



west virginia department of environmental protection

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

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

Tuesday, March 17, 2020
WELL WORK PERMIT
Horizontal 6A / New Drill

HG ENERGY II APPALACHIA, LLC
5260 DUPONT ROAD
PARKERSBURG, WV 26101

Re: Permit approval for MCDONALD 1211 S-7H
47-041-05704-00-00

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.

A blue ink signature of James A. Martin, Chief.

James A. Martin
Chief

Operator's Well Number: MCDONALD 1211 S-7H
Farm Name: HG ENERGY II APPALACHIA
U.S. WELL NUMBER: 47-041-05704-00-00
Horizontal 6A New Drill
Date Issued: 3/17/2020

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.

API Number: _____

PERMIT CONDITIONS

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

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

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

2) Operator's Well Number: McDonald 1211 S-7H Well Pad Name: McDonald 1211

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

4) Elevation, current ground: 1280' Elevation, proposed post-construction: 1264.5'

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 6753'/6835' and 82' in thickness. Anticipated pressure at 4314#.

8) Proposed Total Vertical Depth: 6800' ✓

9) Formation at Total Vertical Depth: Marcellus

10) Proposed Total Measured Depth: 20,882' ✓

11) Proposed Horizontal Leg Length: 12,813'

12) Approximate Fresh Water Strata Depths: 34', 107', 205', 229', 249'

13) Method to Determine Fresh Water Depths: Nearest offset well data, (47-041-5128, 3938, 4929) ✓

14) Approximate Saltwater Depths: 1299', 1675'

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

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

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

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

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B.S. 9-23-19

WW-6B
(04/15)

API NO. 47- _____
 OPERATOR WELL NO. McDonald 1211 S-7H
 Well Pad Name: McDonald 1211

18) **CASING AND TUBING PROGRAM**

TYPE	<u>Size (in)</u>	<u>New or Used</u>	<u>Grade</u>	<u>Weight per ft. (lb/ft)</u>	<u>FOOTAGE: For Drilling (ft)</u>	<u>INTERVALS: Left in Well (ft)</u>	<u>CEMENT: Fill-up (Cu. Ft.)/CTS</u>
Conductor	30"	New	LS	157.5	120'	120' ✓	Drilled In
Fresh Water/Coal	20"	NEW	J-55	94	1000'	1000' ✓	CTS
Intermediate 1	13 3/8"	NEW	J-55 BTC	68	2040'	2040'	CTS
Intermediate 2	9 5/8"	NEW	J-55 BTC	40	2750'	2750'	CTS
Production	5 1/2"	NEW	P-110 HP	23	20882'	20882'	CTS
Tubing							
Liners							

✓ All zones covered

TYPE	<u>Size (in)</u>	<u>Wellbore Diameter (in)</u>	<u>Wall Thickness (in)</u>	<u>Burst Pressure (psi)</u>	<u>Anticipated Max. Internal Pressure (psi)</u>	<u>Cement Type</u>	<u>Cement Yield (cu. ft./k)</u>
Conductor	30"	30"	.500				Drilled In
Fresh Water/Coal	20"	26"	.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	12000	Type 1/Class A	20% excess yield = 1.19, tail yield 1.24
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. McDonald 1211 S-7H

Well Pad Name: McDonald 1211

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 6800 feet. Drill horizontal leg to estimated 12,813 lateral length, 20,882 TMD. Hydraulically fracture stimulate and be capable of producing from the Marcellus Formation. Should we encounter an unanticipated void in the coal, we will install a minimum of 20' of casing below the void but not more than 100' below the void, set a basket and grout to surface. We plan to run an ECP above the Gantz/Dominion Storage interval to aid in sealing off and isolating the storage interval.

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

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

21) Total Area to be disturbed, including roads, stockpile area, pits, etc., (acres): 22.75 acres

22) Area to be disturbed for well pad only, less access road (acres): 7.31 acres

23) Describe centralizer placement for each casing string:

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



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

Conductor - N/A, Casing to be drilled in w/ Dual Rotary Rig.
Fresh Water/Coal - 15.6 ppg PNE-1 + 3% bwoc CaCl₂, 40% Excess Yield = 1.20, CTS
Intermediate 1 - Lead: 15.4 ppg PNE-1 + 2.5% bwoc CaCl₂, 40% Excess / Tail: 15.9 ppg PNE-1 + 2.5% bwoc CaCl₂ zero% Excess, CTS
Intermediate 2 - Lead: 15.4 ppg PNE-1 + 2.5% bwoc CaCl₂, 40% Excess, Tail: 15.9 ppg PNE-1 + 2.5% bwoc CaCl₂, zero% Excess, CTS
Production - Lead: 14.5 ppg POZ:PNE-1 + 0.3% bwoc R3 + 1% bwoc EC1 + 0.75 gal/sk FP13L + 0.3% bwoc MPA170, Tail: 14.8 ppg PNE-1 + 0.35% bwoc R3 + 0.75 gal/sk FP13L + 50% bwoc ASCA1 + 0.5% bwoc MPA170 20% Excess, Lead Yield=1.19, Tail Yield=1.94, CTS



25) Proposed borehole conditioning procedures:

Conductor - Ensure the hole is clean at TD.
Fresh Water/Coal - Once casing is at setting depth, circulate a minimum of one hole volume with Fresh Water prior to pumping cement.
Intermediate 1 - Once casing is at setting depth, Circulate and condition at TD. Circulate a minimum of one hole volume prior to pumping cement.
Intermediate 2 - 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.

McDonald 1211 Well Pad (N-1H, N-3H, N-5H, S-7H, S-8H, S-9H)

4704105704

Cement Additives

Material Name	Material Type	Material Description	CAS #																		
Premium NE-1	Portland Cement	Premium NE-1 is a portland cement with early compressive strength properties.	<table border="1"> <thead> <tr> <th>Ingredient name</th> <th>%</th> <th>CAS number</th> </tr> </thead> <tbody> <tr> <td>Portland cement</td> <td>90 - 100</td> <td>65997-15-1</td> </tr> <tr> <td>Calcium oxide</td> <td>1 - 5</td> <td>1305-78-8</td> </tr> <tr> <td>Magnesium oxide</td> <td>1 - 5</td> <td>1309-48-4</td> </tr> <tr> <td>Crystalline silica: Quartz (SiO2)</td> <td>0.1 - 1</td> <td>14808-60-7</td> </tr> </tbody> </table>	Ingredient name	%	CAS number	Portland cement	90 - 100	65997-15-1	Calcium oxide	1 - 5	1305-78-8	Magnesium oxide	1 - 5	1309-48-4	Crystalline silica: Quartz (SiO2)	0.1 - 1	14808-60-7			
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Bentonite	Extender	Commonly called gel, it is a clay material used as a cement extender and to control excessive free water.	<table border="1"> <thead> <tr> <th>Ingredient name</th> <th>%</th> <th>CAS number</th> </tr> </thead> <tbody> <tr> <td>bentonite</td> <td>90 - 100</td> <td>1302-78-9</td> </tr> <tr> <td>Crystalline silica: Quartz (SiO2)</td> <td>5 - 10</td> <td>14808-60-7</td> </tr> </tbody> </table>	Ingredient name	%	CAS number	bentonite	90 - 100	1302-78-9	Crystalline silica: Quartz (SiO2)	5 - 10	14808-60-7									
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Calcium Chloride	Accelerator	A powdered, flaked or pelletized material used to decrease thickening time and increase the rate of strength development	<table border="1"> <thead> <tr> <th>Ingredient name</th> <th>%</th> <th>CAS number</th> </tr> </thead> <tbody> <tr> <td>Calcium chloride</td> <td>90 - 100</td> <td>10043-52-4</td> </tr> </tbody> </table>	Ingredient name	%	CAS number	Calcium chloride	90 - 100	10043-52-4												
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Cello Flake	Lost Circulation	Graded (3/8 to 3/4 inch) cellophane flakes used as a lost circulation material.	<table border="1"> <thead> <tr> <th>Ingredient name</th> <th>%</th> <th>CAS number</th> </tr> </thead> <tbody> <tr> <td>No hazardous ingredient</td> <td></td> <td></td> </tr> </tbody> </table>	Ingredient name	%	CAS number	No hazardous ingredient														
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FP-13L	Foam Preventer	FP-13L is a clear liquid organic phosphate antifoaming agent used in cementing operations. It is very effective minimizing air entrapment and preventing foaming tendencies of latex systems.	<table border="1"> <thead> <tr> <th>Ingredient name</th> <th>%</th> <th>CAS number</th> </tr> </thead> <tbody> <tr> <td>Tributyl phosphate</td> <td>90 - 100</td> <td>126-73-8</td> </tr> </tbody> </table>	Ingredient name	%	CAS number	Tributyl phosphate	90 - 100	126-73-8												
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Granulated Sugar	Retarder	Used to retard cement returns at surface. A proprietary product that provides expansive properties and improves bonding at low to moderate temperatures.	<table border="1"> <thead> <tr> <th>Ingredient name</th> <th>%</th> <th>CAS number</th> </tr> </thead> <tbody> <tr> <td>Sucrose</td> <td>90 - 100</td> <td>57-50-1</td> </tr> </tbody> </table>	Ingredient name	%	CAS number	Sucrose	90 - 100	57-50-1												
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EC-1	Gas Migration	Multi-purpose polymer additive used to control free fluid, fluid loss, rheology, and gas migration.	<table border="1"> <thead> <tr> <th>Ingredient name</th> <th>%</th> <th>CAS number</th> </tr> </thead> <tbody> <tr> <td>No hazardous ingredient</td> <td></td> <td></td> </tr> </tbody> </table>	Ingredient name	%	CAS number	No hazardous ingredient														
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MPA-170	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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Poz (Fly Ash)	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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R-3	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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S-5																					

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1211 S-7H
Marcellus Shale Horizontal
Harrison County, WV

Ground Elevation			1211 S-7H SHL				14211837.96N 1789516.42E			
Ground Elevation			1211 S-7H LP				14212802.35N 1790237.59E			
Azm			1211 S-7H BHL				14227267.87N 1785126.01E			
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
	26"	20" 94# J-55	Fresh Water	0	205	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
			Kittaning Coal	919	924					
			Fresh Water Protection	0	1000					
	17.5"	13-3/8" 68# J-55 BTC	Big Lime	1480	1545	AIR / KCL Salt Polymer	Lead: 15.4 ppg PNE-1 + 2.5% bwoc CaCl 40% Excess / Tail: 15.9 ppg PNE-1 + 2.5% bwoc CaCl zero% Excess. CTS	Bow Spring on every joint <i>*will also be running ACP for isolating storage zone*</i>	Once casing is at setting depth, Circulate and condition at TD. Circulate a minimum of one hole volume prior to pumping cement.	Intermediate casing = 0.480" wall thickness Burst=3450 psi
			Injun / Gantz (Storage)	1545 / 1830	1650 / 1890					
			Intermediate 1	0	2040					
	12.25"	9-5/8" 40# J-55 BTC	Fifty / Thirty Foot	1940 / 2037	1965 / 2060	AIR / KCL Salt Polymer	Lead: 15.4 ppg PNE-1 + 2.5% bwoc CaCl 40% Excess / Tail: 15.9 ppg PNE-1 + 2.5% bwoc CaCl zero% Excess. CTS	Bow Spring on first 2 joints then every third joint to 100' form surface	Once casing is at setting depth, Circulate and condition mud at TD. Circulate a minimum of one hole volume prior to pumping cement.	Intermediate casing = 0.395" wall thickness Burst=3950 psi
			Gordon Stray / Gordon	2060 / 2130	2130 / 2220					
			5th Sand	2320	2360					
			Bayard Sand	2405	2420					
	8.5" Vertical	5-1/2" 23# P-110 HP CDC HTQ	Speechley	3025	3041	AIR / 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
			Balltown	3250	3290					
			Benson	4340	4350					
	8.5" Curve		Rhinestreet	6107	6377	11.5ppg-12.5ppg SOBM				
			Cashaqua	6377	6477					
			Middlesex	6477	6509					
			West River	6509	6580					
			Burkett	6580	6590					
			Tully Limestone	6590	6698					
Hamilton			6698	6753						
Marcellus			6753	6835						
TMD / TVD (Production)			20882	6800						
8.5" Lateral	Onondaga	6835	6835	11.5ppg-12.5ppg SOBM						

LP @ 6800' TVD / 8069' MD

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

+/-12813' Lateral ✓

TD @ +/-6800' TVD
+/-20882' MD ✓

X=centralizers

List of Frac Additives by Chemical Name and CAS #**McDonald 1211 Well Pad (N-1H, N-3H, N-5H, S-7H, S-8H, S-9H)**

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

PROPOSAL TO DRILL WITHIN DOMINION TRANSMISSION STORAGE FIELD

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

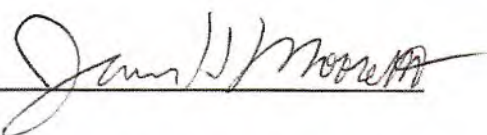
WELL NAME: McDonald 1211 S-7H

Well # 1211 S-7H

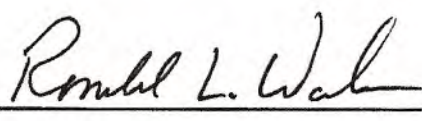
DISTRICT/COUNTY/STATE: Freemans Creek/Lewis/WV

Submitted 
JOSH HINTON
HG ENERGY, LLC

DATE 1-10-20

Approved 
Dominion Energy Transmission

DATE 1-14-20

Approved 
Dominion Energy Transmission

DATE 1-15-20

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Environmental Protection

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



1211 S-7H
Marcellus Shale Horizontal
Lewis County, WV

				1211 S-7H SHL				14211837.96N 1789516.42E					
Ground Elevation				1265.5'				1211 S-7H LP			14212802.35N 1790237.59E		
Azim				160.538°				1211 S-7H BHL			14199863.78N 1791103.6E		
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			
	26"	20" 94# J-55	Fresh Water	0	205	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			
			Kittaning Coal	919	924								
			Fresh Water Protection	0	1000								
	17.5"	13-3/8" 68# J-55 BTC	Big Lime	1480	1545	AIR / KCL Salt Polymer	Lead: 15.4 ppg PNE-1 + 2.5% bwoc CaCl 40% Excess / Tail: 15.9 ppg PNE-1 + 2.5% bwoc CaCl zero% Excess. CTS	Bow Spring on every joint <i>*will also be running ACP for isolating storage zone*</i>	Once casing is at setting depth, Circulate and condition at TD. Circulate a minimum of one hole volume prior to pumping cement.	Intermediate casing = 0.480" wall thickness Burst=3450 psi			
			Injun / Ganzl (Storage)	1545 / 1830	1650 / 1690								
			Intermediate 1	0	2040								
			Filly / Thirty Foot	1940 / 2037	1965 / 2060								
	12.25"	9-5/8" 40# J-55 BTC	Gordon Sray / Gordon	2060 / 2130	2130 / 2220	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			
			5th Sand	2320	2360								
			Bayard Sand	2405	2420								
			Intermediate 2	0	2750								
	8.5" Vertical	5-1/2" 23# P-110 HP CDC HTQ	Speechley	3025	3041	AIR / 9.0ppg SOB M	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			
			Balltown	3250	3290								
			Benson	4340	4350								
8.5" Curve	Rhinestreet		6107	6377	11.5ppg-12.5ppg SOB M								
	Cashaqua		6377	6477									
	Middlesex		6477	6509									
	West River		6509	6580									
	Burkett		6580	6590									
	Tully Limestone		6590	6698									
	Hamilton		6698	6753									
	Marcellus		6753	6835									
8.5" Lateral	TMD / TVD (Production)		19612	8800	11.5ppg-12.5ppg SOB M								
	Onondaga		6835										

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LP @ 6800' TVD / 8069' MD 8.5" Hole - Cemented Long String 5-1/2" 23# P-110 HP CDC HTQ +/-11543' ft Lateral TD @ +/-6800' TVD +/-19612' MD

X=centralizers

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

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

2) Operator's Well Number: McDonald 1211 S-7H Well Pad Name: McDonald 1211

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

4) Elevation, current ground: 1280' Elevation, proposed post-construction: 1264.5'

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 6753'/6835' and 82' in thickness. Anticipated pressure at 4314#.

8) Proposed Total Vertical Depth: 6800'

9) Formation at Total Vertical Depth: Marcellus

10) Proposed Total Measured Depth: 19,612'

11) Proposed Horizontal Leg Length: 11,543'

12) Approximate Fresh Water Strata Depths: 34', 107', 205', 229', 249'

13) Method to Determine Fresh Water Depths: Nearest offset well data, (47-041-5128, 3938, 4929)

14) Approximate Saltwater Depths: 1299', 1675'

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

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

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

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

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18) **CASING AND TUBING PROGRAM**

TYPE	Size (in)	New or Used	Grade	Weight per ft. (lb/ft)	FOOTAGE: For Drilling (ft)	INTERVALS: Left in Well (ft)	CEMENT: Fill-up (Cu. Ft.)/CTS
Conductor	30"	New	LS	157.5	120'	120'	Drilled In
Fresh Water/Coal	20"	NEW	J-55	94	1000'	1000'	CTS
Intermediate 1	13 3/8"	NEW	J-55 BTC	68	2040'	2040'	CTS
Intermediate 2	9 5/8"	NEW	J-55 BTC	40	2750'	2750'	CTS
Production	5 1/2"	NEW	P-110 HP	23	19612'	19612'	CTS
Tubing							
Liners							

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"	26"	.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 = 1.16, tail yield 1.54
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 6800 feet. Drill horizontal leg to estimated 11,543 lateral length, 19,612 TMD. Hydraulically fracture stimulate and be capable of producing from the Marcellus Formation. Should we encounter an unanticipated void in the coal, we will install a minimum of 20' of casing below the void but not more than 100' below the void, set a basket and grout to surface. We plan to run an ECP above the Gantz/Dominion Storage interval to aid in sealing off and isolating the storage interval.

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

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

21) Total Area to be disturbed, including roads, stockpile area, pits, etc., (acres): 22.75 acres

22) Area to be disturbed for well pad only, less access road (acres): 7.31 acres

23) Describe centralizer placement for each casing string:

No centralizers will be used with conductor casing.
Preventer/Casid - centralized every 3 joints to surface.
Intermediate 1 - Show string on every joint, will also be running ACP for holding storage zone.
Intermediate 2 - Show string on first 3 joints then every 3rd joint to 100' from surface.
Production - Run 1 spiral centralizer every 3 joints from the top of the curve to surface, Run 1 spiral centralizer every 3 joints from the 1st 5.7" long joint to the top of the curve.

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

Conductor - NR, Casing to be drilled to of Dual Rotary Rig.
Fresh Water/Casid - 10.0 ppg PMS-1 + 1% brine CaCl₂ 40% Excess Yield = 1.50, CTS
Intermediate 1 - Lead: 14.4 ppg PMS-1 + 2.5% brine CaCl₂ 40% Excess / Tail: 14.8 ppg PMS-1 + 2.5% brine CaCl₂ 200% Excess, CTS
Intermediate 2 - Lead: 14.4 ppg PMS-1 + 2.5% brine CaCl₂ 40% Excess, Tail: 13.8 ppg PMS-1 + 2.5% brine CaCl₂ 200% Excess, CTS
Production - Lead: 14.8 ppg PMS-1 + 0.2% brine FD + 1% brine SDI + 0.2% galphl PPSL + 0.2% brine MPATD, Tail: 14.8 ppg PMS-1 + 0.25% brine FD + 0.75 galphl PPSL + 0.2% brine ABCM + 0.8% brine MPATD 20% Excess, Lead Yield=1.10, Tail Yield=1.04, CTS

25) Proposed borehole conditioning procedures:

Conductor - Ensure the hole is clean at TD.
Fresh Water/Casid - Once casing is at setting depth, circulate a minimum of one hole volume with Fresh Water prior to pumping cement.
Intermediate 1 - Once casing is at setting depth, circulate and condition at TD. Circulate a minimum of one hole volume prior to pumping cement.
Intermediate 2 - Once casing is at setting depth, circulate and condition mud at TD. Circulate a minimum of one hole volume prior to pumping cement.
Production - Once on bottom TD with casing, circulate at more acceptable pump rate for at least 24 bottoms up, or until returns and pump pressures indicate the hole is clean. Circulate a minimum of one hole volume prior to pumping cement.

*Note: Attach additional sheets as needed.

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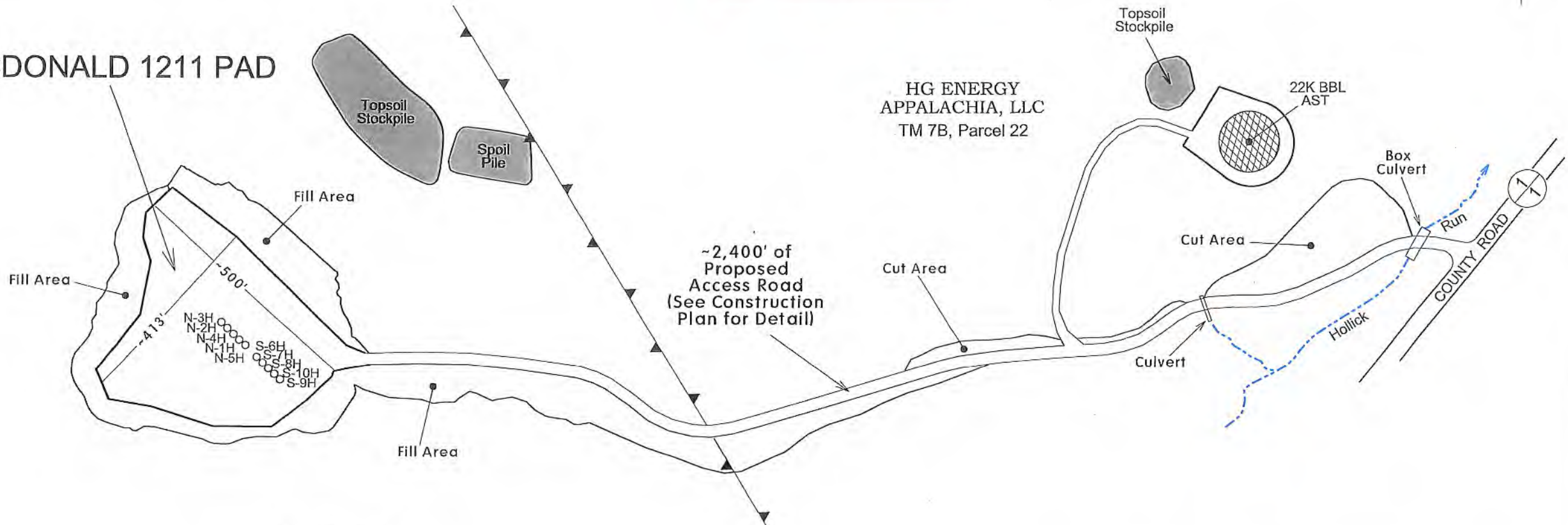
WV Department of
Environmental Protection

Reclamation Plan For: MCDONALD 1211 PAD

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



MCDONALD 1211 PAD



HG ENERGY
APPALACHIA, LLC
TM 7B, Parcel 10

HG ENERGY
APPALACHIA, LLC
TM 7B, Parcel 22

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E. W. Department of
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Notes:

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

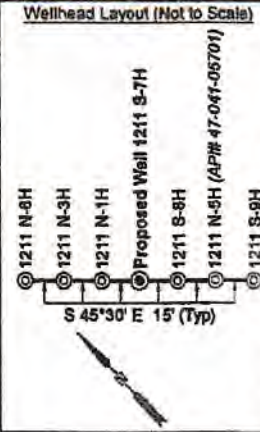
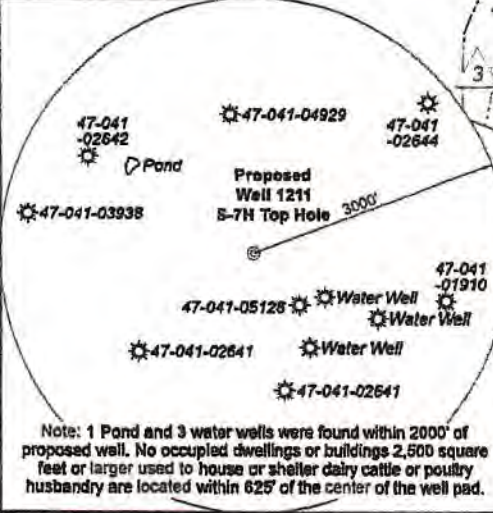
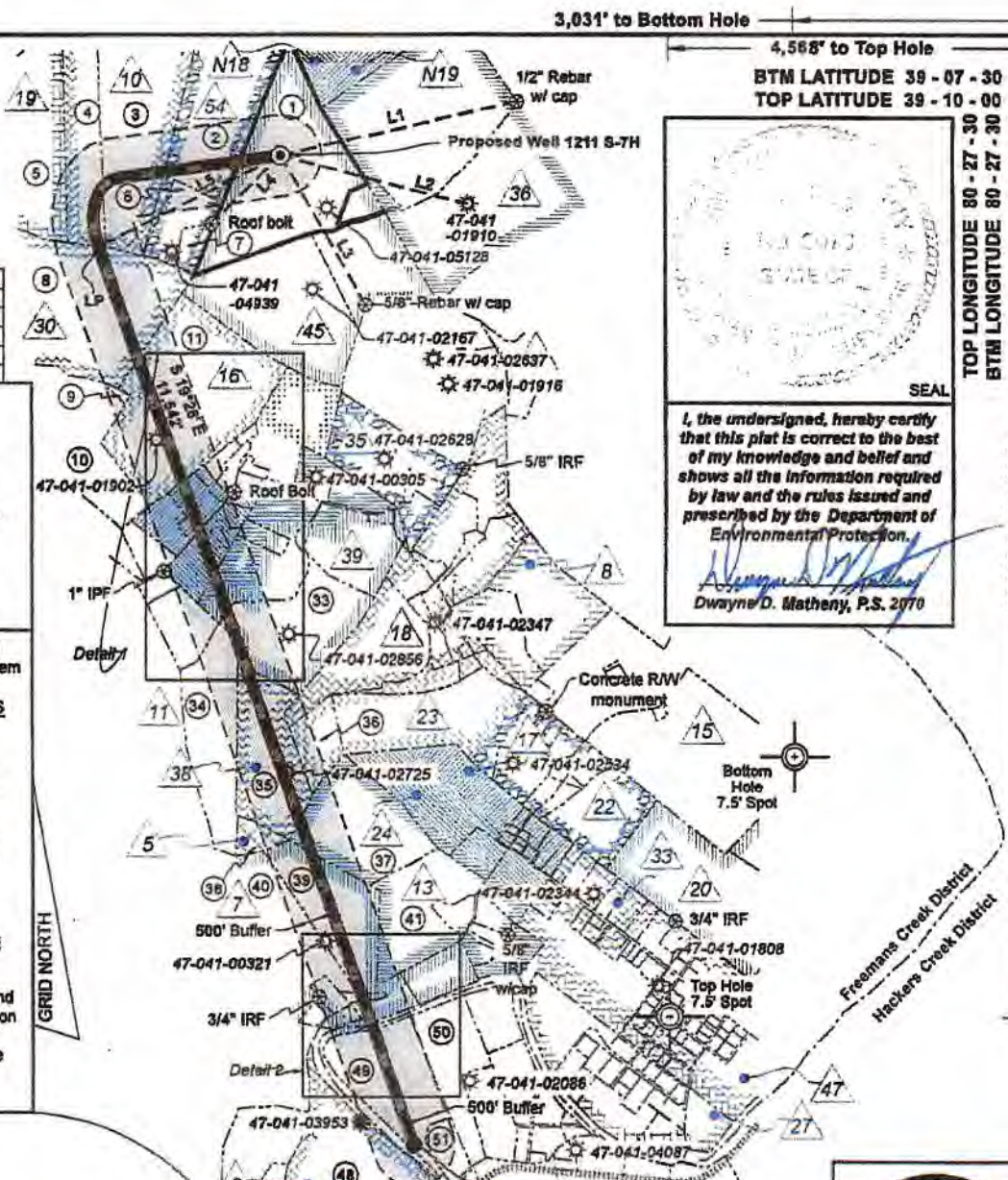
**HG Energy II
Appalachia, LLC
Well No. 1211 S-7H**

Page 1 of 3

Tag	Bearing	Dist.
L1	S 76°49' W	2,965.8'
L2	N 75°29' W	2,362.3'
L3	N 29°41' W	2,093.5'
L4	N 45°25' E	1,190.4'
L5	S 63°28' W	2,498.9'

Notes:
Well No. 1211 S-7H
UTM NAD 1983 (USSF)
Top Hole Coordinates
N: 14,211,858.99'
E: 1,789,496.03'
Landing Point Coordinates
N: 14,210,742.44'
E: 1,787,259.49'
Bottom Hole Coordinates
N: 14,199,883.78'
E: 1,791,103.60'

Notes: Well No. 1211 S-7H
West Virginia Coordinate System
of 1927, North Zone
based upon Differential GPS
Measurements.
Top Hole coordinates
Latitude: 39°06'02.23"
Longitude: 80°28'27.99"
Bottom Hole coordinates
Latitude: 38°06'03.53"
Longitude: 80°28'08.46"
UTM Zone 17, NAD 1983
Top Hole Coordinates
N: 4,331,783.284m
E: 545,439.176m
Bottom Hole Coordinates
N: 4,328,127.138m
E: 545,929.469m
Plat orientation and corner and
well references are based upon
the grid north meridian.
Well location references are
based upon the magnetic
meridian.



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
- ==== Railroad Tracks

FILE NO: 79-36-12-U-F-1B
DRAWING NO: 1211 S-7H Well Plat
SCALE: 1" = 2000'
MINIMUM DEGREE OF ACCURACY:
Submeter
PROVEN SOURCE OF ELEVATION:
CORS, Bridgeport, WV

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

DATE: December 17, 2019
OPERATOR'S WELL NO. 1211 S-7H
API WELL NO
47 - 041 -
STATE COUNTY PERMIT

WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL

LOCATION: ELEVATION: 1,265.5' WATERSHED: Middle West Fork Creek TH - West Milford
DISTRICT: Freemans Creek QUADRANGLE: BH - Weston
SURFACE OWNER: HG Energy II Appalachia, LLC COUNTY: Lewis
ROYALTY OWNER: Mary E. Post, et al, et al LEASE NO: ACREAGE: 61.50
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: 19,612' MD 6,800' TVD

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

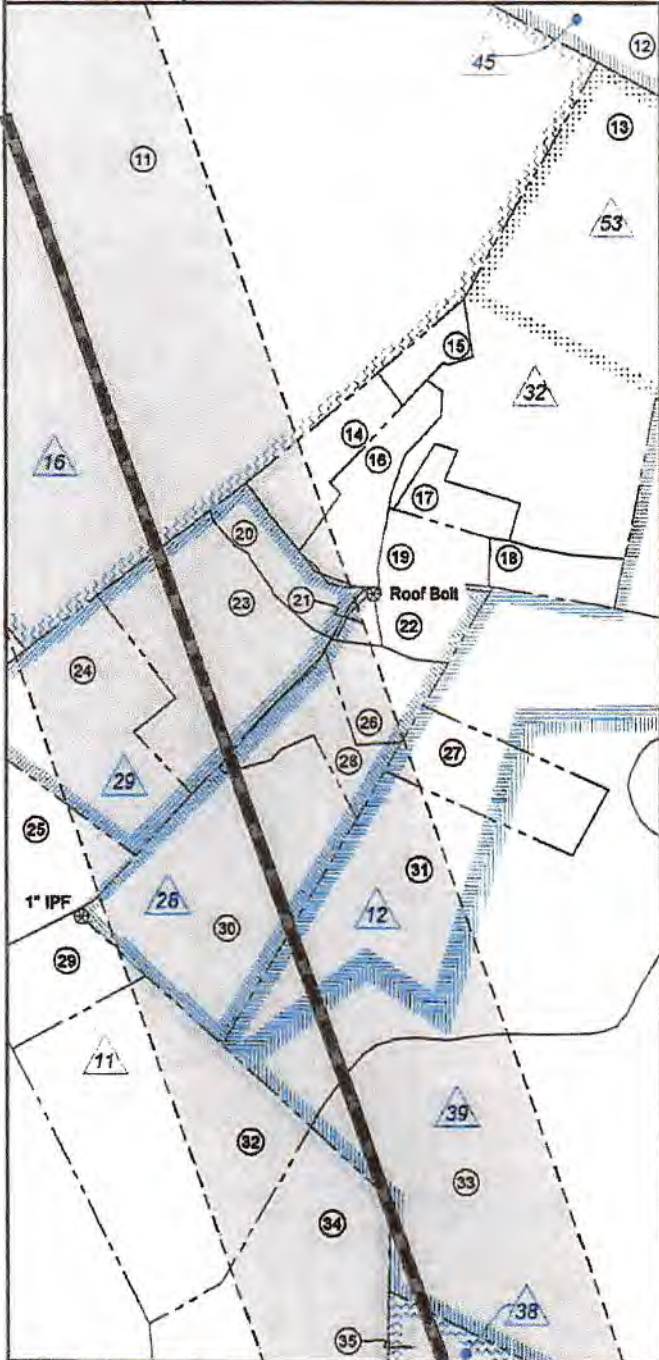
Office of Oil and Gas
JAN 30 2020
WV Department of
Environmental Protection

**HG Energy II
Appalachia, LLC
Well No. 1211 S-7H**

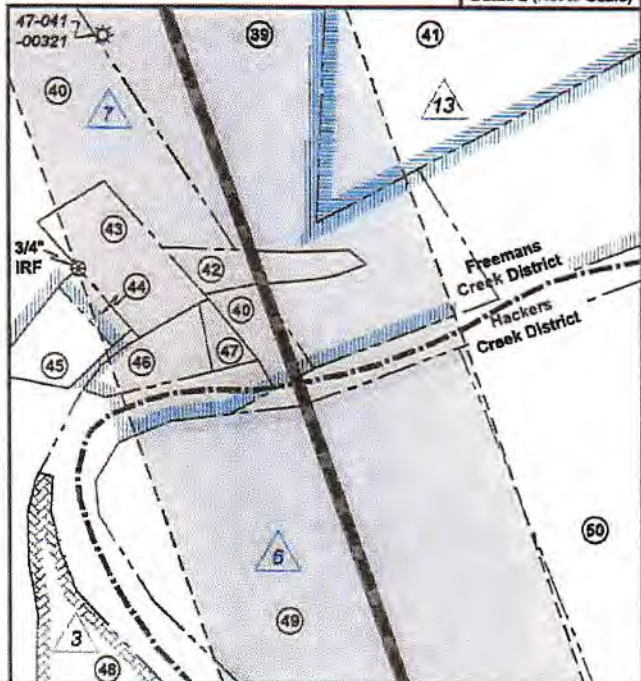
Page 2 of 3



Detail 1 (Not to Scale)



Detail 2 (Not to Scale)



FILE NO: 79-36-12-U-F-18
DRAWING NO: 1211 S-7H 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. 1211 S-7H
API WELL NO
47 - 041 -
STATE COUNTY PERMIT

WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL

LOCATION: ELEVATION: 1,265.5' WATERSHED: Middle West Fork Creek
DISTRICT: Freemans Creek

TH - West Milford
QUADRANGLE: BH - Weston
COUNTY: Lewis
ACREAGE: 61.50

SURFACE OWNER: HG Energy II Appalachia, LLC

ROYALTY OWNER: Mary E. Post, et al, et al

LEASE NO: ACREAGE: 145.00

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

PLUG AND ABANDON CLEAN OUT AND REPLUG TARGET FORMATION: Marcellus Shale ESTIMATED DEPTH: 6,800' TVD 19,812' MD

WELL OPERATOR: HG Energy II Appalachia, LLC

DESIGNATED AGENT: Diane C. White

ADDRESS: 5260 Dupont Road
Parkersburg, WV 26101

ADDRESS: 5260 Dupont Road
Parkersburg, WV 26101

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No.	TM / Par	Owner	Bk / Pg	Ac.
1	7B / 10	HG Energy II Appalachia, LLC	730 / 577	61.50
2	7B / 9	Brincefield Family Trust	588 / 740	56.76
3	6B / 41	Brincefield Family Trust	588 / 740	71.62
4	6B / 42	Brincefield Family Trust	588 / 740	28.00
5	6B / 43	Brincefield Family Trust	588 / 740	69.36
6	7B / 9.2	Brincefield Family Trust	588 / 740	10.51
7	7B / 9.1	Frank McDonald	479 / 8	3.73
8	6B / 44	David G. Layton	697 / 278	75.50
9	6C / 59	Charles W. & Debra D. Queen	543 / 274	0.55
10	6C / 62	Bryan T. Beam	W46 / 461	37.83
11	6B / 47	Michael A. & Christine A. Cullip	648 / 51	71.00
12	7B / 11	HG Energy II Appalachia LLC	730 / 677	54.50
13	7C / 1	William B. & Teresa A. McCormick	605 / 385	22.76
14	7C / 1.1	Timothy J. & Tawney A. Wyatt	509 / 18	2.10
15	7C / 1.2	Timothy J. & Tawney A. Wyatt	509 / 18	0.77
16	7C / 1.3	Cecil L. & Sonja J. Dempsey	437 / 358	2.22
17	7C / 1.4	Joyce Lea Williams	638 / 86	1.11
18	7C / 2	Robert A. & Jane E. Horn	515 / 121	1.19
19	7C / 3	Benjamin T. & Casey Brown	605 / 657	1.32
20	7C / 4	Basil W. Allmon, Jr.	700 / 355	2.53
21	7C / 5.2	Richard A. Westfall	674 / 151	0.26
22	7C / 5.1	Shaun C. & Sheila K. Dempsey	506 / 752	1.16
23	6C / 56	Kenneth B. & Lydia M. Burroughs	640 / 110	6.35
24	6C / 56.1	Kenneth B. & Lydia M. Burroughs	361 / 369	6.12
25	6C / 55	Kenneth B. & Lydia M. Burroughs	338 / 47	5.10
26	7C / 5.3	Phillip J. & Roberta A. Stutler	359 / 443	1.67
27	7C / 6.1	Clinton C. & Gerilyn H. Beam	556 / 174	3.00
28	7C / 5.5	Phillip J. & Roberta A. Stutler	400 / 733	1.68
29	6C / 54	Kenneth B. & Lydia M. Burroughs	336 / 47	2.00
30	7C / 5	James M. Posey	667 / 710	6.05
31	7C / 6.3	Clinton C. & Gerilyn H. Beam	636 / 200	19.33
32	6C / 53	Kenneth B. & Lydia M. Burroughs	336 / 47	11.00
33	7C / 6.2	Bette Garath	412 / 593	36.15
34	7C / 7	Bette Garath	397 / 214	34.00
35	7C / 9	Bette Garath	397 / 214	31.00
36	7C / 8	Bette Garath	397 / 214	20.00
37	7C / 22	Fred Allen Bailey	452 / 268	35.35
38	7C / 10	Bette Garath	397 / 214	4.20
39	7C / 11	Roger A. Allman	721 / 347	37.39
40	7C / 12	Roger A. Allman	721 / 347	36.35
41	7C / 22.2	William B. Williams II	593 / 139	28.69
42	7C / 11.1	Robert G. Elliot	660 / 512	1.15
43	7C / 13	Ethel J. Bulka	545 / 372	2.40
44	7C / 14	Jason Sloan	533 / 605	0.43
45	7C / 15	Dixie & Wilma Wine	536 / 490	1.15
46	7C / 17	E. Jean Bulka	605 / 841	1.20
47	7C / 18	Elizabeth Stark	717 / 457	0.75
48	7D / 32	WVU Board of Governors	584 / 524	221.65
49	7D / 1	James A. & Carol T. Smith	343 / 62	29.57
50	7D / 2	Donna M. & Aubrey E. Smith, Jr.	677 / 726	20.25
51	7D / 3	Larry H. McCoy	367 / 208	7.18

ID	Lease
3	WVU Board of Governors
5	C. Burke Morris, et al
6	Mary E. Clerk, et vr, et al
7	W.A. Chittum, et ux, et al
8	T.S. Allman, et al
10	J.L. Post, et al
11	W.D. Hitt, et al
12	G.C. Smith
13	Bertha H. Nay, et al
15	C.V. Smith, et al
16	P.C. Allman, et al
17	Maggie Coltrill
18	Cordelia Bailey
19	Henry L. Frashuer, et al
20	E.C. Strother, et al
22	C. Burke Morris, et al
23	C. Burke Morris, et al
24	A.B. College Inc
27	E.R. Bennett, et al
28	M.G. Metherly, et al
29	J.L. Allman, et al
30	W.D. Allman, et al
32	J.L. Allman, et al
33	H.A. Fletcher, et al
35	Jesse Leason, et al
36	George W. Nally, et al
38	C. Burke Morris, et al
39	Cyrus W. Smith, et al
44	T.P. Barb, et al
45	Mary E. Post, et al
47	Minter E. Bailey
53	HG Energy II Appalachia, LLC
54	HG Energy II Appalachia, LLC
N18	Arthur Beeghly & et al
N19	James Beaghey, et al

FILE NO: 79-36-12-U-F-18
DRAWING NO: 1211 S-7H Well Plat
SCALE: 1" = 2000'
MINIMUM DEGREE OF ACCURACY:
Submeter
PROVEN SOURCE OF ELEVATION:
CORS, Bridgeport, WV



DATE: December 17 20 19
OPERATOR'S WELL NO. 1211 S-7H
API WELL NO
47 - 041 -
STATE COUNTY PERMIT

WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL

LOCATION: ELEVATION: 1,265.5' WATERSHED: Middle West Fork Creek
DISTRICT: Freemans Creek

TH - West Milford
QUADRANGLE: BH - Weston
COUNTY: Lewis
ACREAGE: 61.50

SURFACE OWNER: HG Energy II Appalachia, LLC

ROYALTY OWNER: Mary E. Post, et al, et al

LEASE NO: _____ ACREAGE: 145.00

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

PLUG AND ABANDON CLEAN OUT AND REPLUG TARGET FORMATION: Marcellus Shale ESTIMATED DEPTH: 8,800' TVD 19,612' MD

WELL OPERATOR: HG Energy II Appalachia, LLC

DESIGNATED AGENT: Diane C. White

ADDRESS: 5260 Dupont Road
Parkersburg, WV 26101

ADDRESS: 5260 Dupont Road
Parkersburg, WV 26101

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JAN 30 2020

WW-9
(4/16)

API Number 47 - _____ - _____
Operator's Well No. McDonald 1211 S-7H

**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 _____)

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, Air/SOBM, Horizontal - SOB

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

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

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

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

-Landfill or offsite name/permit number? See Attached

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

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

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

Company Official Signature Diane White

Company Official (Typed Name) Diane White

Company Official Title Agent

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

Notary Public

My commission expires _____

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HG Energy II Appalachia, LLC

Proposed Revegetation Treatment: Acres Disturbed 22.75 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
<u>Tall Fescue</u>	<u>40</u>	<u>Tall Fescue</u>	<u>40</u>
<u>Ladino Clover</u>	<u>5</u>	<u>Ladino Clover</u>	<u>5</u>

Maintain E&S controls through the drilling and completion process

Attach:

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

Photocopied section of involved 7.5' topographic sheet.

Plan Approved by: Barry S. [Signature]

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

Title: Oil & Gas Inspector Date: 9-23-19

Field Reviewed? Yes No

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JAN 30 2020

Cuttings Disposal/Site Water

Cuttings -Haul off Company:

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

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

Environmental Coordination Services & Recycling (ECS&R)
8297 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
724-829-7694

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

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

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

Waste Management Kally Run Permit # 100663
1801 Park Side Drive
Elizabeth, PA 15037
412-384-7569

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

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

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

Brooke County Landfill Permit # SWR-103-97 / WV 0109029
Rd 2 Box 410
Collfers, WV 26035
304-748-0014

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Environmental Protection

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

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

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

Northern A-1 Environmental Services Permit ID MID020906814
3947 US 131 North, PO Box 1030
Kalkaska, MI 49646
231-258-9961

Water Haul off Companies:

Dynamic Structures, Clear Creek DOT # 720488
3790 State Route 7
New Waterford, OH 44445
330-892-0164

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

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

Nuverra Environmental Solutions
11942 Veterans Memorial Highway
Masontown, WV 26542

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

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

Disposal Locations:

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

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

Adams #1 (Buckeye Brine, LLC)
Permit # 34-031-2-7177
23986 Airport Road
Coshocton, OH 43812
740-575-4484
512-478-6545

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

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

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

Equipment Transport
1 Tyler Court
Carlisle, PA 17015

Myers Well Service, _____
2001 Ballpark Court
Export, PA 15632

Burns Drilling & Excavating
618 Crabapple Road P.O. Box
Wind Ridge, PA 15380

Nichols 1-A (SWIW #13)
Permit # 3862
300 Cherrington Pkwy, Suite 200
Coraopolis, PA 15108
412-829-7275

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

Kamble 1-D Well
Permit # 3780
7675 East Pike
Norwich, Oh 43767
614-648-8898
740-796-6495

WV Department of
Environmental Protection

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Adams #2 (Buckeye Brine, LLC)
2205 Westover Road
Austin TX 78708
Permit # 34-031-2-7178
740-575-4484
512-478-6545

Adams #3 (Buckeye Brine, LLC)
Permit # 34-031-2-7241-00-00
2680 Exposition, Suite 117
Austin, TX 78708
512-478-6545

Mozena #1 Well (SWIW # 18)
Permit # 34-157-2-5511-00-00
5367 E. State Street
Newcomerstown, OH 43882
740-763-3966

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

SOS D#1 (SWIW #12)
Permit # 34-059-2-4202-00-00
Silcor Oilfield Services, Inc.
2939 Hubbard Road
Youngstown, OH 44505

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

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

US Steale 11385
Permit # 47-001-00561
200 Evergreen Drive
Waynesburg, PA 15730
304-323-6568

Chapin #7 UIC (SWIW #7)
Permit # 34-083-2-4137-00-00
Elkhead Gas & Oil Company
12168 Merne Rd. NE
Newark, OH 43095
740-763-3966

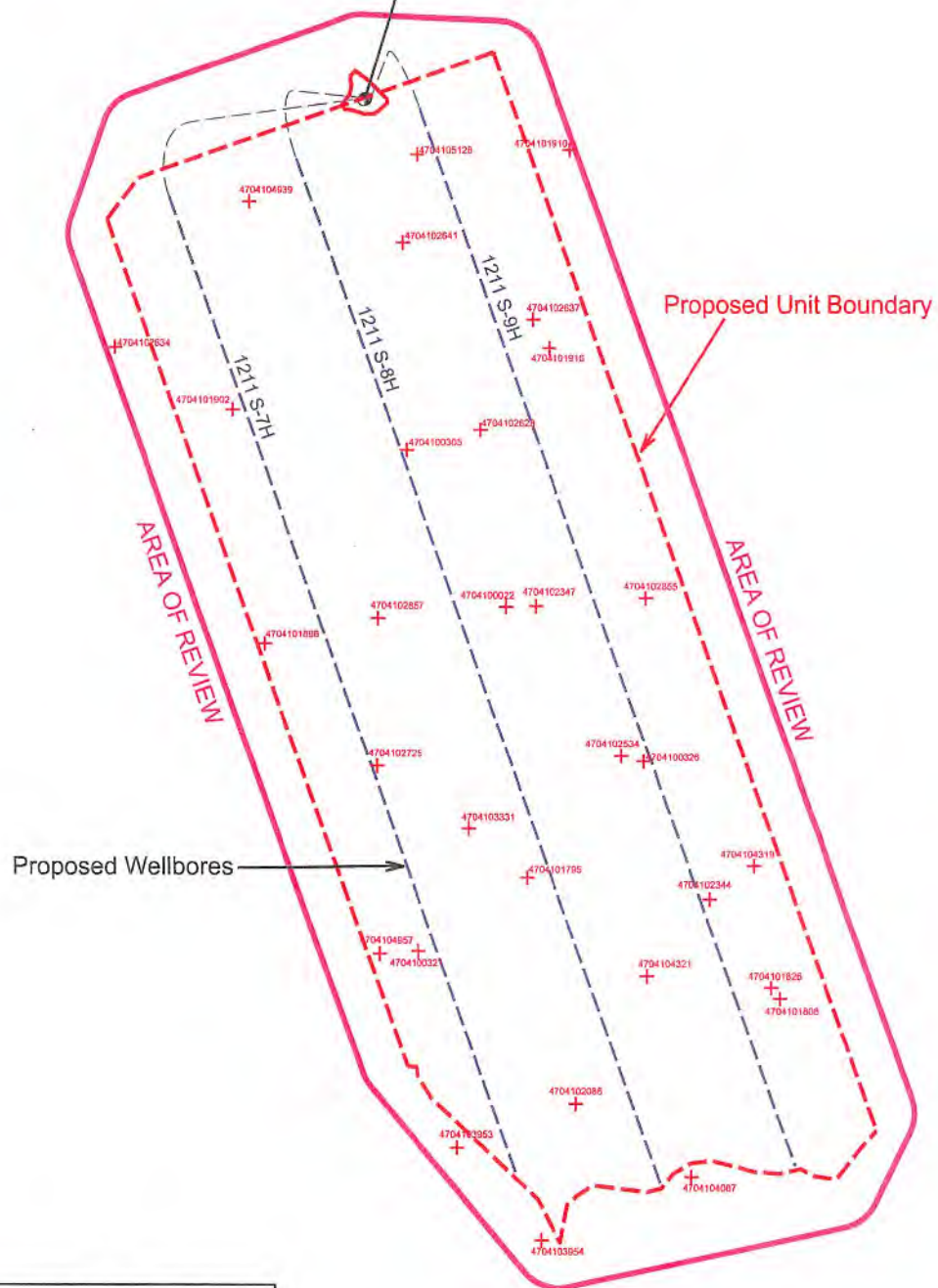
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McDONALD 1211 PAD



Proposed Wellbores

Proposed Unit Boundary

AREA OF REVIEW

AREA OF REVIEW

Well Key	
	Conventional Vertical Well
	Proposed Horizontal Marcellus Well

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

Area of Review for:
McDONALD 1211 PAD
 Proposed 1211 S-7H Proposed 1211 S-8H
 Proposed 1211 S-9H

Freeman's Creek District & Hacker's Creek District
 Lewis County, W.Va.

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

SCALE: 1" = 1,320'

1/15/2020

**EXISTING WELLS LOCATED WITHIN THE AREA OF REVIEW FOR:
McDONALD 1211 SOUTH UNIT AND PROPOSED WELLS S-7H, S-8H & S-9H**

CT	API	COUNTY	FARM	OPERATOR NAME	FORMATION NAME	WELL TYPE	TVD	STATUS	LATITUDE	LONGITUDE	
1	4704100022	Lewis	Lovett, N.	Dominion Energy Transmission, Inc.	Balltown	Gas	3062	ACTIVE	39.118421	-80.468945	
2	4704100305	Lewis	E C Fletcher	Dominion Energy Transmission, Inc.	Greenland Gap Fm	Gas	3134	ACTIVE	39.123199	-80.472846	
3	4704100321	Lewis	W A Chittum	Dominion Energy Transmission, Inc.	UNKNOWN	Observation		ACTIVE	39.107875	-80.472600	
4	4704100326	Lewis	W F Garton	Hope Natural Gas Company	Hampshire Grp	Gas	2090	UNKNOWN	39.113636	-80.463546	
5	4704101795	Lewis	Bertha H Nay	Dominion Energy Transmission, Inc.	Benson	Gas	4240	ACTIVE	39.110099	-80.468219	
6	4704101808	Lewis	Frank/Lillie Swisher	Dominion Energy Transmission, Inc.	Greenland Gap Fm	Gas	2131	ACTIVE	39.106351	-80.458236	
7	4704101826	Lewis	Minter E Bailey	Dominion Energy Transmission, Inc.	Benson	Gas	4165	UNKNOWN	39.106691	-80.458584	
8	4704101898	Lewis	Kenneth Burrough	Dominion Energy Transmission, Inc.	Greenland Gap Fm	Gas	4521	ACTIVE	39.117322	-80.478562	
9	4704101902	Lewis	Marie Clevenger/R Clevenger	Dominion Energy Transmission, Inc.	Greenland Gap Fm	Gas	4270	ACTIVE	39.124485	-80.479733	
10	4704101910	Lewis	Leon S/E Lucille Rastle	Dominion Energy Transmission, Inc.	Greenland Gap Fm	Gas	3310	ACTIVE	39.132381	-80.466204	
11	4704101916	Lewis	Kelvin G Williston	Dominion Energy Transmission, Inc.	Greenland Gap Fm	Gas	4320	ACTIVE	39.126334	-80.467110	
12	4704102086	Lewis	Olga M Smith 2	Alliance Petroleum Co. LLC	Benson	Gas	4241	ACTIVE	39.103155	-80.466389	
13	4704102344	Lewis	H Fletcher	Charity Gas, Inc.	UNKNOWN	Gas	-	ABANDONED	39.109423	-80.460972	
14	4704102347	Lewis	C Bailey	Dominion Energy Transmission, Inc.	UNKNOWN	Gas	-	ACTIVE	39.118435	-80.467751	
15	4704102534	Lewis	C B Morris	Dominion Energy Transmission, Inc.	Benson	Gas	4225	ACTIVE	39.113809	-80.464422	
16	4704102628	Lewis	Jesse Lesson	Dominion Energy Transmission, Inc.	UNKNOWN	STORAGE	-	ACTIVE	39.123812	-80.469890	
17	4704102634	Lewis	T S Allman	Dominion Energy Transmission, Inc.	UNKNOWN	STORAGE	-	ACTIVE	39.126443	-80.484399	
18	4704102637	Lewis	Mckinley & Barb	Dominion Energy Transmission, Inc.	UNKNOWN	STORAGE	-	ACTIVE	39.127211	-80.467745	
19	4704102641	Lewis	Mary E Post	Dominion Energy Transmission, Inc.	UNKNOWN	STORAGE	-	ACTIVE	39.129572	-80.472914	
20	4704102725	Lewis	John Gerath	Dominion Energy Transmission, Inc.	Balltown	Gas	3333	ACTIVE	39.113526	-80.474162	
21	4704102855	Lewis	Allman Heirs	Dominion Energy Transmission, Inc.	UNKNOWN	Observation	-	ACTIVE	39.118657	-80.463391	
22	4704102857	Lewis	C W Smith	Dominion Energy Transmission, Inc.	Fifth	Gas	2238	ABANDONED	39.118077	-80.474068	
23	4704103331	Lewis	C F Bailey	Dominion Energy Transmission, Inc.	Gantz	Storage	2154	PLUGGED	39.111615	-80.470527	
24	4704103953	Lewis	WVU - 4H Camp	Enervest Operating, LLC	Benson	Gas	4183	PLUGGED	39.101820	-80.471144	
25	4704103954	Lewis	WVU - 4H Camp	Enervest Operating, LLC	Benson	Gas	4200	PLUGGED	39.098989	-80.467825	
26	4704104087	Lewis	James Alonzo/C T Smith	Enervest Operating, LLC	Greenland Gap Fm	Gas	4169	ACTIVE	39.100885	-80.461831	
27	4704104319	Lewis	M A Jerden/J V Garton 1	Dominion Energy Transmission, Inc.	Greenland Gap Fm	Gas	4365	ACTIVE	39.110428	-80.459202	
28	4704104321	Lewis	Jeremy/Jenny Garton 1	Dominion Energy Transmission, Inc.	Greenland Gap Fm	Gas	4310	ACTIVE	39.107064	-80.463507	
29	4704104939	Lewis	Robert/Terry Brincefield	Dominion Energy Transmission, Inc.	Misc Sands-BNSN/BRLR	Gas	4658	ACTIVE	39.130854	-80.478987	
30	4704104957	Lewis	Hayward Allman	Dominion Energy Transmission, Inc.	Hampshire Grp	Gas	4355	ACTIVE	39.107786	-80.474138	
31	4704105128	Lewis	Michael McDonald	Dominion Energy Transmission, Inc.	Greenland Gap Fm	Gas	4320	ACTIVE	39.132274	-80.472291	
32											
							YELLOW DENOTES WELL WITH TVD > 4,500'		GREEN DENOTES SURVEYED WELLS		

SOURCE: WVGES DATASET (2017) and WVDEP WEBSITE AND FIELD SURVEYS

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JAN 30 2020

WV Department of
Environmental Protection



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

January 17, 2020

Hope Natural Gas Company
Bank One Center, W Third Street
Clarksburg, WV 26301

RE: Area of Review – McDonald 1211 Well Pad (N-1H to N-5H, S-7H – S9H)
Hydraulic Fracturing Notice

Dear Sir:

HG Energy II Appalachia, LLC, is developing a Marcellus pad (McDonald 1211 pad) located in Lewis 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 6800' TVD) and existing conventional natural gas wells.

HG Energy anticipates conducting hydraulic fracturing of the McDonald 1211 Pad during the fourth quarter of 2020. We have identified conventional natural gas wells operated by your company within 500' of one of the newly planned laterals. A plat for the well is attached.

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

1. Inspect surface equipment prior to fracturing to establish integrity and well conditions.
2. Observe wells closely during and after fracturing and monitor for abnormal increases in gas, water or pressure.
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.

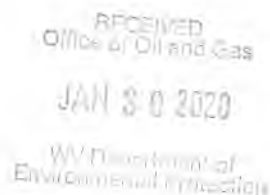
Should you have any questions or desire further information, please contact me at 304-420-1119 or dwhite@hgenergyllc.com. You may also contact the WV Office of Oil and Gas at 304-926-0444.

Sincerely,

Diane White

Diane White

Enclosure





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

January 17, 2020

Enervest Operating Company
300 Capitol Street
Charleston, WV 25301

RE: Area of Review – McDonald 1211 Well Pad (N-1H to N-5H, S-7H – S9H)
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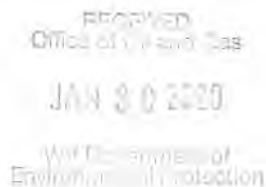
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Diane White

Enclosure





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

January 17, 2020

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

RE: Area of Review – McDonald 1211 Well Pad (N-1H to N-5H, S-7H – S9H)
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Sincerely,

Diane White

Diane White

Enclosure

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JAN 30 2020
WEST VIRGINIA
DEPARTMENT OF
ENERGY AND ENVIRONMENT



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

January 17, 2020

CONSOL Gas Company
1000 CONSOL Energy Drive
Cannonsburg, PA 16317

RE: Area of Review – McDonald 1211 Well Pad (N-1H to N-5H, S-7H – S9H)
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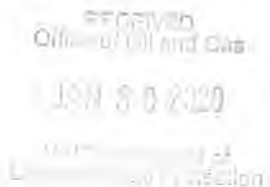
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Diane White

Enclosure





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

January 17, 2020

Waco Oil and Gas Company
1595 US Highway 33 E
Glennville, WV 26351

RE: Area of Review – McDonald 1211 Well Pad (N-1H to N-5H, S-7H – S9H)
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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 20 2020

Office of Oil and Gas
Energy Resources Division



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

January 17, 2020

Clowser Well Service, Inc.
805 Charlie Brown Road
Salem, WV 26426

RE: Area of Review – McDonald 1211 Well Pad (N-1H to N-5H, S-7H – S9H)
Hydraulic Fracturing Notice

Dear Sir:

HG Energy II Appalachia, LLC, is developing a Marcellus pad (McDonald 1211 pad) located in Lewis 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 6800' TVD) and existing conventional natural gas wells.

HG Energy anticipates conducting hydraulic fracturing of the McDonald 1211 Pad during the fourth quarter of 2020. We have identified conventional natural gas wells operated by your company within 500' of one of the newly planned laterals. A plat for the well is attached.

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

1. Inspect surface equipment prior to fracturing to establish integrity and well conditions.
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Enclosure

RECEIVED
Oil and Gas Unit

JAN 3 8:2020

Oil and Gas Unit
Hydraulic Fracturing



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

January 17, 2020

Greylock Conventional, LLC.
500 Corporate Landing
Charleston, WV 25304

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Diane White

Diane White

Enclosure

RECEIVED
Office of Oil and Gas

JAN 30 2020

Office of Oil and Gas
Charleston, WV



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

January 17, 2020

Alliance Petroleum Company
101 McQuiston Drive
Jackson Center, PA 16133

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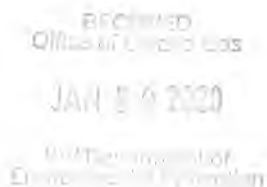
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Sincerely,

Diane White

Diane White

Enclosure



HG Energy II Appalachia, LLC

Site Safety Plan

**McDonald 1211 Well Pad
636 Hollick Run Rd Jane Lew
Lewis County, WV 26378**

August 2019: Version 1

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

HG Energy II Appalachia, LLC

5260 Dupont Road

Parkersburg, WV 26101

RECEIVED
Office of Oil and Gas

JAN 30 2020

WV Department of
Environmental Protection

Benny Stallings 9-23-19

4704105704

SUBJECT WELL
McDonald 1211 S-8H



◆ Denotes Possible Water Supply Source to be Tested

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

**HG Energy II
Appalachia, LLC
Well No. 1211 S-7H**

Page 1 of 3

Tag	Bearing	Dist.
L1	S 76°49' W	2,965.8'
L2	N 75°29' W	2,362.3'
L3	N 29°41' W	2,093.5'
L4	N 45°25' E	1,190.4'
L5	S 63°28' W	2,498.9'

Notes:

Well No. 1211 S-7H
UTM NAD 1983 (USSF)

Top Hole Coordinates

N: 14,211,858.99'

E: 1,789,495.03'

Landing Point Coordinates

N: 14,210,742.44'

E: 1,787,259.49'

Bottom Hole Coordinates

N: 14,199,863.78'

E: 1,791,103.60'

Notes: Well No. 1211 S-7H
West Virginia Coordinate System
of 1927, North Zone
based upon Differential GPS
Measurements.

Top Hole coordinates

Latitude: 39°08'02.23"

Longitude: 80°28'27.99"

Bottom Hole coordinates

Latitude: 39°08'03.53"

Longitude: 80°28'08.46"

UTM Zone 17, NAD 1983

Top Hole Coordinates

N: 4,331,783.284m

E: 545,439.176m

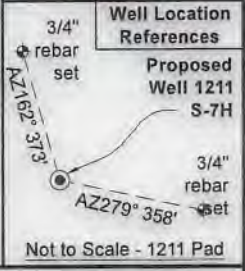
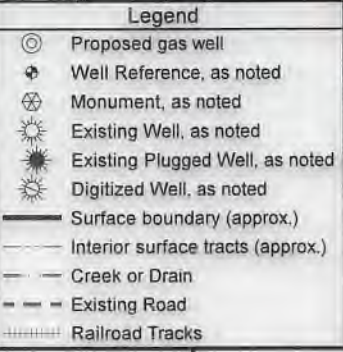
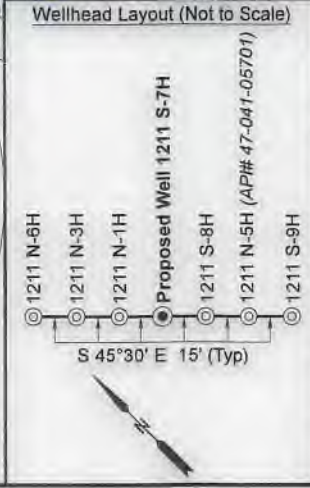
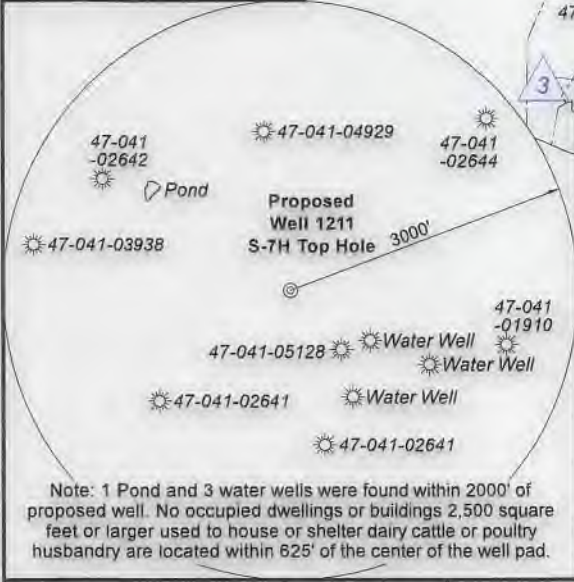
Bottom Hole Coordinates

N: 4,328,127.138m

E: 545,929.469m

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

Well location references are
based upon the magnetic
meridian.



FILE NO: 79-36-12-U-F-18
DRAWING NO: 1211 S-7H 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. 1211 S-7H
API WELL NO 47-041-05704
STATE COUNTY PERMIT

WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL

LOCATION: ELEVATION: 1,265.5' WATERSHED: Middle West Fork Creek TH - West Milford
DISTRICT: Freemans Creek QUADRANGLE: BH - Weston
SURFACE OWNER: HG Energy II Appalachia, LLC COUNTY: Lewis
ROYALTY OWNER: Mary E. Post, et al, et al LEASE NO: ACREAGE: 145.00 ACREAGE: 61.50
PROPOSED WORK: DRILL CONVERT DRILL DEEPER FRACTURE OR STIMULATE PLUG OFF OLD FORMATION
 PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE IN WELL (SPECIFY) 6,800' TVD
 PLUG AND ABANDON CLEAN OUT AND REPLUG TARGET FORMATION: Marcellus Shale ESTIMATED DEPTH: 19,612' 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

3,031' to Bottom Hole

4,568' to Top Hole

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

TOP LONGITUDE 80 - 27 - 30
BTM LONGITUDE 80 - 27 - 30

11,912 to Top Hole

8,746 to Bottom Hole



I, the undersigned, hereby certify that this plat is correct to the best of my knowledge and belief and shows all the information required by law and the rules issued and prescribed by the Department of Environmental Protection.

Dwayne D. Matheny, P.S. 2070



Detail 1 (Not to Scale)



Detail 2 (Not to Scale)



FILE NO: 79-36-12-U-F-18
DRAWING NO: 1211 S-7H 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. 1211 S-7H
API WELL NO
47 - 041 - 05704
STATE COUNTY PERMIT

WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL

LOCATION: ELEVATION: 1,265.5' WATERSHED: Middle West Fork Creek

TH - West Milford
QUADRANGLE: BH - Weston

DISTRICT: Freemans Creek

COUNTY: Lewis

SURFACE OWNER: HG Energy II Appalachia, LLC

ACREAGE: 61.50

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ADDRESS: 5260 Dupont Road
Parkersburg, WV 26101

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



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3	6B / 41	Brincefield Family Trust	588 / 740	71.62
4	6B / 42	Brincefield Family Trust	588 / 740	28.00
5	6B / 43	Brincefield Family Trust	588 / 740	69.36
6	7B / 9.2	Brincefield Family Trust	588 / 740	10.51
7	7B / 9.1	Frank McDonald	479 / 8	3.73
8	6B / 44	David G. Layton	697 / 278	75.50
9	6C / 59	Charles W. & Debra D. Queen	543 / 274	0.55
10	6C / 62	Bryan T. Beam	W46 / 461	37.83
11	6B / 47	Michael A. & Christine A. Cutlip	648 / 51	71.00
12	7B / 11	HG Energy II Appalachia LLC	730 / 677	54.50
13	7C / 1	William B. & Teresa A. McCormick	605 / 385	22.76
14	7C / 1.1	Timothy J. & Tawney A. Wyatt	509 / 18	2.10
15	7C / 1.2	Timothy J. & Tawney A. Wyatt	509 / 18	0.77
16	7C / 1.3	Cecil L. & Sona J. Dempsey	437 / 356	2.22
17	7C / 1.4	Joyce Lea Williams	638 / 86	1.11
18	7C / 2	Robert A. & Jane E. Horn	515 / 121	1.19
19	7C / 3	Benjamin T. & Casey Brown	605 / 657	1.32
20	7C / 4	Basil W. Allmon, Jr.	700 / 355	2.53
21	7C / 5.2	Richard A. Westfall	674 / 151	0.26
22	7C / 5.1	Shaun C. & Sheila K. Dempsey	506 / 752	1.15
23	6C / 56	Kenneth B. & Lydia M. Burroughs	640 / 110	6.35
24	6C / 56.1	Kenneth B. & Lydia M. Burroughs	361 / 369	6.12
25	6C / 55	Kenneth B. & Lydia M. Burroughs	336 / 47	5.10
26	7C / 5.3	Phillip J. & Roberta A. Stutler	359 / 443	1.67
27	7C / 6.1	Clinton C. & Geryln H. Beam	556 / 174	3.00
28	7C / 5.5	Phillip J. & Roberta A. Stutler	400 / 733	1.68
29	6C / 54	Kenneth B. & Lydia M. Burroughs	336 / 47	2.00
30	7C / 5	James M. Posey	667 / 710	6.06
31	7C / 6.3	Clinton C. & Geryln H. Beam	636 / 200	19.33
32	6C / 53	Kenneth B. & Lydia M. Burroughs	336 / 47	11.00
33	7C / 6.2	Bette Garath	412 / 593	36.15
34	7C / 7	Bette Garath	397 / 214	34.00
35	7C / 9	Bette Garath	397 / 214	31.00
36	7C / 8	Bette Garath	397 / 214	20.00
37	7C / 22	Fred Allen Bailey	452 / 268	35.35
38	7C / 10	Bette Garath	397 / 214	4.20
39	7C / 11	Roger A. Allman	721 / 347	37.39
40	7C / 12	Roger A. Allman	721 / 347	36.35
41	7C / 22.2	William B. Williams II	593 / 139	28.69
42	7C / 11.1	Robert G. Elliot	660 / 512	1.15
43	7C / 13	Ethel J. Bulka	545 / 372	2.40
44	7C / 14	Jason Sloan	633 / 605	0.43
45	7C / 15	Dixie & Wilma Wine	536 / 490	1.15
46	7C / 17	E. Jean Bulka	605 / 841	1.20
47	7C / 18	Elizabeth Stark	717 / 457	0.75
48	7D / 32	WVU Board of Governors	584 / 524	221.65
49	7D / 1	James A. & Carol T. Smith	343 / 62	29.57
50	7D / 2	Donna M. & Aubrey E. Smith, Jr.	677 / 726	20.25
51	7D / 3	Larry H. McCoy	367 / 208	7.18

ID	Lease
3	WVU Board of Governors
5	C. Burke Morris, et al
6	Mary E. Clark, et vir, et al
7	W.A. Chittum, et ux, et al
8	T.S. Allman, et al
10	J.L. Post, et al
11	W.D. Hitt, et al
12	G.C. Smith
13	Bertha H. Nay, et al
15	C.W. Smith, et al
16	P.C. Allman, et al
17	Maggie Cottrill
18	Cordelia Bailey
19	Henry L. Frashuer, et al
20	E.C. Strother, et al
22	C. Burke Morris, et al
23	C. Burke Morris, et al
24	A.B. College Inc.
27	E.R. Bennett, et al
25	M.G. Metheny, et al
29	J.L. Allman, et al
30	W.D. Allman, et al
32	J.L. Allman, et al
33	H.A. Fletcher, et al
35	Jesse Leeson, et al
36	George W. Nelly, et al
38	C. Burke Morris, et al
39	Cyrus W. Smith, et al
44	T.P. Barb, et al
45	Mary E. Post, et al
47	Minter E. Bailey
53	HG Energy II Appalachia, LLC
54	HG Energy II Appalachia, LLC
N18	Arthur Beeghley & et al
N19	James Beeghley, et al

FILE NO: 79-36-12-U-F-18
DRAWING NO: 1211 S-7H 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. 1211 S-7H
API WELL NO
47 - 041 - 05704
STATE COUNTY PERMIT

WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL

LOCATION: ELEVATION: 1,265.5' WATERSHED: Middle West Fork Creek

TH - West Milford
QUADRANGLE: BH - Weston

DISTRICT: Freemans Creek

COUNTY: Lewis

SURFACE OWNER: HG Energy II Appalachia, LLC

ACREAGE: 61.50

ROYALTY OWNER: Mary E. Post, et al, et al

LEASE NO: ACREAGE: 145.00

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DESIGNATED AGENT: Diane C. White

ADDRESS: 5260 Dupont Road

ADDRESS: 5260 Dupont Road

Parkersburg, WV 26101

Parkersburg, WV 26101

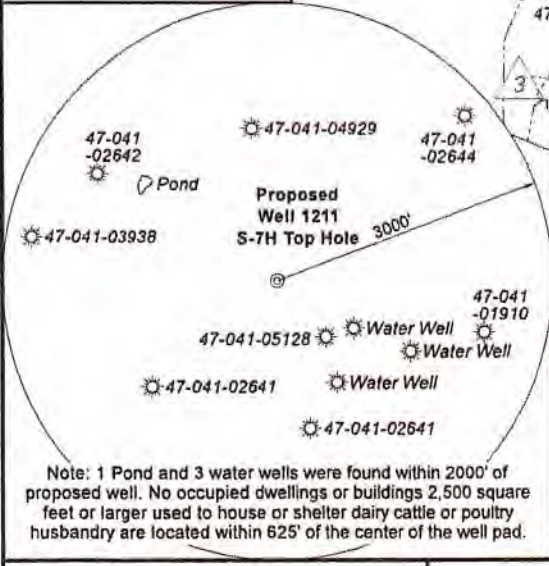
**HG Energy II
Appalachia, LLC
Well No. 1211 S-7H**

Page 1 of 3

Tag	Bearing	Dist.
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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. 1211 S-7H
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47 - 041 - 05704
STATE COUNTY PERMIT

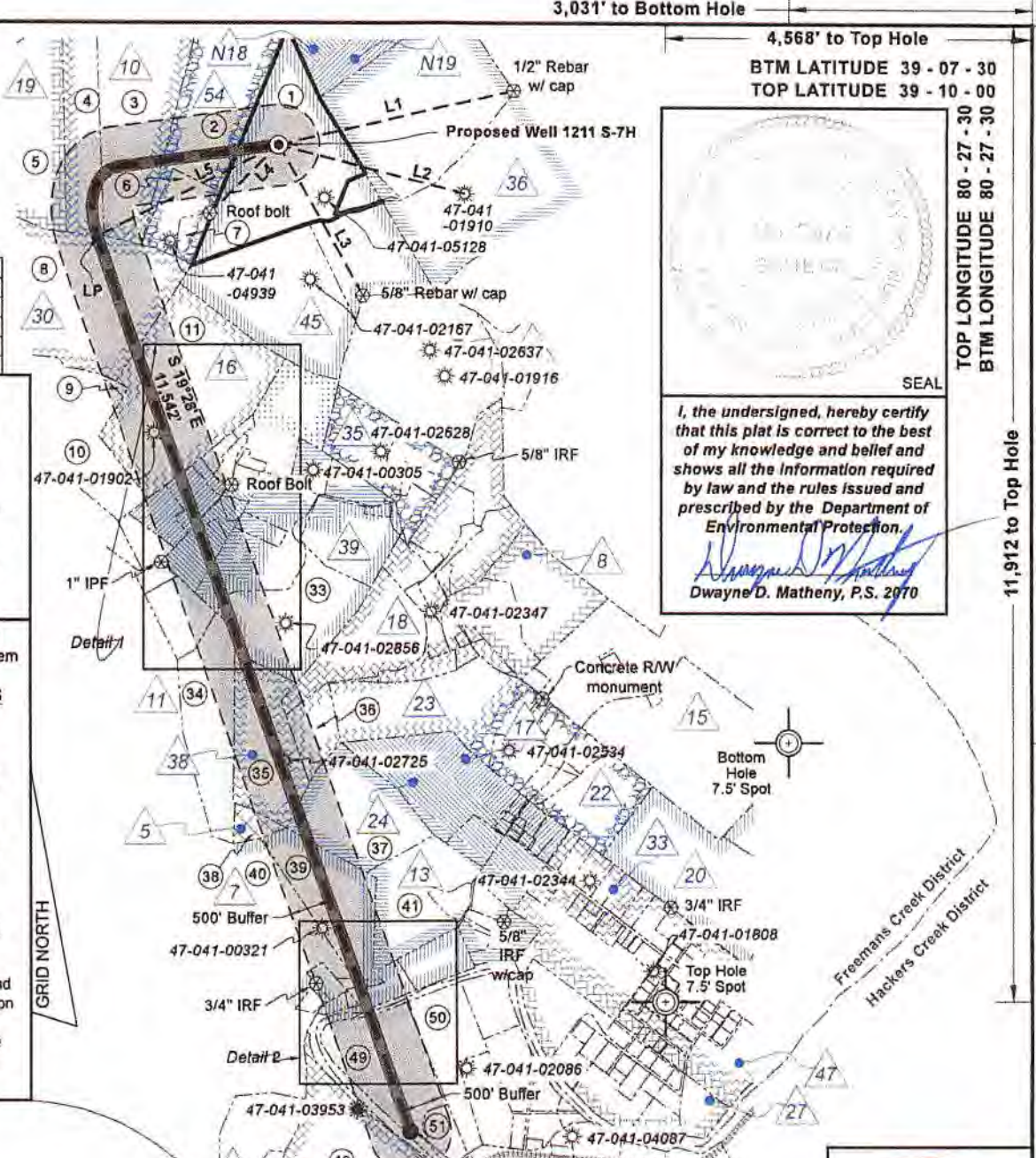
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SURFACE OWNER: HG Energy II Appalachia, LLC COUNTY: Lewis
ROYALTY OWNER: Mary E. Post, et al, et al LEASE NO: ACREAGE: 61.50
ACREAGE: 145.00

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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



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

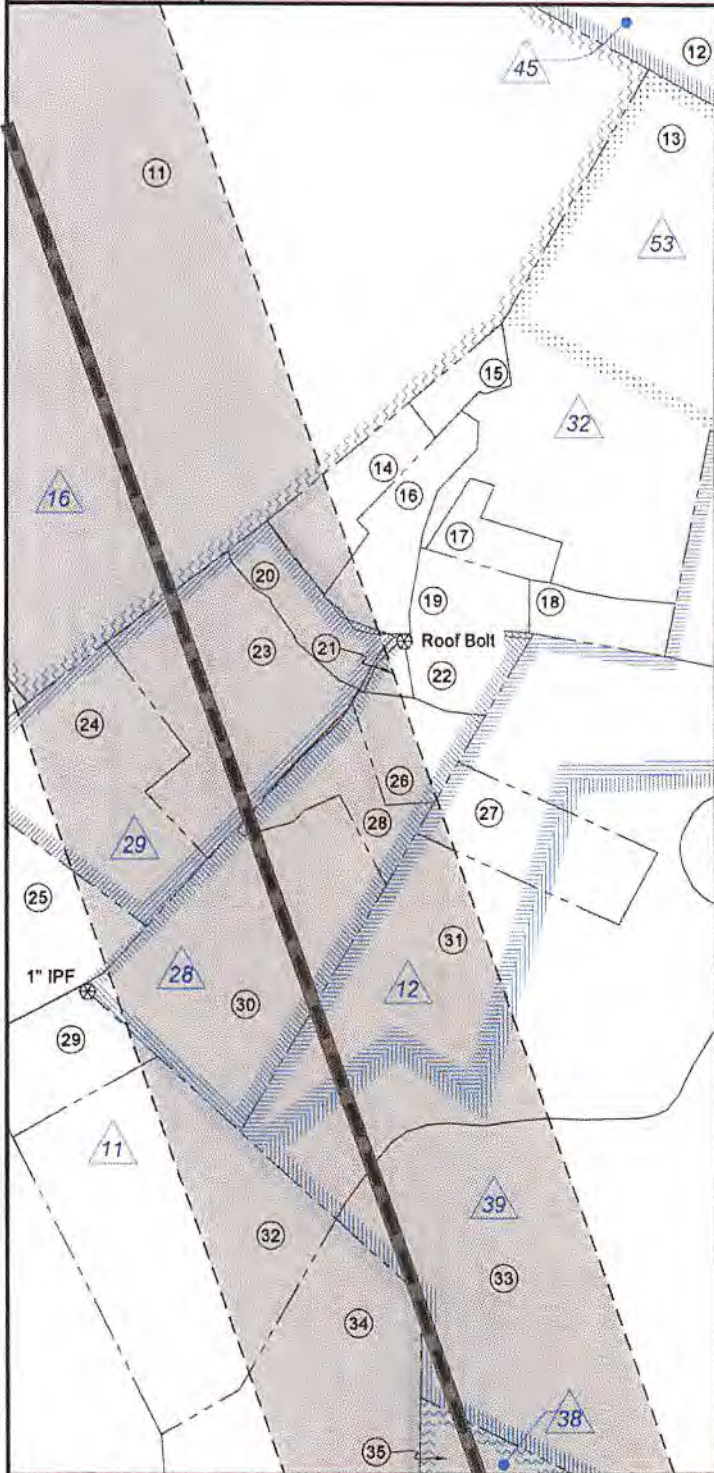
ALLEGHENY SURVEYS, INC.

Well Location References
3/4" rebar set
Proposed Well 1211 S-7H
3/4" rebar set
AZ279° 358'

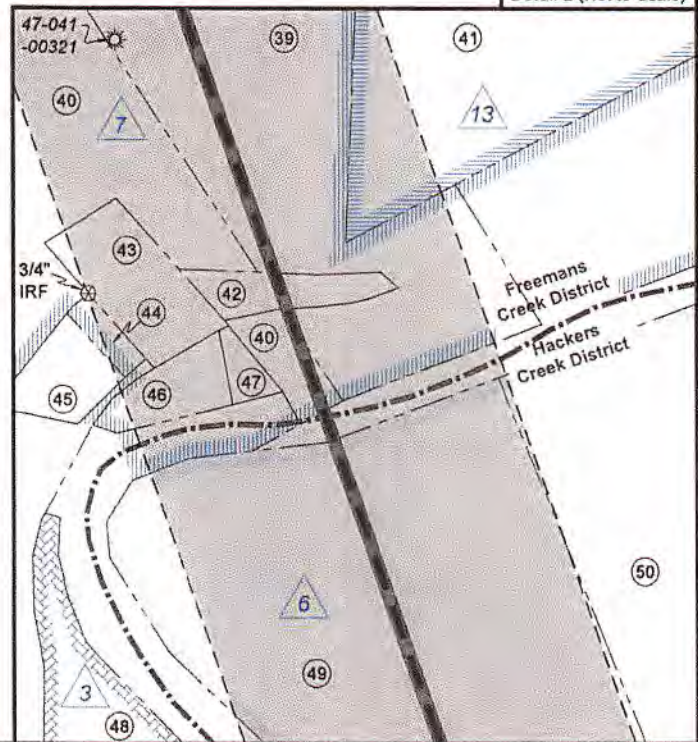
Not to Scale - 1211 Pad



Detail 1 (Not to Scale)



Detail 2 (Not to Scale)



FILE NO: 79-36-12-U-F-18
DRAWING NO: 1211 S-7H 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
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ACREAGE: 61.50

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Parkersburg, WV 26101

DESIGNATED AGENT: Diane C. White
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8	6B / 44	David G. Layton	697 / 278	75.50
9	6C / 59	Charles W. & Debra D. Queen	543 / 274	0.55
10	6C / 62	Bryan T. Beam	W46 / 461	37.83
11	6B / 47	Michael A. & Christine A. Cutlip	648 / 51	71.00
12	7B / 11	HG Energy II Appalachia LLC	730 / 677	54.50
13	7C / 1	William B. & Teresa A. McCormick	605 / 385	22.76
14	7C / 1.1	Timothy J. & Tawney A. Wyatt	509 / 18	2.10
15	7C / 1.2	Timothy J. & Tawney A. Wyatt	509 / 18	0.77
16	7C / 1.3	Cecil L. & Sonja J. Dempsey	437 / 356	2.22
17	7C / 1.4	Joyce Lea Williams	638 / 86	1.11
18	7C / 2	Robert A. & Jane E. Horn	515 / 121	1.19
19	7C / 3	Benjamin T. & Casey Brown	605 / 657	1.32
20	7C / 4	Basil W. Allmon, Jr.	700 / 355	2.53
21	7C / 5.2	Richard A. Westfall	674 / 151	0.26
22	7C / 5.1	Shaun C. & Sheila K. Dempsey	506 / 752	1.15
23	6C / 56	Kenneth B. & Lydia M. Burroughs	640 / 110	6.35
24	6C / 56.1	Kenneth B. & Lydia M. Burroughs	361 / 369	6.12
25	6C / 55	Kenneth B. & Lydia M. Burroughs	336 / 47	5.10
26	7C / 5.3	Phillip J. & Roberta A. Stutler	359 / 443	1.67
27	7C / 6.1	Clinton C. & Geryln H. Beam	556 / 174	3.00
28	7C / 5.5	Phillip J. & Roberta A. Stutler	400 / 733	1.68
29	6C / 54	Kenneth B. & Lydia M. Burroughs	336 / 47	2.00
30	7C / 5	James M. Posey	667 / 710	6.06
31	7C / 6.3	Clinton C. & Geryln H. Beam	636 / 200	19.33
32	6C / 53	Kenneth B. & Lydia M. Burroughs	336 / 47	11.00
33	7C / 6.2	Bette Garath	412 / 593	36.15
34	7C / 7	Bette Garath	397 / 214	34.00
35	7C / 9	Bette Garath	397 / 214	31.00
36	7C / 8	Bette Garath	397 / 214	20.00
37	7C / 22	Fred Allen Bailey	452 / 268	35.35
38	7C / 10	Bette Garath	397 / 214	4.20
39	7C / 11	Roger A. Allman	721 / 347	37.39
40	7C / 12	Roger A. Allman	721 / 347	36.35
41	7C / 22.2	William B. Williams II	593 / 139	28.69
42	7C / 11.1	Robert G. Elliot	660 / 512	1.15
43	7C / 13	Ethel J. Bulka	545 / 372	2.40
44	7C / 14	Jason Sloan	633 / 605	0.43
45	7C / 15	Dixie & Wilma Wine	536 / 490	1.15
46	7C / 17	E. Jean Bulka	605 / 841	1.20
47	7C / 18	Elizabeth Stark	717 / 457	0.75
48	7D / 32	WVU Board of Governors	584 / 524	221.65
49	7D / 1	James A. & Carol T. Smith	343 / 62	29.57
50	7D / 2	Donna M. & Aubrey E. Smith, Jr.	677 / 726	20.25
51	7D / 3	Larry H. McCoy	367 / 208	7.18

ID	Lease
3	WVU Board of Governors
5	C. Burke Morris, et al
6	Mary E. Clark, et vir, et al
7	W.A. Chittum, et ux, et al
8	T.S. Allman, et al
10	J.L. Post, et al
11	W.D. Hitt, et al
12	G.C. Smith
13	Bertha H. Nay, et al
15	C.W. Smith, et al
16	P.C. Allman, et al
17	Maggie Coltrill
18	Cordelia Bailey
19	Henry L. Frashuer, et al
20	E.C. Strother, et al
22	C. Burke Morris, et al
23	C. Burke Morris, et al
24	A.B. College Inc.
27	E.R. Bennett, et al
28	M.G. Metheny, et al
29	J.L. Allman, et al
30	W.D. Allman, et al
32	J.L. Allman, et al
33	H.A. Fletcher, et al
35	Jesse Leeson, et al
36	George W. Nelly, et al
38	C. Burke Morris, et al
39	Cyrus W. Smith, et al
44	T.P. Barb, et al
45	Mary E. Post, et al
47	Minter E. Bailey
53	HG Energy II Appalachia, LLC
54	HG Energy II Appalachia, LLC
N18	Arthur Beeghly & et al
N19	James Beeghley, et al

FILE NO: 79-36-12-U-F-18
DRAWING NO: 1211 S-7H Well Plat
SCALE: 1" = 2000'
MINIMUM DEGREE OF ACCURACY:
Submeter
PROVEN SOURCE OF ELEVATION:
CORS, Bridgeport, WV



DATE: December 17 20 19
OPERATOR'S WELL NO. 1211 S-7H
API WELL NO
47 -- 041 -- 05704
STATE COUNTY PERMIT

WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL

LOCATION: ELEVATION: 1,265.5' WATERSHED: Middle West Fork Creek TH - West Milford
DISTRICT: Freemans Creek QUADRANGLE: BH - Weston
SURFACE OWNER: HG Energy II Appalachia, LLC COUNTY: Lewis
ROYALTY OWNER: Mary E. Post, et al, et al LEASE NO: ACREAGE: 61.50
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: 19,612' MD 6,800' TVD

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

WW-6A1
(5/13)

Operator's Well No. McDonald 1211 S-7H

**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: Agent

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WV Department of
Environmental Protection

McDonald 1211 S-7H LEASE CHAIN

TRACT #	LEGACY LEASE NUMBER	TAX MAP	LEASE NUMBER	GRANTOR/LESSOR	GRANTEE/LESSEE	ROYALTY	DEED BOOK	PAGE
45 ✓	FK053254	03-007B-0010-0000 03-007B-0011-0000 03-007B-0013-0000 p/o 03-007B-0010-0001	Q10048600	MARY E. POST; J. L. POST; F. L. POST AND B. J. POST, HIS WIFE; IDA B. GASTON AND CLARK GASTON, HER HUSBAND; G. W. POST AND FLAVA POST, HIS WIFE	RESERVE GAS COMPANY	NOT LESS THAN 1/8	68	291
				RESERVE GAS COMPANY	HOPE NATURAL GAS COMPANY	CONFIRMATORY DEED	155	202
				HOPE NATURAL GAS COMPANY	CONSOLIDATED GAS SUPPLY CORPORATION	CONFIRMATORY DEED	294	89
				CONSOLIDATED GAS SUPPLY CORPORATION	CONSOLIDATED GAS TRANSMISSION CORPORATION	ASSIGNMENT	425	127
				CONSOLIDATED GAS TRANSMISSION CORPORATION	CNG TRANSMISSION CORPORATION	MERGER/NAME CHANGE	WVSOS	
				CNG TRANSMISSION CORPORATION	DOMINION TRANSMISSION, INC.	MERGER/NAME CHANGE	WVSOS	
				DOMINION TRANSMISSION, INC.	DOMINION EXPLORATION & PRODUCTION, INC.	ASSIGNMENT	620	139
				DOMINION EXPLORATION & PRODUCTION, INC.	DOMINION TRANSMISSION, INC.	ASSIGNMENT	651	137
				DOMINION TRANSMISSION, INC.	CNX GAS COMPANY LLC	MEMORANDUM FARMOUT AGREEMENT	672	154
				CNX GAS COMPANY LLC	NOBLE ENERGY, INC.	LIMITED PARTIAL ASSIGNMENT (50%)	684	57
				DOMINION TRANSMISSION, INC.	CNX GAS COMPANY LLC AND NOBLE ENERGY, INC.	PARTIAL ASSIGNMENT (32%)	712	848
				CNX GAS COMPANY LLC	NOBLE ENERGY, INC.	ASSIGNMENT	717	1
				NOBLE ENERGY, INC.	HG ENERGY II APPALACHIA, LLC	ASSIGNMENT	722	139
				DOMINION TRANSMISSION, INC.	DOMINION ENERGY TRANSMISSION, INC.	MERGER/NAME CHANGE	WVSOS	
				DOMINION ENERGY TRANSMISSION, INC.	HG ENERGY II APPALACHIA, LLC	SECOND AMENDMENT TO MEMORANDUM OF FARMOUT AGREEMENT	723	499
				DOMINION ENERGY TRANSMISSION, INC.	HG ENERGY II APPALACHIA, LLC	MINERAL INTEREST DEED	723	527 ✓
				54 ✓	FK052962	03-007B-0009-0000 03-007B-0009-0001 03-007B-0009-0002		DOMINION TRANSMISSION, INC.
DOMINION TRANSMISSION, INC.	CNX GAS COMPANY LLC	MEMORANDUM FARMOUT AGREEMENT	672					154
CNX GAS COMPANY LLC	NOBLE ENERGY, INC.	LIMITED PARTIAL ASSIGNMENT (50%)	684					57
CNX GAS COMPANY LLC	NOBLE ENERGY, INC.	ASSIGNMENT	717					1
NOBLE ENERGY, INC.	HG ENERGY II APPALACHIA, LLC	ASSIGNMENT	722					170
DOMINION TRANSMISSION, INC.	DOMINION ENERGY TRANSMISSION, INC.	MERGER/NAME CHANGE	WVSOS					
DOMINION ENERGY TRANSMISSION, INC.	HG ENERGY II APPALACHIA, LLC	SECOND AMENDMENT TO MEMORANDUM OF FARMOUT AGREEMENT	723					499
DOMINION ENERGY TRANSMISSION, INC.	HG ENERGY II APPALACHIA, LLC	MINERAL DEED	740	746 ✓				
10 ✓	FK053255	03-006B-0041-0000 03-006B-0042-0000	Q100673000	J.L. POST, F.L. POST AND B.J. POST, HIS WIFE	RESERVE GAS COMPANY	NOT LESS THAN 1/8	68	292
				RESERVE GAS COMPANY	HOPE NATURAL GAS COMPANY	CONFIRMATORY DEED	155	202
				HOPE NATURAL GAS COMPANY	CONSOLIDATED GAS SUPPLY CORPORATION	CONFIRMATORY DEED	294	89
				CONSOLIDATED GAS SUPPLY CORPORATION	CONSOLIDATED GAS TRANSMISSION CORPORATION	ASSIGNMENT	425	127
				CONSOLIDATED GAS TRANSMISSION CORPORATION	CNG TRANSMISSION CORPORATION	MERGER/NAME CHANGE	WVSOS	
				CNG TRANSMISSION CORPORATION	DOMINION TRANSMISSION, INC.	MERGER/NAME CHANGE	WVSOS	
				DOMINION TRANSMISSION, INC.	CNX GAS COMPANY LLC	MEMORANDUM FARMOUT AGREEMENT	672	154
				CNX GAS COMPANY LLC	NOBLE ENERGY, INC.	LIMITED PARTIAL ASSIGNMENT (50%)	684	57
				DOMINION TRANSMISSION, INC.	CNX GAS COMPANY LLC AND NOBLE ENERGY, INC.	PARTIAL ASSIGNMENT (32%)	712	848
				CNX GAS COMPANY LLC	NOBLE ENERGY, INC.	ASSIGNMENT	717	1
				NOBLE ENERGY, INC.	HG ENERGY II APPALACHIA, LLC	ASSIGNMENT	722	139
				NOBLE ENERGY, INC.	HG ENERGY II APPALACHIA, LLC	ASSIGNMENT	722	170
				DOMINION TRANSMISSION, INC.	DOMINION ENERGY TRANSMISSION, INC.	MERGER/NAME CHANGE	WVSOS	
				DOMINION ENERGY TRANSMISSION, INC.	HG ENERGY II APPALACHIA, LLC	AMENDED AND RESTATED PARTIAL ASSIGNMENT	723	527
				DOMINION ENERGY TRANSMISSION, INC.	HG ENERGY II APPALACHIA, LLC	SECOND AMENDMENT TO MEMORANDUM OF FARMOUT AGREEMENT	723	499 ✓

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30 ✓	FK064485	03-006B-0044-000	Q100858000	W. D. ALLMAN, WIDOWER; S. M. ALLMAN AND CORA B. ALLMAN, HIS WIFE; MAYME A. SMITH AND J. W. SMITH, HER HUSBAND; EARL WIMER, WIDOWER; ZELLA BROWN AND TRUMAN BROWN, HER HUSBAND; BERNICE A. WOODDELL, SINGLE; GUY ALLMAN, WIDOWER; LORA BAILEY, WIDOW; H. R. HAMMER, WIDOWER; FLOY RAMSBURG AND HUGH RAMSBURG, HER HUSBAND; RUSSELL ALLMAN AND RUTH ALLMAN, HIS WIFE; L. C. ALLMAN AND FLORENCE ALLMAN, HIS WIFE; LLOYD W. SMITH AND MARJORIE M. SMITH, HIS WIFE; KATHLEEN C. ALLMAN, WIDOW; R. T. SMITH AND LAVAUGHN SMITH, HIS WIFE; BERNARD M. WOODDELL AND MARY L. WOODDELL, HIS WIFE; RAYMOND ALLMAN AND LEO ALLMAN, HIS WIFE; A. C. ALLMAN AND ORA ALLMAN, HIS WIFE	HOPE NATURAL GAS COMPANY	NOT LESS THAN 1/8	222	15				
				HOPE NATURAL GAS COMPANY	CONSOLIDATED GAS SUPPLY CORPORATION	CONFIRMATORY DEED	294	89				
				CONSOLIDATED GAS SUPPLY CORPORATION	CONSOLIDATED GAS TRANSMISSION CORPORATION	ASSIGNMENT	425	127				
				CONSOLIDATED GAS TRANSMISSION CORPORATION	CNG TRANSMISSION CORPORATION	MERGER/NAME CHANGE	WVSOS					
				CNG TRANSMISSION CORPORATION	DOMINION TRANSMISSION, INC.	MERGER/NAME CHANGE	WVSOS					
				DOMINION TRANSMISSION, INC.	CNX GAS COMPANY LLC	MEMORANDUM FARMOUT AGREEMENT	672	154				
				CNX GAS COMPANY LLC	NOBLE ENERGY, INC.	LIMITED PARTIAL ASSIGNMENT (50%)	684	57				
				DOMINION TRANSMISSION, INC.	CNX GAS COMPANY LLC AND NOBLE ENERGY, INC.	PARTIAL ASSIGNMENT (32%)	712	848				
				CNX GAS COMPANY LLC	NOBLE ENERGY, INC.	ASSIGNMENT	717	1				
				NOBLE ENERGY, INC.	HG ENERGY II APPALACHIA, LLC	ASSIGNMENT	722	139				
				NOBLE ENERGY, INC.	HG ENERGY II APPALACHIA, LLC	ASSIGNMENT	722	170				
				DOMINION TRANSMISSION, INC.	DOMINION ENERGY TRANSMISSION, INC.	MERGER/NAME CHANGE	WVSOS					
				DOMINION ENERGY TRANSMISSION, INC.	HG ENERGY II APPALACHIA, LLC	AMENDED AND RESTATED PARTIAL ASSIGNMENT	723	527				
				DOMINION ENERGY TRANSMISSION, INC.	HG ENERGY II APPALACHIA, LLC	SECOND AMENDMENT TO MEMORANDUM OF	723	499				
				16 ✓	FK053188	03-006B-0047-0000	Q100921000	P. C. ALLMAN AND ELLA ALLMAN, HIS WIFE	SOUTH PENN OIL COMPANY	NOT LESS THAN 1/8	42	19
								SOUTH PENN OIL COMPANY	HOPE NATURAL GAS COMPANY	ASSIGNMENT	85	127
								HOPE NATURAL GAS COMPANY	RESERVE GAS COMPANY	ASSIGNMENT	79	370
RESERVE GAS COMPANY	HOPE NATURAL GAS COMPANY	CONFIRMATORY DEED	155					202				
HOPE NATURAL GAS COMPANY	CONSOLIDATED GAS SUPPLY CORPORATION	CONFIRMATORY DEED	294					89				
CONSOLIDATED GAS SUPPLY CORPORATION	CONSOLIDATED GAS TRANSMISSION CORPORATION	ASSIGNMENT	425					127				
CONSOLIDATED GAS TRANSMISSION CORPORATION	CNG TRANSMISSION CORPORATION	MERGER/NAME CHANGE	WVSOS									
CNG TRANSMISSION CORPORATION	DOMINION TRANSMISSION, INC.	MERGER/NAME CHANGE	WVSOS									
DOMINION TRANSMISSION, INC.	CNX GAS COMPANY LLC	MEMORANDUM FARMOUT AGREEMENT	672					154				
CNX GAS COMPANY LLC	NOBLE ENERGY, INC.	LIMITED PARTIAL ASSIGNMENT (50%)	684					57				
DOMINION TRANSMISSION, INC.	CNX GAS COMPANY LLC AND NOBLE ENERGY, INC.	PARTIAL ASSIGNMENT (32%)	712					848				
CNX GAS COMPANY LLC	NOBLE ENERGY, INC.	ASSIGNMENT	717					1				
NOBLE ENERGY, INC.	HG ENERGY II APPALACHIA, LLC	ASSIGNMENT	722					139				
DOMINION TRANSMISSION, INC.	DOMINION ENERGY TRANSMISSION, INC.	MERGER/NAME CHANGE	WVSOS									
DOMINION ENERGY TRANSMISSION, INC.	HG ENERGY II APPALACHIA, LLC	AMENDED AND RESTATED PARTIAL ASSIGNMENT	723					527				
DOMINION ENERGY TRANSMISSION, INC.	HG ENERGY II APPALACHIA, LLC	SECOND AMENDMENT TO MEMORANDUM OF FARMOUT AGREEMENT	723					499				

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Energy & Natural Resources

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29 ✓	FK064236	03-006C-0056-0000 03-006C-0056-0001 03-007C-0004-0000	Q100595000	J. L. ALLMAN, WIDOWER; AND SUSIE LESSON, WIDOW	HOPE NATURAL GAS COMPANY	NOT LESS THAN 1/8	220	336
				HOPE NATURAL GAS COMPANY	CONSOLIDATED GAS SUPPLY CORPORATION	CONFIRMATORY DEED	294	89
				CONSOLIDATED GAS SUPPLY CORPORATION	CONSOLIDATED GAS TRANSMISSION CORPORATION	ASSIGNMENT	425	127
				CONSOLIDATED GAS TRANSMISSION CORPORATION	CNG TRANSMISSION CORPORATION	MERGER/NAME CHANGE	WVSOS	
				CNG TRANSMISSION CORPORATION	DOMINION TRANSMISSION, INC.	MERGER/NAME CHANGE	WVSOS	
				DOMINION TRANSMISSION, INC.	CNX GAS COMPANY LLC	MEMORANDUM FARMOUT AGREEMENT	672	154
				CNX GAS COMPANY LLC	NOBLE ENERGY, INC.	LIMITED PARTIAL ASSIGNMENT (50%)	684	57
				DOMINION TRANSMISSION, INC.	CNX GAS COMPANY LLC AND NOBLE ENERGY, INC.	PARTIAL ASSIGNMENT (32%)	712	848
				CNX GAS COMPANY LLC	NOBLE ENERGY, INC.	ASSIGNMENT	717	1
				NOBLE ENERGY, INC.	HG ENERGY II APPALACHIA, LLC	ASSIGNMENT	722	139
				DOMINION TRANSMISSION, INC.	DOMINION ENERGY TRANSMISSION, INC.	MERGER/NAME CHANGE	WVSOS	
				DOMINION ENERGY TRANSMISSION, INC.	HG ENERGY II APPALACHIA, LLC	SECOND AMENDMENT TO MEMORANDUM OF FARMOUT AGREEMENT	723	499
DOMINION ENERGY TRANSMISSION, INC.	HG ENERGY II APPALACHIA, LLC	AMENDED AND RESTATED PARTIAL ASSIGNMENT	723	527				
28 ✓	FK064072	03-007C-0005-0000 03-007C-0005-0001 03-007C-0005-0002 03-007C-0005-0003 03-007C-0005-0004 (NOW 03-006C-0057-0000)	Q143838000	M. G. MATHENY ET UX	HOPE NATURAL GAS COMPANY	NOT LESS THAN 1/8	219	224
				HOPE NATURAL GAS COMPANY	CONSOLIDATED GAS SUPPLY CORPORATION	CONFIRMATORY DEED	294	89
				CONSOLIDATED GAS SUPPLY CORPORATION	CONSOLIDATED GAS TRANSMISSION CORPORATION	ASSIGNMENT	425	127
				CONSOLIDATED GAS TRANSMISSION CORPORATION	CNG TRANSMISSION CORPORATION	MERGER/NAME CHANGE	WVSOS	
				CNG TRANSMISSION CORPORATION	DOMINION TRANSMISSION, INC.	MERGER/NAME CHANGE	WVSOS	
				DOMINION TRANSMISSION, INC.	CNX GAS COMPANY LLC	MEMORANDUM FARMOUT AGREEMENT	672	154
				CNX GAS COMPANY LLC	NOBLE ENERGY, INC.	LIMITED PARTIAL ASSIGNMENT (50%)	684	57
				DOMINION TRANSMISSION, INC.	CNX GAS COMPANY LLC AND NOBLE ENERGY, INC.	PARTIAL ASSIGNMENT (32%)	712	848
				CNX GAS COMPANY LLC	NOBLE ENERGY, INC.	ASSIGNMENT	717	1
				NOBLE ENERGY, INC.	HG ENERGY II APPALACHIA, LLC	ASSIGNMENT	722	139
				DOMINION TRANSMISSION, INC.	DOMINION ENERGY TRANSMISSION, INC.	MERGER/NAME CHANGE	WVSOS	
				DOMINION ENERGY TRANSMISSION, INC.	HG ENERGY II APPALACHIA, LLC	SECOND AMENDMENT TO MEMORANDUM OF FARMOUT AGREEMENT	723	499
DOMINION ENERGY TRANSMISSION, INC.	HG ENERGY II APPALACHIA, LLC	AMENDED AND RESTATED PARTIAL ASSIGNMENT	723	527				
12 ✓	FK062782	03-007C-0006-0000 03-007C-0030-0005 03-007C-0033-0000 p/o 03-007C-0006-0003 p/o 03-007C-0006-0001	Q100694000	G. C. SMITH, WIDOWER	HOPE NATURAL GAS COMPANY	NOT LESS THAN 1/8	215	512
				HOPE NATURAL GAS COMPANY	CONSOLIDATED GAS SUPPLY CORPORATION	CONFIRMATORY DEED	294	89
				CONSOLIDATED GAS SUPPLY CORPORATION	CONSOLIDATED GAS TRANSMISSION CORPORATION	ASSIGNMENT	425	127
				CONSOLIDATED GAS TRANSMISSION CORPORATION	CNG TRANSMISSION CORPORATION	MERGER/NAME CHANGE	WVSOS	
				CNG TRANSMISSION CORPORATION	DOMINION TRANSMISSION, INC.	MERGER/NAME CHANGE	WVSOS	
				DOMINION TRANSMISSION, INC.	CNX GAS COMPANY LLC	MEMORANDUM FARMOUT AGREEMENT	672	154
				CNX GAS COMPANY LLC	NOBLE ENERGY, INC.	LIMITED PARTIAL ASSIGNMENT (50%)	684	57
				DOMINION TRANSMISSION, INC.	CNX GAS COMPANY LLC AND NOBLE ENERGY, INC.	PARTIAL ASSIGNMENT (32%)	712	848
				CNX GAS COMPANY LLC	NOBLE ENERGY, INC.	ASSIGNMENT	717	1
				NOBLE ENERGY, INC.	HG ENERGY II APPALACHIA, LLC	ASSIGNMENT	722	139
				DOMINION TRANSMISSION, INC.	DOMINION ENERGY TRANSMISSION, INC.	MERGER/NAME CHANGE	WVSOS	
				DOMINION ENERGY TRANSMISSION, INC.	HG ENERGY II APPALACHIA, LLC	AMENDED AND RESTATED PARTIAL ASSIGNMENT	723	527
DOMINION ENERGY TRANSMISSION, INC.	HG ENERGY II APPALACHIA, LLC	SECOND AMENDMENT TO MEMORANDUM OF FARMOUT AGREEMENT	723	499				
39 ✓	FK053268	03-007C-0006-0002 p/o 03-007C-0006-0001 p/o 03-007C-0006-0003 p/o 03-007C-0030-0000 p/o 03-007C-0031-0000	Q100769000	CYRUS W. SMITH (A/K/A C. W. SMITH) AND D. A. SMITH, HIS WIFE	RESERVE GAS COMPANY	NOT LESS THAN 1/8	68	522
				RESERVE GAS COMPANY	HOPE NATURAL GAS COMPANY	CONFIRMATORY DEED	155	202
				HOPE NATURAL GAS COMPANY	CONSOLIDATED GAS SUPPLY CORPORATION	CONFIRMATORY DEED	294	89
				CONSOLIDATED GAS SUPPLY CORPORATION	CONSOLIDATED GAS TRANSMISSION CORPORATION	ASSIGNMENT	425	127
				CONSOLIDATED GAS TRANSMISSION CORPORATION	CNG TRANSMISSION CORPORATION	MERGER/NAME CHANGE	WVSOS	
				CNG TRANSMISSION CORPORATION	DOMINION TRANSMISSION, INC.	MERGER/NAME CHANGE	WVSOS	
				DOMINION TRANSMISSION, INC.	CNX GAS COMPANY LLC	MEMORANDUM FARMOUT AGREEMENT	672	154
				CNX GAS COMPANY LLC	NOBLE ENERGY, INC.	LIMITED PARTIAL ASSIGNMENT (50%)	684	57
				DOMINION TRANSMISSION, INC.	CNX GAS COMPANY LLC AND NOBLE ENERGY, INC.	PARTIAL ASSIGNMENT (32%)	712	848
				CNX GAS COMPANY LLC	NOBLE ENERGY, INC.	ASSIGNMENT	717	1
				NOBLE ENERGY, INC.	HG ENERGY II APPALACHIA, LLC	ASSIGNMENT	722	139
				DOMINION TRANSMISSION, INC.	DOMINION ENERGY TRANSMISSION, INC.	MERGER/NAME CHANGE	WVSOS	
DOMINION ENERGY TRANSMISSION, INC.	HG ENERGY II APPALACHIA, LLC	SECOND AMENDMENT TO MEMORANDUM OF FARMOUT AGREEMENT	723	499				

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				DOMINION ENERGY TRANSMISSION, INC.	HG ENERGY II APPALACHIA, LLC	AMENDED AND RESTATED PARTIAL ASSIGNMENT	723	527				
				DOMINION ENERGY TRANSMISSION, INC.	HG ENERGY II APPALACHIA, LLC	THIRD AMENDMENT TO MEMORANDUM OF FARMOUT AGREEMENT	734	558				
				DOMINION ENERGY TRANSMISSION, INC.	HG ENERGY II APPALACHIA, LLC	ASSIGNMENT	736	220				
11 ✓	FK053270	03-006C-0045-0000 03-006C-0046-0000 03-006C-0053-0000 03-006C-0054-0000 03-007C-0007-0000 p/o 03-006C-0043-0000 p/o 03-006C-0043-0001 p/o 03-006C-0047-0000	Q100675000	W. D. HITT AND ALDA HITT, HIS WIFE; J. C. HITT AND DORA HITT, HIS WIFE; L.A. MCCARTY AND F. R. MCCARTY, HER HUSBAND; GEORGE W. NEELY AND GRACE M. NEELY, HIS WIFE	RESERVE GAS COMPANY	NOT LESS THAN 1/8	68	524				
				RESERVE GAS COMPANY	HOPE NATURAL GAS COMPANY	CONFIRMATORY DEED	155	202				
				HOPE NATURAL GAS COMPANY	CONSOLIDATED GAS SUPPLY CORPORATION	CONFIRMATORY DEED	294	89				
				CONSOLIDATED GAS SUPPLY CORPORATION	CONSOLIDATED GAS TRANSMISSION CORPORATION	ASSIGNMENT	425	127				
				CONSOLIDATED GAS TRANSMISSION CORPORATION	CNG TRANSMISSION CORPORATION	MERGER/NAME CHANGE	WVSOS					
				CNG TRANSMISSION CORPORATION	DOMINION TRANSMISSION, INC.	MERGER/NAME CHANGE	WVSOS					
				DOMINION TRANSMISSION, INC.	CNX GAS COMPANY LLC	MEMORANDUM FARMOUT AGREEMENT	672	154				
				CNX GAS COMPANY LLC	NOBLE ENERGY, INC.	LIMITED PARTIAL ASSIGNMENT (50%)	684	57				
				DOMINION TRANSMISSION, INC.	CNX GAS COMPANY LLC AND NOBLE ENERGY, INC.	PARTIAL ASSIGNMENT (32%)	712	848				
				CNX GAS COMPANY LLC	NOBLE ENERGY, INC.	ASSIGNMENT	717	1				
				NOBLE ENERGY, INC.	HG ENERGY II APPALACHIA, LLC	ASSIGNMENT	722	139				
				DOMINION TRANSMISSION, INC.	DOMINION ENERGY TRANSMISSION, INC.	MERGER/NAME CHANGE	WVSOS					
				DOMINION ENERGY TRANSMISSION, INC.	HG ENERGY II APPALACHIA, LLC	SECOND AMENDMENT TO MEMORANDUM OF FARMOUT AGREEMENT	723	499				
				DOMINION ENERGY TRANSMISSION, INC.	HG ENERGY II APPALACHIA, LLC	AMENDED AND RESTATED PARTIAL ASSIGNMENT	723	527				
				38 ✓	FK061777	03-0007C-0009-000	Q100690000	C. BURKE MORRIS AND CHRISTINE H. MORRIS, HIS WIFE; AND MRS. DANIEL HEEFNER (ALSO KNOWN AS MABEL SMITH HEEFNER) AND DANIEL HEEFNER, HER HUSBAND	HOPE NATURAL GAS COMPANY	NOT LESS THAN 1/8	209	444
								HOPE NATURAL GAS COMPANY	CONSOLIDATED GAS SUPPLY CORPORATION	CONFIRMATORY DEED	294	89
CONSOLIDATED GAS SUPPLY CORPORATION	CONSOLIDATED GAS TRANSMISSION CORPORATION	ASSIGNMENT	425					127				
CONSOLIDATED GAS TRANSMISSION CORPORATION	CNG TRANSMISSION CORPORATION	MERGER/NAME CHANGE	WVSOS									
CNG TRANSMISSION CORPORATION	DOMINION TRANSMISSION, INC.	MERGER/NAME CHANGE	WVSOS									
DOMINION TRANSMISSION, INC.	CNX GAS COMPANY LLC	MEMORANDUM FARMOUT AGREEMENT	672					154				
CNX GAS COMPANY LLC	NOBLE ENERGY, INC.	LIMITED PARTIAL ASSIGNMENT (50%)	684					57				
DOMINION TRANSMISSION, INC.	CNX GAS COMPANY LLC AND NOBLE ENERGY, INC.	PARTIAL ASSIGNMENT (32%)	712					848				
CNX GAS COMPANY LLC	NOBLE ENERGY, INC.	ASSIGNMENT	717					1				
NOBLE ENERGY, INC.	HG ENERGY II APPALACHIA, LLC	ASSIGNMENT	722					139				
DOMINION TRANSMISSION, INC.	DOMINION ENERGY TRANSMISSION, INC.	MERGER/NAME CHANGE	WVSOS									
DOMINION ENERGY TRANSMISSION, INC.	HG ENERGY II APPALACHIA, LLC	SECOND AMENDMENT TO MEMORANDUM OF FARMOUT AGREEMENT	723					499				
DOMINION ENERGY TRANSMISSION, INC.	HG ENERGY II APPALACHIA, LLC	AMENDED AND RESTATED PARTIAL ASSIGNMENT	723					527				
DOMINION ENERGY TRANSMISSION, INC.	HG ENERGY II APPALACHIA, LLC	THIRD AMENDMENT TO MEMORANDUM OF FARMOUT AGREEMENT	734					558				
13 ✓	FK061793	3-7C-0020-0000 03-7C-0020-0001 03-7C-0020-0002 03-7C-0021-0000 03-7C-0022-0000 03-7C-0022-0001 03-7C-0022-0002	Q100786000					BERTHA H. NAY, WIDOW; AND ETHEL V. LAW, WIDOW	HOPE NATURAL GAS COMPANY	NOT LESS THAN 1/8	209	422
								HOPE NATURAL GAS COMPANY	CONSOLIDATED GAS SUPPLY CORPORATION	CONFIRMATORY DEED	294	89
				CONSOLIDATED GAS SUPPLY CORPORATION	CONSOLIDATED GAS TRANSMISSION CORPORATION	ASSIGNMENT	425	127				
				CONSOLIDATED GAS TRANSMISSION CORPORATION	CNG TRANSMISSION CORPORATION	MERGER/NAME CHANGE	WVSOS					
				CNG TRANSMISSION CORPORATION	DOMINION TRANSMISSION, INC.	MERGER/NAME CHANGE	WVSOS					
				DOMINION TRANSMISSION, INC.	CNX GAS COMPANY LLC	MEMORANDUM FARMOUT AGREEMENT	672	154				
				CNX GAS COMPANY LLC	NOBLE ENERGY, INC.	LIMITED PARTIAL ASSIGNMENT (50%)	684	57				
				DOMINION TRANSMISSION, INC.	CNX GAS COMPANY LLC AND NOBLE ENERGY, INC.	PARTIAL ASSIGNMENT (32%)	712	848				
				CNX GAS COMPANY LLC	NOBLE ENERGY, INC.	ASSIGNMENT	717	1				
				NOBLE ENERGY, INC.	HG ENERGY II APPALACHIA, LLC	ASSIGNMENT	722	139				
				DOMINION TRANSMISSION, INC.	DOMINION ENERGY TRANSMISSION, INC.	MERGER/NAME CHANGE	WVSOS					
				DOMINION ENERGY TRANSMISSION, INC.	HG ENERGY II APPALACHIA, LLC	AMENDED AND RESTATED PARTIAL ASSIGNMENT	723	527				
				DOMINION ENERGY TRANSMISSION, INC.	HG ENERGY II APPALACHIA, LLC	SECOND AMENDMENT TO MEMORANDUM OF FARMOUT AGREEMENT	723	499				
				DOMINION ENERGY TRANSMISSION, INC.	HG ENERGY II APPALACHIA, LLC	THIRD AMENDMENT TO MEMORANDUM OF FARMOUT AGREEMENT	734	558				
				W. A. CHITUM AND ZURA F. CHITUM, HIS WIFE	HOPE NATURAL GAS COMPANY	NOT LESS THAN 1/8	217	419				

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7	FK063153	03-007C-0011-0000 03-007C-0011-0001 03-007C-0012-0000 03-07C-0013-0000 p/o 03-007C-0014-0000 03-007C-0017-0000 03-007C-0018-0000 p/o 03-007C-0019	Q100397000 Q101047000	H. L. CHITTUM AND JEWEL E. CHITTUM, HIS WIFE	HOPE NATURAL GAS COMPANY	NOT LESS THAN 1/8	217	422
				HOPE NATURAL GAS COMPANY	CONSOLIDATED GAS SUPPLY CORPORATION	CONFIRMATORY DEED	294	89
				CONSOLIDATED GAS SUPPLY CORPORATION	CONSOLIDATED GAS TRANSMISSION CORPORATION	ASSIGNMENT	425	127
				CONSOLIDATED GAS TRANSMISSION CORPORATION	CNG TRANSMISSION CORPORATION	MERGER/NAME CHANGE	WVSOS	
				CNG TRANSMISSION CORPORATION	DOMINION TRANSMISSION, INC.	MERGER/NAME CHANGE	WVSOS	
				DOMINION TRANSMISSION, INC.	CNX GAS COMPANY LLC	MEMORANDUM FARMOUT AGREEMENT	672	154
				CNX GAS COMPANY LLC	NOBLE ENERGY, INC.	LIMITED PARTIAL ASSIGNMENT (50%)	684	57
				DOMINION TRANSMISSION, INC.	CNX GAS COMPANY LLC AND NOBLE ENERGY, INC.	PARTIAL ASSIGNMENT (32%)	712	848
				CNX GAS COMPANY LLC	NOBLE ENERGY, INC.	ASSIGNMENT	717	1
				NOBLE ENERGY, INC.	HG ENERGY II APPALACHIA, LLC	ASSIGNMENT	722	139
				DOMINION TRANSMISSION, INC.	DOMINION ENERGY TRANSMISSION, INC.	MERGER/NAME CHANGE	WVSOS	
				DOMINION ENERGY TRANSMISSION, INC.	HG ENERGY II APPALACHIA, LLC	SECOND AMENDMENT TO MEMORANDUM OF FARMOUT AGREEMENT	723	499
				DOMINION ENERGY TRANSMISSION, INC.	HG ENERGY II APPALACHIA, LLC	AMENDED AND RESTATED PARTIAL ASSIGNMENT	723	527
				6	FK076091 FK085756 FK065843 FK065819	04-07C-0001-0000 04-07C-0002-0000 04-07D-0001-0000 04-07D-0002-0000 04-07D-0003-0000 04-07D-0014-0000 04-07D-0015-0000 04-07D-00016-0000 04-07D-0017-0000 04-07D-0018-0000 04-07D-0019-0000 04-07D-0021-0000 04-07D-0060-0000 (formerly 04-07C-0004-0000) 04-07D-0061-0000 (formerly 04-07C-0003-0000)	Q100317000 Q100561000 Q100985000 Q100612000	MARY E. CLARK AND MASON D. CLARK, HER HUSBAND
GLADYS HAYS, WIDOW; LOVANT HAYS AND RAMONA HAYS, HIS WIFE; AND DAVID HAYS AND ELNORA HAYS, HIS WIFE	HOPE NATURAL GAS COMPANY	NOT LESS THAN 1/8	233					270
JULIET P. BUTCHER AND WILLIAM E. BUTCHER, HER HUSBAND; AND ALTHEA J. RANDOLPH, WIDOW	HOPE NATURAL GAS COMPANY	NOT LESS THAN 1/8	233					458
HOPE NATURAL GAS COMPANY	CONSOLIDATED GAS SUPPLY CORPORATION	CONFIRMATORY DEED	294					89
DLGA M. SMITH, WIDOW; RUTH MARY SMITH, SINGLE; AUBREY E. SMITH AND SHELBA J. SMITH, HIS WIFE; EARL H. SMITH AND GERALDINE SMITH, HIS WIFE, ILENE KEITH AND JOHN M. KEITH, HER HUSBAND; AND WILLARD F. SMITH AND FRED A. SMITH, HIS WIFE	CONSOLIDATED GAS SUPPLY CORPORATION	NOT LESS THAN 1/8	300					116
CONSOLIDATED GAS SUPPLY CORPORATION	CONSOLIDATED GAS TRANSMISSION CORPORATION	ASSIGNMENT	425					127
CONSOLIDATED GAS TRANSMISSION CORPORATION	CNG TRANSMISSION CORPORATION	MERGER/NAME CHANGE	WVSOS					
CNG TRANSMISSION CORPORATION	DOMINION TRANSMISSION, INC.	MERGER/NAME CHANGE	WVSOS					
DOMINION TRANSMISSION, INC.	CNX GAS COMPANY LLC	MEMORANDUM FARMOUT AGREEMENT	672					154
CNX GAS COMPANY LLC	NOBLE ENERGY, INC.	LIMITED PARTIAL ASSIGNMENT (50%)	684					57
DOMINION TRANSMISSION, INC.	CNX GAS COMPANY LLC AND NOBLE ENERGY, INC.	PARTIAL ASSIGNMENT (32%)	712					848
CNX GAS COMPANY LLC	NOBLE ENERGY, INC.	ASSIGNMENT	717					1
NOBLE ENERGY, INC.	HG ENERGY II APPALACHIA, LLC	ASSIGNMENT	722					139
DOMINION TRANSMISSION, INC.	DOMINION ENERGY TRANSMISSION, INC.	MERGER/NAME CHANGE	WVSOS					
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DOMINION ENERGY TRANSMISSION, INC.	HG ENERGY II APPALACHIA, LLC	SECOND AMENDMENT TO MEMORANDUM OF FARMOUT AGREEMENT	723					499
DOMINION ENERGY TRANSMISSION, INC.	HG ENERGY II APPALACHIA, LLC	THIRD AMENDMENT TO MEMORANDUM OF FARMOUT AGREEMENT	734					558
DOMINION ENERGY TRANSMISSION, INC.	HG ENERGY II APPALACHIA, LLC	ASSIGNMENT	736					220

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WV
EPA



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

4704105704

January 14, 2020

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

RE: Drilling Under Roads – McDonald 1211 S-7H
Freeman District, Lewis County
West Virginia

Dear Ms. Adkins:

HG Energy II Appalachia, LLC, is submitting the attached application for a new well work permit for the McDonald 1211 well pad. As an authorized representative, I certify HG Energy II Appalachia, LLC, has the right to drill, stimulate, extract, produce and market the oil, gas or condensate for all leases through which the McDonald 1211 laterals will drill through including any and all roads crossed under as identified on the attached survey plat.

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

Very truly yours,

Diane White

Diane C. White

Enclosures

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WV Department of
Environmental Protection

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

Date of Notice Certification: 01/17/2020

API No. 47- _____ - _____

Operator's Well No. McDonald 1211 S-7H

Well Pad Name: McDonald 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:	West Virginia	UTM NAD 83	Easting:	545439.2
County:	Lewis		Northing:	4331783.3
District:	Freemans Creek	Public Road Access:	SR 1 / Hollick Run Road	
Quadrangle:	West Milford	Generally used farm name:	McDonald	
Watershed:	Middle West Fork Creek			

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

<p>Pursuant to West Virginia Code § 22-6A, the Operator has attached proof to this Notice Certification that the Operator has properly served the required parties with the following:</p> <p>*PLEASE CHECK ALL THAT APPLY</p> <p><input type="checkbox"/> 1. NOTICE OF SEISMIC ACTIVITY or <input checked="" type="checkbox"/> NOTICE NOT REQUIRED BECAUSE NO SEISMIC ACTIVITY WAS CONDUCTED</p> <p><input checked="" type="checkbox"/> 2. NOTICE OF ENTRY FOR PLAT SURVEY or <input type="checkbox"/> NO PLAT SURVEY WAS CONDUCTED</p> <p><input checked="" type="checkbox"/> 3. NOTICE OF INTENT TO DRILL or <input type="checkbox"/> NOTICE NOT REQUIRED BECAUSE NOTICE OF ENTRY FOR PLAT SURVEY WAS CONDUCTED or</p> <p><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>
<p>RECEIVED Office of Oil and Gas JAN 20 2020</p>		

Required Attachments:

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

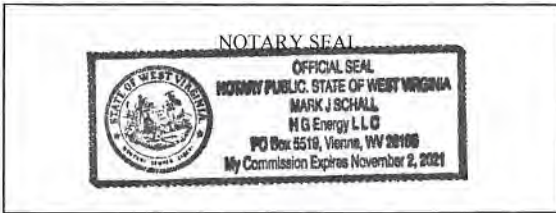
WV Department of
Environmental Protection

Certification of Notice is hereby given:

THEREFORE, I 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 17th day of January, 2020.

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.

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JAN 20 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: 01/14/20 **Date Permit Application Filed:** 01/16/20

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: HG Energy II Appalachia, LLC (Pad and Road) ✓
 Address: 5260 Dupont Road
Parkersburg, WV 26101

Name: _____
 Address: _____

SURFACE OWNER(s) (Road and/or Other Disturbance)
 Name: _____
 Address: _____

Name: _____
 Address: _____

SURFACE OWNER(s) (Impoundments or Pits)
 Name: _____
 Address: _____

COAL OWNER OR LESSEE
 Name: _____
 Address: _____

COAL OPERATOR
 Name: _____
 Address: _____

SURFACE OWNER OF WATER WELL AND/OR WATER PURVEYOR(s)
 Name: Charles & Vanessa Brosius Melvin & Terri Woods ✓
 Address: 1050 Hollick Run Road 54 Orchard Drive
Jane Lew, WV 26378 Jane Lew, WV 26378

OPERATOR OF ANY NATURAL GAS STORAGE FIELD
 Name: Dominion Energy Transmission - Attn: Ronald Waldren ✓
 Address: 925 White Oaks Blvd
Bridgeport, WV 26330

*Please attach additional forms if necessary

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

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Office of Oil and Gas
JAN 30 2020

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.

SECRETARY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
JAN 24 2013
DEPARTMENT OF ENVIRONMENTAL PROTECTION

WW-6A
(8-13)

API NO. 47- _____ - _____
OPERATOR WELL NO. McDonald 1211 S-7H
Well Pad Name: McDonald 1211

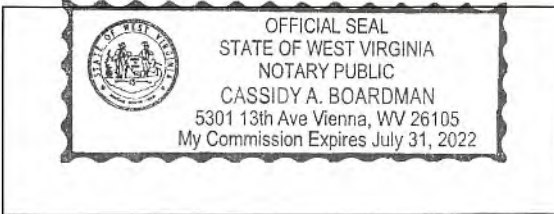
Notice is hereby given by:

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

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

Oil and Gas Privacy Notice:

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



Subscribed and sworn before me this 14th day of January, 2020.

Cassidy Boardman Notary Public

My Commission Expires 7/31/2022

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Office of Oil and Gas
JAN 30 2020
WV Department of
Environmental Protection



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

January 14, 2020

Dominion Energy Transmission, Inc.
Attn: Ron Walden
925 White Oaks Blvd
Bridgeport, WV 26330

RE: McDonald 1211 S-7H Well Work Permit Application - Notification
Grant District, Harrison County
West Virginia

Dear Mr. Walden:

Enclosed are copies of various application papers that we will be filing with the West Virginia Department of Environmental Protection (WVDEP), Office of Oil and Gas. A well work permit is being requested for the above-referenced well.

Pursuant to WV Code Chapter 22B, Article 6, you are receiving copies of this correspondence because the well or other anticipated disturbance is located on your surface property. Your rights as a surface owner (road) are detailed in the enclosed permit application papers.

No action on your part is required. If you have any questions or comments regarding this application, you may call this office at (304) 420-1119.

Very truly yours,

Diane White

Diane C. White

Enclosures

Division
Office of Oil and Gas

JAN 15 2020

Department of
Environmental Protection



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

January 14, 2020

Charles & Vanessa Brosius
1050 Hollick Run Road
Jane Lew, WV 26378

RE: McDonald 1211 S-7H Well Work Permit Application - Notification
Grant District, Harrison County
West Virginia

Dear Mr. and Mrs. Brosius:

Enclosed are copies of various application papers that we will be filing with the West Virginia Department of Environmental Protection (WVDEP), Office of Oil and Gas. A well work permit is being requested for the above-referenced well.

Pursuant to WV Code Chapter 22B, Article 6, you are receiving copies of this correspondence because the well or other anticipated disturbance is located on your surface property. Your rights as a surface owner (road) are detailed in the enclosed permit application papers.

No action on your part is required. If you have any questions or comments regarding this application, you may call this office at (304) 420-1119.

Very truly yours,

Diane White

Diane C. White

Enclosures

Proposed
Oil and Gas

JAN 20 2020

Department of
Environmental Protection

SUBJECT WELL
McDonald 1211 S-9H



◆ Denotes Possible Water Supply Source to be Tested

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

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

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

Date of Notice: 11/04/19 **Date of Planned Entry:** 11/11/19

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

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

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

Notice is hereby provided to:

SURFACE OWNER(s)

Name: HG Energy II Appalachia, LLC

Address: 5260 Dupont Road
Parkersburg, WV 26101

Name: _____

Address: _____

Name: _____

Address: _____

COAL OWNER OR LESSEE

Name: NA

Address: _____

MINERAL OWNER(s)

Name: Mineral Owners

Address: _____

*please attach additional forms if necessary

Notice is hereby given:

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

State: <u>West Virginia</u>	Approx. Latitude & Longitude: <u>39.134044 & 80.474256</u>
County: <u>Lewis</u>	Public Road Access: <u>SR 19/ Kincheloe Run / Hollick Run Road</u>
District: <u>Freeman's Creek</u>	Watershed: <u>Hollick Run</u>
Quadrangle: <u>West Milford 7.5'</u>	Generally used farm name: <u>McDonald</u>

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

Notice is hereby given by:

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

Oil and Gas Privacy Notice:

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

WW-6A3
(1-12)

McDonald 1211S 7H

Page 1 Continued

Mineral Owners

Alicia Nanette Thompson ✓
148 Batton Hollow Road
Mount Clare, WV 26408

Angela Maxwell ✓
414 Lake Point Trce ✓
Canton, GA 30188

Barbara Starcher ✓
1230 Parkman Rd. NW
Warren, OH 44485

Bernard Bennett II ✓
56 Long Run Road
Lost Creek, WV 26385

Beth Ann Dunham ✓
988 Jackson Mill Road
Jane Lew, WV 26378

Bonnie L. Raines ✓
7658 Highway 42 W
Pendleton, KY 40055

Brenda Alvis Linger ✓
59 Manor Lane
Parkersburg, WV 26101

Brenda Kay Rich ✓
5042 Amma Rd
Amma, WV 25005

Brenda Sue Romine ✓
PO Box 669
Proctorville, OH 45669

Buddy Lee Testerman ✓
13891 Dave Dr.
Nokesville, VA 20181

Aloma Hughes ✓
6085 N. Sabal Palm Blvd., Apt. 201 ✓
Tamarac, FL 33319

Anthony R. Rife ✓
3241 Township Highway 107 ✓
Carey, OH 43316

Benjamin A. King ✓
100 Moriah Dr.
Charleston, WV 25313

Bernard W. Bailey ✓
155 Andora St.
Augustine, FL 32086

Beverly Morrison ✓
9680 Gillespie Run Road
Harrisville, WV 26362

Brady Lee Pursley ✓
53 W Ingleside Dr.
Coventry Twp, OH 44319

Brenda Handley ✓
33561 Bailey Run Rd
Pomeroy, OH 45769

Brenda Smith ✓
9908 Easy St
Disputanta, VA 23842

Brent Rasmussen ✓
471 Sherrie Street
Morgan, UT 84050

Carla Coulter ✓
479 Parkview Dr.
Girard, OH 44420

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JAN 10 2020
WEST VIRGINIA DEPARTMENT OF
ENVIRONMENTAL POLICY AND CULTURE

WW-6A3
(1-12)

McDonald 1211S 7H

Page 1 Continued

Mineral Owners

Carly Jo Fisher
110 Sherriff Dr.
Ripley, WV 25271

Carol A. Staats
973 Cedar Grove Rd.
Parkersburg, WV 2610

Carol Lynn Francis
41 Dunkirk Road
Baltimore, MD 21212

Cecil "Glen" Starcher
32 Starcher Lane
Ripley, WV 25271

Charles L Morrison
3068 Belgrove Rd.
Kenna, WV 25248

Clinton Burt
3355 W 5000 N
Brigham City, UT 84302

Connie Carpenter
952 Valley Chapel Rd
Weston, WV 26452

Cora Alice Raines
827 Capital St.
Spencer, WV 25276

David G. Offield
317 N Merrill St
Breckenridge, TX 76424

Carmen L. James
5095 Northcrest Dr.
Nashport, OH 43830

Carol Jean Mannen
8 Loockerman Ave.
Poughkeepsie, NY 12601

Catherine S. Raines
1060 Freddie Dr.
Walnut Cove, NC 27052

Cecil Stanley
4261 Four Pole Rd.
Huntington, WV 25701

Cheryl A. Griffith
8749 N. Auriga Way
Tucson, AZ 85742

Colerider Family Revocable Living Trust
C/O Deborah Kittle
1375 Feather Sound
Rockledge, FL 32955

Constance Brammeier
4838 Charlton Way
Delray Beach, FL 33445

David C. Allman
415 Worthington Dr.
Bridgeport, WV 26330

David J. King
c/o Benjamin King
100 Moriah Dr
Charleston, WV 25313

Produced
in Accordance with
the
West Virginia
Energy Code
JAN 30 2020

WW-6A3

McDonald 1211S 7H

(1-12)Page 1 ContinuedMineral Owners

David W. Raines
415 Drexel Ave.
Decatur, GA 30030

Deborah Ann Kittle
135 Sea Lavender Ln.
Summerville, SC 29486

Deborah J. Corry
138 Nottingham Rd.
Columbus, OH 43214

Debra Jo Heater
441 Hollick Run Rd.
Jane Lew, WV 26378

Debra Lynn Hornbeck
3196 Kreighbaum Rd.
Uniontown, OH 44685

Denny P. Allman
519 Oakwood Dr
Vicksburg, MS 39180

Denny Paul Allman
8008 Bluebonnet Blvd, Apt 13-2
Baton Rouge, LA 70810

Dianna Lynne Baker
2822 Ripley Road
Spencer, WV 25276

Donald Alvis
1472 Colt Ridge Road
Spencer, WV 25276

Donna Davis
2128 Kincheloe Rd.
Jane Lew, WV 26378

Doris Jean Lowther
3455 River Rock Dr
Cuyahoga Falls, OH 44223

Edith Miller
153 1/2 Summit Street
Spencer, WV 25276

Edward Kent Swisher
9546 Chicken Hollow Road
Ripley, OH 45167

Elizabeth Francene Kirk
986 Ashton PL
Morgantown, WV 26508-6874

Ella Mae Tapar
3627 W 128th St.
Cleveland, OH 44111

Ester Brown
402 Hobart Ave.
Findley, OH 45840

Evalyn Emogene Haid
411 Holley St.
St. Albans, WV 25177

Frances Allman
1915 48th St. NW
Canton, OH 44709

Frances Lane
153 1/2 Summit Street
Spencer, WV 25276

Frances Linda Parsons
137 Llewellyn Ave
Westerville, OH 43701

Page 1 Continued

Mineral Owners

Frank Glen Riley
c/o Tina M. Riley, POA
221 2nd Street

George Franklin Raines
257 Grimes Golden Rd.
Linden, VA 22642

Goldie L. Huffman
13780 Township Highway 127
Upper Sandusky, OH 43351

Gordon Rasmussen
3111 Bell Air Drive Unit 24F
Las Vegas, NV 89109

Greg Coulter
479 Parkview Dr.
Girard, OH 44420

Harold Russell Rice
1986 Berger Ave.
Stow, OH 44224

Harvey Lawrence
655 Hazen Ave. Apt 4
Ravenna, OH 44266

Hayward Allman
4444 Old Mill Rd.
Jane Lew, WV 26378

Heather Marie Hall
14234 85th Rd N
Loxahatchee, FL 33470

Helen M. Burton
P.O. Box 8179
Nutter Fort, WV 26301

Howard Burton Roberts, II
2617 SW 56th Ave
Gainesville, FL 32608

Ilene Hatch
738 W Sherri Dr.
Gilbert, AZ 85233

Imogene Gandee
P. O. Box 1584
Craigsville, WV 26205

Ina "Ruth" Hughes
2031 Kincheloe Rd.
Jane Lew, WV 26378

Isabelle Marie Grisak
3222 Green Oak Drive
Commerce Township, MI 48390

Iwana Lee Wagner
576 Sherwood Dr.
Mansfield, OH 44904

James F. Davis
230 Woodmire Drive
Milton, WV 25541

James Musser Post
22817 Daniel Boone Parkway
Peytona, WV 25154

James R. Allman
1187 McWhorter Rd.
Jane Lew, WV 26378

James Riley
P. O. Box 376
Spencer, WV 25276

Received
Drew University Cas
JAN 9 9 2009
Drew University Cas

WW-6A3

McDonald 1211S 7H

(1-12)Page 1 ContinuedMineral Owners

Jane Earle Wagoneer
988 Jackson Mill Road
Jane Lew, WV 26378

Janet Sue Whited
357 Lincoln Dr
Mineral Wells, WV 26150

Jason Alvis
14 Forest View Lane
Spencer, WV 25276

Jeannie McCormick
1652 Lost Creek Romines Mill Road
Lost Creek, WV 26385

Jeffrey A. Barnett
Rt 1 Box 610
Mt. Clare, WV 26408

Jeffrey Allman
1202 McWhorter Rd.
Jane Lew, WV 26378

Jennifer Roach
252 Folsom St. NW
Warren, OH 44483

Jesse Byron Morrison
116 Water St.
Spencer, WV 25276

Jewell "Jason" D. Rider III
116 S 4th Ave Apt 4
Sandpoint, ID 83864

Jimmie Lee Starcher
106 Lattimer St.
Reedy, WV 25720

Joan E. Barnett
540 Moore Rd
Jasper, GA 30143

Joan Shoemaker
3712 Shady Land
Sandusky, OH 44870

Joellen F & Dave Allman
Life Estate LJ Marple & JA Keesucker
755 Two Lick Road
Jane Lew, WV 26378

John Douglas Morrison
1140 Limestone Road
Charleston, WV 25312

John E. Richardson
664 Speed Rd.
Spencer, WV 25276

John Paul Shock, Jr.
9 Chardeaux Ct.
Little Rock, AR 72212-4420

Josephine Ann Snead
767 Copperhead Rd
Hurdle Mills, SC 27540-8812

Josh Sampson
3472 West 33rd Ave.
Denver, CO 80211

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INDEXED
JAN 30 2009
OFFICE OF THE CLERK
STATE OF WEST VIRGINIA

WW-6A3

McDonald 1211S 7H

(1-12)Page 1 ContinuedMineral Owners

JP Morgan, Trustee
 SA Smith Trust Agreement dated 11/21/58
 PO Box 659
 Wichita Falls, TX 76307-0659

Juanita Riley
 5577 Fairview Rd.
 Batesburg, SC 29006

Judith K. Harper
 37 Fort Argyle Ct.
 Savannah, GA 31419

Julianna Rimo
 60 Parkview Avenue
 Lackawanna, NY 14218

Julie Ann Keesucker
 350 Maxwell St.
 West Milford, WV 26451

Julie Ann Shaw
 227 Woodlawn Dr
 Shinnston, WV 26378

June A. Bell
 PO Box 202
 Oak Hill, WV 25901

Kathleen Hamilton
 4209 Perry St.
 Denver, CO 80212

Kathy Bennett
 1248 Long Run Road
 Lost Creek, WV26385

Kathy C. Frishe
 512 W Hullum St.
 Breckenridge, TX 76424

Kelly J. Rock
 6762 N Elyria Rd.
 West Salem, OH 44287

Kendall L. Highland
 31432 Reed Road
 Logan, OH 43138

Kenneth E. Minard
 316 S Warpole St
 Upper Sandusky, OH 43351-1548

Kenneth Emery Highland
 80 Fayette Street
 Neslonville, OH 45764

Kimberly Carson
 271 Quail Creek Dr.
 Newark, OH 43055

Kimberly Dawn Zaner
 412 Downing Drive
 Chesapeake, VA 23322

Koelln Family Trust
 C/O Rodger Koelln
 by POA Carol Lynne Koelln Lewis
 802 Reuter Drive
 Hastings, MN 55033

Larry Frishe
 316 Frishe Drive
 Jane Lew, WV 26378

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 JAN 23 2013
 DEPARTMENT OF REVENUE
 STATE OF WEST VIRGINIA

WW-6A3
(1-12)

McDonald 1211S 7H

Page 1 Continued

Mineral Owners

Larry G. Romine
1501 David Ave.
Ironton, OH 45368

Larry K. Allman
329 Ralph Miller Rd.
Lexington, NC 27295

Larry Richardson
#3 Lincoln Shore Star Resort
Lincoln City, OR 97367

Larry Whited
2674 South Calhoun Hwy.
Grantsville, WV 26147

Lewis Ross Dobbins
138 Hall St.
Clarksburg, WV 26301

Linda Jean Marple
884 Two Lick Road
Jane Lew, WV 26378

Linda Rucker
1276 Sherwood Downs Rd East
Newark, OH 43055

Linda Sanders
6318 N Camino Los Mochis
Tucson, AZ 85718

Lisa Kaye Raines
113 Meadows Mobile Home Park
Parkersburg, WV 26104

Lisa L. Bowden
420 Egan St.
Orlando, FL 32822

Mabel Henderson
304 Pullman Dr.
Pensboro, WV 26415

Mable Taylor
P. O. Box 293
Elizabeth, WV 26143

Marcia Grether
9552 Adler St.
Newport Ritchie, FL 34654

Marcia J. Howard
949 Caterpillar Lane
Cantonment, FL 32533

Marianne Golby
3375 County Rd 528
Sumterville, FL 33585

Marie Hayden
814 Robey Rd.
Huntington, WV 25705

Marion L. Utt
70 Kevin Lane
Fairmont, WV 26554

Marjorie Neely
375 Neely Hollow Rd.
Jane Lew, WV 26378

Marsha Jarvis
831 Peniel Rd
Reedy, WV 25270

Martha Ann Burkhammer
661 Spring Hills Drive
Zionsville, IN 46071

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

Martha and Andrew P Cooper
P. O. Box 224 Lost Creek
Lost Creek, WV 26385

Martha J. Starcher
200 Front Street
Spencer, WV 25276

Mary Diane Boso
48 Blosser Street
Fairmont, WV 26554

Mary Diane Boso
8412 LE Marie Ct
Denham Springs, LA 70706-1536

Mary J. Bailey
1829 Oka Road
Chloe, WV 25235

Mary J. Johnson
1403 Michigan Ave.
Gladstone, MI 49837

Mathew D. Raines
PO Box 974
Van Alstyne, TX 75495

Matthew Alvis
1945 Toms Run
Spencer, WV 25276

Matthew W. Barnette
289 Cottrill Run Road
Jane Lew, WV 26378

Michael A. McAtee
1 Grannies Creek
Newton, WV 25266

Michael A. Nutter
Route 3 Box 808
Lost Creek, WV 26385

Michael L. Richardson
2359 Ripley Rd.
Spencer, WV 25276

Michael Matthews
1365 Dodge St. NW
Warren, OH 44483

Michael Ross
Po Box 219
Coalton, WV 26257

Michael W. Riley
29847 Morning Mist Dr.
Wesley Chapel, FL 33543

Michael Wayne King
4079 Garden Circle
Acworth, GA 30101

Mike Ross, Inc.
PO Box 219
Coalton, WV 26257

Minnie Mae Schoolcraft
1115 Coal City Rd.
Beaver, WV 25813

Nancy L. Hughes
409 Quail Run Cir.
Fountain Inn, SC 29644

Naomi Joyce Nichols
PO Box 115
Elkview, WV 25071

Department of Mineral Resources
03/11/2014
STANDARD
GAINESVILLE

WW-6A3
(1-12)

Page 1 Continued

Mineral Owners

Nelson D. Raines
7300 Old Mill Run
Ft. Worth, TX 76133

Orda H. Raines
303 Cherrydale Ave.
Front Royal, VA 22642

Patricia Ann Hughes
5116 Indiana St.
South Charleston, WV 25309

Paul Allman
4000 E. Fletcher Ave.
Tampa, FL 33613

Paul Fields
4745 NW Welch Rd.
Lawton, OK 73507

Paul Starcher
5326 Bentbrook Road
Charleston, WV 25313

Pearl "Minard" Brady
25758 Brumar St
Chesterfield Township, MI 48051-1916

Peggy Reed
100 Granite Dr
Eleanor, WV 25070

Prestin Checketts
4835 N 3600th W
Brigham City, UT 84302

Randel G. Riley
14219 Triskett Rd. 302D
Cleveland, OH 44111

Opie Huntsman
306 Indiana Ave. Apt 2
Sebring, OH 44672

Pamela Ginther
118 Firestone Rd.
Wooster, OH 44691

Patsy Nichols
1737 Vandale Fork Rd
Spencer, WV 25276

Paul C. Allman
1101 Possum Trot Rd.
Myrtle Beach, SC 29582

Paul Joseph Raines
3463 Huffine Farm Rd.
Gibsonville, NC 27249

Pauline Shelborn
2553 Dogtown Road
Benton, KY 42025-7783

Peggy Jo Cunningham
255 Mitchell Creek Ridge
Wetumpka, AL 36093

Peter A. Jordon
17225 Old Logging Road
Hersey, MI 49639

Ralph E. Pursley
4491 Aylesworth Dr
Brunswick, OH 44212

Rebecca "Becky" Lynn Taylor
321 Valley Chapel Rd.
Weston, WV 26452

PROCESSED
Oil and Gas
MAY 0 2010
McDonald 1211S 7H

WW-6A3

McDonald 1211S 7H

(1-12)Page 1 ContinuedMineral Owners

Rebecca Ann VanHorn
PO Box 555
Lost Creek, WV26385

Reva P Bright Heirs
327 West Spring Street
Upper Sandusky, OH 43351

Rex Checketts
3041 S 200 E
Bountiful, UT 84010

Rhonda Koutsobaris
Route 3 Box 833
Lost Creek, WV 26385

Rhonda R Shaw
412 East Hill St Apt 20
Graham, NC 27253

Richard Alan Morrison
812 55th St.
Vienna, WV 26105

Richard L. Bailey
54 Mallie Street
Reedy, WV 25270

Rita Ernest
10817 Golden Maple Place
Louisville, KY 40223

Rita Lynn Barnette
PO Box 22
Jane Lew, WV 26378

Robert J. Morgan
PO Box 218
Lineville, AL 36266

Robert Raines
1032 Rivergrass Lane
Okatie, SC 29909

Robert Starcher
601 Market S. Market Manor Apt. 29
Spencer, WV 25276

Robert Startcher
1731 Potts Lane
Zanesville, OH 43701

Robert V. Barnette
92 Borad Run Village
Jane Lew, WV 26378

Robin G. King
109 Beaver St
Sylvania, GA 30467

Robin S. Bailey
3104 Spider Ridge Rd
Parkersburg, WV 26104

Rodger Jones
203 Front St.
Racine, OH 45771

Rodney Kirk Cooper, Sr.
150 Wood Duk Drive
Mount Clare, WV 26408

Roger Allman
144 Porlock Way
Raeford, NC 28376

Roger Glen Whited
621 Dutch Ridge Rd.
Parkersburg, WV 26101

Produced by
Crimmins & King, Inc.
JAN 8 9 2009
Environmental Energy Data

WW-6A3

McDonald 1211S 7H

(1-12)Page 1 ContinuedMineral Owners

Ronald G. Fisher
5429 Donnefield Dr.
Charlotte, NC 28227

Ronald Jones
50556 Tornado Rd.
Racine, OH 45771

Roy D. Green Jr.
3711 Princeton Ave.
Nashville, TN 37221

Roy Duane Westfall
3301 South Elson Ave.
Tucson, AZ 85730

Ruby Morrison
POA Deborah Weidauer Kellough
8040 State Rd. 772
Chillicothe, OH 45601

Ruth Blatt
2929 Fannin Dr
Huntington, WV 25704

Ruth Casto
212 4th Street
Spencer, WV 25276

Salene M. Gile
1127 Village Road
Apt. 54 Benton, KY 42025

Sandee D. Barberio
714 Mulberry Ave.
Clarksburg, WV 26301

Sarah Beth Post
742 Granger Street
Jennings, LA 70546

Shannon Waldron
326 Winter Berry Dr.
Edgewood, MD 21040

Sharon Ann Stears
710 Seib Drive
O' Fallon, MO 63366

Sharon Coleman
6130 N Highway 38
Brigham City, UT 84302

Sharon Kay Frashuer Woolridge
7424 Winterleaf Ct
Richmond, VA 23234-2824

Sharon Stears
710 Seib Dr
O Fallon, MO 63366

Sauna R. Fesler
235 Lee Street
Weston, WV 26452

Sherry Michael
Route 2 Box 278
Jane Lew, WV 26378

Shirley Sue Mills
526 Cynthia Lane #51
Tallmadge, OH 44278

RECORDED
JAN 30 2009
COUNTY CLERK
DEPARTMENT

WW-6A3

McDonald 1211S 7H

(1-12)Page 1 ContinuedMineral Owners

Stacey K. Farmer
5421 Clay Rd
Spencer, WV 25276

Steve Starcher
120 Prospect Street
Spencer, WV 25276

Susan Morrison Parsons
2068 Fishers Branch Rd
Charleston, WV 25312

Terry A. Raines
3365 Williamstown Pike
Williamstown, WV 26187

Terry L. Jenkins
PO Box 1584
Craigsville, WV 26205

Terry L. King
708 Hillsdale Dr
Charleston, WV 25302

Terry S. Lydamore
69 Moss Rd.
Lewis, NY 12950

Tracy Harris
52 Channel St.
Newark, OH 43055

Valli Green Baldwin
5229 Beech Ridge Dr.
Nashville, TN 37221

Vickie Bolward
98 Roy Road
Thornton, WV 26440

Vickie D. Offield
PO BOX 681
Jane Lew, WV 26378

Virginia Paxton
250 Harmony Rd.
Gandeeville, WV 25243

Virginia Spencer
608 Marcellus St. Apt 1
Reidsville, NC 27320

Waco Oil and Gas Inc
PO Box 880
Glenville, WV 26351

Walter "Cline" Estep
1024 Guckert St.
Newark, OH 43055

Wanda Wood
50220 Waid Sayre Rd.
Racine, OH 45771

Warren Testerman
8175A Edgerock Way
Laurel, MD 20724

Wendy Parrett
1476 Pleasant Valley Dr.
Newark, OH 43055

William Bennett
972 Stone Coal Road
Lost Creek, WV 26385

William Joseph Chini
861 S Wonnell Road
Port Clinton, OH 43452

Office of Oil and Gas
JAMES & JAY
WV-10
Energy

4704105704

WW-6A3
(1-12)

McDonald 1211S 7H

Page 1 Continued

Mineral Owners

Yvonne M. Stanley
26290 Frank Rd.
Elberta, AL 36530

Zan Nix
HC 33 Box 33991
Ely, NV 89301

HG Energy II Appalachia LLC will *not*
be noticed via certified mail

RECEIVED
Office of Oil and Gas
JAN 13 2 41 PM
NORTHWEST TERRITORIES
ENERMINAL AND PETROLEUM



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

November 4, 2019

RE: McDonald 1211 S-7N
Freeman's Creek District, Lewis County
West Virginia

Dear

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

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

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

Very truly yours,

Diane White

Diane C. White

Enclosures

Office of Oil and Gas
November 4, 2019

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: 01/14/2020 **Date Permit Application Filed:** 01/16/2020

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): *Surface owner (HGE) not noticed. ✓

Name: HG Energy II Appalachia, LLC ✓
Address: 5260 Dupont Road
Parkersburg, WV 26101

Name: _____
Address: _____

Notice is hereby given:

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

State: West Virginia UTM NAD 83 Easting: 545439.2
County: Lewis Northing: 4331783.3
District: Freemans Creek Public Road Access: SR 1 / Hollick Run Rd
Quadrangle: West Milford WV 7.5' Generally used farm name: McDonald
Watershed: Middle West Fork Creek

This Notice Shall Include:

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

Notice is hereby given by:

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

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

Oil and Gas Privacy Notice:

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

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: 01/15/2020 **Date Permit Application Filed:** 01/16/2020

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

- CERTIFIED MAIL RETURN RECEIPT REQUESTED
- HAND DELIVERY

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

Notice is hereby provided to the SURFACE OWNER(s) * Surface owner HGE, not noticed. ✓
 (at the address listed in the records of the sheriff at the time of notice):
 Name: HG Energy II Appalachia LLC ✓ Name: _____
 Address: 5260 Dupont Road ✓ Address: _____
 Parkersburg, WV 26101

Notice is hereby given:

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

State: West Virginia	UTM NAD 83 Easting: 545439.2
County: Lewis	Northing: 4331783.3
District: Freemans Creek	Public Road Access: SR 1 / Hollick Run Road
Quadrangle: West Milford WV 7.5'	Generally used farm name: McDonald
Watershed: Middle West Fork Creek	

This Notice Shall Include:

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

Well Operator: HG Energy II Appalachia, LLC	Address: 5260 Dupont Road
Telephone: 304-420-1119	Parkersburg, WV 26101
Email: dwhite@hgenergyllc.com <i>Diane White</i>	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.

DEPARTMENT OF ENVIRONMENTAL PROTECTION
OFFICE OF OIL AND GAS
601 57th Street, SE
Charleston, WV 25304
(304) 261-6000



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

January 28, 2020

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 McDonald 1211 Pad, Lewis County
 1211 S-7H Well Site

Dear Mr. Martin,

This well site will be accessed from a DOH permit #07-2019-0255 which has been issued to HG Energy, LLC for access to the State Road for a well site located off Lewis County Route 1/1 SLS.

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

RECEIVED
 Office of Oil and Gas
 JAN 30 2020
 WV Dept. of Environmental Protection

Cc: Diane C. White
 HG Energy, LLC
 CH, OM, D-7
 File

List of Frac Additives by Chemical Name and CAS #

McDonald 1211 Well Pad (N-1H, N-3H, N-5H, S-7H, S-8H, S-9H)

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

RECEIVED
Office of Oil and Gas

JAN 30 2020

WV Department of
Environmental Protection

PROJECT OWNER/APPLICANT
WG ENERGY II APPALACHIA, LLC
 5200 DUFFONT ROAD
 PARKERSBURG, WV 26101
 P.O. BOX 400-100
 CONTACT: JARED BENTLEY

WV DEP
 DISTRICT SEVEN
 P.O. BOX 259-0400
 CONTACT: DISTRICT ENGINEER
 GRAY COOPER, P.E.

CIVIL ENGINEER
CEVA & ENVIRONMENTAL CONSULTANTS, INC.
 600 MARKETPLACE AVENUE SUITE 200
 ROCKSPORT, WV 26330
 P.O. BOX 933-3115
 CONTACT: THOMAS ADAMS, P.E.

SOILS ENGINEER
WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION (WVDEP)
 P.O. BOX 400-2074
 CONTACT: NATIONAL RESPONSE CENTER
 P.H. (800) 424-2602

1211 WELL PAD HG ENERGY II APPALACHIA, LLC PERMIT PLANS

FREEMANS CREEK DISTRICT, LEWIS COUNTY, WEST VIRGINIA

SHEET INDEX

1. COVER SHEET	12. AST ACCESS ROAD SECTIONS
2. MASTER LEGEND	13. GENERAL NOTES
3. CORNELL SITE LAYOUT	14. DETAILS
4. SITE LAYOUT	15. DETAILS
5. SITE LAYOUT	16. DETAILS
6. SITE LAYOUT	17. DETAILS
7. SITE LAYOUT	18. DETAILS
8. WELL PAD AND ART PAD SECTIONS	19. DETAILS
9. ACCESS ROAD SECTIONS	20. RECLAMATION PLAN
10. ACCESS ROAD SECTIONS	
11. ACCESS ROAD SECTIONS	

- CONSTRUCTION SEQUENCING**
1. PRIOR TO COMMENCEMENT OF ANY EARTH DISTURBANCE ACTIVITY INCLUDING CLEARING AND GRUBBING, THE REGULATOR SHALL CALL WEST VIRGINIA 811 BY ORDER 811 ON W4000-0446 TO DETERMINE ALL UTILITY LINES. THE REGULATOR ALSO MUST CLEARLY DELINEATE SENSITIVE AREAS, BRYANS FOREST BUFFER ZONATIONS, THE LINES OF CLEARING, AND TREES THAT ARE TO BE CONSERVED WITHIN THE PROJECT SITE, AND SHALL INSTALL APPROPRIATE BARRIERS WHERE SOILWORK MAY NOT BE PERMITTED, STAKES IDENTIFIED OR LOCATED FOR ANY PURPOSE.
 2. SITE ACCESS - THIS IS THE FIRST EARTH DISTURBANCE ACTIVITY TO TAKE PLACE AT THE SITE AND SHOULD PROVIDE BARRIERS TO MANAGE ACCELERATED EROSION AND SEDIMENTATION FROM THE FOLLOWING AREAS ENTRANCE TO THE SITE, CONSTRUCTION BOOTHS, AND AREAS DESIGNATED FOR STORAGE OR OTHER USE AT THE SITE INCLUDING PARKING, STORAGE AND RECLAMATION.
 3. SEDIMENT BARRIERS - INSTALL PERMANENT BARRIERS AFTER THE CONSTRUCTION MAT IS ACQUIRED, WITHIN ASSIGNED CLEARING AND GRUBBING LIMITS TO PREVENT ANY RUNOFF REQUIRED FOR INSTALLING SEDIMENT BARRIERS.
 4. LAND CLEARING AND GRUBBING - IMPLEMENT CLEARING AND GRUBBING ONLY AFTER ALL DEMONSTRATE EAP BARRIERS HAVE BEEN CONSTRUCTED AND STABILIZED.
 5. SURFACE STABILIZATION - AFTER TEMPORARY OR PERMANENT STABILIZATION MEASURES INITIALLY TO ANY DISTURBED AREAS WHERE WORK HAS REACHED FINAL GRADE, HAS BEEN DESIGNATED OR OTHERWISE TEMPORARILY SUSPENDED.
 6. CONSTRUCTION OF BUILDINGS, UTILITIES AND PAVING - GUARD CONSTRUCTION, INSTALL AND MAINTAIN ANY ADDITIONAL EROSION AND SEDIMENT CONTROL BARRIERS AND WEEDS AND OTHER VEGETATION POST CONSTRUCTION CONSTRUCTION BARRIERS THAT MAY BE REQUIRED.
 7. UPON COMPLETION OF PAD GRUBBING, CONSTRUCT THE PAD TO CLOSE AND EROSION PLACEMENT OF PAD SOIL COVER.
 8. FINAL STABILIZATION INCLUDING TREES AND SHRUBS - AFTER CONSTRUCTION IS COMPLETE, INSTALL STABILIZATION BARRIERS INCLUDING PERMANENT BARRIERS, MULCHING AND REPAIR, AND CONDUCT POST CONSTRUCTION CONSTRUCTION BARRIERS IN THE LATE CONSTRUCTION PHASE. STABILIZE ALL OPEN AREAS, INCLUDING EROSION AND DITCH, AND REMOVE ALL TEMPORARY BARRIERS AND STABILIZATION AND DISTURBANCE AREAS WITHIN THE RECORD OF THE DEED.



LIMITS OF DISTURBANCE PARCEL BREAK UPS - 1211 WELL PAD
 LEWIS COUNTY, WEST VIRGINIA

DWYER	TM-PARCEL	DEED-PAGE	TOTAL ACRES	TYPE OF DISTURBANCE	ACRAGE
HG ENERGY II APPALACHIA, LLC	79-22	750-677	71.63	PARCEL INFORMATION	
				MAIN ACCESS ROAD	4.39
				AST ACCESS ROAD	1.20
				AST PAD	1.28
				SPOIL PILE	0.03
				TOPSOIL/STRIPPING PILE 1	0.51
				PARCEL TOTAL	8.00
HG ENERGY II APPALACHIA, LLC	75-10	750-677	61.5	PARCEL INFORMATION	
				MAIN ACCESS ROAD	3.06
				WELL PAD	6.73
				SPOIL PILE	1.11
				TOPSOIL/STRIPPING PILE 2	2.00
				PARCEL TOTAL	12.96
				TOTAL	28.86
				WOODED	16.36

1211 WELL PAD COORDINATES (UTM NAD83-27)

WFLS	NORTHINGS	EASTING	LATITUDE	LONGITUDE
N-3H	14211880.001	1789473.645	N039.134152	W080.474331
N-2H	14211866.432	1789484.339	N039.134078	W080.474294
N-4H	14211858.982	1789495.033	N039.134043	W080.474256
N-2H	14211846.478	1789505.727	N039.134016	W080.474219
N-5H	14211837.994	1789516.421	N039.133985	W080.474181
S-6H	14211829.540	1789524.933	N039.133958	W080.474143
S-7H	14211790.431	1789555.637	N039.133879	W080.474064
S-8H	14211781.971	1789566.326	N039.133850	W080.474026
S-2H	14211774.412	1789577.020	N039.133821	W080.473969
S-3H	14211767.903	1789587.714	N039.133792	W080.473931



GRADING VOLUMES

DESCRIPTION	CUT (CY)	FILL (CY)	NET (CY)
MAIN ACCESS ROAD	25.413	32.241	-3.828
AST PAD ACCESS	702	249	-454
WELL PAD	47.045	37.700	10.193
AST PAD	206	1,968	-1,599
SPOIL-1	0	5,228	-5,228
TOTAL	77,344	77,344	0
TOPSOIL / STRIPPING WITH 20% SWELL	(14,346 CY)		11,955 CY
TOTAL EXCAVATION	69,299	33,283	0

NOTE: TOPSOIL/STRIPPING THICKNESS FOR REMOVAL AND REPLACEMENT WAS CALCULATED WITH AN ESTIMATED DEPTH OF 8"

LOCAL EMERGENCY SERVICES

NAME	TELEPHONE NO.
AMBULANCE	911
HOSPITAL EMERGENCY ROOM	(811) 848-1000
FIRE DEPARTMENT	911
POLICE DEPARTMENT	911
POISON CONTROL CENTER	WEST VIRGINIA POISON CENTER (800) 223-1222

FLOOD PLAIN CONDITIONS

DO SITE CONSTRUCTION ACTIVITIES TAKE PLACE IN FLOOD PLAIN	NO
PERMIT NEEDED FROM COUNTY FLOODPLAIN COORDINATOR	NO
RECLAMATION STUDY COMPLETED	N/A
FLOODPLAIN SHOWN ON DRAWINGS	N/A
FIRM MAP NUMBER(S) FOR SITE (S) (SAC/COOR)	
ACRAGE OF CONSTRUCTION IN FLOODPLAIN (FLOOD)	

WELL RESTRICTIONS CHECKLIST (HORIZONTAL BA WELL)

AT LEAST 100 FEET FROM PAD AND LOD (INCLUDING ANY EAS CONTROL FEATURES) TO ANY FEDERAL STRIKE LAKE, POND, RESERVOIR OR WETLAND	NO
AT LEAST 200 FEET FROM PAD AND LOD (INCLUDING ANY EAS CONTROL FEATURES) TO ANY NATURALLY PRODUCING TROUT STREAM	YES
AT LEAST 1000 FEET FROM PAD AND LOD (INCLUDING ANY EAS CONTROL FEATURES) TO ANY UNDERGROUND INFANT OR PUBLIC WATER SUPPLY	YES
AT LEAST 200 FEET FROM AN EXISTING WATER WELL OR DEVELOPED SPRING TO WELL BENS DRIERS	YES
AT LEAST 400 FEET FROM AN OCCUPIED DWELLING STRUCTURE TO CENTER OF PAD	YES
AT LEAST 400 FEET FROM ANY AGRICULTURAL BUILDING LARGER THAN 9500 SQUARE FEET TO THE CENTER OF THE PAD	YES

PLAN REPRODUCTION WARNING
 THE PLANS HAVE BEEN CREATED ON A811 D (22"x34") SHEETS, FOR REDUCTIONS, REFER TO GRAPHIC SCALE.
 THE PLANS HAVE BEEN CREATED FOR FULL COLOR PLOTTING. ANY SET OF THE PLANS THAT IS NOT PLOTTED IN FULL COLOR SHALL NOT BE CONSIDERED ADEQUATE FOR CONSTRUCTION PURPOSES.
 WARNING: INFORMATION MAY BE LOST IN COPYING AND/OR GRAY SCALE PLOTTING.

WEST VIRGINIA CALL BEFORE YOU DIG!
 WEST VIRGINIA STATE LAW REQUIRES THAT YOU CALL TWO BUSINESS DAYS BEFORE YOU DIG IN THE STATE OF WEST VIRGINIA. IT'S THE LAW!

APPROVED WVDEP OOG
 10/23/2019

1211 WELL PAD - ESTIMATED QUANTITIES

GRAVEL QUANTITIES	ESTIMATED QUANTITIES (PLACED CY)				TOTAL
	MAIN ACCESS ROAD	PAD	AST ACCESS ROAD	AST	
1" SOIL CEVENT	3440	3440	205	758	8638
1" CRUSHER RUN	-	1385	-	284	2575
TOP COAT CHP & SEAL (PLACED 5%)	6507	-	885	-	7392
COMPOST FILTER SOCK, 8-IN			1,285 LF		
COMPOST FILTER SOCK, 12-IN			0		
COMPOST FILTER SOCK, 18-IN			2,536 LF		
4" SMARTFENCE HD			2,737 LF		
COMPOST FILTER SOCK, 36-IN			0		

- NOTES:
1. MATERIAL BALANCE FOR ESTIMATED QUANTITIES ONLY.
 2. TOPSOIL/STRIPPING ESTIMATED VOLUME BASED ON 8" DEPTH AVERAGE DEPTH.
 3. MATERIAL BALANCE AND AGGREGATE QUANTITIES BASED ON ESTIMATES AND MAY NOT BE REPRESENTATIVE OF ACTUAL QUANTITIES.
 4. ESTIMATES DO NOT REFLECT CONTRACTOR PAY YIELDS.



REVISION RECORD

NO.	DATE	BY	DESCRIPTION
1			

Civil & Environmental Consultants, Inc.
 600 Marketplace Ave - Suite 200 - Rockspport, WV 26330
 PH: 304.933.3115 - 855.486.9539 - Fax: 304.933.3387
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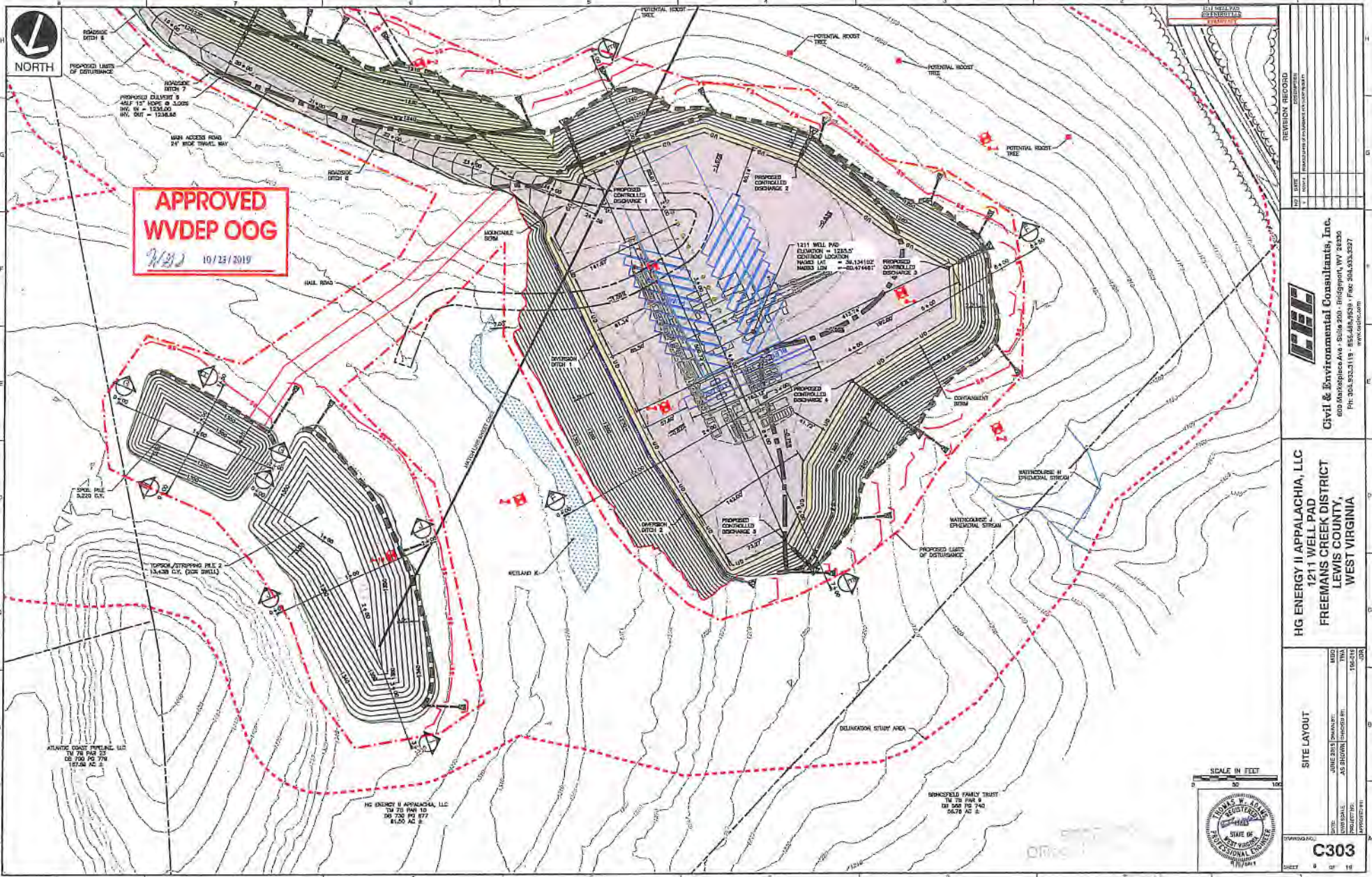
HG ENERGY II APPALACHIA, LLC
 1211 WELL PAD
 FREEMANS CREEK DISTRICT
 LEWIS COUNTY,
 WEST VIRGINIA

COVER SHEET

DATE	DESIGNED BY	DRAWN BY	CHECKED BY	APPROVED BY
JUNE 23/19	JUNIOR	THOMAS ADAMS	THOMAS ADAMS	THOMAS ADAMS

C000
 SHEET 1 OF 19

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APPROVED
WVDEP OOG
WES 10/23/2019

NO.	DATE	DESCRIPTION
1	10/23/2019	ISSUED FOR PERMITTING

CEE
Civil & Environmental Consultants, Inc.
 800 Marketplace Ave • Suite 200 • Ridgeport, WV 26430
 PH: 304.822.3119 • FAX: 304.822.3207
 www.ceeinc.com

HG ENERGY II APPALACHIA, LLC
1211 WELL PAD
FREEMANS CREEK DISTRICT
LEWIS COUNTY,
WEST VIRGINIA

SITE LAYOUT
 DATE: JUNE 2015
 AS SHOWN THROUGH BY: [Signature]



PROJECT NO.:
C303
 SHEET 8 OF 10

PLANNING AND DESIGN SERVICES, INC. 10/23/2019 10:58:59 AM 10/23/2019 10:58:59 AM