



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

Harold D. Ward, Cabinet Secretary
www.dep.wv.gov

Friday, January 29, 2021
WELL WORK PERMIT
Horizontal 6A / New Drill

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

Re: Permit approval for FLESHER 1212 S-8H
47-041-05717-00-00

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

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

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



James A. Martin
Chief

Operator's Well Number: FLESHER 1212 S-8H
Farm Name: FLESHER
U.S. WELL NUMBER: 47-041-05717-00-00
Horizontal 6A New Drill
Date Issued: 1/29/2021

Promoting a healthy environment.

PERMIT CONDITIONS

4704105717

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

4704105717

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.



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Office of Oil and Gas
601 57th Street, S.E.
Charleston, WV 25304
(304) 926-0450
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Austin Caperton, Cabinet Secretary
dep.wv.gov

**ORDER
ISSUED UNDER
WEST VIRGINIA CODE, CHAPTER 22, ARTICLE 6A**

TO: HG Energy, LLC
5260 Dupont Circle
Parkersburg, WV 26101

DATE: November 13, 2020
ORDER NO.: 2020-W-5

INTRODUCTION

This Order (hereinafter “Order”) is issued by the Office of Oil and Gas (hereinafter “OOG”), by and through its Chief, pursuant to the authority of W. Va. Code §§ 22-1-1, 22-6-1 and 22-6A-1 *et seq.* to HG Energy, LLC (hereinafter “HG” or “Operator”), collectively the “Parties.”

FINDINGS OF THE CHIEF

In support of this Order, the Chief hereby finds the following:

1. OOG, an office within the West Virginia Department of Environmental Protection, is the agency with the duty and authority to execute and enforce W. Va. Code §22-6-1 and §22-6A-1 *et seq.*, and the rules and regulations promulgated thereunder.
2. HG is a “person” as defined by W. Va. Code §22-6-1(n), with a corporate address as 5260 Dupont Circle, Parkersburg, WV 26101.
3. On September 1, 2020 HG submitted a well work permit application identified as API# 47-041-05707. The well is located on the Flesher Pad in the Freemans Creek District of Lewis County, West Virginia.
4. On September 1, 2020 HG requested a waiver for Wetland B as outlined in Attachment 1, from well location restriction requirements in W. Va. Code §22-6A-12(b) for the well work permit application identified as API# 47-041-05707. Wetlands Z, DD, MF, ME, MB and MD are excluded from this waiver, they are more than 100’ from the LOD of the pad.

CONCLUSIONS OF LAW

1. West Virginia Code §22-1-6(d) requires, in part, that “in addition to other powers, duties and responsibilities granted and assigned to the secretary by this chapter, the secretary is authorized and empowered to... (3) Enter private lands to make surveys and inspections for environmental protection purposes; to investigate for violations of statutes or rules which the Office of Oil and Gas is charged with enforcing; to serve and execute warrants and processes; to make arrests; issue orders, which for the purposes of this chapter include consent agreements; and to otherwise enforce the statutes or rules which the Office of Oil and Gas is charged with enforcing.”
2. West Virginia Code §22-6A-2(a)(6) requires, in part, that “Concomitant with the broad powers to condition the issuance of well work permits, the secretary should also have broad authority to waive certain minimum requirements of this article when, in his or her discretion, such waiver is appropriate: *Provided*, That the secretary shall submit a written report of the number of waivers granted to the Legislature commencing January 1, 2013, and each year thereafter.”
3. West Virginia Code §22-6A-12(b) requires, in part, that “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 Office of Oil and Gas 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 Office of Oil and Gas 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.”

ORDER

West Virginia Code §22-6A-12(b) requires, in part, that “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. The Office of Oil and Gas grants the request for a waiver for Wetland W02 from well location restriction requirements in W. Va. Code §22-6A-12(b) for the well work permit application identified as API#s 47-041-05707. The Office of Oil and Gas hereby **ORDERS** that HG shall meet the following site construction and operational requirements for the Flesher Well Pad:

- a. A berm shall be constructed around the perimeter of the pad to contain any potential spills and storm water runoff. Berm is to be at least twenty-four inches (24”) in height.
- b. Erosion control blankets shall be installed on all slopes and down gradient locations of the pad as erosion and sediment controlling BMPs.
- c. Wetland B shall be protected by two layers of eighteen-inch (18”) compost filter sock. This along with temporary and permanent vegetative cover will prevent sediment from reaching the wetlands.
- d. Disturbed areas not used for operations shall be seeded and mulched per the seeding tables in the WVDEP-OOG Erosion and Sediment Control Manual.
- e. Drill cuttings and associated drilling mud shall be disposed of in a permitted landfill.
- f. Waste generated by the flowback treatment systems shall be sent to offsite disposal at a permitted landfill.
- g. Weekly site inspections shall be conducted to monitor and maintain the integrity of the BMP storm water controls.
- h. Weekly storm water and spill prevention inspections shall be conducted focusing on storm water and spill prevention BMPs and maintenance of these BMPs.
- i. Inspections of the storm water and spill prevention measures shall be conducted after any major storm event defined as a half inch (½”) rain within any twenty-four (24) hour period.
- j. Pad inspections shall be conducted no less than once a week to identify and mitigate potential deficiencies.
- k. All records from inspections shall be maintained on site for the life of the project and be available upon request.

Thus ORDERED, the 13th day of November 2020.

IN THE NAME OF THE STATE OF WEST VIRGINIA:

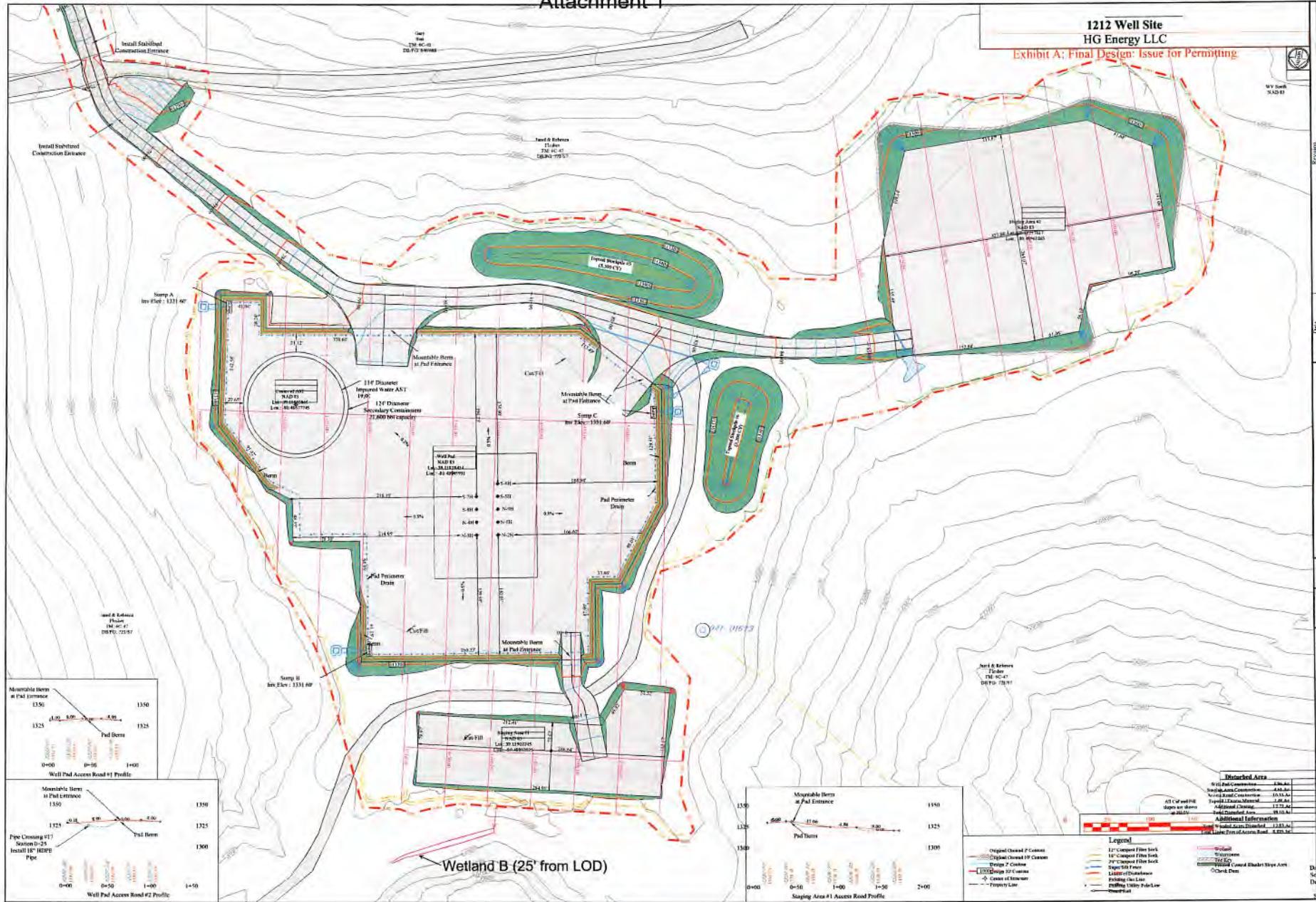
OFFICE OF OIL AND GAS
DEPARTMENT OF ENVIRONMENTAL PROTECTION
STATE OF WEST VIRGINIA

By: **James Martin** Digitally signed by James Martin
Date: 2020.11.13 10:42:10 -05'00'

JAMES A. MARTIN, CHIEF

Attachment 1

1212 Well Site
HG Energy LLC
Exhibit A: Final Design: Issue for Permitting





THIS DOCUMENT
PREPARED FOR
HG ENERGY LLC



1212 Well Site
Putnam County District
Lewis County, WV

DATE: 10/24/2019
SCALE: As Shown
DRAWN BY: JES
JOB NO: 21-012

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 Weston 7.5'
Operator ID County District Quadrangle

2) Operator's Well Number: Flesher 1212 S-8H Well Pad Name: Flesher 1212

3) Farm Name/Surface Owner: Flesher Public Road Access: SR19 to Kincheloe Run Rd to Valley Chapel Rd

4) Elevation, current ground: 1338' Elevation, proposed post-construction: 1332'

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 6845'/6927' and 82' in thickness. Anticipated pressure at 4314#.

8) Proposed Total Vertical Depth: 6925'

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9) Formation at Total Vertical Depth: Marcellus

10) Proposed Total Measured Depth: 14368'

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Environmental Protection

11) Proposed Horizontal Leg Length: 6742'

12) Approximate Fresh Water Strata Depths: 105', 273', 302'

13) Method to Determine Fresh Water Depths: Nearest offset well data, (47-041-5338, 0218)

14) Approximate Saltwater Depths: 1028' (Nearest offset well data, 47-041-1673)

15) Approximate Coal Seam Depths: 420', 525' 830' (Surface casing is being extended to cover the coal in the DTI Storage Field)

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: _____

Bany Shultz 12-18-20

WW-6B
(04/15)

4704105717
API NO. 47- _____
OPERATOR WELL NO. Flesher 1212 S-8H
Well Pad Name: Flesher 1212

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	2100'	2100'	CTS
Intermediate 2	9 5/8"	NEW	J-55 BTC	40	2900'	2900'	CTS
Production	5 1/2"	NEW	P-110 HP	23	14368'	14368'	CTS
Tubing							
Liners							

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	12500	Type 1/Class A	20% excess yield = 1.19, tail yield 1.84
Tubing							
Liners							

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PACKERS

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Kind:				
Sizes:				
Depths Set:				

B.S. 12-18-20

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 6925 feet. Drill horizontal leg to estimated 6,742' lateral length, 14,368' TMD. Hydraulically fracture stimulate and be capable of producing from the Marcellus Formation. Should we encounter an unanticipated void in the coal, we will install a minimum of 20' of casing below the void but not more than 100' below the void, set a basket and grout to surface. We plan to run an ACP above the Gantz/Dominion Storage interval to aid in sealing off and isolating the storage interval.

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

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

21) Total Area to be disturbed, including roads, stockpile area, pits, etc., (acres): 33.17 acres

22) Area to be disturbed for well pad only, less access road (acres): 6.84 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 - 15.8 ppg PNE-1 + 3% bwoc CaCl, 40% Excess Yield = 1.20, CTS
Intermediate 1 - 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
Intermediate 2 - 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
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=1.19

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

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Environmental Protection

*Note: Attach additional sheets as needed.

HG Energy II Appalachia, LLC
 Flesher 1212 Well Pad (N-1H, N-2H, N-3H, N-4H, N-9H, S-5H, S-6H, S-7H, S-8H)
 Cement Additives

4704105717

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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Crystalline silica: Quartz (SiO2)	5 - 10	14808-60-7																			
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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Tributyl phosphate	90 - 100	126-73-8																			
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>57-13-6</td> </tr> </tbody> </table>	Ingredient name	%	CAS number	Sucrose	90 - 100	57-13-6												
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Sucrose	90 - 100	57-13-6																			
EC-1		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	Gas Migration	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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Calcium oxide	1 - 5	1305-78-8																			
Poz (Fly Ash)	Base	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	Retarder		<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.
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.																			
S-5	Surfactant	Used to water wet casing and formation to facilitate cement bonding.																			

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1212 S-8H
Marcellus Shale Horizontal
Lewis County, WV

Ground Elevation			1212 S-8H SHL				14206101.35N 1785749.47E			
Azm			1212 S-8H LP				14206145.91N 1787292.84E			
WELLBORE DIAGRAM			1212 S-8H BHL				14199791.51N 1789538.24E			
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	273	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	987	992					
			Fresh Water Protection	0	1000					
	17.5"	13-3/8" 68# J-55 BTC	Big Lime	1548	1613	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)	1613 / 1898	1718 / 1958					
			Intermediate 1	0	2100					
	12.25"	9-5/8" 40# J-55 BTC	Fifty / Thirty Foot	2008 / 2105	2033 / 2128	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 Sray / Gordon	2128 / 2198	2198 / 2288					
			5th Sand	2374	2416					
			Bayard Sand	2450	2480					
	8.75" Vertical	5-1/2" 23# P-110 HP CDC HTQ	Speechley	3078	3089	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			3278	3350						
Benson			4370	4382						
8.5" Curve	Rhinestreet		6256	6445	11.5ppg-12.5ppg SOBM					
	Cashaqua		6445	6526						
	Middlesex		6526	6625						
	West River		6625	6660						
	Burkett		6660	6751						
	Tully Limestone		6751	6815						
	Hamilton		6815	6753						
8.5" Lateral	Marcellus		6845	6927	11.5ppg-12.5ppg SOBM					
	TMD / TVD (Production)		14368	6925						
		Onondaga	6927							

LP @ 6925' TVD / 7626' MD

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

TD @ +/-6925' TVD +/-14368' MD

X=centralizers

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**EXISTING WELLS LOCATED WITHIN THE AREA OF REVIEW FOR:
FLESHER 1212 SOUTH UNIT AND PROPOSED WELLS S-5H, S-6H, S-7H & S-8H**

CT	API	COUNTY	FARM	OPERATOR NAME	FORMATION NAME	WELL TYPE	TVD	STATUS	LATITUDE	LONGITUDE
1	4704100214	Lewis	Geo Norris	Dominion Energy Transmission, Inc.	Hampshire Grp	Storage	2275	ACTIVE	39.115382	-80.490758
2	4704100498	Lewis	L Bailey 1	Deran Resources, Inc.	Up Devonian	Gas	2211	ACTIVE	39.077335	-80.480659
3	4704100503	Lewis	J J Bailey 2	Geo Energy, LLC	Price Fm & equivs	Gas w/ Oil Show	1385	ACTIVE	39.082266	-80.485313
4	4704100523	Lewis	Hope McDonald et al 1	Hays & Company	Price Fm & equivs	Gas w/ Oil Show	1750	PLUGGED	39.080961	-80.475265
5	4704100527	Lewis	B B Butcher 1	Lippizan Petroleum, Inc.	Price Fm & equivs	Gas w/ Oil Show	1410	ACTIVE	39.081106	-80.475265
6	4704100534	Lewis	Georg Dean 2	Geo Energy, LLC	Price Fm & equivs	Gas	1381	ACTIVE	39.084922	-80.484197
7	4704100558	Lewis	Doyle Butcher et al 2	Lippizan Petroleum, Inc.	Price Fm & equivs	Gas	1364	ACTIVE	39.084632	-80.479545
8	4704100569	Lewis	W W Chapman 1	Clem Energy, LLC	Unkown	Gas	-	ABANDONED	39.079798	-80.468192
9	4704100570	Lewis	W W Chapman 1	Law, David W.	Price Fm & equivs	Gas	1363	ABANDONED	39.079511	-80.466333
10	4704100573	Lewis	Clete Butcher et al 1	Bower, Hall and Wetzel	Price Fm & equivs	Gas	1441	PLUGGED	39.085502	-80.482337
11	4704100587	Lewis	Clay Maxwell Jr 1	Cohen, Henry	Big Injun (Grnbr)	Gas w/ Oil Show	1368	PLUGGED	39.081686	-80.464101
12	4704100589	Lewis	Doyle Vutcher 3	Law, David W.	Conemaugh Group	Dry w/ Gas Show	435	PLUGGED	39.084342	-80.479173
13	4704100621	Lewis	W W Riggs 1	Tower Service Company	Price Fm & equivs	Gas	1410	PLUGGED	39.077105	-80.466986
14	4704100799	Lewis	Carl Harrison 1	Bagwell & Trader	Price Fm & equivs	Gas	1360	ABANDONED	39.079613	-80.476936
15	4704101615	Lewis	Sophia Butcher	Dominion Energy Transmission, Inc.	Benson	Gas	4210	ACTIVE	39.098539	-80.481047
16	4704101655	Lewis	Sophia Butcher	Alliance Petroleum, Co., LLC	Greenland Gap Fm	Gas	4120	ACTIVE	39.094203	-80.476943
17	4704101665	Lewis	Charles F Bailey	Dominion Energy Transmission, Inc.	Greenland Gap Fm	Gas	4250	ACTIVE	39.103826	-80.475644
18	4704101669	Lewis	Charles I Bailey	Dominion Energy Transmission, Inc.	Greenland Gap Fm	Gas	4110	ACTIVE	39.099278	-80.489786
19	4704101670	Lewis	J W Norris	Alliance Petroleum, Co., LLC	Benson	Gas	4425	ACTIVE	39.090722	-80.483827
20	4704101673	Lewis	Cecil I Dempsey	Dominion Energy Transmission, Inc.	Greenland Gap Fm	Gas	4509	ACTIVE	39.118627	-80.488538
21	4704101742	Lewis	WV University Board of Gov	Alliance Petroleum, Co., LLC	Benson	Gas	4205	ACTIVE	39.086743	-80.471172
22	4704101756	Lewis	W E Carpenter	Dominion Energy Transmission, Inc.	Benson	Gas	4220	ACTIVE	39.106120	-80.486154
23	4704101779	Lewis	C F Bailey	Dominion Energy Transmission, Inc.	Benson	Gas	4446	ACTIVE	39.109755	-80.479062
24	4704101785	Lewis	C L Hitt	Dominion Energy Transmission, Inc.	Benson	Gas	4440	ACTIVE	39.111471	-80.488801
25	4704101800	Lewis	George W Dean Jr	Greylock Conventional, LLC	Benson	Gas	4305	ACTIVE	39.085792	-80.485128
26	4704101931	Lewis	Doyle Butcher 3	Lippizan Petroleum, Inc.	Benson	Gas	4163	ACTIVE	39.084052	-80.479917
27	4704101999	Lewis	Granville Butcher	Mountain, LLC	Fifth	Gas	4436	ACTIVE	39.081302	-80.472195
28	4704102335	Lewis	G Butcher	Alliance Petroleum, Co., LLC	Hampshire Grp	Gas	2575	ACTIVE	39.084342	-80.473033
29	4704102341	Lewis	Edna Brown	Dominion Energy Transmission, Inc.	Greenland Gap Fm	Gas	4280	ACTIVE	39.102228	-80.483644
30	4704102380	Lewis	Burt Keister	Alliance Petroleum, Co., LLC	Hampshire Grp	Gas	2000	ACTIVE	39.087967	-80.477313
31	4704102623	Lewis	Geo Norris	Dominion Energy Transmission, Inc.	Unkown	Storage	-	ACTIVE	39.112510	-80.493384
32	4704102649	Lewis	George Norris	Dominion Energy Transmission, Inc.	Unkown	Storage	-	ACTIVE	39.112620	-80.485511
33	4704102650	Lewis	Ira L. Queen	Dominion Energy Transmission, Inc.	Unkown	Storage	-	ACTIVE	39.109140	-80.491838
34	4704102709	Lewis	Sophia Butcher	Consolidated Gas Supply Corp.	Unkown	not available	-	ABANDONED	39.096803	-80.480078

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35	4704102854	Lewis	J S Norris	Dominion Energy Transmission, Inc.	not available	Storage	-	ACTIVE	39.115783	-80.496273
36	4704102881	Lewis	WVU Board of Governors	Alliance Petroleum, Co., LLC	Greenland Gap Fm	Gas	4250	ACTIVE	39.090287	-80.474523
37	4704102913	Lewis	John J Oldaker III	Jackson Fuel Corporation	Benson	Gas	4384	ACTIVE	39.080236	-80.473962
38	4704103156	Lewis	John F Wyant 1	Clem Energy, LLC	Elk	Gas	5757	ACTIVE	39.078351	-80.466333
39	4704103287	Lewis	Michael F Tierney Jr et al	Alliance Petroleum, Co., LLC	Brallier	Gas	5891	ACTIVE	39.079584	-80.478590
40	4704103327	Lewis	Rizpah B Carpenter	Dominion Energy Transmission, Inc.	Hampshire Grp	Gas	2380	PLUGGED	39.105009	-80.478216
41	4704103490	Lewis	Martha Queen 1-A	Prince Petroleum, Inc.	Benson	Gas	4287	ABANDONED	39.076900	-80.477868
42	4704103807	Lewis	Martha Carpenter	Alliance Petroleum, Co., LLC	Brallier	Gas	6050	ACTIVE	39.087478	-80.481020
43	4704103808	Lewis	Amy B Dent	Alliance Petroleum, Co., LLC	Brallier	Gas	5980	ACTIVE	39.084487	-80.474149
44	4704103829	Lewis	David Hamrick	Alliance Petroleum, Co., LLC	Brallier	Gas	5791	ACTIVE	39.096668	-80.473222
45	4704103838	Lewis	Charles F. Bailey	Dominion Energy Transmission, Inc.	Benson	Gas	4314	ACTIVE	39.100088	-80.476278
46	4704103845	Lewis	Alva Butcher	Alliance Petroleum, Co., LLC	Benson	Gas	4984	ACTIVE	39.077626	-80.470798
47	4704103852	Lewis	Patricia Hall	Alliance Petroleum, Co., LLC	Benson	Gas	4264	ACTIVE	39.083327	-80.468381
48	4704103864	Lewis	Vivian Thompson 1	Alliance Petroleum, Co., LLC	Benson	Gas	4225	ACTIVE	39.075885	-80.462240
49	4704103927	Lewis	Word of Life Christians	Diversified Resources, Inc.	Benson	Gas	4170	ACTIVE	39.087387	-80.476197
50	4704103956	Lewis	WV Board of Control	Devonian Gas Production, Inc.	Greenland Gap Fm	Gas w/ Oil Show	4230	ACTIVE	39.092028	-80.470801
51	4704103961	Lewis	John Norris	Enervest Operating, LLC	Benson	Gas	4280	ACTIVE	39.096233	-80.486807
52	4704104119	Lewis	Patricia Jo Beeson 1	Alliance Petroleum, Co., LLC	Greenland Gap Fm	Gas	4190	ACTIVE	39.098896	-80.485399
53	4704104162	Lewis	Michael L/Judy K Huntz	Berry Energy, Inc.	Greenland Gap Fm	Gas	4210	ACTIVE	39.094058	-80.481968
54	4704104393	Lewis	Richard D Carpenter	Dominion Energy Transmission, Inc.	Greenland Gap Fm	Gas	4312	ACTIVE	39.104455	-80.491136
55	4704104920	Lewis	Charles Bailey	Dominion Energy Transmission, Inc.	Misc Sands-BNSN/BRLR	Gas	4579	ACTIVE	39.115176	-80.483845
56	4704104958	Lewis	Richard W Dunham	Dominion Energy Transmission, Inc.	Misc Sands-BNSN/BRLR	Gas	4449	ACTIVE	39.108761	-80.492720
57	4704105037	Lewis	Kenneth L Hunt	Dominion Energy Transmission, Inc.	Greenland Gap Fm	Gas	3561	ACTIVE	39.101975	-80.478771
58	4704105262	Lewis	Charles Bailey	Dominion Energy Transmission, Inc.	Weir	Gas	1776	ACTIVE	39.115179	-80.483972
59	4704105269	Lewis	Edwin Lee Bowyer II	Alliance Petroleum, Co., LLC	Greenland Gap Fm	Gas	4160	ACTIVE	39.092028	-80.477873
60	4704105338	Lewis	Fred A Bailey	Dominion Energy Transmission, Inc.	Price Fm & equivs	Gas	1683	ACTIVE	39.113523	-80.479570
61	4704105368	Lewis	Edward Earl Garrett	Alliance Petroleum, Co., LLC	Greenland Gap Fm	Gas	4470	ACTIVE	39.093188	-80.488853
62	4704105371	Lewis	Scott A Carpenter	Dominion Energy Transmission, Inc.	Price Fm & equivs	Gas	1530	ACTIVE	39.108271	-80.483089
63	4704105378	Lewis	Charles F Bailey	Dominion Energy Transmission, Inc.	Price Fm & equivs	Gas	1777	ACTIVE	39.105497	-80.480063
64	4704105389	Lewis	Lee Matthew McWhorter	Alliance Petroleum, Co., LLC	Greenland Gap Fm	Gas	2244	ACTIVE	39.093854	-80.475522
65	4704105390	Lewis	Mary Lou Curry	Alliance Petroleum, Co., LLC	Greenland Gap Fm	Gas	2480	ACTIVE	39.092043	-80.481298
66	4704105391	Lewis	Mary Lou Curry	Alliance Petroleum, Co., LLC	Greenland Gap Fm	Gas	2531	ACTIVE	39.089187	-80.481436
67	4704105392	Lewis	Mary Lou Curry	Alliance Petroleum, Co., LLC	Greenland Gap Fm	Gas	2531	ACTIVE	39.086712	-80.480292
68	4704105408	Lewis	Deborah D Hunt	Dominion Energy Transmission, Inc.	Greenland Gap Fm	Gas	3386	ACTIVE	39.100004	-80.481411
69	4704105480	Lewis	WV University Board of Gov	Devonian Gas Production	Benson	Gas	4248	ACTIVE	39.089518	-80.471914

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

YELLOW DENOTES WELL WITH TVD > 4,500'

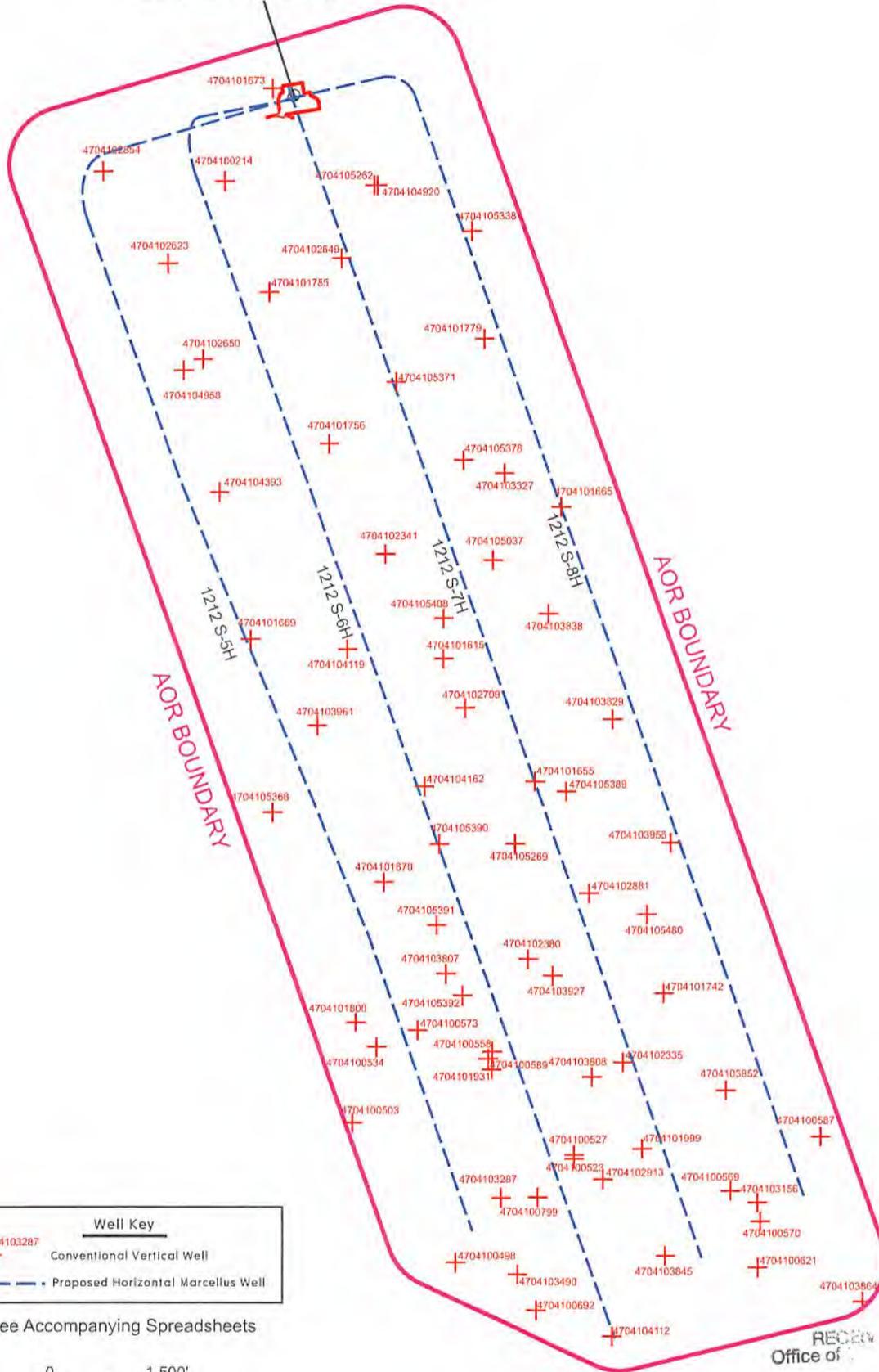
GREEN DENOTES SURVEYED WELLS

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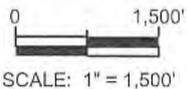


FLESHER 1212 PAD



Well Key	
+	Conventional Vertical Well
- - -	Proposed Horizontal Marcellus Well

See Accompanying Spreadsheets



DATA SOURCES
WVGES Data Set - 2017; WVDEP Website

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Area of Review for:

FLESHER 1212 SOUTH UNIT

Proposed 1212 S-5H Proposed 1212 S-6H
Proposed 1212 S-7H Proposed 1212 S-8H

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



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

12/10/2020

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WW-9
(4/16)

API Number 47 - _____
Operator's Well No. Flesher 1212 S-8H

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 Weston 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 - SOBMM

-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

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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.

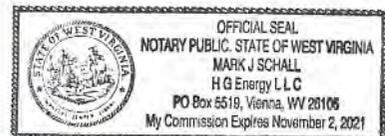
I certify that I understand and agree to the terms and conditions of the GENERAL WATER POLLUTION PERMIT issued on August 1, 2005, by the Office of Oil and Gas of the West Virginia Department of Environmental Protection. I understand that the provisions of the permit are enforceable by law. Violations 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 15th day of December, 2020

[Signature] Notary Public
My commission expires 11/2/2021



[Signature]

HG Energy II Appalachia, LLC

Proposed Revegetation Treatment: Acres Disturbed 32.75 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
Tall Fescue	40
Ladino Clover	5

Seed Type	lbs/acre
Tall Fescue	40
Ladino Clover	5

Maintain E&S controls through the drilling and completion process

Attach:

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

Photocopied section of involved 7.5' topographic sheet.

Plan Approved by: KK for BS see page 1

Comments: Pre-seed/mulch as soon as reasonably possible per regulation.

Upgrade E&S if needed per WV DEP E&S manual.

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Title: Oil & Gas Inspector Date: _____

Field Reviewed? () Yes () No

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Cuttings Disposal/Site Water

Cuttings -Haul off Company:

Eap Industries, Inc. DOT # 0876278
1575 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)
3237 US Highway 19
Cochranon, PA 16314
814-425-7773

Disposal Locations:

Apex Environmental, LLC Permit # 06-08438
11 County Road 78
Amsterdam, OH 43903
740-543-4389

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

Sycamore Landfill Inc. Permit #R90-079001 05-2010
4301 Sycamore Ridge Road
Hurricane, WV 25526
304-562-2611

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

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

Waste Management Kelly Run Permit # 100663
1901 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 # SWF-103-87 / WV 0109029
Rd 2 Box 410
Collfers, WV 26035
304-748-0014

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Wetzel County Landfill Permit # SWF-1021-97 / WV 0109185
Rt 1 Box 156A
New Martinsville, WV 26035
304-455-3800

Energy Solutions, LLC Permit # UT 2300249
423 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 # 720485
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

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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

Nichlos 1-A (SWIW #13)
Permit # 3862
300 Cherrington Pkwy, Suite 200
Coraopolis, PA 15108
412-329-7275

Grosella (SWIW #34)
Permit # 4096
Rt. 88
Garrettsville, OH
713-275-4816

Kembla 1-D Well
Permit # 8780
7675 East Pike
Norwich, Oh 43767
614-648-8898
740-796-6495

Adams #2 (Buckeye Brine, LLC)
2205 Westover Road
Austin Tx 78703
Permit # 34-031-2-7178
740-575-4484
512-478-6545

Adams #3 (Buckeye Brine, LLC)
Permit #34-031-2-7241-00-00
2630 Exposition, Suite 117
Austin, TX 78703
512-478-6545

Mozena #1 Well (SWIW # 13)
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
412-329-7275

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

OH UIC #1. Bu keya 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 Steele 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
12163 Marne Rd. NE
Newark, OH 43055
740-763-3966

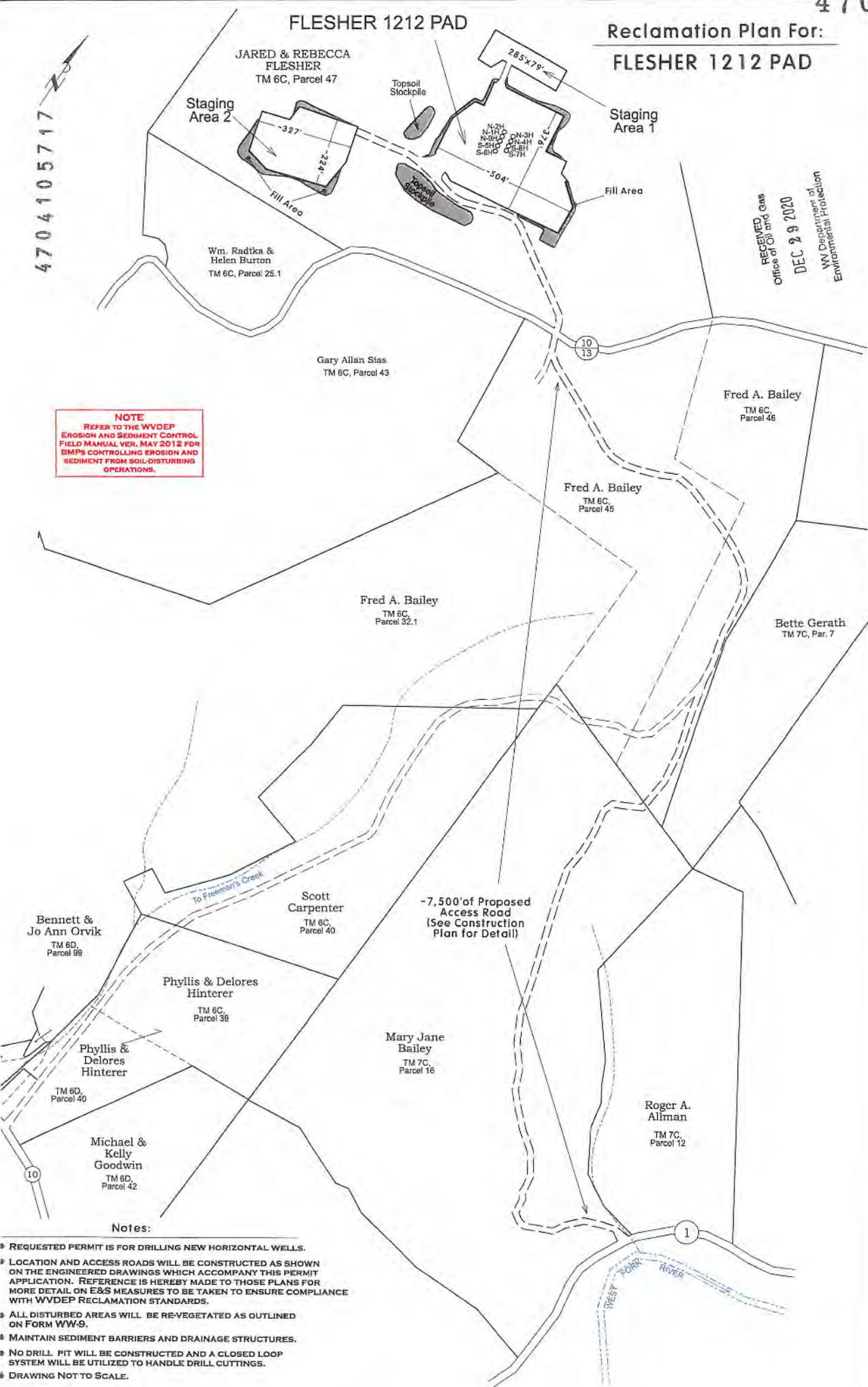
4704105717

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DEC 29 2020
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Environmental Protection

FLESHER 1212 PAD

Reclamation Plan For: FLESHER 1212 PAD

4704105717



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Office of Oil and Gas
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Environmental Protection

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

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.

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HG Energy II Appalachia, LLC

Site Safety Plan

**Flesher 1212 Well Pad
630 Chapel Road Weston
Lewis County, WV 26452**

August 2020: Version 1

RECEIVED
Office of Oil and Gas

DEC 29 2020

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

WV Department of
Environmental Protection

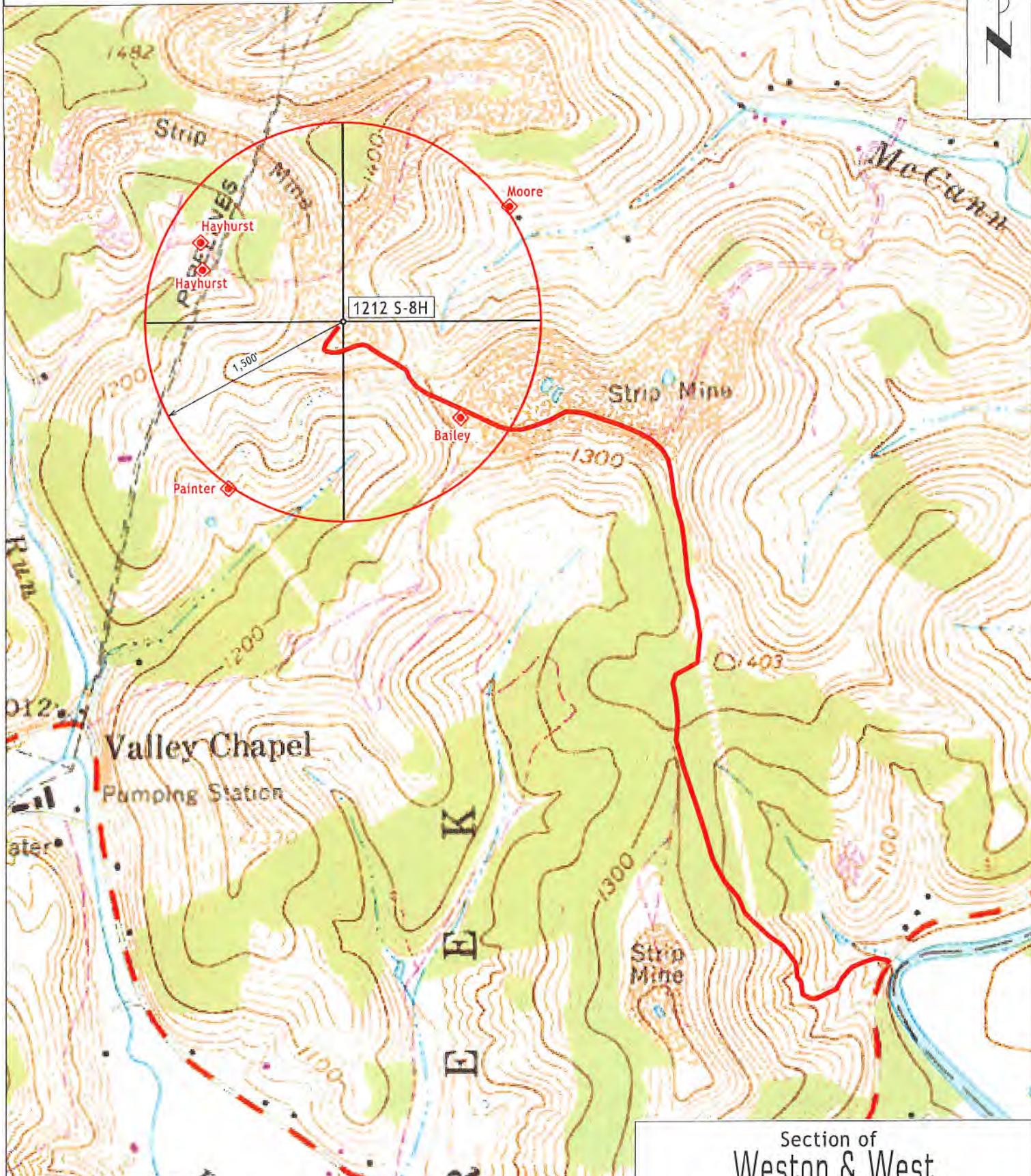
HG Energy II Appalachia, LLC

5260 Dupont Road

Parkersburg, WV 26101

Bang Shlyps

SUBJECT WELL
Flesher 1212 S-8H



◆ Denotes Possible Water Supply Source to be Tested

Section of
Weston & West
Milford 7.5' Quadrangles
SCALE 1"=1000'

8,349' to Top Hole

4,597' to Bottom Hole

LATITUDE 39 - 07 - 30

LONGITUDE 80 - 27 - 30

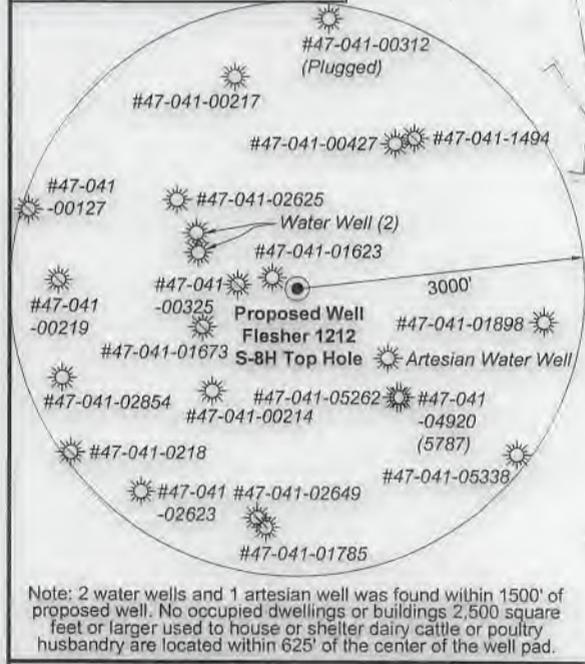
2,477' to Top Hole

8,809' 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.

Kevin S. James
Kevin S. James, P.S. 2305



Note: 2 water wells and 1 artesian well was found within 1500' of proposed well. No occupied dwellings or buildings 2,500 square feet or larger used to house or shelter dairy cattle or poultry husbandry are located within 625' of the center of the well pad.

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

FILE NO: 156-36-12-U-F-19
DRAWING NO: Flesher 1212 S-8H Well Plat
SCALE: 1" = 2000'
MINIMUM DEGREE OF ACCURACY: Submeter
PROVEN SOURCE OF ELEVATION: CORS, Bridgeport, WV

DATE: December 2 2020
OPERATOR'S WELL NO. Flesher 1212 S-8H
API WELL NO. **47-041-05117**
STATE COUNTY PERMIT

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

LOCATION: ELEVATION: 1,332.2' WATERSHED: Middle West Fork Creek

QUADRANGLE: Top: Weston Btm: Big Isaac

DISTRICT: Freemans Creek

COUNTY: Lewis

SURFACE OWNER: H.G. Energy II Appalachia, LLC

ACREAGE: 70.00

ROYALTY OWNER: W.D. Hitt, et al, et al

LEASE NO: ACREAGE: 210.00

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: 14,368' MD 6.925' TVD

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

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

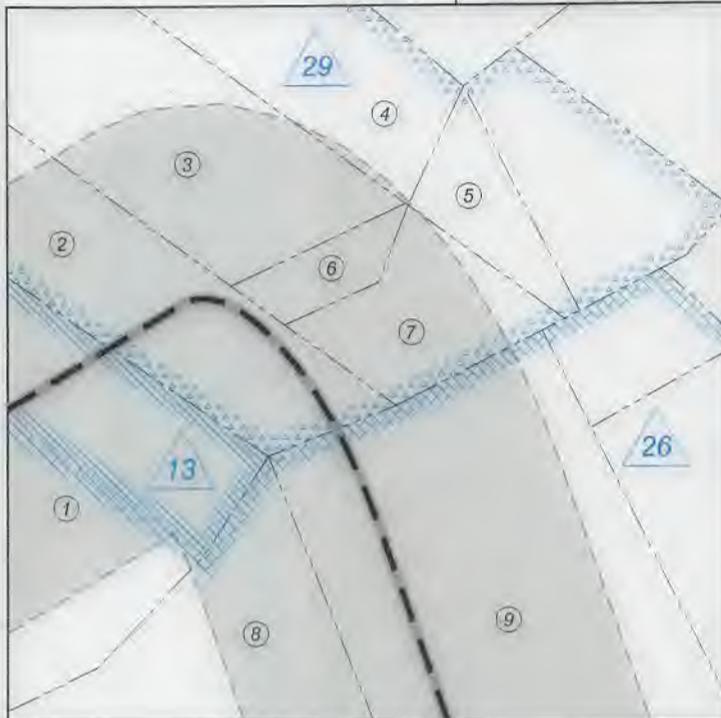


Tag	Bearing	Dist.	Description
L1	N 42°25' W	1,526.1'	#47-041-05262
L2	N 24°09' E	677.0'	1/2" Rebar
L3	N 68°12' E	1,618.8'	1" Iron pipe
L4	S 53°37' E	1,573.0'	#47-041-02625
L5	N 88°21' E	1,544.0'	Landing point

ID	Lease
12	C.L. Hitt, et al
13	Alda V. Hitt, et al
15	Fred & Ginger Bailey, et al
20	HG Energy II Appalachia, LLC
23	WVU Board of Governors
25	W.A. Chittum, et al
26	W.D. Hitt, et al
28	Charles F. Bailey, et al
29	Susan R. Hall, et al

Lewis Co. - Freeman Creek Dist.				
No.	TM / Par	Owner	Bk / Pg	Ac.
1	6C / 47	HG Energy II Appalachia, LLC	753 / 453	70.00
2	6C / 48	Marlene Hovis	672 / 411	15.00
3	6C / 49	Marlene Hovis	672 / 411	12.90
4	6C / 51	Marlene Hovis	672 / 411	14.90
5	6C / 51.1	Kenneth B. & Lydia M. Burroughs	504 / 216	2.35
6	6C / 52.1	Marlene Hovis	672 / 411	1.37
7	6C / 52	Kenneth B. & Lydia M. Burroughs	420 / 196	3.70
8	6C / 45	Fred A. Bailey	W25 / 263	48.00
9	6C / 46	Fred A. Bailey	W25 / 263	47.00
10	7C / 7	Bette Gerath	W20 / 230	34.00
11	6C / 32.1	Fred A. Bailey	W25 / 263	92.89
12	7C / 16	Mary Jane Bailey Trust	W49 / 571	130.50
13	7C / 12	Donna M. & Aubrey E. Smith, Jr.	740 / 926	36.35
14	7D / 3	Fred & Ginger Bailey	653 / 717	21.18
15	7D / 2.1	Fred & Ginger Bailey	616 / 179	3.77
16	7D / 1.3	Deborah D. Hunt	W24 / 544	23.83
17	7D / 32	WVU Board of Governors	584 / 524	221.65

Detail 1 (Scale 1"=500')

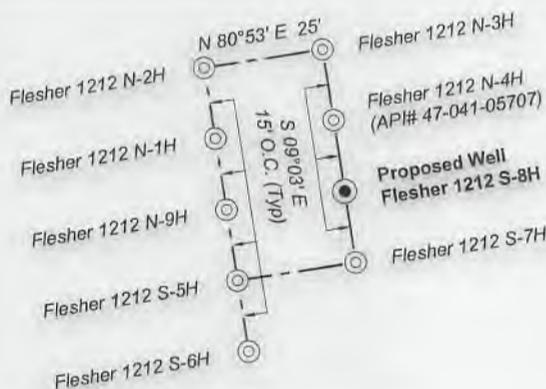


**Well Location References
Not to Scale**

Legend

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

Wellhead Layout (NTS)



<p>Notes: Well No. Flesher 1212 S-8H West Virginia Coordinate System of 1927, North Zone based upon Differential GPS Measurements. Top Hole coordinates Bottom Hole coordinates Latitude: 39°07'05.51" Latitude: 39°06'02.90" Longitude: 80°29'15.95" Longitude: 80°28'28.33" UTM Zone 17, NAD 1983 Top Hole Coordinates Bottom Hole Coordinates N: 4,330,028.352m N: 4,328,105.108m E: 544,297.527m E: 545,452.346m Plat orientation and corner and well references are based upon the grid north meridian. Well location references are based upon the magnetic meridian.</p>	<p>Notes: Well No. Flesher 1212 S-8H UTM NAD 1983 (USSF) Top Hole Coordinates N: 14,206,101.35' E: 1,785,749.47' Landing Point Coordinates N: 14,206,145.91' E: 1,787,292.84' Bottom Hole Coordinates N: 14,199,791.51' E: 1,789,538.24'</p>
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FILE NO: 156-36-12-U-F-19
DRAWING NO: Flesher 1212 S-8H Well Plat
SCALE: 1" = 2000'
MINIMUM DEGREE OF ACCURACY: Submeter
PROVEN SOURCE OF ELEVATION: CORS, Bridgeport, WV

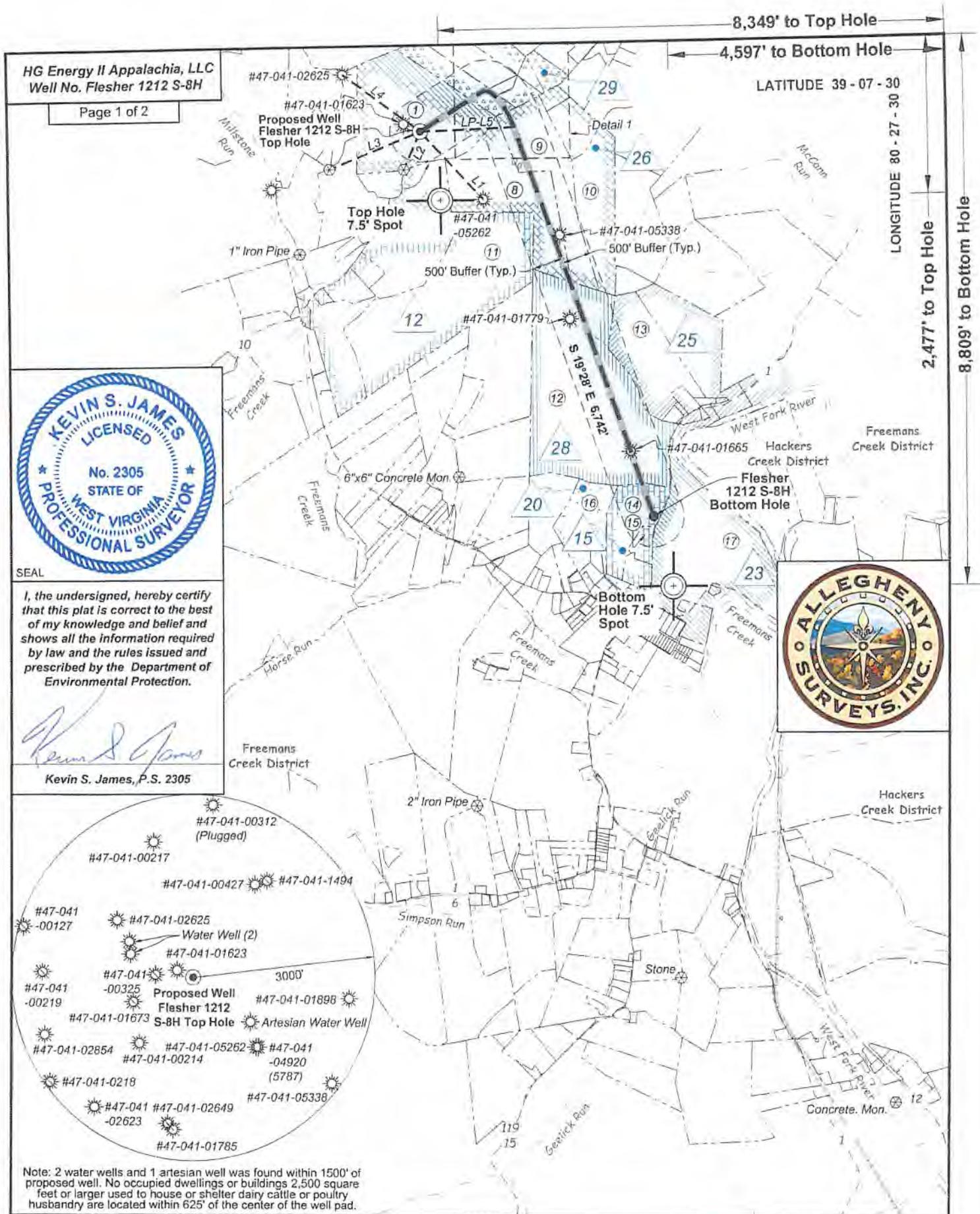
STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
OIL AND GAS DIVISION

DATE: December 2 2020
OPERATOR'S WELL NO. Flesher 1212 S-8H
API WELL NO. ~~464~~
47 - 041 - 05717
STATE COUNTY PERMIT

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

LOCATION: ELEVATION: 1,332.2' WATERSHED: Middle West Fork Creek Btm: Big Isaac
DISTRICT: Freemans Creek QUADRANGLE: Top: Weston
SURFACE OWNER: H.G. Energy II Appalachia, LLC COUNTY: Lewis
ROYALTY OWNER: W.D. Hitt, et al, et al LEASE NO: ACREAGE: 70.00
PROPOSED WORK: DRILL CONVERT DRILL DEEPER FRACTURE OR STIMULATE PLUG OFF OLD FORMATION
 PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE IN WELL (SPECIFY) _____ 6,925' TVD
 PLUG AND ABANDON CLEAN OUT AND REPLUG TARGET FORMATION: Marcellus Shale ESTIMATED DEPTH: 14,368' MD

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



HG Energy II Appalachia, LLC
Well No. Flesher 1212 S-8H

Page 1 of 2

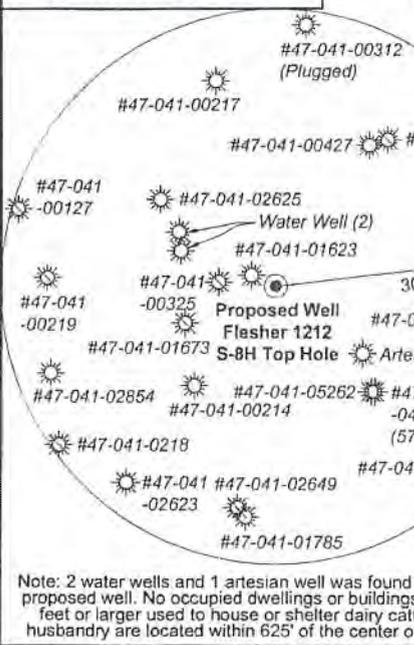
LATITUDE 39 - 07 - 30

LONGITUDE 80 - 27 - 30



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.

Kevin S. James
Kevin S. James, P.S. 2305



FILE NO: 156-36-12-U-F-19
DRAWING NO: Flesher 1212 S-8H 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 2 2020
OPERATOR'S WELL NO. Flesher 1212 S-8H
API WELL NO. HGA
47 - 041 - 05717
STATE COUNTY PERMIT

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

LOCATION: ELEVATION: 1,332.2' WATERSHED: Middle West Fork Creek
DISTRICT: Freemans Creek
SURFACE OWNER: H.G. Energy II Appalachia, LLC
ROYALTY OWNER: W.D. Hitt, et al, et al LEASE NO: ACREAGE: 210.00

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PLUG AND ABANDON CLEAN OUT AND REPLUG TARGET FORMATION: Marcellus Shale ESTIMATED DEPTH: 14,368' MD

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

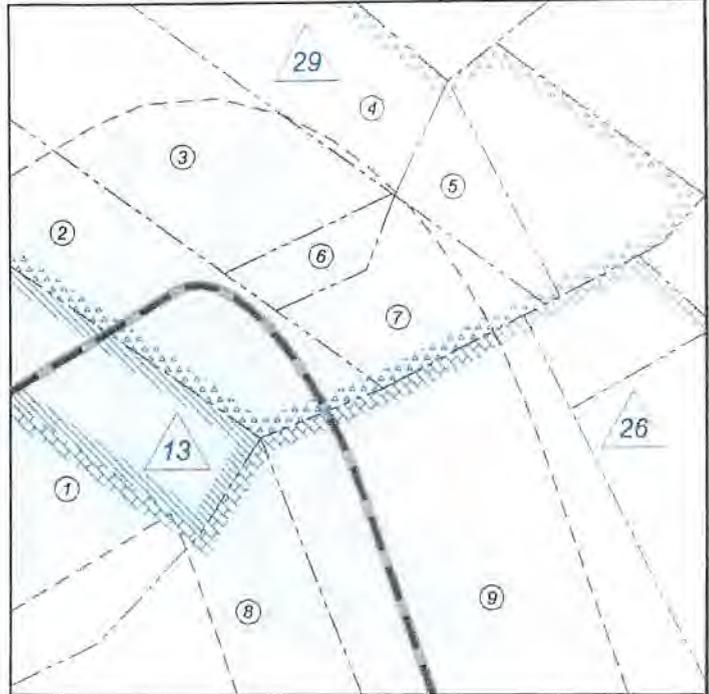
DESIGNATED AGENT: Diane C. White
ADDRESS: 5260 Dupont Road Parkersburg, WV 26101



Tag	Bearing	Dist.	Description
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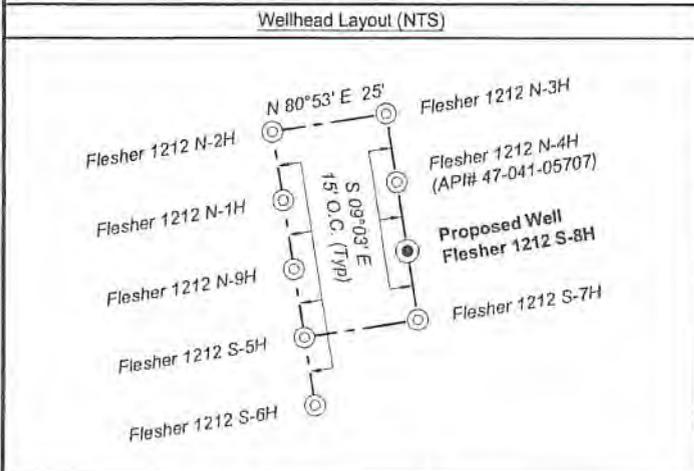
ID	Lease
12	C.L. Hitt, et al
13	Alda V. Hitt, et al
15	Fred & Ginger Bailey, et al
20	HG Energy II Appalachia, LLC
23	WVU Board of Governors
25	W.A. Chittum, et al
26	W.D. Hitt, et al
28	Charles F. Bailey, et al
29	Susan R. Hall, et al

Detail 1 (Scale 1"=500')



Lewis Co. - Freeman Creek Dist.				
No.	TM / Par	Owner	Bk / Pg	Ac.
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5	6C / 51.1	Kenneth B. & Lydia M. Burroughs	504 / 216	2.35
6	6C / 52.1	Marlene Hovis	672 / 411	1.37
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8	6C / 45	Fred A. Bailey	W25 / 263	48.00
9	6C / 46	Fred A. Bailey	W25 / 263	47.00
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13	7C / 12	Donna M. & Aubrey E. Smith, Jr.	740 / 926	36.35
14	7D / 3	Fred & Ginger Bailey	653 / 717	21.18
15	7D / 2.1	Fred & Ginger Bailey	616 / 179	3.77
16	7D / 1.3	Deborah D. Hunt	W24 / 544	23.83
17	7D / 32	WVU Board of Governors	584 / 524	221.65

Well Location References Not to Scale	Legend
	<ul style="list-style-type: none"> Proposed gas well Well Reference, as noted Monument, as noted Existing Well, as noted Digitized Well, as noted Creek or Drain Existing Road Surface boundary (approx.) Interior surface tracts (approx.)



Notes: Well No. Flesher 1212 S-8H		Notes:
West Virginia Coordinate System of 1927, North Zone based upon Differential GPS Measurements.		Well No. Flesher 1212 S-8H UTM NAD 1983 (USSF)
Top Hole coordinates	Bottom Hole coordinates	Top Hole Coordinates
Latitude: 39°07'05.51"	Latitude: 39°06'02.90"	N: 14,206,101.35'
Longitude: 80°29'15.95"	Longitude: 80°28'28.33"	E: 1,785,749.47'
UTM Zone 17, NAD 1983		Landing Point Coordinates
Top Hole Coordinates	Bottom Hole Coordinates	N: 14,206,145.91'
N: 4,330,028.352m	N: 4,328,105.108m	E: 1,787,292.84'
E: 544,297.527m	E: 545,452.346m	Bottom Hole Coordinates
Plat orientation and corner and well references are based upon the grid north meridian. Well location references are based upon the magnetic meridian.		N: 14,199,791.51'
		E: 1,789,538.24'

FILE NO: 156-36-12-U-F-19
DRAWING NO: Flesher 1212 S-8H 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 2 2020
OPERATOR'S WELL NO. Flesher 1212 S-8H
API WELL NO. **HGA**
47 - 041 - **05717**
STATE COUNTY PERMIT

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

LOCATION: ELEVATION: 1,332.2' WATERSHED: Middle West Fork Creek
DISTRICT: Freemans Creek QUADRANGLE: Top: Weston
SURFACE OWNER: H.G. Energy II Appalachia, LLC COUNTY: Lewis
ROYALTY OWNER: W.D. Hitt, et al, et al LEASE NO: ACREAGE: 70.00
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: 14,368' MD 6,925' 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

4704105717

WW-6A1
(5/13)

Operator's Well No. Flesher 1212 S-8H

**INFORMATION SUPPLIED UNDER WEST VIRGINIA CODE
Chapter 22, Article 6A, Section 5(a)(5)
IN LIEU OF FILING LEASE(S) AND OTHER CONTINUING CONTRACT(S)**

Under the oath required to make the verification on page 1 of this Notice and Application, I depose and say that I am the person who signed the Notice and Application for the Applicant, and that –

- (1) the tract of land is the same tract described in this Application, partly or wholly depicted in the accompanying plat, and described in the Construction and Reclamation Plan;
- (2) the parties and recordation data (if recorded) for lease(s) or other continuing contract(s) by which the Applicant claims the right to extract, produce or market the oil or gas are as follows:

Lease Name or Number	Grantor, Lessor, etc.	Grantee, Lessee, etc.	Royalty	Book/Page
----------------------	-----------------------	-----------------------	---------	-----------

****See Attached Sheets****

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

The permit applicant for the proposed well work addressed in this application hereby acknowledges the possibility of the need for permits and/or approvals from local, state, or federal entities in addition to the DEP, Office of Oil and Gas, including but not limited to the following:

- WV Division of Water and Waste Management
- WV Division of Natural Resources WV Division of Highways
- U.S. Army Corps of Engineers
- U.S. Fish and Wildlife Service
- County Floodplain Coordinator

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WV Department of
Environmental Protection

The applicant further acknowledges that any Office of Oil and Gas permit in no way overrides, replaces, or nullifies the need for other permits/approvals that may be necessary and further affirms that all needed permits/approvals should be acquired from the appropriate authority before the affected activity is initiated.

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

1212S - 8H LEASE CHAIN

TRACT #1212S	LEGACY LEASE NUMBER	TAX MAP	LEASE NUMBER	GRANTOR/LESSOR	GRANTEE/LESSEE	ROYALTY	DEED BOOK	PAGE
26	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	THIRD AMENDMENT TO MEMORANDUM OF FARMOUT AGREEMENT	734	558
				DOMINION ENERGY TRANSMISSION, INC.	HG ENERGY II APPALACHIA, LLC	ASSIGNMENT (68%)	736	220
				13	FK064389	p/o 03-006C-0047-0000	Q100438000	ALDA V. HITT, WIDOW
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 OF 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	SECOND AMENDMENT TO MEMORANDUM OF FARMOUT AGREEMENT	723					499
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DOMINION ENERGY TRANSMISSION, INC.	HG ENERGY II APPALACHIA, LLC	ASSIGNMENT (68%)	736					220
								SUSAN R. HALL, J. W. HALL, ALDA J. HALL AND MARY HALL
				SOUTH PENN OIL COMPANY	HOPE NATURAL GAS COMPANY	ASSIGNMENT	85	127
				HOPE NATURAL GAS COMPANY	RESERVE GAS COMPANY	ASSIGNMENT	79	370
				SOUTH PENN OIL COMPANY	RESERVE GAS COMPANY	ASSIGNMENT	79	237
				RESERVE GAS COMPANY	HOPE NATURAL GAS COMPANY	CONFIRMATORY DEED	155	202

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Office of Oil and Gas
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WV Department of Environmental Protection

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29	FK053178	03-006C-0048-0000 03-006C-0049-0000 03-006C-0051-0000 03-006C-0051-0001 03-006C-0052-0000 03-006C-0052-0001 03-006C-0055-0000	Q100482000	GERTRUDE R. ALLMAN , W. A. CHITTUM AND ZURA CHITTUM, HIS WIFE; CLAUDE B. HALL AND META HALL, HIS WIFE; M. O. BROWN, JOHN C. CHITTUM AND MABEL CHITTUM, HIS WIFE; HOMER L. CHITTUM AND JEWEL E. CHITTUM, HIS WIFE; RUBY FOSTER AND H.B. FOSTER, HER HUSBAND; JACK HALL, BLANCH V. FLETCHER, ANNCY M. STALNACKER AND DANIEL D. STALNACKER, HER HUSBAND; JOE HALL AND DOROTHY HALL, HIS WIFE; OVAL L. HALL, JOHN H. HALL AND MARY K. HALL, HIS WIFE; J. A. CHITTUM AND MARY E. CHITTUM, HIS WIFE; ELIZABETH HALL KING, AND EUGENE T. KING, HER HUSBAND; HOMER HALL JR. , AND FANNIE MAE HALL, HIS WIFE; PEARL A. ULLOM AND WILLIAM ULLOM SR., HER HUSBAND; ROSE M. HALL, JOHN H. HALL AND RUTH HALL, HIS WIFE; LILLIAN MOON AND BERNARD R. MOON, ER HUSBAND; ALDA V. HITT	HOPE NATURAL GAS COMPANY	STORAGE GRANT	222	74
				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 OF 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	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 (68%)	736	220				
28	FK062268	03-007C-0016-0000	Q100938000	CHARLES F. BAILEY AND MARY JANE BAILEY, HIS WIFE; AND DAYTON D. REXROAD AND ROXIE E. REXROAD, HIS WIFE	HOPE NATURAL GAS COMPANY	NOT LESS THAN 1/8	212	308
				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	THIRD AMENDMENT TO MEMORANDUM OF FARMOUT AGREEMENT	734	558
				DOMINION ENERGY TRANSMISSION, INC.	HG ENERGY II APPALACHIA, LLC	ASSIGNMENT	736	220
	FK109053	03-007D-0003-0000		CHARLES FRED BAILEY AND MARY JANE BAILEY. HUSBAND AND WIFE	SCOTT OIL COMPANY	NOT LESS THAN 1/8	459	145
				SCOTT OIL COMPANY AND JAMES F. SCOTT	DOMINON ENERGY, INC.	ASSIGNMENT	468	592
				DOMINION ENERGY, INC.	DOMINON RESERVES, INC.	ASSIGNMENT	472	281
				DOMINION APPALACHIA DEVELOPMENT. LLC	DOMINION TRANSMISSION, INC.	ASSIGNMENT	651	225
				DOMINION RESERVES, INC	CNX GAS COMPANY LLC.	MERGER/NAME CHANGE	9	471
				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

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15	1110002 DAD37328	03-007D-0002-0000 03-007D-0002-0001	Q100743000	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	170
				DOMINION TRANSMISSION, INC.	DOMINION ENERGY TRANSMISSION, INC.	MERGER/NAME CHANGE	WVSOS	
				DOMINION ENERGY TRANSMISSION, INC.	HG ENERGY II APPALACHIA, LLC	SECOND AMENDMENT TO MEMORANDUM OF FARMOUT AGREEMENT	723	499
				DOMINION ENERGY TRANSMISSION, INC.	HG ENERGY II APPALACHIA, LLC	THIRD AMENDMENT TO MEMORANDUM OF FARMOUT AGREEMENT	734	558
				DOMINION ENERGY TRANSMISSION, INC.	HG ENERGY II APPALACHIA, LLC	ASSIGNMENT (68%)	736	220

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

4704105717

December 19, 2020

Kelly Kees
WV DEP
Division of Oil & Gas
601 57th Street
Charleston, WV 25304

RE: Drilling Under Roads – Flesher 1212 S-8H
Freemans Creek District, Lewis County
West Virginia

Dear Ms. Kees:

HG Energy II Appalachia, LLC, is submitting the attached application for a new well work permit for the Flesher 1212 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 Flesher 1212 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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STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
NOTICE CERTIFICATION

Date of Notice Certification: 12/21/2020

API No. 47- _____ - _____

Operator's Well No. Flesher 1212 S-8H

Well Pad Name: Flesher 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
County: Lewis
District: Freemans Creek
Quadrangle: Weston
Watershed: McCann Run

UTM NAD 83 Easting: 544297.5
Northing: 4330028.4
Public Road Access: Kincheloe Road / Valley Chapel Road
Generally used farm name: Flesher

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

<p>Pursuant to West Virginia Code § 22-6A, the Operator has attached proof to this Notice Certification that the Operator has properly served the required parties with the following:</p> <p>*PLEASE CHECK ALL THAT APPLY</p> <p><input type="checkbox"/> 1. NOTICE OF SEISMIC ACTIVITY or <input checked="" type="checkbox"/> NOTICE NOT REQUIRED BECAUSE NO SEISMIC ACTIVITY WAS CONDUCTED</p> <p><input type="checkbox"/> 2. NOTICE OF ENTRY FOR PLAT SURVEY or <input checked="" type="checkbox"/> NO PLAT SURVEY WAS CONDUCTED</p> <p><input checked="" type="checkbox"/> 3. NOTICE OF INTENT TO DRILL or <input type="checkbox"/> NOTICE NOT REQUIRED BECAUSE NOTICE OF ENTRY FOR PLAT SURVEY WAS CONDUCTED or</p> <p><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 checked="" type="checkbox"/> RECEIVED/ NOT REQUIRED</p> <p><input checked="" type="checkbox"/> RECEIVED</p> <p><input checked="" type="checkbox"/> RECEIVED</p> <p><input checked="" type="checkbox"/> RECEIVED</p>
<p>RECEIVED Office of Oil and Gas DEC 29 2020</p> <p>WV Department of Environmental Protection</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.

4704105717

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: 5280 Dupont Road
Parkersburg, WV 26101
Facsimile: 304-863-3172
Email: dwhite@hgenergyllc.com



Subscribed and sworn before me this 21th day of December, 2020.

Cassidy Boardman Notary Public

My Commission Expires 7/31/2022

Oil and Gas Privacy Notice:

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

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WW-6A
(9-13)

API NO. 47-4704105717
OPERATOR WELL NO. Flesher 1212 N-1H to S-5H
Well Pad Name: Flesher 1212

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: 08/29/20 **Date Permit Application Filed:** 09/01/20

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) * *HG Energy not noticed*

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: Fred Bailey (also surface owner of water well)
Address: 4853 Old Mill Road
Jane Lew, WV 26378

Name: Phyllis L & Dolores A Hinterer
Address: P. O. Box 730
Jane Lew, WV 26378

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: Robert Painter
Address: 445 Millstone Road
Weston, WV 26452

OPERATOR OF ANY NATURAL GAS STORAGE FIELD

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

*Please attach additional forms if necessary

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WV Department of Environmental Protection

DEC 29 2020

Notice is hereby given:

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

This Notice Shall Include:

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

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

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

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

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

Well Location Restrictions

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

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

Water Well Testing:

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

Water Testing Laboratories:

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

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

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

Written Comment:

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

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

Such persons may request, at the time of submitting written comments, notice of the permit decision and a list of persons qualified to test water. **NOTE: YOU ARE NOT REQUIRED TO FILE ANY COMMENT.**

Time Limits and Methods for Filing Comments.

The law requires these materials to be served on or before the date the operator files its Application. You have **THIRTY (30) DAYS** after the filing date to file your comments. Comments must be filed in person or received in the mail by the Chief's office by the time stated above. You may call the Chief's office to be sure of the date. Check with your postmaster to ensure adequate delivery time or to arrange special expedited handling. If you have been contacted by the well operator and you have signed a "voluntary statement of no objection" to the planned work described in these materials, then the permit may be issued at any time.

Pursuant to West Virginia Code § 22-6A-11(c)(2), Any objections of the affected coal operators and coal seam owners and lessees shall be addressed through the processes and procedures that exist under sections fifteen, seventeen and forty, article six of this chapter, as applicable and as incorporated into this article by section five of this article. The written comments filed by the parties entitled to notice under subdivisions (1), (2), (4), (5) and (6), subsection (b), section ten of this article shall be considered by the secretary in the permit issuance process, but the parties are not entitled to participate in the processes and proceedings that exist under sections fifteen, seventeen or forty, article six of this chapter, as applicable and as incorporated into this article by section five of this article.

Comment Requirements

Your comments must be in writing and include your name, address and telephone number, the well operator's name and well number and the approximate location of the proposed well site including district and county from the application. You may add other documents, such as sketches, maps or photographs to support your comments.

Disclaimer: All comments received will be placed on our web site <http://www.dep.wv.gov/oil-and-gas/Horizontal-Permits/Pages/default.aspx> and the applicant will automatically be forwarded an email notice that such comments have been submitted. The applicant will be expected to provide a response to comments submitted by any surface owner, water purveyor or natural gas storage operator noticed within the application.

Permit Denial or Condition

The Chief has the power to deny or condition a well work permit. Pursuant to West Virginia Code § 22-6A-8(d), the permit may not be issued or be conditioned, including conditions with respect to the location of the well and access roads prior to issuance if the director determines that:

- (1) The proposed well work will constitute a hazard to the safety of persons;
- (2) The plan for soil erosion and sediment control is not adequate or effective;
- (3) Damage would occur to publicly owned lands or resources; or
- (4) The proposed well work fails to protect fresh water sources or supplies.

A permit may also be denied under West Virginia Code § 22-6A-7(k), the secretary shall deny the issuance of a permit if the secretary determines that the applicant has committed a substantial violation of a previously issued permit for a horizontal well, including the applicable erosion and sediment control plan associated with the previously issued permit, or a substantial violation of one or more of the rules promulgated under this article, and in each instance has failed to abate or seek review of the violation within the time prescribed by the secretary pursuant to the provisions of subdivisions (1) and (2), subsection (a), section five of this article and the rules promulgated hereunder, which time may not be unreasonable.

Pursuant to West Virginia Code § 22-6A-10(g), any person entitled to submit written comments to the secretary pursuant to subsection (a), section eleven of this article, shall also be entitled to receive from the secretary a copy of the permit as issued or a copy of the order modifying or denying the permit if the person requests receipt of them as a part of the written comments submitted concerning the permit application. Such persons may request, at the time of submitting written comments, notice of the permit decision and a list of persons qualified to test water.

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WW-6A
(8-13)

API NO. 47-4704105717
OPERATOR WELL NO. Flesher 1212 N-4H
Well Pad Name: Flesher 1212

Notice is hereby given by:

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

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

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 deprivacyofficer@wv.gov.



Subscribed and sworn before me this 29th day of August, 2020.

Cassidy A. Boardman Notary Public

My Commission Expires 7/31/2022

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WW-6A
(8-13)
Page 1 Continued

Flesher 1212 N-1H to S-8H

Surface Owner of Water Well and/or Water Purveyors to be Noticed:

Richard & Loretta Hayhurst
340 Cheyenne Drive
Weston, WV 26452

Fred Bailey
4853 Old Mill Road
Jane Lew, WV 26378

Mary Elen Nicholson
1149 Millstone Road
Weston, WV 26452

Surface Owner (s) (Road and/or Other Disturbance)

Scott & Amy Carpenter
1089 Valley Chapel Road
Weston, WV 26452

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STATE OF WEST VIRGINIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION, OFFICE OF OIL AND GAS
NOTICE OF INTENT TO DRILL

Pursuant to W. Va. Code § 22-6A-16(b), the Notice of Intent to Drill is only required if the notice requirements of W. Va. Code § 22-6A-10(a) have NOT been met or if the Notice of Intent to Drill requirement has NOT been waived in writing by the surface owner.

Notice Time Requirement: Notice shall be provided at least **TEN (10)** days prior to filing a permit application.

Date of Notice: 12/10/2020 **Date Permit Application Filed:** 12/21/2020

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): * HG Energy 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:	<u>West Virginia</u>	UTM NAD 83	Easting:	<u>544297.5</u>
County:	<u>Lewis</u>		Northing:	<u>4330028.4</u>
District:	<u>Freemans Creek</u>	Public Road Access:	<u>Kincheloe Run Rd to Valley Chapel Road</u>	
Quadrangle:	<u>Weston 7.5</u>	Generally used farm name:	<u>Flesher</u>	
Watershed:	<u>Middle West Fork Creek</u>			

This Notice Shall Include:

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

Notice is hereby given by:

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

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Environmental Protection

Authorized Representative: Diane White *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: 12/15/2020 **Date Permit Application Filed:** 12/21/2020

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

- CERTIFIED MAIL HAND
RETURN RECEIPT REQUESTED DELIVERY

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

Notice is hereby provided to the SURFACE OWNER(s) * HG Energy not noticed
(at the address listed in the records of the sheriff at the time of notice):

Name: <u>HG Energy II Appalachia LLC</u>	Name: _____
Address: <u>5260 Dupont Road</u>	Address: _____
<u>Parkersburg, WV 26101</u>	_____

Notice is hereby given:

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

State: <u>West Virginia</u>	UTM NAD 83	Easting: <u>544297.5</u>
County: <u>Lewis</u>		Northing: <u>4330028.4</u>
District: <u>Freemans Creek</u>	Public Road Access: <u>Kincheloe Rd / Valley Chapel Road</u>	
Quadrangle: <u>Weston 7.5'</u>	Generally used farm name: <u>Flesher</u>	
Watershed: <u>Middle West Fork Run</u>		

This Notice Shall Include:

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

Well Operator: <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> <i>Diane White</i>	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 of your personal information, please contact DEP's Chief Privacy Officer at depprivacyofficer@wv.gov.

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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

August 17, 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 Flesher 1212 Pad, Lewis County
Flesher S-8H Well Site

Dear Mr. Martin,

This well site will be accessed from a DOH permit #07-2020-0148 which has been issued to HG Energy, LLC for access to the State Road for a well site located off Lewis County Route 10 SLS MP 16.2.

This operator is in compliance with §22-6A-20 of the WV Code. Operator has signed a STATEWIDE OIL AND GAS ROAD MAINTENANCE BONDING AGREEMENT and provided the required Bond. This operator is currently in compliance with the DOH OIL AND GAS POLICY dated October 1, 2018.

Very Truly Yours,

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

Cc: Diane White
HG Energy, LLC
CH, OM, D-7
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HG Energy II Appalachia, LLC

List of Frac Additives by Chemical Name and CAS #

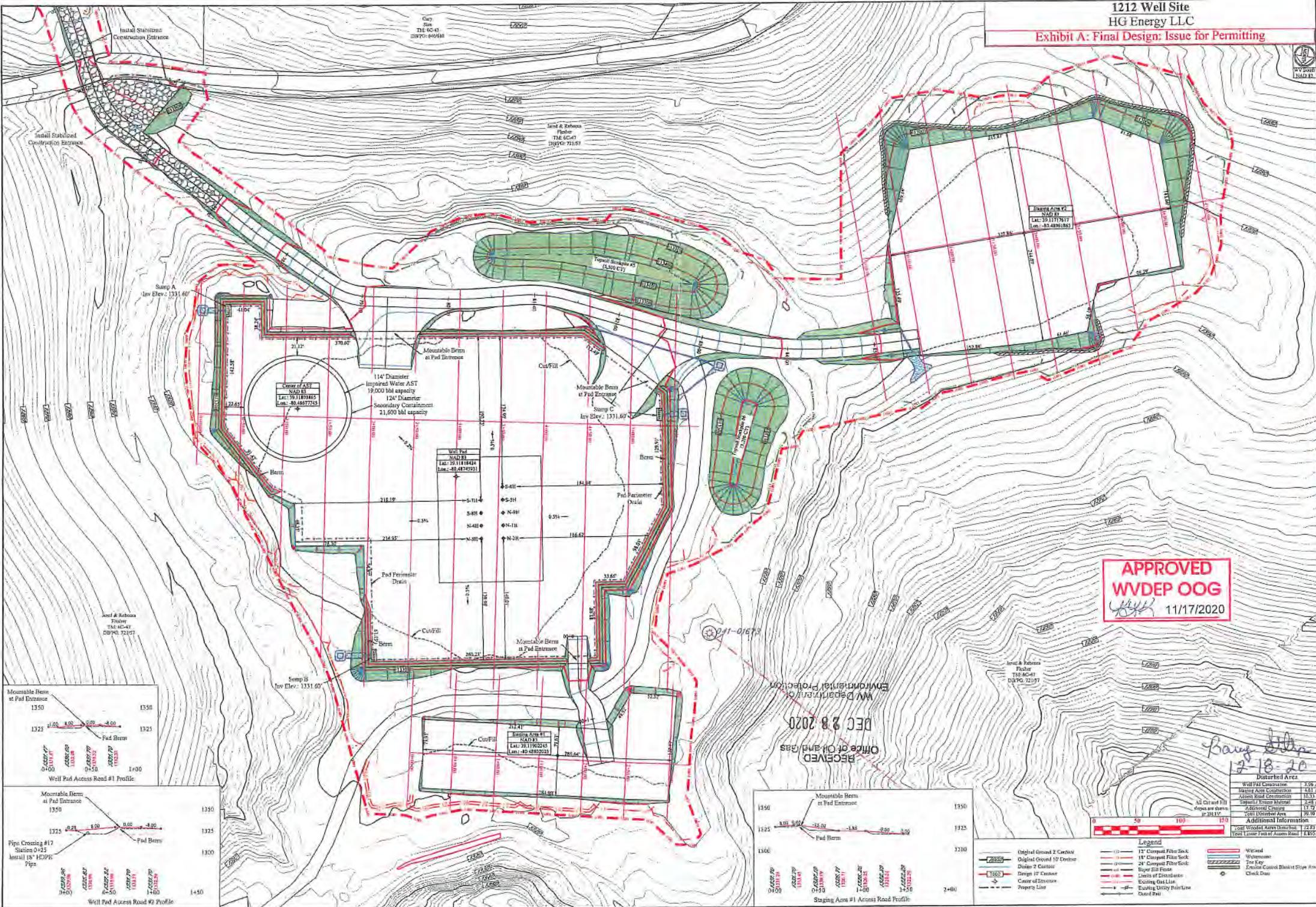
Flesher 1212 Well Pad (N-1H to N-4H, N-9H, S-5H to S-8H)

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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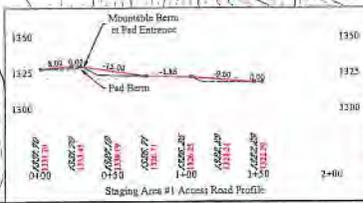
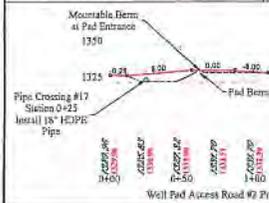
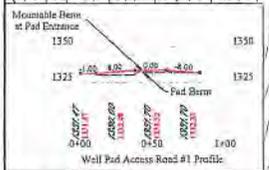
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WV Dep
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APPROVED WVDEP OOG
[Signature] 11/17/2020

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- Legend**
- Original Ground 2' Contour
 - Original Ground 10' Contour
 - Design 2' Contour
 - Design 10' Contour
 - Center of Structure
 - Property Line
 - 12" Compact Filter Sock
 - 18" Compact Filter Sock
 - 24" Compact Filter Sock
 - Soil Oil Fence
 - Limits of Disturbance
 - Existing Gas Line
 - Existing Utility Pole/Line
 - Disturb. Pad
 - W/land Wetlands
 - The Key
 - Zone Control Blanket Slope Area
 - Check Dam



THIS DOCUMENT PREPARED FOR HG ENERGY LLC.

Kelly S. Surver
Professional Engineer
No. 10424
Exp. 12/31/2024
WV License No. 10424

Site Plan
1212 Well Site
Freemans Creek District
Lewis County, WV

Date: 10/21/2020
Scale: As Shown
Designed By: ZS
File No.
Sheet 20 of 27