile: 304-863-3172

RECEIVED
Office of Oil and Gas
FEB 22 2019
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 or your personal information, please contact DEP's Chief Privacy Officer at depprivacyofficer@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

February 13, 2019 ✓

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

Subject: DOH Permit for the Nutter 1208 Well Pad, Harrison County ✓
N-4H Well Site

Dear Mr. Martin,

This well site will be accessed from Permit #04-2018-1374 issued to HG Energy II Appalachia for access to the State Road for a well site located off of Harrison County 19/20 SLS.

The operator has signed a STATEWIDE 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 October 1, 2018.
82.

Very Truly Yours,

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

Cc: Diane C. White
HG Energy II, LLC
CH, OM, D-4
File

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List of Frac Additives by Chemical Name and CAS #**Nutter 1208 Well Pad (N-1H to N-5H, S-6H to S-10H)**

Chemical Name	CAS #	Multiple CAS #'s
Pro Shale Slik 405	Mixture	68551-12-2 7647-14-5 12125-02-9 64742-47-8
Pro Hib II	Mixture	68412-54-4 68607-28-3 107-21-1 111-76-2 67-56-1 107-19-7
Silica Sand and Ground Sand	Mixture	14808-60-7 1344-28-1 1309-37-1 13463-67-7
Hydrochloric Acid 22 DEG BE	7647-01-0	
PROGEL - 4.5	64742-96-7	
BIO CLEAR 2000	Mixture	25322-68-3 10222-01-2
SCALE CLEAR SI 112	107-21-1	
PROBREAK 4	Mixture	57-50-1 107-21-1
Sulfamic Acid	5329-14-6	
PRO - Flow - 102-N	Mixture	67-63-0 68439-45-2 2687-96-9
PROGEL - 4	9000-30-0	

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CONSTRUCTION IMPROVEMENT PLANS WITH EROSION AND SEDIMENT CONTROLS HG 1208 WELL PAD

**APPROVED
WVDEP OOG**
1/28/2019

GRANT DISTRICT
HARRISON COUNTY
WEST VIRGINIA

Estimated Gross Material Balance (20)			
Final Development - Overall Option			
Category	CU	FB	Stockpile
1208 Well Pad & Stock Pile	59,928	65,513	48,661
Access Road	8,596	5,564	2,503
Total	68,544	70,707	46,630
Soil Accumulation for Aggregate Import			
Pad			8,666
Total Soil Volume			2,838 CU
Stockpile Topsoil Limit of Disturbance			
Stockpile Topsoil Limit of Disturbance			15,000
Est. Stockpile Volume (Base 20)			3,612
Est. Topsoil Stockpile Volume (Base 20)			21,767
Minimum Total Stockpile Capacity Required (CU)			24,337

Estimated Gravel Quantities			
Category	15%WSP	12%WSP	Area
1" Soil Content (Base 20)	30,111	14,747	9,877
2" Depth of 3/4" Diameter Run (Base)	3,262	1,633	4,795
Top Coat Chip & Seal (Base 20)			8,872
Estimated Total Gravel			17,666
Estimated Access Road 1" Base Soil Length (FT)			2,824
Estimated Well Pad and Staging Area 1" Base Soil Length (FT)			3,825
Estimated Total Length of Disturbance (Feet)			22,430
Estimated Access Road Limit of Disturbance (Acres)			7.631
Estimated Well Pad and Staging Area Limit of Disturbance (Acres)			15.389
Well Pad and Staging Area Peak Pre-Construction Elevation (ft)			1,626

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FEB 22 2019
WV Department of
Environmental Protection

CONSTRUCTION SEQUENCE

- Prior to commencement of any earth disturbance activity including clearing and grubbing, the registrant shall call West Virginia 811 by dialing 811 or 1-800-245-4848 to identify all utility lines. The registrant also must clearly delineate sensitive areas, riparian forest buffer boundaries, the limits of clearing, and trees that are to be conserved within the project site, and shall install appropriate barriers where equipment may not be parked, staged, operated or located for any purpose.
- Site access - This is the first land-disturbance activity to take place at the site and should provide BMPs to minimize accelerated erosion and sedimentation from the following areas: entrance to the site, construction routes, and areas designated for equipment or other use at the site including parking, stockpiles.
- Sediment Barriers - Install perimeter BMPs after the construction site is accessed, keeping associated clearing and grubbing limited to only that amount required for installing perimeter BMPs.
- Land Clearing and Grading - Implement clearing and grading only after all downslope E&S BMPs have been constructed and stabilized.
- Surface Stabilization - Apply temporary or permanent stabilization measures immediately to any disturbed areas where work has reached final grade, has been delayed or otherwise temporarily suspended.
- Construction of Buildings, Utilities, and Paving - During construction, install and maintain any additional erosion and sediment control BMPs, and implement any structural post construction stormwater BMPs that may be required.
- Upon completion of pad grading, compact the pad to grade and begin placement of pad soil cement.
- Final Stabilization, Topsoiling, Trees and Shrubs - After construction is completed, install stabilization BMPs including permanent seeding, mulching and riprap, and complete implementation of stormwater BMPs in this last construction phase. Stabilize all open areas, including borrow and spoil areas, and remove all temporary BMPs and stabilize any disturbances associated with the removal of the BMP.



PREPARED FOR
HG ENERGY II APPALACHIA, LLC
5260 DUPONT ROAD
PARKERSBURG, WEST VIRGINIA 26101
(304) 420-1100

PREPARED BY
PENN ENVIRONMENTAL & REMEDIATION, INC.
111 RYAN COURT
PITTSBURGH, PA 15205
(412) 722-1222

SHT. NO.	SHEET TITLE
1	TITLE SHEET
2A-2D	SITE DEVELOPMENT PLANS
3A-3B	PAD & STOCKPILE SECTIONS
4A-4C	ACCESS ROAD SECTIONS
5A-5F	CONSTRUCTION NOTES & DETAILS
6A-6D	RESTORATION PLAN
7	PROPERTY MAP

WELL #	LAT.	LONG.
N-1H	N 39,153,300	W 80,424,351
N-2H	N 39,153,340	W 80,424,337
N-3H	N 39,153,379	W 80,424,324
N-5H	N 39,153,419	W 80,424,310
N-4H	N 39,153,459	W 80,424,296
S-7H	N 39,153,074	W 80,423,284
S-6H	N 39,153,114	W 80,423,270
S-8H	N 39,153,154	W 80,423,256
S-9H	N 39,153,193	W 80,423,242
S-10H	N 39,153,233	W 80,423,228

	LATITUDE	LONGITUDE
1208 WELL PAD ACCESS ROAD ENTRANCE	N 39,149,029	W 80,426,878

RECORD NUMBER	RECORD AREA (SQ. FT.)	RECORD AREA (AC.)	AREA WITHIN L20
NUTTER USA M	17-12-0445-0009-0000	105.50 AC.	2.764 AC.
PIED CARO. (LE) NUTTER USA M	17-12-0445-0001-0000	87.78 AC.	4.136 AC.
NUTTER USA M	17-12-0445-0010-0000	65.87 AC.	4.187 AC.
DISBURSE 7 MILLING M II & LINE I	17-12-0445-0031-0000	247.84 AC.	11.933 AC.
TOTAL LIMIT OF DISTURBANCE			22.420 AC.

THE DRAWING IS UNCORRECTED, THE DRAWING IS A "TRUCK DRAWING" AND ONLY INTENDED TO BE USED FOR THE PURPOSES OF THE PROJECT. THE DRAWING AREA COVERED BY THIS DRAWING IS NOT GUARANTEED BY THE DRAWING ENGINEER. THE DRAWING ENGINEER IS NOT RESPONSIBLE FOR ANY ERRORS OR OMISSIONS. THE DRAWING WILL BE RETURNED TO THE CLIENT.

REVISION	DATE	DESCRIPTION
1	1/23/19	REVISOR PER OOG COMMENTS



TITLE SHEET
HG 1208 WELL PAD
GRANT DISTRICT
HARRISON COUNTY, WEST VIRGINIA

PREPARED FOR
HG ENERGY II APPALACHIA, LLC
PARKERSBURG, WEST VIRGINIA

APPROVED: MFP 11/06/2018
CHECKED: MFP 12/29/2018
DRAWN: LSA 10/29/2018
PROJECT NO.: 4002-PA007778
DRAWING NUMBER: PA007778-001
SHEET 1

WEST VIRGINIA 811
CALL BEFORE YOU DIG!
Dial 811 or 800.245.4848
West Virginia's One-Call System

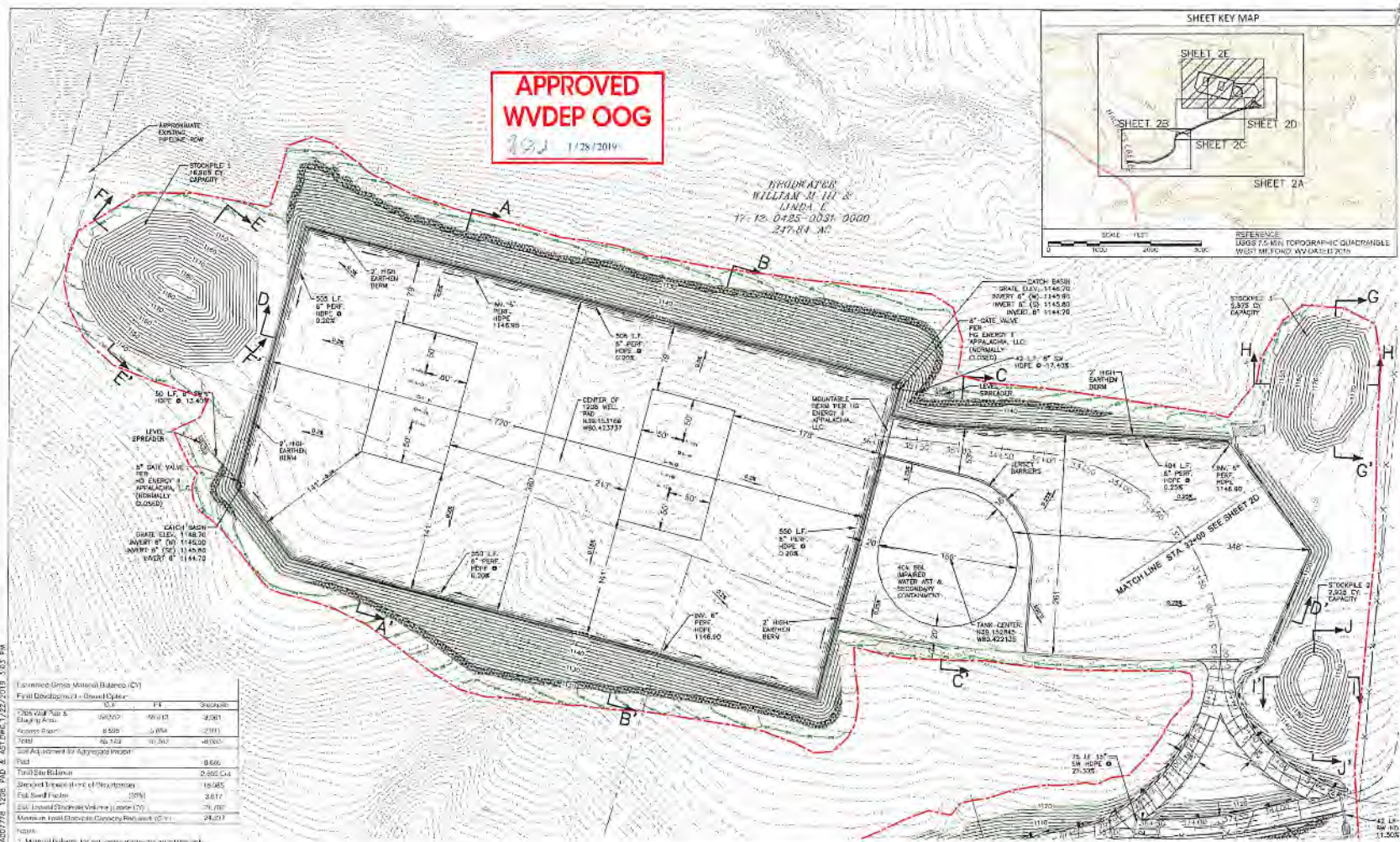
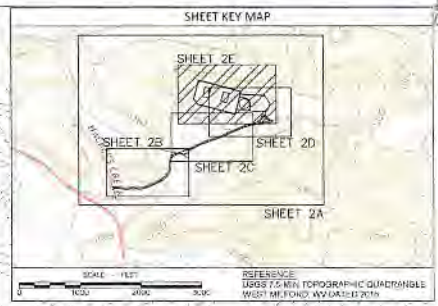
Penn E&R
Environmental & Remediation, Inc.
111 RYAN COURT, PITTSBURGH, PA 15205
412-722-1222

SYNTHETIC FILES: 4002-PA007778_H2_1208WELLPAD.dwg, 1/23/2019 10:35 AM

APPROVED WVDEP OOG

1/28/2019

DEGRATER
WILLIAM M. III &
LINDA L.
17-13 0423-0031 0000
217.84 AC



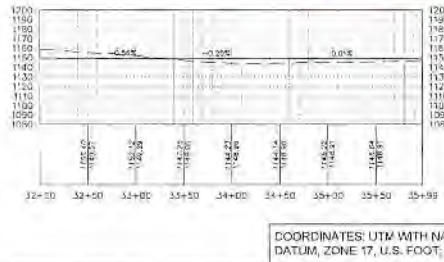
Earthwork (Gravel Material Balance) (CY)

Excavation	Fill	Stockpile	
Gravel Pit	90,000	90,000	-2,000
Access Road	8,000	0	-8,000
Total	98,000	90,000	-10,000

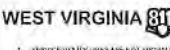
Material Balances for all gravel locations quantities only.

Item	Quantity
Gravel	98,000
Access Road	8,000
Total	106,000

WELL #	LAT.	LONG.
N-1H	N 39.153300	W 80.424351
N-2H	N 39.153340	W 80.424337
N-3H	N 39.153379	W 80.424324
N-4H	N 39.153419	W 80.424310
N-4H	N 39.153459	W 80.424296
S-7H	N 39.153074	W 80.424284
S-RH	N 39.153114	W 80.423270
S-RH	N 39.153154	W 80.423258
S-9H	N 39.153193	W 80.423242
S-10H	N 39.153233	W 80.423228



SCALE - FEET



CALL BEFORE YOU DIG!

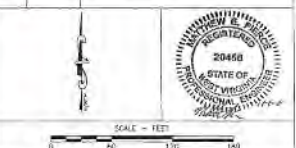
Dial 811 or 800.245.4848

COORDINATES: UTM WITH NAD 83 DATUM, ZONE 17, U.S. FOOT, CENTRAL

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Office of Oil and Gas
-FEB 22 2019
WV Department of Environmental Protection



1. APPROVE THIS PLAN AND THE CONSTRUCTION DETAILS.
2. APPROVE THE LAYOUT AND DESIGN OF THE WELL PAD AND STOCKPILE AREAS.
3. APPROVE THE LAYOUT AND DESIGN OF THE FENCE ROW.
4. APPROVE THE LAYOUT AND DESIGN OF THE ACCESS ROAD.
5. APPROVE THE LAYOUT AND DESIGN OF THE UTILITY LINES.
6. APPROVE THE LAYOUT AND DESIGN OF THE STOCKPILE AREAS.
7. APPROVE THE LAYOUT AND DESIGN OF THE WELLS.
8. APPROVE THE LAYOUT AND DESIGN OF THE TANKS.
9. APPROVE THE LAYOUT AND DESIGN OF THE CATCH BASINS.
10. APPROVE THE LAYOUT AND DESIGN OF THE GATE VALVES.
11. APPROVE THE LAYOUT AND DESIGN OF THE FENCE ROW.
12. APPROVE THE LAYOUT AND DESIGN OF THE ACCESS ROAD.
13. APPROVE THE LAYOUT AND DESIGN OF THE UTILITY LINES.
14. APPROVE THE LAYOUT AND DESIGN OF THE STOCKPILE AREAS.
15. APPROVE THE LAYOUT AND DESIGN OF THE WELLS.
16. APPROVE THE LAYOUT AND DESIGN OF THE TANKS.
17. APPROVE THE LAYOUT AND DESIGN OF THE CATCH BASINS.
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27. APPROVE THE LAYOUT AND DESIGN OF THE FENCE ROW.
28. APPROVE THE LAYOUT AND DESIGN OF THE ACCESS ROAD.
29. APPROVE THE LAYOUT AND DESIGN OF THE UTILITY LINES.
30. APPROVE THE LAYOUT AND DESIGN OF THE STOCKPILE AREAS.



SITE DEVELOPMENT PLAN
HG 1208 WELL PAD
GRANT DISTRICT
HARRISON COUNTY, WEST VIRGINIA

PREPARED FOR:
HG ENERGY II APALACHIA, LLC
PARKERSBURG, WEST VIRGINIA

APPROVED: MRP 11/09/2018
DATE: MRP 10/29/2018
FORM: DEP 1729-2236
PROJECT: HG 1208-0031-0000-0000
DRAWING NUMBER: PACD1775-001
SHEET: 2E

Penn E&R
Environmental Resources, Inc.
111 WALKER DRIVE, PITTSBURGH, PA 15203
412-321-1222