



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

Monday, March 9, 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-9H
47-033-05986-00-00

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

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

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

James A. Martin
Chief

A blue ink signature of James A. Martin, written in a cursive style, is positioned to the right of his name and title.

Operator's Well Number: ANTONIO 1206 S-9H
Farm Name: ANTONIO P., LLC
U.S. WELL NUMBER: 47-033-05986-00-00
Horizontal 6A New Drill
Date Issued: 3/9/2020

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-9H
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-9H 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: 26,516'

11) Proposed Horizontal Leg Length: 18,307'

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

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

14) Approximate Saltwater Depths: No SW depths found on WR-35 for the offset wells, salt water expected to be below elevation

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: _____

STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
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5) Well Type (a) Gas Oil _____ Underground Storage _____

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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#. *SPW 1/23/2020*

8) Proposed Total Vertical Depth: 7252'

9) Formation at Total Vertical Depth: Marcellus

10) Proposed Total Measured Depth: 26,516'

11) Proposed Horizontal Leg Length: 18,307'

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

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(a) If Yes, provide Mine Info: Name: _____

Depth: _____

Seam: _____

Owner: _____

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18)

CASING AND TUBING PROGRAM

TYPE	Size (in)	New or Used	Grade	Weight per ft. (lb/ft)	FOOTAGE: For Drilling (ft)	INTERVALS: Left in Well (ft)	CEMENT: Fill-up (Cu. Ft.)/CTS
Conductor	30"	New	LS	157.5	120'	120'	Drilled In
Fresh Water/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	26516'	26516'	20% excess tail, CTS
Tubing							
Liners							

*SDW
1/23/2020*

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 = 1.19, tail yield 1.34
Tubing							
Liners							

PACKERS

Kind:				
Sizes:				
Depths Set:				

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

Drill the vertical depth to the Marcellus at an estimated total vertical depth of approximately 7252 feet. Drill horizontal leg to estimated 18,307' lateral length, 26,516' 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 ACP 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 - centralize every 3 joints to surface.
Coal - Bow Spring on every joint, will also be running ACP for isolating storage zone
Intermediate - Bow Spring on first 2 joints then every third joint to 100' from surface.
Production - Run 1 spiral centralizer every 6 joints from the top of the curve to surface. Run 1 spiral centralizer every 3 joints from the 1st 5.5' long joint to the top of the curve.

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

Conductor -N/A. Casing to be drilled in w/ Dual Rotary Rig.
Fresh Water - 15.8 ppg PNE-1 + 3% bwoc CaCl, 40% Excess Yield = 1.20, CTS
Intermediate 1 - *Lead: 15.4 ppg PNE-1 + 2.5% bwoc CaCl40% Excess / Tail: 15.9 ppg PNE-1 + 2.5% bwoc CaCl zero% Excess. CTS*
Intermediate 2 - *Lead: 15.4 ppg PNE-1 + 2.5% bwoc CaCl40% Excess / Tail: 15.9 ppg PNE-1 + 2.5% bwoc CaCl zero% Excess. CTS*
Production - *Lead: 14.5 ppg POZ:PNE-1 + 0.3% bwoc R3 + 1% bwoc EC1 + 0.75 gal/sk FP13L + 0.3% bwoc MPA17020: 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 must at TD. Circulate a minimum of one hole volume prior to pumping cement.
Production - Once on bottom/TD with casing, circulate at max allowable pump rate for at least 2x bottoms up, or until returns and pump pressures indicate the hole is clean. Circulate a minimum of one hole volume prior to pumping cement.

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*Note: Attach additional sheets as needed.

Antonio 1206 Well Pad (N-1H, N-2H, N-3H, N-4H, N-5H)
Cement Additives

Material Name	Material Type	Material Description	CAS #																		
Premium NE-1	Portland Cement	Premium NE-1 is a portland cement with early compressive strength properties.	<table border="1"> <thead> <tr> <th>Ingredient name</th> <th>%</th> <th>CAS number</th> </tr> </thead> <tbody> <tr> <td>Portland cement</td> <td>90 - 100</td> <td>65997-15-1</td> </tr> <tr> <td>Calcium oxide</td> <td>1 - 5</td> <td>1305-78-8</td> </tr> <tr> <td>Magnesium oxide</td> <td>1 - 5</td> <td>1309-48-4</td> </tr> <tr> <td>Crystalline silica: Quartz (SiO2)</td> <td>0.1 - 1</td> <td>14808-60-7</td> </tr> </tbody> </table>	Ingredient name	%	CAS number	Portland cement	90 - 100	65997-15-1	Calcium oxide	1 - 5	1305-78-8	Magnesium oxide	1 - 5	1309-48-4	Crystalline silica: Quartz (SiO2)	0.1 - 1	14808-60-7			
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Bentonite	Extender	Commonly called gel, it is a clay material used as a cement extender and to control excessive free water.	<table border="1"> <thead> <tr> <th>Ingredient name</th> <th>%</th> <th>CAS number</th> </tr> </thead> <tbody> <tr> <td>bentonite</td> <td>90 - 100</td> <td>1302-78-9</td> </tr> <tr> <td>Crystalline silica: Quartz (SiO2)</td> <td>5 - 10</td> <td>14808-60-7</td> </tr> </tbody> </table>	Ingredient name	%	CAS number	bentonite	90 - 100	1302-78-9	Crystalline silica: Quartz (SiO2)	5 - 10	14808-60-7									
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Calcium Chloride	Accelerator	A powdered, flaked or pelletized material used to decrease thickening time and increase the rate of strength development	<table border="1"> <thead> <tr> <th>Ingredient name</th> <th>%</th> <th>CAS number</th> </tr> </thead> <tbody> <tr> <td>Calcium chloride</td> <td>90 - 100</td> <td>10043-52-4</td> </tr> </tbody> </table>	Ingredient name	%	CAS number	Calcium chloride	90 - 100	10043-52-4												
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Cello Flake	Lost Circulation	Graded (3/8 to 3/4 inch) cellophane flakes used as a lost circulation material.	<table border="1"> <thead> <tr> <th>Ingredient name</th> <th>%</th> <th>CAS number</th> </tr> </thead> <tbody> <tr> <td>No hazardous ingredient</td> <td></td> <td></td> </tr> </tbody> </table>	Ingredient name	%	CAS number	No hazardous ingredient														
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FP-13L	Foam Preventer	FP-13L is a clear liquid organic phosphate antifoaming agent used in cementing operations. It is very effective minimizing air entrapment and preventing foaming tendencies of latex systems.	<table border="1"> <thead> <tr> <th>Ingredient name</th> <th>%</th> <th>CAS number</th> </tr> </thead> <tbody> <tr> <td>Tributyl phosphate</td> <td>90 - 100</td> <td>126-73-8</td> </tr> </tbody> </table>	Ingredient name	%	CAS number	Tributyl phosphate	90 - 100	126-73-8												
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Granulated Sugar	Retarder	Used to retard cement returns at surface. A proprietary product that provides expansive properties and improves bonding at low to moderate temperatures.	<table border="1"> <thead> <tr> <th>Ingredient name</th> <th>%</th> <th>CAS number</th> </tr> </thead> <tbody> <tr> <td>Sucrose</td> <td>90 - 100</td> <td>57-50-1</td> </tr> </tbody> </table>	Ingredient name	%	CAS number	Sucrose	90 - 100	57-50-1												
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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-9H
Marcellus Shale Horizontal
Harrison County, WV

Ground Elevation		1206 S-9H SHL		1206 S-9H LP		1206 S-9H BHL		14220502.02N 1815558.7E		14220578.84N 1817759.78E		14203404.67N 1824079.43E	
Azim		1350°		159.798°									
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	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	12.25"	9-5/8" 40# J-55 BTC	Surface / FW	0	2200	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	3000	AIR / KCL - Salt Polymer	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" Curve	5-1/2" 23# P-110 HP CDC HTQ	Intermediate 2	0	3000	9.0ppg SOBM	Lead: 14.5 ppg POZ:PNE-1 + 0.3% bwoc R3 + 1% bwoc EC1 + 0.75 gal/sk FP13L + 0.3% bwoc MPA170 Tail: 14.8 ppg PNE-1 + 0.35% bwoc R3 + 0.75 gal/sk FP13L + 50% bwoc ASCA1 + 0.5% bwoc MPA170 20% Excess Lead Yield=1.19 Tail Yield=1.94 CTS	Run 1 spiral centralizer every 5 joints from the top of the curve to surface	Once on bottom/TD with casing, circulate at max allowable pump rate for at least 2x bottoms up, or until returns and pump pressures indicate the hole is clean. Circulate a minimum of one hole volume prior to pumping cement.	Production casing = 0.415" wall thickness Burst=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	Speechley	3204	3224	11.5ppg SOBM	Lead: 14.5 ppg POZ:PNE-1 + 0.3% bwoc R3 + 1% bwoc EC1 + 0.75 gal/sk FP13L + 0.3% bwoc MPA170 Tail: 14.8 ppg PNE-1 + 0.35% bwoc R3 + 0.75 gal/sk FP13L + 50% bwoc ASCA1 + 0.5% bwoc MPA170 20% Excess Lead Yield=1.19 Tail Yield=1.94 CTS	Run 1 spiral centralizer every 5 joints from the top of the curve to surface	Once on bottom/TD with casing, circulate at max allowable pump rate for at least 2x bottoms up, or until returns and pump pressures indicate the hole is clean. Circulate a minimum of one hole volume prior to pumping cement.	Production casing = 0.415" wall thickness Burst=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	Baltown	3438	3448	11.5ppg SOBM	Lead: 14.5 ppg POZ:PNE-1 + 0.3% bwoc R3 + 1% bwoc EC1 + 0.75 gal/sk FP13L + 0.3% bwoc MPA170 Tail: 14.8 ppg PNE-1 + 0.35% bwoc R3 + 0.75 gal/sk FP13L + 50% bwoc ASCA1 + 0.5% bwoc MPA170 20% Excess Lead Yield=1.19 Tail Yield=1.94 CTS	Run 1 spiral centralizer every 5 joints from the top of the curve to surface	Once on bottom/TD with casing, circulate at max allowable pump rate for at least 2x bottoms up, or until returns and pump pressures indicate the hole is clean. Circulate a minimum of one hole volume prior to pumping cement.	Production casing = 0.415" wall thickness Burst=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	Benson	4505	4525	11.5ppg SOBM	Lead: 14.5 ppg POZ:PNE-1 + 0.3% bwoc R3 + 1% bwoc EC1 + 0.75 gal/sk FP13L + 0.3% bwoc MPA170 Tail: 14.8 ppg PNE-1 + 0.35% bwoc R3 + 0.75 gal/sk FP13L + 50% bwoc ASCA1 + 0.5% bwoc MPA170 20% Excess Lead Yield=1.19 Tail Yield=1.94 CTS	Run 1 spiral centralizer every 5 joints from the top of the curve to surface	Once on bottom/TD with casing, circulate at max allowable pump rate for at least 2x bottoms up, or until returns and pump pressures indicate the hole is clean. Circulate a minimum of one hole volume prior to pumping cement.	Production casing = 0.415" wall thickness Burst=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	Rhinestreet	6395	6651	11.5ppg SOBM	Lead: 14.5 ppg POZ:PNE-1 + 0.3% bwoc R3 + 1% bwoc EC1 + 0.75 gal/sk FP13L + 0.3% bwoc MPA170 Tail: 14.8 ppg PNE-1 + 0.35% bwoc R3 + 0.75 gal/sk FP13L + 50% bwoc ASCA1 + 0.5% bwoc MPA170 20% Excess Lead Yield=1.19 Tail Yield=1.94 CTS	Run 1 spiral centralizer every 5 joints from the top of the curve to surface	Once on bottom/TD with casing, circulate at max allowable pump rate for at least 2x bottoms up, or until returns and pump pressures indicate the hole is clean. Circulate a minimum of one hole volume prior to pumping cement.	Production casing = 0.415" wall thickness Burst=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	Cashaqua	6651	6751	11.5ppg SOBM	Lead: 14.5 ppg POZ:PNE-1 + 0.3% bwoc R3 + 1% bwoc EC1 + 0.75 gal/sk FP13L + 0.3% bwoc MPA170 Tail: 14.8 ppg PNE-1 + 0.35% bwoc R3 + 0.75 gal/sk FP13L + 50% bwoc ASCA1 + 0.5% bwoc MPA170 20% Excess Lead Yield=1.19 Tail Yield=1.94 CTS	Run 1 spiral centralizer every 5 joints from the top of the curve to surface	Once on bottom/TD with casing, circulate at max allowable pump rate for at least 2x bottoms up, or until returns and pump pressures indicate the hole is clean. Circulate a minimum of one hole volume prior to pumping cement.	Production casing = 0.415" wall thickness Burst=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	Middlesex	6751	6783	11.5ppg SOBM	Lead: 14.5 ppg POZ:PNE-1 + 0.3% bwoc R3 + 1% bwoc EC1 + 0.75 gal/sk FP13L + 0.3% bwoc MPA170 Tail: 14.8 ppg PNE-1 + 0.35% bwoc R3 + 0.75 gal/sk FP13L + 50% bwoc ASCA1 + 0.5% bwoc MPA170 20% Excess Lead Yield=1.19 Tail Yield=1.94 CTS	Run 1 spiral centralizer every 5 joints from the top of the curve to surface	Once on bottom/TD with casing, circulate at max allowable pump rate for at least 2x bottoms up, or until returns and pump pressures indicate the hole is clean. Circulate a minimum of one hole volume prior to pumping cement.	Production casing = 0.415" wall thickness Burst=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	West River	6783	6854	11.5ppg SOBM	Lead: 14.5 ppg POZ:PNE-1 + 0.3% bwoc R3 + 1% bwoc EC1 + 0.75 gal/sk FP13L + 0.3% bwoc MPA170 Tail: 14.8 ppg PNE-1 + 0.35% bwoc R3 + 0.75 gal/sk FP13L + 50% bwoc ASCA1 + 0.5% bwoc MPA170 20% Excess Lead Yield=1.19 Tail Yield=1.94 CTS	Run 1 spiral centralizer every 5 joints from the top of the curve to surface	Once on bottom/TD with casing, circulate at max allowable pump rate for at least 2x bottoms up, or until returns and pump pressures indicate the hole is clean. Circulate a minimum of one hole volume prior to pumping cement.	Production casing = 0.415" wall thickness Burst=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	Burkett	6854	6864	11.5ppg SOBM	Lead: 14.5 ppg POZ:PNE-1 + 0.3% bwoc R3 + 1% bwoc EC1 + 0.75 gal/sk FP13L + 0.3% bwoc MPA170 Tail: 14.8 ppg PNE-1 + 0.35% bwoc R3 + 0.75 gal/sk FP13L + 50% bwoc ASCA1 + 0.5% bwoc MPA170 20% Excess Lead Yield=1.19 Tail Yield=1.94 CTS	Run 1 spiral centralizer every 5 joints from the top of the curve to surface	Once on bottom/TD with casing, circulate at max allowable pump rate for at least 2x bottoms up, or until returns and pump pressures indicate the hole is clean. Circulate a minimum of one hole volume prior to pumping cement.	Production casing = 0.415" wall thickness Burst=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	Tully Limestone	6864	6972	11.5ppg SOBM	Lead: 14.5 ppg POZ:PNE-1 + 0.3% bwoc R3 + 1% bwoc EC1 + 0.75 gal/sk FP13L + 0.3% bwoc MPA170 Tail: 14.8 ppg PNE-1 + 0.35% bwoc R3 + 0.75 gal/sk FP13L + 50% bwoc ASCA1 + 0.5% bwoc MPA170 20% Excess Lead Yield=1.19 Tail Yield=1.94 CTS	Run 1 spiral centralizer every 5 joints from the top of the curve to surface	Once on bottom/TD with casing, circulate at max allowable pump rate for at least 2x bottoms up, or until returns and pump pressures indicate the hole is clean. Circulate a minimum of one hole volume prior to pumping cement.	Production casing = 0.415" wall thickness Burst=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	Hamilton	6972	7081	11.5ppg SOBM	Lead: 14.5 ppg POZ:PNE-1 + 0.3% bwoc R3 + 1% bwoc EC1 + 0.75 gal/sk FP13L + 0.3% bwoc MPA170 Tail: 14.8 ppg PNE-1 + 0.35% bwoc R3 + 0.75 gal/sk FP13L + 50% bwoc ASCA1 + 0.5% bwoc MPA170 20% Excess Lead Yield=1.19 Tail Yield=1.94 CTS	Run 1 spiral centralizer every 5 joints from the top of the curve to surface	Once on bottom/TD with casing, circulate at max allowable pump rate for at least 2x bottoms up, or until returns and pump pressures indicate the hole is clean. Circulate a minimum of one hole volume prior to pumping cement.	Production casing = 0.415" wall thickness Burst=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	Marcellus	7081	7260	11.5ppg SOBM	Lead: 14.5 ppg POZ:PNE-1 + 0.3% bwoc R3 + 1% bwoc EC1 + 0.75 gal/sk FP13L + 0.3% bwoc MPA170 Tail: 14.8 ppg PNE-1 + 0.35% bwoc R3 + 0.75 gal/sk FP13L + 50% bwoc ASCA1 + 0.5% bwoc MPA170 20% Excess Lead Yield=1.19 Tail Yield=1.94 CTS	Run 1 spiral centralizer every 5 joints from the top of the curve to surface	Once on bottom/TD with casing, circulate at max allowable pump rate for at least 2x bottoms up, or until returns and pump pressures indicate the hole is clean. Circulate a minimum of one hole volume prior to pumping cement.	Production casing = 0.415" wall thickness Burst=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	TMD / TVD (Production)	26516	7252	11.5ppg SOBM	Lead: 14.5 ppg POZ:PNE-1 + 0.3% bwoc R3 + 1% bwoc EC1 + 0.75 gal/sk FP13L + 0.3% bwoc MPA170 Tail: 14.8 ppg PNE-1 + 0.35% bwoc R3 + 0.75 gal/sk FP13L + 50% bwoc ASCA1 + 0.5% bwoc MPA170 20% Excess Lead Yield=1.19 Tail Yield=1.94 CTS	Run 1 spiral centralizer every 5 joints from the top of the curve to surface	Once on bottom/TD with casing, circulate at max allowable pump rate for at least 2x bottoms up, or until returns and pump pressures indicate the hole is clean. Circulate a minimum of one hole volume prior to pumping cement.	Production casing = 0.415" wall thickness Burst=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	Onondaga	7260	7260	11.5ppg SOBM	Lead: 14.5 ppg POZ:PNE-1 + 0.3% bwoc R3 + 1% bwoc EC1 + 0.75 gal/sk FP13L + 0.3% bwoc MPA170 Tail: 14.8 ppg PNE-1 + 0.35% bwoc R3 + 0.75 gal/sk FP13L + 50% bwoc ASCA1 + 0.5% bwoc MPA170 20% Excess Lead Yield=1.19 Tail Yield=1.94 CTS	Run 1 spiral centralizer every 5 joints from the top of the curve to surface	Once on bottom/TD with casing, circulate at max allowable pump rate for at least 2x bottoms up, or until returns and pump pressures indicate the hole is clean. Circulate a minimum of one hole volume prior to pumping cement.	Production casing = 0.415" wall thickness Burst=16240 psi Note: Actual centralizer schedules may be changed due to hole conditions			

LP @ 7252' TVD / 8209' MD
8.5" Hole - Cemented Long String
5-1/2" 23# P-110 HP CDC HTQ
+/-18307' ft Lateral
TD @ +/-7262' TVD
+/-26516' MD
X=centralizers

HG Energy II Appalachia, LLC
List of Frac Additives by Chemical Name and CAS #
Antonio 1206 Well Pad (N-1H to N-5H, S-6H to S-10H)

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

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Environmental Protection

47 03 305986

WW-9
(4/16)

API Number 47 - _____ - _____

Operator's Well No. Antonio 1206 S-9H

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 _____)

*SOW
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/M, Horizontal - SOB/M

-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

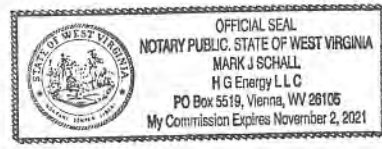
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Subscribed and sworn before me this 23rd day of October, 2019

Carl Lee Notary Public

My commission expires 11/2/2021

WV Department of Environmental Protection



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? (X) Yes () No

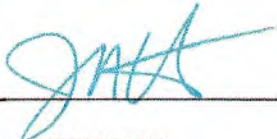
PROPOSAL TO DRILL WITHIN DOMINION TRANSMISSION STORAGE FIELD

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

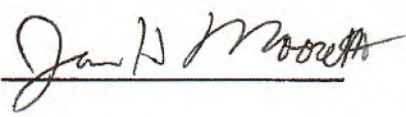
WELL NAME: Antonio 1206

Well # Antonio 1206 S-9H

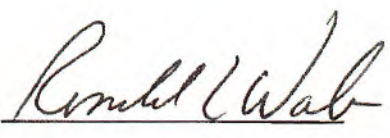
DISTRICT/COUNTY/STATE: Grant/Harrison/WV

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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Environmental Protection

WW-6B
(04/15)

API NO. 47- _____
OPERATOR WELL NO. Antonio 1206 S-9H
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-9H 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: 24,362'
- 11) Proposed Horizontal Leg Length: 16,153'
- 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: _____

Page 1 of 3

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WW-6B
(04/15)

API NO. 47-
OPERATOR WELL NO. Antonio 1206 S-9H
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	24362'	24362'	20% excess tail, CTS
Tubing							
Liners							

SD W
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 1.00
Tubing							
Liners							

PACKERS

Kind:				
Sizes:				
Depths Set:				

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WV Department of
Environmental Protection

WW-6B
(10/14)

API NO. 47- _____
OPERATOR WELL NO. Antonio 1206 S-0H
Well Pad Name: Antonio 1206

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

Drill the vertical depth to the Marcellus at an estimated total vertical depth of approximately 7252 feet. Drill horizontal leg to estimated 16,153' lateral length, 24,362' 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 specified in this permit.
Production - Run 1 centralizer every 2 joints from the top of the curve to surface. Run 1 centralizer every 3 joints from the top 2,000' length to the top of the case.
Production - Run 1 centralizer every 2 joints from the top of the curve to surface. Run 1 centralizer every 3 joints from the top 2,000' length to the top of the case.

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

Cement - 400, 400 to be added to of Class Heavy 90.
Production - 0.05% (100 ppm) PMS-1 + 0.2% Iron-Calc 425 (Silica) Yield = 1.26, 0.75
Production - 0.05% (100 ppm) PMS-1 + 0.2% Iron-Calc 425 (Silica) Yield = 1.26, 0.75
Production - 0.05% (100 ppm) PMS-1 + 0.2% Iron-Calc 425 (Silica) Yield = 1.26, 0.75
Production - 0.05% (100 ppm) PMS-1 + 0.2% Iron-Calc 425 (Silica) Yield = 1.26, 0.75

25) Proposed borehole conditioning procedures:

Cement - 400, 400 to be added to of Class Heavy 90.
Production - 0.05% (100 ppm) PMS-1 + 0.2% Iron-Calc 425 (Silica) Yield = 1.26, 0.75
Production - 0.05% (100 ppm) PMS-1 + 0.2% Iron-Calc 425 (Silica) Yield = 1.26, 0.75
Production - 0.05% (100 ppm) PMS-1 + 0.2% Iron-Calc 425 (Silica) Yield = 1.26, 0.75
Production - 0.05% (100 ppm) PMS-1 + 0.2% Iron-Calc 425 (Silica) Yield = 1.26, 0.75

*Note: Attach additional sheets as needed.

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1206 S-9H
Marcellus Shale Horizontal
Harrison County, WV

Ground Elevation	1350'	1206 S-9H SHL	1206 S-9H LP	14220502.02N 1815558.7E					
Azimuth	159.798°	1206 S-9H BHL	14220578.84N 1817759.78E	14205425.05N 1823335.98E					
WELLBORE DIAGRAM									
HOLE	CASING	GEOLOGY	TOP	BASE	MUD	CEMENT	CENTRALIZERS	CONDITIONING	COMMENTS
30"	30" 157.5# LS	Conductor	0	120	AIR	N/A, Casing to be drilled in W Dual Rotary Rig	N/A	Ensure the hole is clean at TD.	Conductor casing = 0.5" wall thickness
24"	20" 94# J-55	Fresh Water Coal Surface / FW	0	135, 480, 637, 731 1815 1100	AIR	15.8 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
17.5"	13-3/8" 88# J-55 BTC	Litter/Big Lime Mylon / Gault (Stonage) Intermedialta 1	1555 / 1596 1058 / 1905	1575 / 1658 1770 / 2050 2200	AIR / VCL Salt Polymer	Lead: 15.4 ppg PNE-1 + 2.5% bwoc CaCl 40% Excess / Tail: 15.8 ppg PNE-1 + 2.5% bwoc CaCl zero% Excess. CTS	Box Spring on every joint *Will also be running ACP for isolating storage zones*	Once casing is at setting condition at TD, Circulate a minimum of one hole volume prior to pumping cement.	Intermediate casing = 0.480" wall thickness Burst=4450 psi
12.25"	9-5/8" 40# J-55 BTC	Filly / Thick Foot Garden Slury / Garden 5th Sand Beyond / W/aren Intermedialta 2	2096 / 2182 2202 / 2272 2515 2591 / 2881	2167 / 2200 2272 / 2385 2527 2881 / 2831 3000	AIR / KCL Salt Polymer	Lead: 15.4 ppg PNE-1 + 2.5% bwoc CaCl 40% Excess / Tail: 15.8 ppg PNE-1 + 2.5% bwoc CaCl zero% Excess. CTS	Box Spring on first 2 joints then every third joint to 100' from surface	Once casing is at setting depth, Circulate and condition fluid at TD. Circulate a minimum of one hole volume prior to pumping cement.	Intermediate casing = 0.395" wall thickness Burst=3850 psi
8.5" Vertical	8-5/8" 40# J-55 BTC	Rhyolite Baitton Benman	3204 3438 4505	3224 3448 4525	0.8ppg SOBIM	Lead: 14.5 ppg PO2/PNE-1 + 0.3% EC1 + 0.7% galak FP-TIL + 0.5% bwoc MFA170	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: Centralizer schedule may be changed due to hole conditions
8.5" Curve	5-1/2" 23# P-110 HP CDC HTO	Casthequa Middlesex West River Burdell Tully Limestone	6851 6751 6783 6854 6884	6751 6783 6854 6884	11.5ppg SOBIM	Table: 14.8 ppg PNE-1 + 0.35% bwoc R3 + 0.75 galak FP-TIL + 0.5% bwoc MFA170 20% Excess Lead Yield=1.18 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: Centralizer schedule may be changed due to hole conditions
8.5" Lateral	8.5" Lateral	Hamilton Marcellus TMD / TVD (Production) Chondolite	6972 7081 24382	6972 7081 7252	11.5ppg SOBIM				

44-16158 R Lateral

LP @ 7252' TVD / 8208' MD
8.5" Hole - Cemented Long String
5-1/2" 23# P-110 HP CDC HTO

TD @ 417252' TVD
44-24382 MD

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WV



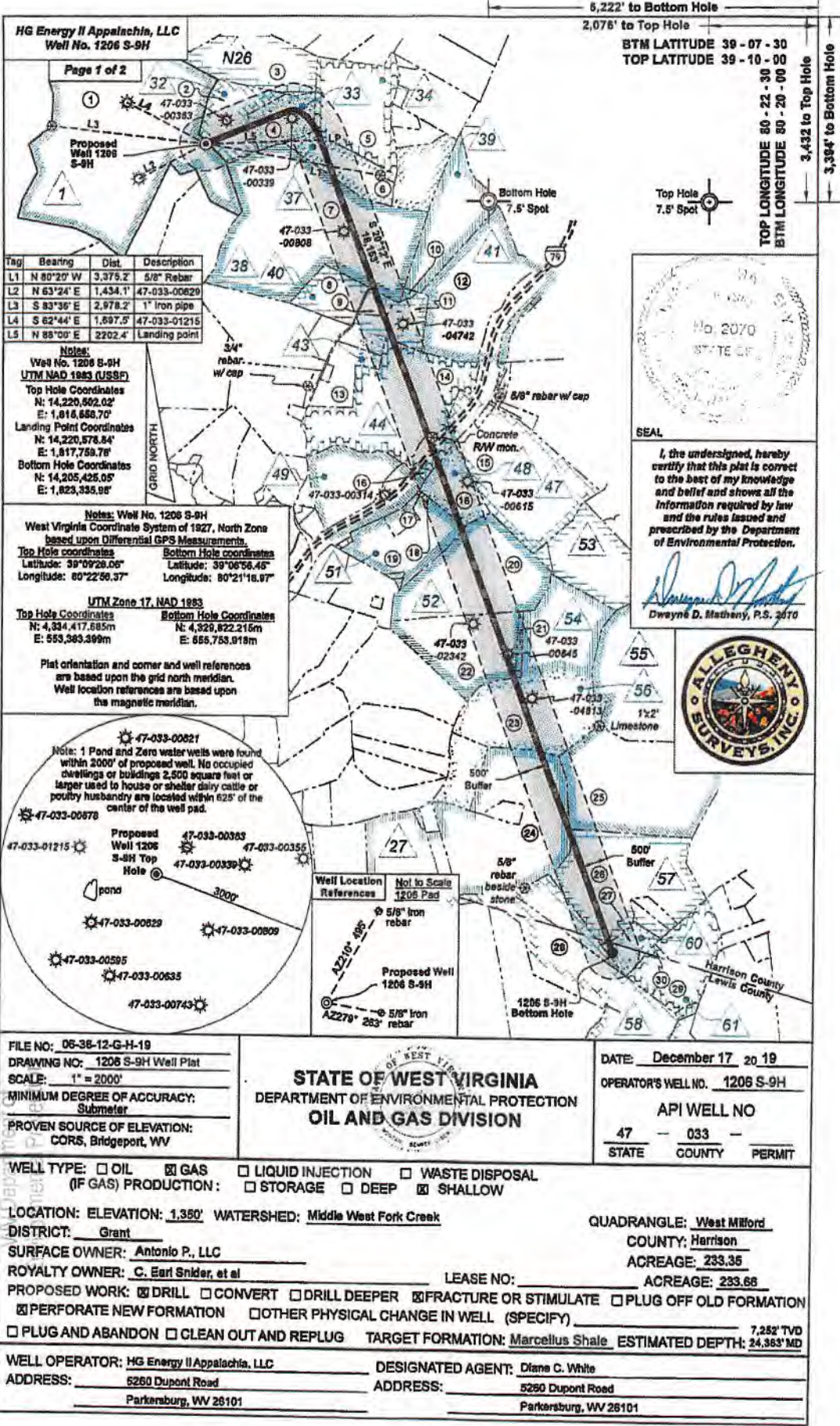
1206 S-9H
Marcellus Shale Horizontal
Harrison County, WV

Ground Elevation	1350'	1206 S-9H SHL	1206 S-9H LP	1206 S-9H BHL	14220602.02N 1815558.7E	14220578.84N 1817759.78E	14205425.05N 1823335.98E	COMMENTS
Azm	159.799°							
WELLBORE DIAGRAM								
HOLE	30°	30°	24°	17.5°	12.25°	8.5° Vertical	8.5° Curve	8.5° Lateral
CASING	30" 157.5# LS	Conductor	0	0	0	0	0	0
GEOLOGY	Fresh Water	Coal	Surface / FW	LibersBg Line Lyan / Genz (Strong)	Fly / Thinly Foal Gordon Stay / Gordon 5th Sand Bygard / Warren Intermediate 2	Speachley Balkum Benson	Rhinstreel Castagna Madagascar West River Burket Tully Limestone Henning Marcellus TMD / TTD (Production) Onondaga	TOP
BASE	135.480	637.731	1015	1100	0	2095 / 2162	2157 / 2200	2292 / 2272
MUD	AIR	AIR	AIR	AIR / KCL Salt Polymer	AIR / KCL Salt Polymer	9.0ppp SOBM	11.5ppp- 12.5ppp SOBM	11.5ppp- 12.5ppp SOBM
CEMENT	N/A. Casing to be drilled in w/ Dual Rotary Rig	15.8 ppg PNE-1 + 3% bmc Caci 40% Excess Yield=1.20 / CTS	Lead: 15.4 ppg PNE-1 + 2.5% bmc Caci 40% Excess / Tail: 15.8 ppg PNE-1 + 2.5% bmc Caci zmc% Excess. CTS	Lead: 15.4 ppg PNE-1 + 2.5% bmc Caci 40% Excess / Tail: 15.8 ppg PNE-1 + 2.5% bmc Caci zmc% Excess. CTS	Lead: 14.5 ppg POZ/PNE-1 + 0.3% bmc R3 + 1% bmc EC1 + 0.75 gal/ck FP13L + 0.3% bmc MPA170 Tail: 14.8 ppg PNE-1 + 0.35% bmc R3 + 0.75 gal/ck FP13L + 50% bmc MPA170 zmc% Excess Lead Yield=1.19 Tail Yield=1.54 CTS	Run 1 spiral centralizer every 5 joints from the top of the curve to surface.	Run 1 spiral centralizer every 3 joints from the top of the curve.	Once on bottom/TD with casing, circulate at max allowable pump rate for at least 3x bottoms up, or until rotary and pump pressures indicate the hole is clean. Circulate a minimum of one hole volume prior to pumping cement.
CENTRALIZERS	N/A	Centralized every 3 joints to surface	Bow Spring on every joint W/ 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.	Once casing is at setting depth. Circulate and condition at TD. Circulate a minimum of one hole volume prior to pumping cement.	Production casing = 0.415" wall thickness Burst=16240 psi Nickel-chromium alloy tubes may be changed due to these conditions	Conductor casing = 0.5" wall thickness Surface casing = 0.438" wall thickness Burst=2110 psi	Intermediate casing = 0.480" wall thickness Burst=9450 psi
CONDITIONING	Ensure the hole is clean at TD.	Once casing is at setting depth, circulate a minimum of one hole volume with Fresh Water prior to pumping cement.	Once casing is at setting depth. Circulate and condition at TD. Circulate a minimum of one hole volume prior to pumping cement.	Once casing is at setting depth. Circulate and condition at TD. Circulate a minimum of one hole volume prior to pumping cement.	Once casing is at setting depth. Circulate and condition at TD. Circulate a minimum of one hole volume prior to pumping cement.			

LP @ 7252' TVD / 8209'
MD
8.5" Hole - Cemented Long String
5-1/2" 23# P-110 HP CDC HTG

4-18159" R Lateral
TD @ 4-7252' TVD
+52002' MD

Department of
0202 2 0 NAT
Office of
REVENUE



HG Energy II Appalachia, LLC
Well No. 1206 S-9H

Page 1 of 2

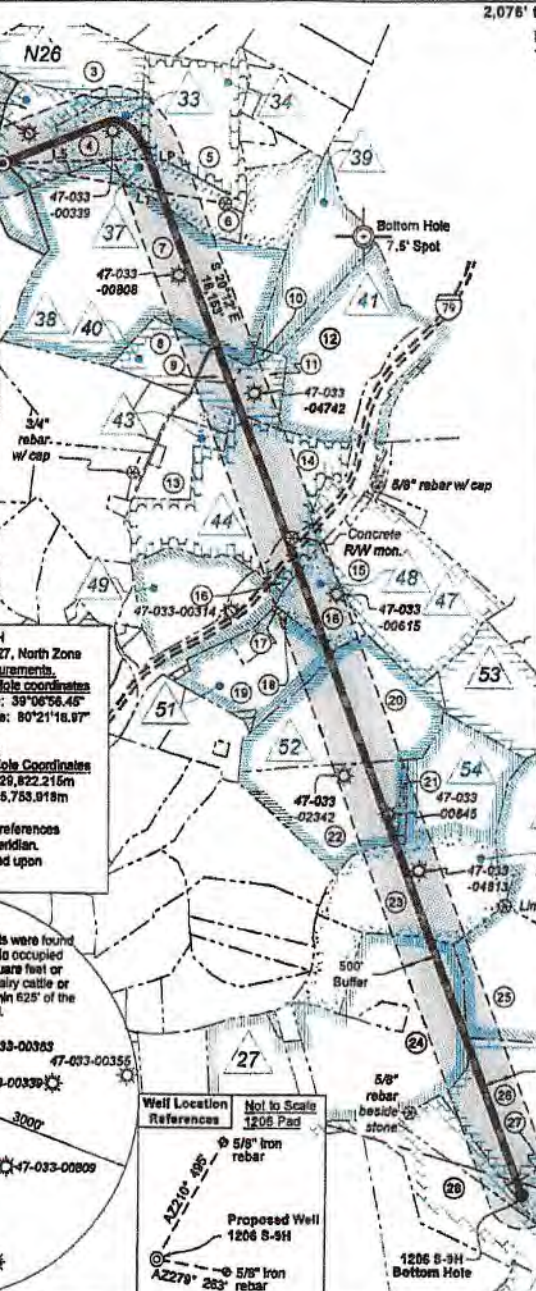
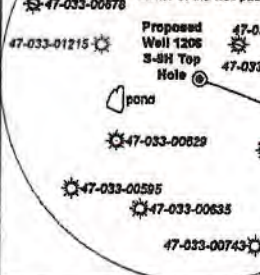
Tag	Bearing	Dist.	Description
L1	N 80°20' W	3,375.2	5/8" Rebar
L2	N 63°24' E	1,434.1	47-033-00620
L3	S 83°36' E	2,978.2	1" Iron pipe
L4	S 62°44' E	1,697.5	47-033-01215
L5	N 88°00' E	2,202.4	Landing point

Notes:
Well No. 1206 S-9H
UTM NAD 1983 (USBP)
Top Hole Coordinates
N: 14,220,562.02'
E: 1,616,668.70'
Landing Point Coordinates
N: 14,220,578.84'
E: 1,617,768.78'
Bottom Hole Coordinates
N: 14,205,426.05'
E: 1,623,355.98'

Notes: Well No. 1206 S-9H
West Virginia Coordinate System of 1927, North Zone based upon Differential GPS Measurements.
Top Hole coordinates
Latitude: 39°09'28.06"
Longitude: 80°22'56.37"
Bottom Hole coordinates
Latitude: 39°06'56.45"
Longitude: 80°21'18.97"

UTM Zone 17, NAD 1983
Top Hole Coordinates
N: 4,334,417.685m
E: 553,363.399m
Bottom Hole Coordinates
N: 4,329,822.216m
E: 655,753.918m

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



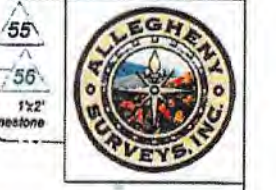
6,222' to Bottom Hole
2,076' to Top Hole
BTM LATITUDE 39 - 07 - 30
TOP LATITUDE 39 - 10 - 00
TOP LONGITUDE 80 - 22 - 30
BTM LONGITUDE 80 - 20 - 00
3,432 to Top Hole
3,364' to Bottom Hole

Top Hole 7.5' Spot
Bottom Hole 7.5' Spot

SEAL

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. 2010



FILE NO: 06-38-12-G-H-19
DRAWING NO: 1206 S-9H 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-9H
API WELL NO
47 - 033 -
STATE COUNTY PERMIT

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

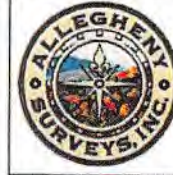
LOCATION: ELEVATION: 1,350' WATERSHED: Middle West Fork Creek
DISTRICT: Grant
SURFACE OWNER: Antonio P., LLC
ROYALTY OWNER: C. Earl Snider, et al LEASE NO:
PROPOSED WORK: DRILL CONVERT DRILL DEEPER FRACTURE OR STIMULATE PLUG OFF OLD FORMATION
 PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE IN WELL (SPECIFY)
 PLUG AND ABANDON CLEAN OUT AND REPLUG TARGET FORMATION: Marcellus Shale ESTIMATED DEPTH: 7,252' TVD 24,363' MD

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

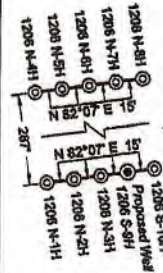
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HG Energy II Appalachia, LLC
Well No. 1206 S-9H

Page 2 of 2



Wellhead Layout (Not to Scale)



- 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

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	426 / 63	Charles R. & Franklin L. Sutton	1301 / 98 51.33
4	426 / 73	Charles R. & Franklin L. Sutton	1301 / 98 22.96
5	426 / 74	Harriet June Ferree	1514 / 480 60.30
6	446 / 4	Bob R. Blankenship	1310 / 760 27.67
7	446 / 3	Antonio P., LLC	1503 / 291 200.00
8	446 / 23	Ann A. & William S. Davisson	1466 / 431 21.46
9	446 / 23.1	Ann A. & William S. Davisson	1405 / 277 5.00
10	446 / 6.2	Kenneth R. Maxwell	1548 / 896 0.97
11	446 / 23.2	Ann A. & William S. Davisson	1466 / 431 25.10
12	446 / 24	Robert N. Rector	1621 / 719 82.90
13	446 / 23.3	Greg G. & Cathy L. Burnside	1465 / 84 19.35
14	446 / 34	David & Daniel Cumy	1451 / 987 97.41
15	446 / 46	Charles R. & Franklin L. Sutton	1284 / 75 98.75
16	446 / 44	Mary M. Myers	F112 / 625 0.23
17	446 / 45	Chad W. Owens	1546 / 721 0.20
18	446 / 46	Chad W. Owens	1546 / 721 0.31
19	466 / 17	Charles R. & Franklin L. Sutton	968 / 542 43.38
20	466 / 18	Charles R. & Franklin L. Sutton	1420 / 1107 82.60
21	466 / 37	Charles R. & Franklin L. Sutton	1401 / 913 11.50
22	466 / 36	Charles R. & Franklin L. Sutton	1401 / 913 50.00
23	466 / 38	Charles R. & Franklin L. Sutton	1342 / 1173 123.00
24	466 / 70	Frank N. Wine Jr & Ill	1596 / 809 114.77
25	466 / 56	Charles R. & Franklin L. Sutton	1170 / 396 110.00
26	466 / 71	Joyce A. & Vernon D. Cochran, Jr.	1253 / 240 91.79
Lewis County - Hackers Creek District			
No.	TM / Par	Owner	Bk / Pg Ac.
27	9C / 48	Everet Randolph	W26 / 236 12.11
28	9C / 40	Rose A. Kolb & John Hunter	W17 / 496 101.25
29	9C / 41	Elizabeth J. Hicks	W26 / 481 47.37
30	10C / 22	Leonard C. & Cynthia L. Riley	502 / 802 1.00

ID	Lessee
1	C. Earl Snider, et al
27	H.A. Boylan, et al
32	Allan Bell, et al
33	Atton Bell
34	Marcella R. Bond, et al
37	Lillie Gifford, et al
38	Lloyd Stout, et al
39	S.J. Davisson
40	L.B. Davisson
41	J.N. Rector, et al
43	Maude Davisson, et al
44	Lucy Davisson
47	G. Mantley Currey, et al
48	Allen M. Dyer, et al
49	J.C. McWhorter, et al
51	Paul A. Davisson, et al
52	N.A. McWhorter, et al
53	G. Manley Currey, et al
54	Sopha McWhorter, et al
55	B. Swisher, et ux
56	Sopha McWhorter, et al
57	Alicinda B. Jackson, et vir
58	J.W.C. Kolo, et al
60	Brooks Randolph, et al
81	Ella Goodwin, et al
N26	Marcella R. Bond, et al

FILE NO: 06-36-12-G-H-19
DRAWING NO: 1206 S-9H Well Plat
SCALE: 1" = 2000'
MINIMUM DEGREE OF ACCURACY:
Submeter
PROVEN SOURCE OF ELEVATION:
CORS, Bridgeport, WV



DATE: December 17, 2019
OPERATOR'S WELL NO.: 1206 S-9H
API WELL NO
47 - 033 -
STATE COUNTY PERMIT

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

LOCATION: ELEVATION: 1,350' WATERSHED: Middle West Fork Creek
DISTRICT: Grant QUADRANGLE: West Milford
SURFACE OWNER: Antonio P., LLC COUNTY: Harrison
ROYALTY OWNER: C. Earl Snider, et al ACREAGE: 233.35
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: 7,292' TVD
DESIGNATED AGENT: Diane C. White

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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Cuttings Disposal/Site Water

Cuttings - Haul off Company:

Exp 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 #R80-078001.05-2010
4301 Sycamore Ridge Road
Hurricane, WV 25526
304-562-2611

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

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

Waste Management Kelly Run Permit # 100668
1901 Park Side Drive
Elizabeth, PA 15087
412-884-7569

Waste Management South Hills (Arnoni) Permit # 100582
3100 Hill Road
Liberty, PA 15129
724-348-7018
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-108-87 / WV 0109029
Rd 2 Box 410
Colliers, WV 26035
304-748-0014

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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 800 South
 Suite 200
 Salt Lake City, UT 84101

Energy Solutions Services, Inc. Permit # R-79006-L24
 1560 Bear Creek Road
 Oak Ridge, TN 37830

Northern A-1 Environmental Services Permit ID MIP020906814
 8947 US 131 North, PO Box 1090
 Kalkaska, MI 49646
 261-258-9961

Water Haul off Companies:

Dynamic Structures, Clear Creek DQT # 720488
 8790 State Route 7
 New Waterford, OH 44445
 330-882-0184

Nahors Completion & Production Services Co.
 PO Box 976682
 Dallas, TX 75397-5682

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
 456 Cracraft Road
 Washington, PA 15301

Disposal Locations:

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

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
 28988 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. 288 Hwy. E, Suite 808
 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 15622

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 #24)
 Permit # 4096
 Rt. 88
 Garrettsville, OH
 718-276-4816

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

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Adams #2 (Buckeye Brine, LLC)
2205 Westover Road
Austin Tx 78708
Permit # 84-081-2-7178
740-575-4484
612-478-6545

Adams #3 (Buckeye Brine, LLC)
Permit #84-081-2-7241-00-00
2580 Exposition, Suite 117
Austin, TX 78703
612-478-6545

Mozena #1 Well (SWIW # 13)
Permit # 84-157-2-8511-00-00
5857 E. State Street
Newcomerstown, OH 43882
740-768-3968

Goff SWD #1 (SWIW # 27)
Permit # 84-119-2-8776-000
300 Cherrington Pkwy, Suite 200
Coraopolis, PA 15108
412-829-7275

SCS D#1 (SWIW #12)
Permit # 84-059-2-4202-00-00
Silcor Oilfield Services, Inc.
2999 Hubbard Road
Youngstown, OH 44505

Dudley #1 UIC (SWIW #1)
Permit # 84-121-2-2458-00-00
Select Energy Services, LLC
7884 S. Pleasant's Hwy
St. Marys, WV 26170
804-665-2652

OH UIC #1 Bu keya UIC Barnesville 1 & 2
CNX Gas Company, LLC
1000 Consol Energy Drive
Permit # 84-013-2-0609-00-00
Permit # 84-013-2-0614-00-00
804-828-6568

US Steels 11385
Permit # 47-001-00561
200 Evergreen Drive
Waynesburg, PA 15730
804-828-6568

Chapin #7 UIC (SWIW #7)
Permit # 84-083-2-4187-00-00
Elkhead Gas & Oil Company
12168 Marne Rd. NE
Newark, OH 43055
740-768-3968

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APR 7 2020

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Environmental Protection

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

*SDW
12/19/2019*

5260 Dupont Road

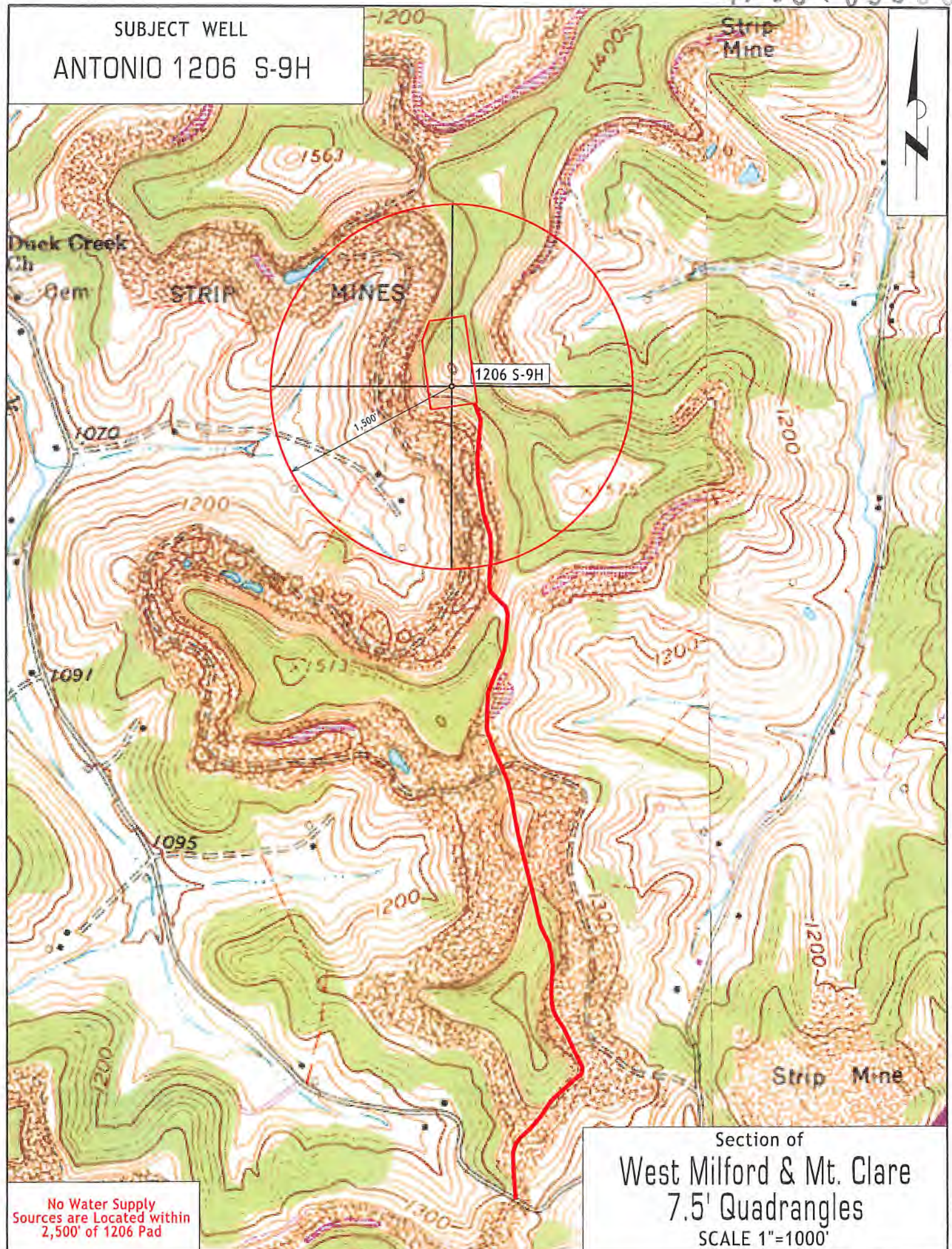
Parkersburg, WV 26101

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JAN 07 2020

WV Department of
Environmental Protection

SUBJECT WELL
ANTONIO 1206 S-9H



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-9H
BHL-Mod

5,493' to Bottom Hole
 2,076' to Top Hole
 BTM LATITUDE 39 - 07 - 30
 TOP LATITUDE 39 - 10 - 00

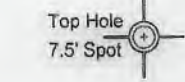
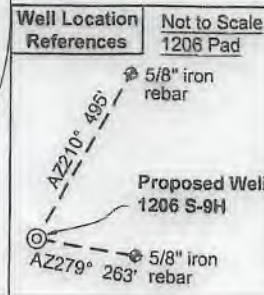
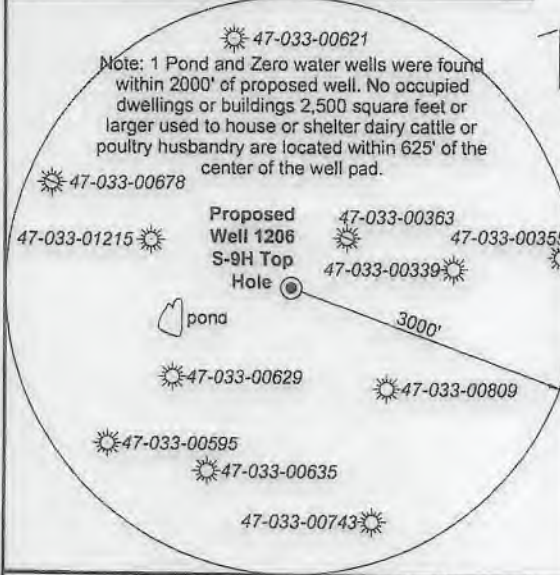
Page 1 of 2

Tag	Bearing	Dist.	Description
L1	N 80°20' W	3,375.2'	5/8" Rebar
L2	N 63°24' E	1,434.1'	47-033-00629
L3	S 83°36' E	2,978.2'	1" Iron pipe
L4	S 62°44' E	1,697.5'	47-033-01215
L5	N 88°00' E	2202.4'	Landing point

Notes:
 Well No. 1206 S-9H
 UTM NAD 1983 (USSF)
 Top Hole Coordinates
 N: 14,220,502.02'
 E: 1,815,558.70'
 Landing Point Coordinates
 N: 14,220,578.84'
 E: 1,817,759.78'
 Bottom Hole Coordinates
 N: 14,203,404.67'
 E: 1,824,079.43'

Notes: Well No. 1206 S-9H
 West Virginia Coordinate System of 1927, North Zone based upon Differential GPS Measurements.
 Top Hole coordinates Latitude: 39°09'26.06" Longitude: 80°22'56.37"
 Bottom Hole coordinates Latitude: 39°06'36.42" Longitude: 80°21'09.72"
 UTM Zone 17, NAD 1983
 Top Hole Coordinates N: 4,334,417.685m E: 553,383.399m
 Bottom Hole Coordinates N: 4,329,206.400m E: 555,980.500m

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-9H 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: January 20 20 20
 OPERATOR'S WELL NO. ANTONIO 1206 S-9H
 API WELL NO
 47 - 033 - 05986
 STATE COUNTY PERMIT

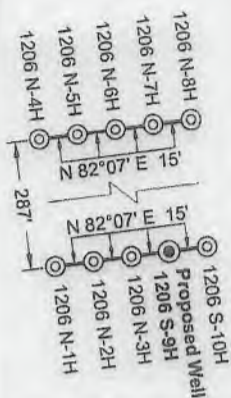
WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL
 (IF GAS) PRODUCTION: STORAGE DEEP SHALLOW

LOCATION: ELEVATION: 1,350' WATERSHED: Middle West Fork Creek
 DISTRICT: Grant QUADRANGLE: West Milford
 SURFACE OWNER: Antonio P., LLC COUNTY: Harrison
 ROYALTY OWNER: C. Earl Snider, et al ACREAGE: 233.35
 PROPOSED WORK: DRILL CONVERT DRILL DEEPER FRACTURE OR STIMULATE PLUG OFF OLD FORMATION
 PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE IN WELL (SPECIFY) BHL-MOD
 PLUG AND ABANDON CLEAN OUT AND REPLUG TARGET FORMATION: Marcellus Shale ESTIMATED DEPTH: 7,252' TVD 26,516' 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



Wellhead Layout (Not to Scale)



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

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	426 / 63	Charles R. & Franklin L. Sutton	1301 / 98	51.33
4	426 / 73	Charles R. & Franklin L. Sutton	1301 / 98	22.96
5	426 / 74	Harriet June Ferree	1514 / 480	60.30
6	446 / 4	Bob R. Blankenship	1310 / 750	27.67
7	446 / 3	Antonio P., LLC	1503 / 291	200.00
8	446 / 23	Ann A. & William S. Davisson	1466 / 431	21.46
9	446 / 23.1	Ann A. & William S. Davisson	1405 / 277	5.00
10	446 / 6.2	Kenneth R. Maxwell	1548 / 896	0.97
11	446 / 23.2	Ann A. & William S. Davisson	1466 / 431	25.10
12	446 / 24	Robert N. Rector	1621 / 719	82.90
13	446 / 23.3	Greg G. & Cathy L. Burnside	1465 / 84	19.35
14	446 / 34	David & Daniel Curry	1451 / 987	97.41
15	446 / 48	Charles R. & Franklin L. Sutton	1284 / 75	98.75
16	446 / 44	Mary M. Myres	F112 / 625	0.23
17	446 / 45	Chad W. Owens	1546 / 721	0.20
18	446 / 46	Chad W. Owens	1546 / 721	0.31
19	466 / 17	Charles R. & Franklin L. Sutton	968 / 542	43.38
20	466 / 18	Charles R. & Franklin L. Sutton	1420 / 1107	82.50
21	466 / 37	Charles R. & Franklin L. Sutton	1401 / 913	11.50
22	466 / 36	Charles R. & Franklin L. Sutton	1401 / 913	50.00
23	466 / 38	Charles R. & Franklin L. Sutton	1342 / 1173	123.00
24	466 / 70	Frank N. Wine Jr & III	1596 / 809	114.77
25	466 / 56	Charles R. & Franklin L. Sutton	1170 / 396	110.00
26	466 / 71	Joyce A. & Vernon D. Cochran, Jr.	1253 / 240	91.79

Lewis County - Hackers Creek District

No.	TM / Par	Owner	Bk / Pg	Ac.
27	9C / 48	Everet Randolph	W28 / 236	12.11
28	9C / 40	Rose A. Kolb & John Hunter	W17 / 496	101.25
29	9C / 41	Elizabeth J. Hicks	W26 / 481	47.37
30	10C / 22	Leonard C. & Cynthia L. Riley	502 / 502	1.00
31	10C / 4	Myrtle B. Arbogast	W17 / 218	48.90

ID	Lease
1	C. Earl Snider, et al
27	H.A. Boylen, et al
32	Alton Bell, et al
33	Alton Bell
34	Marcella R. Bond, et al
37	Lillie Gifford, et al
38	Lloyd Stout, et al
39	S.J. Davisson
40	L.B. Davisson
41	J.N. Rector, et al
43	Maude Davisson, et al
44	Lucy Davisson
47	G. Manley Currey, et al
48	Allen M. Dyer, et al
49	J.C. McWhorter, et al
51	Paul A. Davisson, et al
52	N.A. McWhorter, et al
53	G. Manley Currey, et al
54	Sopha McWhorter, et al
55	B. Swisher, et ux
56	Sopha McWhorter, et al
57	Alicinda B. Jackson, et vir
58	J.W.C. Kolb, et al
60	Brooks Randolph, et al
61	Ella Goodwin, et al
65	B.B. Curtis, et al
N26	Marcella R. Bond, et al

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

DRAWING NO: 1206 S-9H 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: January 20 20 20

OPERATOR'S WELL NO. ANTONIO
1206 S-9H

API WELL NO

47 033 05986
STATE COUNTY PERMIT

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

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

DISTRICT: Grant

QUADRANGLE: West Milford

COUNTY: Harrison

SURFACE OWNER: Antonio P., LLC

ACREAGE: 233.35

ROYALTY OWNER: C. Earl Snider, et al

LEASE NO: ACREAGE:

PROPOSED WORK: DRILL CONVERT DRILL DEEPER FRACTURE OR STIMULATE PLUG OFF OLD FORMATION
 PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE IN WELL (SPECIFY) BHL-MOD

PLUG AND ABANDON CLEAN OUT AND REPLUG TARGET FORMATION: Marcellus Shale ESTIMATED DEPTH: 7,252' TVD
26,516' 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



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

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

RECEIVED
 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 305980

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

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Sincerely,

Diane White

Diane White

Enclosure

RECEIVED
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 305980

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

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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.

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Sincerely,

Diane White

Diane White

Enclosure

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Office of Oil and Gas

→ OCT 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 305986

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

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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 * 05980

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

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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

4703305986

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

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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

4703 205990

October 9, 2019

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

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

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Sincerely,

Diane White

Diane White

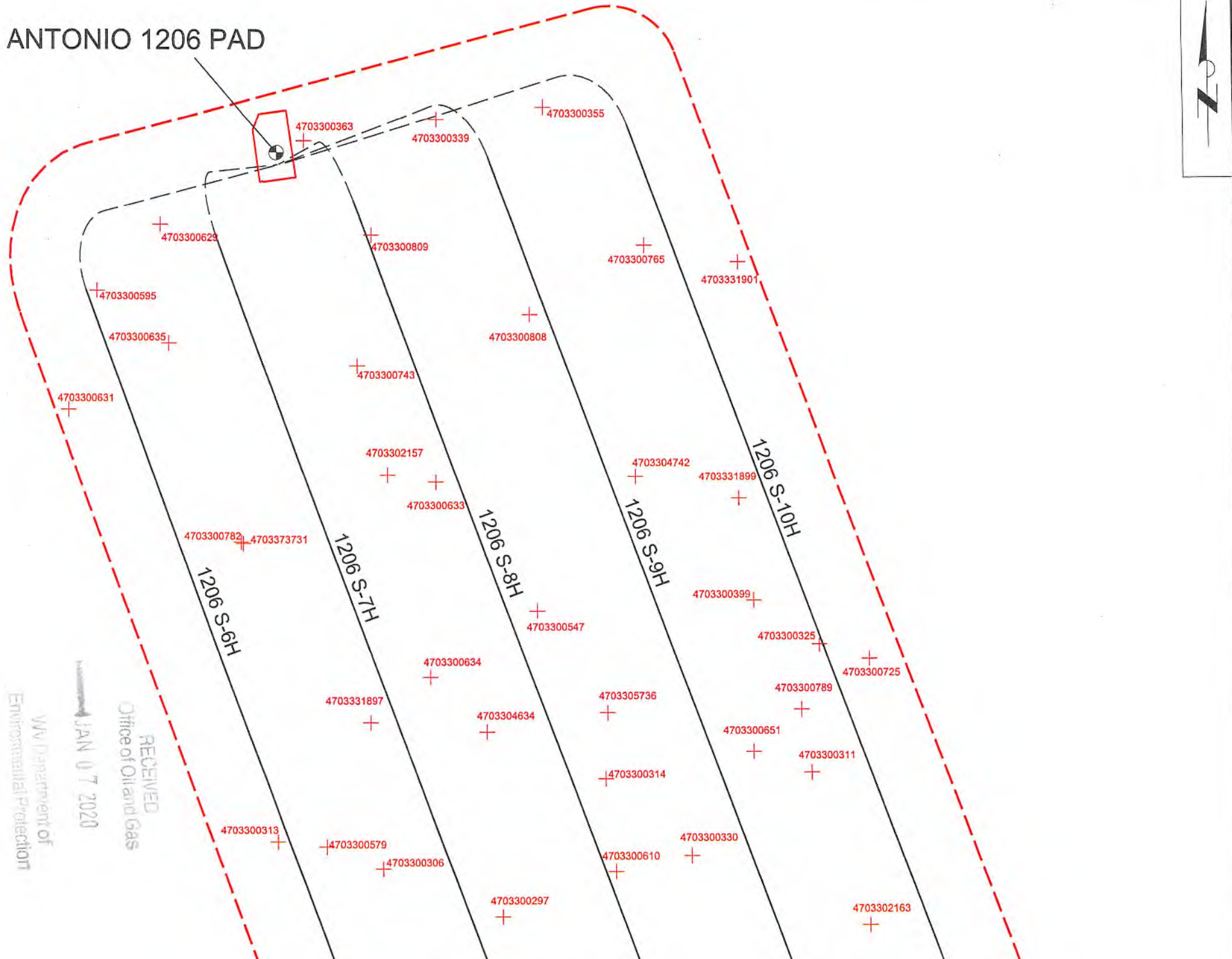
Enclosure

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Office of Oil and Gas

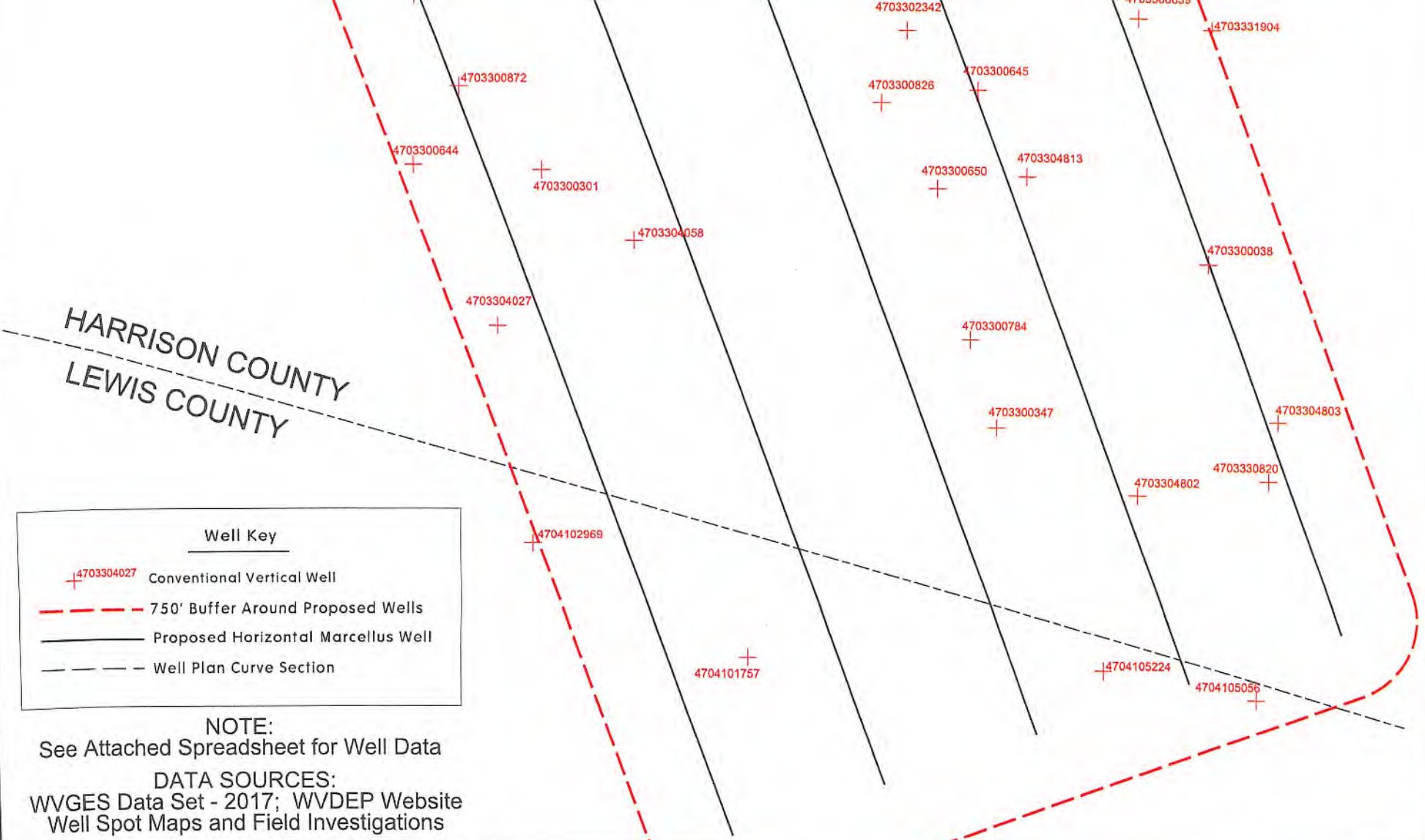
NOV 7 2020

WV Department of
Environmental Protection

ANTONIO 1206 PAD



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JAN 07 2020
WV Department of
Environmental Protection



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

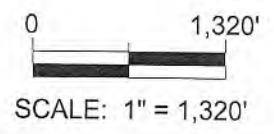
DATA SOURCES:
WVGES Data Set - 2017; WVDEP Website
Well Spot Maps and Field Investigations

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



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.

CT	API	COUNTY	FARM	OPERATOR NAME	FORMATION NAME	WELL TYPE	TVD	STATUS	LATITUDE	LONGITUDE
1	4703300038	HARRISON	B Swisher 2 CW417	Dominion Energy Transmission, Inc.	Gordon Stray	Storage	2350	ACTIVE	39.126611	-80.354494
2	4703300297	HARRISON	West	Dominion Energy Transmission, Inc.	Fifty-foot	Storage	1868	ACTIVE	39.135172	-80.374098
3	4703300301	HARRISON	John M McWhorter	Trio Petroleum Corporation	Hampshire Grp	Gas	2375	PLUGGED	39.129015	-80.376251
4	4703300306	HARRISON	A L West	Dominion Energy Transmission Inc.	Hampshire Grp	Gas	2340	ACTIVE	39.136607	-80.378501
5	4703300311	HARRISON	G Manley Curry	Dominion Energy Transmission, Inc.	Fifty-foot	Storage	2020	ACTIVE	39.139325	-80.362560
6	4703300313	HARRISON	A L West	Dominion Energy Transmission Inc.	Gantz	Storage	1956	ACTIVE	39.137413	-80.382384
7	4703300314	HARRISON	J M McWhorter	Dominion Energy Transmission, Inc.	Thirty-foot	Storage	2185	PLUGGED	39.139183	-80.370227
8	4703300325	HARRISON	Curry	Dominion Energy Transmission, Inc.	Hampshire Grp	Storage	1729	ACTIVE	39.143102	-80.362213
9	4703300330	HARRISON	P A Davisson	Dominion Energy Transmission, Inc.	Gantz	Storage	1983	ACTIVE	39.136911	-80.367064
10	4703300339	HARRISON	Alton Bell CW-333	Dominion Energy Transmission, Inc.	Gantz	Storage	1959	ACTIVE	39.158620	-80.376275
11	4703300347	HARRISON	Herman Nixon	Dominion Energy Transmission, Inc.	not available	not available	-	ABANDONED	39.122387	-80.361419
12	4703300355	HARRISON	Fred H Smith CW-334	Dominion Energy Transmission, Inc.	Gantz	Storage	2012	ACTIVE	39.158950	-80.372286
13	4703300363	HARRISON	A Bell	Dominion Energy Transmission Inc.	Thirty-foot	Storage	2150	PLUGGED	39.158029	-80.381243
14	4703300399	HARRISON	L Davisson	Dominion Energy Transmission, Inc.	Thirty-foot	Storage	2042	PLUGGED	39.144408	-80.364636
15	4703300547	HARRISON	Maude Davisson	Dominion Energy Transmission, Inc.	Benson	Gas	4530	ACTIVE	39.144146	-80.372692
16	4703300579	HARRISON	Ode Bright	Dominion Energy Transmission Inc.	Benson	Gas	4595	ACTIVE	39.137253	-80.380576
17	4703300595	HARRISON	C E Snider	Dominion Energy Transmission Inc.	Benson	Gas	4620	ACTIVE	39.153667	-80.389060
18	4703300610	HARRISON	David H Nutter	Dominion Energy Transmission, Inc.	Benson	Gas	4412	ACTIVE	39.136470	-80.369890
19	4703300629	HARRISON	C Earl Snider	Dominion Energy Transmission Inc.	Thirty-foot	Storage	1949	ACTIVE	39.155591	-80.386677
20	4703300631	HARRISON	C E Hickman	Dominion Energy Transmission, Inc.	Thirty-foot	Storage	2094	ACTIVE	39.150163	-80.390145
21	4703300633	HARRISON	Flossie Davisson	Dominion Energy Transmission, Inc.	Gordon	Storage	1814	ACTIVE	39.147967	-80.376997
22	4703300634	HARRISON	Nora Davisson	Dominion Energy Transmission, Inc.	Fifty-foot	Gas	2072	ABANDONED	39.142236	-80.376677
23	4703300635	HARRISON	C W Snider CW231	Dominion Energy Transmission, Inc.	Gordon	Storage	1946	ACTIVE	39.152100	-80.386365
24	4703300639	HARRISON	Sophia McWhorter	Dominion Energy Transmission, Inc.	Thirty-foot	Storage	2121	ACTIVE	39.132963	-80.356778
25	4703300644	HARRISON	P M White	Dominion Energy Transmission, Inc.	Thirty-foot	Storage	1825	ACTIVE	39.129169	-80.380402
26	4703300645	HARRISON	N A McWhorter	Dominion Energy Transmission, Inc.	Thirty-foot	Storage	2050	ACTIVE	39.131083	-80.362021
27	4703300650	HARRISON	S McWhorter CW312	Dominion Energy Transmission, Inc.	Fifty-foot	Storage	1892	ACTIVE	39.128533	-80.363342
28	4703300651	HARRISON	Allen M Dyer CW320	Dominion Energy Transmission, Inc.	Fifty-foot	Storage	2050	ACTIVE	39.139952	-80.364713
29	4703300725	HARRISON	W E Ware CW325	Dominion Energy Transmission, Inc.	Fifty-foot	Storage	1985	ACTIVE	39.142666	-80.360350
30	4703300743	HARRISON	Petito Brothers Inc	Dominion Energy Transmission, Inc.	Thirty-foot	Storage	1988	ACTIVE	39.151385	-80.379306
31	4703300765	HARRISON	L Gifford CW331	Dominion Energy Transmission, Inc.	Fifth	Storage	2495	PLUGGED	39.154858	-80.368549
32	4703300782	HARRISON	H Kieffer CW229	Dominion Energy Transmission, Inc.	Fifty-foot	Storage	2089	ACTIVE	39.146248	-80.383657

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	39.12103	-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	SJ 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	47033373731	HARRISON	Hazel Kieffer	Dominion Energy Transmission, Inc.	Benson	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-BNSN/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

**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
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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 27 2020

HG Energy II Appalachia, LLC
Antonio 1206 S-9H Lease Chain

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	781	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	
				DOMINION TRANSMISSION, INC.	PARTIAL ASSIGNMENT (32%)	1576	125	
				CNX GAS COMPANY LLC	ASSIGNMENT	1584	942	
				NOBLE ENERGY, INC.	ASSIGNMENT	1600	692	
				DOMINION TRANSMISSION, 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	
				ALTON BELL, SINGLE	FARMOUT AGREEMENT	775	150	
				HOPE NATURAL GAS COMPANY	CONFIRMATORY DEED	903	179	
				CONSOLIDATED GAS SUPPLY CORPORATION	ASSIGNMENT	1136	250	
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34	LC066665	12-0426-0074-0000	Q100640000	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
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				NOBLE ENERGY, INC.	ASSIGNMENT	1600	692	
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DOMINION ENERGY TRANSMISSION, INC.	MERGER/NAME CHANGE	WVSOS						

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JAN 27 2020
VA Department of
Environmental Protection

37	LC066829	12-0446-0004-0000 12-0446-0004-0001 12-0446-0005-0000		Dominion Energy Transmission, Inc. Dominion Energy Transmission, Inc. LILLIE GIFFORD, WIDOW; DORA GIFFORD, SINGLE; PEARL GIFFORD, SINGLE; MARY E. KENNEDY, WIDOW; DORSEY C. KENNEDY AND VELMA I. KENNEDY, HIS WIFE; LELA RUMBLE, WIDOW; MARTHA E. WILCOX, WIDOW; HARRY W. KENNEDY AND LILLIAN A. 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 CONSOLIDATED GAS SUPPLY CORPORATION CONSOLIDATED GAS TRANSMISSION CORPORATION CNG TRANSMISSION CORPORATION DOMINION TRANSMISSION, INC. DOMINION TRANSMISSION, INC. CNX GAS COMPANY LLC DOMINION TRANSMISSION, INC. CNX GAS COMPANY LLC NOBLE ENERGY, INC. DOMINION TRANSMISSION, INC. DOMINION ENERGY TRANSMISSION, INC. DOMINION ENERGY TRANSMISSION, INC. DOMINION ENERGY TRANSMISSION, INC. DOMINION ENERGY TRANSMISSION, INC. DOMINION ENERGY TRANSMISSION, INC. DOMINION ENERGY TRANSMISSION, INC. HOPE NATURAL GAS COMPANY LLOYD STOUT AND MAY STOUT, HIS WIFE HOPE NATURAL GAS COMPANY CONSOLIDATED GAS SUPPLY CORPORATION CONSOLIDATED GAS TRANSMISSION CORPORATION CNG TRANSMISSION CORPORATION CNG TRANSMISSION CORPORATION DOMINION TRANSMISSION, INC. DOMINION ENERGY TRANSMISSION, INC. CNX GAS COMPANY LLC DOMINION TRANSMISSION, INC. CNX GAS COMPANY LLC DOMINION TRANSMISSION, INC. NOBLE ENERGY, INC. DOMINION ENERGY TRANSMISSION, INC. S. J. DAVISSON TRI-STATE GAS COMPANY, WHEELING NATURAL GAS COMPANY AND THE MANUFACTURERS LIGHT AND HEAT COMPANY HOPE NATURAL GAS COMPANY CONSOLIDATED GAS SUPPLY CORPORATION CONSOLIDATED GAS TRANSMISSION CORPORATION CNG TRANSMISSION CORPORATION DOMINION TRANSMISSION, INC. DOMINION ENERGY TRANSMISSION, INC. CNX GAS COMPANY LLC DOMINION TRANSMISSION, INC. CNX GAS COMPANY LLC	HG ENERGY II APPALACHIA, LLC HG ENERGY II APPALACHIA, LLC	SECOND AMENDMENT TO MEMORANDUM OF FARMOUT AGREEMENT THIRD AMENDMENT TO MEMORANDUM OF FARMOUT AGREEMENT	1601 1621	581 1295
38	LC017324	12-0446-0003-0000	RECEIVED Office of Oil and Gas JAN 27 2020 West Virginia Department of Environmental Protection	Dominion Energy Transmission, Inc. CNX GAS COMPANY LLC DOMINION TRANSMISSION, INC. CNX GAS COMPANY LLC DOMINION ENERGY TRANSMISSION, INC. NOBLE ENERGY, INC. DOMINION ENERGY TRANSMISSION, INC. DOMINION ENERGY TRANSMISSION, INC. HOPE NATURAL GAS COMPANY LLOYD STOUT AND MAY STOUT, HIS WIFE HOPE NATURAL GAS COMPANY CONSOLIDATED GAS SUPPLY CORPORATION CONSOLIDATED GAS TRANSMISSION CORPORATION CNG TRANSMISSION CORPORATION CNG TRANSMISSION CORPORATION DOMINION TRANSMISSION, INC. DOMINION ENERGY TRANSMISSION, INC. CNX GAS COMPANY LLC DOMINION TRANSMISSION, INC. CNX GAS COMPANY LLC DOMINION ENERGY TRANSMISSION, INC. NOBLE ENERGY, INC. DOMINION ENERGY TRANSMISSION, INC. S. J. DAVISSON TRI-STATE GAS COMPANY HOPE NATURAL GAS COMPANY CONSOLIDATED GAS SUPPLY CORPORATION CONSOLIDATED GAS TRANSMISSION CORPORATION CNG TRANSMISSION CORPORATION DOMINION TRANSMISSION, INC. DOMINION ENERGY TRANSMISSION, INC. CNX GAS COMPANY LLC DOMINION TRANSMISSION, INC. CNX GAS COMPANY LLC	HG ENERGY II APPALACHIA, LLC HOPE NATURAL GAS COMPANY CONSOLIDATED GAS SUPPLY CORPORATION CONSOLIDATED GAS TRANSMISSION CORPORATION CNG TRANSMISSION CORPORATION DOMINION TRANSMISSION, INC. CNX GAS COMPANY LLC 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 HOPE NATURAL GAS COMPANY CONSOLIDATED GAS SUPPLY CORPORATION CONSOLIDATED GAS TRANSMISSION CORPORATION CNG TRANSMISSION CORPORATION DOMINION TRANSMISSION, INC. CNX GAS COMPANY LLC 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 HOPE NATURAL GAS COMPANY TRI-STATE GAS COMPANY HOPE NATURAL GAS COMPANY CONSOLIDATED GAS SUPPLY CORPORATION CONSOLIDATED GAS TRANSMISSION CORPORATION CNG TRANSMISSION CORPORATION DOMINION TRANSMISSION, INC. CNX GAS COMPANY LLC CNX GAS COMPANY LLC NOBLE ENERGY, INC. CNX GAS COMPANY LLC AND NOBLE ENERGY, INC. NOBLE ENERGY, 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 FARMOUT AGREEMENT LIMITED PARTIAL ASSIGNMENT (50%) PARTIAL ASSIGNMENT (32%) ASSIGNMENT ASSIGNMENT MERGER/NAME CHANGE WVSOS 1601 1621 LEWIS 736 192 903 1136 51 58 1522 1524 1543 1576 1584 1600 WVSOS 1601 1621 LEWIS 736 192 903 1136 51 58 1522 1524 1543 1576 1584 WVSOS 1600 1601 139 202 903 1136 51 58 1522 1524 1543 1576 1584 1600 1601 139	491 1235 125 942 692 581 1295 220 331 179 250 795 362 33 491 1235 125 942 692 581 1295 220 331 179 250 795 362 33 491 1235 125 942 692 581 434 375 179 250 795 362 33 491 1235 125 942 692 581 434	
39	LC021468	12-0446-0006-0000 12-0446-0006-0002		Dominion Energy Transmission, Inc. CNX GAS COMPANY LLC DOMINION TRANSMISSION, INC. CNX GAS COMPANY LLC			1000321000	



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

47 03 305986

October 23, 2019

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

RE: Drilling Under Roads – Antonio 1206 S-9H
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-9H

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>553383.4</u>
County: <u>Harrison</u>		Northing: <u>4334417.7</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>OOG OFFICE USE ONLY</p> <p><input type="checkbox"/> RECEIVED/ NOT REQUIRED</p> <p><input type="checkbox"/> RECEIVED</p> <p><input type="checkbox"/> RECEIVED/ NOT REQUIRED</p> <p><input type="checkbox"/> RECEIVED</p> <p><input type="checkbox"/> RECEIVED</p> <p><input type="checkbox"/> RECEIVED</p>
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Required Attachments:

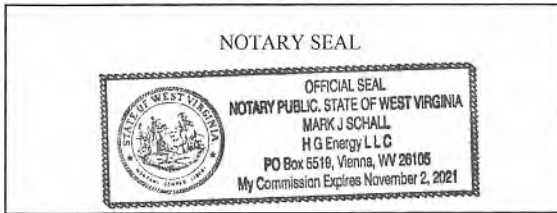
The Operator shall attach to this Notice Certification Form all Notice Forms and Certifications of Notice that have been provided to the required parties and/or any associated written waivers. For the Public Notice, the operator shall attach a copy of the Class II Legal Advertisement with publication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

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.

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 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

RECEIVED
Office of Oil and Gas

JAN 07 2020

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

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.**

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.

RECEIVED
Office of Oil and Gas
JAN 11 7 2020
WV Department of
Environmental Protection

WW-6A
(8-13)

API NO. 47- 4703305986
OPERATOR WELL NO. 1206 S-9H
Well Pad Name: Antonio 1206

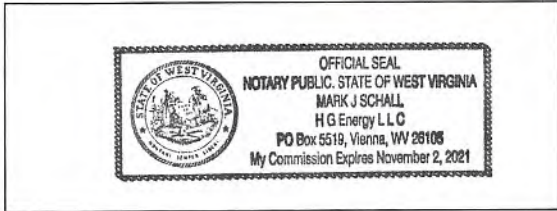
Notice is hereby given by:

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



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

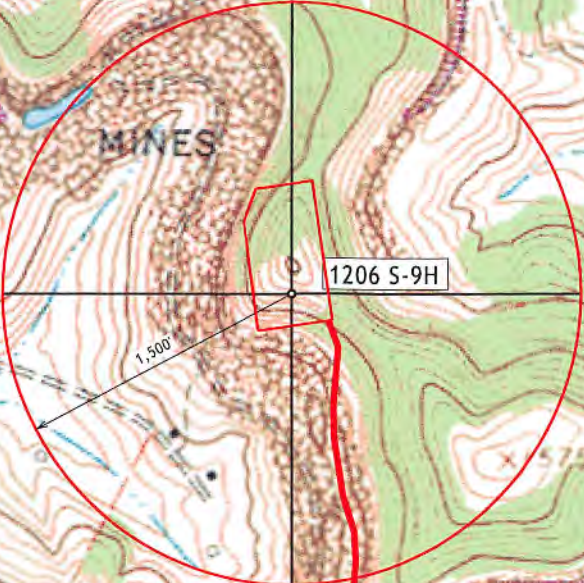
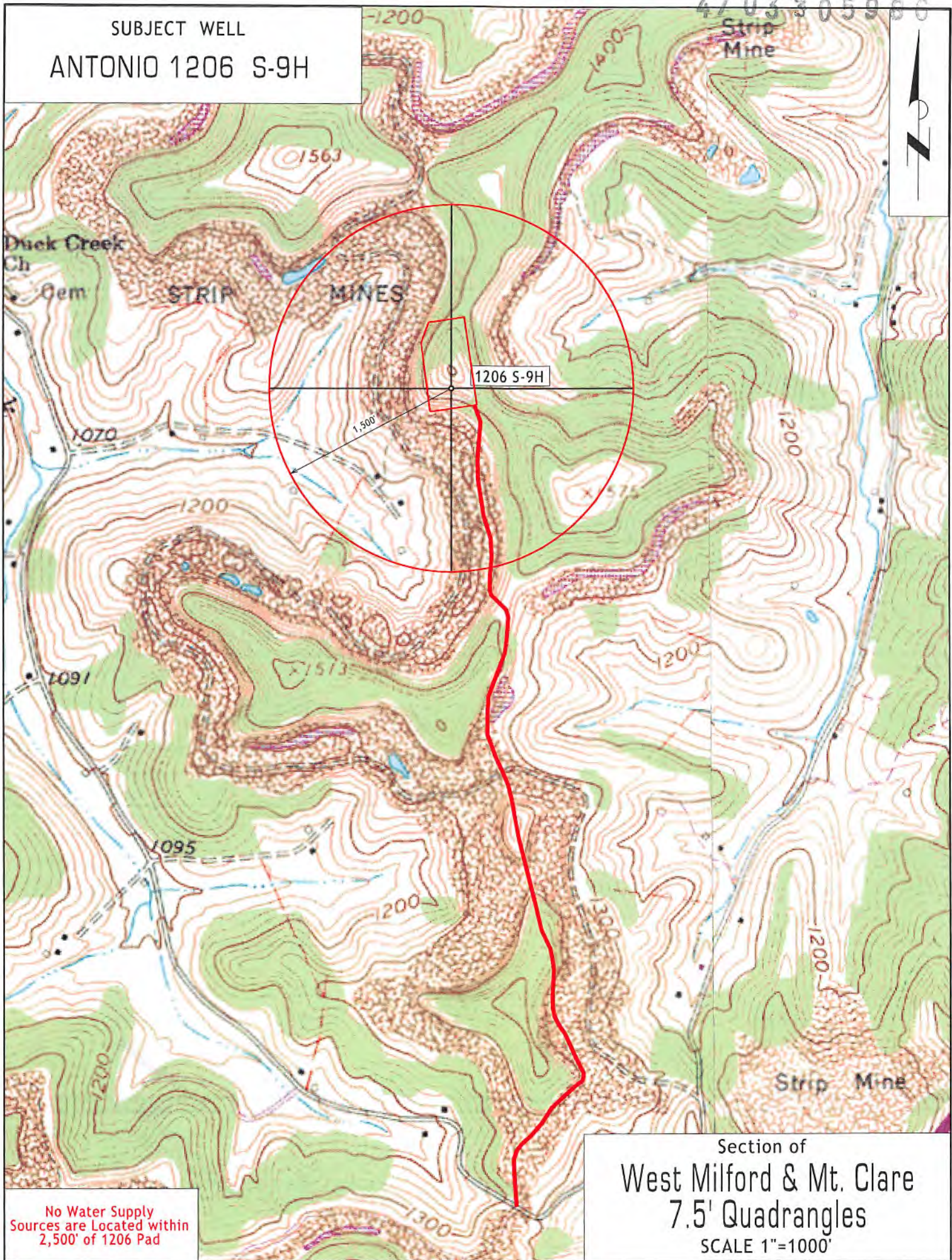
Mark J Schall Notary Public

My Commission Expires 11/2/2021

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

47 03 30 59 60

SUBJECT WELL
ANTONIO 1206 S-9H



1206 S-9H

1,500'

Duck Creek Ch

Gem

STRIP

MINES

Strip Mine

Strip Mine

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
Coallon, 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: <u>West Virginia</u>	UTM NAD 83	Easting: <u>553383.4</u>
County: <u>Harrison</u>		Northing: <u>4334417.7</u>
District: <u>Grant</u>	Public Road Access: <u>SR19/Hackers Creek Road</u>	
Quadrangle: <u>West Milford</u>	Generally used farm name: <u>Antonio</u>	
Watershed: <u>Middle West Fork Creek</u>		

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.

RECEIVED
Office of Oil and Gas

JAN 07 2020

**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 HAND
RETURN RECEIPT REQUESTED DELIVERY

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

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

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

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

Notice is hereby given:

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

State:	<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>SR19/Hackers Creek Road</u>	
Quadrangle:	<u>West Milford</u>	Generally used farm name:	<u>Antonio</u>	
Watershed:	<u>Middle West Fork Creek</u>			

This Notice Shall Include:

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

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

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

Oil and Gas Privacy Notice:

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

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Office of Oil and Gas

→ 12 7 2020

HG Energy II Appalachia, LLC
List of Frac Additives by Chemical Name and CAS #
Antonio 1206 Well Pad (N-1H to N-5H, S-6H to S-10H)

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

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 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 S-9H 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.

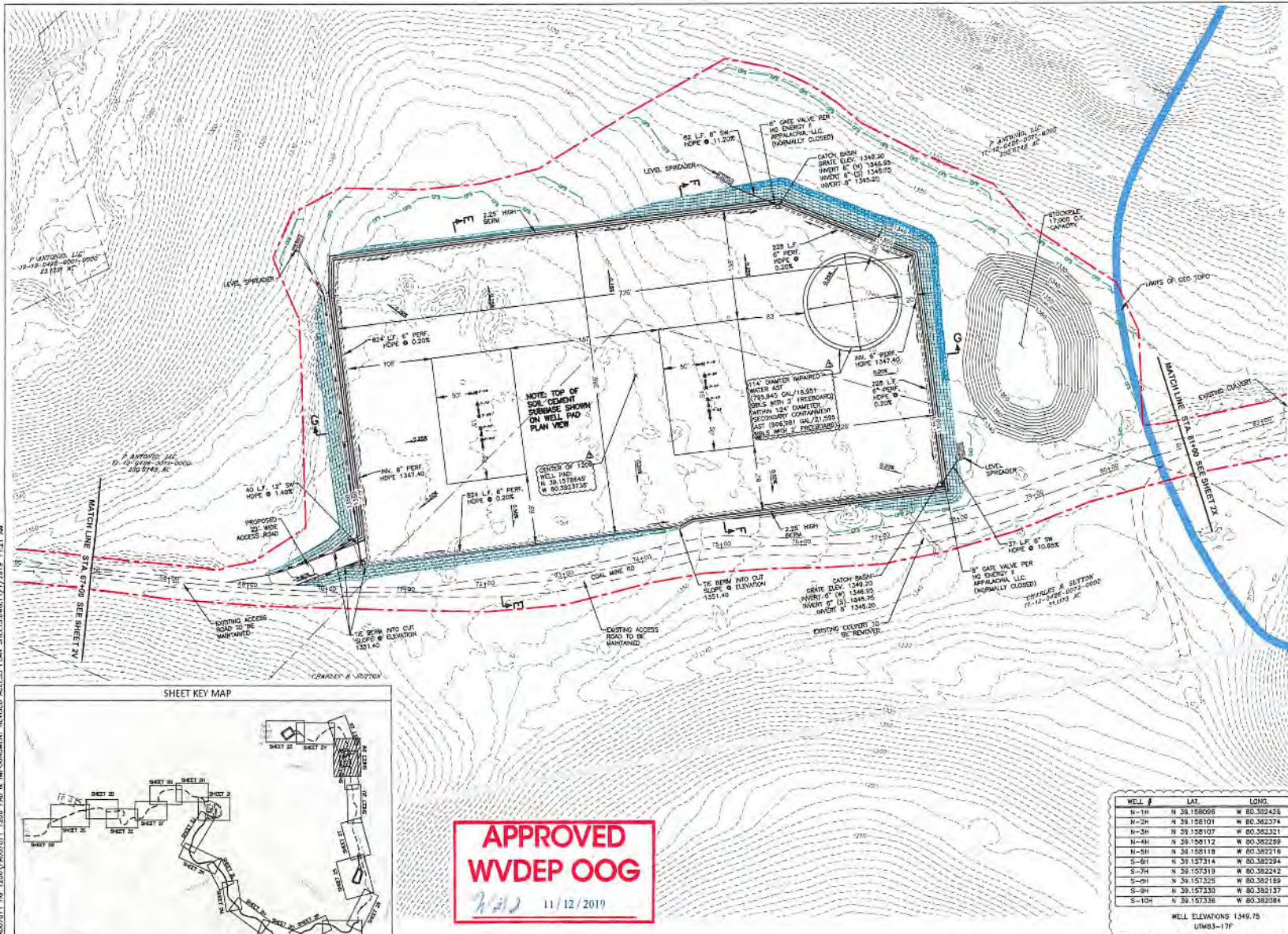
Very Truly Yours,

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

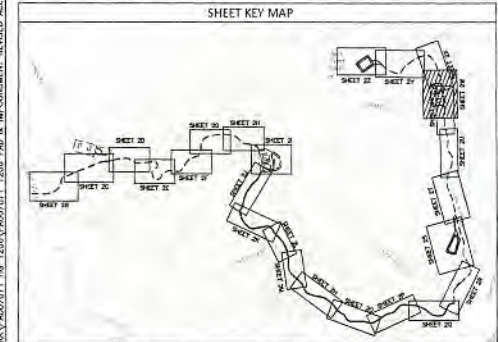
RECEIVED
Office of Oil and Gas
JAN 07 2020
WV Department of
Environmental Protection

CUSTOMER WORKSHEET: HG 1206 WAD & IMPROVEMENT REVISED ACCESS PLAN SHEETS: ENCL 17/2019 1:21 AM



NOT VISIBLE QUANTITIES:

1. ALL PROPOSED ELEVATIONS SHOWN ON PLAN SHEETS REFLECT PROPOSED SUBGRADE CONTOURS.
2. REFERENCED THIS SHEET WITH THE CONSTRUCTION NOTES AND DETAILS.
3. CONTRACTOR SHALL CONSULT WITH APPLICABLE JURISDICTIONS (STATE, LOCAL, FEDERAL) AND OTHER REGULATORY AGENCIES PRIOR TO CONSTRUCTION TO OBTAIN ALL NECESSARY PERMITS AND APPROVALS.
4. SITE SHALL BE CONSTRUCTED IN ACCORDANCE WITH ALL APPLICABLE FEDERAL, STATE, AND LOCAL REGULATIONS AND STANDARDS.
5. CONTRACTOR SHALL MAINTAIN ACCESS TO ALL ADJACENT PROPERTIES AND UTILITIES AT ALL TIMES.
6. CONTRACTOR SHALL MAINTAIN ACCESS TO ALL ADJACENT PROPERTIES AND UTILITIES AT ALL TIMES.
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11. CONTRACTOR SHALL MAINTAIN ACCESS TO ALL ADJACENT PROPERTIES AND UTILITIES AT ALL TIMES.
12. CONTRACTOR SHALL MAINTAIN ACCESS TO ALL ADJACENT PROPERTIES AND UTILITIES AT ALL TIMES.



APPROVED WVDEP OOG

11/12/2019

WELL #	LAT.	LONG.
N-1H	N 39 158098	W 80 352426
N-2H	N 39 158101	W 80 352374
N-3H	N 39 158107	W 80 352321
N-4H	N 39 158112	W 80 352269
N-5H	N 39 158118	W 80 352218
S-6H	N 39 157314	W 80 352294
S-7H	N 39 157319	W 80 352242
S-8H	N 39 157325	W 80 352189
S-9H	N 39 157330	W 80 352137
S-10H	N 39 157336	W 80 352084

WELL ELEVATIONS 1349.75
UTM83-17F

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

WEST VIRGINIA 811 CALL BEFORE YOU DIG!
Dial 811 or 800.245.4848
www.lettyatwestvirginia.com

REVISION	DATE	DESCRIPTION
1	9/16/19	REVISED WELLHEAD LAYOUT
2	10/29/19	NOT LANE REVISIONS
3	10/29/19	REVISIONS PER DCP COMMENTS
4	11/02/19	REVISIONS PER DCP COMMENTS

SCALE: FEET
0 50 100 150

STATE OF WEST VIRGINIA
REGISTERED PROFESSIONAL ENGINEER
20488
STATE OF WEST VIRGINIA
2019

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: WEP 09/05/2019
D CHECKED: WEP 08/20/2019
DRAWN: WEP 08/20/2019
PROJECT NO.: 4000-19027871
DRAWING NUMBER: PAD07871-001
SHEET 2W

111 MAIN COURT, PARKERSBURG, VA 52036
412-722-1222