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west virginia department of environmental protection

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

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

Friday, February 7, 2020  
WELL WORK PERMIT  
Horizontal 6A / New Drill

HG ENERGY II APPALACHIA, LLC  
5260 DUPONT ROAD

PARKERSBURG, WV 26101

Re: Permit approval for ANTONIO 1206 N-3H  
47-033-05980-00-00

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

A blue ink signature of James A. Martin, written in a cursive style, is placed over the printed name and title.

Operator's Well Number: ANTONIO 1206 N-3H  
Farm Name: CHARLES R. & FRANKLIN I<sup>+</sup>  
U.S. WELL NUMBER: 47-033-05980-00-00  
Horizontal 6A New Drill  
Date Issued: 2/7/2020

Promoting a healthy environment.

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# 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](mailto:DEPOOGNotify@wv.gov).
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STATE OF WEST VIRGINIA  
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS  
WELL WORK PERMIT APPLICATION

1) Well Operator: HG Energy II Appalachia, LLC 494519932 Harrison Grant West Milford 7.5'  
Operator ID County District Quadrangle

2) Operator's Well Number: Antonio 1206 N-3H Well Pad Name: Antonio 1206

3) Farm Name/Surface Owner: HG Energy II Appalachia, LLC Public Road Access: Hackers Creek Rd @ SR 19

4) Elevation, current ground: 1364' Elevation, proposed post-construction: 1350'

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

(b) If Gas Shallow  Deep   
Horizontal

6) Existing Pad: Yes or No No

7) Proposed Target Formation(s), Depth(s), Anticipated Thickness and Expected Pressure(s):  
Marcellus at 7081'/7260' and 179' in thickness. Anticipated pressure at 4314#.

8) Proposed Total Vertical Depth: 7252'

9) Formation at Total Vertical Depth: Marcellus

10) Proposed Total Measured Depth: 20,233'

11) Proposed Horizontal Leg Length: 12,511'

12) Approximate Fresh Water Strata Depths: 135', 480', 637', 731'

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

14) Approximate Saltwater Depths: No S/W depths found on WR-35's for offset wells, salt water expected to be below elevation

15) Approximate Coal Seam Depths: 623', 1010' to 1015'

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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5) Well Type (a) Gas  Oil  Underground Storage   
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*50w  
10/31/2019*

6) Existing Pad: Yes or No No

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Marcellus at 7081'/7260' and 179' in thickness. Anticipated pressure at 4314#.

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

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18)

**CASING AND TUBING PROGRAM**

<u>TYPE</u>	<u>Size (in)</u>	<u>New or Used</u>	<u>Grade</u>	<u>Weight per ft. (lb/ft)</u>	<u>FOOTAGE: For Drilling (ft)</u>	<u>INTERVALS: Left in Well (ft)</u>	<u>CEMENT: Fill-up (Cu. Ft.)/CTS</u>
Conductor	30"	New	LS	157.5	120'	120'	Drilled In
Fresh Water/Coal	20"	NEW	J-55	94	1100'	1100'	40% excess, CTS
Intermediate 1	13 3/8"	NEW	J-55	68	2200'	2200'	40% excess, CTS
Intermediate 2	9 5/8"	NEW	J-55	40	3000'	3000'	40% excess tail, CTS
Production	5 1/2"	NEW	P-110	23	20233'	20233'	20% excess tail, CTS
Tubing							
Liners							

*SDW  
10/31/2019*

<u>TYPE</u>	<u>Size (in)</u>	<u>Wellbore Diameter (in)</u>	<u>Wall Thickness (in)</u>	<u>Burst Pressure (psi)</u>	<u>Anticipated Max. Internal Pressure (psi)</u>	<u>Cement Type</u>	<u>Cement Yield (cu. ft./k)</u>
Conductor	30"	30"	.500				Drilled In
Fresh Water/Coal	20"	24"	.438	2110	1200	Type 1, Class A	40 % excess yield = 1.20, CTS
Intermediate 1	13 3/8"	17 1/2"	.480	3450		Type 1/Class A	Lead 40% excess, Tail 0% excess
Intermediate 2	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	16240	12500	Type 1/Class A	20% excess yield = 1.19, tail yield 1
Tubing							
Liners							

**PACKERS**

Kind:				
Sizes:				
Depths Set:				

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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 7252 feet. Drill horizontal leg to estimated 12,511' lateral length, 20,233' 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): 68.187 acres

22) Area to be disturbed for well pad only, less access road (acres): 11.058 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, will also be running ACP 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 - 15.6 ppg PNE-1 + 3% bwoc CaCl, 40% Excess Yield = 1.20, CTS  
Intermediate 1 - \*Lead: 15.4 ppg PNE-1 + 2.5% bwoc CaCl40% Excess / Tail: 15.9 ppg PNE-1 + 2.5% bwoc CaCl zero% Excess, CTS\*  
Intermediate 2 - \*Lead: 15.4 ppg PNE-1 + 2.5% bwoc CaCl40% Excess / Tail: 15.9 ppg PNE-1 + 2.5% bwoc CaCl 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 MPA170Tail: 14.8 ppg PNE-1 + 0.35% bwoc R3 + 0.75 gal/sk FP13L + 50% bwoc ASCA1 + 0.5% bwoc MPA17020% ExcessLead Yield=1.19Tail Yield=1.94CTS\*

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.

**Antonio 1206 Well Pad (N-1H, N-2H, N-3H, N-4H, N-5H)**  
**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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1206 N-3H  
Marcellus Shale Horizontal  
Harrison County, WV

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1350'

1206 N-3H LP

14220893.75N 1815483.51E

14232686.05N 1811316.55E

1206 N-3H SHL

14220784.42N 1815504.48E

Ground Elevation  
Azim

340.538°

1206 N-3H BHL

14220893.75N 1815483.51E

14232686.05N 1811316.55E

1206 N-3H SHL

14220784.42N 1815504.48E

WELLBORE DIAGRAM

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
24"	20" 94# J-55	Fresh Water	0	135, 480, 637, 731	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
		Coal	1010	1015					
		Surface / FW	0	1100					
17.5"	13-3/8" 68# J-55 BTC	Little/Big Lime	1555 / 1596	1575 / 1668	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 ACP 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
		Intermediate 1	0	2200					
		Fifty / Thirty Foot	2095 / 2182	2157 / 2200					
		Gordon Stray / Gordon	2232 / 2272	2272 / 2385					
		5th Sand	2515	2527					
12.25"	9-5/8" 40# J-55 BTC	Bayard / Warren	2591 / 2891	2601 / 2931	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' from 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
		Intermediate 2	0	3000					
		Speechley	3204	3224					
		Balltown	3438	3448					
		Benson	4505	4525					
8.5" Vertical	5-1/2" 23# P-110 HP CDC HTQ	Rhinestreet	6395	6651	11.5ppg-SOBM	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=16240 psi Note: Actual centralizer schedules may be changed due to hole conditions
		Cashaqua	6651	6751					
		Middlesex	6751	6783					
		West River	6783	6854					
		Burkett	6854	6864					
		Tully Limestone	6864	6972					
		Hamilton	6972	7081					
		Marcellus	7081	7260					
		TMD / TVD (Production)	20233	7252					
		Onondaga	7260						

LP @ 7252' TVD / 7722' MD

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

+/-1251' Lateral

TD @ +/-7252' TVD  
+/-20233' MD

X=Centralizers

**HG Energy II Appalachia, LLC**  
**List of Frac Additives by Chemical Name and CAS #**  
**Antonio 1206 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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4703305900

**PROPOSAL TO DRILL WITHIN DOMINION TRANSMISSION STORAGE FIELD**

FIELD/ZONES: DOMINION FINK/KENNEDY/LOST CREEK -GANTZ SAND

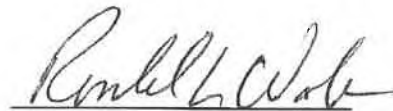
WELL NAME: Antonio 1206 N-3H

Well # Antonio 1206 N-3H

DISTRICT/COUNTY/STATE: Grant/Harrison/WV

Submitted  DATE 11-13-19  
JOSH HINTON  
HG ENERGY, LLC

Approved  DATE 11/14/19  
Dominion Energy Transmission

Approved  DATE 11/15/19  
Dominion Energy Transmission

Comments:

HG Energy has submitted this Casing & Cementing diagram and Drilling Plan to Dominion Transmission for Review. This signed document acknowledges that Dominion has reviewed the proposed casing program and the well's location within the Fink/Kennedy/Lost Creek storage field. This acknowledgement also confirms the proposed casing program is accurate to the proper storage zone as provided by HG Energy, LLC

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470330590

WW-6B  
(04/15)

API NO. 47- \_\_\_\_\_  
OPERATOR WELL NO. Antonio 1206 N-3H  
Well Pad Name: Antonio 1206

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

- 1) Well Operator: HG Energy II Appalachia, LLC 494519932 Harrison Grant West Milford 7.5'  
Operator ID County District Quadrangle
- 2) Operator's Well Number: Antonio 1206 N-3H Well Pad Name: Antonio 1206
- 3) Farm Name/Surface Owner: HG Energy II Appalachia, LLC Public Road Access: Hackers Creek Rd @ SR 19
- 4) Elevation, current ground: 1364' Elevation, proposed post-construction: 1350'
- 5) Well Type (a) Gas  Oil \_\_\_\_\_ Underground Storage \_\_\_\_\_  
Other \_\_\_\_\_  
(b) If Gas Shallow  Deep \_\_\_\_\_  
Horizontal  50w
- 6) Existing Pad: Yes or No No 10/31/2019
- 7) Proposed Target Formation(s), Depth(s), Anticipated Thickness and Expected Pressure(s):  
Marcellus at 7081/7260' and 179' in thickness. Anticipated pressure at 4314#.
- 8) Proposed Total Vertical Depth: 7252'
- 9) Formation at Total Vertical Depth: Marcellus
- 10) Proposed Total Measured Depth: 20,233'
- 11) Proposed Horizontal Leg Length: 12,511'
- 12) Approximate Fresh Water Strata Depths: 135', 480', 637', 731'
- 13) Method to Determine Fresh Water Depths: Nearest offset well data
- 14) Approximate Saltwater Depths: NA
- 15) Approximate Coal Seam Depths: 623', 1010' to 1015'
- 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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WW-6B  
(04/15)

API NO. 47- \_\_\_\_\_  
OPERATOR WELL NO. Antonio 1206 N-3H  
Well Pad Name: Antonio 1206

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/Coal	20"	NEW	J-55	94	1100'	1100'	40% excess, CTS
Intermediate 1	13 3/8"	NEW	J-55	68	2200'	2200'	40% excess, CTS
Intermediate 2	9 5/8"	NEW	J-55	40	3000'	3000'	40% excess tail, CTS
Production	5 1/2"	NEW	P-110	23	20233'	20233'	20% excess tail, CTS
Tubing							
Liners							

SDW  
10/31/2019

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/Coal	20"	24"	.438	2110	1200	Type 1, Class A	40% excess yield = 1.20, CTS
Intermediate 1	13 3/8"	17 1/2"	.480	3450		Type 1/Class A	Least 40% excess, Tail 0% excess
Intermediate 2	9 5/8"	12 1/4"	.395	3950		Type 1/Class A	Least 40% excess, Tail 0% excess
Production	5 1/2"	8 1/2"	.415	16240	12500	Type 1/Class A	20% excess yield = 1.12 tail yield 0%
Tubing							
Liners							

**PACKERS**

Kind:				
Sizes:				
Depths Set:				

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WW-6B  
(10/14)

API NO. 47- \_\_\_\_\_  
OPERATOR WELL NO. Antonio 1206 N-3H  
Well Pad Name: Antonio 1206

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 7252 feet. Drill horizontal leg to estimated 12,511' lateral length, 20,233' 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): 68.187 acres

22) Area to be disturbed for well pad only, less access road (acres): 11.058 acres

23) Describe centralizer placement for each casing string:

No centralizers will be used with conductor casing.  
Pilot hole - 100' spaced every 3 joints to surface.  
Case - 50' spaced every 3 joints, will also be spaced ACP for casing storage zone.  
Intermediate - 50' spaced every 3 joints from every third joint to 500' from surface.  
Production - 100' spaced every 3 joints from the top of the hole to surface. Run 4 spool centralizer every 3 joints from the top 8 1/2" long joint to the top of the case.

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

Classmate - 40% Casing to be drilled to all Dual Density Rig.  
Fresh Water - 15.0 gal PVE-1 + 2% based on 40% Classmate Yield = 1.24, CTS  
Intermediate - 1.0 gal: 18.4 gal PVE-1 + 2.5% based on 40% Classmate Yield = 1.24, CTS  
Production - 1.0 gal: 18.4 gal PVE-1 + 2.5% based on 40% Classmate Yield = 1.24, CTS  
Production - 1.0 gal: 18.4 gal PVE-1 + 2.5% based on 40% Classmate Yield = 1.24, CTS  
Production - 1.0 gal: 18.4 gal PVE-1 + 2.5% based on 40% Classmate Yield = 1.24, CTS  
Production - 1.0 gal: 18.4 gal PVE-1 + 2.5% based on 40% Classmate Yield = 1.24, CTS

25) Proposed borehole conditioning procedures:

Condition - Ensure the hole is clean at TD.  
Fresh Water - Once casing is set at depth, circulate a minimum of one hole volume with Fresh Water prior to pumping cement.  
Case - Once casing is set at depth, circulate a minimum of one hole volume prior to pumping cement.  
Intermediate - Once casing is set at depth, circulate a minimum of one hole volume prior to pumping cement.  
Production - Once on bottom with casing, circulate at least one hole volume prior to setting cement. Circulate a minimum of one hole volume prior to setting cement.

\*Note: Attach additional sheets as needed.

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1206 N-3H Marcellus Shale Horizontal Harrison County, WV		1206 N-3H SHL 1206 N-3H LP 1206 N-3H BHL		1206 N-3H SHL 1206 N-3H LP 1206 N-3H BHL		1206 N-3H SHL 1206 N-3H LP 1206 N-3H BHL		1206 N-3H SHL 1206 N-3H LP 1206 N-3H BHL		1206 N-3H SHL 1206 N-3H LP 1206 N-3H BHL	
Ground Elevation	1350'	1350'	1350'	1350'	1350'	1350'	1350'	1350'	1350'	1350'	1350'
WELLBORE DIAGRAM	340.538°	340.538°	340.538°	340.538°	340.538°	340.538°	340.538°	340.538°	340.538°	340.538°	340.538°
HOLE	CASING	GEOLOGY	TOP	BASE	MUD	CEMENT	CENTRALIZERS	CONDITIONING	COMMENTS		
30"	30" 167.5# 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		
24"	20" 94# J-55	Fresh Water	0	135.480, 637.731	AIR	15.9 ppg PNE-1 + 3% bwoc Caci 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		
17.5"	15-3/8" 66# J-55 BTC	Surface / PW	0	1100	AIR	Lead: 15.4 ppg PNE-1 + 2.5% bwoc Caci 40% Excess / Tail: 15.9 ppg PNE-1 + 2.5% bwoc Caci zero% Excess. CTS	Row Spring on every joint <i>"will also be running ACP for deballing 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		
12.25"	9-5/8" 40# J-55 BTC	Intermediate 1	0	2200	AIR / KCL Salt Polymer	Lead: 15.4 ppg PNE-1 + 2.5% bwoc Caci 40% Excess / Tail: 15.9 ppg PNE-1 + 2.5% bwoc Caci zero% Excess. CTS	Row Spring on first 2 joints then every third joint to 100' from surface	Once casing is at setting depth, Circulate and condition at TD. Circulate a minimum of one hole volume prior to pumping cement.	Intermediate casing = 0.395" wall thickness Burst=3950 psi		
8.5" Vertical	8.5" Curve	8.5" Curve	0	3000	AIR / KCL Salt Polymer	Lead: 14.5 ppg PNE-1 + 0.3% bwoc R3 + 1% bwoc FFP13L + 0.3% bwoc MPA170 Tail: 14.8 ppg PNE-1 + 0.35% bwoc R3 + 0.75 gal/gal bwoc ASCA1 + 0.6% 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.  Run 1 spiral centralizer every 3 joints from the 1st 5.5' long joint to the top of the curve.	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=18240 psi Note: Actual centralizer schedules may be changed due to hole conditions		
8.5" Lateral	8.5" Lateral	8.5" Lateral	0	7280	11.5ppg-12.5ppg SOBIM	11.5ppg-12.5ppg SOBIM					
<p>8.5" Hole - Cemented Long String 6-1/2" 28# P-110 HP CDC HTQ</p> <p>LP @ 7252' TVD / 7722' MD</p> <p>4-1/2" 12# 11' Lateral</p> <p>TD @ 4-7252' TVD 4-73023' MD</p> <p>X-Centralizers</p>											

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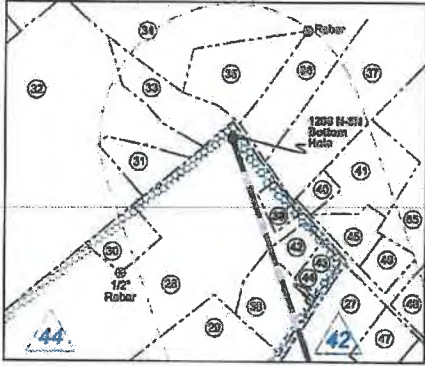
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Environmental Protection

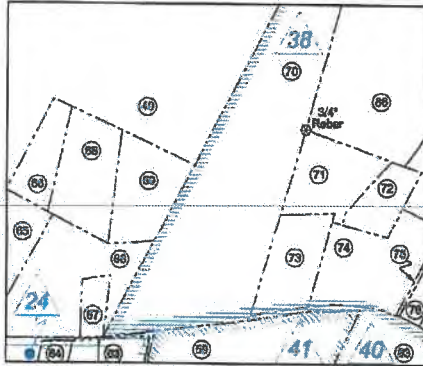




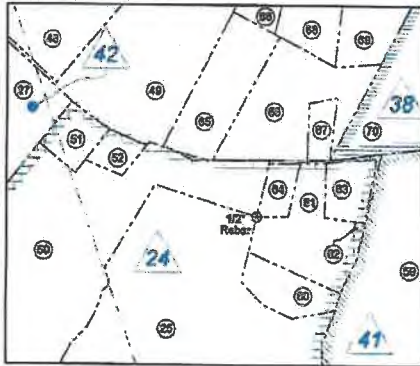
Detail 1 - Not to Scale



Detail 2 - Not to Scale



Detail 3 - Not to Scale



10	Lease
3	C. Edif Simeon, et al
4	Alton Ball, et al
5	Alan Bell
8	Marcelle K. Bond, et al
9	Orpha G. Davis, et al
10	Alan Bell
11	Hugh C. Davis, et al
12	Hugh C. Davis, et al
13	A.W. Smith
15	Linda M. Stout, et al
17	Stacie C. Young, et al
18	R.D. Smith, et al
19	Suzanne D. Simmons, et al
22	Nachal B. Hershov, et al
24	Mary A. Lowther, et al
25	Porter Masarik, et al
26	Marcelle K. Bond, et al
28	I. Wilson Swisher, et al
35	B.H. Vintcent, et al
39	HG Energy II Appalachia, LLC
40	UNLEASED
41	M.A. Lowther, et al
42	Helen G. West, et al
43	Patrick Spencer, Inc.
44	Jetta Cox, et al
47	WV Division of Natural Resources
54	Orpha G. Davis, et al
55	Lloyd Stout
56	Linda D. Gifford, et al

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FILE NO: 06-36-12-G-H-19  
DRAWING NO: 1206 N-3H 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: October 14, 2019  
OPERATOR'S WELL NO. 1206 N-3H  
API WELL NO  
47 - 033 -  
STATE COUNTY PERMIT

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

LOCATION: ELEVATION: 1,350' WATERSHED: Middle West Fork Creek  
DISTRICT: Grant

QUADRANGLE: West Milford  
COUNTY: Harrison  
ACREAGE: 30.00

SURFACE OWNER: Charles R. & Franklin L. Sutton

ROYALTY OWNER: Charles R. Sutton

LEASE NO:

ACREAGE: 30.00

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: 7,252' TVD 20,236' MD

WELL OPERATOR: HG Energy II Appalachia, LLC

DESIGNATED AGENT: Diane G. White

ADDRESS: 8260 Dupont Road  
Parkersburg, WV 26101

ADDRESS: 8260 Dupont Road  
Parkersburg, WV 26101



No.	TM / Per	Owner	Bk / Pg	Ac.
1	426 / 72	Charles R. & Franklin L. Sutton	1301 / 98	30.00
2	426 / 71	Antonio P. LLC	1503 / 291	233.33
3	448 / 3	Antonio P. LLC	1503 / 291	230.00
4	448 / 4	Bob R. Blankenship	1310 / 740	27.87
5	426 / 73	Charles R. & Franklin L. Sutton	1301 / 98	22.6
6	426 / 74	Herritt, Jona Farnas	1514 / 460	60.30
7	426 / 41	Charles R. & Franklin L. Sutton	1301 / 98	18.00
8	426 / 83	Charles R. & Franklin L. Sutton	1301 / 98	31.30
9	426 / 40	Charles R. & Franklin L. Sutton	1303 / 73	37.97
10	426 / 39	Antonio P. LLC	1503 / 291	50.00
11	426 / 38	Antonio P. LLC	1503 / 291	50.75
12	426 / 37	Antonio P. LLC	1503 / 291	34.00
13	426 / 13	Antonio P. LLC	1503 / 291	148.74
14	426 / 71	Antonio P. LLC	1503 / 291	1.21
15	426 / 14	Antonio P. LLC	1503 / 291	20.90
16	426 / 18	Antonio P. LLC	1503 / 291	3.00
17	426 / 15	Antonio P. LLC	1503 / 291	3.22
18	426 / 2	Antonio P. LLC	1503 / 291	24.13
19	426 / 9	Antonio P. LLC	1503 / 291	3.00
20	426 / 29	Antonio P. LLC	1503 / 291	16.43
21	426 / 4	Antonio P. LLC	1503 / 291	25.04
22	426 / 30	Antonio P. LLC	1503 / 291	8.118
23	426 / 28	Antonio P. LLC	1503 / 291	178.82
24	426 / 18	Antonio P. LLC	1503 / 291	122.26
25	426 / 82	Jim K. Stuller	1503 / 291	205.52
26	426 / 55	Antonio P. LLC	1503 / 291	33.00
27	426 / 85.1	Kenneth P. & Deborah B. Stuller	1193 / 305	20.95
28	426 / 84	Richard M. Lewis, Jr.	1518 / 854	74.289
29	426 / 84.1	Yrsey L. Davis	1443 / 768	8.20
30	426 / 84.6	Edward G. Lewis (LE)	1384 / 307	0.82
31	426 / 51	Connie J. & Robert M. Lewis Jr.	1518 / 814	0.80
32	426 / 49	Connie J. & Robert M. Lewis Jr.	1321 / 898	12.12
33	426 / 13	Paul Wayne Conroy, et al	108 126 / 204	1.15
34	426 / 83.1	Doreta R. & Dennis R. Newser	1847 / 648	4.72
35	426 / 54	Justina H. Ball	95 185 / 720	2.00
36	426 / 55	Justina G. & Rodney D. Ball	1067 / 404	2.08
37	426 / 56	Parvata K. Molgatz	1382 / 825	8.64
38	426 / 84.5	James B. & Darlene D. Cook	1338 / 725	1.36
39	426 / 84.4	W. Debra Harris	1195 / 463	0.35
40	426 / 57.1	Paul D. & Sabrina M. Skidmore	1468 / 778	0.316
41	426 / 57	Paul D. & Sabrina M. Skidmore	1468 / 778	1.50
42	426 / 84.2	Hollie A. Stuller	1563 / 320	0.69
43	426 / 84.3	Alan R. & Judy R. Haight	1053 / 1098	0.384

No.	TM / Per	Owner	Bk / Pg	Ac.
44	426 / 84.7	Grant Union Public Service	1184 / 845	0.02
45	426 / 57.2	Patsy L. Hite	1237 / 681	0.86
46	426 / 57.3	Judith A. & Daniel L. Cernigan	1277 / 735	0.95
47	426 / 55	Kenneth P. & Deborah Stuller	1161 / 305	0.55
48	426 / 59	Kay J. Nicholson	1553 / 794	7.92
49	426 / 2	Arden L. & Wendy D. Skidmore	1507 / 230	27.78
50	426 / 82.3	Kenneth P. & Deborah B. Stuller	1349 / 812	12.53
51	426 / 82.1	Arden L. & Wendy D. Skidmore	1434 / 468	0.87
52	426 / 82.2	William D. & Talitha N. Pacifi	1503 / 390	0.44
53	426 / 82.4	Kenneth P. Stuller	1456 / 116	1.20
54	426 / 82.5	Jennifer C. Stuller	1377 / 1043	0.55
55	426 / 49.1	Nina S. & David T. Mathews Sr.	1177 / 250	1.94
56	426 / 49	Jim K. Stuller	1503 / 291	23.49
57	426 / 19	Antonio P. LLC	1503 / 291	23.49
58	426 / 19.1	Harrison County Board of Education	1240 / 27	13.01
59	426 / 17	Board of Education	816 / 623	15.94
60	426 / 19	Jim K. Stuller	1503 / 291	1.20
61	426 / 16.3	Jim K. Stuller	1503 / 291	2.41
62	426 / 16.4	Grant Union Public Service	1184 / 1022	0.02
63	426 / 16.2	Aaron & Carly Underwood	1565 / 1029	0.848
64	426 / 16.1	Kevin K. Stuller & Linda Queen Turner	1430 / 1101	0.52
65	426 / 9	Paul G. & Marilyn S. Kipe	1484 / 242	2.60
66	426 / 14	T. Dana Williams	1173 / 734	0.35
67	426 / 4.1	T. Dana Williams	1024 / 230	2.20
68	426 / 4.2	Roger A. & Chandra D. Harper	1503 / 291	2.00
69	426 / 4.3	Michelle J. & Christy R. Foster	1503 / 291	1.80
70	426 / 6	Richard K. Williams	1344 / 868	0.958
71	426 / 7	Lori E. & Jose E. Moreno	1308 / 827	1.82
72	426 / 7.10	Lori E. & Jose E. Moreno	1361 / 816	1.00
73	426 / 7.5	Luzinda R. Escobedo & Jo Ann Longanooker	1618 / 375	1.66
74	426 / 7.14	Mark A. Bond	1567 / 685	2.08
75	426 / 7.11	Michael L. & Clanta V. Bond	1368 / 556	0.00
76	426 / 7.8	Michael L. & Clanta V. Bond	1331 / 616	0.36
77	426 / 7.1	Michael L. & Clanta V. Bond	1067 / 204	1.00
78	426 / 7.2	Richard A. & Wilma D. Parsenmacher	1076 / 1031	1.00
79	426 / 18.1	Bridgette A. & Richard L. Ward	1317 / 882	0.99
80	426 / 18.2	Bridgette A. & Richard L. Ward	1317 / 882	2.845
81	426 / 18	Bridgette A. & Richard L. Ward	1338 / 137	1.524
82	426 / 18.4	Bridgette A. & Richard L. Ward	1338 / 137	0.947
83	426 / 18.3	The Board of Education of Harrison County	1230 / 1024	6.00
84	426 / 19.3	Bridgette A. & Richard L. Ward	1338 / 137	0.169
85	426 / 57.5	David P. & Kelley J. Holman	1273 / 116	12.81
86	426 / 8	Richard K. Williams	1344 / 868	40.00

FILE NO: 06-36-12-G-H-19  
DRAWING NO: 1206 N-3H 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: October 14 20 19  
OPERATOR'S WELL NO. 1206 N-3H  
API WELL NO  
47 - 033 -  
STATE COUNTY PERMIT

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

LOCATION: ELEVATION: 1,350' WATERSHED: Middle West Fork Creek QUADRANGLE: West Milford  
DISTRICT: Grant COUNTY: Harrison  
SURFACE OWNER: Charles R. & Franklin L. Sutton ACREAGE: 30.00  
ROYALTY OWNER: Charles R. Sutton LEASE NO: \_\_\_\_\_ ACREAGE: 30.00

PROPOSED WORK:  DRILL  CONVERT  DRILL DEEPER  FRACTURE OR STIMULATE  PLUG OFF OLD FORMATION  
 PERFORATE NEW FORMATION  OTHER PHYSICAL CHANGE IN WELL (SPECIFY) \_\_\_\_\_ 7,252' TVD  
 PLUG AND ABANDON  CLEAN OUT AND REPLUG TARGET FORMATION: Marcellus Shale ESTIMATED DEPTH: 20,234' MD

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

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WW-9  
(4/16)

API Number 47 - \_\_\_\_\_ - \_\_\_\_\_  
Operator's Well No. Antonio 1206 N-3H

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 \_\_\_\_\_)

*S Dew*  
*10/31/2019*

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, SOBm, Horizontal - SOBm

-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

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Office of Oil and Gas

Company Official (Typed Name) Diane White

NOV 26 2019

Company Official Title Agent

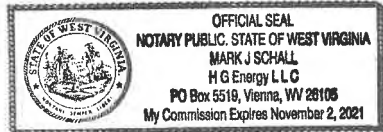
WV Department of  
Environmental Protection

Subscribed and sworn before me this 27th day of September, 2019

*[Signature]*

Notary Public

My commission expires 11/2/2021



**HG Energy II Appalachia, LLC**

Proposed Revegetation Treatment: Acres Disturbed 68.187 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	<u>40</u>	Tall Fescue	<u>40</u>
Ladino Clover	<u>5</u>	Ladino Clover	<u>5</u>

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: [Signature]

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

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Environmental Protection

Title: Oil & Gas Inspector Date: 10/31/2019

Field Reviewed? ( X ) Yes ( ) No

## Cuttings Disposal/Site Water

### Cuttings -Haul off Company:

Exp Industries, Inc. DOT # QR76278  
1875 Smith Two State Rd. Atlasburg, PA 15004  
1-888-284-5227

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

Environmental Coordination Services & Recycling (ECS&R)  
3237 US Highway 19  
Cochran, PA 16814  
814-425-7773

### Disposal Locations:

Apex Environmental, LLC Permit # 06-08488  
111 County Road 78  
Amsterdam, OH 43908  
740-543-4889

Westmoreland Waste, LLC Permit # 100277  
111 Conner Lane  
Belle Vernon, PA 15012  
724-929-7694

Sycamore Landfill Inc. Permit #R30-079001.05-2010  
4301 Sycamore Ridge Road  
Hurricane, WV 25526  
304-562-2611

Max Environmental Technologies, Inc. Facility Permit # PAD004835146 / 301071  
233 Max Lane  
Yukon, PA 25968  
724-722-3500

Max Environmental Technologies, Inc. Facility Permit # PAD05087072 / 301359  
200 Max Drive  
Bulger, PA 15019  
724-796-1571

Waste Management Kelly Run Permit # 100668  
1901 Park Side Drive  
Elizabeth, PA 15037  
412-384-7569

Waste Management South Hills (Arnoni) Permit # 100592  
3100 Hill Road  
Liberty, PA 15129  
724-348-7013  
412-384-7569

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  
Colfers, WV 26035  
304-748-0014

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Wetzel County Landfill Permit # SWF-1021-97 / WV 0109185  
 Rt 1, Box 156A  
 New Martinsville, WV 26035  
 804-455-3800

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

Energy Solutions Services, Inc. Permit # R-73006-L24  
 1560 Bear Creek Road  
 Oak Ridge, TN 37830

Northern A-1 Environmental Services Permit ID MIP020906814  
 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  
 330-892-0164

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

Select Energy Services, LLC  
 PO Box 203997  
 Dallas, TX 75320-3997

Nuverra Environmental Solutions  
 11942 Veterans Memorial Highway  
 Masontown, WV 26542

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

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

**Disposal Locations:**

Solidification  
 Waste Management, Arden Landfill Permit # 100172  
 200 Rangos Lane  
 Washington, PA 15301  
 724-225-1880

Solidification/Incineration  
 Soil Remediation, Inc. Permit # 02-20758  
 6065 Arrel-Smith Road  
 Lowellville, OH 44486  
 880-536-6825

Adams #1 (Buckeye Brina, LLC)  
 Permit # 34-031-2-7177  
 23986 Airport Road  
 Coshocton, OH 43812  
 740-575-4484  
 612-478-6545

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

Force, Inc.  
 1380 Rta. 286 Hwy. E, Suite 303  
 Indiana, PA 15701

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

Equipment Transport  
 1 Tyler Court  
 Carlisle, PA 17015

Myers Well Service, ----  
 2001 Ballpark Court  
 Export, PA 15682

Burna Drilling & Excavating  
 618 Crabapple Road P.O. Box  
 Wind Ridge, PA 15680

Nichols 1-A (SWIW #18)  
 Permit # 8862  
 300 Cherrington Pkwy, Suite 200  
 Coraopolis, PA 15108  
 412-329-7275

Grosella (SWIW #24)  
 Permit # 4096  
 Rt. 88  
 Garrettsville, OH  
 718-275-4816

Kamble 1-D Well  
 Permit # 8780  
 7678 East Pike  
 Norwich, Oh 43767  
 614-648-8898  
 740-796-6495

Adams #2 (Buckeye Brine, LLC)  
2205 Westover Road  
Austin TX 78703  
Permit # 34-031-2-7178  
740-375-4484  
512-478-6545

Adams #3 (Buckeye Brine, LLC)  
Permit # 34-031-2-7241-00-00  
2680 Exposition, Suite 117  
Austin, TX 78703  
512-478-6545

Mazena #1 Well (SWIW # 18)  
Permit # 34-157-2-5511-00-00  
8867 E. State Street  
Newcomerstown, OH 43882  
740-768-3966

Goff SWD #1 (SWIW # 27)  
Permit # 34-119-2-8776-000  
300 Charrington Pkwy, Suite 200  
Coraopolis, PA 15108  
412-829-7275

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 # 34-121-2-2458-00-00  
Select Energy Services, LLC  
7994 S. Pleasants Hwy  
St. Marys, WV 26170  
304-665-2652

OH UIC #1. Bu keya UIC Barneaville 1 & 2  
CNX Gas Company, LLC  
1000 Consol Energy Drive  
Permit # 34-013-2-0609-00-00  
Permit # 34-013-2-0614-00-00  
304-323-6568

US Steale 11385  
Permit # 47-001-00561  
200 Evergreen Drive  
Waynesburg, PA 15730  
804-323-6568

Chapin #7 UIC (SWIW #7)  
Permit # 34-083-2-4137-00-00  
Elkhead Gas & Oil Company  
12168 Marne Rd. NE  
Newark, OH 43055  
740-768-3966

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# HG Energy II Appalachia, LLC

## Site Safety Plan

**Antonio 1206 Well Pad  
5279 Duck Creek Road Lost Creek  
Harrison County, WV 26385**

**September 2019: Version 1**

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

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HG Energy II Appalachia, LLC

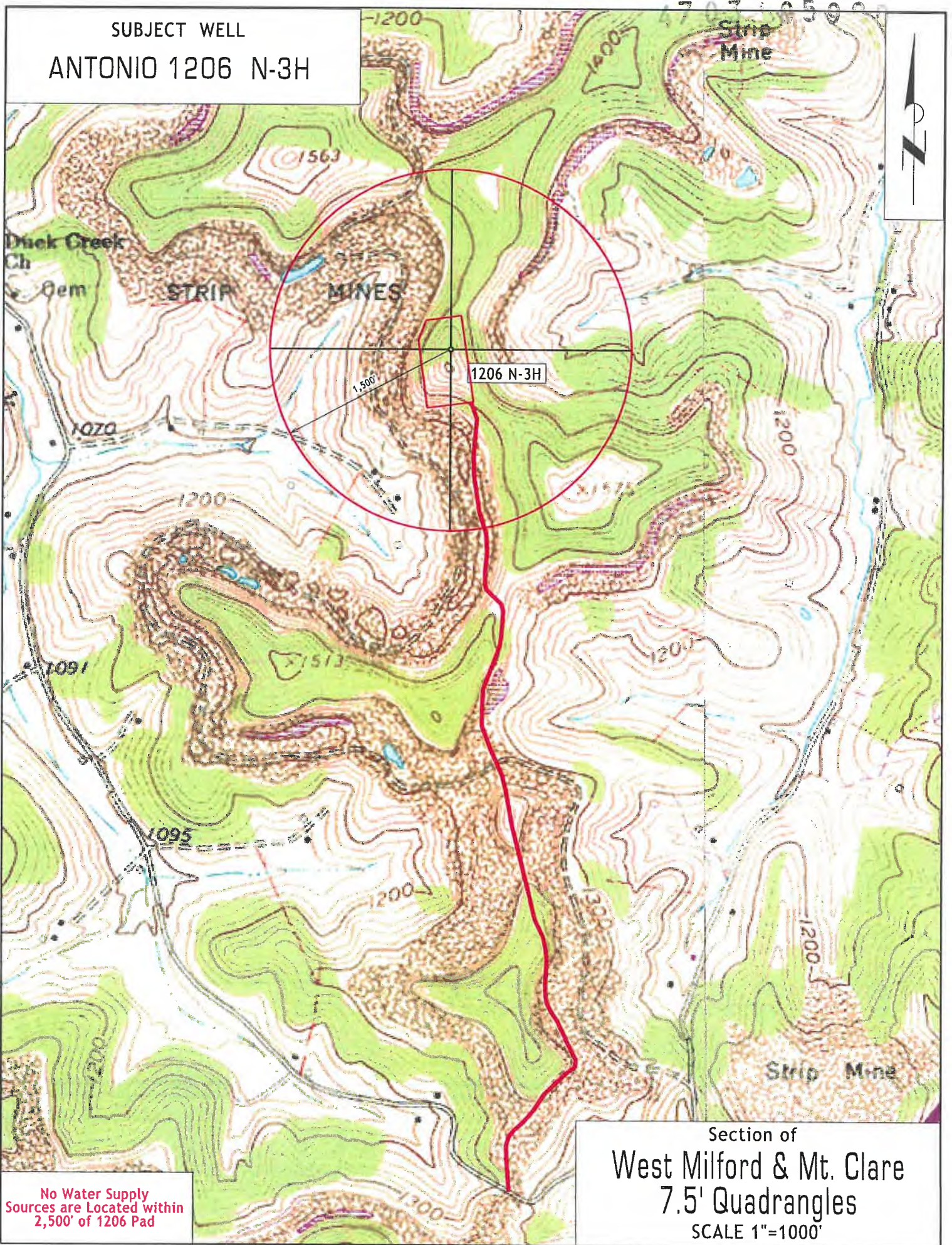
5260 Dupont Road

Parkersburg, WV 26101

*SDW*  
*10/31/2019*



SUBJECT WELL  
ANTONIO 1206 N-3H



No Water Supply  
Sources are Located within  
2,500' of 1206 Pad

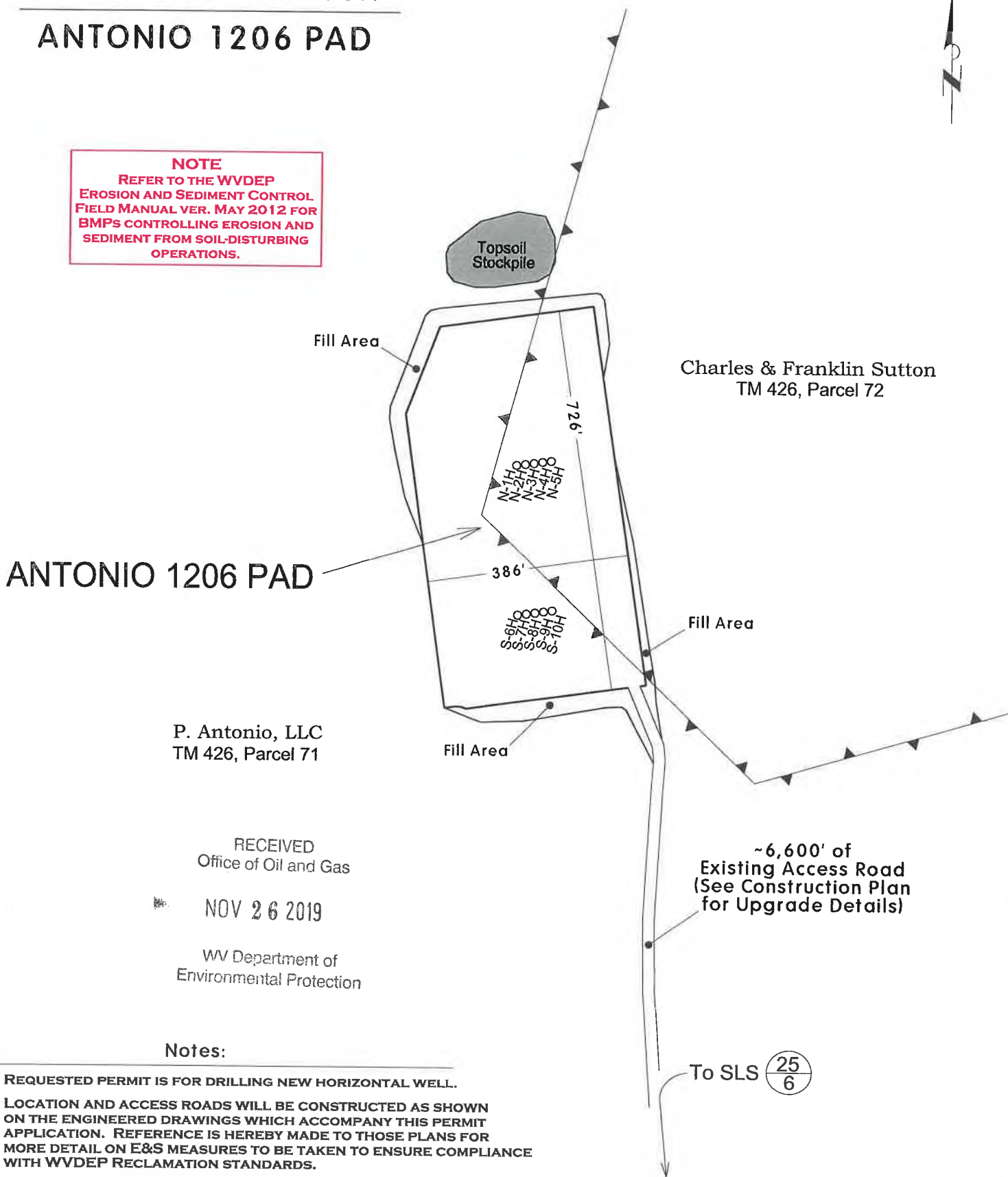
Section of  
West Milford & Mt. Clare  
7.5' Quadrangles  
SCALE 1"=1000'



# Reclamation Plan For: ANTONIO 1206 PAD



**NOTE**  
REFER TO THE WVDEP  
EROSION AND SEDIMENT CONTROL  
FIELD MANUAL VER. MAY 2012 FOR  
BMPs CONTROLLING EROSION AND  
SEDIMENT FROM SOIL-DISTURBING  
OPERATIONS.



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**Notes:**

- REQUESTED PERMIT IS FOR DRILLING NEW HORIZONTAL WELL.
- LOCATION AND ACCESS ROADS WILL BE CONSTRUCTED AS SHOWN ON THE ENGINEERED DRAWINGS WHICH ACCOMPANY THIS PERMIT APPLICATION. REFERENCE IS HEREBY MADE TO THOSE PLANS FOR MORE DETAIL ON E&S MEASURES TO BE TAKEN TO ENSURE COMPLIANCE WITH WVDEP RECLAMATION STANDARDS.
- ALL DISTURBED AREAS WILL BE RE-VEGETATED AS OUTLINED ON FORM WW-9.
- MAINTAIN SEDIMENT BARRIERS AND DRAINAGE STRUCTURES.
- NO DRILL PIT WILL BE CONSTRUCTED AND A CLOSED LOOP SYSTEM WILL BE UTILIZED TO HANDLE DRILL CUTTINGS.
- DRAWING NOT TO SCALE.



HG Energy II Appalachia, LLC  
Well No. 1206 N-3H

Page 1 of 3



6,234' to Bottom Hole

2,129' 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*  
Dwayne D. Matheny, P.S. 2070

Top Hole  
7.5' Spot

LONGITUDE 80 - 22 - 30  
3,151' to Top Hole

6,392' to Bottom Hole

Tag	Bearing	Dist.
L1	N 75°55' W	3,486.5'
L2	N 53°02' E	1,537.1'
L3	S 89°01' E	2,905.8'
L4	S 71°12' E	1,536.7'
L5	N 10°52' W	111.3'

Notes:  
Well No. 1206 N-3H  
UTM NAD 1983 (USSF)  
Top Hole Coordinates  
N: 14,220,784.42'  
E: 1,815,504.48'  
Landing Point Coordinates  
N: 14,220,893.75'  
E: 1,815,483.51'  
Bottom Hole Coordinates  
N: 14,232,688.05'  
E: 1,811,316.55'

Notes: Well No. 1206 N-3H  
West Virginia Coordinate System of 1927, North Zone  
based upon Differential GPS Measurements.  
Top Hole coordinates  
Latitude: 39°09'28.85"  
Longitude: 80°22'67.03"  
Bottom Hole coordinates  
Latitude: 39°11'28.81"  
Longitude: 80°23'49.21"  
UTM Zone 17, NAD 1983  
Top Hole Coordinates  
N: 4,334,503.760m  
E: 553,398.872m  
Bottom Hole Coordinates  
N: 4,338,131.384m  
E: 552,080.389m  
Plat orientation and corner and well references are based upon the grid north meridian.  
Well location references are based upon the magnetic meridian.

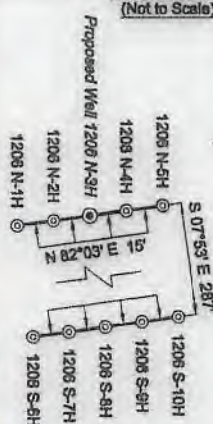


SEAL

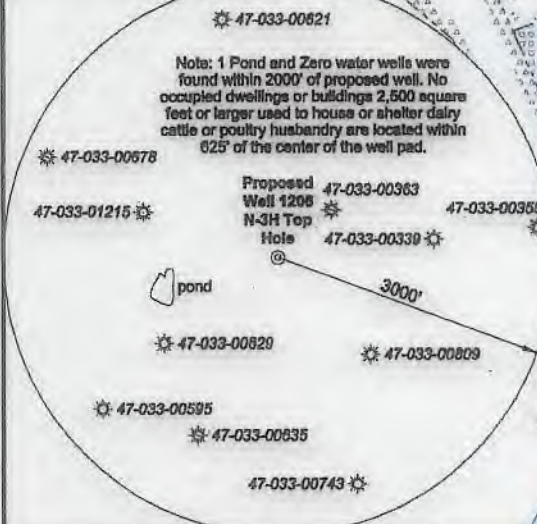
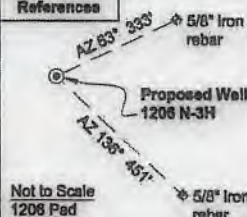
Legend

- ⊙ 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.)

Wellhead Layout (Not to Scale)



Well Location References



Note: 1 Pond and Zero 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.

FILE NO: 06-36-12-G-H-19  
DRAWING NO: 1206 N-3H 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

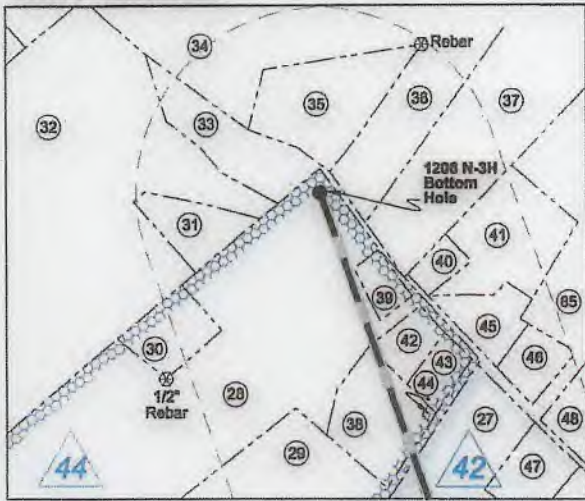
DATE: October 14 20 19  
OPERATOR'S WELL NO. 1206 N-3H  
API WELL NO  
47 - 033 - 05980  
STATE COUNTY PERMIT

WELL TYPE:  OIL  GAS  LIQUID INJECTION  WASTE DISPOSAL  
(IF GAS) PRODUCTION:  STORAGE  DEEP  SHALLOW  
LOCATION: ELEVATION: 1,350' WATERSHED: Middle West Fork Creek  
DISTRICT: Grant  
SURFACE OWNER: Charles R. & Franklin L. Sutton  
ROYALTY OWNER: Charles R. Sutton LEASE NO: ACREAGE: 30.00  
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: 7,252' TVD 20,234' MD

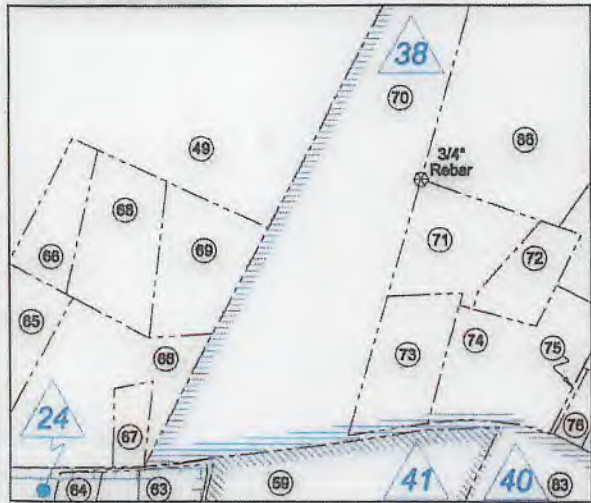
WELL OPERATOR: HG Energy II Appalachia, LLC  
ADDRESS: 5260 Dupont Road Parkersburg, WV 26101  
DESIGNATED AGENT: Diane C. White  
ADDRESS: 5260 Dupont Road Parkersburg, WV 26101



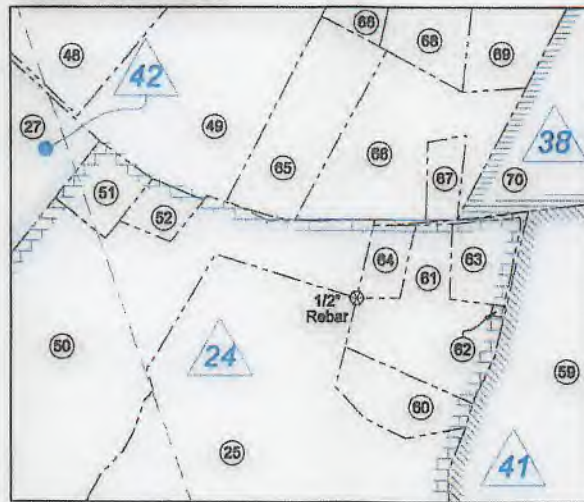
Detail 1 - Not to Scale



Detail 2 - Not to Scale



Detail 3 - Not to Scale



ID	Lease
3	C. Earl Snider, et al
4	Alton Ball, et al
5	Alton Ball
6	Marcella R. Bond, et al
9	Orpha G. Davis, et al
10	Alton Ball
11	Hugh C. Davis, et al
12	Hugh C. Davis, et al
15	A.W. Smith
16	Lewis M. Stout, et al
17	Bertie E. Young, et al
18	H.D. Smith, et al
19	Suzanne D. Simmons, et al
22	Rachel S. Hershhey, et al
24	Mary A. Lowther, et al
25	Porter Maxwell, et al
28	Marcella R. Bond, et al
38	I. Wilson Swisher, et al
38	M.H. Vanhorn, et ux
39	HG Energy II Appalachia, LLC
40	UNLEASED
41	M.A. Lowther, et vir
42	Hattie O. West, et al
43	Pettito Brothers, Inc.
44	Jettie Cox, et al
47	WV Division of Natural Resources
54	Creed W. Snider, et al
55	Lloyd Stout
56	Lilla D. Gifford, et al

FILE NO: 06-36-12-G-H-19  
DRAWING NO: 1206 N-3H 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: October 14 20 19  
OPERATOR'S WELL NO. 1206 N-3H  
API WELL NO  
47 - 033 - 05990  
STATE COUNTY PERMIT

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(IF GAS) PRODUCTION:  STORAGE  DEEP  SHALLOW

LOCATION: ELEVATION: 1,350' WATERSHED: Middle West Fork Creek QUADRANGLE: West Milford  
DISTRICT: Grant COUNTY: Harrison  
SURFACE OWNER: Charles R. & Franklin L. Sutton ACREAGE: 30.00  
ROYALTY OWNER: Charles R. Sutton LEASE NO: \_\_\_\_\_ ACREAGE: 30.00

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: 20,234' MD 7,252' TVD

WELL OPERATOR: HG Energy II Appalachia, LLC DESIGNATED AGENT: Diana C. White  
ADDRESS: 5260 Dupont Road ADDRESS: 5260 Dupont Road  
Parkersburg, WV 26101 Parkersburg, WV 26101



NOV 26 2019

EXISTING WELLS LOCATED WITHIN THE AREA OF REVIEW FOR:  
**ANTONIO 1206 NORTH UNIT AND PROPOSED WELLS N-1H, N-2H, N-3H, N-4H, N-5H and N-6H**

WV Department of  
Environmental Protection

CT	API	COUNTY	FARM	OPERATOR NAME	FORMATION NAME	WELL TYPE	TVD	STATUS	ENTRANCE DEPTH (FEET)	DEPTH OF
1	4703300300	HARRISON	C H Gaston 2 CW-136	Dominion Energy Transmission Inc.	Fifty-foot	Storage	2050	PLUGGED	39.169238	-80.399969
2	4703300339	HARRISON	Alton Bell CW-333	Dominion Energy Transmission Inc.	Gantz	Storage	1959	ACTIVE	39.158620	-80.376279
3	4703300355	HARRISON	Fred H Smith	Dominion Energy Transmission Inc.	Greenland Gap Fm	Storage	4290	ACTIVE	39.158947	-80.372289
4	4703300362	HARRISON	A J Randolph	Dominion Energy Transmission Inc.	Thirty-foot	Dry w/ Gas Show	2210	PLUGGED	39.163566	-80.376303
5	4703300363	HARRISON	A Bell	Dominion Energy Transmission Inc.	Thirty-foot	Storage	2150	PLUGGED	39.158029	-80.381243
6	4703300388	HARRISON	Petito Brothers Inc	Dominion Energy Transmission Inc.	Greenland Gap Fm	Gas	4461	ACTIVE	39.167358	-80.398451
7	4703300395	HARRISON	C E Snider	Dominion Energy Transmission Inc.	Benson	Gas	4620	ACTIVE	39.153667	-80.389064
8	4703300608	HARRISON	Carl Smith 2	Antero Resources Corporation	Benson	Gas	4538	ACTIVE	39.178483	-80.401302
9	4703300621	HARRISON	Young & Smith	Dominion Energy Transmission Inc.	Greenland Gap Fm	Gas	4575	ACTIVE	39.165178	-80.384332
10	4703300625	HARRISON	Carl Smith 2	Antero Resources Corporation	Big Injun (Gmbr)	Gas	2010	ACTIVE	39.178420	-80.401465
11	4703300629	HARRISON	C Earl Snider	Dominion Energy Transmission Inc.	Thirty-foot	Storage	-	ACTIVE	39.155591	-80.386677
12	4703300652	HARRISON	R Bartlett CW628	Dominion Energy Transmission Inc.	Fifty-foot	Storage	2140	PLUGGED	39.157187	-80.394798
13	4703300658	HARRISON	G W Conley CW632	Dominion Energy Transmission Inc.	Fifty-foot	Storage	2301	ACTIVE	39.159653	-80.391075
14	4703300678	HARRISON	C E Snider CW238	Dominion Energy Transmission Inc.	Greenland Gap Fm	Storage	2264	ACTIVE	39.161099	-80.389720
15	4703300682	HARRISON	R S Hershey CW242	Dominion Energy Transmission Inc.	Greenland Gap Fm	Storage	2297	ACTIVE	39.174410	-80.391133
16	4703300713	HARRISON	Rachel S Hershey	Dominion Energy Transmission Inc.	Benson	Gas	4585	ACTIVE	39.172871	-80.393813
17	4703300714	HARRISON	Mary A Lowther	Dominion Energy Transmission Inc.	Benson	Gas	4510	ACTIVE	39.180897	-80.392280
18	4703300724	HARRISON	A C Thrash CW235	Dominion Energy Transmission Inc.	Fifty-foot	Storage	1910	PLUGGED	39.158092	-80.395928
19	4703300768	HARRISON	Patto Brothers	Dominion Energy Transmission Inc.	Hampshire Grp	Observation	2080	ACTIVE	39.169307	-80.378760
20	4703300775	HARRISON	W B & P Maxwell	Dominion Energy Transmission Inc.	Benson	Gas	4600	ACTIVE	39.182472	-80.382784
21	4703300781	HARRISON	L M Stout CW243	Dominion Energy Transmission Inc.	Greenland Gap Fm	Storage	2250	PLUGGED	39.171363	-80.387380
22	4703300809	HARRISON	Lloyd Stout CW234	Dominion Energy Transmission Inc.	Mid Devonian	not available	4793	PLUGGED	39.155225	-80.378750
23	4703300823	HARRISON	Lewis M Stout	Dominion Energy Transmission Inc.	Benson	Gas	4553	ACTIVE	39.169821	-80.381490
24	4703300825	HARRISON	H T Edwards CW236	Dominion Energy Transmission Inc.	Fifty-foot	Storage	1881	ACTIVE	39.159502	-80.394379
25	4703300828	HARRISON	A W Smith	Dominion Energy Transmission Inc.	Benson	Gas	4660	ACTIVE	39.168004	-80.388510
26	4703300829	HARRISON	A W Smith	Dominion Energy Transmission Inc.	Fourth	Storage	2490	ACTIVE	39.168042	-80.384254
27	4703300832	HARRISON	Mae Gaston	Dominion Energy Transmission Inc.	Benson	Gas	4364	ACTIVE	39.164846	-80.391702
28	4703300854	HARRISON	Hiram E Edmonds	Dominion Energy Transmission Inc.	Greenland Gap Fm	Gas	4410	ACTIVE	39.159254	-80.393799
29	4703300917	HARRISON	Dorothy Sinclair	Dominion Energy Transmission Inc.	Greenland Gap Fm	Gas	4520	ACTIVE	39.176741	-80.377661
30	4703300918	HARRISON	S S Floyd 3	Mineral Resource Management, LLC	Benson	Gas	4580	ACTIVE	39.185209	-80.400218
31	4703300935	HARRISON	J West 2	ALAMCO, Inc.	Benson	Dry w/ Gas Show	4526	PLUGGED	39.189992	-80.391397
32	4703300979	HARRISON	R M Lewis 1	Mineral Resource Management, LLC	Benson	Gas	4420	ACTIVE	39.191805	-80.401080
33	4703301215	HARRISON	C E Snider	Dominion Energy Transmission Inc.	Benson	Gas	4661	ACTIVE	39.159492	-80.387444
34	4703301510	HARRISON	T Petito CW-244	Dominion Energy Transmission Inc.	Fifth	Storage	2714	ACTIVE	39.175019	-80.388015
35	4703301696	HARRISON	Dane Williams	Dominion Energy Transmission Inc.	Hampshire Grp	House Gas	2346	ACTIVE	39.188717	-80.387797
36	4703302323	HARRISON	P Maxwell CW-245	Dominion Energy Transmission Inc.	Hampshire Grp	Storage	2132	PLUGGED	39.177871	-80.382055
37	4703302426	HARRISON	R S Hershey	Dominion Energy Transmission Inc.	Gantz	Observation	2000	ACTIVE	39.171549	-80.397385
38	4703302472	HARRISON	Mary A Lowther (CW-257)	Spencer Enterprises	UNKOWN	not available	-	PLUGGED	39.187832	-80.387111
39	4703302626	HARRISON	J R Richards CW256	Dominion Energy Transmission Inc.	Fifty-foot	Storage	2101	ACTIVE	39.179068	-80.395987
40	4703302818	HARRISON	P Maxwell CW-348	Dominion Energy Transmission Inc.	Gantz	Storage	2048	ACTIVE	39.183148	-80.379538
41	4703302883	HARRISON	John Alvin Smith 1	Dominion Energy Transmission Inc.	Greenland Gap Fm	Gas	3187	PLUGGED	39.176640	-80.399782
42	4703302928	HARRISON	Carl Smith (CW-150)	Dominion Energy Transmission Inc.	UNKOWN	not available	-	PLUGGED	39.179095	-80.399236
43	4703303014	HARRISON	Dorothy S Sinclair	Dominion Energy Transmission Inc.	UNKOWN	not available	-	PLUGGED	39.177510	-80.377794
44	4703303091	HARRISON	Mary A Lowther (CW-260)	Dominion Energy Transmission Inc.	UNKOWN	not available	-	PLUGGED	39.175796	-80.393167
45	4703303092	HARRISON	Mary A Lowther (CW-261)	Dominion Energy Transmission Inc.	UNKOWN	not available	-	PLUGGED	39.180757	-80.395520

4703300590

46	4703303093	HARRISON	Mary A Lowther (CW-262)	Dominion Energy Transmission Inc.	UNKNOWN	not available	-	PLUGGED	39 178462	-80 391401
47	4703303094	HARRISON	Mary A Lowther (CW-259)	Dominion Energy Transmission Inc.	UNKNOWN	not available	-	PLUGGED	39 176248	-80 395739
48	470330365	HARRISON	Carl V Smith Jr 4	Antero Resources Corporation	Benson	Gas	4575	ACTIVE	39 181950	-80 405388
49	4703303458	HARRISON	Ted/B Wilfong	Alliance Petroleum Corporation	Greenland Gap Fm	Gas	5018	ACTIVE	39 188870	-80 404970
50	4703303568	HARRISON	Byron Construction Co	Dominion Energy Transmission Inc.	Hampshire Grp	Storage	2292	PLUGGED	39 185657	-80 385247
51	4703303577	HARRISON	Carl Smith	Dominion Energy Transmission Inc.	UNKNOWN	not available	2400	PLUGGED	39 182204	-80 402884
52	4703304776	HARRISON	Carol Daugherty-Skidmore	Ross & Wharton Gas Co. Inc.	Greenland Gap Fm	Gas	5024	ACTIVE	39 188534	-80 392055
53	4703304777	HARRISON	Carol Daugherty-Skidmore	Ross & Wharton Gas Co. Inc.	Greenland Gap Fm	Gas	4813	ACTIVE	39 192332	-80 387363
54	4703304838	HARRISON	Jim K & Betty L Stutler	Dominion Energy Transmission Inc.	UNKNOWN	not available	-	PLUGGED	39 186628	-80 391066
55	4703305031	HARRISON	Robert M Lewis	Dominion Energy Transmission Inc.	Greenland Gap Fm	Gas	4550	ACTIVE	39 186334	-80 407701

GREEN DENOTES SURVEYED WELLS

SOURCE: WVGES DATASET (2017) and WVDEP WEBSITE

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Office of Oil and Gas

NOV 26 2019

WV Department of  
Environmental Protection



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

4703305990

October 9, 2019

Dominion Energy Transmission, Inc.  
925 White Oaks Blvd  
Bridgeport, WV 26330

RE: Area of Review – Antonio 1206 Well Pad (N-1H to N-8H, S9H – S10H)  
Hydraulic Fracturing Notice

Dear Sir:

HG Energy II Appalachia, LLC, is developing a Marcellus pad (Antonio 1206 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 7252' TVD) and existing conventional natural gas wells.

HG Energy anticipates conducting hydraulic fracturing of the Antonio 1206 Pad during the fourth quarter of 2020. We have identified conventional natural gas wells operated by your company within 500' of one of the newly planned laterals (Antonio 1206 laterals). 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](mailto: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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Office of Oil and Gas

NOV 26 2019

WV Department of  
Environmental Protection



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

47 03 3059 00

October 9, 2019

Antero Resources  
535 White Oaks Blvd  
Bridgeport, WV 26330

RE: Area of Review – Antonio 1206 Well Pad (N-1H to N-8H, S9H – S10H)  
Hydraulic Fracturing Notice

Dear Sir:

HG Energy II Appalachia, LLC, has developed a Marcellus pad (Antonio 1206 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.

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HG Energy anticipates conducting hydraulic fracturing of the Antonio 1206 Pad during the fourth quarter of 2020. We have identified conventional natural gas wells operated by your company within 500' of one of the newly planned laterals. A plat for the well is attached.

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Sincerely,

*Diane White*

Diane White

Enclosure

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Office of Oil and Gas

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WV Department of  
Environmental Protection





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

47 03 3059 00

October 9, 2019

Mineral Resource Management, LLC  
P. O. Box 603  
Jane Lew, WV 26378

RE: Area of Review – Antonio 1206 Well Pad (N-1H to N-8H, S9H – S10H)  
Hydraulic Fracturing Notice

Dear Sir:

HG Energy II Appalachia, LLC, has developed a Marcellus pad (Antonio 1206 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 7252' TVD) and existing conventional natural gas wells.

HG Energy anticipates conducting hydraulic fracturing of the Nutter 1208 Pad during the fourth quarter of 2020. We have identified conventional natural gas wells operated by your company within 500' of one of the newly planned laterals. 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.
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Sincerely,

*Diane White*

Diane White

Enclosure

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Office of Oil and Gas

NOV 26 2019

WV Department of  
Environmental Protection



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

47 03 3059 00

October 9, 2019

ALAMCO, Inc  
P. O. Box 6070  
Charleston, WV 25302

RE: Area of Review – Antonio 1206 Well Pad (N-1H to N-8H, S9H – S10H)  
Hydraulic Fracturing Notice

Dear Sir:

HG Energy II Appalachia, LLC, is developing a Marcellus pad (Antonio 1206 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.

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Sincerely,

*Diane White*

Diane White

Enclosure

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Office of Oil and Gas

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WV Department of  
Environmental Protection





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

47 03 3059 00

October 9, 2019

Spencer Enterprises  
P. O. Box 143  
Smithburg, WV 26436

RE: Area of Review – Antonio 1206 Well Pad (N-1H to N-8H, S9H – S10H)  
Hydraulic Fracturing Notice

Dear Sir:

HG Energy II Appalachia, LLC, has developed a Marcellus pad (Antonio 1206 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.

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Sincerely,

*Diane White*

Diane White

Enclosure

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Office of Oil and Gas

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WV Department of  
Environmental Protection



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

4703 05900

October 9, 2019

Alliance Petroleum Company  
101 McQuiston Drive  
Jackson Center, PA 16133

RE: Area of Review – Antonio 1206 Well Pad (N-1H to N-8H, S9H – S10H)  
Hydraulic Fracturing Notice

Dear Sir:

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Sincerely,

*Diane White*

Diane White

Enclosure

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WV Department of  
Environmental Protection



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

47 05 3059 00

October 9, 2019

Ross & Wharton Gas Co., Inc.  
29 Morton Street  
Buckhannon, WV 26201

RE: Area of Review – Antonio 1206 Well Pad (N-1H to N-8H, S9H – S10H)  
Hydraulic Fracturing Notice

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Sincerely,

*Diane White*

Diane White

Enclosure

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Office of Oil and Gas

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WV Department of  
Environmental Protection

**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 Sheets\*\***

**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.

RECEIVED  
Office of Oil and Gas

NOV 26 2019

WV Department of  
Environmental Protection

Well Operator: HG Energy II Appalachia, LLC  
 By: Diane White *Diane White*  
 Its: Accountant

NOV 26 2019

WV Department of  
Environmental Protection

HG Energy II Appalachia, LLC  
Antonio 1206 N-3H Lease Chain

1206 Tract	LEGACY LEASE NUMBER	TAX MAP	LEASE NUMBER	GRANTOR/LESSOR	GRANTEE/LESSEE	ROYALTY	DEED BOOK	PAGE				
4	LC066828	12-0426-0072-0000	Q100892000	ALTON BELL, SINGLE; MARCELLA R. BOND AND KARLEY D. BOND, HER HUSBAND; MARY E. KENNEDY, WIDOW; DORSEY C. KENNEDY AND VELMA ICE KENNEDY, HIS WIFE; LELA K. RUMBLE, WIDOW; MARTHA F. WILSON, WIDOW; HARRY W. KENNEDY AND LILLIAN KENNEDY, HIS WIFE; JOHN L. KENNEDY AND REVA B. KENNEDY, HIS WIFE; SUE K. SWISHER, WIDOW; KATHRYN BUTLER AND THURMAN BUTLER, HER HUSBAND; EVA WOLFE AND LYNN B. WOLFE, HER HUSBAND; S. G. KENNEDY AND JESSIE L. KENNEDY, HIS WIFE	HOPE NATURAL GAS COMPANY	NOT LESS THAN 1/8	781	591				
				HOPE NATURAL GAS COMPANY	CONFIRMATORY DEED	820	519					
				CONSOLIDATED GAS SUPPLY CORPORATION	CONFIRMATORY DEED	903	179					
				CONSOLIDATED GAS SUPPLY CORPORATION	ASSIGNMENT	1136	250					
				CNG TRANSMISSION CORPORATION	MERGER/NAME CHANGE	51	795					
				CNG TRANSMISSION CORPORATION	MERGER/NAME CHANGE	58	362					
				DOMINION TRANSMISSION, INC.	MEMORANDUM FARMOUT AGREEMENT	1522	33					
				CNX GAS COMPANY LLC	LIMITED PARTIAL ASSIGNMENT (50%)	1543	1235					
				DOMINION TRANSMISSION, INC.	PARTIAL ASSIGNMENT (32%)	1576	125					
				CNX GAS COMPANY LLC AND NOBLE ENERGY, INC.	ASSIGNMENT	1584	942					
				NOBLE ENERGY, INC.	ASSIGNMENT	1600	692					
				DOMINION TRANSMISSION, INC.	MERGER/NAME CHANGE	WVS05						
				DOMINION ENERGY TRANSMISSION, INC.	SECOND AMENDMENT TO MEMORANDUM OF FARMOUT AGREEMENT	1601	581					
				DOMINION ENERGY TRANSMISSION, INC.	THIRD AMENDMENT TO MEMORANDUM OF FARMOUT AGREEMENT	1621	1295					
				DOMINION ENERGY TRANSMISSION, INC.	FARMOUT AGREEMENT							
				3	LC068498	12-0426-0071-0000	Q100540000	EARL SNIDER AND RELLA SNIDER, HIS WIFE; MARGARET RICE AND W. A. RICE, HER HUSBAND; K. M. SNIDER AND HANNAH M. SNIDER, HIS WIFE; CREED SNIDER AND MAE SNIDER, HIS WIFE; THE UNION NATIONAL BANK OF CLARKSBURG TRUSTEE U/W OF GERTRUDE E. DAVIS, DECEASED; AND RALPH SNIDER AND NELL SNIDER, HIS WIFE	HOPE NATURAL GAS COMPANY	NOT LESS THAN 1/8	820	519
								HOPE NATURAL GAS COMPANY	CONFIRMATORY DEED	903	179	
CONSOLIDATED GAS SUPPLY CORPORATION	CONFIRMATORY DEED	1136	250									
CONSOLIDATED GAS SUPPLY CORPORATION	MERGER/NAME CHANGE	51	795									
CNG TRANSMISSION CORPORATION	MERGER/NAME CHANGE	58	362									
CNG TRANSMISSION CORPORATION	MEMORANDUM FARMOUT AGREEMENT	1522	33									
DOMINION TRANSMISSION, INC.	LIMITED PARTIAL ASSIGNMENT (50%)	1543	1235									
DOMINION TRANSMISSION, INC.	PARTIAL ASSIGNMENT (32%)	1576	125									
CNX GAS COMPANY LLC AND NOBLE ENERGY, INC.	ASSIGNMENT	1584	942									
NOBLE ENERGY, INC.	ASSIGNMENT	1600	692									
DOMINION ENERGY TRANSMISSION, INC.	MERGER/NAME CHANGE	WVS05										
DOMINION ENERGY TRANSMISSION, INC.	SECOND AMENDMENT TO MEMORANDUM OF FARMOUT AGREEMENT	1601	581									
DOMINION ENERGY TRANSMISSION, INC.	THIRD AMENDMENT TO MEMORANDUM OF FARMOUT AGREEMENT	1621	1295									
DOMINION ENERGY TRANSMISSION, INC.	FARMOUT AGREEMENT											
DOMINION ENERGY TRANSMISSION, INC.	CONFIRMATORY DEED	903	179									



47 03 \* 059 00

				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
				DOMINION TRANSMISSION, INC.	CNX GAS COMPANY LLC	FIRST AMENDMENT TO MEMORANDUM OF FARMOUT AGREEMENT	1524	491
				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	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
				DOMINION ENERGY TRANSMISSION, INC.	HG ENERGY II APPALACHIA, LLC	THIRD AMENDMENT TO MEMORANDUM OF FARMOUT AGREEMENT	1621	1295
				H. D. SMITH AND EMMA J. SMITH, HIS WIFE, W. VIRGINIA SMITH, SINGLE, AND LORELEI S. BUTLER AND HERMAN F. BUTLER, HER HUSBAND	HOPE NATURAL GAS COMPANY	NOT LESS THAN 1/8	823	156
				HOPE NATURAL GAS COMPANY	CONSOLIDATED GAS SUPPLY CORPORATION	CONFIRMATORY DEED	903	179
				CONSOLIDATED GAS SUPPLY CORPORATION	CONSOLIDATED GAS TRANSMISSION CORPORATION	ASSIGNMENT	1136	250
				CNG TRANSMISSION CORPORATION	CNG TRANSMISSION CORPORATION	MERGER/NAME CHANGE	51	795
				DOMINION TRANSMISSION, INC.	DOMINION TRANSMISSION, INC.	MERGER/NAME CHANGE	58	362
				DOMINION TRANSMISSION, INC.	CNX GAS COMPANY LLC	MEMORANDUM FARMOUT AGREEMENT	1522	33
				DOMINION TRANSMISSION, INC.	CNX GAS COMPANY LLC	FIRST AMENDMENT TO MEMORANDUM OF FARMOUT AGREEMENT	1524	491
				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	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
				BERTIE E. YOUNG, WIDOW; ADA M. NUTTER, WIDOW; MORGAN NUTTER, SINGLE; ESTELLA N. CONAWAY & ROBERT S. CONAWAY, HER HUSBAND; ROBERT O. NUTTER & ROSALINE T. NUTTER, HIS WIFE; BERNARD W. NUTTER AND ALICE E. NUTTER, HIS WIFE	HOPE NATURAL GAS COMPANY	NOT LESS THAN 1/8	822	80
				HOPE NATURAL GAS COMPANY	CONSOLIDATED GAS TRANSMISSION CORPORATION	CONFIRMATORY DEED	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
				DOMINION TRANSMISSION, INC.	CNX GAS COMPANY LLC	FIRST AMENDMENT TO MEMORANDUM OF FARMOUT AGREEMENT	1524	491
				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.	DOMINION ENERGY TRANSMISSION, INC.	ASSIGNMENT	WVSOS	
				DOMINION TRANSMISSION, INC.	DOMINION ENERGY TRANSMISSION, INC.	MERGER/NAME CHANGE	1600	692
				NOBLE ENERGY, INC.	HG ENERGY II APPALACHIA, LLC	ASSIGNMENT	1600	692

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18 LC068618 12-0426-0038-0000 Q100541000

17 LC068567 12-0426-0039-0000 Q101112000

47 03 059 20

19	LC090357	12-0426-0037-0000	Q10082000	DOMINION ENERGY TRANSMISSION, INC. DOMINION ENERGY TRANSMISSION, INC. DOMINION ENERGY TRANSMISSION, INC. CARL V. SMITH, JR., WIDOWER; PAUL E. ALKIRE AND SONA M. ALKIRE, HIS WIFE; PAUL V. SMITH AND RUTH ANNE SMITH, HIS WIFE; EVA L. YOUNG AND DONALD L. YOUNG, HER HUSBAND CONSOLIDATED GAS TRANSMISSION CORPORATION CNG TRANSMISSION CORPORATION DOMINION TRANSMISSION, INC. DOMINION TRANSMISSION, INC. DOMINION TRANSMISSION, INC. CNX GAS COMPANY LLC CNX GAS COMPANY LLC AND NOBLE ENERGY, INC. NOBLE ENERGY, INC. DOMINION ENERGY TRANSMISSION, INC. DOMINION ENERGY TRANSMISSION, INC. DOMINION ENERGY TRANSMISSION, INC.	HG ENERGY II APPALACHIA, LLC HG ENERGY II APPALACHIA, LLC HG ENERGY II APPALACHIA, LLC CONSOLIDATED GAS TRANSMISSION CORPORATION CNG TRANSMISSION CORPORATION DOMINION TRANSMISSION, INC. CNX GAS COMPANY LLC CNX GAS COMPANY LLC NOBLE ENERGY, INC. NOBLE ENERGY, INC. DOMINION ENERGY TRANSMISSION, INC. HG ENERGY II APPALACHIA, LLC HG ENERGY II APPALACHIA, LLC	SECOND AMENDMENT TO MEMORANDUM OF FARMOUT AGREEMENT THIRD AMENDMENT TO MEMORANDUM OF FARMOUT AGREEMENT PARTIAL ASSIGNMENT (68%) NOT LESS THAN 1/8 MERGER/NAME CHANGE MERGER/NAME CHANGE MEMORANDUM FARMOUT AGREEMENT FIRST AMENDMENT TO MEMORANDUM OF FARMOUT AGREEMENT LIMITED PARTIAL ASSIGNMENT (50%) PARTIAL ASSIGNMENT (32%) ASSIGNMENT ASSIGNMENT MERGER/NAME CHANGE SECOND AMENDMENT TO MEMORANDUM OF FARMOUT AGREEMENT THIRD AMENDMENT TO MEMORANDUM OF FARMOUT AGREEMENT	1601 1621 LEWIS 736 1886 51 58 1522 1524 1543 1576 1584 1600 WVSOS 1601 1621	581 1295 220 64 795 362 33 491 1235 125 942 692 581 1295
16	LC068724	12-0426-0001-0000 p/o 12-0426-0002-0000 12-0426-0003-0000 p/o 12-0426-0004-0000 12-0426-0013-0000 12-0426-0014-0000 12-0426-0015-0000 12-0426-0016-0000 p/o 12-0426-0017-0000 Office of Oil and Gas	Q10113000	DOMINION ENERGY TRANSMISSION, INC. CNX GAS COMPANY LLC DOMINION TRANSMISSION, INC. CNX GAS COMPANY LLC NOBLE ENERGY, INC. DOMINION ENERGY TRANSMISSION, INC. DOMINION ENERGY TRANSMISSION, INC. DOMINION ENERGY TRANSMISSION, INC. PORTER MAXWELL AND BERTHA B. MAXWELL, HUSBAND AND WIFE; AND W. BRENT MAXWELL AND LILLIE J. MAXWELL, HUSBAND AND WIFE JOHN CHIDESTER THE PHILADELPHIA COMPANY OF WEST VIRGINIA PITTSBURGH AND WEST VIRGINIA GAS COMPANY HOPE NATURAL GAS COMPANY CONSOLIDATED GAS SUPPLY CORPORATION CONSOLIDATED GAS TRANSMISSION CORPORATION	HOPE NATURAL GAS COMPANY CONSOLIDATED GAS SUPPLY CORPORATION CNG TRANSMISSION CORPORATION DOMINION TRANSMISSION, INC. CNX GAS COMPANY LLC NOBLE ENERGY, INC. NOBLE ENERGY, INC. CNX GAS COMPANY LLC AND NOBLE ENERGY, INC. NOBLE ENERGY, INC. HG ENERGY II APPALACHIA, LLC DOMINION ENERGY TRANSMISSION, INC. HG ENERGY II APPALACHIA, LLC HG ENERGY II APPALACHIA, LLC JOHN C. CHIDESTER THE PHILADELPHIA COMPANY OF WEST VIRGINIA PITTSBURGH AND WEST VIRGINIA GAS COMPANY HOPE NATURAL GAS COMPANY CONSOLIDATED GAS SUPPLY CORPORATION CONSOLIDATED GAS TRANSMISSION CORPORATION	NOT LESS THAN 1/8 CONFIRMATORY DEED ASSIGNMENT MERGER/NAME CHANGE MERGER/NAME CHANGE MEMORANDUM FARMOUT AGREEMENT FIRST AMENDMENT TO MEMORANDUM OF FARMOUT AGREEMENT LIMITED PARTIAL ASSIGNMENT (50%) PARTIAL ASSIGNMENT (32%) ASSIGNMENT ASSIGNMENT MERGER/NAME CHANGE SECOND AMENDMENT TO MEMORANDUM OF FARMOUT AGREEMENT THIRD AMENDMENT TO MEMORANDUM OF FARMOUT AGREEMENT NOT LESS THAN 1/8 ASSIGNMENT ASSIGNMENT CONFIRMATORY DEED ASSIGNMENT MERGER/NAME CHANGE	824 903 1136 51 58 1522 1524 1543 1576 1584 1600 WVSOS 1601 1621	142 179 250 795 362 33 491 1235 125 942 692 581 1295

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25	LC052223	12-0406-0021-0005 12-0406-0021-0006 12-0406-0021-0007 12-0406-0021-0008 12-0406-0025-0000 12-0406-0028-0000 and 12-406A-0001-0000 through 12-406A-0041-0000	Q101129000	CNG TRANSMISSION CORPORATION	DOMINION TRANSMISSION, INC.	MERGER/NAME CHANGE	58	362
				DOMINION TRANSMISSION, INC.	CNX GAS COMPANY LLC	MEMORANDUM OF FARMOUT AGREEMENT	1522	33
				DOMINION TRANSMISSION, INC.	CNX GAS COMPANY LLC	FIRST AMENDMENT TO MEMORANDUM OF FARMOUT AGREEMENT	1524	491
				DOMINION TRANSMISSION, INC.	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
				DOMINION TRANSMISSION, INC.	NOBLE ENERGY, INC.	ASSIGNMENT	1584	942
				DOMINION TRANSMISSION, INC.	HG ENERGY II APPALACHIA, LLC	ASSIGNMENT	1600	692
				DOMINION ENERGY 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
				DOMINION ENERGY TRANSMISSION, INC.	HG ENERGY II APPALACHIA, LLC	THIRD AMENDMENT TO MEMORANDUM OF FARMOUT AGREEMENT	1621	1295
				DOMINION ENERGY TRANSMISSION, INC.	HG ENERGY II APPALACHIA, LLC	NOT LESS THAN 1/8	823	133
				DOMINION ENERGY TRANSMISSION, INC.	HG ENERGY II APPALACHIA, LLC	NOT LESS THAN 1/8	834	361
				DOMINION ENERGY TRANSMISSION, INC.	HOPE NATURAL GAS COMPANY	CONFIRMATORY DEED	903	179
				DOMINION ENERGY TRANSMISSION, INC.	HOPE NATURAL GAS COMPANY	ASSIGNMENT	1136	250
				DOMINION ENERGY TRANSMISSION, INC.	CONSOLIDATED GAS SUPPLY CORPORATION	MERGER/NAME CHANGE	51	795
				DOMINION ENERGY TRANSMISSION, INC.	CNG TRANSMISSION CORPORATION	MERGER/NAME CHANGE	58	362
				DOMINION ENERGY TRANSMISSION, INC.	DOMINION TRANSMISSION, INC.	MEMORANDUM OF FARMOUT AGREEMENT	1522	33
				DOMINION ENERGY TRANSMISSION, INC.	CNX GAS COMPANY LLC	FIRST AMENDMENT TO MEMORANDUM OF FARMOUT AGREEMENT	1524	491
				DOMINION ENERGY TRANSMISSION, INC.	NOBLE ENERGY, INC.	LIMITED PARTIAL ASSIGNMENT (50%)	1543	1235
				DOMINION ENERGY TRANSMISSION, INC.	CNX GAS COMPANY LLC AND NOBLE ENERGY, INC.	PARTIAL ASSIGNMENT (32%)	1576	125
				DOMINION ENERGY TRANSMISSION, INC.	NOBLE ENERGY, INC.	ASSIGNMENT	1584	942
				DOMINION ENERGY 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
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DOMINION ENERGY TRANSMISSION, INC.	HOPE NATURAL GAS COMPANY	NOT LESS THAN 1/8	822	96				
DOMINION ENERGY TRANSMISSION, INC.	HOPE NATURAL GAS COMPANY	CONFIRMATORY DEED	903	179				
DOMINION ENERGY TRANSMISSION, INC.	CONSOLIDATED GAS SUPPLY CORPORATION	ASSIGNMENT	1136	250				
DOMINION ENERGY TRANSMISSION, INC.	CNG TRANSMISSION CORPORATION	MERGER/NAME CHANGE	51	795				
DOMINION ENERGY TRANSMISSION, INC.	DOMINION TRANSMISSION, INC.	MERGER/NAME CHANGE	58	362				
DOMINION ENERGY TRANSMISSION, INC.	CNX GAS COMPANY LLC	MEMORANDUM OF FARMOUT AGREEMENT	1522	33				
DOMINION ENERGY TRANSMISSION, INC.	CNX GAS COMPANY LLC	FIRST AMENDMENT TO MEMORANDUM OF FARMOUT AGREEMENT	1524	491				
DOMINION ENERGY TRANSMISSION, INC.	NOBLE ENERGY, INC.	LIMITED PARTIAL ASSIGNMENT (50%)	1543	1235				
DOMINION ENERGY TRANSMISSION, INC.	CNX GAS COMPANY LLC AND NOBLE ENERGY, INC.	PARTIAL ASSIGNMENT (32%)	1576	125				
DOMINION ENERGY TRANSMISSION, INC.	NOBLE ENERGY, INC.	ASSIGNMENT	1584	942				
DOMINION ENERGY TRANSMISSION, INC.	HG ENERGY II APPALACHIA, LLC	ASSIGNMENT	1600	692				
DOMINION ENERGY 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				
DOMINION ENERGY TRANSMISSION, INC.	HG ENERGY II APPALACHIA, LLC	THIRD AMENDMENT TO MEMORANDUM OF FARMOUT AGREEMENT	1621	1295				
DOMINION ENERGY TRANSMISSION, INC.	HOPE NATURAL GAS COMPANY	NOT LESS THAN 1/8	1030	250				
DOMINION ENERGY TRANSMISSION, INC.	CONSOLIDATED GAS SUPPLY CORPORATION	ASSIGNMENT	1136	129				
DOMINION ENERGY TRANSMISSION, INC.	CNG TRANSMISSION CORPORATION	MERGER/NAME CHANGE	51	795				
DOMINION ENERGY TRANSMISSION, INC.	DOMINION TRANSMISSION, INC.	MERGER/NAME CHANGE	58	362				
DOMINION ENERGY TRANSMISSION, INC.	CNX GAS COMPANY LLC	MEMORANDUM OF FARMOUT AGREEMENT	1522	33				

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42	LC071609	12-0405-0066-0000	Q100247000	DOMINION TRANSMISSION, INC.	CNX GAS COMPANY LLC	FIRST AMENDMENT TO MEMORANDUM OF FARMOUT AGREEMENT	1524	491
				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
				DOMINION TRANSMISSION, INC.	DOMINION ENERGY TRANSMISSION, INC.	MERGER/NAME CHANGE	WVS05	
				NOBLE ENERGY, INC.	HG ENERGY II APPALACHIA, LLC	ASSIGNMENT	1600	692
				DOMINION ENERGY TRANSMISSION, INC.	HG ENERGY II APPALACHIA, LLC	SECOND AMENDMENT TO MEMORANDUM OF FARMOUT AGREEMENT	1601	581
				DOMINION ENERGY TRANSMISSION, INC.	HG ENERGY II APPALACHIA, LLC	PARTIAL ASSIGNMENT (68%)	LEWIS 736	220
				HATTIE O WEST ET AL	CONSOLIDATED GAS SUPPLY CORPORATION	NOT LESS THAN 1/8	1030	129
				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 OF FARMOUT AGREEMENT	1522	33				
DOMINION TRANSMISSION, INC.	CNX GAS COMPANY LLC	FARMOUT AGREEMENT	1524	491				
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				
DOMINION TRANSMISSION, INC.	DOMINION ENERGY TRANSMISSION, INC.	MERGER/NAME CHANGE	WVS05					
NOBLE ENERGY, INC.	HG ENERGY II APPALACHIA, LLC	ASSIGNMENT	1600	692				
DOMINION ENERGY TRANSMISSION, INC.	HG ENERGY II APPALACHIA, LLC	SECOND AMENDMENT TO MEMORANDUM OF FARMOUT AGREEMENT	1601	581				
DOMINION ENERGY TRANSMISSION, INC.	HG ENERGY II APPALACHIA, LLC	PARTIAL ASSIGNMENT (68%)	LEWIS 736	220				
44	LC088069	12-0405-0064-0000	Q100248000	JETTIE COX, WIDOW; KATHRYN ALLEN AND CHAS. L. ALLEN, HER HUSBAND; GORDON SOMMERVILLE AND BARBARA SOMMERVILLE, HIS WIFE; AND SAM O. COX AND MABEL H. COX, HIS WIFE	CONSOLIDATED GAS SUPPLY CORPORATION	NOT LESS THAN 1/8	1034	1086
				CONSOLIDATED GAS SUPPLY CORPORATION	CONSOLIDATED GAS TRANSMISSION CORPORATION	ASSIGNMENT	1136	250
				CONSOLIDATED GAS SUPPLY 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 OF FARMOUT AGREEMENT	1522	33
				DOMINION TRANSMISSION, INC.	CNX GAS COMPANY LLC	FIRST AMENDMENT TO MEMORANDUM OF FARMOUT AGREEMENT	1524	491
				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
				DOMINION TRANSMISSION, INC.	DOMINION ENERGY TRANSMISSION, INC.	MERGER/NAME CHANGE	WVS05	
NOBLE ENERGY, INC.	HG ENERGY II APPALACHIA, LLC	ASSIGNMENT	1600	692				
DOMINION ENERGY TRANSMISSION, INC.	HG ENERGY II APPALACHIA, LLC	SECOND AMENDMENT TO MEMORANDUM OF FARMOUT AGREEMENT	1601	581				
DOMINION ENERGY TRANSMISSION, INC.	HG ENERGY II APPALACHIA, LLC	PARTIAL ASSIGNMENT (68%)	LEWIS 736	220				

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

4703 05990

October 23, 2019

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

RE: Drilling Under Roads – Antonio 1206 N-3H  
Grant 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 along the above referenced lateral as designated on the plats.

Should you have any questions or desire further information, please contact me at [dwhite@hgenergyllc.com](mailto:dwhite@hgenergyllc.com) or 304-420-1119.

Very truly yours,

*Diane White*

Diane C. White

Enclosures

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

**Date of Notice Certification:** 11/21/2019

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

**Operator's Well No.** Antonio 1206 N-3H

**Well Pad Name:** Antonio 1206 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>553366.9</u>
County:	<u>Harrison</u>		Northing:	<u>4334503.8</u>
District:	<u>Grant</u>	Public Road Access:	<u>SR 19 / Hackers Creek Road</u>	
Quadrangle:	<u>West Milford</u>	Generally used farm name:	<u>Antonio</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: 100px;"><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><b>OOG OFFICE USE ONLY</b></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.



**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 21<sup>st</sup> day of November, 2019.

*Cassidy A. Boardman* Notary Public

My Commission Expires 7/31/2022

**Oil and Gas Privacy Notice:**

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

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

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

Date of Notice: 11/13/19 Date Permit Application Filed: 11/18/19

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: Antonio PLLC, c/o Mike Ross  
 Address: P. O. Box 219  
 Coalton, WV 26257  
 Name: Charles R. Sutton  
 Address: 593 Long Run Road  
 Lost Creek, WV 26385

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

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

COAL OWNER OR LESSEE  
 Name: Antonio PLLC, c/o Mike Ross  
 Address: P. O. Box 219  
 Coalton, WV 26257  
 COAL OPERATOR  
 Name: \_\_\_\_\_  
 Address: \_\_\_\_\_ WV Department of Environmental Protection

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

OPERATOR OF ANY NATURAL GAS STORAGE FIELD  
 Name: Dominion Energy Transmission, Inc Attn: Ron Walden  
 Address: 925 White Oaks Blvd  
 Bridgeport, WV 26330

\*Please attach additional forms if necessary

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 Office of Oil and Gas  
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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 57<sup>th</sup> Street, SE, Charleston, WV 25304 (304-926-0450) or by visiting [www.dep.wv.gov/oil-and-gas/pages/default.aspx](http://www.dep.wv.gov/oil-and-gas/pages/default.aspx).

**Well 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



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 57<sup>th</sup> 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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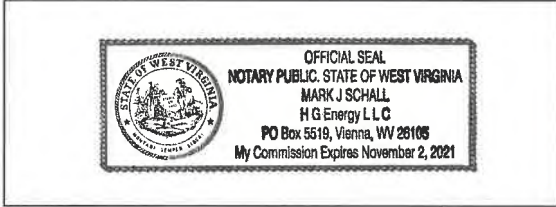
**Notice is hereby given by:**

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: 304-863-3172

**Oil and Gas Privacy Notice:**

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



Subscribed and sworn before me this 9th day of October, 2019.

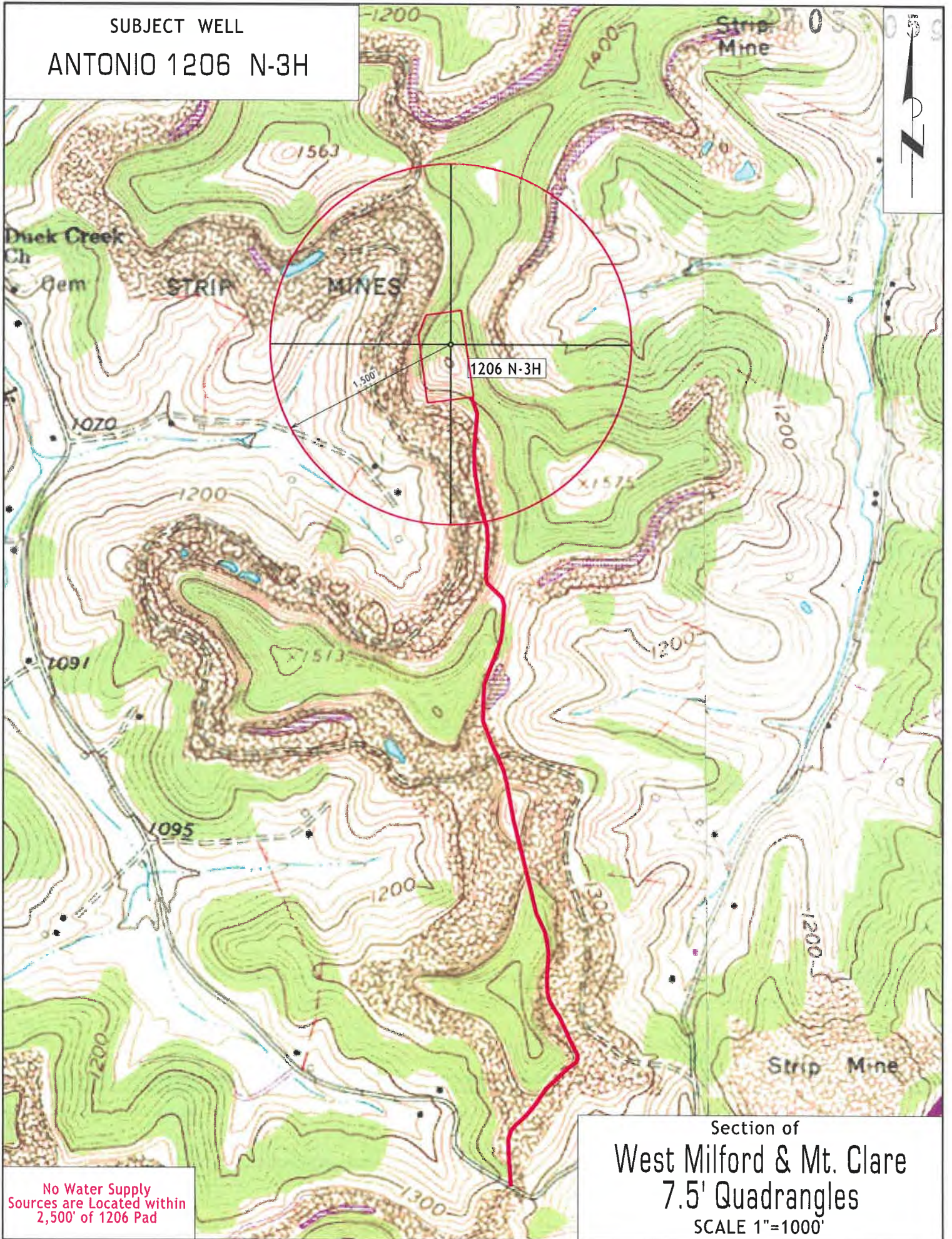
*[Signature]*  
\_\_\_\_\_  
Notary Public

My Commission Expires 11/2/2021

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WV Department of  
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SUBJECT WELL  
ANTONIO 1206 N-3H



No Water Supply  
Sources are Located within  
2,500' of 1206 Pad

Section of  
West Milford & Mt. Clare  
7.5' Quadrangles  
SCALE 1"=1000'



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:** 9/12/19 **Date of Planned Entry:** 9/19/19

**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: Antonio PLLC, c/o Mike Ross  
 Address: P. O. Box 219  
 Coalton, WV 26257

Name: Charles R. Sutton  
 Address: 593 Long Run Road  
 Lost Creek, WV 26385

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

COAL OWNER OR LESSEE

Name: Antonio PLLC, c/o Mike Ross  
 Address: P. O. Box 219  
 Coalton, WV 26257

MINERAL OWNER(S)

Name: Mineral Owners  
 Address: \_\_\_\_\_

\*please attach additional forms if necessary

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 WV Department of  
 Environmental Protection

**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	Approx. Latitude & Longitude: 39.157325 / -80.382189
County: Harrison	Public Road Access: SR 19
District: Grant	Watershed: Middle West Fork Creek
Quadrangle: West Milford WV 7.5'	Generally used farm name: Antonio

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

**Notice is hereby given by:**

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

**Oil and Gas Privacy Notice:**

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

Page 1 Continued

Mineral Owners

Antonio P, L.L.C.  
c/o Mike Ross  
PO Box 219  
Coalton, WV 26257

Charles R Sutton  
593 Long Run Road  
Coalton, WV 26385

Ann M. Zinn  
Berlin K. Zinn POA  
180 Valley Street  
Salem, WV 26426

Appalachian Royalty Company  
501 Wood Lake Rd  
Aledo, TX 76008-4632

Charles A. Smith  
94 Dogwood Trail  
Napier, WV 26631

Charles R. Sutton  
801 Worthihngton Dr  
Bridgeport, WV 26330

Cynthia Preston  
610 Stealey Ave  
Clarksburg, WV 26301

Dominion Energy Transmission, Inc.  
P. O. Box 26666  
Richmond, VA 23261-6666

Franklin L. Sutton  
113 Cimmarron Rd  
Clarksburg, WV 26301

Gordon Sommerville  
28 Riverbend Road  
Lost Creek, WV 26385

Harvey Smith, Watters Smith Memorial  
C/O WV Dept Natural Resources  
Building 74, 324 Fourth Ave  
South Charleston, WV 25303

J.P. Morgan Chase Bank  
Trustee for Gore-Morris Trust  
PO Box 659  
Wichita Falls, TX 76307

James Robert Cox  
1730 Shady Creek Lane  
Lawrenceville, GA 30043

Julie R. Cox Goldsmith  
96 Hickman Road  
Salem, WV 26426

Kathy Sullivan  
223 McCarty Rd  
Fredericksburg, VA 22405

Kenneth M Snider Sr  
5711 Castlebridge Rd  
Fredericksburg, VA 22407

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Page 1 Continued

Mineral Owners

Kenneth R. Snider  
4820 Old Main St  
Richmond, VA 23231

Kermit P and Deborah B Stutler  
RR 1 Box 64  
Lost Creek, WV 26385-9707

Mary Margaret Hood  
401 E Olive St  
Bridgeport, WV 26330

Nellie Jo Brissey and Richard R. Bond  
156 Valley Street  
Salem, WV 26426

Paul E. Alkire  
4203 Hackers Creek Rd  
Jane Lew, WV 26378-8305

Suzanne D. Simmons  
301 WV Highway 74  
Coxs Mills, WV 26342

Touchstone Energy LLC  
154 Marietta Street  
Clarksburg, WV 26301

WV Division of Natural Resources  
324 4th Ave  
South Charleston, WV 25303

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**HG Energy II Appalachia, LLC**

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

---

September 12, 2019

RE: Antonio 1206 N-3H  
Grant District, Harrison County  
West Virginia

To Whom It May Concern:

Enclosed is a copy of a Department of Environmental Protection "Notice of Entry For Plat Survey" form WW-6A3. This notice is provided to you as a royalty owner to advise you that HG Energy II Appalachia, LLC, is beginning the process of applying for permits to drill a well(s) where you are identified as an owner of minerals underlying such tract in the county tax records. A well work permit application will be filed with the West Virginia Department of Environmental Protection (WVDEP), Office of Oil and Gas.

Pursuant to WV Code Chapter 22B, Article 6, you are receiving copies of this correspondence because you are an owner of mineral rights on one or more of the underlying leases impacted by this well (s). Statutes and rules related to oil and gas exploration and production may be obtained from the Secretary, at the WVDEP at 304-926-0450, located at 601 57<sup>th</sup> Street, Charleston, WV. Copies of such documents or additional information related to horizontal drilling may also be obtained by visiting the WV DEP online.

No action on your part is required. If you have any questions or comments regarding this permit application, you may call this office at (304) 420-1119. Questions concerning lease issues may be directed to Mark Schall at 304-420-1115. Address inquiries should be directed to Bethanne Wilson at 304-370-3246.

Very truly yours,

*Diane White*

Diane C. White

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Enclosures

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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:** 11/14/2019 **Date Permit Application Filed:** 11/25/2019

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

NOV 26 2019

HAND DELIVERY  CERTIFIED MAIL RETURN RECEIPT REQUESTED

WV Department of  
Environmental Protection

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: Antonio PLLC, c/o Mike Ross  
Address: P. O. Box 219  
Coalton, WV 26257

Name: Charles R. Sutton  
Address: 599 Long Run Road  
Lost Creek, WV 26385

**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: 553366.9  
County: Harrison Northing: 4334503.8  
District: Grant Public Road Access: SR19/Hackers Creek Road  
Quadrangle: West Milford Generally used farm name: Antonio  
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 57<sup>th</sup> Street, SE, Charleston, WV 25304 (304-926-0450) or by visiting [www.dep.wv.gov/oil-and-gas/pages/default.aspx](http://www.dep.wv.gov/oil-and-gas/pages/default.aspx).

**Notice is hereby given by:**

Well Operator: 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

**Oil and Gas Privacy Notice:**

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



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

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

**Date of Notice:** 11/15/2019      **Date Permit Application Filed:** 11/25/2019

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

- |  |                               |
|--|-------------------------------|
| <input checked="" type="checkbox"/> CERTIFIED MAIL | <input type="checkbox"/> 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: Antonio PLLC, c/o Mike Ross  
Address: P. O. Box 219  
Coalton, WV 26257

Name: Charles R. Sutton  
Address: 593 Long Run Road  
Lost Creek, WV 26385

**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: West Virginia	UTM NAD 83	Easting: 553366.9
County: Harrison		Northing: 4334503.8
District: Grant	Public Road Access: SR19/Hackers Creek Road	
Quadrangle: West Milford	Generally used farm name: Antonio	
Watershed: Middle West Fork Creek		

**This Notice Shall Include:**

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

Well Operator: 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

**Oil and Gas Privacy Notice:**

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

RECEIVED  
Office of Oil and Gas

NOV 26 2019

WV Department of  
Environmental Protection



47 03 \* 059 00

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION  
**Division of Highways**

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

**Byrd E. White, III**  
Secretary of Transportation/  
Commissioner of Highways

October 18, 2019

**Jimmy Wriston, P. E.**  
Deputy Secretary/  
Deputy Commissioner

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

Subject: DOH Permit for the Antonio 1206 Pad, Harrison County  
1206 N-3H Well Site

Dear Mr. Martin,

This well site will be accessed from a DOH permit #04-2018-1374 which has been issued to HG Energy II for access to the State Road for a haul road located off Harrison County Route 19/20 SLS. The haul route will cross Harrison County Route 25/6 by permits 04-2019-0930 & 04-2019-0931.

This operator is in compliance with §22-6A-20 of the WV Code. 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.

RECEIVED  
Office of Oil and Gas

NOV 26 2019

WV Department of  
Environmental Protection

Very Truly Yours,

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

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

**List of Frac Additives by Chemical Name and CAS #****Antonio 1206 Well Pad (N-1H to N-5H)**

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	

RECEIVED  
Office of Oil and Gas

NOV 26 2019

WV Department of  
Environmental Protection



# CONSTRUCTION IMPROVEMENT PLANS WITH EROSION AND SEDIMENT CONTROLS HG 1206 WELL PAD & IMPOUNDMENTS

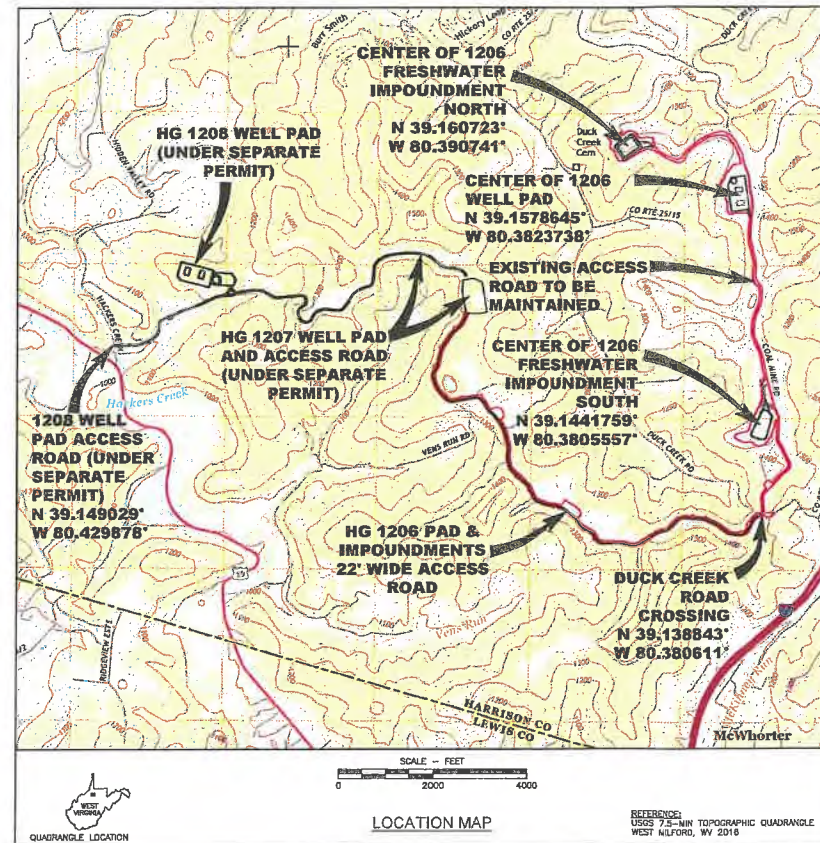
GRANT DISTRICT  
HARRISON COUNTY  
WEST VIRGINIA

**APPROVED**  
**WVDEP OOG**  
WAS 11/12/2019

SHT. NO.	SHEET TITLE
1	TITLE SHEET
2A-2Z	SITE DEVELOPMENT PLANS
3A-3B	IMPOUNDMENT SECTIONS
4A-4H	ACCESS ROAD SECTIONS
5A-5G	CONSTRUCTION NOTES & DETAILS
6A-6K	RESTORATION PLAN
7A-7C	PROPERTY MAP

## 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

Estimated Gross Material Balance (CY)			
Final Development - Gravel Option			
	Cut	Fill	Stockpile
1206 Impoundment North & Staging Area	32,865	32,355	510
1206 Impoundment North DC-01 & 02	2,610	20	2,590
1206 Impoundment South & Staging Area	54,705	44,870	9,835
1206 Pad & Impoundments Access Road	4,315	3,970	345
1206 Well Pad & Access	32,760	32,455	305
Coal Mine Rd Sight Distance Improvements	1,200	0	1,200
<b>Totals</b>	<b>128,455</b>	<b>113,670</b>	<b>14,785</b>
Est. Swell Factor (20%)			2,957
<b>Total Site Balance:</b>			<b>17,742</b>
Stripped Topsoil (Limits of Earthwork)			20,738
Est. Swell Factor (20%)			4,147
Est. Topsoil Stockpile Volume (Loose CY)			24,885
<b>Minimum Total Stockpile Capacity Required (CY)</b>			<b>42,627</b>

Notes:  
1. Material balance for est. gross earthwork quantities only.  
2. Topsoil est. volume based on 6 inches average depth.  
3. Material balance and aggregate quantities based on estimates and may not be representative of actual quantities.  
4. Estimates do not reflect contractor pay volumes.

Estimated Gravel Quantities				
	Impoundment North Staging & Access Road	Impoundment South Staging & Access Road	1206 Well Pad & Access	TOTAL
1" Soil Cement (Placed In)	27,390	2,985	3,690	30,530
Top Coat Chip & Seal (Placed In)	27,390	2,985	3,690	34,995
2" Depth of 3/4" Crusher Run (Form)			3,270	3,270

	Length (LF)
Estimated Pad & Impoundments Access Road 12" Filter Sock Length	14,510
Estimated Impoundment North 12" Filter Sock Length	2,901
Estimated Impoundment South 12" Filter Sock Length	5,450
Estimated Well Pad 12" Filter Sock Length	1,576
<b>TOTAL Estimated 12" Compost Filter Sock Length</b>	<b>24,437</b>
Estimated Pad & Impoundments Access Road Limit of Disturbance (Acres)	21,955
Estimated 1206 Impoundment North Limit of Disturbance (Acres)	9,297
Estimated 1206 Impoundment South Limit of Disturbance (Acres)	11,695
Estimated Existing Coal Mine Road Limit of Disturbance (Acres)	14,181
Estimated 1206 Well Pad Limit of Disturbance (Acres)	11,058
<b>TOTAL Estimated Limit of Disturbance (Acres)</b>	<b>68,187</b>
Impoundment North Peak Pre-Construction Elevation (Ft)	1304
Impoundment South Peak Pre-Construction Elevation (Ft)	1454
Well Pad Peak Pre-Construction Elevation (Ft)	1364
Well Area Subbase Elevation (Top of Soil Cement Subbase) (Ft)	1349.50
Well Area Surface Elevation (Ft)	1349.75

WELL #	LAT.	LONG.
N-1H	N 39.158096	W 80.382426
N-2H	N 39.158101	W 80.382374
N-3H	N 39.158107	W 80.382321
N-4H	N 39.158112	W 80.382269
N-5H	N 39.158118	W 80.382216
S-6H	N 39.157314	W 80.382294
S-7H	N 39.157319	W 80.382242
S-8H	N 39.157325	W 80.382189
S-9H	N 39.157330	W 80.382137
S-10H	N 39.157336	W 80.382084

WELL ELEVATIONS 1349.75  
UTM83-17F

	LATITUDE	LONGITUDE
DUCK CREEK ROAD CROSSING	N 39.138843	W 80.380611
1207 WELL PAD ACCESS ROAD ENTRANCE	N 39.152061	W 80.420447
1208 WELL PAD ACCESS ROAD ENTRANCE	N 39.149029	W 80.429878

RECORD OWNER	RECORD LOT #	RECORD AREA OF LOT	AREA WITHIN LOD
HUBERT E & SANDRA K NEEL	17-12-0445-0005-0000	89.07	0.099
MICKEY PETITO	17-12-0445-0013-0000	132.852	5.952
LELAND J FREEMAN	17-12-0445-0026-0000	15.5506	2.236
CHARLES R SUTTON	17-12-0445-0043-0000	4.655	1.134
FRANKLIN L SUTTON	17-12-0445-0047-0000	72.2783	4.670
RICHARD L HAWKINS, JR	17-12-0446-0031-0000	53.1225	3.425
FRANKLIN L SUTTON	17-12-0446-0039-0001	48.3295	2.713
W JOE & HANNAH M SUTTON	17-12-0446-0040-0000	84.6203	1.709
DUCK CREEK RD	N/A	N/A	0.052
CHARLES NAY	17-12-0446-0039-0000	26.2318	2.168
CHARLES RALPH & TANYA K SUTTON	17-12-0446-0040-0000	84.6203	2.253
JERI L BOOHER	17-12-0446-0031-0001	22.6792	1.811
MARY RICHARDS	17-12-0446-0033-0000	47.9334	6.427
WILLIAM LEROY & VIRGINIA A. JENKINS	17-12-0446-0018-0000	78.5858	2.638
MARY RICHARDS	17-12-0446-0018-0001	0.9075	0.197
MARY RICHARDS	17-12-0446-0019-0000	56.5818	2.028
P ANTONIO, LLC	17-12-0446-0003-0000	180.7720	1.656
P ANTONIO, LLC	17-12-0446-0002-0000	41.0699	0.668
P ANTONIO, LLC	17-12-0426-0071-0000	230.6748	21.146
CHARLES R SUTTON	17-12-0426-0072-0000	31.1173	4.504
JUDITH H RUSSELL	17-12-0425-0021-0000	15.1580	0.701
<b>TOTAL LIMIT OF DISTURBANCE</b>			<b>68.187 AC.</b>

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REVISION	DATE	DESCRIPTION
1	9/18/19	REVISED WELLHEAD LAYOUT
2	10/09/19	WETLAND REVISIONS
3	10/31/19	REVISIONS PER DEP COMMENTS
4	11/05/19	REVISIONS PER DEP COMMENTS



TITLE SHEET  
HG 1206 WELL PAD & IMPOUNDMENTS  
GRANT DISTRICT  
HARRISON COUNTY, WEST VIRGINIA

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

APPROVED MEP 09/05/2019  
CHECKED MEP 08/30/2019  
DRAWN D.J.A. MFR 08/30/2019  
PROJECT No. 4000-PA007871



DRAWING NUMBER  
PA007871-001  
SHEET 1

111 RYAN COURT, PITTSBURGH, PA 15205  
412-722-1222



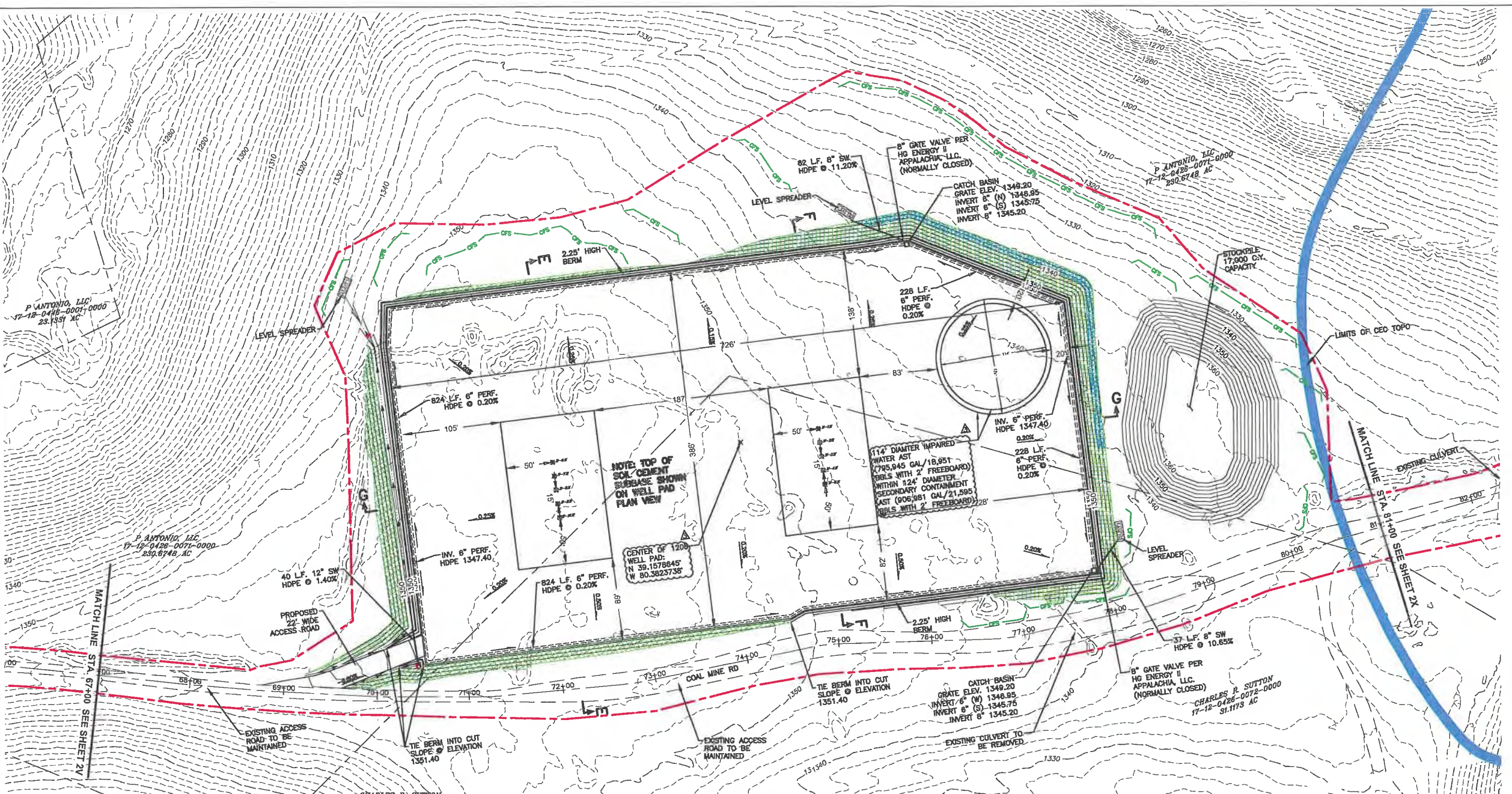
CALL BEFORE  
YOU DIG!

Dial 811 or  
800.245.4848  
Miss Utility of West Virginia

1. SERVICE UTILITY LINES ARE NOT SHOWN ON THE PLANS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING, MAINTAINING, AND REPLACING AS NECESSARY TO ENSURE CONTINUAL SERVICE.



C:\HOMWORK\PA007871 HG 1206\PA007871 1206 PAD & IMPOUNDMENT REVISED ACCESS PLAN SHEETS.DWG, 11/17/2018 11:21 AM



**LEGEND**

- ROCK CHECK DAM
- RIPRAP APRON
- ACCESS ROAD/PAD CHANNEL
- COMPOST FILTER SOCK 12" UNLESS OTHERWISE NOTED
- STACKED COMPOST FILTER SOCK 12"
- APPROXIMATE LIMITS OF DISTURBANCE
- APPROXIMATE PROPERTY LINE
- EXISTING INDEX CONTOUR
- EXISTING INTERMEDIATE CONTOUR
- PROPOSED FINAL GRADE INDEX CONTOUR
- PROPOSED FINAL GRADE INTERMEDIATE CONTOUR
- LIMITS OF BLUE MOUNTAIN MAPPING
- LIMITS OF CEC MAPPING
- EXISTING ACCESS ROAD
- EXISTING OVERHEAD UTILITY LINE
- EXISTING GAS LINE

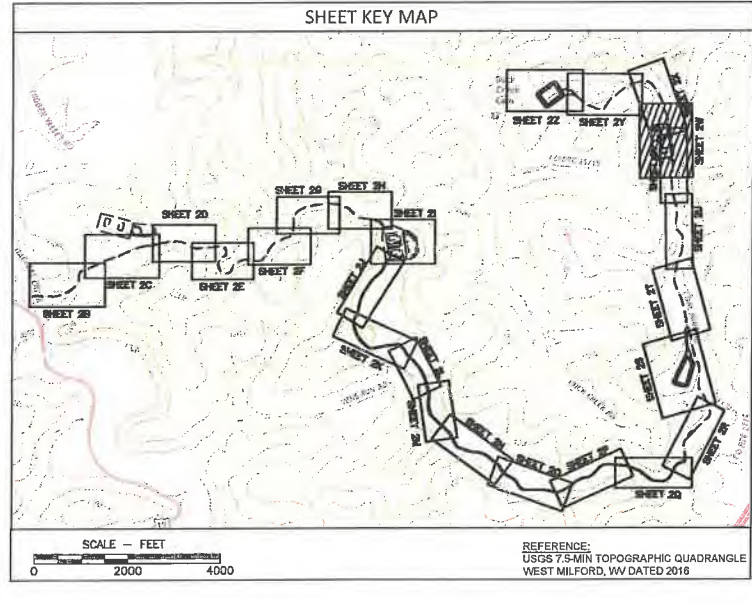
**SECTION**

TOE BENCH (SEE FILL BENCH DETAIL)

EROSION CONTROL BLANKET

DELIMITED WETLAND

- WEST VIRGINIA GENERAL NOTES:**
- ALL PROPOSED ELEVATIONS SHOWN ON PLAN SHEETS REFLECT PROPOSED SUBBASE ELEVATIONS.
  - REFER TO THIS SHEET WITH THE CONSTRUCTION NOTES AND DETAILS.
  - CONTRACTOR SHALL CONTACT WEST VIRGINIA UTILITIES PROTECTION SERVICES (811) A MINIMUM OF 3 DAYS PRIOR TO EXCAVATION WORK. UTILITIES MUST BE IDENTIFIED AND EITHER RELOCATED OR PROTECTED BY CONTRACTOR PRIOR TO BEGINNING WORK AT THE SITE.
  - THIS SITE SHALL BE CONSTRUCTED IN ACCORDANCE WITH WELL DRILLING PERMIT. CONTRACTOR RESPONSIBLE TO OBTAIN ALL OTHER NECESSARY PERMITS/APPROVALS REQUIRED TO CONSTRUCT THIS SITE INCLUDING BUT NOT LIMITED TO FEDERAL, STATE, AND LOCAL REQUIREMENTS.
  - NO GEOTECHNICAL OR SOIL STABILITY ANALYSIS WAS PERFORMED FOR THIS SITE. CONTRACTOR IS RESPONSIBLE TO CONDUCT PROPER TOE AND BONDING BENCHES BASED ON FIELD CONDITIONS TO PREPARE SURFACES FOR FILL PLACEMENT ON STEEP SLOPES. PERM EAR IS NOT RESPONSIBLE FOR SLOPES, SLIDES, OR EARTH MOVEMENT RESULTING FROM CONSTRUCTION.
  - ESTABLISH EROSION AND SEDIMENTATION CONTROL BMPs PRIOR TO EARTHWORK. SITE CONSTRUCTION SHALL FOLLOW WEST VIRGINIA EROSION AND SEDIMENT CONTROL FIELD MANUAL, DATED MAY 2012.
  - CLEAR AND GRUB WORK AREA REMOVE AND STOCKPILE AVAILABLE TOPSOIL FROM LIMIT OF DISTURBANCE TO A LOCATION DESIGNATED BY HG ENERGY II APPALACHIA, LLC.
  - NO EMBAZONMENT FILL SHALL BE PLACED ON FROZEN MATERIAL. FILL MATERIAL SHALL BE FREE OF ORGANICALS, LARGE ROCKS, FROZEN SOIL OR OTHER OBJECTIONABLE MATERIAL.
  - CUT/FILL SLOPES SHALL BE CONSTRUCTED TO A MAXIMUM SLOPE OF 3H:1V UNLESS NOTED OTHERWISE.
  - FILL MATERIAL SHALL BE PLACED IN LIFTS OR LAYERS OVER THE LENGTH OF THE FILL. LIFT THICKNESS OF THE SOIL SHALL BE AS THIN AS THE SUITABLE RANDOM EXCAVATED MATERIAL PERMIT, TYPICALLY 6"-12" INCHES THICK. THE SIZE OF ROCK LIFTS SHALL NOT EXCEED 36 INCHES. THE ROCK SHALL NOT BE GREATER IN ANY DIMENSION THAN 36 INCHES. COMPACTION SHALL BE OBTAINED BY COMPACTION EQUIPMENT. SOILS FOOT OR PAD ROLLERS, DEPENDING ON MATERIAL. COMPACTION TO VISIBLE NON-MOVEMENT OF THE EMBANKMENT MATERIAL. COMPACTION EFFORT SHALL NOT EXCEED OPTIMUM MOISTURE LIMITS. EACH LIFT SHALL BE COMPACTED TO A STANDARD PROCTOR DENSITY OF AT LEAST 90% BEFORE BEGINNING THE NEXT LIFT. QC TESTING SHALL BE PERFORMED AT A RATE OF 2 TESTS/ACRE/LIFT.
  - CONTRACTOR SHALL CONSTRUCT ACCESS ROAD IN ACCORDANCE WITH DETAILS PROVIDED. ADDITIONAL COVER MATERIAL PLACEMENT REQUIRED IN AREA OF UTILITY LINES.
  - CONTRACTOR SHALL COORDINATE MATERIAL MANAGEMENT (EXCESS CUT/FILL, TOPSOIL, STOCKPILES, GRAVEL, SOULINGS) WITH HG ENERGY II APPALACHIA, LLC PRIOR TO MOBILIZATION. CONTRACTOR SHALL BE RESPONSIBLE FOR PROPER EROSION AND SEDIMENT CONTROLS, BOTH ON SITE AND OFF SITE.
  - ALL SEDIMENT CONTROL MEASURES SHALL REMAIN IN PLACE UNTIL DISTURBED AREAS ARE STABILIZED AND THE VEGETATIVE GROUND COVER HAS ACHIEVED A UNIFORM 70% GROWTH. ANY AREAS NOT ACHIEVING A 70% VEGETATIVE COVER SHALL BE RESEEDED AND MULCHED WITHIN 24 HOURS OF DETECTION.
  - SECONDARY CONTAINMENT SHALL BE PROVIDED DURING DRILLING PROCESS. A LINDER AND MAT SYSTEM WITH BERM SHALL BE INSTALLED PRIOR TO DRILLING AND WATER INSIDE SECONDARY CONTAINMENT SHALL BE DISPOSED OFFSITE IN ACCORDANCE WITH WV REGULATIONS.
- REFERENCE:**
- TOPOGRAPHY OBTAINED FROM CIVIL & ENVIRONMENTAL CONSULTANTS, INC., BLUE MOUNTAIN, INC. AND NATIONAL ELEVATION DATASET.
  - EXISTING STREAMS AND WETLANDS DELIMITED BY AMY ENVIRONMENTAL, INC.
  - PROPERTY BOUNDARIES & OWNER INFORMATION OBTAINED VIA WV PROPERTY VIEWER WWW.WVPMV.GOV/PARCEL/



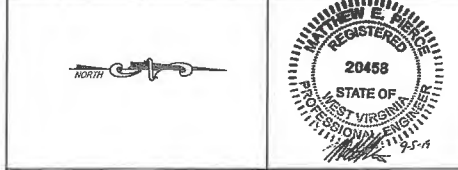
**APPROVED**  
**WVDEP OOG**  
11/12/2019

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S-9H	N 39.157330	W 80.382137
S-10H	N 39.157336	W 80.382084

WELL ELEVATIONS 1349.75  
UTM83-17F

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3	10/31/19	REVISIONS PER DEP COMMENTS
4	11/06/19	REVISIONS PER DEP COMMENTS



SCALE - FEET  
0 80 120 180

**SITE DEVELOPMENT PLAN**  
WITH EROSION AND SEDIMENTATION CONTROLS  
HG 1206 WELL PAD & IMPOUNDMENTS  
GRANT DISTRICT  
HARRISON COUNTY, WEST VIRGINIA

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

APPROVED MEP 09/05/2019  
CHECKED MEP 08/30/2019  
DRAWN DJA, MFR 08/30/2019  
PROJECT No. 4000-PA007871

**Penn E&R**  
Environmental & Remediation, Inc.

111 RYAN COURT, PITTSBURGH, PA 15205;  
412-722-1222

**WEST VIRGINIA 811** CALL BEFORE YOU DIG!

Dial 811 or 800.245.4848  
Miss Utility of West Virginia

1. SERVICE UTILITY LINES ARE NOT SHOWN ON THE PLANS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING, MAINTAINING, AND REPLACING AS NECESSARY TO ENSURE CONTINUAL SERVICE.

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