



west virginia department of environmental protection

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

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

Friday, March 6, 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 S-6H
47-033-05983-00-00

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

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

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

James A. Martin
Chief

Operator's Well Number: ANTONIO 1206 S-6H
Farm Name: ANTONIO P., LLC
U.S. WELL NUMBER: 47-033-05983-00-00
Horizontal 6A New Drill
Date Issued: 3/6/2020

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.

WW-6B
(04/15)

API NO. 47- _____ - _____
OPERATOR WELL NO. Antonio 1206 S-6H
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

<u>494519932</u>	<u>Harrison</u>	<u>Grant</u>	<u>West Milford 7.5'</u>
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Operator ID County District Quadrangle
- 2) Operator's Well Number: Antonio 1206 S-6H 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: 24,562'
- 11) Proposed Horizontal Leg Length: 16,202'
- 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' (Surface casing is being extended to cover the coal)
- 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: _____

WW-6B
(04/15)

API NO. 47- _____

OPERATOR WELL NO. Antonio 1206 S-6H

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	24562'	24562'	20% excess tail, CTS
Tubing							
Liners							

*SDW
12/19/2019*

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	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 = 1.18, tail yield 1.95
Tubing							
Liners							

PACKERS

Kind:				
Sizes:				
Depths Set:				

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JAN 07 2020

WV Department of
Environmental Protection

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 S-6H 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 _____

*SDW
12/19/2019*

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: 24,562'

11) Proposed Horizontal Leg Length: 16,202'

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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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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 16,202' lateral length, 24,562' 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 - Blow Spring on every joint, will also be running ACP for isolating storage zone.
Intermediate - Blow 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 CaCl₂ 40% Excess Yield = 1.20, CTS
Intermediate 1 - *Lead: 15.4 ppg PNE-1 + 2.5% bwoc CaCl₂ 40% 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 CaCl₂ 40% Excess / Tail: 15.9 ppg PNE-1 + 2.5% bwoc CaCl zero% Excess. CTS*
Production - *Lead: 14.5 ppg PDC: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.

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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	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>Calcium magnesium oxide</td> <td>90 - 100</td> <td>37247-91-9</td> </tr> </tbody> </table>	Ingredient name	%	CAS number	Calcium magnesium oxide	90 - 100	37247-91-9												
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MPA-170	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 S-6H
Marcellus Shale Horizontal
Harrison County, WV

Ground Elevation		1206 S-6H SHL		1206 S-6H LP		1206 S-6H BHL		1206 S-6H SHL		1206 S-6H LP		1206 S-6H BHL		1206 S-6H SHL		1206 S-6H LP		1206 S-6H BHL			
Azim		1350'		159.798°		1350'		159.798°		1350'		159.798°		1350'		159.798°		1350'			
WELLBORE DIAGRAM	HOLE	CASING	GEOLOGY	TOP	BASE	MUD	CEMENT	CENTRALIZERS	CONDITIONING	COMMENTS	WELLBORE DIAGRAM	HOLE	CASING	GEOLOGY	TOP	BASE	MUD	CEMENT	CENTRALIZERS	CONDITIONING	COMMENTS
X	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	X	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
X	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	X	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
X	17.5"	13-3/8" 68# J-55 BTC	Coal	1010	1015	AIR	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	X	17.5"	13-3/8" 68# J-55 BTC	Coal	1010	1015	AIR	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
X	12.25"	9-5/8" 40# J-55 BTC	Surface / FW	0	1100	AIR / KCL - Salt Polymer	Lead: 15.4 ppg PNE-1 + 2.5% bwoc CaCl 40% Excess / Tail: 15.9 ppg PNE-1 + 2.5% bwoc CaCl zero% Excess. CTS	Bow Spring on first 2 joints then every third joint to 100' form surface	Once casing is at setting depth, Circulate and condition mud at TD. Circulate a minimum of one hole volume prior to pumping cement.	Intermediate casing = 0.395" wall thickness Burst=3950 psi	X	12.25"	9-5/8" 40# J-55 BTC	Surface / FW	0	1100	AIR / KCL - Salt Polymer	Lead: 15.4 ppg PNE-1 + 2.5% bwoc CaCl 40% Excess / Tail: 15.9 ppg PNE-1 + 2.5% bwoc CaCl zero% Excess. CTS	Bow Spring on first 2 joints then every third joint to 100' form surface	Once casing is at setting depth, Circulate and condition mud at TD. Circulate a minimum of one hole volume prior to pumping cement.	Intermediate casing = 0.395" wall thickness Burst=3950 psi
X	8.5" Vertical	5-1/2" 23# P-110 HP CDC HTQ	Intermediate 1	0	2200	9.0ppg SOB	Lead: 14.5 ppg POZ-PNE-1 + 0.3% bwoc R3 + 1% bwoc EC1 + 0.75 gal/sk FP13L + 0.3% bwoc MPA170 Tail: 14.8 ppg PNE-1 + 0.35% bwoc R3 + 0.75 gal/sk FP13L + 50% bwoc ASCA1 + 0.5% bwoc MPA170 20% Excess Lead Yield=1.19 Tail Yield=1.94 CTS	Run 1 spiral centralizer every 5 joints from the top of the curve to surface.	Once on bottom/TD with casing, circulate at max allowable pump rate for at least 2x bottoms up, or until returns and pump pressures indicate the hole is clean. Circulate a minimum of one hole volume prior to pumping cement.	Production casing = 0.415" wall thickness Burst=16240 psi Note: Actual centralizer schedules may be changed due to hole conditions	X	8.5" Vertical	5-1/2" 23# P-110 HP CDC HTQ	Intermediate 1	0	2200	9.0ppg SOB	Lead: 14.5 ppg POZ-PNE-1 + 0.3% bwoc R3 + 1% bwoc EC1 + 0.75 gal/sk FP13L + 0.3% bwoc MPA170 Tail: 14.8 ppg PNE-1 + 0.35% bwoc R3 + 0.75 gal/sk FP13L + 50% bwoc ASCA1 + 0.5% bwoc MPA170 20% Excess Lead Yield=1.19 Tail Yield=1.94 CTS	Run 1 spiral centralizer every 5 joints from the top of the curve to surface.	Once on bottom/TD with casing, circulate at max allowable pump rate for at least 2x bottoms up, or until returns and pump pressures indicate the hole is clean. Circulate a minimum of one hole volume prior to pumping cement.	Production casing = 0.415" wall thickness Burst=16240 psi Note: Actual centralizer schedules may be changed due to hole conditions
X	8.5" Lateral	5-1/2" 23# P-110 HP CDC HTQ	Intermediate 2	0	3000	11.5ppg-12.5ppg SOB	Lead: 14.5 ppg POZ-PNE-1 + 0.3% bwoc R3 + 1% bwoc EC1 + 0.75 gal/sk FP13L + 0.3% bwoc MPA170 Tail: 14.8 ppg PNE-1 + 0.35% bwoc R3 + 0.75 gal/sk FP13L + 50% bwoc ASCA1 + 0.5% bwoc MPA170 20% Excess Lead Yield=1.19 Tail Yield=1.94 CTS	Run 1 spiral centralizer every 3 joints from 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=16240 psi Note: Actual centralizer schedules may be changed due to hole conditions	X	8.5" Lateral	5-1/2" 23# P-110 HP CDC HTQ	Intermediate 2	0	3000	11.5ppg-12.5ppg SOB	Lead: 14.5 ppg POZ-PNE-1 + 0.3% bwoc R3 + 1% bwoc EC1 + 0.75 gal/sk FP13L + 0.3% bwoc MPA170 Tail: 14.8 ppg PNE-1 + 0.35% bwoc R3 + 0.75 gal/sk FP13L + 50% bwoc ASCA1 + 0.5% bwoc MPA170 20% Excess Lead Yield=1.19 Tail Yield=1.94 CTS	Run 1 spiral centralizer every 3 joints from 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=16240 psi Note: Actual centralizer schedules may be changed due to hole conditions

4703405093

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	

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PROPOSAL TO DRILL WITHIN DOMINION TRANSMISSION STORAGE FIELD

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

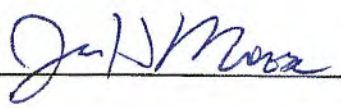
WELL NAME: Antonio 1206

Well # Antonio 1206 S-6H

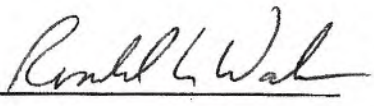
DISTRICT/COUNTY/STATE: Grant/Harrison/WV

Submitted 
JOSH HINTON
HG ENERGY, LLC

DATE 19-DEC-19

Approved 
Dominion Energy Transmission

DATE 1/2/19

Approved 
Dominion Energy Transmission

DATE 1/2/19

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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WW-6B
(04/15)

API NO. 47- _____
OPERATOR WELL NO. Antonio 1206 S-6H
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 S-6H 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 *SDW*
12/19/2019
- 6) Existing Pad: Yes or No No
- 7) Proposed Target Formation(s), Depth(s), Anticipated Thickness and Expected Pressure(s):
Marcellus at 708' / 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: 24,562'
- 11) Proposed Horizontal Leg Length: 16,202'
- 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 S-6H
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	24562'	24562'	20% excess tail, CTS
Tubing							
Liners							

SDW
12/19/2019

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	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 = 1.75, tail yield 1.00
Tubing							
Liners							

PACKERS

Kind:				
Sizes:				
Depths Set:				

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Ground Elevation		1350'		1206 S-6H SHL		1206 S-6H LP		1206 S-6H BHL		1206 S-6H	
Azim		159.788°		1206 S-6H SHL		1206 S-6H LP		1206 S-6H BHL		1206 S-6H	
WELLBORE DIAGRAM		159.788°		1206 S-6H SHL		1206 S-6H LP		1206 S-6H BHL		1206 S-6H	
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, 837, 731	AIR	15.0 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 = 0.435" wall thickness Burst=2110 psi		
17.5"	13-5/8" 66# J-55 BTC	Little/Big Lime Inlet / Condit (Storage)	1655 / 1688 1658 / 1685	1015	AIR	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 ACS 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		
12.25"	9-5/8" 40# J-55 BTC	Filly / Thirty Foot Garden Shry / Gordon 5th Sand Bayard / Warren Intermediate 2 Speechley	2095 / 2182 2232 / 2272 2515 2581 / 2691 0	2200 2157 / 2200 2272 / 2285 2527 2601 / 2601 3000	AIR / KCL Salt Polymer	Lead: 15.4 ppg PNE-1 + 2.5% bwoc CaCl 40% Excess / Tail: 15.9 ppg PNE-1 + 2.5% bwoc CaCl zero% Excess. CTS	Bow Spring on first 2 joints then every third joint to 100' form surface	Once casing is at setting depth, Circulate and condition mud at TD. Circulate a minimum of one hole volume prior to pumping cement.	Intermediate casing = 0.395" wall thickness Burst=3950 psi		
8.5" Vertical		Balltown Beneon	3204 3438 4505	3224 3418 4525	9.0ppg SOBIM	Lead: 14.5 ppg POZ-PNE-1 + 0.3% bwoc R3 + 1% bwoc EC1 + 0.75 gal/kk FP13L + 0.3% bwoc MPA170 Tail: 14.0 ppg PNE-1 + 0.35% bwoc R3 + 0.75 gal/kk FP13L + 0.5% bwoc ASCA1 + 0.5% bwoc MPA170 Lead Yield=1.19 Tail Yield=1.04 CTS	Run 1 spiral centralizer every 5 joints from the top of the curve to surface.	Once on bottom/TD with 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		
8.5" Curve	5-1/2" 23# P-110-HP CDC HTQ	Rhinestreet Cashaqua Middlesex West River Burkett Tully Limestone Hamilton	6935 6651 6751 6783 6854 6864 6864 6872	6851 6751 6783 6854 6864 6872 7081	11.5ppg SOBIM 12.5ppg SOBIM		Run 1 spiral centralizer every 3 joints from the top of the curve.				
8.5" Lateral		Marcellus TMD / TVD (Production) Onondaga	7081 24662 7280	7260 7282	11.5ppg SOBIM 12.5ppg SOBIM						

LP @ 7252' TVD / 5390' MD
 8.5" Hole - Cemented Long String
 5-1/2" 23# P-110 HP CDC HTQ
 +1-16202' R Lateral
 TD @ +17252' TVD
 +1-24592' MD
 X-centralizers

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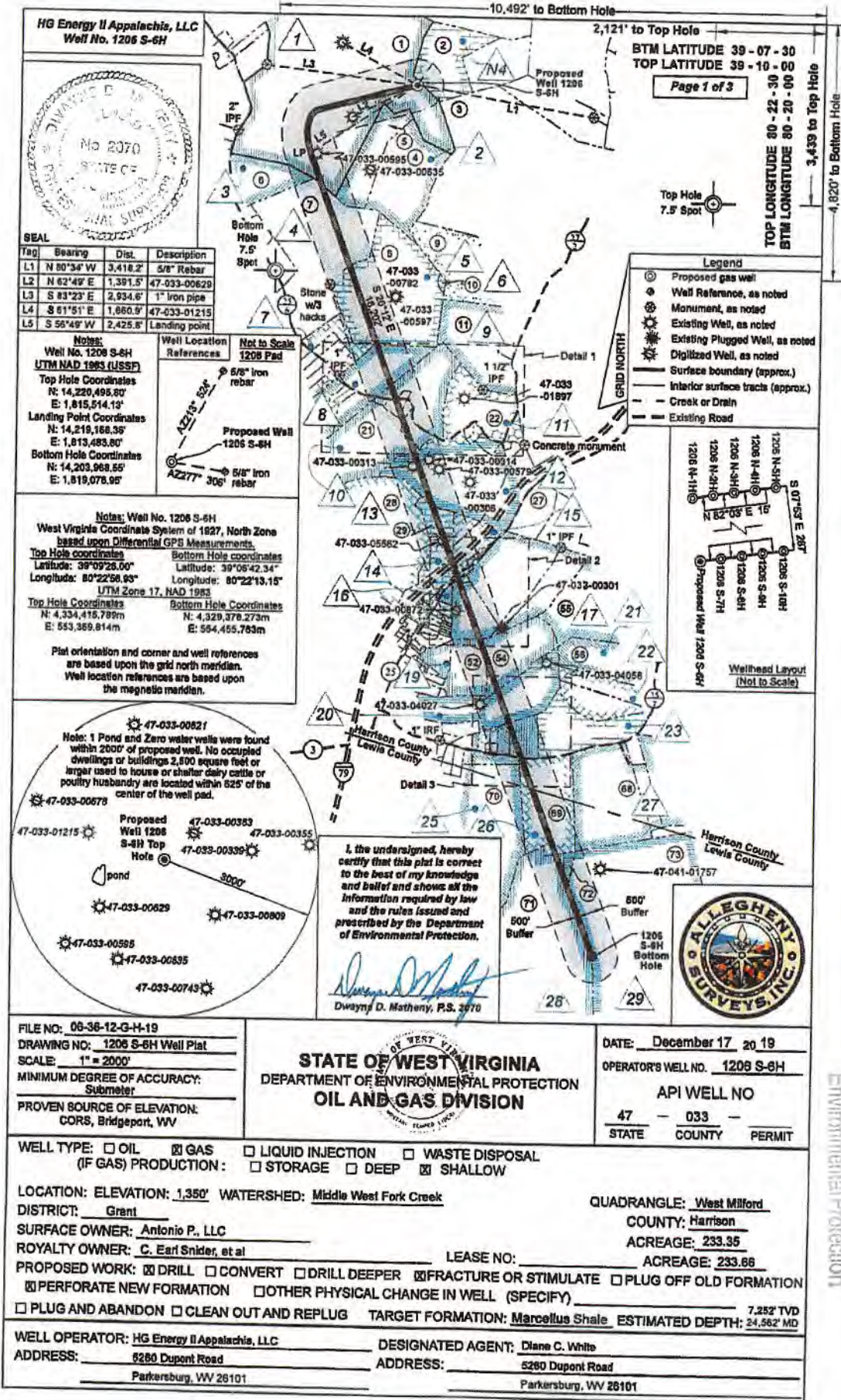
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Ground Elevation		1350'		1206 S-6H SHL		1206 S-6H LP		1206 S-6H BHL		1206 S-6H	
Azim		159.798°		1206 S-6H SHL		1206 S-6H LP		1206 S-6H BHL		1206 S-6H	
WELLBORE DIAGRAM		159.798°		1206 S-6H SHL		1206 S-6H LP		1206 S-6H BHL		1206 S-6H	
HOLE	CASING	GEOLOGY	TOP	BASE	MUD	CEMENT	CENTRALIZERS	CONDITIONING	COMMENTS		
30"	30" 157.5# LS	Conductor	0	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	AIR	15.6 ppg PNE-1 + 3% bwoc CaCl ₂ 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"	13-3/8" 68# J-55 BTC	Little/Big Lime Infant Gears (Storage)	1555 / 1586	AIR / KCL Salt Polymer	Lead: 16.4 ppg PNE-1 + 2.6% bwoc CaCl ₂ 40% Excess / Tail: 15.9 ppg PNE-1 + 2.5% bwoc CaCl ₂ zero% Excess. CTS		Bow Spring on every joint *will also be running ACP for isolating storage zone*	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	Filly / Thinly Foot Gordon Slay / Gordon 5th Sand Bayard / Warren Intermediate 2	2085 / 2162	AIR / KCL Salt Polymer	Lead: 15.4 ppg PNE-1 + 2.5% bwoc CaCl ₂ 40% Excess / Tail: 15.9 ppg PNE-1 + 2.5% bwoc CaCl ₂ zero% Excess. CTS		Bow Spring on first 2 joints then every third joint to 100' form surface	Once casing is at setting depth, circulate and condition mud at TD. Circulate a minimum of one hole volume prior to pumping cement.	Intermediate casing = 0.395" wall thickness Burst=3950 psi		
6.5" Vertical		Speechley	3204	9.0ppg SOBMB			Run 1 spiral centralizer every 5 joints from the top of the curve to surface.	Once on bottom TD with 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		
6.5" Curve	5-1/2" 23# P-110 HP CDC HTQ	Cashuaque Middlesex West River Burkett Tully Limestone Hamilton Marcellus TMD / TVD (Production) Onondaga	6395 6851 6751 6783 6854 6884 6972 7081 7260	11.5ppg-12.5ppg SOBMB	Label: 14.5 ppg POZ:PNE-1 + 0.3% bwoc R3 + 1% bwoc FP13L + 0.25 gal/ak MP1A170 IWB: 14.5 ppg PNE-1 + 0.35% bwoc R3 + 0.75 gal/ak FP13L + 50% bwoc ASCA1 + 0.5% bwoc MPA170 20% Excess Lead Yield=1.19 Tail Yield=1.84 CTS		Run 1 spiral centralizer every 3 joints from the top of the curve.				
6.5" Lateral			24562 7252 7260	11.5ppg-12.5ppg SOBMB							

LP @ 7252' TVD / 6380' MD
 6.5" Hole - Cemented Long String
 5-1/2" 23# P-110 HP CDC HTQ

TD @ 47252' TVD
 47245827 MD
 X=centralizers

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HG Energy II Appalachia, LLC
Well No. 1206 S-6H



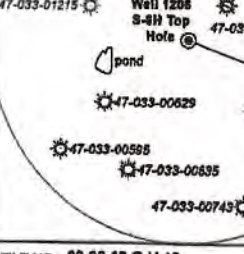
SEAL

Tag	Bearing	Dist.	Description
L1	N 80°34' W	3,418.2'	5/8" Rebar
L2	N 62°49' E	1,391.5'	47-033-00629
L3	S 83°23' E	2,934.6'	1" Iron pipe
L4	S 61°51' E	1,660.9'	47-033-01215
L5	S 56°49' W	2,425.8'	Landing point

Notes:
Well No. 1206 S-6H
UTM NAD 1983 (USSF)
Top Hole Coordinates
N: 14,220,495.80'
E: 1,815,514.13'
Landing Point Coordinates
N: 14,219,168.35'
E: 1,813,483.80'
Bottom Hole Coordinates
N: 14,203,968.55'
E: 1,819,078.95'

Notes: Well No. 1206 S-6H
West Virginia Coordinate System of 1927, North Zone based upon Differential GPS Measurements.
Top Hole coordinates
Latitude: 39°09'28.00"
Longitude: 80°22'13.15"
UTM Zone 17, NAD 1983
Top Hole Coordinates
N: 4,334,415.789m
E: 553,369.814m
Bottom Hole Coordinates
N: 4,329,378.273m
E: 554,465.763m

Plat orientation and corner and well references are based upon the grid north meridian.
Well location references are based upon the magnetic meridian.



Well Location References
Not to Scale
1206 Pad
5/8" iron rebar
Proposed Well 1206 S-6H
5/8" iron rebar
A2277' 306'

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Proposed Well 1206 S-6H
5/8" iron rebar
A2277' 306'

Well Location References
Not to Scale
1206 Pad
5/8" iron rebar
Proposed Well 1206 S-6H
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Not to Scale
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Proposed Well 1206 S-6H
5/8" iron rebar
A2277' 306'

FILE NO: 06-36-12-G-H-19
DRAWING NO: 1206 S-6H Well Plat
SCALE: 1" = 2000'
MINIMUM DEGREE OF ACCURACY: Submeter
PROVEN SOURCE OF ELEVATION: CORS, Bridgeport, WV

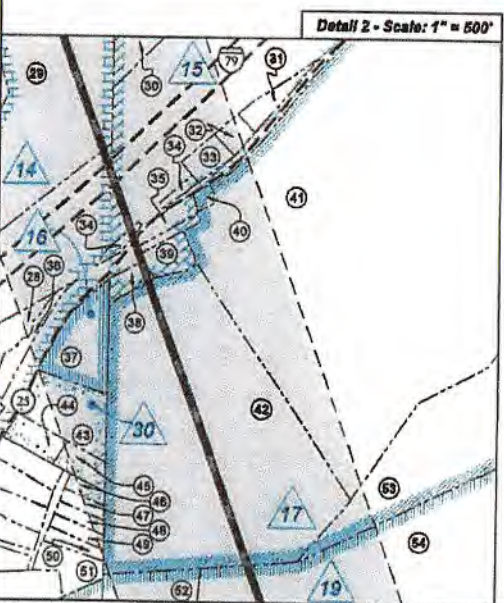
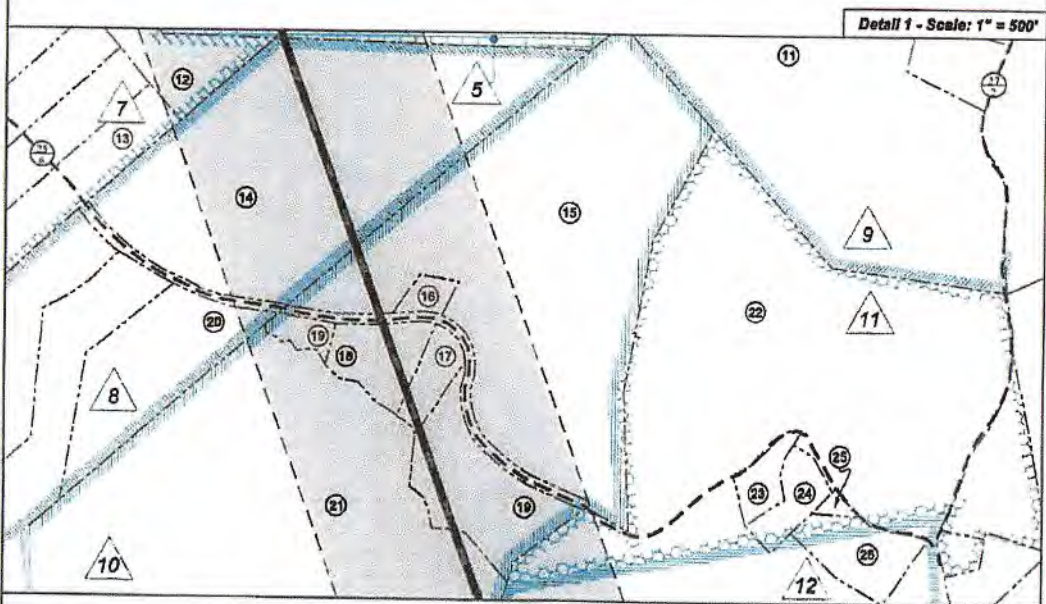
STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
OIL AND GAS DIVISION

DATE: December 17, 2019
OPERATOR'S WELL NO. 1206 S-6H
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
SURFACE OWNER: Antonio P., LLC
ROYALTY OWNER: C. Earl Snider, et al
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 24,562' MD

WELL OPERATOR: HG Energy II Appalachia, LLC
ADDRESS: 5280 Dupont Road Parkersburg, WV 26101
DESIGNATED AGENT: Diane C. White
ADDRESS: 5280 Dupont Road Parkersburg, WV 26101

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ID	Lease
1	C. Earl Snider, et al
2	Creed W. Snider, et al
3	Union National Bank, et al
4	C.E. Hickman, et al
5	Hazel Kieffer, et al
6	Nora A. Davison, et al
7	Robert F. Martin, et al
8	Robert F. Martin, et al
9	Nora A. Davison, et al
10	Ether J. Ward, et al
11	W.M. West
12	Ode Bright, et al
13	Nathan McWhorter, et al
14	Nathan McWhorter, et al
15	Iden McWhorter, et ux
16	Thomas S. McWhorter, et al
17	Iden McWhorter, et al
19	Howard J. Reed, et al
20	J.A. Snock, et ux
21	Cora B. Reed, et al
22	Emma Waggoner, et al
23	Stanley Yochym, et al
24	Ronald Coffindaffer, et al
25	Myrtle Edmonds, et al
26	J.L. Jenkins, et al
27	H.A. Boyan, et al
28	Margaret Howell, et vir
29	Fleming Howell, et al
30	Leseter M. Prince, et ux
31.1	Ronald Coffindaffer
31.2	Kelli Kemper
N4	Alton Bell, et al

FILE NO: 06-36-12-G-H-19
DRAWING NO: 1206 S-6H Well Plat
SCALE: 1" = 2000'
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: December 17, 2019
OPERATOR'S WELL NO. 1206 S-6H
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

SURFACE OWNER: Antonio P., LLC
ROYALTY OWNER: C. Earl Snider, et al LEASE NO: _____ ACREAGE: 233.66

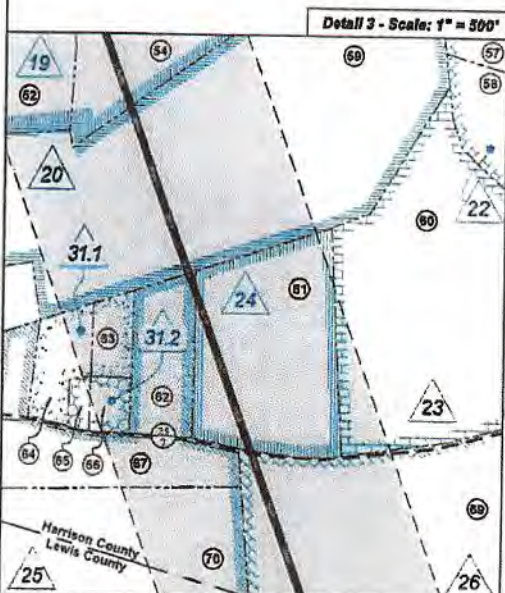
PROPOSED WORK: DRILL CONVERT DRILL DEEPER FRACTURE OR STIMULATE PLUG OFF OLD FORMATION
 PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE IN WELL (SPECIFY) _____
 PLUG AND ABANDON CLEAN OUT AND REPLUG TARGET FORMATION: Marcellus Shale ESTIMATED DEPTH: 7,252' TVD 24,562' MD

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

WV Department of Environmental Protection
 Office of Oil and Gas
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Lewis County - Hackers Creek District				
No.	TM / Par	Owner	Bk / Pg	Ac.
69	9C / 34	Joshua P. Kramm & Virginia B. Marks	722 / 78	42.85
70	9C / 28	Leonard D. Drake	480 / 264	106.15
71	9C / 27	S. Thomas Bond, et ux	577 / 328	225.25
72	9C / 37	S. Thomas Bond, et ux	577 / 328	2.25
73	9C / 35	S. Thomas Bond, et ux	577 / 328	282.17

Harrison County - Grant Outside District				
No.	TM / Par	Owner	Bk / Pg	Ac.
1	426 / 71	Antonio P., LLC	1503 / 291	233.35
2	426 / 72	Charles R. & Franklin L. Sutton	1301 / 98	30.00
3	446 / 3	Antonio P., LLC	1503 / 291	200.00
4	446 / 2	Antonio P., LLC	1503 / 291	43.89
5	446 / 1	Antonio P., LLC	1503 / 291	24.10
6	445 / 13	Mickey Pettit	W175 / 1167	132.85
7	446 / 16	Antonio P., LLC	1503 / 291	68.65
8	446 / 18	William L. Jenkins	1155 / 581	84.41
9	446 / 19	Mary Richards	W118 / 904	52.72
10	446 / 18.1	Mary Richards	W118 / 904	0.09
11	446 / 33	Mary Richards	W118 / 904	46.23
12	446 / 30	Charles R. Sutton	1535 / 207	29.00
13	446 / 30.1	Sidney Horner	1138 / 28	4.83
14	446 / 31.1	Jeri Booher	1421 / 1073	22.61
15	446 / 39	Charles Nay	W184 / 59	30.11
16	446 / 32	Joanna K. Stratton	W156 / 39	0.62
17	446 / 39.4	Billy J. & Vicki L. Lamb	1514 / 1272	1.09
18	446 / 39.3	Billy J. & Vicki L. Lamb	1286 / 318	2.02
19	446 / 39.2	Lester Hawkins	W133 / 689	4.85
20	446 / 31.3	Richard L. Hawkins, Jr.	1569 / 982	5.76
21	446 / 39.1	Franklin L. Sutton	1401 / 913	47.40
22	446 / 40	W. Joe & Hannah M. Sutton	1192 / 181	82.69
23	446 / 40.3	John Henry McWhorter	1422 / 1120	0.89
24	446 / 40.2	John Henry McWhorter	1422 / 1120	1.20
25	446 / 40.4	John Henry McWhorter	1422 / 1120	0.20
26	446 / 40.5	Leroy J. Newman	1422 / 137	2.10
27	446 / 15	Charles R. Sutton	--- / ---	9.20
28	466 / 5	Mary Reel	1244 / 948	75.48
29	466 / 5.1	Mary Reel	1244 / 948	23.50
30	466 / 13.1	Robert & Ruth Highland	1180 / 841	2.55
31	466 / 13.1	Randy & Barbara Marteny	1371 / 87	0.37
32	466 / 15.3	Rodney & Joannie Marteny	1426 / 22	0.26
33	466 / 15.2	Willard & Shirley Shelton	1148 / 79	0.39
34	466 / 12	Wellington J. & Hannah M. Sutton	1278 / 173	0.34
35	466 / 12.1	Wellington J. & Hannah M. Sutton	1182 / 67	0.20
36	466 / 6.1	John R. Freeman	--- / ---	1 Lot
37	466 / 9	Fred & Carolyn Jones	1242 / 990	1.53
38	466 / 9	Janice Jenkins	1158 / 891	0.34
39	466 / 10	Janice Jenkins	1158 / 891	0.56
40	466 / 12.2	Jane Lewis, et al	W166 / 491	0.50
41	466 / 14.2	Charles & Franklin Sutton	905 / 259	37.33
42	466 / 14.1	Frank N. Wine, Jr. & Frank N. Wine, III	1596 / 809	15.53
43	466 / 7	Carolyn Hedley, et al	W161 / 86	1.91
44	2004 / 8.1	David L. & Mary A. Ash	1375 / 1037	0.47
45	2004 / 8	Carolyn Hedley, et al	W161 / 86	0.42
46	2004 / 13	Carolyn Hedley, et al	W161 / 86	0.18
47	2004 / 22	Travis J. Williams	1268 / 1367	0.20
48	2004 / 23	Deborah L. Williams	1482 / 702	0.23
49	2004 / 32	James & Sherry Arbogast	1577 / 1008	0.27
50	2004 / 33	James & Sherry Arbogast	1577 / 1008	0.29
51	2004 / 34	William W. Wright	1548 / 984	0.50
52	466 / 31	Frank N. Wine, Jr. & Frank N. Wine, III	1596 / 809	16.14
53	466 / 14	Frank N. Wine, Jr. & Frank N. Wine, III	1596 / 809	21.16
54	466 / 32	Frank N. Wine, Jr. & Frank N. Wine, III	1596 / 809	29.87
55	466 / 35	Frank N. Wine, Jr. & Frank N. Wine, III	1596 / 809	60.00
56	466 / 34	Frank N. Wine, Jr. & Frank N. Wine, III	1596 / 809	27.46
57	466 / 33	Frank N. Wine, Jr. & Frank N. Wine, III	1596 / 809	13.75
58	466 / 54	Frank N. Wine, Jr. & Frank N. Wine, III	1596 / 809	11.04
59	466 / 52	Frank N. Wine, Jr. & Frank N. Wine, III	1596 / 809	46.40
60	466 / 53	Frank N. Wine, Jr. & Frank N. Wine, III	1596 / 809	55.00
61	466 / 67	Ronald D. Coffindaffer, II, et al	1511 / 1100	9.78
62	466 / 65	Ronald D. Coffindaffer, II, et al	1511 / 1100	2.15
63	466 / 64	Ronald D. Coffindaffer, II	1596 / 751	1.11
64	466 / 64.2	Ronald D. Coffindaffer, II	1596 / 755	1.52
65	466 / 64.3	Kelli R. Breen	1354 / 299	0.36
66	466 / 64.1	Kelli R. Breen	1354 / 299	0.68
67	466 / 66	Robert & Kristi Richards	1326 / 1237	4.98
68	466 / 68	Frank N. Wine, Jr. & Frank N. Wine, III	1596 / 809	59.25



FILE NO: 06-36-12-G-H-19
DRAWING NO: 1206 S-6H Well Plat
SCALE: 1" = 2000'
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: December 17, 2019
OPERATOR'S WELL NO. 1206 S-6H
API WELL NO
47 - 033 -
STATE COUNTY PERMIT

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

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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

QUADRANGLE: West Millford
COUNTY: Harrison
ACREAGE: 233.35
ACREAGE: 233.66

WV Department of Environmental Protection
 Office of Oil and Gas
 JAN 07 2020

WW-9
(4/16)

API Number 47 - _____ - _____

Operator's Well No. Antonio 1206 S-6H

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

FLUIDS/ CUTTINGS DISPOSAL & RECLAMATION PLAN

Operator Name HG Energy II Appalachia, LLC OP Code 494501907

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

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

Will a pit be used? Yes No

If so, please describe anticipated pit waste: NA

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

Proposed Disposal Method For Treated Pit Wastes:

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

*SDW
12/19/2019*

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, SOB, Horizontal - SOB

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

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

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

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

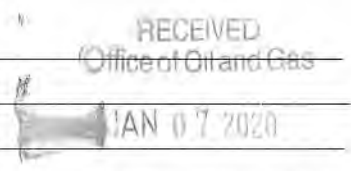
-Landfill or offsite name/permit number? See Attached

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

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

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

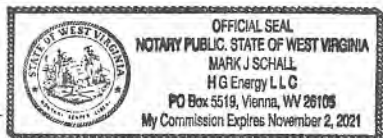
Company Official Signature *Diane White*
Company Official (Typed Name) Diane White
Company Official Title Agent



Subscribed and sworn before me this 23rd day of October, 2019

Ch. Me... 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	40	Tall Fescue	40
Ladino Clover	5	Ladino Clover	5

Maintain E&S controls through the drilling and completion process

Attach:

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

Photocopied section of involved 7.5' topographic sheet.

Plan Approved by: [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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WV Department of
Environmental Protection

Title: Oil & Gas Inspector Date: 12/19/2019

Field Reviewed? () Yes () No

Cuttings Disposal/Site Water

Cuttings -Haul off Company:

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

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

Environmental Coordination Services & Recycling (ECS&R)
8287 US Highway 19
Cochranon, PA 16314
814-425-7778

Disposal Locations:

Apex Environmental, LLC Permit # 06-08488
11 County Road 78
Amsterdam, OH 43908
740-548-4889

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

Sycamore Landfill Inc. Permit #R80-079001 05-2010
4301 Sycamore Ridge Road
Hurricane, WV 25526
304-562-2611

Max Environmental Technologies, Inc. Facility Permit # PAD004888146 / 301071
283 Max Lane
Yukan, 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
1801 Park Side Drive
Elizabeth, PA 15037
412-884-7569

Waste Management South Hills (Arnot) Permit # 100582
3100 Hill Road
Liberty, PA 15129
724-848-7013
412-884-7569

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

Waste Management Meadowfill Permit # 1082
1488 Dawson Drive
Bridgeport, WV 26330

Brooke County Landfill Permit # SWR-109-97 / WV 0109029
Rd 2 Box 410
Colliers, WV 26035
304-748-0014

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Environmental Protection

Wetzel County Landfill Permit # SWF-1021-97 / WV 0109185
 Rt 1, Box 158A
 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-79006-124
 1560 Bear Creek Road
 Oak Ridge, TN 37830

Northern A-1 Environmental Services Permit ID MID020906814
 3947 US 131 North, PO Box 1030
 Kalkaska, MI 49646
 221-258-9961

Water Haul off Companies:

Dynamic Structures, Clear Creek DQT # 720488
 3790 State Route 7
 New Waterford, OH 44445
 330-892-0184

Nabors Completion & Production Services Co.
 PO Box 976682
 Dallas, TX 75397-6682

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

Nuverra Environmental Solutions
 11942 Veterans Memorial Highway
 Masontown, WV 26542

Mustang Oilfield Services LLC
 PO Box 799
 St. Clairsville, OH 43950

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

Disposal Locations:

Solidification
 Waste Management, Arden Landfill Permit # 100172
 200 Rangos Lane
 Washington, PA 15301
 724-225-1889

Solidification/Incineration
 Soil Remediation, Inc. Permit # 02-20753
 6065 Arrel-Smith Road
 Lowellville, OH 44436
 880-588-6825

Adams #1 (Buckeye Brine, LLC)
 Permit # 34-031-2-7177
 23988 Airport Road
 Coshocton, OH 43812
 740-575-4484
 512-478-6545

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

Force, Inc.
 1380 Rte. 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 15632

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

Nichols 1-A (SWIW #18)
 Permit # 8862
 300 Cherrington Pkwy, Suite 200
 Coraopolis, PA 15108
 412-829-7275

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

Kemble 1-D Well
 Permit # 8780
 7675 East Pike
 Norwich, OH 43767
 614-648-8898
 740-786-6495

WV Department of
 Environmental Protection

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Adams #2 (Buckeye Brine, LLC)
2205 Westover Road
Austin TX 78708
Permit # 34-031-2-7178
740-575-4484
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

Mozena #1 Well (SWIW # 18)
Permit # 34-157-2-5511-00-00
5357 E. State Street
Newcomerstown, OH 43882
740-768-3968

Goff SWD #1 (SWIW # 27)
Permit # 34-119-2-8776-000
300 Cherrington Pkwy, Suite 200
Coraopolis, PA 15108
412-828-7275

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
7884 S. Pleasants Hwy
St. Marys, WV 26170
304-665-2652

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

US Steels 11385
Permit # 47-001-00561
200 Evergreen Drive
Waynesburg, PA 15780
804-823-8368

Chapin #7 UIC (SWIW #7)
Permit # 34-083-2-4187-00-00
Elkhead Gas & Oil Company
12188 Marne Rd. NE
Newark, OH 43055
740-768-3968

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WV Department of
Environmental Protection

Handwritten notes and signatures at the bottom of the page.

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

HG Energy II Appalachia, LLC

5260 Dupont Road

Parkersburg, WV 26101

SDW

10/31/2019

SDW

12/19/2019

WV Department of
Environmental Protection

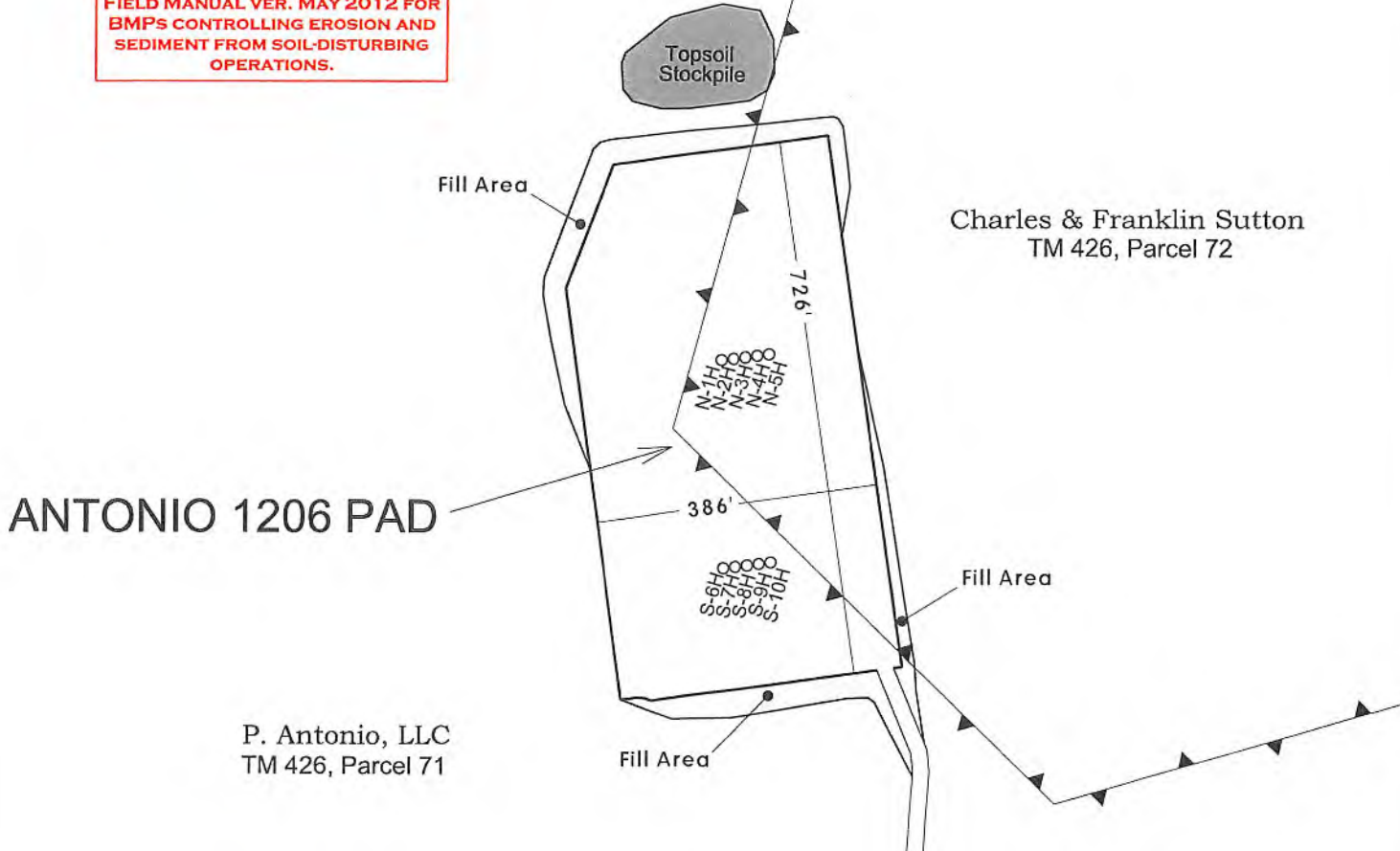
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Reclamation Plan For: ANTONIO 1206 PAD



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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Environmental Protection

Notes:

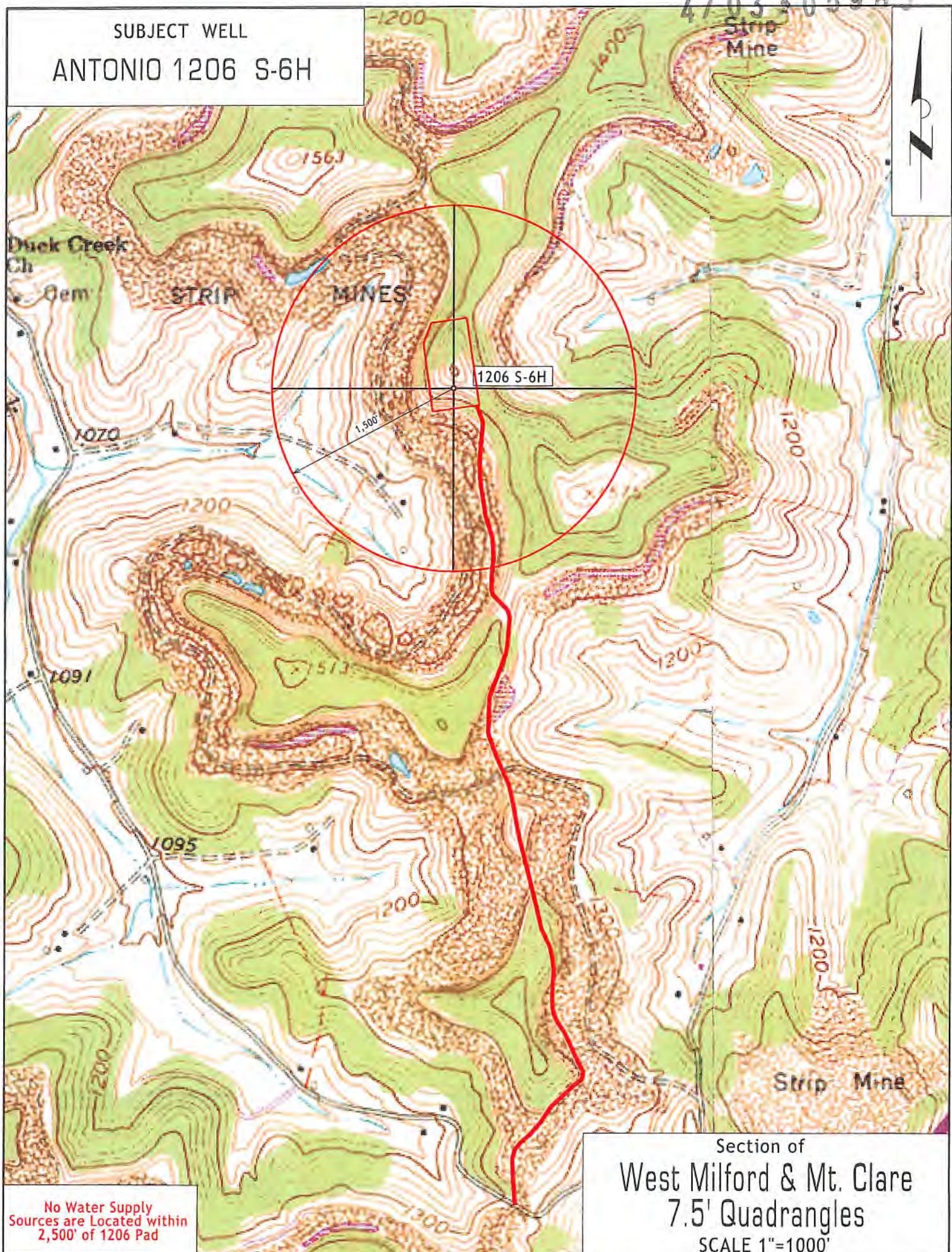
- REQUESTED PERMIT IS FOR DRILLING NEW HORIZONTAL WELL.
- LOCATION AND ACCESS ROADS WILL BE CONSTRUCTED AS SHOWN ON THE ENGINEERED DRAWINGS WHICH ACCOMPANY THIS PERMIT APPLICATION. REFERENCE IS HEREBY MADE TO THOSE PLANS FOR MORE DETAIL ON E&S MEASURES TO BE TAKEN TO ENSURE COMPLIANCE WITH WVDEP RECLAMATION 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.

To SLS $\frac{25}{6}$

47 03 30 59 83



SUBJECT WELL
ANTONIO 1206 S-6H



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

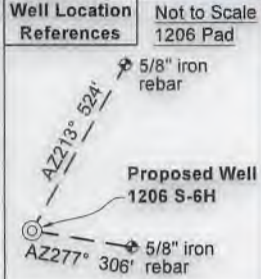
Section of
West Milford & Mt. Clare
7.5' Quadrangles
SCALE 1"=1000'

HG Energy II Appalachia, LLC
Well No. 1206 S-6H

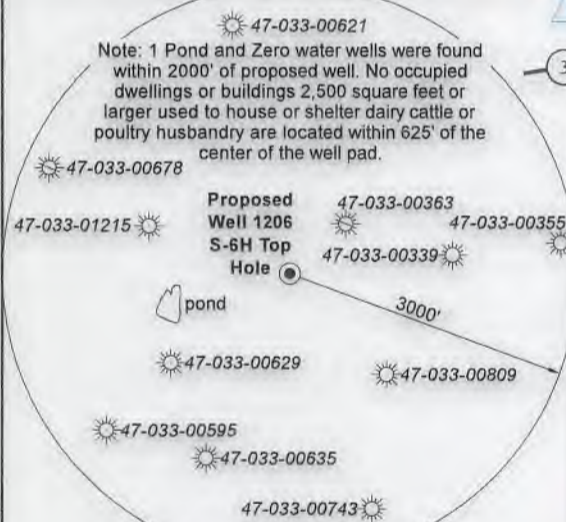


Tag	Bearing	Dist.	Description
L1	N 80°34' W	3,418.2'	5/8" Rebar
L2	N 62°49' E	1,391.5'	47-033-00629
L3	S 83°23' E	2,934.6'	1" Iron pipe
L4	S 61°51' E	1,660.9'	47-033-01215
L5	S 56°49' W	2,425.8'	Landing point

Notes:
Well No. 1206 S-6H
UTM NAD 1983 (USSF)
Top Hole Coordinates
N: 14,220,495.80'
E: 1,815,514.13'
Landing Point Coordinates
N: 14,219,168.36'
E: 1,813,483.80'
Bottom Hole Coordinates
N: 14,203,968.55'
E: 1,819,076.95'



Notes: Well No. 1206 S-6H
West Virginia Coordinate System of 1927, North Zone
based upon Differential GPS Measurements.
Top Hole coordinates Bottom Hole coordinates
Latitude: 39°09'26.00" Latitude: 39°06'42.34"
Longitude: 80°22'56.93" Longitude: 80°22'13.15"
UTM Zone 17, NAD 1983
Top Hole Coordinates Bottom Hole Coordinates
N: 4,334,415.789m N: 4,329,378.273m
E: 553,369.814m E: 554,455.763m
Plat orientation and corner and well references
are based upon the grid north meridian.
Well location references are based upon
the magnetic meridian.



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

FILE NO: 06-36-12-G-H-19
DRAWING NO: 1206 S-6H Well Plat
SCALE: 1" = 2000'
MINIMUM DEGREE OF ACCURACY: Submeter
PROVEN SOURCE OF ELEVATION: CORS, Bridgeport, WV

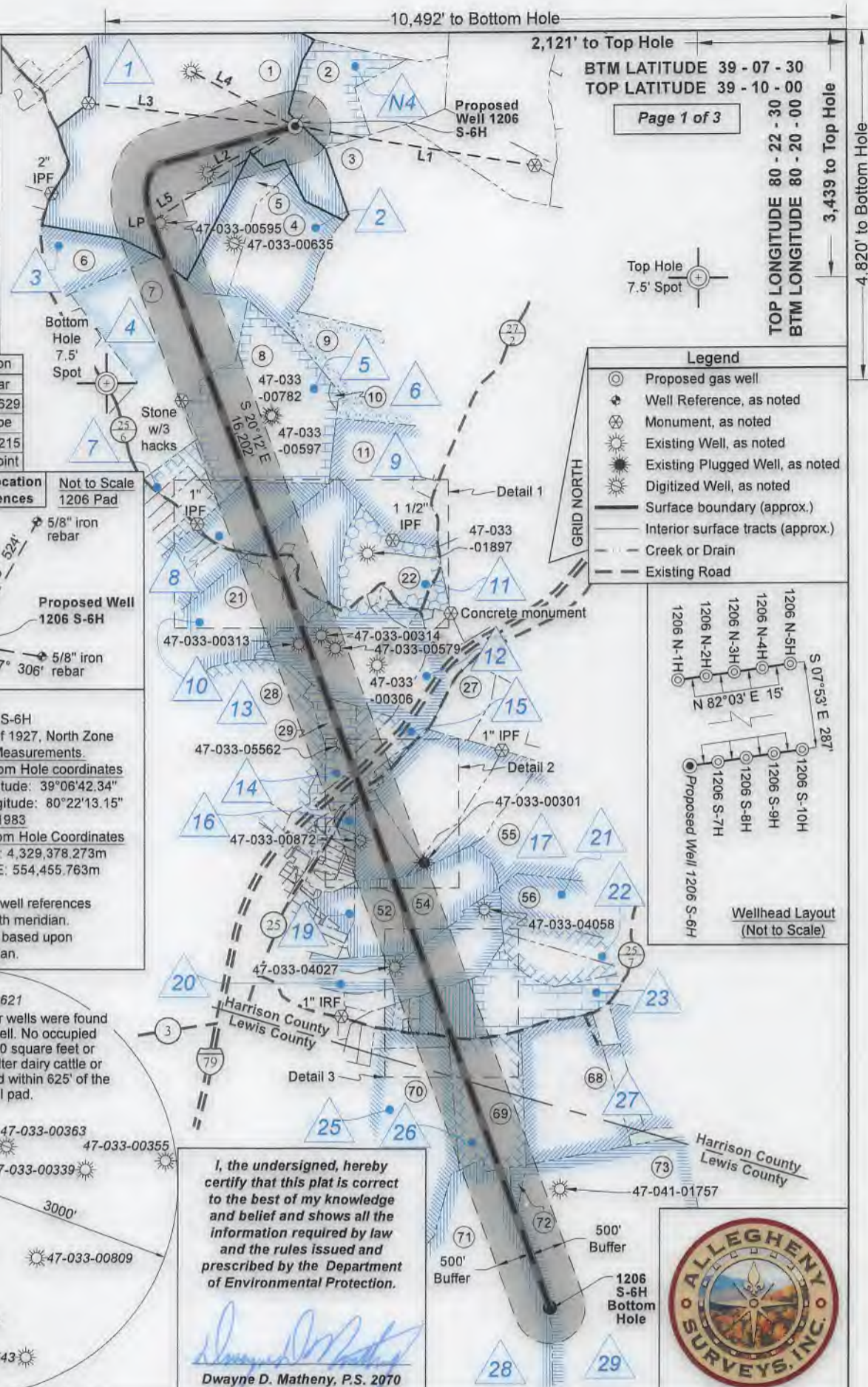
STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
OIL AND GAS DIVISION

DATE: December 17 20 19
OPERATOR'S WELL NO. 1206 S-6H
API WELL NO
47 - 033 - 05983
STATE COUNTY PERMIT

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

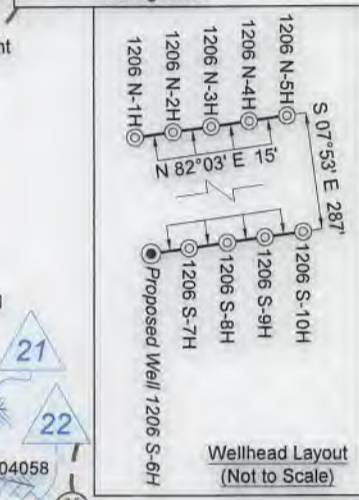
LOCATION: ELEVATION: 1,350' WATERSHED: Middle West Fork Creek QUADRANGLE: West Milford
DISTRICT: Grant COUNTY: Harrison
SURFACE OWNER: Antonio P., LLC ACREAGE: 233.35
ROYALTY OWNER: C. Earl Snider, et al LEASE NO: ACREAGE: 233.66
PROPOSED WORK: DRILL CONVERT DRILL DEEPER FRACTURE OR STIMULATE PLUG OFF 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: 24,562' 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



Legend

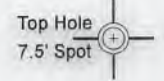
- Proposed gas well
- Well Reference, as noted
- Monument, as noted
- Existing Well, as noted
- Existing Plugged Well, as noted
- Digitized Well, as noted
- Surface boundary (approx.)
- Interior surface tracts (approx.)
- Creek or Drain
- Existing Road



BTM LATITUDE 39 - 07 - 30
TOP LATITUDE 39 - 10 - 00

Page 1 of 3

TOP LONGITUDE 80 - 22 - 30
BTM LONGITUDE 80 - 20 - 00

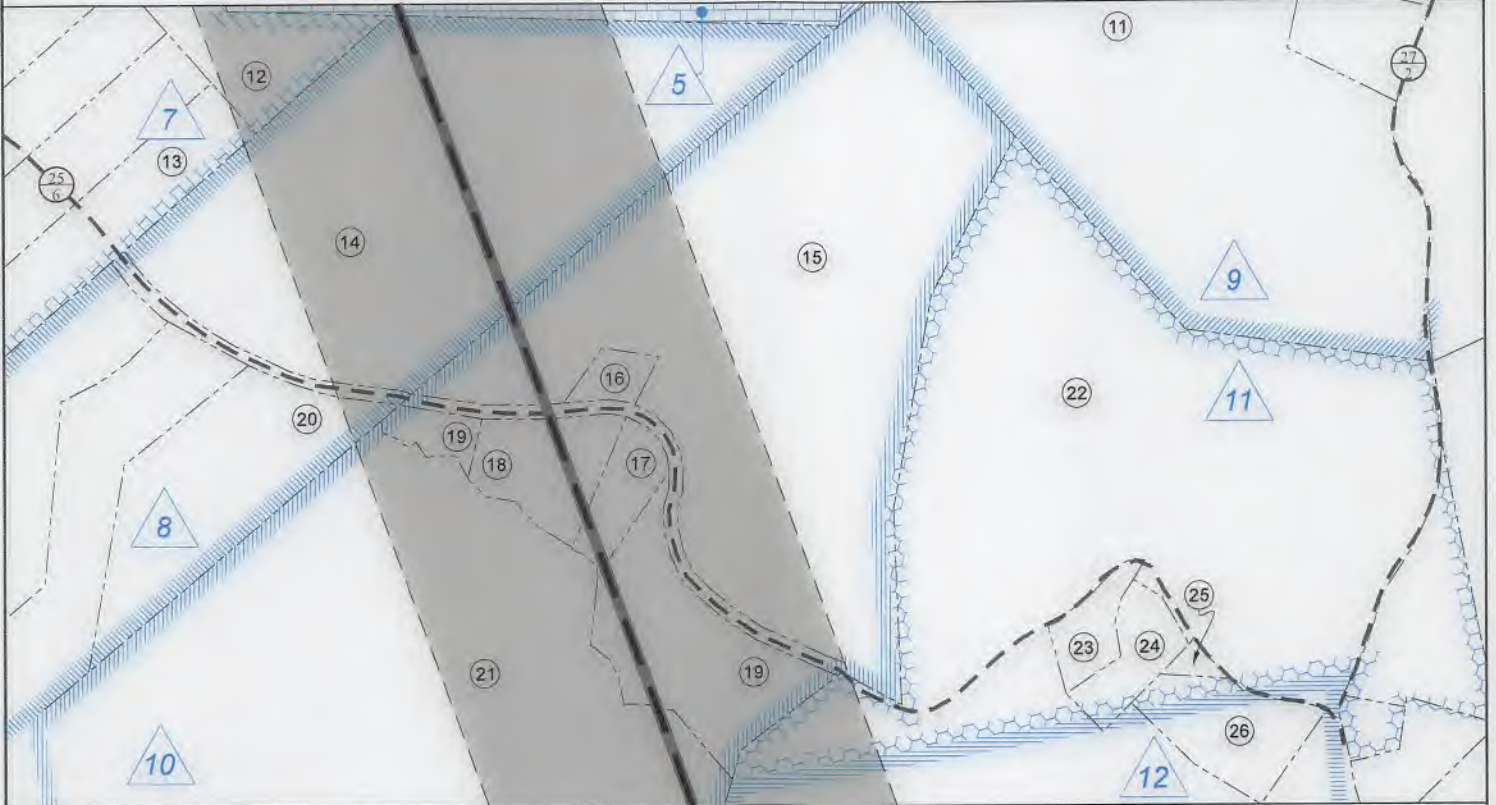


10,492' to Bottom Hole

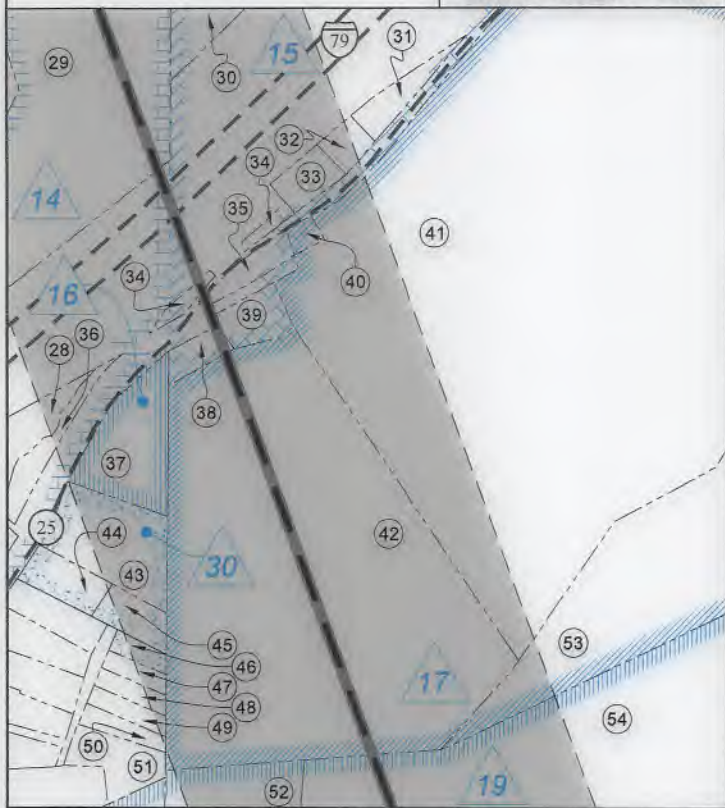
2,121' to Top Hole

3,439 to Top Hole
4,820' to Bottom Hole

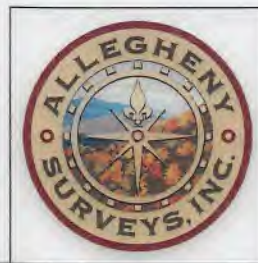
Detail 1 - Scale: 1" = 500'



Detail 2 - Scale: 1" = 500'



ID	Lease
1	C. Earl Snider, et al
2	Creed W. Snider, et al
3	Union National Bank, et al
4	C.E. Hickman, et al
5	Hazel Kieffer, et al
6	Nora A. Davisson, et al
7	Robert F. Martin, et al
8	Robert F. Martin, et al
9	Nora A. Davisson, et al
10	Ethel J. Ward, et al
11	W.M. West
12	Ode Bright, et al
13	Nathan McWhorter, et al
14	Nathan McWhorter, et al
15	Iden McWhorter, et ux
16	Thomas S. McWhorter, et al
17	Iden McWhorter, et al
19	Howard J. Reed, et al
20	J.A. Shock, et ux
21	Cora B. Reed, et al
22	Emma Waggoner, et al
23	Stanley Yochym, et al
24	Ronald Coffindaffer, et al
25	Myrtle Edmonds, et al
26	J.L. Jenkins, et al
27	H.A. Boylen, et al
28	Margaret Howell, et vir
29	Fleming Howell, et al
30	Leseter M. Prince, et ux
31.1	Ronald Coffindaffer
31.2	Kelli Kemper
N4	Alton Bell, et al



FILE NO: 06-36-12-G-H-19
DRAWING NO: 1206 S-6H Well Plat
SCALE: 1" = 2000'
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: December 17, 2019
OPERATOR'S WELL NO. 1206 S-6H
API WELL NO
47 - 033 - 05983
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: Antonio P., LLC

QUADRANGLE: West Milford
COUNTY: Harrison
ACREAGE: 233.35

ROYALTY OWNER: C. Earl Snider, et al LEASE NO: ACREAGE: 233.66
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 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: 24,562' 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

Lewis County - Hackers Creek District

No.	TM / Par	Owner	Bk / Pg	Ac.
69	9C / 34	Joshua P. Kramm & Virginia B. Marks	722 / 78	42.85
70	9C / 28	Leonard D. Drake	480 / 264	106.15
71	9C / 27	S. Thomas Bond, et ux	577 / 328	225.25
72	9C / 37	S. Thomas Bond, et ux	577 / 328	2.25
73	9C / 35	S. Thomas Bond, et ux	577 / 328	282.17



Harrison County - Grant Outside District

No.	TM / Par	Owner	Bk / Pg	Ac.
1	426 / 71	Antonio P., LLC	1503 / 291	233.35
2	426 / 72	Charles R. & Franklin L. Sutton	1301 / 98	30.00
3	446 / 3	Antonio P., LLC	1503 / 291	200.00
4	446 / 2	Antonio P., LLC	1503 / 291	43.89
5	446 / 1	Antonio P., LLC	1503 / 291	24.10
6	445 / 13	Mickey Petitto	W175 / 1167	132.85
7	446 / 16	Antonio P., LLC	1503 / 291	68.85
8	446 / 18	William L. Jenkins	1155 / 581	84.41
9	446 / 19	Mary Richards	W118 / 904	52.72
10	446 / 18.1	Mary Richards	W118 / 904	0.09
11	446 / 33	Mary Richards	W118 / 904	46.23
12	446 / 30	Charles R. Sutton	1535 / 207	29.00
13	446 / 30.1	Sidney Horner	1138 / 28	4.83
14	446 / 31.1	Jeri Booher	1421 / 1073	22.61
15	446 / 39	Charles Nay	W184 / 59	30.11
16	446 / 32	Joanna K. Stratton	W156 / 39	0.62
17	446 / 39.4	Billy J. & Vicki L. Lamb	1514 / 1272	1.09
18	446 / 39.3	Billy J. & Vicki L. Lamb	1286 / 316	2.02
19	446 / 39.2	Lester Hawkins	W133 / 689	4.85
20	446 / 31.3	Richard L. Hawkins, Jr.	1569 / 982	5.76
21	446 / 39.1	Franklin L. Sutton	1401 / 913	47.40
22	446 / 40	W. Joe & Hannah M. Sutton	1192 / 181	82.69
23	446 / 40.3	John Henry McWhorter	1422 / 1120	0.89
24	446 / 40.2	John Henry McWhorter	1422 / 1120	1.20
25	446 / 40.4	John Henry McWhorter	1422 / 1120	0.20
26	446 / 40.5	Leroy J. Newman	1422 / 137	2.10
27	446 / 15	Charles R. Sutton	--- / ---	9.20
28	466 / 5	Mary Reel	1244 / 948	75.48
29	466 / 5.1	Mary Reel	1244 / 948	23.50
30	466 / 13.1	Robert & Ruth Highland	1160 / 641	2.55
31	466 / 15.1	Randy & Barbara Marteny	1371 / 87	0.37
32	466 / 15.3	Rodney & Joannie Marteny	1426 / 22	0.26
33	466 / 15.2	Willard & Shirley Shelton	1146 / 79	0.39
34	466 / 12	Wellington J. & Hannah M. Sutton	1276 / 173	0.34
35	466 / 12.1	Wellington J. & Hannah M. Sutton	1162 / 87	0.20
36	466 / 6.1	John R. Freeman	--- / ---	1 Lot
37	466 / 8	Fred & Carolyn Jones	1242 / 990	1.53
38	466 / 9	Janice Jenkins	1158 / 891	0.34
39	466 / 10	Janice Jenkins	1158 / 891	0.56
40	466 / 12.2	Jane Lewis, et al	W166 / 491	0.50
41	466 / 14.2	Charles & Franklin Sutton	905 / 259	37.33
42	466 / 14.1	Frank N Wine, Jr. & Frank N. Wine, III	1596 / 809	15.53
43	466 / 7	Carolyn Hedley, et al	W161 / 86	1.91
44	2004 / 8.1	David L. & Mary A. Ash	1375 / 1037	0.47
45	2004 / 8	Carolyn Hedley, et al	W161 / 86	0.42
46	2004 / 13	Carolyn Hedley, et al	W161 / 86	0.18
47	2004 / 22	Travis J. Williams	1268 / 1307	0.20
48	2004 / 23	Deborah L. Williams	1482 / 702	0.23
49	2004 / 32	James & Sherry Arbogast	1577 / 1008	0.27
50	2004 / 33	James & Sherry Arbogast	1577 / 1008	0.29
51	2004 / 34	William W. Wright	1548 / 984	0.50
52	466 / 31	Frank N Wine, Jr. & Frank N. Wine, III	1596 / 809	16.14
53	466 / 14	Frank N Wine, Jr. & Frank N. Wine, III	1596 / 809	21.16
54	466 / 32	Frank N Wine, Jr. & Frank N. Wine, III	1596 / 809	29.57
55	466 / 35	Frank N Wine, Jr. & Frank N. Wine, III	1596 / 809	60.00
56	466 / 34	Frank N Wine, Jr. & Frank N. Wine, III	1596 / 809	27.46
57	466 / 33	Frank N Wine, Jr. & Frank N. Wine, III	1596 / 809	13.75
58	466 / 54	Frank N Wine, Jr. & Frank N. Wine, III	1596 / 809	11.04
59	466 / 52	Frank N Wine, Jr. & Frank N. Wine, III	1596 / 809	46.40
60	466 / 53	Frank N Wine, Jr. & Frank N. Wine, III	1596 / 809	55.00
61	466 / 67	Ronald D. Coffindaffer, II, et al	1511 / 1100	9.76
62	466 / 65	Ronald D. Coffindaffer, II, et al	1511 / 1100	2.15
63	466 / 64	Ronald D. Coffindaffer, II	1596 / 751	1.11
64	466 / 64.2	Ronald D. Coffindaffer, II	1596 / 755	1.52
65	466 / 64.3	Kelli R. Breen	1354 / 299	0.36
66	466 / 64.1	Kelli R. Breen	1354 / 299	0.68
67	466 / 66	Robert & Kristi Richards	1326 / 1237	4.98
68	466 / 68	Frank N Wine, Jr. & Frank N. Wine, III	1596 / 809	59.25

Detail 3 - Scale: 1" = 500'



FILE NO: 06-36-12-G-H-19

DRAWING NO: 1206 S-6H Well Plat

SCALE: 1" = 2000'

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: December 17 20 19

OPERATOR'S WELL NO. 1206 S-6H

API WELL NO

47 - 033 - 05983
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: Antonio P., LLC

ACREAGE: 233.35

ROYALTY OWNER: C. Earl Snider, et al

LEASE NO: _____ ACREAGE: 233.66

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 24,562' MD

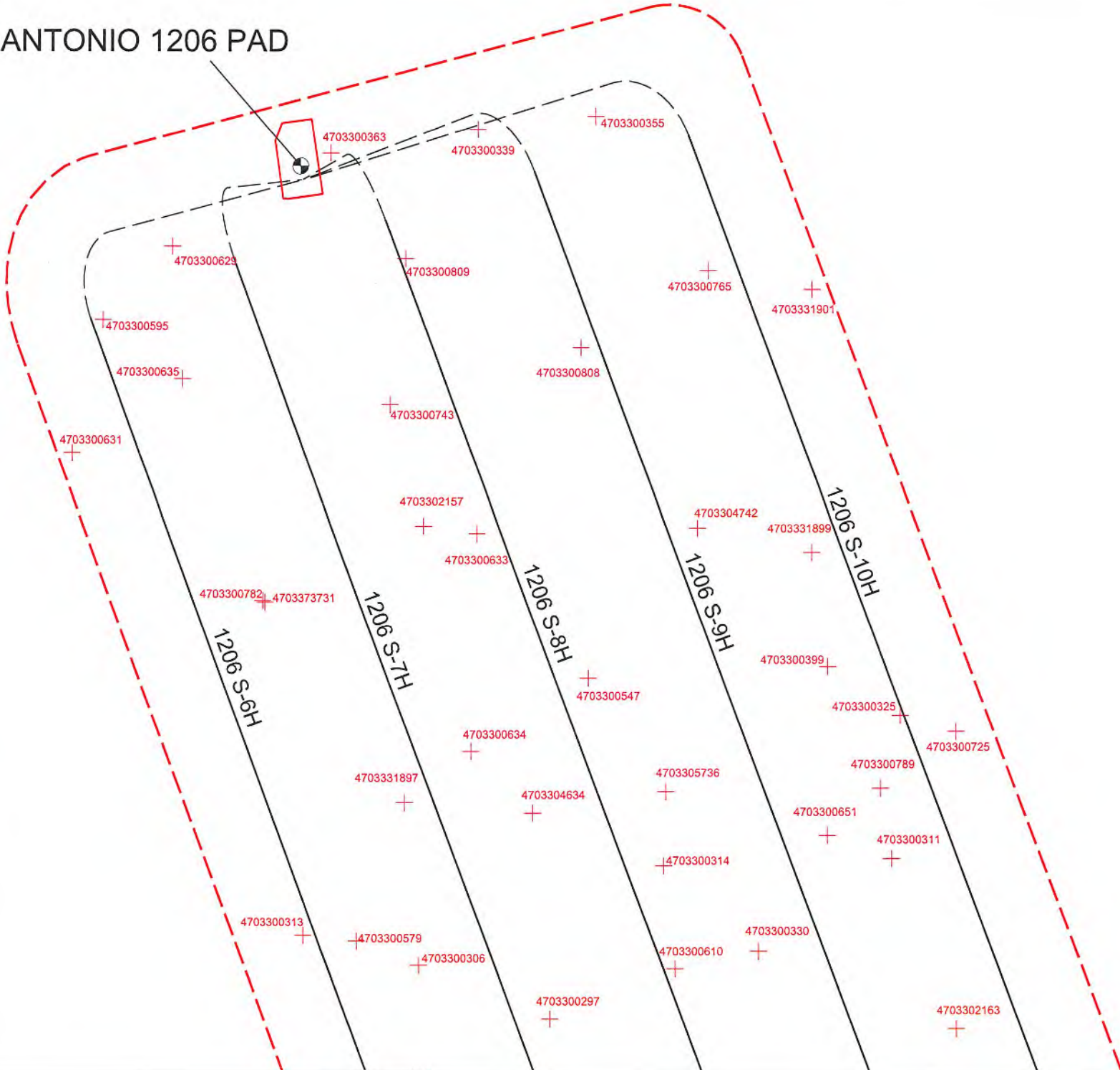
WELL OPERATOR: HG Energy II Appalachia, LLC

DESIGNATED AGENT: Diane C. White

ADDRESS: 5260 Dupont Road
Parkersburg, WV 26101

ADDRESS: 5260 Dupont Road
Parkersburg, WV 26101

ANTONIO 1206 PAD







RECEIVED
Office of Oil and Gas

JAN 07 2020

WV Department of
Environmental Protection

HARRISON COUNTY
LEWIS COUNTY

Well Key

-  4703304027 Conventional Vertical Well
-  750' Buffer Around Proposed Wells
-  Proposed Horizontal Marcellus Well
-  Well Plan Curve Section

NOTE:
See Attached Spreadsheet for Well Data

DATA SOURCES:
WVGES Data Set - 2017; WVDEP Website
Well Spot Maps and Field Investigations

Area of Review for:

ANTONIO 1206 SOUTH UNIT

Proposed 1206 S-6H Proposed 1206 S-7H
Proposed 1206 S-8H Proposed 1206 S-9H
Proposed 1206 S-10H

Grant District, Harrison County, W.Va.
Hackers Creek, Lewis County, W.Va.

HG ENERGY, II APPALACHIA, LLC

5260 DuPont Road, Parkersburg, WV 26101



SCALE: 1" = 1,320'

10/4/2019

4703305983

JAN 17 2020

EXISTING WELLS LOCATED WITHIN THE AREA OF REVIEW FOR:

ANTONIO 1206 SOUTH UNIT AND PROPOSED WELLS S-6H, S-7H, S-8H, S-9H and S-10H.

WELL ID	COUNTY	FARM	OPERATOR NAME	FORMATION NAME	WELL TYPE	TVD	STATUS	LATITUDE	LONGITUDE
1	HARRISON	B Swisher 2 CW417	Dominion Energy Transmission, Inc.	Gordon Stray	Storage	2350	ACTIVE	39.126611	-80.354494
2	HARRISON	West	Dominion Energy Transmission, Inc.	Fifty-foot	Storage	1868	ACTIVE	39.135172	-80.374098
3	HARRISON	John M McWhorter	Trio Petroleum Corporation	Hampshire Grp	Gas	2375	PLUGGED	39.129015	-80.376251
4	HARRISON	A L West	Dominion Energy Transmission Inc.	Hampshire Grp	Gas	2340	ACTIVE	39.136607	-80.378501
5	HARRISON	G Manley Curry	Dominion Energy Transmission, Inc.	Fifty-foot	Storage	2020	ACTIVE	39.139325	-80.362560
6	HARRISON	A L West	Dominion Energy Transmission Inc.	Gantz	Storage	1956	ACTIVE	39.137413	-80.382384
7	HARRISON	J M McWhorter	Dominion Energy Transmission, Inc.	Thirty-foot	Storage	2185	PLUGGED	39.139183	-80.370227
8	HARRISON	Curry	Dominion Energy Transmission, Inc.	Hampshire Grp	Storage	1729	ACTIVE	39.143102	-80.362213
9	HARRISON	P A Davisson	Dominion Energy Transmission, Inc.	Gantz	Storage	1983	ACTIVE	39.136911	-80.367064
10	HARRISON	Alton Bell CW-333	Dominion Energy Transmission, Inc.	Gantz	Storage	1959	ACTIVE	39.158620	-80.376275
11	HARRISON	Herman Nixon	Dominion Energy Transmission, Inc.	not available	not available	-	ABANDONED	39.122387	-80.361419
12	HARRISON	Fred H Smith CW-334	Dominion Energy Transmission, Inc.	Gantz	Storage	2012	ACTIVE	39.158950	-80.372286
13	HARRISON	A Bell	Dominion Energy Transmission Inc.	Thirty-foot	Storage	2150	PLUGGED	39.158029	-80.381243
14	HARRISON	L Davisson	Dominion Energy Transmission, Inc.	Thirty-foot	Storage	2042	PLUGGED	39.144408	-80.364636
15	HARRISON	Maude Davisson	Dominion Energy Transmission, Inc.	Benson	Gas	4530	ACTIVE	39.144146	-80.372692
16	HARRISON	Ode Bright	Dominion Energy Transmission Inc.	Benson	Gas	4595	ACTIVE	39.137253	-80.380576
17	HARRISON	C E Snider	Dominion Energy Transmission Inc.	Benson	Gas	4620	ACTIVE	39.153667	-80.389060
18	HARRISON	David H Nutter	Dominion Energy Transmission, Inc.	Benson	Gas	4412	ACTIVE	39.136470	-80.369890
19	HARRISON	C Earl Snider	Dominion Energy Transmission Inc.	Thirty-foot	Storage	1949	ACTIVE	39.155591	-80.386677
20	HARRISON	C E Hickman	Dominion Energy Transmission, Inc.	Thirty-foot	Storage	2094	ACTIVE	39.150163	-80.390145
21	HARRISON	Flossie Davisson	Dominion Energy Transmission, Inc.	Gordon	Storage	1814	ACTIVE	39.147967	-80.376397
22	HARRISON	Nora Davisson	Dominion Energy Transmission, Inc.	Fifty-foot	Gas	2072	ABANDONED	39.142236	-80.376677
23	HARRISON	C W Snider CW231	Dominion Energy Transmission, Inc.	Gordon	Storage	1946	ACTIVE	39.152100	-80.386365
24	HARRISON	Sophia McWhorter	Dominion Energy Transmission, Inc.	Thirty-foot	Storage	2121	ACTIVE	39.132963	-80.356778
25	HARRISON	P M White	Dominion Energy Transmission, Inc.	Thirty-foot	Storage	1825	ACTIVE	39.129169	-80.380402
26	HARRISON	N A McWhorter	Dominion Energy Transmission, Inc.	Thirty-foot	Storage	2050	ACTIVE	39.131083	-80.362021
27	HARRISON	S McWhorter CW312	Dominion Energy Transmission, Inc.	Fifty-foot	Storage	1892	ACTIVE	39.128533	-80.363342
28	HARRISON	Allen M Dyer CW320	Dominion Energy Transmission, Inc.	Fifty-foot	Storage	2050	ACTIVE	39.139952	-80.364713
29	HARRISON	W E Ware CW325	Dominion Energy Transmission, Inc.	Fifty-foot	Storage	1985	ACTIVE	39.142666	-80.360350
30	HARRISON	Petitto Brothers Inc	Dominion Energy Transmission, Inc.	Thirty-foot	Storage	1988	ACTIVE	39.151385	-80.379306
31	HARRISON	L Gifford CW331	Dominion Energy Transmission, Inc.	Fifth	Storage	2495	PLUGGED	39.154858	-80.368549
32	HARRISON	H Kieffer CW229	Dominion Energy Transmission, Inc.	Fifty-foot	Storage	2089	ACTIVE	39.146248	-80.383657

4703 05983

33	4703300784	HARRISON	Maxon Boylen	Dominion Energy Transmission, Inc.	Benson	Gas	4421	ACTIVE	39.124641	-80.362284
34	4703300789	HARRISON	Charles R Sutton	Dominion Energy Transmission, Inc.	Greenland Gap Fm	Gas	4579	ACTIVE	39.141189	-80.362910
35	4703300808	HARRISON	Lloyd Stout CW330	Dominion Energy Transmission, Inc.	Greenland Gap Fm	Storage	2160	ACTIVE	39.152853	-80.372851
36	4703300809	HARRISON	Lloyd Stout CW234	Dominion Energy Transmission, Inc.	Mid Devonian	not available	4793	PLUGGED	39.155225	-80.378746
37	4703300826	HARRISON	N A McWhorter	Dominion Energy Transmission, Inc.	Benson	Storage	4400	ACTIVE	39.130759	-80.365169
38	4703300872	HARRISON	L Prince CW213	Dominion Energy Transmission, Inc.	Thirty-foot	Storage	1974	ACTIVE	39.131201	-80.378911
39	4703302157	HARRISON	N E Davison	Dominion Energy Transmission, Inc.	Brallier	Gas	4989	ACTIVE	39.148180	-80.378194
40	4703302163	HARRISON	N McWhorten	Dominion Energy Transmission, Inc.	not available	Storage	-	ACTIVE	39.134829	-80.360453
41	4703302342	HARRISON	N A McWhorter	Dominion Energy Transmission, Inc.	Benson	Gas	4440	ACTIVE	39.132628	-80.364331
42	4703304027	HARRISON	Jack Shock etux 2	Ross & Wharton Gas Company, Inc.	Benson	Gas	4400	ACTIVE	39.125018	-80.377732
43	4703304058	HARRISON	Jack Shock etux 3	Ross & Wharton Gas Company, Inc.	Greenland Gap Fm	Gas	5102	ACTIVE	39.127194	-80.373262
44	4703304634	HARRISON	Rudy L McWhorter	Dominion Energy Transmission, Inc.	Benson	Gas	4551	ACTIVE	39.140605	-80.374607
45	4703304742	HARRISON	Robert Nelson Rector	Dominion Energy Transmission, Inc.	Hampshire Grp	not available	3183	PLUGGED	39.148072	-80.368972
46	4703304802	HARRISON	Vernon D Cochran Jr	Dominion Energy Transmission, Inc.	Greenland Gap Fm	Gas	4641	ACTIVE	39.120647	-80.356801
47	4703304803	HARRISON	Chas R/F L Sutton	Dominion Energy Transmission, Inc.	Greenland Gap Fm	Gas	4426	ACTIVE	39.122550	-80.352193
48	4703304813	HARRISON	Charles R & Franklin L Sutton	Dominion Energy Transmission, Inc.	Greenland Gap Fm	Gas	4440	ACTIVE	39.128841	-80.360416
49	4703305562	HARRISON	William F & Mary A Reel	Dominion Energy Transmission, Inc.	Benson	Gas	4600	ACTIVE	39.133568	-80.380312
50	4703305736	HARRISON	Rudy L McWhorter	Dominion Energy Transmission, Inc.	Benson	Gas	4700	ACTIVE	39.141141	-80.370130
51	4703330820	HARRISON	E F Randolph	Dominion Energy Transmission, Inc.	Greenland Gap Fm	Gas	4200	UNKNOWN	39.121103	-80.352489
52	4703331897	HARRISON	W M West CW275	Dominion Energy Transmission, Inc.	Gordon	not available	2492	UNKNOWN	39.140902	-80.378922
53	4703331899	HARRISON	JN Rector	Dominion Energy Transmission, Inc.	not available	not available	4390	PLUGGED	39.147409	-80.365129
54	4703331901	HARRISON	SI Davison	Dominion Energy Transmission, Inc.	Thirty-foot	not available	2330	PLUGGED	39.154343	-80.365053
55	4703331904	HARRISON	B Swisher CW420	Dominion Energy Transmission, Inc.	Fifty-foot	Storage	2190	ACTIVE	39.132479	-80.354236
56	4703373731	HARRISON	Hazel Kieffer	Dominion Energy Transmission, Inc.		Gas	4530	ACTIVE	39.146203	-80.383580
57	4704101757	LEWIS	Fleming Howell	Dominion Energy Transmission, Inc.	Benson	Gas	4585	ACTIVE	39.116432	-80.369601
58	4704102969	LEWIS	M Edmonds cw-212	Dominion Energy Transmission, Inc.	Thirty-foot	Observation	2067	ACTIVE	39.119406	-80.376628
59	4704105056	LEWIS	Franklin Hicks	Dominion Energy Transmission, Inc.	Misc Sands-BNSM/BRLR	Gas	4287	ACTIVE	39.115377	-80.352876
60	4704105224	LEWIS	Rose Ann & John Hunter Kolb	Dominion Energy Transmission, Inc.	Greenland Gap Fm	Gas	4450	ACTIVE	39.116102	-80.357902
									GREEN DENOTES SURVEYED WELLS	

SOURCE: WVGES DATASET (2017) and WVDEP WEBSITE



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

4703305983

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. 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

→ JAN 07 2020

WV Department of
Environmental Protection



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

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.

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. A plat for the well is attached.

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Sincerely,

Diane White

Diane White

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→ JAN 07 2020

WV Department of
 Environmental Protection



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

4703305983

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.
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Sincerely,

Diane White

Diane White

Enclosure

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Office of Oil and Gas

JAN 07 2020

WV Department of
Environmental Protection



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

4703305983

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.

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.

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Sincerely,

Diane White

Diane White

Enclosure

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Office of Oil and Gas

JAN 07 2020

WV Department of
Environmental Protection



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

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

JAN 07 2020

WV Department of
Environmental Protection



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

4703305983

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

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Sincerely,

Diane White

Diane White

Enclosure

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Office of Oil and Gas

JAN 07 2020

WV Department of
Environmental Protection



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

47 03 305983

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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→ JAN 07 2020

WV Department of
Environmental Protection

WW-6A1
(5/13)

Operator's Well No. Antonio 1206 S-6H

**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.

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

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Office of Oil and Gas

JAN 07 2020

JAN 07 2023

HG Energy II Appalachia, LLC
Antonio 1206 S-6H Lease Chains

WV Department of
Environmental Protection

1206 Tract	LEGACY LEASE NUMBER	TAX MAP	LEASE NUMBER	GRANTOR/LESSOR	GRANTEE/LESSEE	ROYALTY	DEED BOOK	PAGE
32	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	903	179	
				CONSOLIDATED GAS SUPPLY CORPORATION	ASSIGNMENT	1136	250	
				CONSOLIDATED GAS 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	
				NOBLE ENERGY, INC.	PARTIAL ASSIGNMENT (32%)	1576	125	
				NOBLE ENERGY, INC.	ASSIGNMENT	1584	942	
				CNX GAS COMPANY LLC	ASSIGNMENT	1600	692	
				NOBLE ENERGY, INC.	MERGER/NAME CHANGE	WVSOS		
				DOMINION 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.				
1	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	ASSIGNMENT	1136	250	
				CONSOLIDATED GAS TRANSMISSION 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	
				CNX GAS COMPANY LLC	PARTIAL ASSIGNMENT (32%)	1576	125	
				NOBLE ENERGY, INC.	ASSIGNMENT	1584	942	
				CNX GAS COMPANY LLC AND NOBLE ENERGY, INC.	ASSIGNMENT	1600	692	
				NOBLE ENERGY, INC.	MERGER/NAME CHANGE	WVSOS		
				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.				

<p>2</p> <p>LC068586</p> <p>12-0446-0001-0000 12-0446-0002-0000</p> <p>WV Department of Environmental Protection</p> <p>JAN 07 2020</p>	<p>Q100628000</p>	<p>CREED W. SNIDER AND MAE SNIDER, HIS WIFE, BERTHA STALNAKER, WIDOW, C. H. GASTON AND NORA M. GASTON, HIS WIFE, LILLIAN STOUT AND JESSE C. STOUT, HER HUSBAND, N. G. MCWHORTER AND DORA E. MCWHORTER, HIS WIFE, MARY MCWHORTER WEST AND CLINE WEST, HER HUSBAND, EVA G. LAW AND ORA L. LAW, HER HUSBAND, FORD GASTON AND MILDRED E. GASTON, HIS WIFE, MILDRED G. TALLMAN AND KIRK C. TALLMAN, HER HUSBAND, FLORA JANE WOLVERTON AND J. MASON WOLVERTON, HER HUSBAND, AND THE PARKERSBURG NATIONAL BANK, GUARDIAN FOR JOSEPH WOOFER AND ANDREW C. WOOFER, JR.</p>	<p>HOPE NATURAL GAS COMPANY CONSOLIDATED GAS SUPPLY CORPORATION CONSOLIDATED GAS TRANSMISSION CORPORATION CNG TRANSMISSION CORPORATION CNG TRANSMISSION CORPORATION DOMINION TRANSMISSION, INC. CNX GAS COMPANY LLC DOMINION TRANSMISSION, INC. CNX GAS COMPANY LLC AND NOBLE ENERGY, INC. NOBLE ENERGY, INC. CNX GAS COMPANY LLC NOBLE ENERGY, INC. DOMINION TRANSMISSION, INC. DOMINION ENERGY TRANSMISSION, INC. HG ENERGY II APPALACHIA, LLC HG ENERGY II APPALACHIA, LLC</p>	<p>HOPE NATURAL GAS COMPANY CONSOLIDATED GAS SUPPLY CORPORATION CONSOLIDATED GAS TRANSMISSION CORPORATION CNG TRANSMISSION CORPORATION DOMINION TRANSMISSION, INC. CNX GAS COMPANY LLC 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</p>	<p>NOT LESS THAN 1/8 CONFIRMATORY DEED MERGER/NAME CHANGE MERGER/NAME CHANGE MERGER/NAME CHANGE MEMORANDUM 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</p>	<p>822 903 1138 51 58 1522 1543 1576 1584 1600 WVSOS 1601 1621</p>	<p>90 179 509 795 362 33 1235 125 942 692 581 1295</p>
<p>3</p> <p>LC072051</p> <p>12-0445-0013-000 12-445-0013-0001</p>	<p>Q100403000</p>	<p>UNION NATIONAL BANK, TRUSTEE UNDER AGREEMENT OF THE GORE-MORRIS TRUST DATED AUGUST 25, 1966 CONSOLIDATED GAS SUPPLY CORPORATION CONSOLIDATED GAS TRANSMISSION CORPORATION CNG TRANSMISSION CORPORATION DOMINION TRANSMISSION, INC. DOMINION TRANSMISSION, INC. CNX GAS COMPANY LLC CNX GAS COMPANY LLC NOBLE ENERGY, INC. DOMINION TRANSMISSION, INC. DOMINION ENERGY TRANSMISSION, INC. HG ENERGY II APPALACHIA, LLC HG ENERGY II APPALACHIA, LLC</p>	<p>CONSOLIDATED GAS SUPPLY CORPORATION CONSOLIDATED GAS TRANSMISSION CORPORATION CNG TRANSMISSION CORPORATION DOMINION TRANSMISSION, INC. CNX GAS COMPANY LLC 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</p>	<p>NOT LESS THAN 1/8 ASSIGNMENT MERGER/NAME CHANGE MERGER/NAME CHANGE MEMORANDUM FARMOUT AGREEMENT PARTIAL ASSIGNMENT (32%) LIMITED PARTIAL ASSIGNMENT (50%) ASSIGNMENT ASSIGNMENT MERGER/NAME CHANGE SECOND AMENDMENT TO MEMORANDUM OF FARMOUT AGREEMENT THIRD AMENDMENT TO MEMORANDUM OF FARMOUT AGREEMENT</p>	<p>994 1136 51 58 1522 1576 1543 1584 1600 WVSOS 1601 1621</p>	<p>496 250 795 362 33 125 1235 942 692 581 1295</p>	
<p>4</p> <p>LC068718</p> <p>12-0446-0016-0000 12-0446-0016-0001</p>	<p>Q100629000</p>	<p>C. E. HICKMAN AND EDITH HICKMAN, HIS WIFE, AND FAIN J. LITTLE AND REDA M. LITTLE, HIS WIFE HOPE NATURAL GAS COMPANY CONSOLIDATED GAS SUPPLY CORPORATION CONSOLIDATED GAS TRANSMISSION CORPORATION CNG TRANSMISSION CORPORATION DOMINION TRANSMISSION, INC. CNX GAS COMPANY LLC DOMINION TRANSMISSION, INC. NOBLE ENERGY, INC. CNX GAS COMPANY LLC AND NOBLE ENERGY, INC. NOBLE ENERGY, INC. DOMINION TRANSMISSION, INC. DOMINION ENERGY TRANSMISSION, INC. HG ENERGY II APPALACHIA, LLC HG ENERGY II APPALACHIA, LLC</p>	<p>HOPE NATURAL GAS COMPANY CONSOLIDATED GAS SUPPLY CORPORATION CONSOLIDATED GAS TRANSMISSION CORPORATION CNG TRANSMISSION CORPORATION DOMINION TRANSMISSION, INC. CNX GAS COMPANY LLC 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</p>	<p>NOT LESS THAN 1/8 CONFIRMATORY DEED ASSIGNMENT MERGER/NAME CHANGE MERGER/NAME CHANGE MEMORANDUM 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</p>	<p>824 903 1136 51 58 1522 1543 1576 1584 1600 WVSOS 1601 1621</p>	<p>128 179 250 795 362 33 1235 125 942 692 581 581</p>	

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Office of Oil and Gas

JAN 07 2021

WV Department of Environmental Protection

5	LC066860	12-0446-0018-0000 12-0446-0018-0001	Q100841000	HAZEL KIEFFER AND STEVE KIEFFER, HER HUSBAND; JUNIUS B. QUEEN AND EDNA M. QUEEN, HIS WIFE; ROSA L. WILSON, WIDOW; GEO. R. SINCLAIR, WIDOW; LAURA M. REYNOLDS, WIDOW; ALICE B. YOUNG AND J. B. YOUNG, HER HUSBAND; ELSIE STARRETT AND C. H. STARRETT, HER HUSBAND; CLARA B. HAWKINS AND C. W. HAWKINS, HER HUSBAND; COM. FOR IVA SINCLAIR; EARL W. QUEEN AND PATRICIA A. QUEEN, HIS WIFE; THOS. R. HORNOR AND ELANOR K. HORNOR, HIS WIFE; FRANK B. QUEEN AND PEARL QUEEN, HIS WIFE LILLIE GIFFORD, WILBUR STOUT, AND MABEL STOUT HOPE NATURAL GAS COMPANY HOPE NATURAL GAS COMPANY CONSOLIDATED GAS SUPPLY CORPORATION CONSOLIDATED GAS TRANSMISSION CORPORATION CNG TRANSMISSION CORPORATION DOMINION TRANSMISSION, INC. DOMINION TRANSMISSION, INC. DOMINION ENERGY TRANSMISSION, INC. CNX GAS COMPANY LLC NOBLE ENERGY, INC. CNX GAS COMPANY LLC AND NOBLE ENERGY, INC. NOBLE ENERGY, INC. DOMINION ENERGY TRANSMISSION, INC. HG ENERGY II APPALACHIA, LLC HG ENERGY II APPALACHIA, LLC HG ENERGY II APPALACHIA, LLC HG ENERGY II APPALACHIA, LLC	NOT LESS THAN 1/8 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 MERGER/NAME CHANGE ASSIGNMENT SECOND AMENDMENT TO MEMORANDUM OF FARMOUT AGREEMENT THIRD AMENDMENT TO MEMORANDUM OF FARMOUT AGREEMENT	783 779 903 1136 51 58 1522 1524 1543 1576 1584 WVSOS 1600 1601 1621	410 43 179 250 795 362 33 491 1235 125 942 692 581 1295
7	LC066784	2-446-0030-0000 12-446-0030-0001 12-446-0030-0002 12-446-0030-0003 12-446-0030-0004 12-446-0030-0005 p/o 12-446-0031-0000	Q100968000	ROBERT F. MARTIN AND THERESA D. MARTIN, HIS WIFE; ESTELLE SPRINGER AND A. M. SPRINGER, HER HUSBAND; AND A. EARLE NEALE AND ADELAIDE B. NEALE, HIS WIFE HOPE NATURAL GAS COMPANY CONSOLIDATED GAS SUPPLY CORPORATION CONSOLIDATED GAS TRANSMISSION CORPORATION CNG TRANSMISSION CORPORATION DOMINION TRANSMISSION, INC. DOMINION TRANSMISSION, INC. CNX GAS COMPANY LLC NOBLE ENERGY, INC. DOMINION TRANSMISSION, INC. CNX GAS COMPANY LLC NOBLE ENERGY, INC. DOMINION ENERGY TRANSMISSION, INC. DOMINION ENERGY TRANSMISSION, INC. DOMINION ENERGY TRANSMISSION, INC. DOMINION ENERGY TRANSMISSION, INC.	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	781 903 1136 51 58 1522 1524 1543 1576 1584 1600 WVSOS 1601 1621	42 179 250 795 362 33 491 1235 125 942 692 581 1295
8	LC066787	12-0446-0031-0000 12-0446-0031-0001 12-0446-0031-0002 12-0446-0031-0003	Q101105000	ROBERT F. MARTIN AND THERESA D. MARTIN, HIS WIFE; ESTELLE SPRINGER AND A. M. SPRINGER, HER HUSBAND; AND A. EARLE NEALE AND ADELAIDE B. NEALE, HIS WIFE HOPE NATURAL GAS COMPANY CONSOLIDATED GAS SUPPLY CORPORATION CONSOLIDATED GAS TRANSMISSION CORPORATION CNG TRANSMISSION CORPORATION DOMINION TRANSMISSION, INC. DOMINION TRANSMISSION, INC. CNX GAS COMPANY LLC NOBLE ENERGY, INC. DOMINION ENERGY TRANSMISSION, INC. DOMINION ENERGY TRANSMISSION, INC. DOMINION ENERGY TRANSMISSION, INC. DOMINION ENERGY TRANSMISSION, INC.	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%)	781 903 1136 51 58 1522 1524 1543 1576 1584 1600 WVSOS 1601 1621	39 179 250 795 362 33 491 1235 125 942 692 581 1295

12	LC066723	12-0446-0040-0000 12-0446-0040-0002 12-0446-0040-0003 12-0446-0040-0004 12-0446-0040-0005	Q100645000	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		
				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
				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		
DOMINION ENERGY TRANSMISSION, INC.	HG ENERGY II APPALACHIA, LLC	FARMOUT AGREEMENT	1601	581				
DOMINION ENERGY TRANSMISSION, INC.	HG ENERGY II APPALACHIA, LLC	THIRD AMENDMENT TO MEMORANDUM OF						
DOMINION ENERGY TRANSMISSION, INC.	HG ENERGY II APPALACHIA, LLC	FARMOUT AGREEMENT	1621	1295				
13	LC066729	12-0466-0004-0000 12-0466-0005-0000	Q100882000	NATHAN G. MCWHORTER AND DORA E. MCWHORTER, HIS WIFE	HOPE NATURAL GAS COMPANY	NOT LESS THAN 1/8	779	88
				HOPE NATURAL GAS COMPANY	CONSOLIDATED GAS SUPPLY CORPORATION	CONFIRMATORY DEED	903	179
				CONSOLIDATED GAS SUPPLY CORPORATION	CONSOLIDATED GAS TRANSMISSION CORPORATION	CONFIRMATORY DEED	1138	509
				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		
				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
				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						
DOMINION ENERGY TRANSMISSION, INC.	HG ENERGY II APPALACHIA, LLC	FARMOUT AGREEMENT	1601	581				
DOMINION ENERGY TRANSMISSION, INC.	HG ENERGY II APPALACHIA, LLC	THIRD AMENDMENT TO MEMORANDUM OF						
DOMINION ENERGY TRANSMISSION, INC.	HG ENERGY II APPALACHIA, LLC	FARMOUT AGREEMENT	1621	1295				
14	LC066733	12-0466-0005-0001	Q100883000	NATHAN G. MCWHORTER AND DORA E. MCWHORTER, HIS WIFE	HOPE NATURAL GAS COMPANY	NOT LESS THAN 1/8	779	91
				HOPE NATURAL GAS COMPANY	CONSOLIDATED GAS SUPPLY CORPORATION	CONFIRMATORY DEED	903	179
				CONSOLIDATED GAS SUPPLY CORPORATION	CONSOLIDATED GAS TRANSMISSION CORPORATION	CONFIRMATORY DEED	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		
				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
				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						
DOMINION ENERGY TRANSMISSION, INC.	HG ENERGY II APPALACHIA, LLC	FARMOUT AGREEMENT	1601	581				
DOMINION ENERGY TRANSMISSION, INC.	HG ENERGY II APPALACHIA, LLC	THIRD AMENDMENT TO MEMORANDUM OF						
DOMINION ENERGY TRANSMISSION, INC.	HG ENERGY II APPALACHIA, LLC	FARMOUT AGREEMENT	1621	1295				
12-0466-0012-0001 12-0466-0012-0002				DOMINION ENERGY TRANSMISSION, INC.	HOPE NATURAL GAS COMPANY	NOT LESS THAN 1/8	776	234
				DOMINION ENERGY TRANSMISSION, INC.	CONSOLIDATED GAS SUPPLY CORPORATION	CONFIRMATORY DEED	903	179
				IDEN MCWHORTER AND OKLA MCWHORTER, HIS WIFE	CONSOLIDATED GAS TRANSMISSION CORPORATION	ASSIGNMENT	1136	250
				HOPE NATURAL GAS COMPANY	CONSOLIDATED GAS TRANSMISSION CORPORATION	MERGER/NAME CHANGE	51	795
				CONSOLIDATED GAS SUPPLY CORPORATION	CNG TRANSMISSION CORPORATION	MERGER/NAME CHANGE	58	362
				CONSOLIDATED GAS TRANSMISSION CORPORATION	DOMINION TRANSMISSION, INC.	MEMORANDUM OF FARMOUT AGREEMENT	1522	33
				CNG TRANSMISSION CORPORATION	CNX GAS COMPANY LLC	FIRST AMENDMENT TO MEMORANDUM OF		
				DOMINION TRANSMISSION, INC.	CNX GAS COMPANY LLC	FARMOUT AGREEMENT	1524	491
				DOMINION 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
				NOBLE ENERGY, INC.	NOBLE ENERGY, INC.	ASSIGNMENT	1584	942
				DOMINION TRANSMISSION, INC.	DOMINION ENERGY TRANSMISSION, INC.	ASSIGNMENT	1600	692
DOMINION ENERGY TRANSMISSION, INC.	HG ENERGY II APPALACHIA, LLC	MERGER/NAME CHANGE	WVSOS					
DOMINION ENERGY TRANSMISSION, INC.	HG ENERGY II APPALACHIA, LLC	SECOND AMENDMENT TO MEMORANDUM OF						
DOMINION ENERGY TRANSMISSION, INC.	HG ENERGY II APPALACHIA, LLC	FARMOUT AGREEMENT	1601	581				
DOMINION ENERGY TRANSMISSION, INC.	HG ENERGY II APPALACHIA, LLC	THIRD AMENDMENT TO MEMORANDUM OF						
DOMINION ENERGY TRANSMISSION, INC.	HG ENERGY II APPALACHIA, LLC	FARMOUT AGREEMENT	1621	1295				

01/17/2019

WV Department of
Environmental Protection

26	LC066803	04-009C-0034-0000	Q100889000	DOMINION ENERGY TRANSMISSION, INC. DOMINION ENERGY TRANSMISSION, INC.	HG ENERGY II APPALACHIA, LLC HG ENERGY II APPALACHIA, LLC	THIRD AMENDMENT TO MEMORANDUM OF FARMOUT AGREEMENT ASSIGNMENT	1621 LEWIS 736	1295 220
				J. L. JENKINS AND MALLIE E. JENKINS, HIS WIFE	HOPE NATURAL GAS COMPANY	NOT LESS THAN 1/8	HARRISON 244 LEWIS 781	88 16
				HOPE NATURAL GAS COMPANY	CONSOLIDATED GAS SUPPLY CORPORATION	CONFIRMATORY DEED	HARRISON 903 LEWIS 294	179 89
				CONSOLIDATED GAS SUPPLY CORPORATION	CONSOLIDATED GAS TRANSMISSION CORPORATION	ASSIGNMENT	HARRISON 1136 LEWIS 425	250 127
				CONSOLIDATED GAS TRANSMISSION CORPORATION	CNG TRANSMISSION CORPORATION	MERGER/NAME CHANGE	HARRISON 51 WVSOS	795
				CNG TRANSMISSION CORPORATION	DOMINION TRANSMISSION, INC.	MERGER/NAME CHANGE	HARRISON 58 WVSOS	362
				DOMINION TRANSMISSION, INC.	CNX GAS COMPANY LLC	MEMORANDUM FARMOUT AGREEMENT	HARRISON 1522 LEWIS 672	33 154
			Q100889000	CNX GAS COMPANY LLC	NOBLE ENERGY, INC.	LIMITED PARTIAL ASSIGNMENT (50%)	HARRISON 1543 LEWIS 684	1235 57
				DOMINION TRANSMISSION, INC.	CNX GAS COMPANY LLC AND NOBLE ENERGY, INC.	PARTIAL ASSIGNMENT (32%)	HARRISON 1576 LEWIS 712	125 848
				CNX GAS COMPANY LLC	NOBLE ENERGY, INC.	ASSIGNMENT	HARRISON 1584 LEWIS 717	942 1
				NOBLE ENERGY, INC.	HG ENERGY II APPALACHIA, LLC	ASSIGNMENT	HARRISON 1600 LEWIS 722	692 170
				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	HARRISON 1601 LEWIS 723	581 499
				DOMINION ENERGY TRANSMISSION, INC.	HG ENERGY II APPALACHIA, LLC	THIRD AMENDMENT TO MEMORANDUM OF FARMOUT AGREEMENT	HARRISON 1621 LEWIS 734	1295 558
				DOMINION ENERGY TRANSMISSION, INC.	HG ENERGY II APPALACHIA, LLC	FARMOUT AGREEMENT (68%)	LEWIS 736	220
				MARGARET HOWELL CAESAR AND SAMUEL W. CAESAR, HER HUSBAND	HOPE NATURAL GAS COMPANY	NOT LESS THAN 1/8	208	297
				HOPE NATURAL GAS COMPANY	CONSOLIDATED GAS SUPPLY CORPORATION	CONFIRMATORY DEED	294	89
				CONSOLIDATED GAS SUPPLY CORPORATION	CONSOLIDATED GAS TRANSMISSION CORPORATION	ASSIGNMENT	425	127
				CONSOLIDATED GAS TRANSMISSION CORPORATION	CNG TRANSMISSION CORPORATION	MERGER/NAME CHANGE	WVSOS	
				CNG TRANSMISSION CORPORATION	DOMINION TRANSMISSION, INC.	MERGER/NAME CHANGE	WVSOS	
				CNX GAS COMPANY LLC	NOBLE ENERGY, INC.	MEMORANDUM OF FARMOUT AGREEMENT	672	154
				DOMINION TRANSMISSION, INC.	CNX GAS COMPANY LLC AND NOBLE ENERGY, INC.	LIMITED PARTIAL ASSIGNMENT (50%)	684	57
			Q100824000	DOMINION TRANSMISSION, INC.	NOBLE ENERGY, INC.	PARTIAL ASSIGNMENT (32%)	712	848
				CNX GAS COMPANY LLC	NOBLE ENERGY, INC.	ASSIGNMENT	717	1
				NOBLE ENERGY, INC.	HG ENERGY II APPALACHIA, LLC	ASSIGNMENT	722	170
				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	723	499
				DOMINION ENERGY TRANSMISSION, INC.	HG ENERGY II APPALACHIA, LLC	THIRD AMENDMENT TO MEMORANDUM OF FARMOUT AGREEMENT	734	558
				DOMINION ENERGY TRANSMISSION, INC.	HG ENERGY II APPALACHIA, LLC	FARMOUT AGREEMENT (68%)	736	220
				H. A. BOYLEN AND INA BOYLEN, HIS WIFE, CLARA STRALEY AND CHARLES W. STRALEY, HER HUSBAND, ETTA VAN HORN AND CLAUDE VAN HORNE, HER HUSBAND, ANNETTE BOYLEN, WIDOW, H. E. BOYLEN AND ANNA BOYLEN, HIS WIFE, NORA PHILLIPS, WIDOW, ORA B. ALLMAN AND ARZIE C. ALLMAN, HER HUSBAND, H. C. BOYLEN, M. D. BOYLEN AND AUDREY L. BOYLEN, HIS WIFE	HOPE NATURAL GAS COMPANY	NOT LESS THAN 1/8	783	387
				HOPE NATURAL GAS COMPANY	CONSOLIDATED GAS SUPPLY 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
			Q1011120000	DOMINION TRANSMISSION, INC.	CNX GAS COMPANY LLC	MEMORANDUM OF FARMOUT AGREEMENT	1522	33



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

47 03 3 05983

October 23, 2019

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

RE: Drilling Under Roads – Antonio 1206 S-6H
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 or 304-420-1119.

Very truly yours,

Diane White

Diane C. White

Enclosures

RECEIVED
Office of Oil and Gas

JAN 07 2020

WV Department of
Environmental Protection

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

Date of Notice Certification: 12/05/2019

API No. 47- _____

Operator's Well No. Antonio 1206 S-6H

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>553369.8</u>
County: <u>Harrison</u>		Northing: <u>4334415.8</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 type="checkbox"/> 2. NOTICE OF ENTRY FOR PLAT SURVEY or <input checked="" 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 align="center">OOG OFFICE USE ONLY</p> <p><input type="checkbox"/> RECEIVED/ NOT REQUIRED</p> <p><input type="checkbox"/> RECEIVED</p> <p><input type="checkbox"/> RECEIVED/ NOT REQUIRED</p> <p><input type="checkbox"/> RECEIVED</p> <p><input type="checkbox"/> RECEIVED</p> <p><input type="checkbox"/> RECEIVED</p>
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Office of Oil and Gas
JAN 07 2020
WV Department of
Environmental Protection

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.

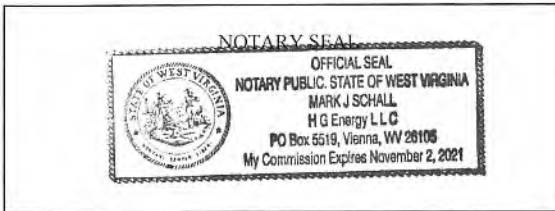
WW-6AC
(1/12)

Certification of Notice is hereby given:

THEREFORE, I Diane White, have read and understand the notice requirements within West Virginia Code § 22-6A. I certify that as required under West Virginia Code § 22-6A, I have served the attached copies of the Notice Forms, identified above, to the required parties through personal service, by registered mail or by any method of delivery that requires a receipt or signature confirmation. I certify under penalty of law that I have personally examined and am familiar with the information submitted in this Notice Certification and all attachments, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Well Operator: HG II Appalachia, LLC
By: Diane White *Diane White*
Its: Agent
Telephone: 304-420-1119

Address: 5260 Dupont Road
Parkersburg, WV 26101
Facsimile: 304-863-3172
Email: dwhite@hgenergyllc.com



Subscribed and sworn before me this 5th day of December, 2019.

Mark J. Schall

Notary Public

My Commission Expires 11/2/2021

Oil and Gas Privacy Notice:

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

47 03 30598

WW-6A
(9-13)

API NO. 47- _____
OPERATOR WELL NO. 1206 S-6H
Well Pad Name: Antonio 1206

**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: 12/17/19 **Date Permit Application Filed:** 12/20/19

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: _____

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

DEC 17 2019

WV Department of
Environmental Protection

Notice is hereby given:

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

This Notice Shall Include:

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

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

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

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

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

Well Location Restrictions

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

WW-6A
(8-13)

API NO. 47-03305983
OPERATOR WELL NO. 1206 S-6H
Well Pad Name: Antonio 1206

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

Water Well Testing:

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

Water Testing Laboratories:

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

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

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

Written Comment:

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

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

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.**

WW-6A
(8-13)

API NO. 47- -
OPERATOR WELL NO. 1206 S-6H
Well Pad Name: Antonio 1206

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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WV Department of
Environmental Protection

WW-6A
(8-13)

API NO. 47- 4703305983
OPERATOR WELL NO. 1206 S-6H
Well Pad Name: Antonio 1206

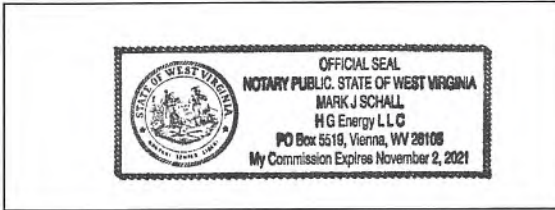
Notice is hereby given by:

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

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 deprivacyofficer@wv.gov.



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

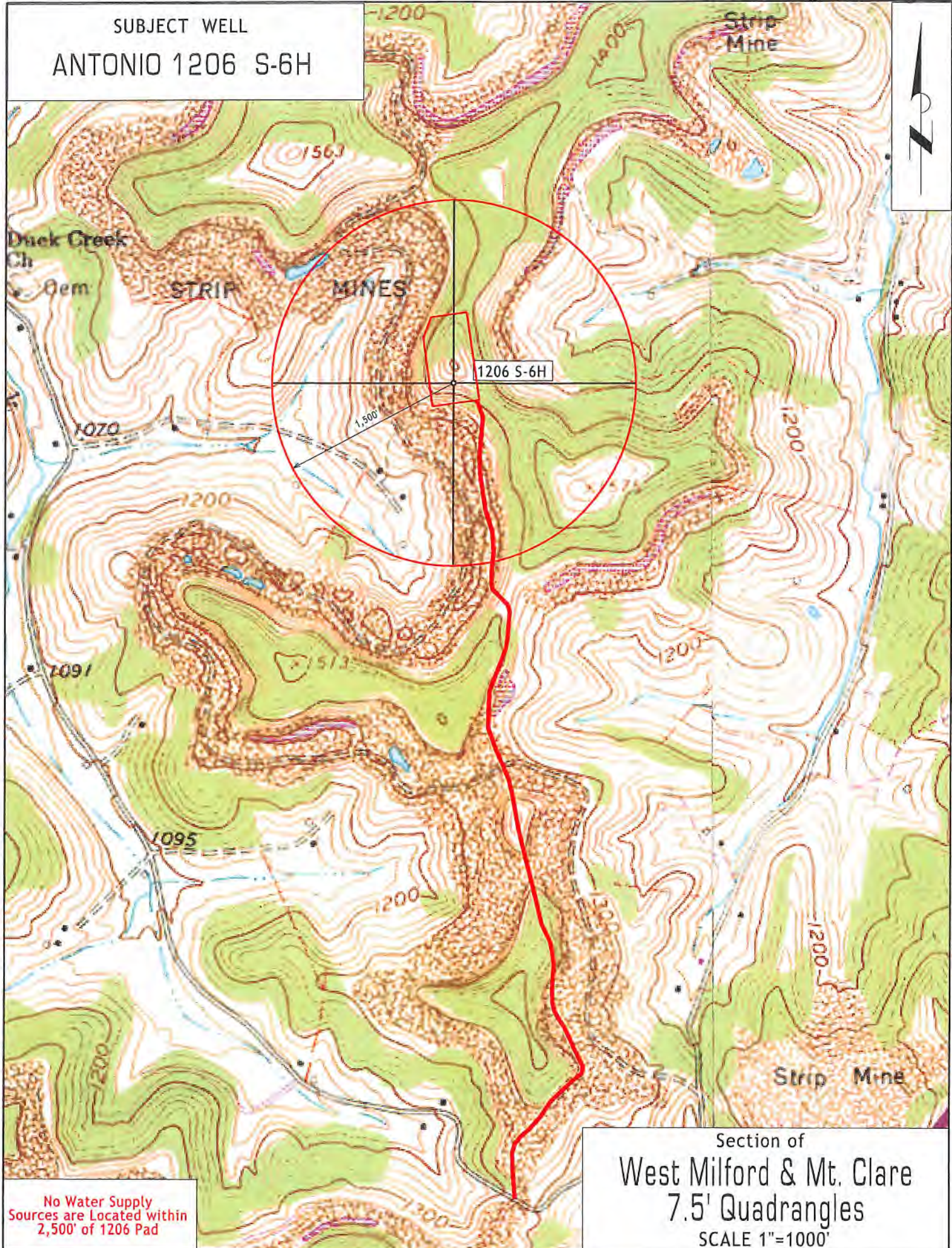
Mark J Schall

Notary Public

My Commission Expires 11/2/2021



SUBJECT WELL
ANTONIO 1206 S-6H



1206 S-6H

1,500'

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 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: 12/03/2019 **Date Permit Application Filed:** 12/20/2019

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

HAND DELIVERY CERTIFIED MAIL RETURN RECEIPT REQUESTED

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

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

Name: Antonio PLLC, c/o Mike Ross
Address: P. O. Box 219
Coaltton, 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(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: 553369.8
County: Harrison Northing: 4334415.8
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 57th Street, SE, Charleston, WV 25304 (304-926-0450) or by visiting www.dep.wv.gov/oil-and-gas/pages/default.aspx.

Notice is hereby given by:

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

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

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.

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(1/12)

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

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

Date of Notice: 12/03/2019 Date Permit Application Filed: 12/20/2019

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

CERTIFIED MAIL RETURN RECEIPT REQUESTED HAND 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: 503 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: 553369.8
County: Harrison Northing: 4334415.8
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 57th Street, SE, Charleston, WV 25304 (304-926-0450) or by visiting www.dep.wv.gov/oil-and-gas/pages/default.aspx.

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

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

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.

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Office of Oil and Gas

JAN 07 2020

WV Department of
Environmental Protection



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 57th Street, SE
 Charleston, WV 25304

Subject: DOH Permit for the Antonio 1206 Pad, Harrison County
 1206 N-6H 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.

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 Office of Oil and Gas

10/17/2019

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	

CONSTRUCTION IMPROVEMENT PLANS WITH EROSION AND SEDIMENT CONTROLS

HG 1206 WELL PAD & IMPOUNDMENTS

GRANT DISTRICT
HARRISON COUNTY
WEST VIRGINIA

APPROVED WVDEP OOG

11/12/2019

SHT. NO.	TITLE SHEET
1	TITLE SHEET
2A-2Z	SITE DEVELOPMENT PLANS
3A-3E	IMPOUNDMENT SECTIONS
4A-4H	ACCESS ROAD SECTIONS
5A-5D	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

Item	Qty	Unit	Price	Total
1206 Impoundment North (Depth) Area	21,850	Sq. Yds.	5.10	111,465
1206 Impoundment North (Depth) Area	2,910	Sq. Yds.	4.80	13,968
1206 Impoundment South (Depth) Area	24,700	Sq. Yds.	2.60	64,220
1206 Well Pad & Impoundments Access Road	4,210	Sq. Yds.	3.50	14,735
1206 Well Pad & Access	32,700	Sq. Yds.	1.00	32,700
Quality Assurance/Control	1,000	Day	1,200	1,200
Total				238,318

RECORD DRIVER	RECORD LOT #	RECORD AREA OF LOT	RECORD AREA WITHIN LED
MURPHY E & SANDA K NEEL	17-12-0445-0005-0000	89.97	0.039
MEXLEY PENTON	17-12-0445-0013-0000	132.852	5.952
LELAND J FETTERAL	17-12-0445-0022-0000	15.5506	2.235
CHARLES R SUTTON	17-12-0445-0043-0000	4.555	1.134
FRANKLIN L SUTTON	17-12-0445-0047-0000	72.2783	4.670
EDWARD L HAWKINS, JR	17-12-0445-0051-0000	53.1225	3.425
FRANKLIN L SUTTON	17-12-0446-0038-0001	48.3295	2.713
W JOE & ANNAMAR SUTTON	17-12-0446-0040-0000	84.6203	1.709
DUCK CREEK RD	17-12-0446-0039-0000	16.74	0.023
CHARLES RAY	17-12-0446-0039-0000	26.2318	0.558
CHARLES RALPH & TANYA K SUTTON	17-12-0446-0040-0000	84.6203	2.253
JER L BOEHR	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	2.538
MARY RICHARDS	17-12-0446-0018-0001	0.9075	0.197
MARY RICHARDS	17-12-0446-0019-0000	58.5818	2.028
P ANTONIO, LLC	17-12-0448-0003-0000	180.7720	1.856
P ANTONIO, LLC	17-12-0448-0002-0000	41.9599	0.568
P ANTONIO, LLC	17-12-0425-0071-0000	230.6748	21.148
CHARLES R SUTTON	17-12-0425-0072-0000	31.1173	4.504
JUDITH H RUSSELL	17-12-0425-0021-0000	15.1580	0.701
TOTAL LIMIT OF DISTURBANCE			68.187 AC

WEST VIRGINIA 811 CALL BEFORE YOU DIG! Dial 811 or 800.245.4848

WELL #	LAT	LONG.
N-1H	N 39.158086	W 80.382406
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
UTM93-177

REVISIONS

NO.	DATE	DESCRIPTION
1	9/18/19	REVISED WELL-HEAD LAYOUT
2	10/09/19	ATLANTA REVISIONS
3	10/21/19	REVISED OOG DEP COMMENTS
4	11/26/19	REVISING PER DEP COMMENTS

20488 STATE OF WEST VIRGINIA

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

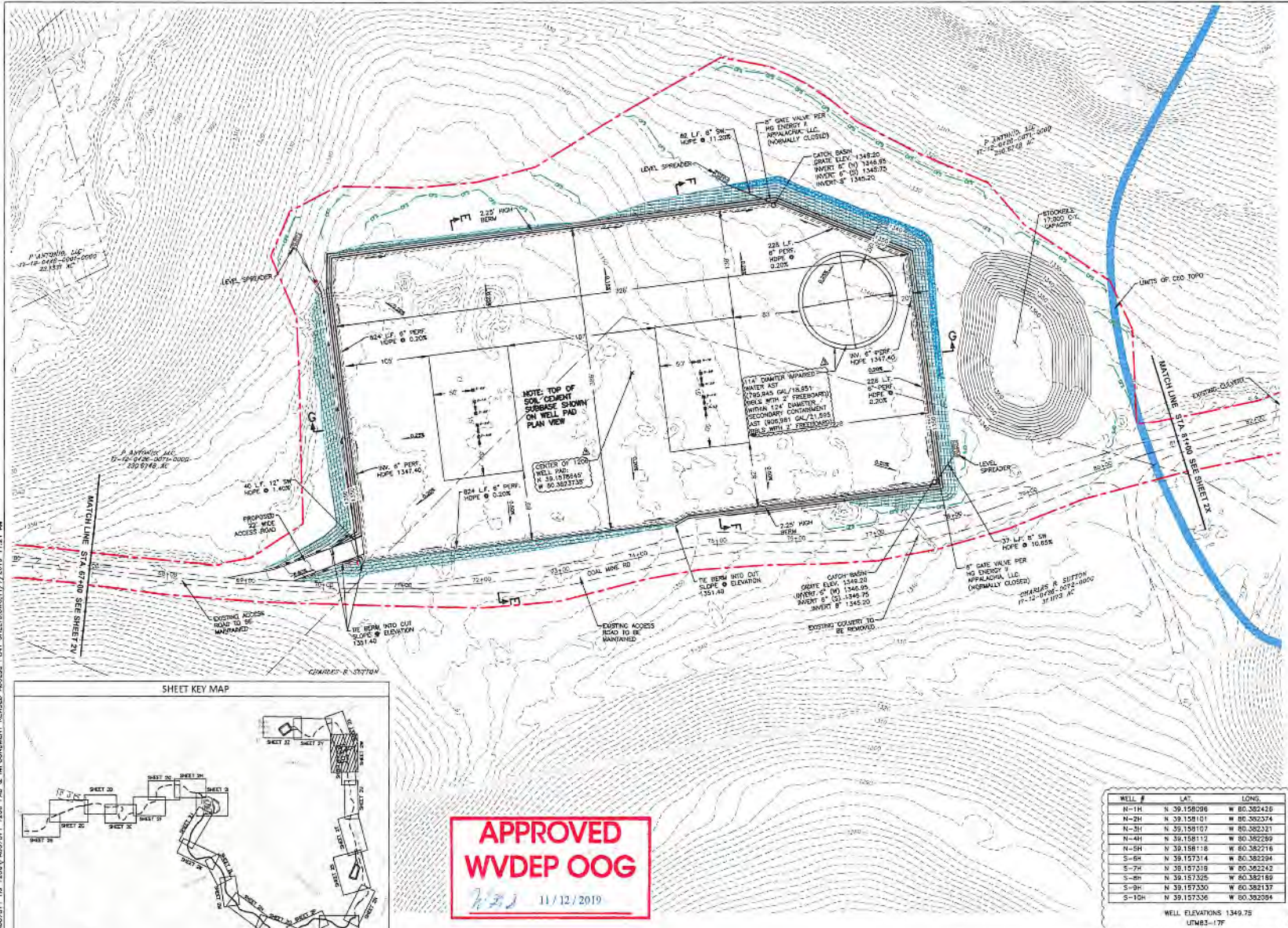
PREPARED FOR
HG ENERGY II APPALACHIA, LLC
PARKERSBURG, WEST VIRGINIA

APPROVED SEP 29/2019
CHECKED SEP 26/2019
DRAWN EJA WITH 08/20/2019
PROJECT No. 4003-PAS07871

Penn E&R
Environmental & Remediation, Inc.
BRANNING NUMBER
PA007871-001
SHEET 1

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

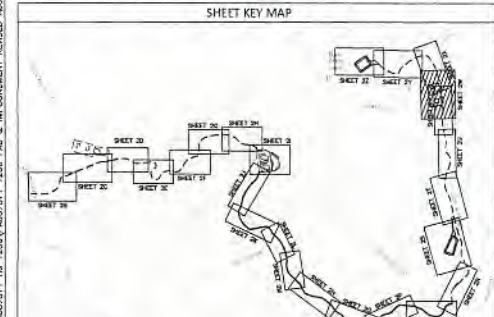
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LEGEND

- REGA CHECK DAM
- RRR/RP APPROX
- ACCESS ROAD/PAD CHAINLINE
- SPS CONTOUR FILTER SOCK 1/2" UNLESS OTHERWISE NOTED
- SP75 CONTOUR FILTER SOCK 1/2"
- APPROXIMATE LINES OF CONTAMINANT
- APPROXIMATE PROPERTY LINE
- EXISTING INDEX CONTOUR
- EXISTING INTERMEDIATE CONTOUR
- PROPOSED FINAL GRADE INTERMEDIATE CONTOUR
- PROPOSED FINAL GRADE INTERMEDIATE CONTOUR
- LIMITS OF BLUE MOUNTAIN WATERSHED
- LIMITS OF TSD WATERSHED
- EXISTING ACCESS ROAD
- EXISTING OVERHEAD UTILITY LINE
- EXISTING GAS LINE
- NOE BENCH (SEE FILL BENCH DETAILS)
- LIVESTOCK CONTROL BARRIER
- ILLUSTRATED WETLAND

- WEST VIRGINIA GENERAL NOTES:**
- ALL PROPOSED IMPROVEMENTS SHOWN ON PLAN UNLESS SPECIFICALLY NOTED OTHERWISE.
 - REFER TO THIS SHEET WITH THE CONSTRUCTION NOTES AND DETAILS.
 - CONTRACTOR SHALL CONTACT WEST VIRGINIA WATER INSPECTOR SERVICES WITH A MINIMUM OF 5 DAYS PRIOR TO EXCAVATION WORK. INSPECTOR MUST BE ADVISED AND SITE RELEASED BY INSPECTOR OR CONTRACTOR PRIOR TO EXCAVATION WORK AT THE SITE.
 - THE SITE SHALL BE MAINTAINED IN ACCORDANCE WITH WEST VIRGINIA WATER INSPECTOR SERVICES REQUIREMENTS TO COMPLETE THE PROJECT. CONTRACTOR SHALL MAINTAIN ACCESS TO ALL ADJACENT PROPERTIES AND SHALL MAINTAIN ACCESS TO ALL ADJACENT PROPERTIES AND SHALL MAINTAIN ACCESS TO ALL ADJACENT PROPERTIES.
 - THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE WEST VIRGINIA WATER INSPECTOR SERVICES AND THE WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL AND NATURE RESOURCES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE WEST VIRGINIA WATER INSPECTOR SERVICES AND THE WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL AND NATURE RESOURCES.
 - ALL EXCAVATION SHALL BE PROTECTED BY SHIELDING OR BRACING TO PREVENT COLLAPSE. ALL EXCAVATION SHALL BE PROTECTED BY SHIELDING OR BRACING TO PREVENT COLLAPSE. ALL EXCAVATION SHALL BE PROTECTED BY SHIELDING OR BRACING TO PREVENT COLLAPSE.
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APPROVED WVDEP OOG
 11/12/2019

WELL #	LAT.	LONG.
N-1H	N 39.158098	W 80.382428
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N-3H	N 39.158107	W 80.382321
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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

SCALE - FEET
 0 2000 4000

MEASUREMENTS
 USING TRANSIT/SPERMATIC QUADRANGLE
 VECS MEASURED NOV 2016/2017

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

WEST VIRGINIA **CALL BEFORE YOU DIG!**

Dial 811 or 800.245.4848
 West Utility of West Virginia

WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL AND NATURE RESOURCES
 20488
 STATE OF WEST VIRGINIA

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

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

APPROVED: WV DEP 08/26/2019
 CHECKED: WV DEP 08/30/2019
 DESIGN: WV DEP 08/30/2019
 PROJECT NO.: 4000-PAD0001
 DRAWING NUMBER: PAD0781-001
 SHEET 2W

Penn E&R
 Environmental & Remediation, Inc.
 111 IRAN COURT, PITTSBURGH, PA 15201
 412-722-1222