



west virginia department of environmental protection

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

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

Monday, February 10, 2020
WELL WORK PERMIT
Horizontal 6A / New Drill

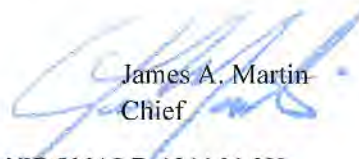
HG ENERGY II APPALACHIA, LLC
5260 DUPONT ROAD
PARKERSBURG, WV 26101

Re: Permit approval for MCDONALD 1211 N-3H
47-041-05703-00-00

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: MCDONALD 1211 N-3H
Farm Name: HG ENERGY II APPALACHIA
U.S. WELL NUMBER: 47-041-05703-00-00
Horizontal 6A New Drill
Date Issued: 2/10/2020

PERMIT CONDITIONS

West Virginia Code § 22-6A-8(d) allows the Office of Oil and Gas to place specific conditions upon this permit. Permit conditions have the same effect as law. Failure to adhere to the specified permit conditions may result in enforcement action.

CONDITIONS

1. This proposed activity may require permit coverage from the United States Army Corps of Engineers (USACE). Through this permit, you are hereby being advised to consult with USACE regarding this proposed activity.
2. If the operator encounters an unanticipated void, or an anticipated void at an unanticipated depth, the operator shall notify the inspector within 24 hours. Modifications to the casing program may be necessary to comply with W. Va. Code § 22-6A-5a (12), which requires drilling to a minimum depth of thirty feet below the bottom of the void, and installing a minimum of twenty (20) feet of casing. Under no circumstance should the operator drill more than one hundred (100) feet below the bottom of the void or install less than twenty (20) feet of casing below the bottom of the void.
3. When compacting fills, each lift before compaction shall not be more than 12 inches in height, and the moisture content of the fill material shall be within limits as determined by the Standard Proctor Density test of the actual soils used in specific engineered fill, ASTM D698, Standard Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort, to achieve 95 % compaction of the optimum density. Each lift shall be tested for compaction, with a minimum of two tests per lift per acre of fill. All test results shall be maintained on site and available for review.
4. Operator shall install signage per § 22-6A-8g (6) (B) at all source water locations included in their approved water management plan within 24 hours of water management plan activation.
5. Oil and gas water supply wells will be registered with the Office of Oil and Gas and all such wells will be constructed and plugged in accordance with the standards of the Bureau for Public Health set forth in its Legislative rule entitled *Water Well Regulations*, 64 C.S.R. 19. Operator is to contact the Bureau of Public Health regarding permit requirements. In lieu of plugging, the operator may transfer the well to the surface owner upon agreement of the parties. All drinking water wells within fifteen hundred feet of the water supply well shall be flow tested by the operator upon request of the drinking well owner prior to operating the water supply well.
6. Pursuant to the requirements pertaining to the sampling of domestic water supply wells/springs the operator shall, no later than thirty (30) days after receipt of analytical data provide a written copy to the Chief and any of the users who may have requested such analyses.
7. 24 hours prior to the initiation of the completion process the operator shall notify the Chief or his designee.
8. During the completion process the operator shall monitor annular pressures and report any anomaly noticed to the chief or his designee immediately.
9. If any explosion or other accident causing loss of life or serious personal injury occurs in or about a well or well work on a well, the well operator or its contractor shall give notice, stating the particulars of the explosion or accident, to the oil and gas inspector and the Chief, within 24 hours of said accident.
10. During the casing and cementing process, in the event cement does not return to the surface, the oil and gas inspector shall be notified within 24 hours.

API Number: _____

PERMIT CONDITIONS

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



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Office of Oil and Gas
601 57th Street, S.E.
Charleston, WV 25304
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Austin Caperton, Cabinet Secretary
dep.wv.gov

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

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

DATE: October 16, 2019
ORDER NO.: 2019-W-13

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 II Appalachia, LLC (hereinafter "HG Energy" 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 Energy 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 August 16, 2019 HG Energy submitted a well work permit application identified as API# 47-041-05701. The proposed well is to be located on the McDonald 1211 Pad in the Freemans Creek District of Lewis County, West Virginia.
4. On August 16, 2019 HG Energy requested a waiver for Wetland K 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# 47-041-05701.

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 K from well location restriction requirements in W. Va. Code §22-6A-12(b) for the well work permit application identified as API# 47-041-05701. The Office of Oil and Gas hereby **ORDERS** that HG Energy shall meet the following site construction and operational requirements for the McDonald 1211 Well Pad:

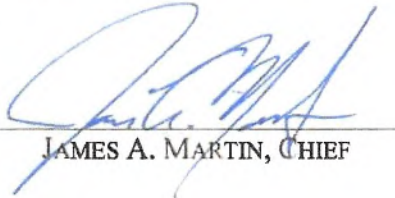
- a. A berm shall be constructed around the perimeter of the pad to contain any potential spills and storm water runoff. Berm is to be at least twenty-four inches (24”) in height;
- b. Erosion control blankets shall be installed on all slopes and down gradient locations of the pad as erosion and sediment controlling BMPs;
- c. Wetland K is above the cut slope from the proposed well pad thus no run off from construction will reach the wetland;
- 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 16th day of October, 2019.

IN THE NAME OF THE STATE OF WEST VIRGINIA:

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

By:



JAMES A. MARTIN, CHIEF

11/3/14

Wetland and Perennial Stream Waiver Request

API Number: Not yet assigned

Operator's Well Number: _____

Well Operator: HG Energy II Appalachia, LLC

Well Number: N-1H, N-2H, N-3H, N-4H, N-5H, S-6H, S-7H, S-8H, S-9H, S-10H

Well Pad Name: 1211 Well Pad

County, District, Quadrangle of Well Location: Lewis County, Freemans Creek District, West Milford Quad

Answer the questions below to request a waiver from West Virginia Department of Environmental Protection for any wetlands or perennial streams which lie within one hundred feet of proposed project Limit of Disturbance (LOD), which includes any erosion and sediment control devices to be used.

This waiver shall be requested pursuant to Chapter 22 Article 6A Section 12 of West Virginia Code, which states:

§22-6A-12(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.

§22-6A-12(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.

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11/3/14

Wetland and Perennial Stream Waiver Request

API Number: Not yet assigned

Operator's Well Number: _____

Answer in the space provided, or use additional pages as necessary to fully answer the questions below:

- 1. Describe the proposed project location, including unique identifying names of all wetlands, and the names of perennial streams for which the waiver is sought.**

Please refer to Section 2.0, Question 1 of the letter.

- 2. Justify the proposed activity by describing alternatives to this project that were considered.**

- a. Include a No-Action Alternative as to show "the future without the project"
- b. Location Alternatives must be shown
- c. Must demonstrate why a one hundred foot buffer cannot be maintained
- d. Describe how the proposed project is the least environmentally damaging practicable alternative

Please refer to Section 2.0, Question 2 of the letter.

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11/3/14

Wetland and Perennial Stream Waiver Request

API Number: Not yet assigned

Operator's Well Number: _____

- 3. Identify sufficient measures, facilities or practices to be employed during well site construction, drilling and operations to protect the waters of the state. This description should include all additional erosion and sediment control measures and devices that will be used.**

Please refer to Section 2.0, Question 3 of the letter.

- 4. Provide mapping, plans, specifications and design analysis for the preferred alternative to the project.**

- a. Specify in writing what additional controls, measures, devices, monitoring, etc. will be used to protect these wetlands and/or perennial streams for which the waiver is sought.

Please refer to Section 2.0, Question 4 of the letter.

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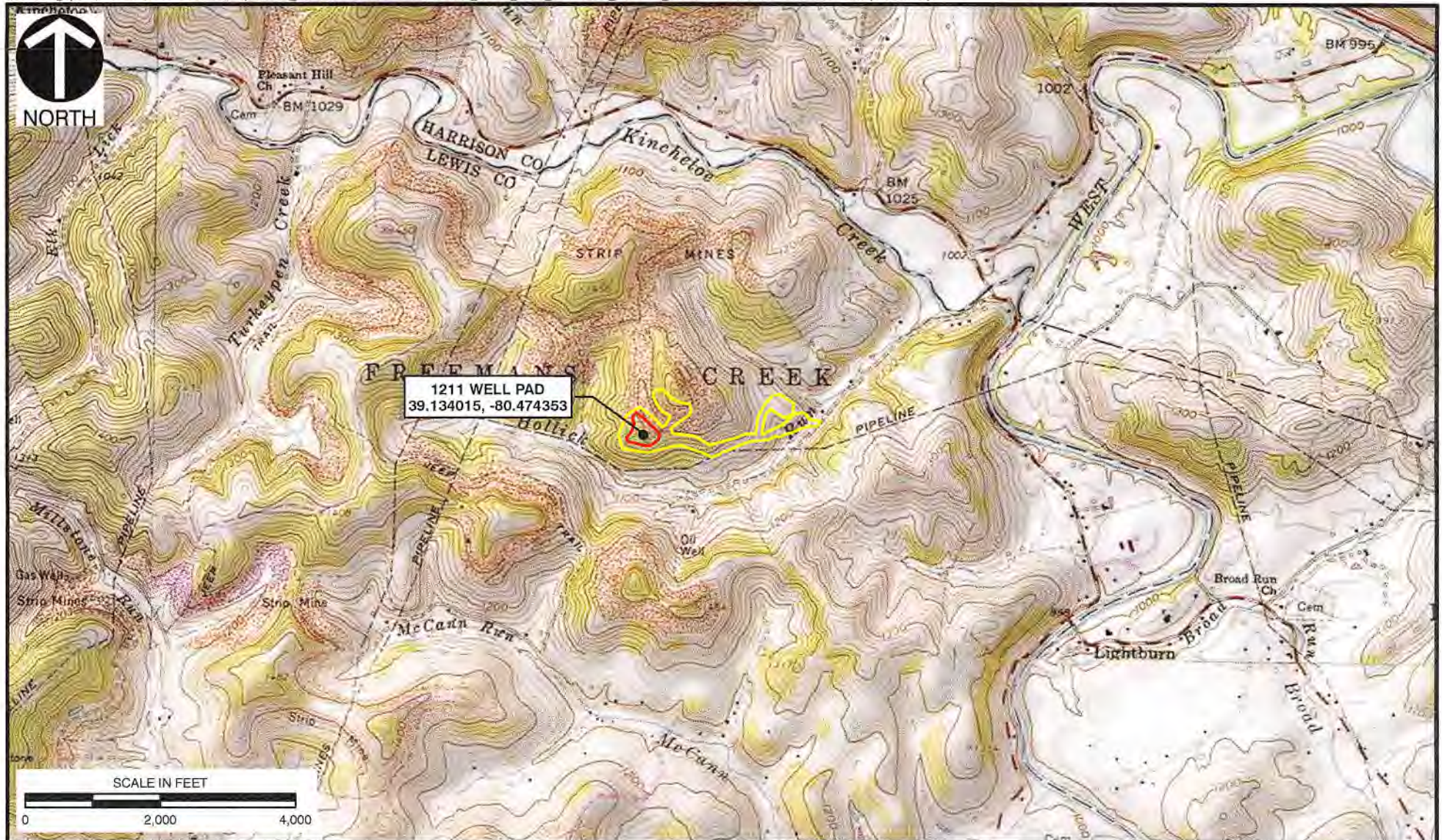
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ATTACHMENT B
SITE LOCATION MAP

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LEGEND

- LOD
- WELL PAD

REFERENCE

1. USGS TOPOGRAPHIC MAP/ ARCGIS MAP SERVICE:
[HTTP://GTO.ARCGISONLINE.COM/MAPS/](http://gto.arcgisonline.com/maps/)
 USA_TOPO_MAPS, ACCESSED 8/8/2019
 WEST MILFORD, WEST VIRGINIA QUAD



Civil & Environmental Consultants, Inc.

600 Marketplace Avenue, Suite 200 - Bridgeport, WV 26330-9121
 Ph: 304-933-3119 • Toll: 855-488-9539 • Fax: 304-933-3327
www.cecinc.com

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

USGS SITE LOCATION MAP

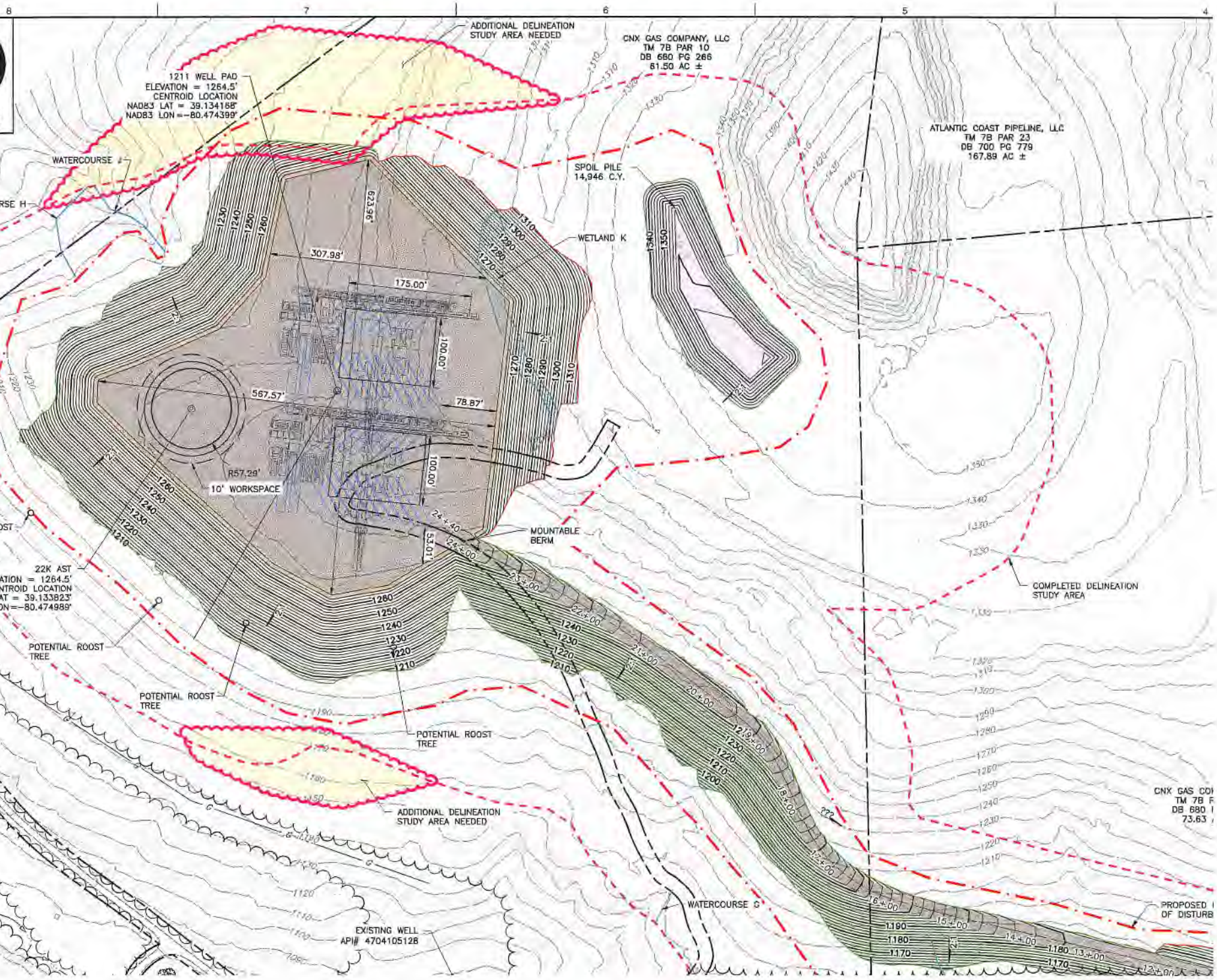
DRAWN BY:	MWT	CHECKED BY:	AJL	APPROVED BY: <small>* Hand signature on file</small>	JDK*	FIGURE NO:	1
DATE:	08/08/2019	SCALE:	1" = 2,000'	PROJECT NO:	190-016.AW00		

ATTACHMENT C
CONCEPTUAL PLANS

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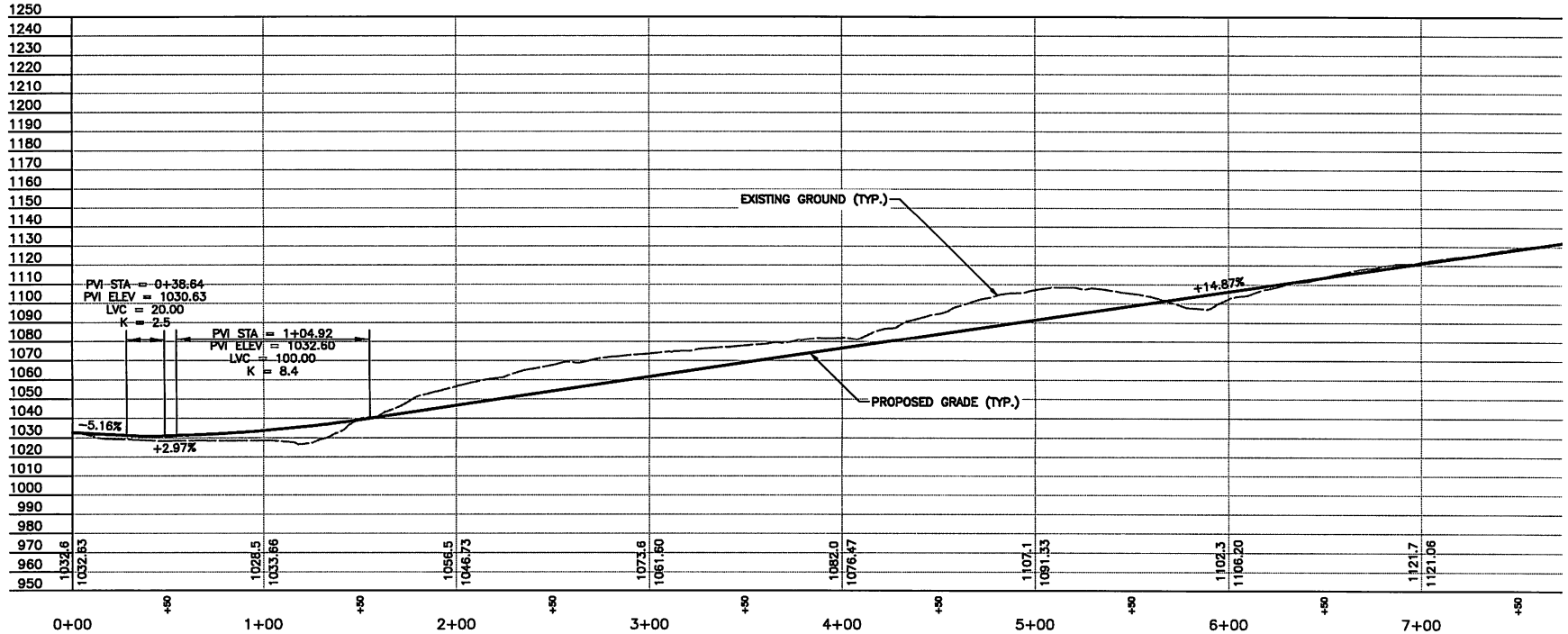


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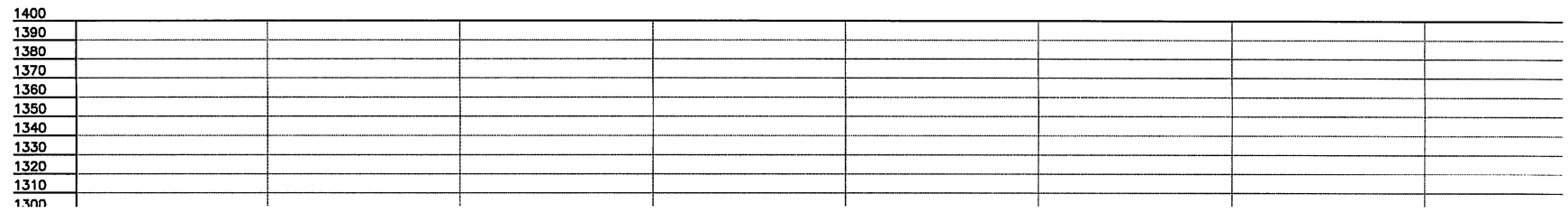
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NOV 13 2019

WV Department of Environmental Protection



MAIN ACCESS ROAD PROFILE
STA: 0+00 TO 12+00



ATTACHMENT D

PROPOSED FINAL SITE PLANS

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PROJECT OWNER/APPLICANT

HG ENERGY II APPALACHIA, LLC
5260 DUPONT ROAD
PARKERSBURG, WV 26101
PH: (304) 420-1100
CONTACT: JARED STEMPLE

WVDOH

DISTRICT SEVEN
PH: (304) 269-0400
CONTACT: DISTRICT ENGINEER
BRIAN COOPER, P.E.

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1211 WELL PAD HG ENERGY II APPALACHIA PERMIT PLANS

FREEMANS CREEK DISTRICT, LEWIS COUNTY, WEST VA

CIVIL ENGINEER

**CIVIL & ENVIRONMENTAL
CONSULTANTS, INC.**
600 MARKETPLACE AVENUE SUITE 200
BRIDGEPORT, WV 26330
PH: (304) 933-3119
CONTACT: THOMAS ADAMS, P.E.

SPILL HOTLINE

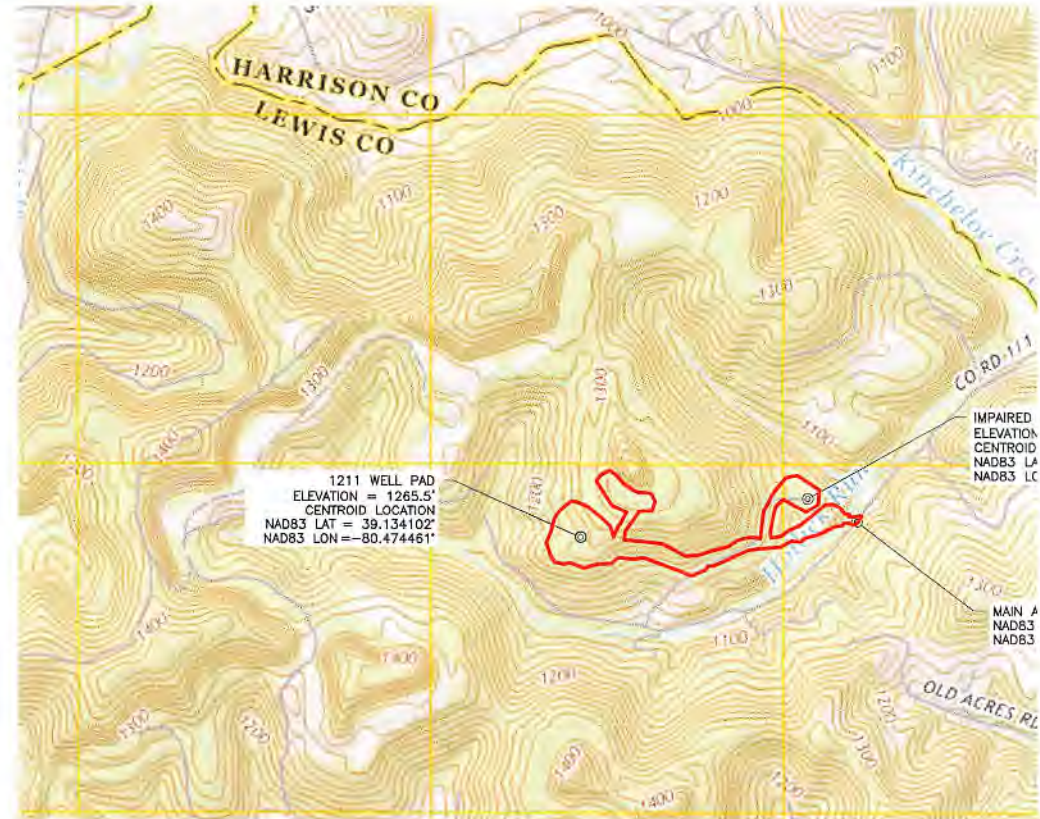
WEST VIRGINIA DEPARTMENT OF
ENVIRONMENTAL PROTECTION (WVDEP)
PH: (800) 642-3074

NATIONAL RESPONSE CENTER
PH: (800) 424-8802

CONSTRUCTION SEQUENCE

1. PRIOR TO COMMENCEMENT OF ANY EARTH DISTURBANCE ACTIVITY INCLUDING CLEARING AND GRUBBING, THE REGISTRANT SHALL CALL WEST VIRGINIA 811 BY DIALING 811 OR 1-800-245-4848 TO IDENTIFY ALL UTILITY LINES. THE REGISTRANT ALSO MUST CLEARLY DELINEATE SENSITIVE AREAS, RIPARIAN FOREST BUFFER BOUNDARIES, THE LIMITS OF CLEARING, AND TREES THAT ARE TO BE CONSERVED WITHIN THE PROJECT SITE, AND SHALL INSTALL APPROPRIATE BARRIERS WHERE EQUIPMENT MAY NOT BE PARKED, STAGED, OPERATED, OR LOCATED FOR ANY PURPOSE.
2. SITE ACCESS - THIS IS THE FIRST LAND-DISTURBANCE ACTIVITY TO TAKE PLACE AT THE SITE AND SHOULD PROVIDE BMPs TO MINIMIZE ACCELERATED EROSION AND SEDIMENTATION FROM THE FOLLOWING AREAS: ENTRANCE TO THE SITE, CONSTRUCTION ROUTES, AND AREAS DESIGNATED FOR EQUIPMENT OR OTHER USE AT THE SITE INCLUDING PARKING, STOCKPILES.
3. SEDIMENT BARRIERS - INSTALL PERIMETER BMPs AFTER THE CONSTRUCTION SITE IS ACCESSED, KEEPING ASSOCIATED CLEARING AND GRUBBING LIMITED TO ONLY THAT AMOUNT REQUIRED FOR INSTALLING PERIMETER BMPs.
4. LAND CLEARING AND GRADING - IMPLEMENT CLEARING AND GRADING ONLY AFTER ALL DOWNSLOPE E&S BMPs HAVE BEEN CONSTRUCTED AND STABILIZED.
5. SURFACE STABILIZATION - APPLY TEMPORARY OR PERMANENT STABILIZATION MEASURES IMMEDIATELY TO ANY DISTURBED AREAS WHERE WORK HAS REACHED FINAL GRADE, HAS BEEN DELAYED OR OTHERWISE TEMPORARILY SUSPENDED.
6. CONSTRUCTION OF BUILDING, UTILITIES, AND PAVING - DURING CONSTRUCTION, INSTALL AND MAINTAIN ANY ADDITIONAL EROSION AND SEDIMENT CONTROL BMPs, AND IMPLEMENT ANY STRUCTURAL POST CONSTRUCTION STORMWATER BMPs THAT MAY BE REQUIRED.
7. UPON COMPLETION OF PAD GRADING, COMPACT THE PAD TO GRADE AND BEGIN PLACEMENT OF PAD SOIL CEMENT.
8. FINAL STABILIZATION TOPSOILING, TREES, AND SHRUBS - AFTER CONSTRUCTION IS COMPLETED, INSTALL STABILIZATION BMPs INCLUDING PERMANENT SEEDING, MULCHING, AND RIPRAP, AND COMPLETE IMPLEMENTATION OF STORMWATER BMPs IN THIS LAST CONSTRUCTION PHASE. STABILIZE ALL OPEN AREAS, INCLUDING BORROW AND SPOIL AREAS, AND REMOVE ALL TEMPORARY BMPs AND STABILIZE AND DISTURBANCES ASSOCIATED WITH THE REMOVAL OF THE BMP.

1211 WELL PAD COORDINATES (UTM NAD83-17F)				
WELLS	NORTHING	EASTING	LATITUDE	LONGITUDE
N-3H	14211880.001	1789473.645	N039.134102	W080.474331
N-2H	14211869.492	1789484.339	N039.134073	W080.474294
N-4H	14211858.982	1789495.033	N039.134043	W080.474256
N-1H	14211848.473	1789505.727	N039.134014	W080.474219
N-5H	14211837.964	1789516.421	N039.133985	W080.474181
S-6H	14211809.940	1789544.938	N039.133908	W080.474081
S-7H	14211799.431	1789555.632	N039.133879	W080.474044
S-8H	14211788.921	1789566.326	N039.133850	W080.474006
S-10H	14211778.412	1789577.020	N039.133821	W080.473969
S-9H	14211767.903	1789587.714	N039.133792	W080.473931



LOCATION MAP

WEST MILFORD USGS 7.5' QUAD
SCALE IN FEET

0 1000 2000
1 INCH = 1000 FEET



NORTH



LOCAL EMERGENCY SERVICES

	NAME	TELEPHONE NC
AMBULANCE		911
HOSPITAL EMERGENCY ROOM	UNITED HOSPITAL CENTER	(681) 342-1000

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EXISTING INDEX CONTOURS & CONTOUR LABELS		PROPOSED INDEX CONTOURS
EXISTING INTERMEDIATE CONTOURS		PROPOSED INTERMEDIATE CONTOURS
EXISTING TAX PARCEL PROPERTY LINE		DELINEATION STUDY AREA (AO)
EXISTING RIGHT OF WAY LINE		PROPOSED LIMITS OF DISTURBANCE
EXISTING ROADS (UNPAVED)		PROPOSED UTILITY POLE
EXISTING ROADS (PAVED)		PROPOSED GRAVEL SURFACE
EXISTING ROADS CENTERLINE		PROPOSED ROAD AREA
EXISTING LOGGING ROADS (UNPAVED)		PROPOSED WELL PAD AREA
EXISTING GUARDRAIL		PROPOSED WELL PAD BERM AREA
EXISTING FENCE LINE		PROPOSED TANK PAD AREA
EXISTING TREE LINE		PROPOSED SPOIL AREA
EXISTING OVERHEAD ELECTRIC LINE		PROPOSED 8" FILTER SOCK
EXISTING OVERHEAD WIRE		PROPOSED 18" FILTER SOCK
EXISTING UTILITY POLE		PROPOSED 42" SMARTFENCE
EXISTING GAS PIPELINE		PROPOSED DIVERSION DITCH
EXISTING OVERHEAD TELEPHONE LINE		PROPOSED ROADSIDE DITCH
EXISTING UNDERGROUND ELECTRIC LINE		PROPOSED TYPICAL UNDER DISTURBANCE
EXISTING UNDERGROUND WATER LINE		PROPOSED CHAIN LINK SAFETY FENCE
EXISTING WETLAND		PROPOSED SWING GATE
EXISTING STREAM		PROPOSED ORANGE CONSTRUCTION
FEMA FLOODPLAIN BOUNDARY		PROPOSED FILL FOUNDATION
EXISTING GAS WELL		PROPOSED SUBSURFACE DRAINAGE



HG ENERGY II APPALACHIA, LLC
TM 7B PAR 10
DB 730 PG 677
61.50 AC ±

ATLANTIC COAST PIPELINE, LLC
TM 7B PAR 23
DB 700 PG 779
167.89 AC ±

1211 WELL PAD
ELEVATION = 1265.5'
CENTROID LOCATION
NAD83 LAT = 39.134102°
NAD83 LON = -80.474461°

TOPSOIL/STRIPPING PILE 2
13,438 C.Y. (20% SWELL)

SPOIL PILE
5,220 C.Y.

- N-2H
- N-3H
- N-4H
- N-1H
- N-5H
- S-6H
- S-7H
- S-8H

MOUNTABLE
BERM

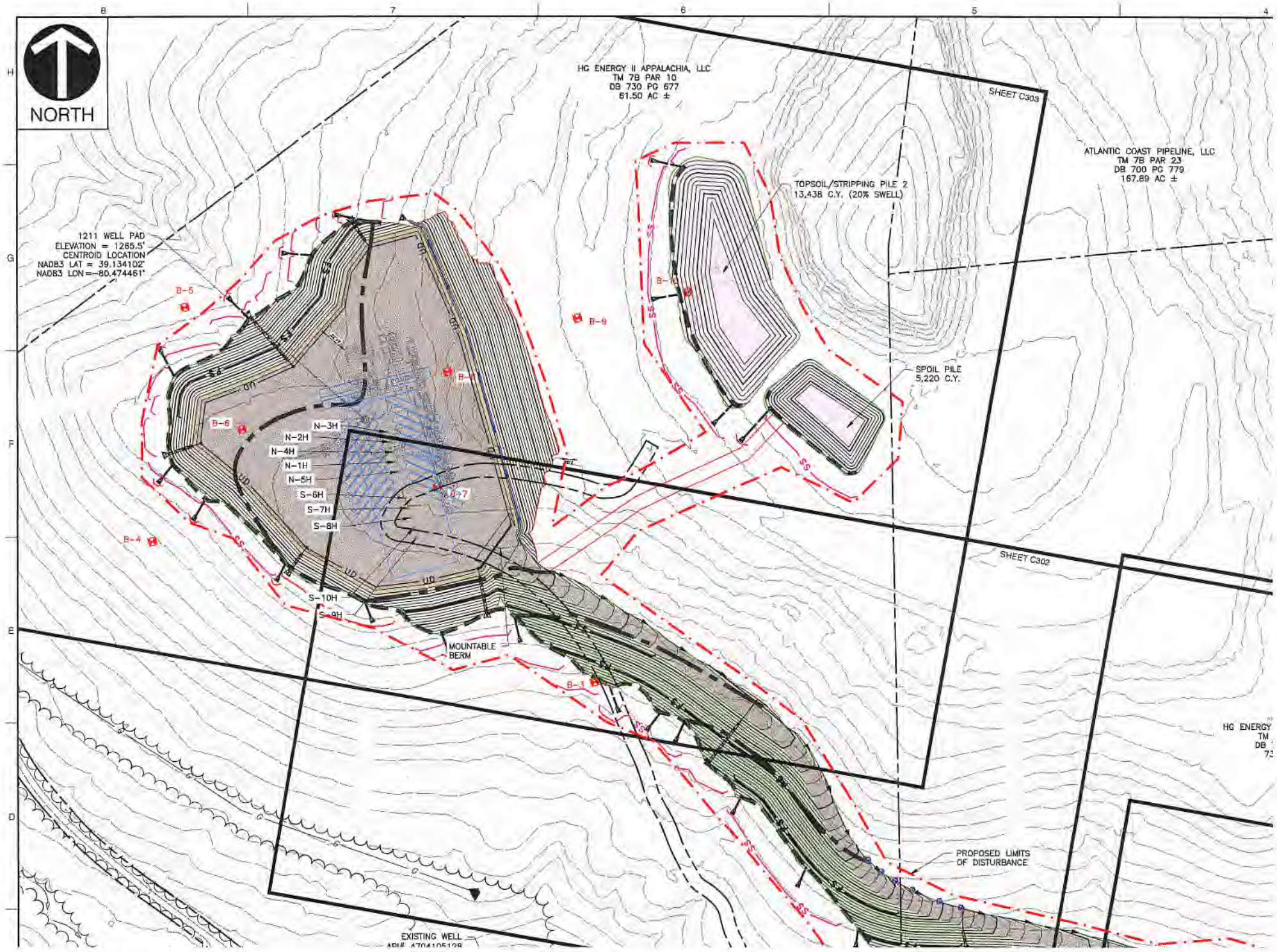
PROPOSED LIMITS
OF DISTURBANCE

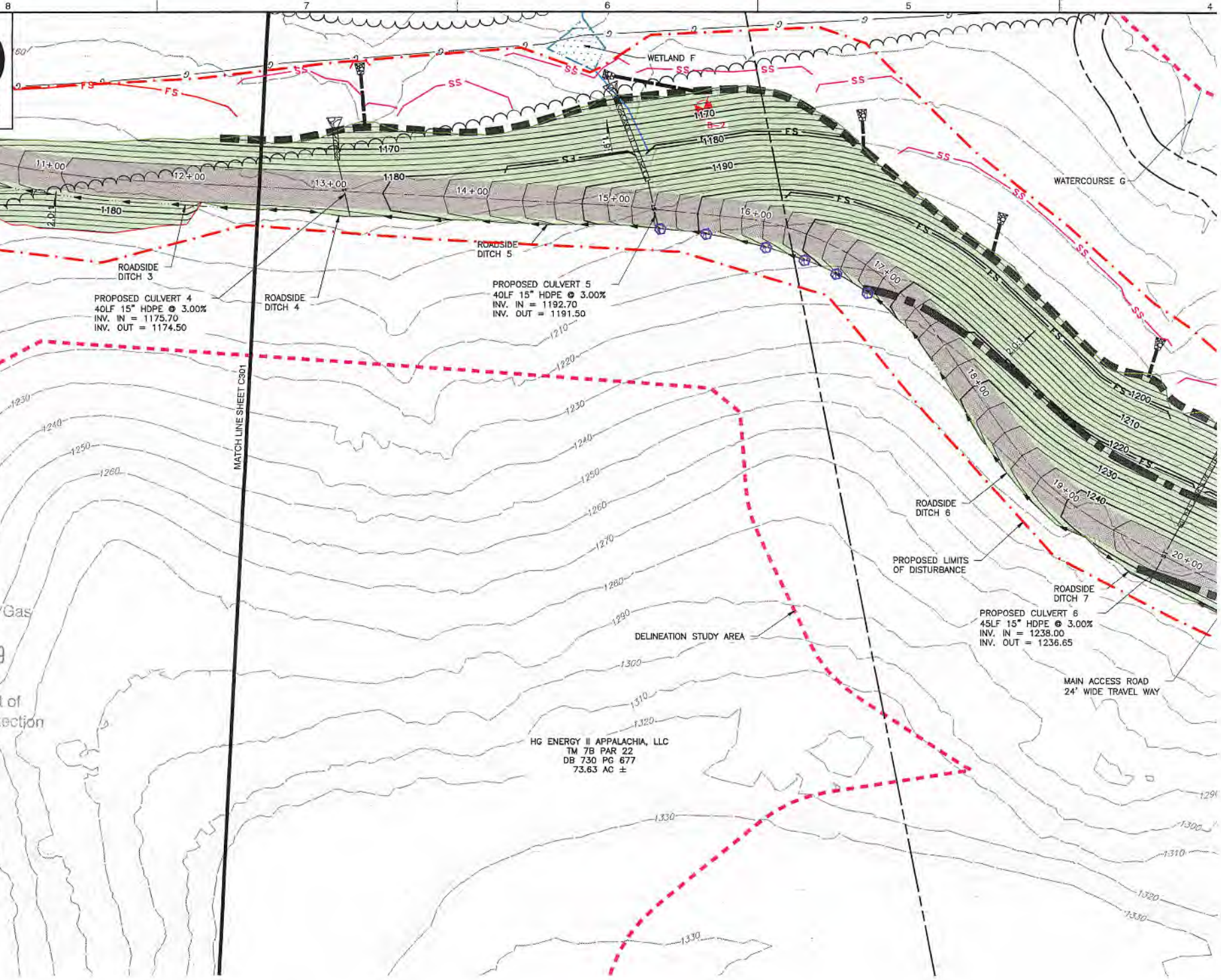
EXISTING WELL
ADJ# 470410E109

HG ENERGY
TM
DB
72

SHEET C303

SHEET C302





PROPOSED CULVERT 4
40LF 15" HDPE @ 3.00%
INV. IN = 1175.70
INV. OUT = 1174.50

PROPOSED CULVERT 5
40LF 15" HDPE @ 3.00%
INV. IN = 1192.70
INV. OUT = 1191.50

PROPOSED CULVERT 6
45LF 15" HDPE @ 3.00%
INV. IN = 1238.00
INV. OUT = 1236.65

HG ENERGY II APPALACHIA, LLC
TM 7B PAR 22
DB 730 PG 677
73.63 AC ±

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PROPOSED LIMITS
OF DISTURBANCE

MAIN ACCESS ROAD
24' WIDE TRAVEL WAY

DELINEATION STUDY AREA

MATCH LINE SHEET CS01

ROADSIDE
DITCH 3

ROADSIDE
DITCH 4

ROADSIDE
DITCH 5

ROADSIDE
DITCH 6

ROADSIDE
DITCH 7

WETLAND F

WATERCOURSE G



ROADSIDE DITCH 6
PROPOSED LIMITS OF DISTURBANCE

ROADSIDE DITCH 7
PROPOSED CULVERT 6
45LF 15" HDPE @ 3.00%
INV. IN = 1235.00
INV. OUT = 1236.65

MAIN ACCESS ROAD
24' WIDE TRAVEL WAY

ROADSIDE DITCH 8

MOUNTABLE BERM

HAUL ROAD

PROPOSED CONTROLLED DISCHARGE 1

PROPO CONTR DISCHA

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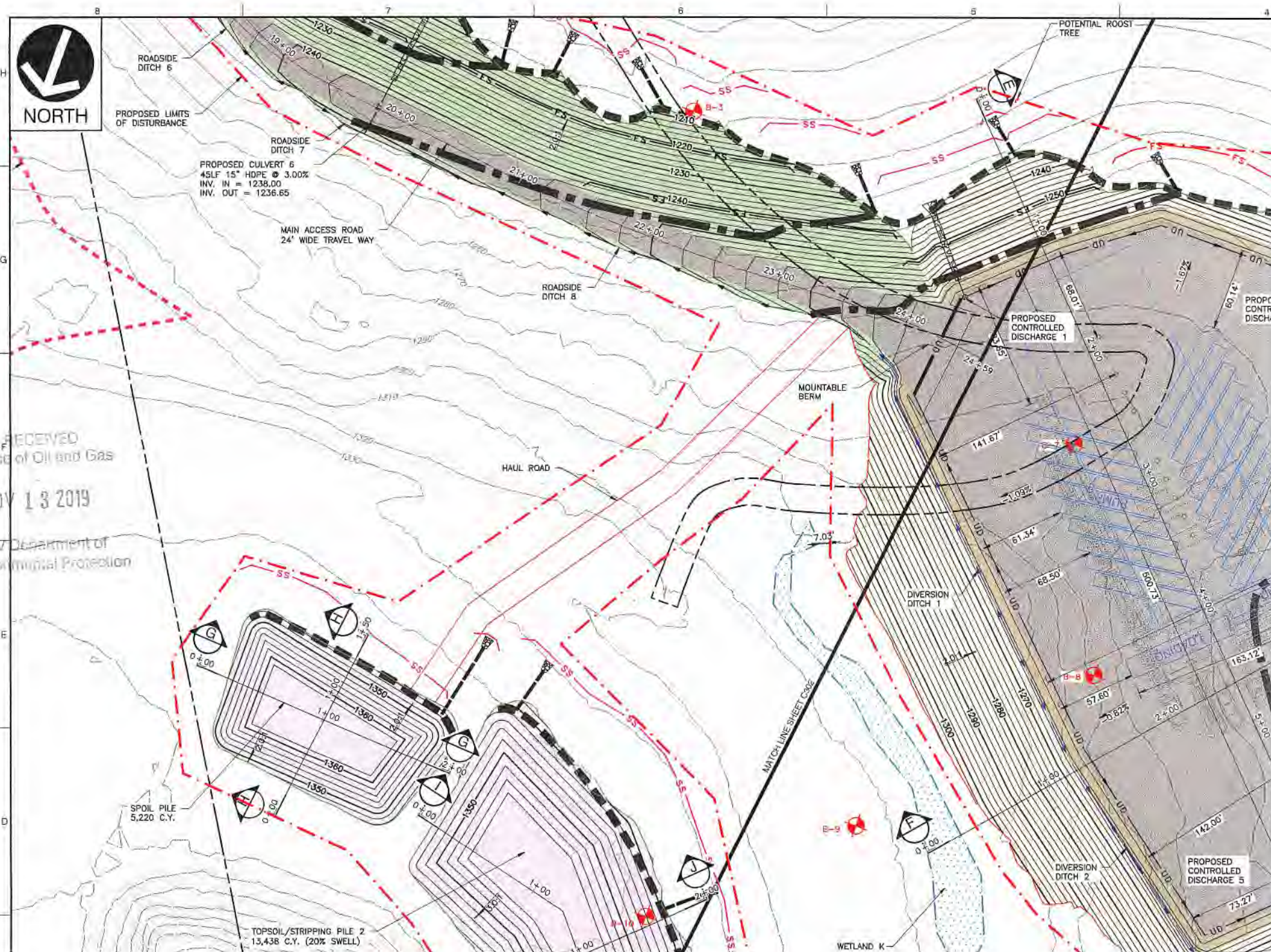
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SPOIL PILE
5,220 C.Y.

TOPSOIL/STRIPPING PILE 2
13,438 C.Y. (20% SWELL)

WETLAND K

PROPOSED CONTROLLED DISCHARGE 5





PROPOSED BOX
CULVERT 1
5'H x 16'W x 48'L

WETLAND W

ROADSIDE
DITCH 1

ROADSIDE
DITCH 2

PROPOSED LIMITS
OF DISTURBANCE

PROPOSED CULVERT 2
45LF 15" HDPE @ 3.00%
INV. IN = 1100.00
INV. OUT = 1098.65

HG ENERGY II APPALACHIA, LLC
TM 7B PAR 22
DB 730 PG 677
73.63 AC ±

20' TRAVELWAY

IMPAIRED WATER 22K AST
ELEVATION = 1134.25'
CENTROID LOCATION
NADB3 LAT = 39.135081'
NADB3 LON = -80.466993'

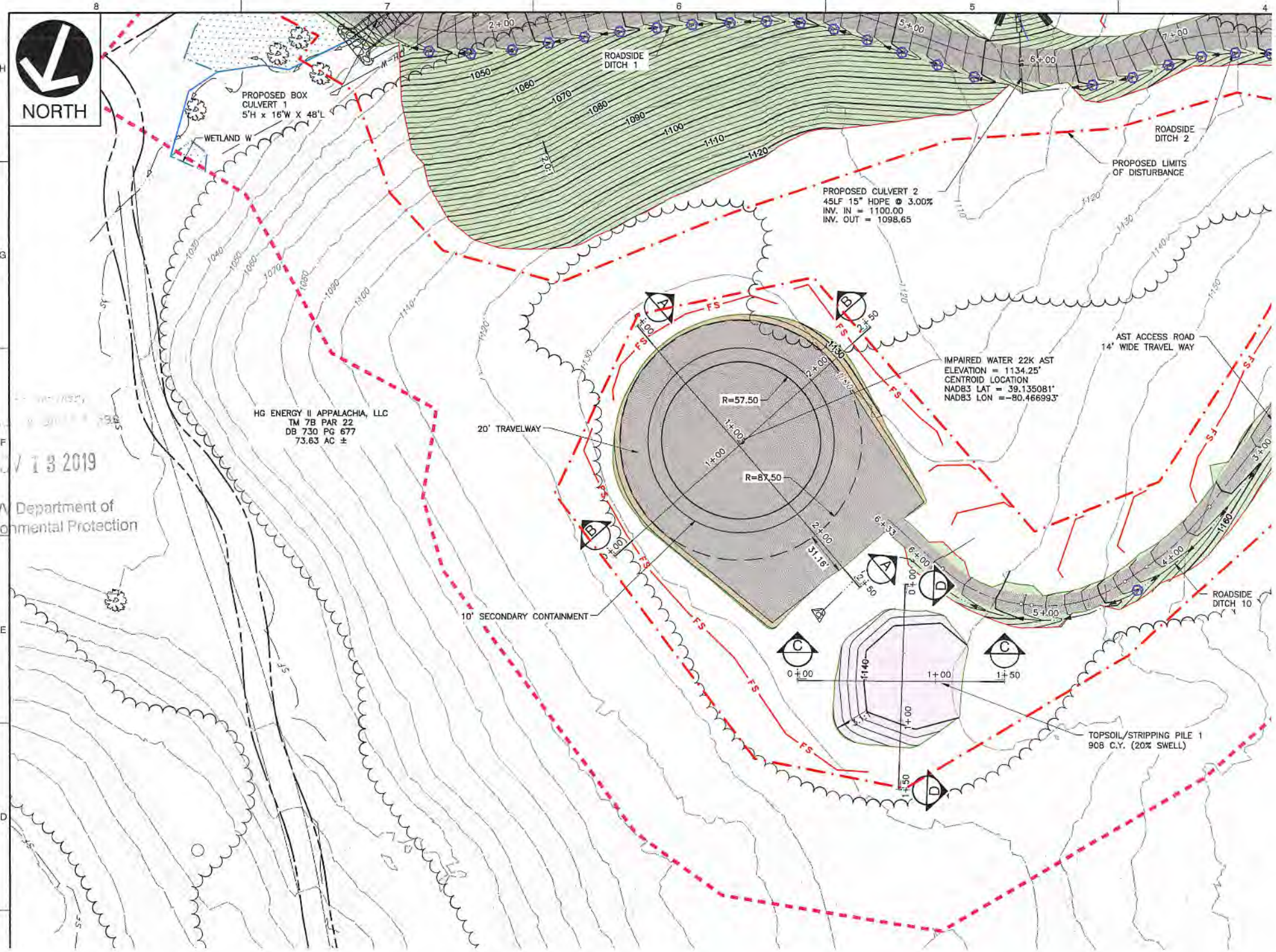
AST ACCESS ROAD
14' WIDE TRAVEL WAY

10' SECONDARY CONTAINMENT

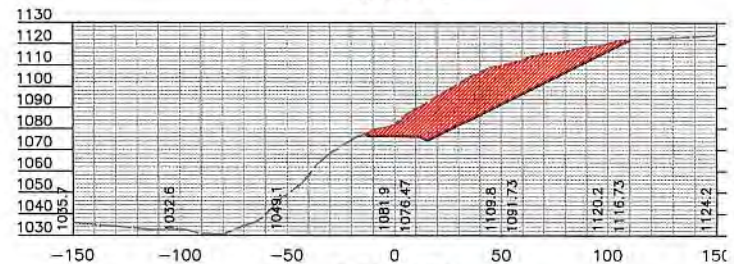
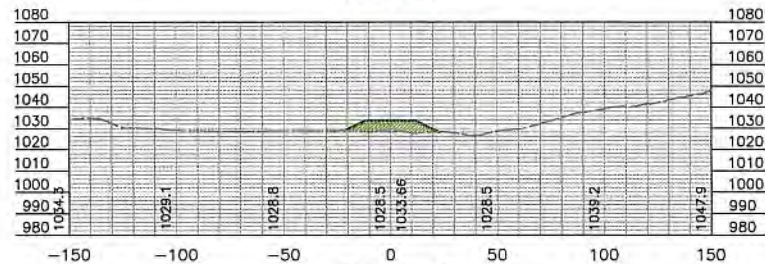
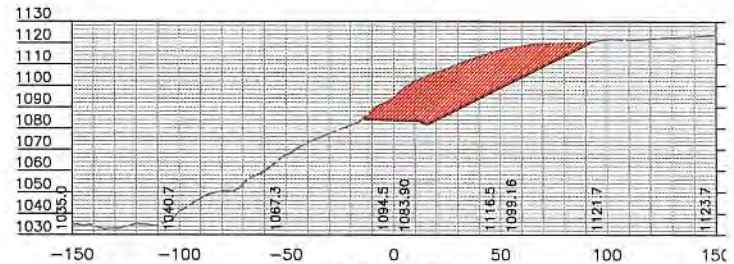
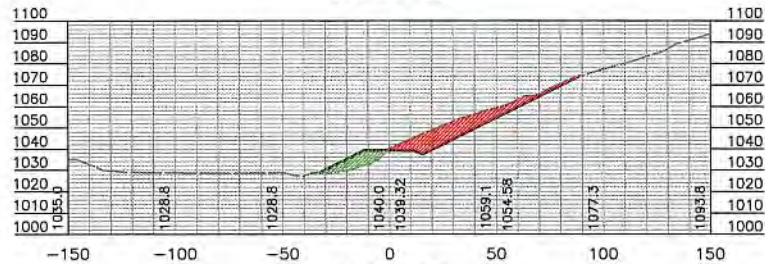
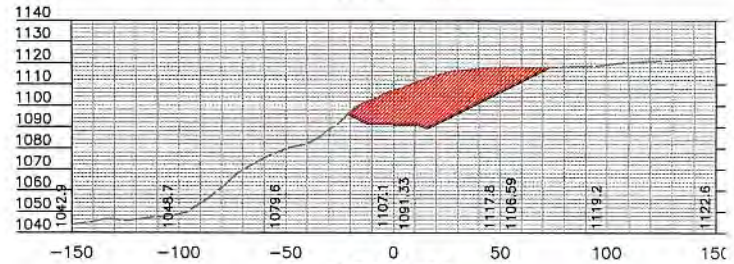
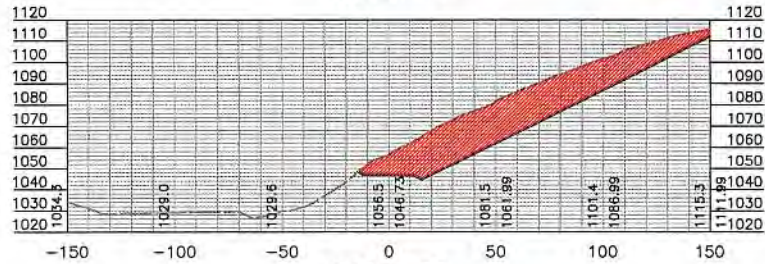
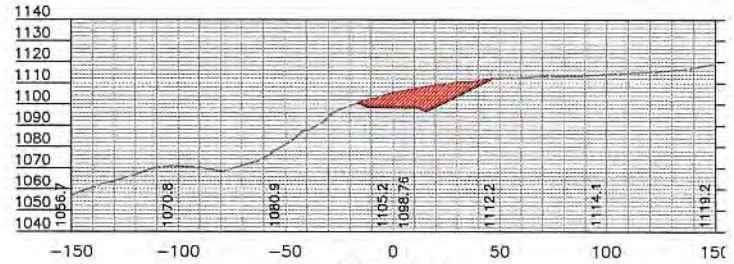
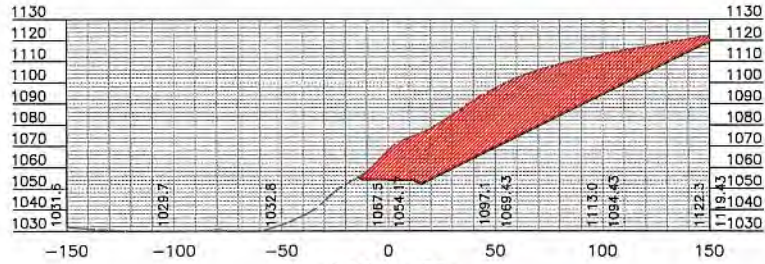
ROADSIDE
DITCH 10

TOPSOIL/STRIPPING PILE 1
908 C.Y. (20% SWELL)

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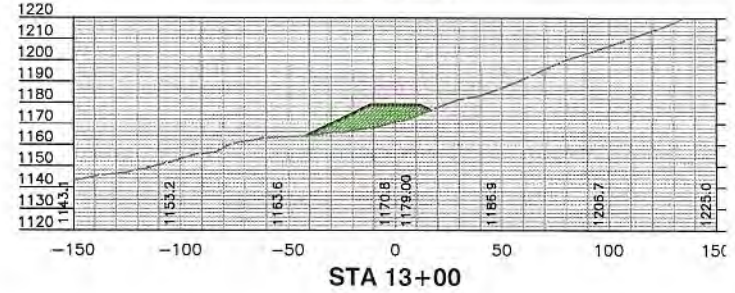
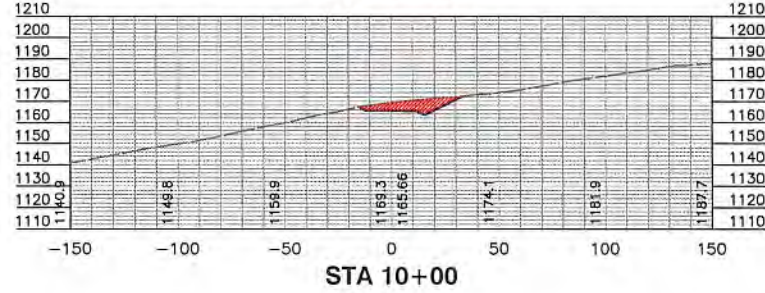
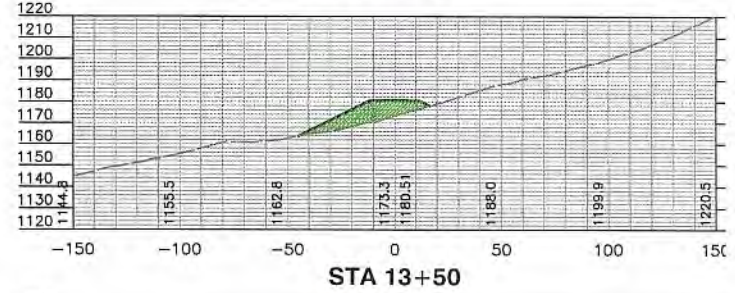
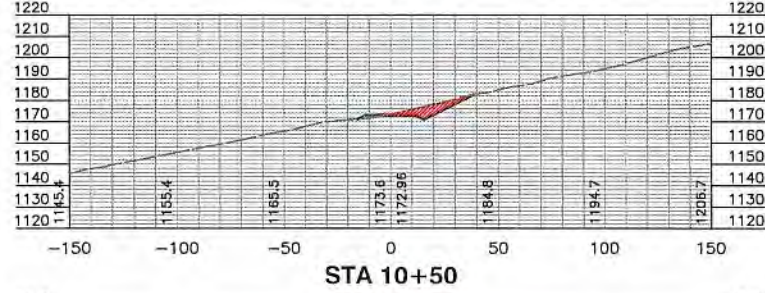
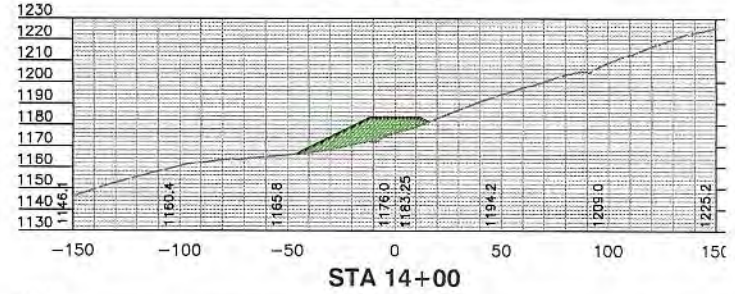
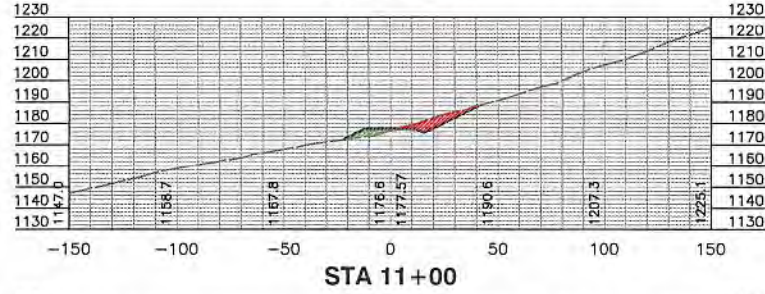
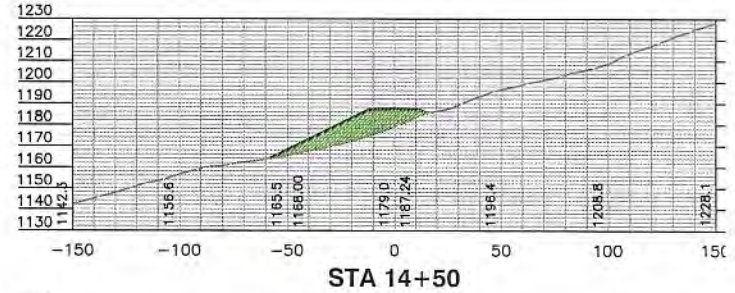
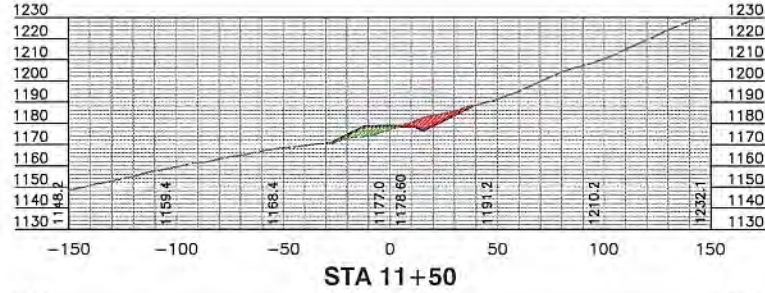
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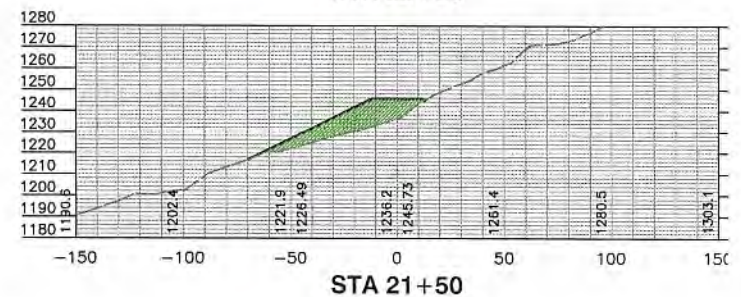
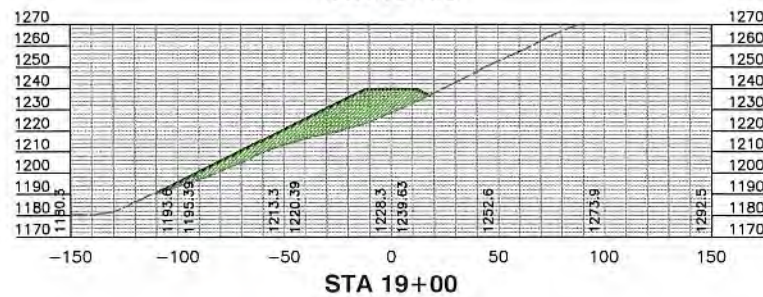
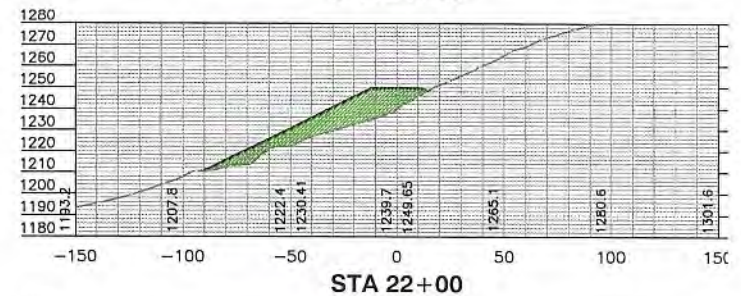
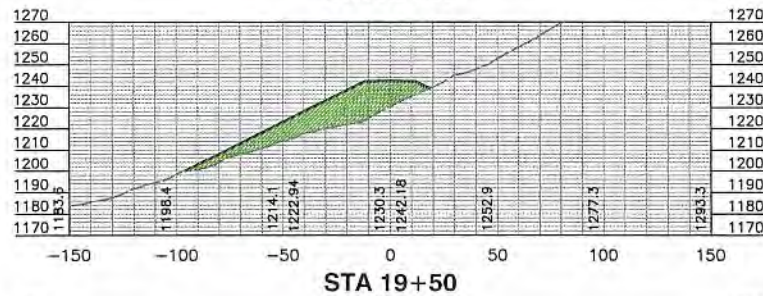
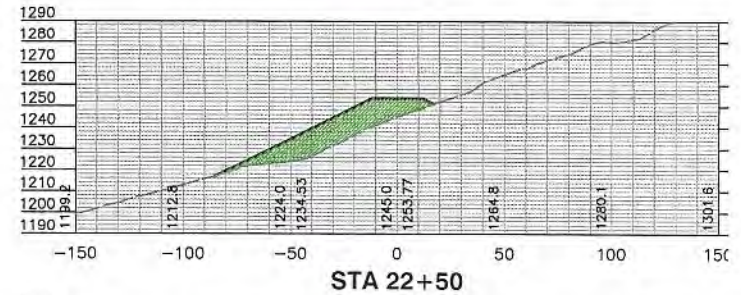
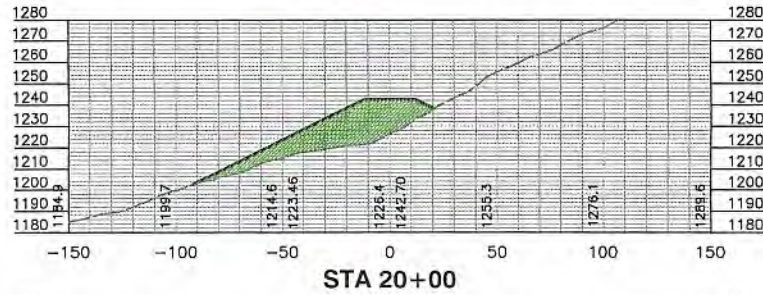
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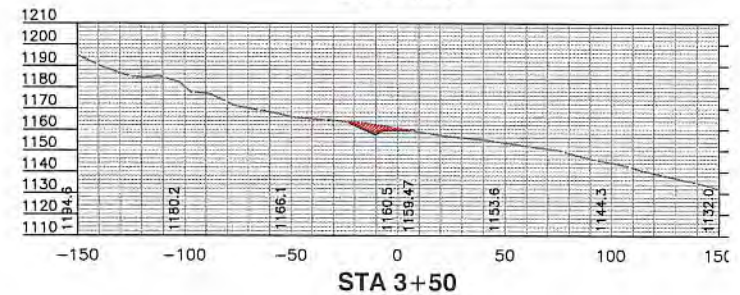
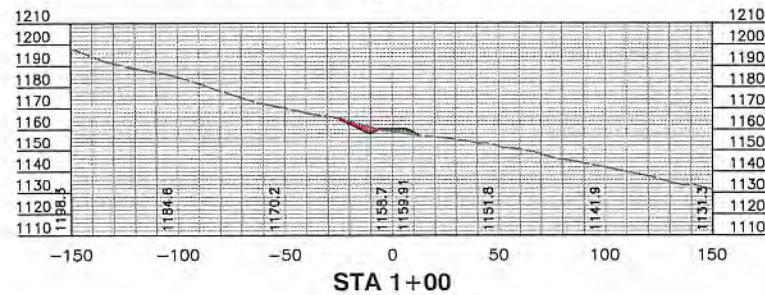
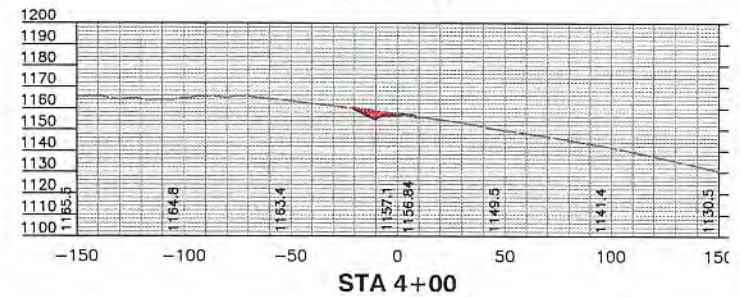
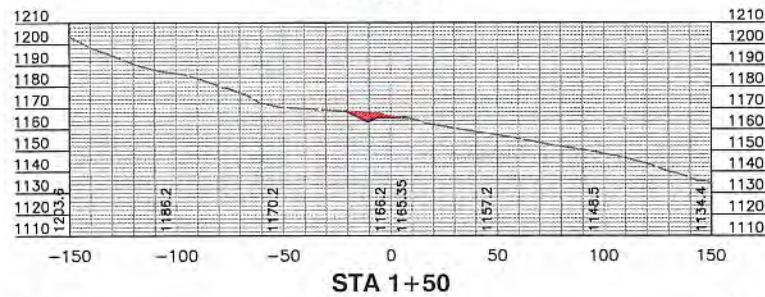
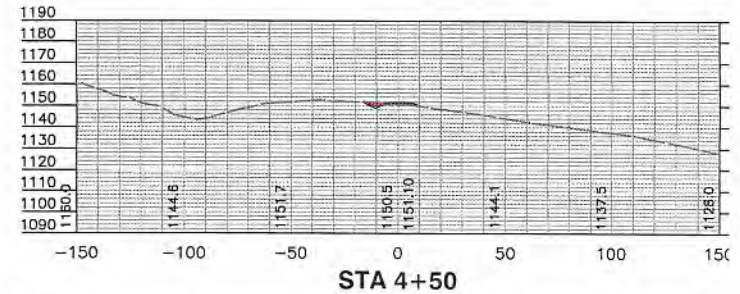
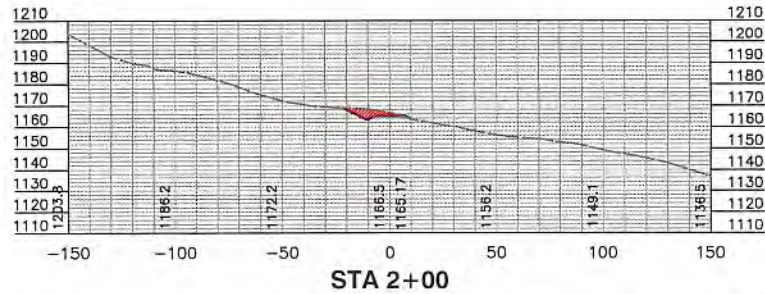
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GENERAL NOTES

1. ANY DISCREPANCIES FOUND BETWEEN THE DRAWINGS AND SPECIFICATIONS AND SITE CONDITIONS OR ANY INCONSISTENCIES OR AMBIGUITIES IN DRAWINGS OR SPECIFICATIONS SHALL BE IMMEDIATELY REPORTED TO THE ENGINEER, IN WRITING, WHO SHALL PROMPTLY ADDRESS SUCH PROBLEMS. WORK DONE BY THE CONTRACTOR AFTER THE DISCOVERY OF SUCH DISCREPANCIES, INCONSISTENCIES, OR AMBIGUITIES SHALL BE DONE AT THE CONTRACTOR'S RISK.
2. WORK ON THIS PROJECT SHALL CONFORM TO THE LATEST EDITIONS OF THE WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION EROSION AND SEDIMENT CONTROL BEST MANAGEMENT PRACTICE HANDBOOK. IN THE EVENT OF CONFLICT BETWEEN THE DESIGN, SPECIFICATIONS, OR PLANS, THE MOST STRINGENT WILL GOVERN.
3. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE MAINTAINED DAILY, RELOCATED WHEN NECESSARY AND SHALL BE CHECKED AFTER EVERY RAINFALL. SEEDED AREAS SHALL BE CHECKED REGULARLY AND SHALL BE WATERED, FERTILIZED, RESEEDED AND MULCHED AS NECESSARY TO OBTAIN A DENSE STAND OF GRASS.
4. ALL DRAIN INLETS SHALL BE PROTECTED FROM SILTATION. INEFFECTIVE PROTECTION DEVICES SHALL BE REPLACED AND THE INLET CLEANED. FLUSHING IS NOT AN ACCEPTABLE MEANS OF CLEANING.
5. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL PUBLIC OR PRIVATE UTILITIES WHICH LIE IN OR ARE ADJACENT TO THE CONSTRUCTION SITE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR, AT HIS OR HER EXPENSE, OF ALL EXISTING UTILITIES DAMAGED DURING CONSTRUCTION. FORTY-EIGHT HOURS PRIOR TO ANY EXCAVATION THE CONTRACTOR SHALL CALL MISS UTILITY AT (800) 245-4848.
6. INSTALLATION OF CONCRETE, CORRUGATED METAL, OR HDPE STORM PIPE SHALL BE IN CONFORMANCE WITH THESE DRAWINGS.
7. ALL MATERIALS USED FOR FILL OR BACK FILL SHALL BE FREE OF WOOD, ROOTS, ROCKS, BOULDERS OR ANY OTHER NON-COMPACTABLE SOIL TYPE MATERIALS. UNSATISFACTORY MATERIALS ALSO INCLUDE MAN MADE FILLS AND REFUSE DEBRIS DERIVED FROM ANY SOURCE.
- *8. MATERIALS USED TO FILL AROUND DRAINAGE STRUCTURES IN UTILITY TRENCHES OR ANY OTHER DEPRESSION REQUIRING FILL OR BACK FILL SHALL BE COMPACTED TO 95% OF MAXIMUM DENSITY AS DETERMINED BY THE STANDARD PROCTOR TEST AS SET FORTH IN ASTM STANDARD D-698. THE CONTRACTOR SHALL, PRIOR TO ANY OPERATIONS INVOLVING FILLING OR BACK FILLING, SUBMIT THE RESULTS OF THE PROCTOR TEST TOGETHER WITH A CERTIFICATION THAT THE SOIL TESTED IS REPRESENTATIVE OF THE MATERIALS TO BE USED ON THE PROJECT. THE TESTS SHALL BE CONDUCTED BY A CERTIFIED MATERIALS TESTING LABORATORY AND THE CERTIFICATIONS MADE BY A LICENSED PROFESSIONAL ENGINEER REPRESENTING THE LABORATORY. THE CONTRACTOR IS RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH THESE TESTS AND THEIR SUBMITTALS.
- *9. FILL SHALL BE PLACED IN LIFTS AT A MAXIMUM UNCOMPACTED DEPTH OF 12" WITH SOIL FREE FROM AGGREGATES EXCEEDING 6".
- *10. ROCK FILL SHALL BE PLACED IN ACCORDANCE WITH SECTION 207.7.3.2.3 OF THE WEST VIRGINIA DIVISION OF HIGHWAYS STANDARD SPECIFICATIONS OF ROADS AND BRIDGES, ADOPTED 2010. ROCK SIZE SHALL NOT BE GREATER IN ANY DIMENSION THAN 24 INCHES. ROCK IS DEFINED AS SANDSTONE, LIMESTONE, OR CONCRETE THAT CANNOT BE INCORPORATED IN A 6 INCH (150 MM) COMPACTED LIFT AND SHALL BE MEDIUM HARD TO HARD.
11. ALL TEST RESULTS SHALL BE SUBMITTED TO THE ENGINEER. FAILURE TO CONDUCT DENSITY TESTS SHALL BE CAUSE FOR NON-ACCEPTANCE OF THE FACILITY. TESTS SHALL BE CONDUCTED AT THE SOLE COST OF THE CONTRACTOR OR HIS AGENT AND BE PERFORMED BY THE INSPECTOR.
12. A PRE-CONSTRUCTION CONFERENCE SHALL BE HELD PRIOR TO THE START OF CONSTRUCTION.
- *13. SATISFACTORY MATERIALS FOR USE AS FILL FOR EMBANKMENTS INCLUDE MATERIALS CLASSIFIED IN ASTM D-2487 AS GM, GC, SM, SC, ML, AND CL GROUPS. A MINIMUM OF THREE SAMPLES MUST BE CLASSIFIED. THE MOISTURE CONTENT SHALL BE CONTROLLED IN ACCORDANCE WITH THE LIMITS FROM THE STANDARD PROCTOR TEST (ASTM D-698) RESULTS TO FACILITATE COMPACTION. GENERALLY, UNSATISFACTORY MATERIALS INCLUDE MATERIALS CLASSIFIED IN ASTM D-2487 AS PT, CH, MH, OL, OH, PT AND ANY SOIL TOO WET TO FACILITATE COMPACTION. CH AND MH SOILS MAY BE USED SUBJECT TO APPROVAL OF THE ENGINEER. SOILS SHALL HAVE A MINIMUM DRY DENSITY OF 92 LB/CF PER ASTM D-698 AND SHALL HAVE A PLASTICITY INDEX LESS THAN 17. SOILS MUST CONTAIN A MINIMUM OF 20% OF PLUS (LARGER THAN) No. 200 SIEVE AND BE WELL GRADED MATERIAL WITH NO COBBLES OR BOULDER SIZE MATERIAL MIXED WITH THE CLAY.
14. CONTRACTOR SHALL SUBMIT AND ADHERE TO A GENERAL GROUNDWATER PROTECTION PLAN.
15. ALL WOOD WASTE SHALL BE CHIPPED, LEGALLY HAULED OFF, OR LEGALLY BURNED ON SITE WITH OWNER AND ENGINEER'S APPROVAL.
16. THE CONTRACTOR SHALL PROVIDE ADEQUATE MEANS OF CLEANING MUD FROM TRUCKS AND/OR OTHER EQUIPMENT PRIOR TO ENTERING PUBLIC STREETS, AND IT IS THE CONTRACTOR'S RESPONSIBILITY TO CLEAN STREETS, ALLAY DUST, AND ALL OTHER NECESSARY MEASURES TO INSURE THAT THE STREETS ARE MAINTAINED IN A CLEAN, MUD AND DUST FREE CONDITION AT ALL TIMES. IF THE STREET IS WASHED, PRECAUTIONS MUST BE TAKEN TO PREVENT SEDIMENT-LOADED WATER FROM ENTERING WATERWAYS, OR STORM SEWERS. CONTRACTOR IS ALSO RESPONSIBLE FOR PROPER TEMPORARY TRAFFIC CONTROL MEASURES WHEN CLEANING THE HIGHWAY.

CONSTRUCTION STANDARDS

THE DESIGN, CONSTRUCTION, AND REMOVAL OF FILL FOR OIL AND GAS SITES MUST BE ACCOMPLISHED IN SUCH A MANNER AS TO PROTECT THE HEALTH AND SAFETY OF THE PEOPLE, THE NATURAL RESOURCES, AND ENVIRONMENT OF THE STATE. THE SITE SHALL BE DESIGNED, CONSTRUCTED, AND MAINTAINED TO BE STRUCTURALLY SOUND AND REASONABLY PROTECTED FROM UNAUTHORIZED ACTS OF THIRD PARTIES.

1. ALL FILL AREAS SHOULD BE CLEARED OF TREES, STUMPS, AND ANY VEGETATION AND STRIPPED OF TOPSOIL/ORGANIC SOILS PRIOR TO THE START OF FILL PLACEMENT.
2. IF STANDING WATER IS PRESENT ON SITE, CONTRACTOR IS TO CORRECT DRAINAGE ISSUE BY DIRECTING WATER TO PROPER E&S CONTROLS OR OUTLET WITH POSITIVE DRAINAGE. IF NECESSARY, CONTACT ENGINEER FOR GUIDANCE IN CORRECTING DRAINAGE ISSUES.
3. ALL DRAINAGE DITCHES, DIVERSIONS, AND CULVERTS SHALL HAVE POSITIVE DRAINAGE AND OUTFALL INTO THE PROPER OUTLET PROTECTION OR LEVEL SPREADING DEVICE. SUPER SILT FENCE, OR APPROVED ALTERNATE, SHALL BE INSTALLED WITHIN 5 FEET OF THE OUTLET PROTECTION OR LEVEL SPREADING DEVICE TO PREVENT EROSION DOWNSTREAM. IF EROSION IS PRESENT DOWNSTREAM OF AN EROSION CONTROL DEVICE, CONTRACTOR TO INSTALL ADDITIONAL EROSION CONTROLS AND STABILIZATION TO PREVENT FURTHER EROSION.
4. IF THE EROSION CONTROL DEVICES SHOW EVIDENCE OF BEING INADEQUATE DUE TO CONSTRUCTION MEANS AND METHODS, THE CONTRACTOR IS TO INSTALL ADDITIONAL DRAINAGE DEVICES OR EROSION CONTROLS TO PREVENT FURTHER EROSION FROM OCCURRING.
5. CONTRACTOR IS TO EXTEND ALL KEYWAY AND BONDING BENCH OUTLET DRAINS A MINIMUM OF ONE FOOT PAST THE FINISHED GRADE OF THE SLOPE AND INSTALL THE PROPER OUTLET PROTECTION AND VARMINIT COVERS PER THE DETAILS ON THESE PLANS. ALL OUTLET DRAINS ARE TO BE CLEARLY VISIBLE AND MARKED.
6. ALL MAINTENANCE OF EROSION AND SEDIMENT CONTROLS MUST BE PERFORMED IMMEDIATELY ONCE THE CONTRACTOR IS NOTIFIED OF THE DISCREPANCY. CONTRACTOR TO PERFORM MAINTENANCE OR IMMEDIATELY NOTIFY THE SUB-CONTRACTOR PERFORMING THE E&S TASKS. ANY EROSION CONTROL MAINTENANCE THAT IS DEEMED TO BE AN EMERGENCY SHALL BE PERFORMED IMMEDIATELY UPON THE CLIENT, ENGINEER, OR STATE'S REQUEST.
7. ALL LANDOWNER ACCESS ROADS AND EXISTING WELL ROADS THAT ARE BEING MAINTAINED SHALL BE KEPT OPEN DURING THE ENTIRE COURSE OF CONSTRUCTION TO PROVIDE CONTINUOUS ACCESS. IF CLOSURE IS NECESSARY, THE CONTRACTOR SHALL PROVIDE AN EQUIVALENT DETOUR ROUTE TO THE SATISFACTION OF THE LANDOWNER OR WELL OWNER.

CONSTRUCTION SPECIFICATIONS:

1. ACCESS ROADS AND DRILL PAD SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS AND THE SCOPE OF WORK AND SHALL CONFORM GENERALLY WITH THE GRADES, BERMS, DEPTHS AND DIMENSIONS SHOWN.
2. THE CONSTRUCTION DOCUMENTS SHOW THE EXISTING AND FINISH GRADES AND BERMS, ETC. THAT ALL CUT AND FILL ESTIMATES ARE BASED UPON. THE ENGINEER'S ESTIMATES OF THE QUANTITIES ARE ONLY ESTIMATES AND MAY CHANGE BASED ON ACTUAL FIELD CONDITIONS.
3. THE GRADES, BERMS, DEPTHS, AND DIMENSIONS MAY CHANGE BASED ON ACTUAL FIELD CONDITIONS. THE ENGINEER RESERVES THE RIGHT TO CHANGE GRADES, BERMS, DEPTHS AND DIMENSIONS AS NECESSARY TO MEET FIELD CONDITIONS.

CONSTRUCTION SPECIFICATIONS (CONT.):

- *11. ALL RANDOM FILL MATERIAL SHALL BE PLACED IN LOOSE LIFTS OF UP TO 12" AND SHALL BE COMPACTED TO AT LEAST 95% OF THE LA AS DETERMINED BY THE STANDARD PROCTOR TEST METHOD (ASTM D698). THE MOISTURE CONTENT SHALL BE WITHIN 3% OF OPTIMUM DETERMINED BY THE STANDARD PROCTOR TEST (ASTM D698). INSPECTOR IS RESPONSIBLE FOR THE ORIGINAL SOIL TEST AND PROV MOISTURE-DENSITY CURVE TO THE ENGINEER. THE INSPECTOR SHALL DO IN-PLACE DENSITY TESTS EVERY THIRD LIFT OF SOIL AND PLACES PER TEST LIFT. FIELD DENSITY TESTS FOR COMPACTION SHALL BE PERFORMED IN ACCORDANCE WITH ASTM D8938 (NUCLEA MAINTAINED OF TEST LOCATION AND RESULTS AND PROVIDED TO THE ENGINEER ON REQUEST. AREAS THAT FAIL FOR COMPACTION AND RETESTED FOR COMPLIANCE. IN LIEU OF STANDARD PROCTOR TESTING, THE CONTRACTOR MAY PROOF-ROLL THE SOIL EVERY 2 TON TANDEM DUMP TRUCK SOIL THAT DEFLECTS UNDER THE REAR WHEELS GREATER THAN 1/2" SHALL BE REMOVED, RE-COMPACT SOIL SHALL BE DONE WITH A 5 TON MIN. SHEEPS FOOT, OR VIBRATORY SHEEPS FOOT ROLLER.
- *12. ROCK FILL SHALL BE PLACED IN ACCORDANCE WITH SECTION 207.7.3.2.3 OF THE WEST VIRGINIA DIVISION OF HIGHWAYS STANDARD S ADOPTED 2010. ROCK SIZE SHALL NOT BE GREATER IN ANY DIMENSION THAN 24 INCHES. ROCK IS DEFINED AS SANDSTONE, LIMESTONE, OR CONCRETE THAT CANNOT BE INCORPORATED IN A 6 INCH (150MM) COMPACTED LIFT AND SHALL BE MEDIUM HARD TO HARD.
- *13. ON-SITE FILL SHALL BE USED TO THE MAXIMUM EXTENT POSSIBLE. ANY IMPORTED FILL SHALL BE CERTIFIED BY THE CONTRACTOR TO SUBSTANCES OR MATERIALS AND A SAMPLE WILL BE SUBMITTED TO THE ENGINEER TO DETERMINE THE SUITABILITY OF THE MATERIAL/ ENCOUNTERED THAT CANNOT BE RIPPED BY A CAT D8 WITH A SINGLE TOOTH RIPPER, THEN THE CONTRACTOR SHALL CONTACT THE SITE AND DETERMINE IF THE MATERIAL MAY BE USED AS IS OR MUST BE REMOVED BY OTHER MEANS. IF UNSUITABLE SOILS IN THE S REMOVED AND REPLACED WITH APPROPRIATE FILL AT THE CONTRACTORS EXPENSE AND THE ENGINEER'S DIRECTION.
14. IF SPRINGS OR SEEPS ARE ENCOUNTERED, SUBSURFACE DRAINAGE FEATURES SHALL BE INSTALLED PRIOR TO FILL PLACEMENT. AND RECOMMENDATION OF CORRECTIVE MEASURES.
15. THE FILL TOE FOR ALL FILL EMBANKMENTS SHALL BE BENCHED OR KEVED INTO THE NATURAL SOIL. ALL FILL TOES SHALL BE SUP SOIL MATERIAL.
16. FILL PLACED AGAINST EXISTING SLOPES SHALL BE BENCHED INTO THE EXISTING MATERIAL DURING FILL PLACEMENT TO REDUCE TH SMOOTH INTERFACE BETWEEN THE FILL AND EXISTING SLOPE.
17. ANY SOFT AREAS SHALL BE OVER-EXCAVATED TO A FIRM MATERIAL AND BACKFILLED WITH A WELL COMPACTED STRUCTURAL FILL.
18. FILL REQUIRED TO OBTAIN DESIGN GRADES SHALL BE PLACED AS CONTROLLED, COMPACTED FILL. IT TRASH, WOOD, TOPSOIL, ORGANICS, COAL, COAL MINE REFUSE, FROZEN MATERIAL AND PIECES OF ROCK GREATER THAN 6" IN ANY D
19. DURING PLACEMENT OF MATERIAL, MOISTEN OR AERATE EACH LAYER OF FILL, AS NECESSARY, TO OBTAIN THE REQUIRED COMPACT SURFACES THAT ARE MUDDY OR FROZEN, OR HAVE NOT BEEN APPROVED BY PRIOR PROOF-ROLLING. FREE WATER SHALL BE I SURFACE DURING OR SUBSEQUENT TO COMPACTION OPERATIONS.
20. SOIL MATERIAL WHICH IS REMOVED BECAUSE IT IS TOO WET TO PERMIT PROPER COMPACTION MAY BE SPREAD AND ALLOWED TO DISCING OR HARROWING UNTIL THE MOISTURE CONTENT IS REDUCED TO AN ACCEPTABLE LEVEL. WHEN THE SOIL IS TOO DRY, WAIT LAYER TO BE COMPACTED.
21. THE FILL OUTSLOPES SHALL BE OVERBUILT AND TRIMMED BACK TO DESIGN CONFIGURATIONS TO VERIFY PROPER COMPACTION.
22. GRANULAR MATERIALS SHALL BE COMPACTED TO A MINIMUM 75% OF ITS RELATIVE DENSITY, AS DETERMINED BY ASTM D4253 AND D4
23. DRILL PAD SUBGRADE SHOULD BE LINED WITH GEOTEXTILE SEPARATION/STABILIZATION FABRIC AS INDICATED BY A COMPANY REPR AGGREGATE.
24. PHOTOGRAPHIC DOCUMENTATION SHALL BE TAKEN BY THE ENGINEER OR ENGINEERS REPRESENTATIVE AND PROVIDED TO THE CO (1) SITE AFTER CLEARING AND GRUBBING (2) THE SITE AFTER TOPSOIL REMOVAL (3) TOE KEY AND INSPECTION TRENCH CONSTRUCT OPERATIONS (5) PROOF-ROLLING TESTS.
25. PRIOR TO AS-BUILT CERTIFICATION, THE ENGINEER OR ENGINEERS REPRESENTATIVE SHALL PROVIDE THE COMPANY WITH A C PHOTO DOCUMENTATION, ALL COMPACTION TEST REPORTS, RESULTS AND MAPS, A REPORT OF ALL CUT AND FILL VOLUMES LOCATIONS AND A COPY OF THE AS-BUILT CONFIRMATION SURVEY PRIOR TO LINER PLACEMENT.
26. THE CONTRACTOR WILL BE RESPONSIBLE FOR THE REPAIR OF ANY DAMAGES TO THE EXISTING STREETS AND UTILITIES V CONSTRUCTION PROJECT WITHIN OR CONTIGUOUS WITH THE EXISTING RIGHT-OF-WAY.
27. CONTRACTOR TO CONTACT OPERATOR AND ENGINEER IF GROUNDWATER IS ENCOUNTERED DURING CONSTRUCTION.
28. THE CONTRACTOR IS RESPONSIBLE FOR CONSTRUCTING THE SITE IN ACCORDANCE WITH THE DESIGN PLANS AND CONSTRUCTION I SHALL CONFORM WITH THE GRADES, BERMS, DEPTHS, DIMENSIONS, ETC. SHOWN HEREON.
29. IT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO COMPLY WITH ALL FEDERAL, STATE, AND LOCAL SAFETY REQUIREI PRECAUTION FOR THE PROTECTION OF PERSONS, INCLUDING EMPLOYEES AND PROPERTY, SHALL ALWAYS BE EXERCISED BY THE C AND SUPERVISION OF ALL SAFETY REQUIREMENTS, PRECAUTIONS, AND PROGRAMS IN CONNECTION WITH THE WORK, INCLUDING SHALL ALSO BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
30. CONSTRUCTION ACTIVITIES SHALL BE RESTRICTED TO THE AREAS SHOWN ON THE PLANS WITHIN THE LIMITS OF DISTURBANCE, UN COMPANY. MODIFICATION PLAN MUST BE SUBMITTED TO THE DEP FOR ANY ACTIVITIES PERFORMED OUTSIDE OF THE LIMITS OF DIST
31. PRESERVATION OF BENCHMARKS, PROPERTY CORNERS, REFERENCE POINTS, STAKES AND OTHER SURVEY REFERENCE MONUMENT OF THE CONTRACTOR. IN CASES OF WILLFUL OR CARELESS DESTRUCTION THE CONTRACTOR SHALL BE REQUIRED TO REPLACE OR F RESETTING OF MARKERS SHALL BE PERFORMED BY A PROFESSIONAL SURVEYOR AS APPROVED BY THE COMPANY.
32. THE CONTRACTOR SHALL MAINTAIN ADEQUATE CLEARANCE FROM ALL ELECTRIC LINES, IF ANY, IN ACCORDANCE WITH NATIONAL ELE
33. ANY DIGITAL FILES PROVIDED TO THE CONTRACTOR BY CEC ARE PROVIDED FOR THE CONVENIENCE OF THE CONTRACTOR ONLY. T MEET ALL DESIGN PARAMETERS OF THE WDEP APPROVED CEC DESIGN PLANS. CEC WILL NOT BE HELD LIABLE FOR THE CONT WAIVER FROM THE APPROVED DESIGN PLANS.
34. ALL EXISTING AND DESIGNED CULVERTS AND CULVERT SUMPS SHALL BE CLEANED AND CLEARED OF DEBRIS DURING THE COU EROSION DUE TO THE PLUGGING OF A CULVERT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
35. CONTRACTOR SHALL PROVIDE THE COMPANY WITH ALL SURVEYING DIGITAL FILES FOR AS-BUILT RECORDS.

EROSION AND SEDIMENT CONTROL NOTES:

EROSION AND SEDIMENT CONTROL NARRATIVE

1. **PROJECT DESCRIPTION:** THE PURPOSE OF THIS PROJECT IS TO GRADE AND INSTALL EROSION AND SEDIMENT CONTROL MEAS CONSTRUCTION OF A WELL PAD AND ACCESS ROAD NEAR COUNTY ROUTE 1/1, IN LEWIS COUNTY, WEST VIRGINIA. THE CONSTRU EROSION AND SEDIMENT CONTROLS, AND INCIDENTAL WORK. THE TOTAL APPROXIMATE LAND DISTURBANCE ASSOCIATED WITH THIS
2. **EXISTING SITE CONDITIONS:** THE EXISTING SITE BEGINS ACCESS FROM COUNTY ROUTE 1/1. THE ACCESS ROAD STARTS WITH A C THE WELL PAD.

NOTE: CONTRACTOR IS TO PERFORM SOIL TESTING PRIOR TO SEEDING, MULCHING, AND FERTILIZING TO ENSURE GRASS GROWTH.

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RECOMMENDED SEEDING DATES FOR PERMANENT AND TEMPORARY COVER	
PLANTING DATES	
BEST SEEDING PERIODS	MARCH 1 - APRIL 15 AND AUGUST 1 - OCTOBER 1
	APRIL 15 - AUGUST 1
	HIGH RISK - MOISTURE STRESS LIKELY
	HIGH RISK - FREEZE DAMAGE TO YOUNG SEEDINGS
	DECEMBER 1 - MARCH 1
	GOOD SEEDING PERIOD. DORMANT SEEDING

SPECIES	N (LBS/AC)	P205 (LBS/AC)	K20 (LBS/AC)	EXAMPLE REC. (PER ACRE)	
				COOL SEASON GRASS	CS GRASS & LEGUME
	40	80	80	400 LBS. 10-20-20	
	30	60	60	300 LBS. 10-20-20	
TEMPORARY COVER	40	40	40	200 LBS. 19-19-19	

ACCEPTABLE FERTILIZATION RECOMMENDATION IN ABSENCE OF A SOIL TEST

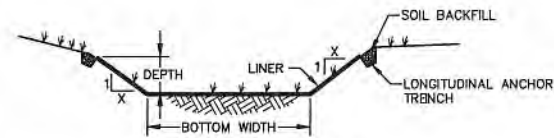
TEMPORARY COVER SUITABLE FOR ESTABLISHMENT IN WEST VIRGINIA					
SPECIES	SEEDING RATE (LBS/AC)	OPTIMUM SEEDING DATES	DRAINAGE	PH RANGE	
ANNUAL RYEGRASS	40	3/1 - 6/15 OR 8/15 - 9/15	WELL - POORLY	5.5 - 7.5	
FIELD BROMEGRASS	40	3/1 - 6/15 OR 8/15 - 9/15	WELL - MOD. WELL	6.0 - 7.0	
SPRING OATS	96	3/1 - 6/15	WELL - POORLY	5.5 - 7.0	
SUDANGRASS	40	5/15 - 8/15	WELL - POORLY	5.5 - 7.5	
WINTER RYE	168	8/15 - 10/15	WELL - POORLY	5.5 - 7.5	
WINTER WHEAT	180	8/15 - 11/15	WELL - MOD. WELL	5.5 - 7.0	
JAPANESE MILLET	30	6/15 - 8/15	WELL	4.5 - 7.0	
REDTOP	5	3/1 - 6/15	WELL	4.0 - 7.5	
ANNUAL RYEGRASS	26	3/1 - 6/15	WELL - POORLY	5.5 - 7.5	
SPRING OATS	64	3/1 - 6/15	WELL - POORLY	5.5 - 7.5	

NOTE: THESE RATES SHOULD BE INCREASED BY 50% IF PLANTED APRIL 15 - AUGUST 1 AND OCTOBER 1 - MARCH 1

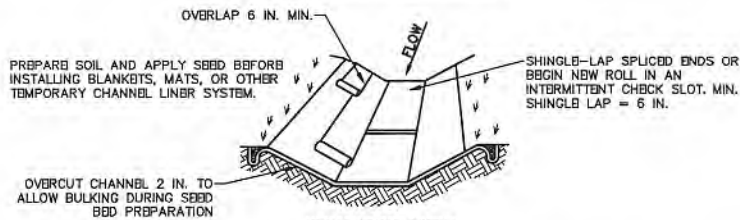
LIME AND FERTILIZER APPLICATION

PERMANENT SEEDING MIXTURES SUITABLE FOR ESTABLISHMENT		
SPECIES/MIXTURE	SEEDING RATE (LBS/AC)	SOIL DRAINAGE
	10 - 15	WELL
CROWNVEITCH/TALL FESCUE	30	
	10 - 15	WELL
PERENNIAL RYEGRASS	20	
	10 - 15	WELL
FLATPEA OR PERENNIAL PEA/TALL FESCUE	20	
	15	WELL
LADINO CLOVER/ SERICIA LESPEDEZA/TALL FESCUE	30	
	2	WELL
TALL FESCUE/LADINO CLOVER/ REDTOP	40	
	3	WELL
CROWNVEITCH/TALL FESCUE	10	
	3	WELL
GROWNVEITCH/TALL FESCUE/ REDTOP	20	
	3	WELL
BIRDSFOOT TREFOIL/ SERICIA LESPEDEZA/TALL FESCUE/ REDTOP	10	
	3	WELL
	25	WELL
TALL FESCUE/ REDTOP	30	
	3	WELL
REDTOP/TALL FESCUE/ CREEPING RED	30	
	3	WELL
TALL FESCUE/ WETL	50	
PERENNIAL RYEGRASS/ TALL FESCUE/ LATHCO FLATPEA*	10	
	15	WELL
	20	
ANNUAL RYEGRASS/ CUMAX TIMOTHY/ BESTFOR INTERMEDIATE RYEGRASS/ MEDIUM RED CLOVER (COATED)**	30	
	25	WELL
	20	
POTOMAC ORCHARDGRASS/ MEDIUM RED CLOVER (COATED)	10	

NOTE: MIXTURES LISTED IN BOLD ARE SUITABLE FOR WOODLAND SETTINGS; THOSE IN ITALICS ARE SUITABLE FOR FILTER STRIPS.
NOTE: FOR UNPREPARED SEEDS OR SEEDING OPTIMUM TIMEFRAMES, ADD 50% MORE SEED TO THE LATHCO FLATPEA IS POTENTIALLY POISONOUS TO LIVESTOCK ALL LEGUMES SHOULD BE PLANTED WITH INOCULANTS PRIOR TO SEEDING.
** SWISHER MEADOW MIX



CHANNEL CROSS SECTION



ISOMETRIC VIEW



INTERMITTENT CHECK SLOT



LONGITUDINAL ANCHOR TRENCH

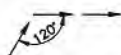
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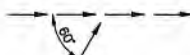
WV Department of
Environmental Protection

NOTES:

1. REFER TO DITCH TABLES FOR BOTTOM WIDTH AND DEPTH DIMENSIONS, SIDE SLOPES, TYPE OF LINING, AND MINIMUM FLOW LINE SLOPE FOR EACH DITCH.
2. DITCHES LABELED WITH A "T" ARE TEMPORARY AND SHALL BE REMOVED BEFORE COMPLETION OF THE PROJECT. DITCHES LABELED WITH A "P" ARE PERMANENT AND ARE TO REMAIN UPON COMPLETION OF THE PROJECT.
3. WHEN BW = 0, DITCH IS TO TAKE VEE-DITCH SHAPE.
4. CONTRACTOR SHALL INSTALL DITCH LINING PER MANUFACTURERS SPECIFICATIONS, INCLUDING STAPLE PATTERNS, VEGETATIVE STABILIZATION FOR SOIL AMENDMENTS, SEED MIXTURES, AND MULCHING INFORMATION.
5. ANCHOR TRENCHES SHALL BE INSTALLED AT BEGINNING AND END OF CHANNEL IN THE SAME MANNER AS LONGITUDINAL ANCHOR TRENCHES.
6. CHANNEL DIMENSIONS SHALL BE CONSTANTLY MAINTAINED. CHANNEL SHALL BE CLEANED WHENEVER TOTAL CHANNEL DEPTH IS REDUCED BY 25% AT ANY LOCATION.
7. SEDIMENT DEPOSITS SHALL BE REMOVED WITHIN 24 HOURS OF DISCOVERY OR AS SOON AS SOIL CONDITIONS PERMIT ACCESS TO CHANNEL WITHOUT FURTHER DAMAGE. DAMAGED LINING SHALL BE REPAIRED OR REPLACED WITHIN 48 HOURS OF DISCOVERY.
8. NO MORE THAN 1/3 OF THE SHOOT (GRASS LEAF) SHALL BE REMOVED IN ANY MOWING. GRASS VEGETATION SHALL BE REMOVED FROM PERMANENT CHANNELS TO ENSURE SUFFICIENT CHANNEL CAPACITY.
9. TEMPORARY CHANNELS INSTALLED AS PART OF PHASE 1 SHOULD BE INSTALLED IN EXISTING GROUND UNLESS OTHERWISE NOTED ON THE PLANS. CHANNELS SHALL BE INSTALLED TO MAINTAIN POSITIVE FLOW TOWARDS TRAPS AND BASINS.
10. ALL DITCHES SHALL HAVE SMOOTH TRANSITIONS AT JUNCTIONS WITH OTHER DITCHES. DITCHES SHOWN ON PLANS ARE SCHEMATIC AND MAY NEED FIELD ADJUSTED TO MEET THE BELOW CRITERIA.
 - 10.1 DITCHES SHALL NOT CHANGE DIRECTIONS AT LESS THAN A 120° ANGLE
 - 10.2 DITCHES SHALL JOIN OTHER DITCHES AT NO MORE THAN A 60° ANGLE.



10.1 PLAN VIEW



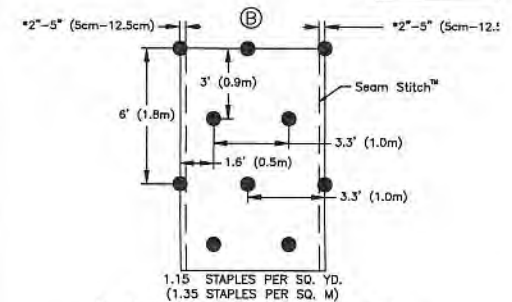
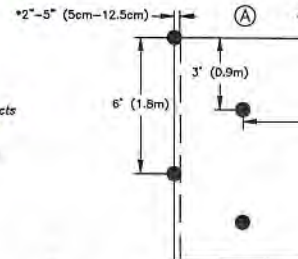
10.2 PLAN VIEW



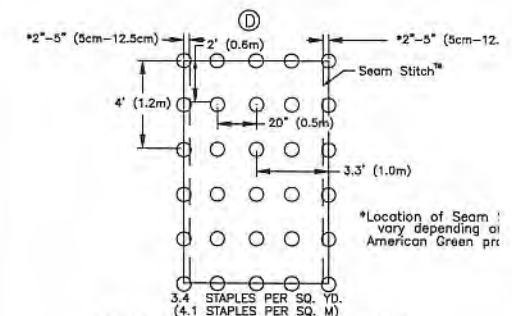
NORTH AMERICAN GREEN
EROSION CONTROL Products
Guaranteed SOLUTIONS

14815 HIGHWAY 41 NORTH
EVANSVILLE, IN 47732
800-779-7040
www.na-green.com

DOT SYSTEM
STAPLE PATTERN (



1.15 STAPLES PER SQ. YD.
(1.35 STAPLES PER SQ. M)
For blankets with the North American Green DOT System place staples/stakes through each of the RED colored dots.

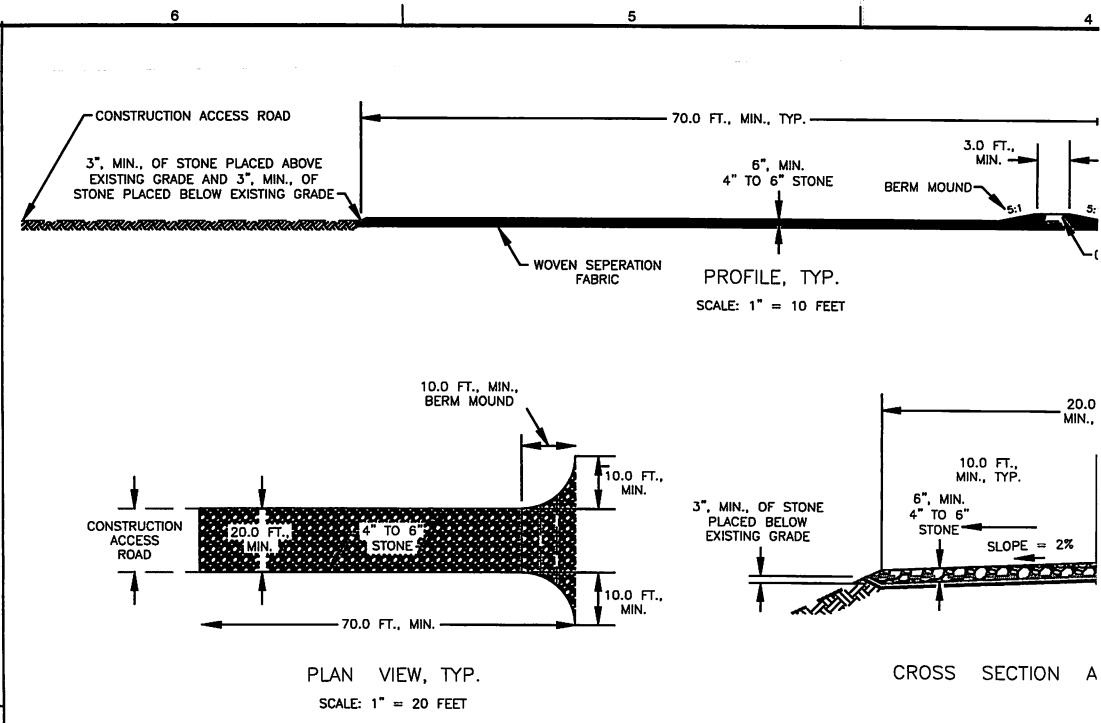
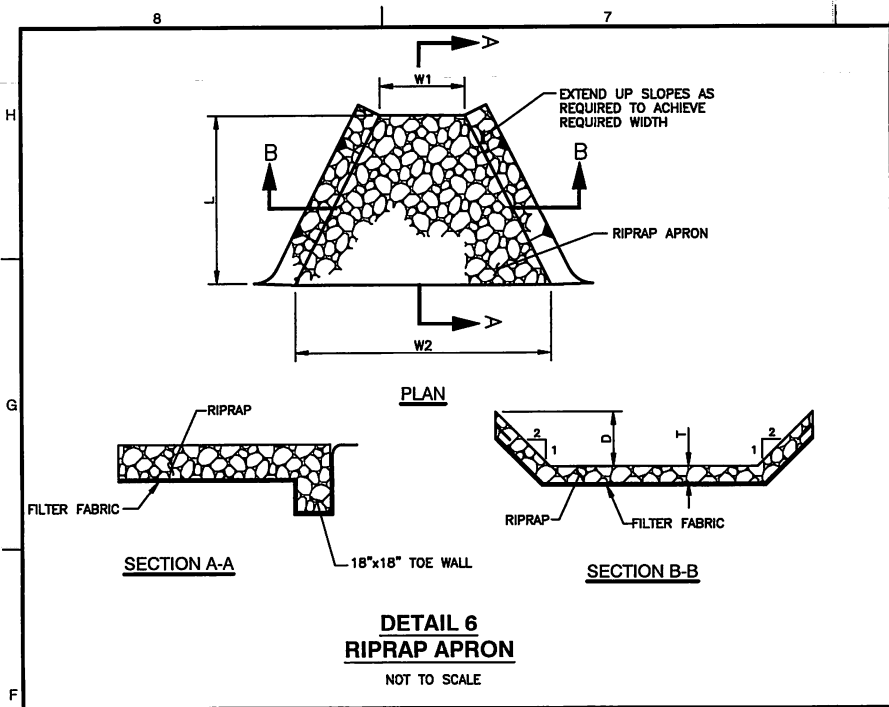


3.4 STAPLES PER SQ. YD.
(4.1 STAPLES PER SQ. M)
For blankets with the North American Green DOT System place staples/stakes through each of the WHITE colored dots.

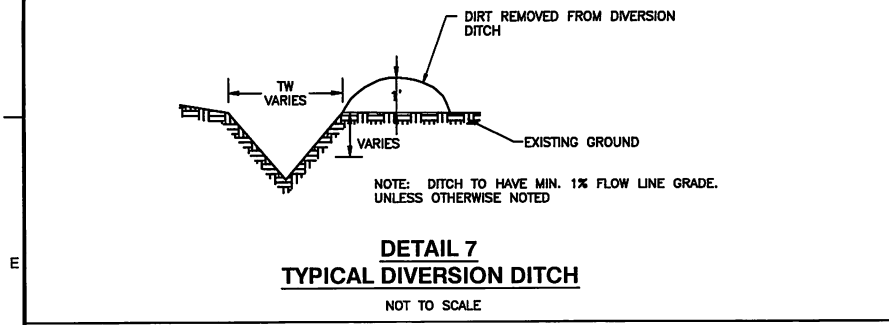
*Location of Seam vary depending on American Green product

DETAIL 3
EROSION CONTROL BLANKET

NOT TO SCALE

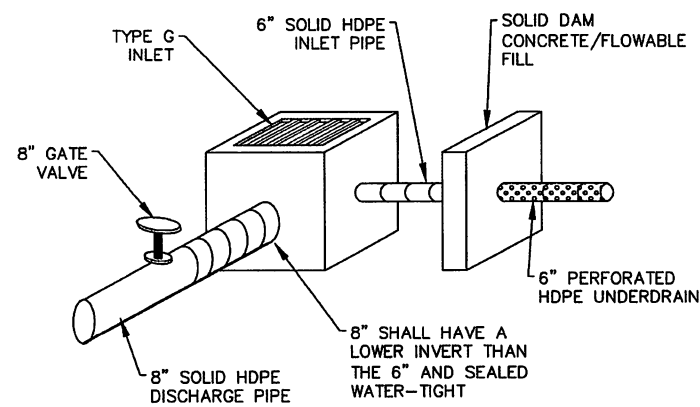
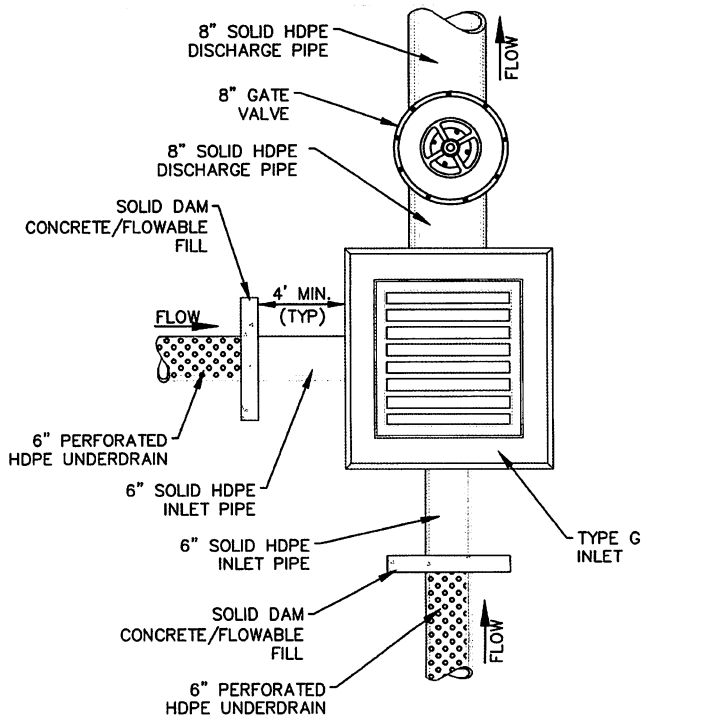


- NOTES:**
1. 4" to 6" STONE SHALL EXTEND THE FULL WIDTH OF THE ACCESS ROAD.
 2. 4" to 6" STONE SHALL MEET THE GRADATION REQUIREMENTS FOR CLASS 7 AGGREGATE IN TABLE 704.6.2A OF THE WVDOT STANDARD SPECIFICATIONS.
 3. A MOUNDED BERM MUST BE USED AT ALL STONE CONSTRUCTION ENTRANCES.
 4. TURNOUTS ONTO PAVED ROADS FROM STONE CONSTRUCTION ENTRANCES SHALL BE A MINIMUM OF 10.0 FEET AS MEASURED ALONG THE PAVED ROAD WHEN THE CONSTRUCTION ENTRANCE ENCOUNTERS THE PAVED ROAD.



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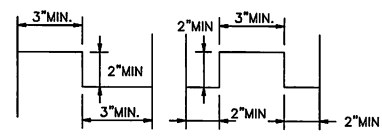
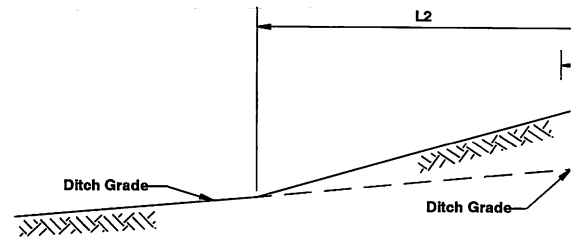
CONTROLLED DISCHARGE DETAIL

- NOTE:
1. SEE PLAN VIEW FOR INVERT ELEVATIONS
 2. NO DISCHARGE SHALL OCCUR DURING DRILLING ACTIVITIES

DETAIL 12 CONTROLLED DISCHARGE DETAIL

NOTES:

1. THE FINAL INSTALLED TOP SURFACE OF INLET AND GRATE SHALL BE FLUSH WITH ADJACENT FINISHED SURFACES SUCH AS PAVEMENT, GUTTERS, CURBS, AND SIDEWALKS. TOP OF GRATE ELEVATION, IF SHOWN ON THE PLANS, IS FOR INFORMATION ONLY.
2. CONSTRUCTION MAY BE CAST-IN PLACE, PRECAST IN ONE OR MULTIPLE SECTIONS, OR ANY COMBINATION OF CAST-IN-PLACE AND PRECAST.
3. TYPE 2 GRATE SHALL BE USED AT ALL LOCATIONS UNLESS OTHERWISE SPECIFIED ON THE PLANS. TYPE 1 URBAN GRATES SHALL BE USED ONLY AT SPECIALLY DESIGNATED LOCATIONS AS SHOWN ON THE PLANS.
4. THE CONTRACTOR, AT HIS OPTION, MAY OMIT USE OF THE FRAME BY FORMING A LEDGE IN THE CONCRETE.
5. SPECIAL CARE SHALL BE EXERCISED IN FORMING THE 2" WIDE CONCRETE LEDGE TO PROVIDE A SMOOTH, EVEN SURFACE FOR SUPPORTING THE GRATES IF THE SHALLOW FRAME IS NOT USED. NO PROJECTIONS SHALL EXIST ON THE BEARING SURFACES OF THE LEDGE OR THE GRATES, AND THE GRATES SHALL SEAT ON THE LEDGE WITHOUT ROCKING.
6. THE MOUNDING DETAIL AS SHOWN IS NOT REQUIRED WHEN AN INLET IS PLACED IN A SAG.
7. OPTIONAL CONSTRUCTION JOINTS LABELED "CJ" MAY BE ROUGHENED CONCRETE, KEYED OR DOWELED AS PER THE TYPICAL DETAILS SHOWN HEREIN OR AS APPROVED BY THE ENGINEER. NON SHRINK GROUT MEETING THE REQUIREMENTS OF SUBSECTION 715.5 OF THE SPECIFICATIONS MAY BE USED TO A DEPTH OF 1/2" FOR LEVELING BETWEEN PRECAST SECTIONS. THICKER DEPTHS WILL BE ALLOWED AS PER THE MANUFACTURER'S RECOMMENDATIONS.
8. THIS INLET IS TO BE INSTALLED IN ROADSIDE OR MEDIAN DITCHES ONLY. IT IS NOT TO BE PLACED ADJACENT TO PAVEMENT OR IN THE GUTTER PAN OF COMBINATION CURB AND GUTTER.
9. THE MINIMUM DISTANCE FROM THE TOP OF ANY PIPE OPENING TO ANY CONSTRUCTION JOINT ABOVE THE OPENING SHALL BE FOUR (4) INCHES.
10. THE NUMBER AND LOCATION OF PIPE OPENINGS SHALL BE AS SHOWN IN THE PLANS. THE CONTRACTOR AT NO ADDITIONAL COST, SHALL BE RESPONSIBLE FOR ANY TEMPORARY BRACING REQUIRED TO TRANSPORT PRECAST INLET SECTIONS DUE TO MULTIPLE OPENINGS.



CONSTRUCTION JOINT DETAILS

Pipe Size	DIMENSIONS				TYPE 2 GRATE			
	A	B	C	D	H(Min)	F		
18"	2'-8"	3'-2"	2'-7 3/4"	3'-1 3/4"	2'-0"	3 3/8"	7	223
21"	2'-8"	3'-2"	2'-7 3/4"	3'-1 3/4"	2'-3"	3 3/8"	7	223
24"	2'-8"	3'-2"	2'-7 3/4"	3'-1 3/4"	2'-6"	3 3/8"	7	223
27"	3'-0"	3'-6"	2'-11 3/4"	3'-5 3/4"	2'-9"	3 3/8"	8	279
30"	3'-6"	4'-0"	3'-5 3/4"	3'-11 3/4"	3'-0"	3 3/8"	9	357
33"	3'-9"	4'-3"	3'-8 3/4"	4'-2 3/4"	3'-3"	3 7/8"	10	419
36"	4'-0"	4'-6"	3'-11 3/4"	4'-5 3/4"	3'-6"	3 3/8"	11	486
42"	4'-6"	5'-0"	4'-5 3/4"	4'-11 3/4"	4'-0"	3 3/8"	12	587
48"	5'-0"	5'-6"	4'-11 3/4"	5'-5 3/4"	4'-6"	3 3/8"	14	748

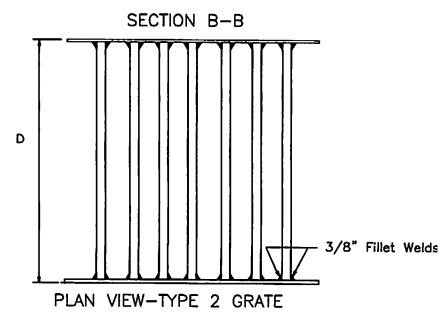
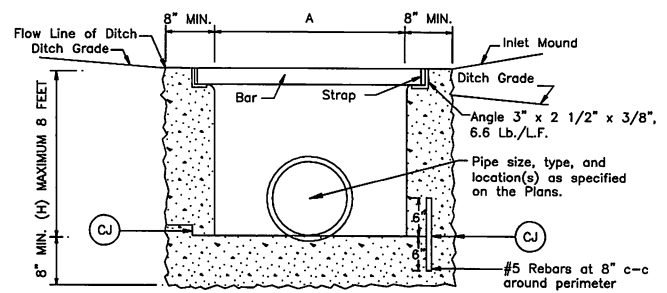
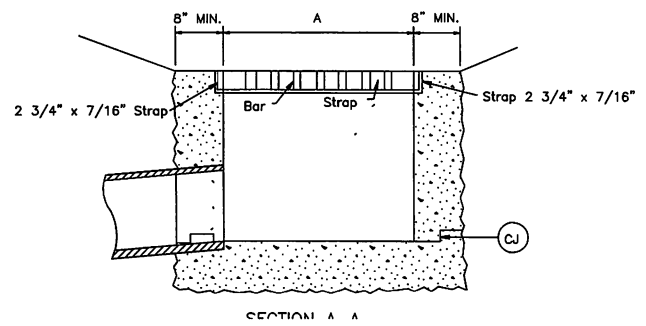
Table Note: Grate and frame weights are for information only and straps and bars are used. The following substitutions are acceptable for fabricating the grate and frame:

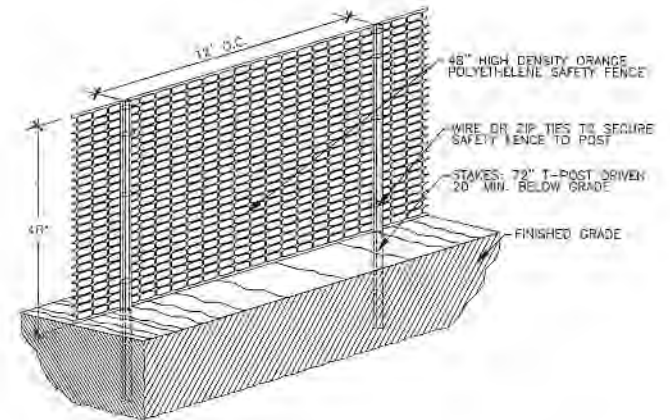
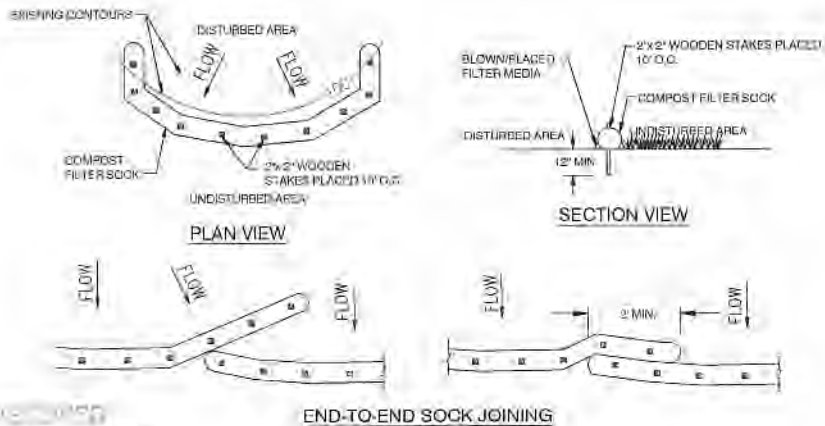
Strap Thickness: 1/2" Strap Depth: 3" Bar Depth: 3"

MOU Median

DITCH GRAD (%)	FROM	TO
0		1
3		7
5		7
7.5		U

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NOTES:

1. ALL SENSITIVE AREAS SHALL BE PROTECTED AS PER PLAN.
2. SAFETY FENCE SHOULD BE FASTENED SECURELY TO THE T-POSTS.
3. THE FENCING MUST REMAIN IN PLACE DURING ALL PHASES OF CONSTRUCTION; ANY CHANGE OF THE PROTECTIVE FENCING MUST BE APPROVED BY THE LAND OWNER.

**DETAIL 19
TYPICAL ORANGE CONSTRUCTION FENCE**

NOT TO SCALE

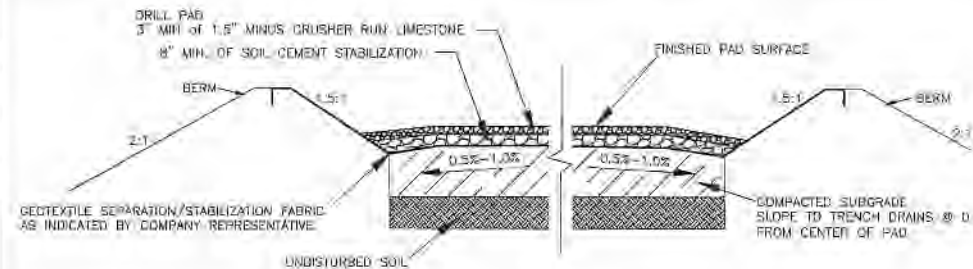
WMA 10/17/2018
 MAY 13 2018
 WMA 10/17/2018

COMPOST SHALL MEET THE FOLLOWING STANDARDS:

ORGANIC MATTER CONTENT	80% - 100% (DRY WEIGHT BASIS)
ORGANIC FIBER	FIBROUS AND ELONGATED
pH	5.5 - 6.0
MOISTURE CONTENT	35% - 55%
PARTICLE SIZE	98% PASS THROUGH 1" SCREEN
SOLUBLE SALT CONCENTRATION	< 5.0 #/5 MAXIMUM

NOTES:

1. COMPOST FILTER SOCKS TO BE INSTALLED IN ACCORDANCE WITH FILTER SOCK MANUFACTURER'S RECOMMENDATIONS, OR AN APPROVED EQUAL.
2. COMPOST FILTER SOCKS SHALL BE PLACED AT EXISTING LEVEL (GRADE); BOTH ENDS OF THE SOCK SHALL BE EXTENDED AT LEAST 10' UP SLOPE AT 45° TO THE MAIN SOCK ALIGNMENT. MAXIMUM SLOPE LENGTH ABOVE ANY DIAMETER SOCK SHALL NOT EXCEED THAT SHOWN ON BELOW TABLE.
3. TRAFFIC SHALL NOT BE PERMITTED TO CROSS FILTER SOCKS.
4. ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN IT REACHES 1/2 THE ABOVE GRASSING HEIGHT OF THE SOCK AND DISPOSED IN THE MANNER DESCRIBED ELSEWHERE IN THE PLAN.
5. SOCKS SHALL BE INSPECTED AS DESCRIBED IN THE MAINTENANCE AND INSPECTION NOTES IN THE EROSION AND SEDIMENT CONTROL NOTES OF THESE PLANS. DAMAGED SOCKS SHALL BE REPAIRED ACCORDING TO MANUFACTURER'S SPECIFICATIONS OR REPLACED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
6. BIODEGRADABLE FILTER SOCK SHALL BE REPLACED AFTER 6 MONTHS; PHOTO DEGRADABLE SOCKS AFTER 1(YR). POLYPROPYLENE SOCKS SHALL BE REPLACED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
7. UPON STABILIZATION OF THE AREA TRIBUTARY TO THE SOCK, ALL STAKES SHALL BE REMOVED. DEGRADABLE FILTER SOCK MAY BE LEFT IN PLACE AND VEGETATED. THE MESH SHALL BE CUT OPEN AND THE MULCH SPREAD AS A SOIL SUPPLEMENT PRIOR TO SEEDING. THE MESH FROM ALL POLYPROPYLENE FILTER SOCKS SHALL BE REMOVED. THE MULCH SHALL BE SPREAD AS A SOIL SUPPLEMENT PRIOR TO SEEDING.



**DETAIL 21
TYPICAL PAD CROSS-SECTION**

NOT TO SCALE



8 7 6 5 4

NOTE: CATCH BASINS AND GATE VALVES SHALL BE MONITORED AND MAINTAINED FOR THE LIFE OF THE PAD. FAILURE TO MAINTAIN CATCH BASINS AND GATE VALVES IN WORKING CONDITION SHALL CONSTITUTE A VIOLATION OF STATE LAW.

HG ENERGY II APPALACHIA, LLC
TM 7B PAR 10
DB 730 PG 677
61.50 AC ±

ATLANTIC COAST PIPELINE, LLC
TM 7B PAR 23
DB 700 PG 779
167.89 AC ±

8" GATE VALVE PER HG ENERGY, LLC TO REMAIN (NORMALLY OPEN, CLOSED IF SPILL OCCURS) (TYP.)

CONTROLLED DISCHARGE TO REMAIN (TYP.)

TOPSOIL/STRIPPING PILE 2
13,438 C.Y. (20% SWELL)

WATERCOURSE J
WATERCOURSE H
1211 WELL PAD
ELEVATION = 1265.5'
CENTROID LOCATION
NAD83 LAT = 39.134102
NAD83 LON = -80.474461

NOTE: AREAS NOT IN USE DURING PRODUCTION SHALL BE SEEDED AND MULCHED

WETLAND K

SPOIL PILE
5,220 C.Y.

100' X 260' FLAT PAD
● 1235.90 TO REMAIN

UNDERDRAINS TO REMAIN (TYP.)

RIPRAP APRONS (TYP.)

COMPLETED DELINEATION STUDY AREA

POTENTIAL ROOST

MOUNTABLE BERM

CULVERTS TO REMAIN (TYP.)

POTENTIAL ROOST TREE

POTENTIAL ROOST TREE

POTENTIAL ROOST TREE

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HG ENERGY II APPALACHIA
TM 7B PAR 22
DB 730 PG 677
73.63 AC ±

PROPOSED LIMITS OF DISTURBANCE

EXISTING WELL
AD14 470410519P

WATERCOURSE G

SETBACK WAIVER REQUEST
1211 WELL PAD PROJECT
LEWIS COUNTY, WEST VIRGINIA

Submitted to:

WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION
OFFICE OF OIL AND GAS
601 57TH STREET
CHARLESTON, WEST VIRGINIA 25305

Prepared for:

HG ENERGY II APPALACHIA, LLC
5260 DUPONT ROAD
PARKERSBURG, WEST VIRGINIA 26101

Prepared by:

CIVIL & ENVIRONMENTAL CONSULTANTS, INC.
600 MARKET PLACE, SUITE 200
BRIDGEPORT, WEST VIRGINIA 26330

CEC Project 190-016

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August 2019

NOV 13 2019

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Environmental Protection



Civil & Environmental Consultants, Inc.

WW-6B
(04/15)

API NO. 47- _____ - _____
OPERATOR WELL NO. McDonald 1211 N-3H
Well Pad Name: McDonald 1211

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

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

2) Operator's Well Number: McDonald 1211 N-3H Well Pad Name: McDonald 1211

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

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

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

Other _____

(b) If Gas Shallow Deep _____

Horizontal

6) Existing Pad: Yes or No No

7) Proposed Target Formation(s), Depth(s), Anticipated Thickness and Expected Pressure(s):
Marcellus at 6753'/6835' and 82' in thickness. Anticipated pressure at 4314#.

8) Proposed Total Vertical Depth: 6800'

9) Formation at Total Vertical Depth: Marcellus

10) Proposed Total Measured Depth: 23,267' ✓

11) Proposed Horizontal Leg Length: 16,021'

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

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

14) Approximate Saltwater Depths: 1299', 1675'

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

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

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

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

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B.S. 9-23-19

WW-6B
(04/15)

API NO. 47- _____ - _____
 OPERATOR WELL NO. McDonald 1211 N-3H
 Well Pad Name: McDonald 1211

18) **CASING AND TUBING PROGRAM**

TYPE	Size (in)	New or Used	Grade	Weight per ft. (lb/ft)	FOOTAGE: For Drilling (ft)	INTERVALS: Left in Well (ft)	CEMENT: Fill-up (Cu. Ft.)/CTS
Conductor	30"	New	LS	157.5	120'	120' ✓	Drilled In
Fresh Water/Coal	20"	NEW	J-55	94	1000'	1000' ✓	CTS
Intermediate 1	13 3/8"	NEW	J-55 BTC	68	2040'	2040' ✓	CTS
Intermediate 2	9 5/8"	NEW	J-55 BTC	40	2750'	2750' ✓	CTS
Production	5 1/2"	NEW	P-110 HP	23	23267'	23267' ✓	CTS
Tubing							
Liners							

TYPE	Size (in)	Wellbore Diameter (in)	Wall Thickness (in)	Burst Pressure (psi)	Anticipated Max. Internal Pressure (psi)	Cement Type	Cement Yield (cu. ft./k)
Conductor	30"	30"	.500				Drilled In
Fresh Water/Coal	20"	26"	.438	2110	1200	Type 1, Class A	40 % excess yield = 1.20, CTS
Intermediate 1	13 3/8"	17 1/2"	.480	3450		Type 1/Class A	Lead 40% excess, Tail 0% excess
Intermediate 2	9 5/8"	12 1/4"	.395	3950		Type 1/Class A	Lead 40% excess, Tail 0% Excess
Production	5 1/2"	8 1/2"	.415	16240 ✓	12000 ✓	Type 1/Class A	20% excess yield = 1.19, tail yield 1.94
Tubing							
Liners							

PACKERS

Kind:				
Sizes:				
Depths Set:				

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Environmental Protection

WW-6B
(10/14)

API NO. 47- _____ - _____
OPERATOR WELL NO. McDonald 1211 N-3H
Well Pad Name: McDonald 1211

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

Drill the vertical depth to the Marcellus at an estimated total vertical depth of approximately 6800 feet. Drill horizontal leg to estimated 16,021 lateral length, 23,267 TMD. Hydraulically fracture stimulate and be capable of producing from the Marcellus Formation. Should we encounter an unanticipated void in the coal, we will install a minimum of 20' of casing below the void but not more than 100' below the void, set a basket and grout to surface. We plan to run an ECP above the Gantz/Dominion Storage interval to aid in sealing off and isolating the storage interval.

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

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

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

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

23) Describe centralizer placement for each casing string:

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

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Environmental Protection

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

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

25) Proposed borehole conditioning procedures:

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

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*Note: Attach additional sheets as needed.

WV Department of Environmental Protection

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

Material Name	Material Type	Material Description	CAS #																		
Premium NE-1	Portland Cement	Premium NE-1 is a portland cement with early compressive strength properties.	<table border="1"> <thead> <tr> <th>Ingredient name</th> <th>%</th> <th>CAS number</th> </tr> </thead> <tbody> <tr> <td>Portland cement</td> <td>90 - 100</td> <td>65997-15-1</td> </tr> <tr> <td>Calcium oxide</td> <td>1 - 5</td> <td>1305-78-8</td> </tr> <tr> <td>Magnesium oxide</td> <td>1 - 5</td> <td>1309-48-4</td> </tr> <tr> <td>Crystalline silica: Quartz (SiO2)</td> <td>0.1 - 1</td> <td>14808-60-7</td> </tr> </tbody> </table>	Ingredient name	%	CAS number	Portland cement	90 - 100	65997-15-1	Calcium oxide	1 - 5	1305-78-8	Magnesium oxide	1 - 5	1309-48-4	Crystalline silica: Quartz (SiO2)	0.1 - 1	14808-60-7			
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Bentonite	Extender	Commonly called gel, it is a clay material used as a cement extender and to control excessive free water.	<table border="1"> <thead> <tr> <th>Ingredient name</th> <th>%</th> <th>CAS number</th> </tr> </thead> <tbody> <tr> <td>bentonite</td> <td>90 - 100</td> <td>1302-78-9</td> </tr> <tr> <td>Crystalline silica: Quartz (SiO2)</td> <td>5 - 10</td> <td>14808-60-7</td> </tr> </tbody> </table>	Ingredient name	%	CAS number	bentonite	90 - 100	1302-78-9	Crystalline silica: Quartz (SiO2)	5 - 10	14808-60-7									
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Calcium Chloride	Accelerator	A powdered, flaked or pelletized material used to decrease thickening time and increase the rate of strength development	<table border="1"> <thead> <tr> <th>Ingredient name</th> <th>%</th> <th>CAS number</th> </tr> </thead> <tbody> <tr> <td>Calcium chloride</td> <td>90 - 100</td> <td>10043-52-4</td> </tr> </tbody> </table>	Ingredient name	%	CAS number	Calcium chloride	90 - 100	10043-52-4												
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Cello Flake	Lost Circulation	Graded (3/8 to 3/4 inch) cellophane flakes used as a lost circulation material.	<table border="1"> <thead> <tr> <th>Ingredient name</th> <th>%</th> <th>CAS number</th> </tr> </thead> <tbody> <tr> <td>No hazardous ingredient</td> <td></td> <td></td> </tr> </tbody> </table>	Ingredient name	%	CAS number	No hazardous ingredient														
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FP-13L	Foam Preventer	FP-13L is a clear liquid organic phosphate antifoaming agent used in cementing operations. It is very effective minimizing air entrapment and preventing foaming tendencies of latex systems.	<table border="1"> <thead> <tr> <th>Ingredient name</th> <th>%</th> <th>CAS number</th> </tr> </thead> <tbody> <tr> <td>Tributyl phosphate</td> <td>90 - 100</td> <td>126-73-8</td> </tr> </tbody> </table>	Ingredient name	%	CAS number	Tributyl phosphate	90 - 100	126-73-8												
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Granulated Sugar	Retarder	Used to retard cement returns at surface. A proprietary product that provides expansive properties and improves bonding at low to moderate temperatures.	<table border="1"> <thead> <tr> <th>Ingredient name</th> <th>%</th> <th>CAS number</th> </tr> </thead> <tbody> <tr> <td>Sucrose</td> <td>90 - 100</td> <td>57-50-1</td> </tr> </tbody> </table>	Ingredient name	%	CAS number	Sucrose	90 - 100	57-50-1												
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EC-1	Gas Migration	Multi-purpose polymer additive used to control free fluid, fluid loss, rheology, and gas migration.	<table border="1"> <thead> <tr> <th>Ingredient name</th> <th>%</th> <th>CAS number</th> </tr> </thead> <tbody> <tr> <td>No hazardous ingredient</td> <td></td> <td></td> </tr> </tbody> </table>	Ingredient name	%	CAS number	No hazardous ingredient														
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MPA-170	Base	A synthetic pozzolan, (primarily Silicon Dioxide). When blended with cement, Pozzolan can be used to create lightweight cement slurries used as either a filler slurry or a sulfate resistant completion cement.	<table border="1"> <thead> <tr> <th>Ingredient name</th> <th>%</th> <th>CAS number</th> </tr> </thead> <tbody> <tr> <td>Crystalline silica: Quartz (SiO2)</td> <td>5 - 10</td> <td>14808-60-7</td> </tr> <tr> <td>Calcium oxide</td> <td>1 - 5</td> <td>1305-78-8</td> </tr> </tbody> </table>	Ingredient name	%	CAS number	Crystalline silica: Quartz (SiO2)	5 - 10	14808-60-7	Calcium oxide	1 - 5	1305-78-8									
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Calcium oxide	1 - 5	1305-78-8																			
Poz (Fly Ash)	Retarder	A low temperature retarder used in a wide range of slurry formulations to extend the slurry thickening time.	<table border="1"> <thead> <tr> <th>Ingredient name</th> <th>%</th> <th>CAS number</th> </tr> </thead> <tbody> <tr> <td>Organic acid salt</td> <td>40 - 50</td> <td>Trade secret.</td> </tr> </tbody> </table>	Ingredient name	%	CAS number	Organic acid salt	40 - 50	Trade secret.												
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R-3	Surfactant	Used to water wet casing and formation to facilitate cement bonding.	<table border="1"> <thead> <tr> <th>Ingredient name</th> <th>%</th> <th>CAS number</th> </tr> </thead> <tbody> <tr> <td>2-Butoxyethanol</td> <td>20 - 30</td> <td>111-76-2</td> </tr> <tr> <td>Proprietary surfactant</td> <td>10 - 20</td> <td>Trade secret.</td> </tr> <tr> <td>D-Glucopyranose, oligomeric, C10-16-alkyl glycosides</td> <td>5 - 10</td> <td>110615-47-9</td> </tr> <tr> <td>Alkylarylsulfonate amine salt</td> <td>1 - 5</td> <td>Trade secret.</td> </tr> <tr> <td>Polyoxyalkylenes</td> <td>0.1 - 1</td> <td>Trade secret.</td> </tr> </tbody> </table>	Ingredient name	%	CAS number	2-Butoxyethanol	20 - 30	111-76-2	Proprietary surfactant	10 - 20	Trade secret.	D-Glucopyranose, oligomeric, C10-16-alkyl glycosides	5 - 10	110615-47-9	Alkylarylsulfonate amine salt	1 - 5	Trade secret.	Polyoxyalkylenes	0.1 - 1	Trade secret.
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S-5																					



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1211 N-3H
Marcellus Shale Horizontal
Harrison County, WV

WV Department of Environmental Protection				1211 N-3H SHL				14211880N 1789473.65E					
Ground Elevation				1264.5				14212301.15N 1788823.11E					
Azm				340.538°				14227400.92N 1783487.41E					
WELLBORE DIAGRAM				HOLE	CASING	GEOLOGY	TOP	BASE	MUD	CEMENT	CENTRALIZERS	CONDITIONING	COMMENTS
	30"	30" 157.5# LS	Conductor	0	120			AIR	N/A, Casing to be drilled in w/ Dual Rotary Rig	N/A	Ensure the hole is clean at TD.	Conductor casing = 0.5" wall thickness	
	26"	20" 94# J-55	Fresh Water	0	205	AIR	15.6 ppg PNE-1 + 3% bwoc CaCl 40% Excess Yield=1.20 / CTS	Centralized every 3 joints to surface	Once casing is at setting depth, circulate a minimum of one hole volume with Fresh Water prior to pumping cement.	Surface casing = 0.438" wall thickness Burst=2110 psi			
			Kittaning Coal	919	924								
			Fresh Water Protection	0	1000								
	17.5"	13-3/8" 68# J-55 BTC	Big Lime	1480	1545	AIR / KCL Salt Polymer	Lead: 15.4 ppg PNE-1 + 2.5% bwoc CaCl 40% Excess / Tail: 15.9 ppg PNE-1 + 2.5% bwoc CaCl zero% Excess. CTS	Bow Spring on every joint <i>*will also be running ACP for isolating storage zone*</i>	Once casing is at setting depth, Circulate and condition at TD. Circulate a minimum of one hole volume prior to pumping cement.	Intermediate casing = 0.480" wall thickness Burst=3450 psi			
			Injun / Gantz (Storage)	1545 / 1830	1650 / 1890								
			Intermediate 1	0	2040								
	12.25"	9-5/8" 40# J-55 BTC	Fifty / Thirty Foot	1940 / 2037	1965 / 2060	AIR / KCL Salt Polymer	Lead: 15.4 ppg PNE-1 + 2.5% bwoc CaCl 40% Excess / Tail: 15.9 ppg PNE-1 + 2.5% bwoc CaCl zero% Excess. CTS	Bow Spring on first 2 joints then every third joint to 100' form surface	Once casing is at setting depth, Circulate and condition mud at TD. Circulate a minimum of one hole volume prior to pumping cement.	Intermediate casing = 0.395" wall thickness Burst=3950 psi			
			Gordon Stray / Gordon	2060 / 2130	2130 / 2220								
			5th Sand	2320	2360								
			Bayard Sand	2405	2420								
	8.5" Vertical	5-1/2" 23# P-110 HP CDC HTQ	Speechley	3025	3041	AIR / 9.0ppg SOB M	Lead: 14.5 ppg POZ:PNE-1 + 0.3% bwoc R3 + 1% bwoc EC1 + 0.75 gal/sk FP13L + 0.3% bwoc MPA170 Tail: 14.8 ppg PNE-1 + 0.35% bwoc R3 + 0.75 gal/sk FP13L + 50% bwoc ASCA1 + 0.5% bwoc MPA170 20% Excess Lead Yield=1.19 Tail Yield=1.94 CTS	Run 1 spiral centralizer every 5 joints from the top of the curve to surface.	Once on bottom/TD with casing, circulate at max allowable pump rate for at least 2x bottoms up, or until returns and pump pressures indicate the hole is clean. Circulate a minimum of one hole volume prior to pumping cement.	Production casing = 0.415" wall thickness Burst=16240 psi Note: Actual centralizer schedules may be changed due to hole conditions			
			Balltown	3250	3290								
			Benson	4340	4350								
	8.5" Curve		Rhinestreet	6107	6377	11.5ppg-12.5ppg SOB M							
Cashaqua			6377	6477									
Middlesex			6477	6509									
West River			6509	6580									
Burkett			6580	6590									
Tully Limestone			6590	6698									
8.5" Lateral	Hamilton		6698	6753	11.5ppg-12.5ppg SOB M								
	Marcellus		6753	6835									
	TMD / TVD (Production)		23267	6800									
	Onondaga		6835										

LP @ 6800' TVD / 7246' MD

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

+/-16021' ft Lateral

TD @ +/-6800' TVD
+/-23267' MD

X=centralizers

List of Frac Additives by Chemical Name and CAS #

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

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

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PROPOSAL TO DRILL WITHIN DOMINION TRANSMISSION STORAGE FIELD

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

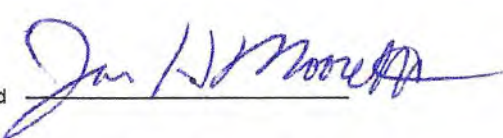
WELL NAME: McDonald 1211 N-3H

Well # 1211 N-3H

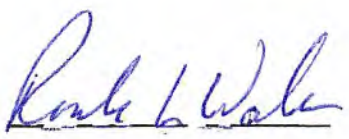
DISTRICT/COUNTY/STATE: Freemans Creek/Lewis/WV

Submitted 
JOSH HINTON
HG ENERGY, LLC

DATE 10-22-19

Approved 
Dominion Energy Transmission

DATE 10-23-19

Approved 
Dominion Energy Transmission

DATE 10/23/2019

Comments:

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

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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 494519932 Lewis Freeman West Milford 7.5'
Operator ID County District Quadrangle
- 2) Operator's Well Number: McDonald 1211 N-3H Well Pad Name: McDonald 1211
- 3) Farm Name/Surface Owner: McDonald Public Road Access: SR 19
- 4) Elevation, current ground: 1280' Elevation, proposed post-construction: 1264.5'
- 5) Well Type (a) Gas Oil _____ Underground Storage _____
Other _____
(b) If Gas Shallow Deep _____
Horizontal
- 6) Existing Pad: Yes or No No
- 7) Proposed Target Formation(s), Depth(s), Anticipated Thickness and Expected Pressure(s):
Marcellus at 6753'/6835' and 82' in thickness. Anticipated pressure at 4314#.
- 8) Proposed Total Vertical Depth: 6800'
- 9) Formation at Total Vertical Depth: Marcellus
- 10) Proposed Total Measured Depth: 23,267'
- 11) Proposed Horizontal Leg Length: 16,021'
- 12) Approximate Fresh Water Strata Depths: 34', 107', 205', 229', 249'
- 13) Method to Determine Fresh Water Depths: Nearest offset well data, (47-041-5128, 3938, 4929)
- 14) Approximate Saltwater Depths: 1299', 1675'
- 15) Approximate Coal Seam Depths: 810' to 815'
- 16) Approximate Depth to Possible Void (coal mine, karst, other): None
- 17) Does Proposed well location contain coal seams directly overlying or adjacent to an active mine? Yes _____ No
- (a) If Yes, provide Mine Info: Name: _____
Depth: _____
Seam: _____
Owner: _____

B.S. 9-23-19

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4704105703

WW-68
(04/15)

API NO. 47-
OPERATOR WELL NO. McDonald 1211 N-54
Well Pad Name: McDonald 1211

CASING AND TUBING PROGRAM

TYPE	Size (in)	New or Used	Grade	Weight per ft. (lb/ft)	FOOTAGE: For Drilling (ft)	INTERVALS: Left in Well (ft)	CEMENT: Fill-up (Cu. Ft./CTS)
Conductor	30"	New	LS	157.5	120'	120'	Drilled in
Fresh Water/Coal	20"	NEW	J-65	94	1000'	1000'	CTS
Intermediate 1	13 3/8"	NEW	J-66 BTC	68	2040'	2040'	CTS
Intermediate 2	9 5/8"	NEW	J-65 BTC	40	2750'	2750'	CTS
Production	5 1/2"	NEW	P-110 HP	23	23267'	23267'	CTS
Tubing							
Liners							

TYPE	Size (in)	Wellbore Diameter (in)	Wall Thickness (in)	Burst Pressure (psi)	Anticipated Max. Internal Pressure (psi)	Cement Type	Cement Yield (cu. ft./k)
Conductor	30"	30"	.500				Drilled in
Fresh Water/Coal	20"	26"	.438	2110	1200	Type 1, Class A	40 75 60000 Yield = 1.20, CTS
Intermediate 1	13 3/8"	17 1/2"	.480	3450		Type 1/Class A	Load 4075 cases, 740 0% cases
Intermediate 2	9 5/8"	12 1/4"	.395	3950		Type 1/Class A	Load 4075 cases, 740 0% cases
Production	5 1/2"	8 1/2"	.415	16240	12000	Type 1/Class A	207 60000 Yield = 1.20, 60 Yield 1.20
Tubing							
Liners							

PACKERS

Kind:	Sizes:	Depths Set:

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WV Department of
Environmental Protection

WW-6B
(10/14)

API NO. 47- _____
OPERATOR WELL NO. McDonald 1211 N-3H
Well Pad Name: McDonald 1211

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

Drill the vertical depth to the Marcellus at an estimated total vertical depth of approximately 6800 feet. Drill horizontal leg to estimated 16,021 lateral length, 23,267 TMD. Hydraulically fracture stimulate and be capable of producing from the Marcellus Formation. Should we encounter an unanticipated void in the coal, we will install a minimum of 20' of casing below the void but not more than 100' below the void, set a basket and grout to surface. We plan to run an ECP above the Gantz/Dominion Storage interval to aid in sealing off and isolating the storage interval.

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

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

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

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

23) Describe centralizer placement for each casing string:

No centralizers will be used with conductor casing.
Production Casing - installed every 3 joints to surface.
Intermediate 1 - One sliding sleeve joint will also be installed ECP for holding string here.
Intermediate 2 - One sliding sleeve joint will also be installed ECP for holding string here.
Production - Run 1 split centralizer every 7 joints from the top of the casing to the top of the well.

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

Conductor - 40% Slurry to be added to each casing job.
Each Well Casing - 100% Dry Pack + 1% base CMC, 4% base Starch + 1.5% OTG
Intermediate 1 - Lamin 11.4 gpm PPS-1 + 0.2% base CMC, 4% base Starch + 1.5% base OTG + 0.2% base CMC + 0.2% base OTG
Intermediate 2 - Lamin 11.4 gpm PPS-1 + 0.2% base CMC, 4% base Starch + 1.5% base OTG + 0.2% base CMC + 0.2% base OTG
Production - Lamin 14.8 gpm PPS-1 + 0.2% base CMC + 1% base Starch + 0.2% base PPS-1 + 0.2% base OTG + 0.2% base CMC + 0.2% base OTG + 0.2% base PPS-1 + 0.2% base OTG + 0.2% base CMC + 0.2% base OTG + 0.2% base PPS-1 + 0.2% base OTG + 0.2% base CMC + 0.2% base OTG

25) Proposed borehole conditioning procedures:

Conductor - Ensure the hole is clean at TD.
Each Well Casing - Once ready to drill down, circulate a volume of one hole volume with fresh filter pack to pump the 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 at TD. Circulate a minimum of one hole volume prior to pumping cement.
Production - Once on bottom TD with casing, circulate at least one hole volume with fresh filter pack and pump procedure to surface the hole in clean. Circulate a minimum of one hole volume prior to pumping cement.

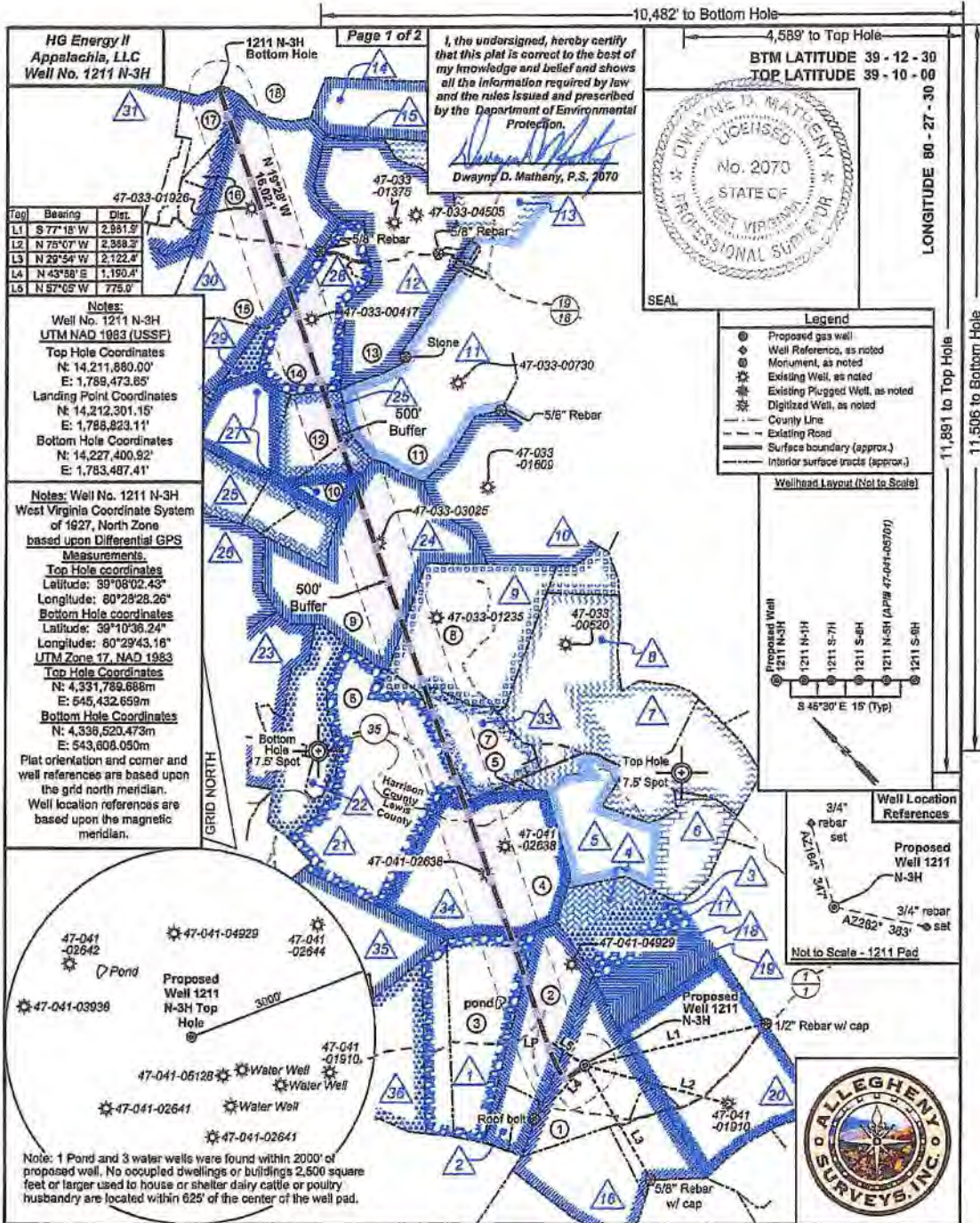
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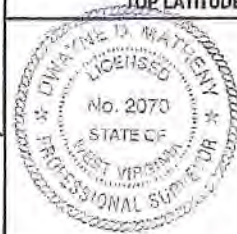
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WV Department of
Environmental Protection

4704105703
4704 05703



I, the undersigned, hereby certify that this plat is correct to the best of my knowledge and belief and shows all the information required by law and the rules issued and prescribed by the Department of Environmental Protection.
Dwayne D. Matheny, P.S. 2070
Dwayne D. Matheny, P.S. 2070



FILE NO: 79-36-12-U-F-18
DRAWING NO: 1211 N-3H 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: October 3 2019
OPERATOR'S WELL NO. 1211 N-3H
API WELL NO. H68A
47 - 041 - 05703
STATE COUNTY PERMIT

WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL
(IF GAS) PRODUCTION: STORAGE DEEP SHALLOW
LOCATION: ELEVATION: 1,285.5' WATERSHED: Middle West Fork Creek
DISTRICT: Freemans Creek
SURFACE OWNER: HG Energy II Appalachia, LLC
ROYALTY OWNER: Mary R. Post, et al, et al LEASE NO: ACREAGE: 145.00
PROPOSED WORK: DRILL CONVERT DRILL DEEPER FRACTURE OR STIMULATE PLUG OFF OLD FORMATION
 PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE IN WELL (SPECIFY) 6,800' TVD
 PLUG AND ABANDON CLEAN OUT AND REPLUG TARGET FORMATION: Marcellus Shale ESTIMATED DEPTH: 23,268' MD

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

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HG Energy II
Appalachia, LLC
Well No. 1211 N-3H



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ID	Lease
1	J.L. Post, et al
2	HG Energy II Appalachia, LLC
3	Rosa L. Brown, et al
4	Cora B. Allman, et al
5	Guinn Minter, et al
6	HG Energy II Appalachia, LLC
7	W.R. Neeley, et al
8	HG Energy II Appalachia, LLC
9	J.H. Neeley & et al
10	R.C. McDonald, et al
11	R.C. McDonald, et ux, et al
12	B.F. Thrash, et ux
13	Lois McDonald, et al
14	George Paul Linn
15	HG Energy II Appalachia, LLC
16	Mary E. Post, et al
17	A.D. Beeghtley & et al
18	Arthur Beeghtley & et al
19	James Beeghtley, et al
20	Guinn Minter, et al
21	A.W. Davis
22	Mary Robinson, et al
23	C.C. Ash
24	C.M. Garrett, et al
25	Worthy R. Lowman
26	W.L. Oldaker, et al
27	Worthy R. Lowman
28	William & Sus Gaston
29	E. Rider, et al
30	D.M. Cole, et al
31	Jesse B. Knight, et al
33	Guinn Minter, et al
34	L.W. Davis, et al
35	Henry L. Frashuer, et al
36	Henry L. Frashuer, et al

No.	TM / Par	Owner	Bk / Pg	Ac.
1	7B / 10	CNX Gas Company, LLC	680 / 266	61.50
2	7B / 9	Brincefield Family Trust	588 / 740	56.76
3	6B / 41	Brincefield Family Trust	688 / 740	71.619
4	6B / 40	Robert G. & Leah V. Burnsides	660 / 388	126.50
5	443 / 29.3	Ruth Burnsides	1268 / 1168	1.426
6	443 / 28	Mary Lou Curry, et al	1539 / 769	139.97
7	443 / 29	Danny L. & Rebecca A. Stickel	1268 / 1130	39.01
8	443 / 14	Stove L. & Nadine J. Villers	1180 / 529	102.03
9	423 / 27	James C. Garrett	1412 / 891	126.82
10	423 / 22	James C. Garrett	1412 / 891	35.58
11	423 / 7	K. Wade & Mary M. Dickinson	1275 / 492	197.98
12	423 / 21	Jefferson Lambert & Linda J. Ashcraft	1322 / 689	39.77
13	423 / 6	K. Wade & Mary M. Dickinson	1275 / 492	127.39
14	423 / 20	Jefferson Lambert & Linda J. Ashcraft	1320 / 409	56.47
15	423 / 5	Ernest Aubrey Rider	1136 / 136	137.48
16	423 / 4.4	CNX Gas Co. LLC	1537 / 119	6.95
17	423 / 4	James E. Dills	1596 / 158	21.32
18	403 / 25	Carol Daugherty Skidmore	W145 / 359	201.00

FILE NO: 79-36-12-U-F-18
DRAWING NO: 1211 N-3H 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: October 3 20 19
OPERATOR'S WELL NO. 1211 N-3H
API WELL NO H 6 A
47 - 041 - 05703
STATE COUNTY PERMIT


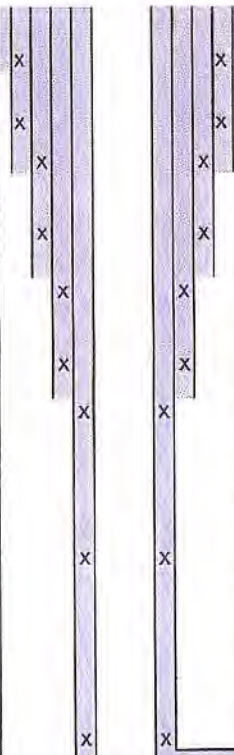
WELL TYPE: OIL GAS LIQUID INJECTION WASTE DISPOSAL
(IF GAS) PRODUCTION: STORAGE DEEP SHALLOW

LOCATION: ELEVATION: 1,265.5' WATERSHED: Middle West Fork Creek QUADRANGLE: West Milford
DISTRICT: Freemans Creek COUNTY: Lewis
SURFACE OWNER: HG Energy II Appalachia, LLC ACREAGE: 61.50
ROYALTY OWNER: Mary R. Post, et al, et al LEASE NO: ACREAGE: 145.00

PROPOSED WORK: DRILL CONVERT DRILL DEEPER FRACTURE OR STIMULATE PLUG OFF OLD FORMATION
 PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE IN WELL (SPECIFY) _____ 6,800' TVD
 PLUG AND ABANDON CLEAN OUT AND REPLUG TARGET FORMATION: Marcellus Shale ESTIMATED DEPTH: 23,268' 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

4704105703

				1211 N-3H Marcellus Shale Horizontal Harrison County, WV							
Ground Elevation 1264.5'				1211 N-3H SHL				14211880N 1789473.65E			
Azm 340.538°				1211 N-3H LP				14212301.15N 1788823.11E			
WELLBORE DIAGRAM				1211 N-3H BHL				14227400.92N 1783487.41E			
WELLBORE DIAGRAM	HOLE	CASING	GEOLOGY	TOP	BASE	MUD	CEMENT	CENTRALIZERS	CONDITIONING	COMMENTS	
	30"	30" 157.5# LS	Conductor	0	120	AIR	N/A, Casing to be drilled in w/ Dual Rotary Rig	N/A	Ensure the hole is clean at TD.	Conductor casing = 0.6" wall thickness	
	26"	20" 94# J-55	Fresh Water	0	205	AIR	15.6 ppg PNE-1 + 3% bwoc CaCl 40% Excess Yield=1.20 / CTS	Centralized every 3 joints to surface	Once casing is at setting depth, circulate a minimum of one hole volume with Fresh Water prior to pumping cement.	Surface casing = 0.438" wall thickness Burst=2110 psi	
			Kilnaring Coal	919	924						
			Fresh Water Protection	0	1000						
	17.5"	13-3/8" 68# J-55 BTC	Big Lime	1480	1545	AIR / KCL Salt Polymer	Lead: 15.4 ppg PNE-1 + 2.5% bwoc CaCl 40% Excess / Tail: 15.9 ppg PNE-1 + 2.5% bwoc CaCl zero% Excess, CTS	Bow Spring on every joint <i>"will also be running ACP for isolating storage zone"</i>	Once casing is at setting depth, Circulate and condition at TD. Circulate a minimum of one hole volume prior to pumping cement.	Intermediate casing = 0.480" wall thickness Burst=3450 psi	
			Injun / Ganiz (Storage)	1545 / 1830	1650 / 1890						
			Intermediate 1	0	2040						
			Fifty / Thirty Foot	1940 / 2037	1985 / 2080						
	12.25"	9-5/8" 40# J-55 ETC	Gordon Slaty / Gordon	2060 / 2130	2130 / 2220	AIR / KCL Salt Polymer	Lead: 15.4 ppg PNE-1 + 2.5% bwoc CaCl 40% Excess / Tail: 15.9 ppg PNE-1 + 2.5% bwoc CaCl zero% Excess, CTS	Bow Spring on first 2 joints then every third joint to 100' form surface	Once casing is at setting depth, Circulate and condition mud at TD. Circulate a minimum of one hole volume prior to pumping cement.	Intermediate casing = 0.395" wall thickness Burst=3950 psi	
			5th Sand	2320	2360						
			Bayard Sand	2405	2420						
			Intermediate 2	0	2750						
	8.5" Vertical	5-1/2" 23# P-110 HP CDC HTQ	Speechley	3025	3041	AIR / 9.0ppg SOBM	Lead: 14.5 ppg POZ-PNE-1 + 0.3% bwoc R3 + 1% bwoc EC1 + 0.75 gal/sk FP13L + 0.3% bwoc MPA170 Tail: 14.8 ppg PNE-1 + 0.35% bwoc R3 + 0.75 gal/sk FP13L + 50% bwoc ASCA1 + 0.5% bwoc MPA170 20% Excess Lead Yield=1.19 Tail Yield=1.94 CTS	Run 1 spiral centralizer every 5 joints from the top of the curve to surface.	Once on bottom/TD with casing, circulate at max allowable pump rate for at least 2x bottoms up, or until returns and pump pressures indicate the hole is clean. Circulate a minimum of one hole volume prior to pumping cement.	Production casing = 0.415" wall thickness Burst=16240 psi Note: Actual centralizer schedules may be changed due to hole conditions	
			Balltown	3250	3290						
			Benson	4340	4350						
8.5" Curve	Rhinesstreet		6107	6377	11.5ppg-12.5ppg SOBM						
	Cashaqua		6377	6477							
	Middiesex		6477	6509							
	West River		6509	6580							
	Burkett		6590	6590							
	Tully Limestone		6590	6698							
	Hamilton		6698	6753							
	Marcellus		6753	6835							
	TMD / TVD (Production)		23267	6800							
8.5" Lateral	Onondaga		6835	6835	11.5ppg-12.5ppg SOBM						

LP @ 8800' TVD / 7246' MD

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

+/-16021' R Lateral

TD @ +/-8800' TVD
+/-23267' MD

X=centralizers

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WW-9
(4/16)

API Number 47 - _____ - _____
Operator's Well No. McDonald 1211 N-3H

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

FLUIDS/ CUTTINGS DISPOSAL & RECLAMATION PLAN

Operator Name HG Energy II Appalachia, LLC OP Code 494501907

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

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

Will a pit be used? Yes No

If so, please describe anticipated pit waste: NA

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

Proposed Disposal Method For Treated Pit Wastes:

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

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

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

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

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

Company Official Signature Diane White

Company Official (Typed Name) Diane White

Company Official Title Agent

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

[Signature] Notary Public

My commission expires 11/2/2021



HG Energy II Appalachia, LLC

Proposed Revegetation Treatment: Acres Disturbed 22.75 Prevegetation pH _____

Lime 3 Tons/acre or to correct to pH 6.5

Fertilizer type 10-20-20

Fertilizer amount 500 lbs/acre

Mulch Hay 2 Tons/acre

Seed Mixtures

Temporary		Permanent	
Seed Type	lbs/acre	Seed Type	lbs/acre
<u>Tall Fescue</u>	<u>40</u>	<u>Tall Fescue</u>	<u>40</u>
<u>Ladino Clover</u>	<u>5</u>	<u>Ladino Clover</u>	<u>5</u>

Maintain E&S controls through the drilling and completion process

Attach:

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

Photocopied section of involved 7.5' topographic sheet.

Plan Approved by: _____

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: 9-23-19
Bany St. Onup

Field Reviewed? Yes No

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)
8287 US Highway 19
Cochranston, PA 16314
814-425-7773

Disposal Locations:

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

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

Sycamore Landfill Inc. Permit #R90-079001 05-2010
4301 Sycamore Ridge Road
Hurricane, WV 25526
304-562-2511

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 # 100563
1901 Park Side Drive
Elizabeth, PA 15037
412-384-7569

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

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

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

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

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Wetzel County Landfill Permit # SWF-1021-97 / WV 0109186
 Rt 1, Box 156A
 New Martinsville, WV 26035
 804-455-2800

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

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

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

Water Haul off Companies:

Dynamic Structures, Clear Creek DOT # 720488
 3790 State Route 7
 New Waterford, OH 44445
 830-892-0164

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

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/Inclination
 Soil Remediation, Inc. Permit # 02-20753
 6065 Arrel-Smith Road
 Lowellville, OH 44436
 880-586-6825

Adams #1 (Buckeye Brina, LLC)
 Permit # 34-031-2-7177
 28986 Airport Road
 Coshocton, OH 43812
 740-575-4484
 512-478-6545

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

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

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

Equipment Transport
 1 Tyler Court
 Carlisle, PA 17015

Myers Well Service,
 2001 Ballpark Court
 Export, PA 15622

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

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

Grosella (SWIW #34)
 Permit # 4096
 Rt. 88
 Garrettsville, OH
 718-278-4816

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

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Adams #2 (Buckeye Brine, LLC)
2205 Westover Road
Austin Tx 78708
Permit # 34-031-2-7178
740-578-4484
512-478-6545

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

Mazena #1 Well (SWIW # 13)
Permit # 34-157-2-5511-00-00
8367 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
412-829-7275

SOS D#1 (SWIW #12)
Permit # 34-059-2-4202-00-00
Silcor Oilfield Services, Inc.
2999 Hubbard Road
Youngstown, OH 44505

Dudley #1 UIC (SWIW #1)
Permit # 34-121-2-2456-00-00
Select Energy Services, LLC
7994 S. Pleasant's Hwy
St. Marys, WV 26170
304-665-2652

OH UIC #1 Buckeye UIC Barnesville 1 & 2
CNX Gas Company, LLC
1000 Consol Energy Drive
Permit # 34-013-2-0609-00-00
Permit # 34-013-2-0614-00-00
804-823-6568

US Steele 11385
Permit # 47-001-00561
200 Evergreen Drive
Waynesburg, PA 15780
804-823-6568

Chapin #7 UIC (SWIW #7)
Permit # 34-083-2-4137-00-00
Elkhead Gas & Oil Company
12168 Marne Rd. NE
Newark, OH 43055
740-763-3966

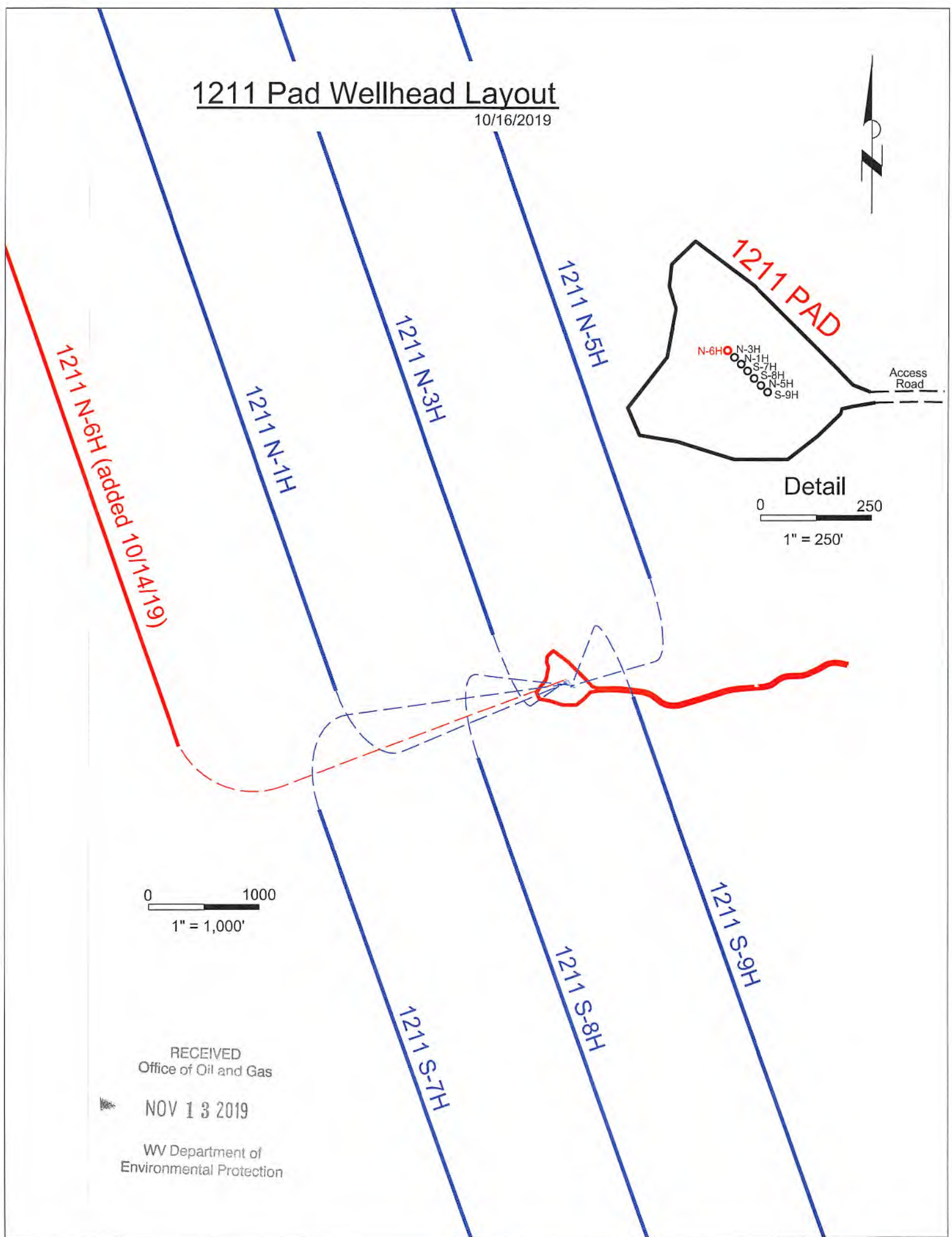
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1211 Pad Wellhead Layout

10/16/2019



Detail
0 250
1" = 250'

0 1000
1" = 1,000'

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Diane White

From: Adkins, Laura L <Laura.L.Adkins@wv.gov>
Sent: Wednesday, August 7, 2019 9:37 AM
To: Diane White
Subject: RE: [External] FW: [External] McDonald 1211 Well Permit Applications

Yes, I apologize for not getting back to you. I'm good with it. :)

From: Diane White <dwhite@hgenergyllc.com>
Sent: Tuesday, August 6, 2019 3:22 PM
To: Adkins, Laura L <Laura.L.Adkins@wv.gov>
Subject: [External] FW: [External] McDonald 1211 Well Permit Applications

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Laura,
 I'm sorry to bother you again.
 I've scheduled a meeting with Barry Stollings on Thursday morning to walk the 1211 site and go over the drilling permit application, including the WW-6B and the casing schematic.
 Have you by chance, had an opportunity to review the 1211 casing schematic?
 Please let me know if I can get you any other information for your review.
 Thanks,
 Diane

From: Diane White <dwhite@hgenergyllc.com>
Sent: Friday, August 2, 2019 4:50 PM
To: Adkins, Laura L <Laura.L.Adkins@wv.gov>
Subject: RE: [External] McDonald 1211 Well Permit Applications

Laura,
 Yes, see the attached casing schematic. The fresh water is at 205' and the coal is at 924', so we wanted to run the FW casing to 1000' to close off the coal. I know that normally there's the regulation about the FW casing only extending 100' to 150' below the water. That's why I wanted to talk with you about it prior to submitting the applications.
 Let me know what other information you need, and thanks,
 Diane

From: Adkins, Laura L <Laura.L.Adkins@wv.gov>
Sent: Friday, August 2, 2019 4:27 PM
To: Diane White <dwhite@hgenergyllc.com>
Subject: RE: [External] McDonald 1211 Well Permit Applications

Diane,

It depends on where the freshwater and coal depths are, can you tell me where the fw and coal are and how far you want to run the casing?

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From: Diane White <dwhite@hgenergyllc.com>
Sent: Friday, August 2, 2019 3:22 PM
To: Adkins, Laura L <Laura.L.Adkins@wv.gov>
Subject: [External] McDonald 1211 Well Permit Applications

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Laura,
Good afternoon. I'm beginning to work on HG's 1211 well work applications. This pad is in close proximity to the 1209 and 1210 well pads. We anticipate drilling conditions will be similar. Because of this, we'd like to submit the WW-6B's with the fresh water casing extending 76 feet below the coal seam.

Can you review this request and approve? Or do I need to submit something more formal with the permit application? I'm hoping to meet with Barry Stollings next week to review one of the well work applications.

Please advise, and thank you,
Diane

Diane C. White



HG Energy, LLC
5260 Dupont Road
Parkersburg, WV 26101
304-420-1119 (O)
304-482-0108 (C)
dwhite@hgenergyllc.com

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WV Department of
Environmental Protection

HG Energy II Appalachia, LLC

Site Safety Plan

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

August 2019: Version 1

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

HG Energy II Appalachia, LLC

5260 Dupont Road

Parkersburg, WV 26101

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AUG 16 2019

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Darryl Shoop 8-12-19

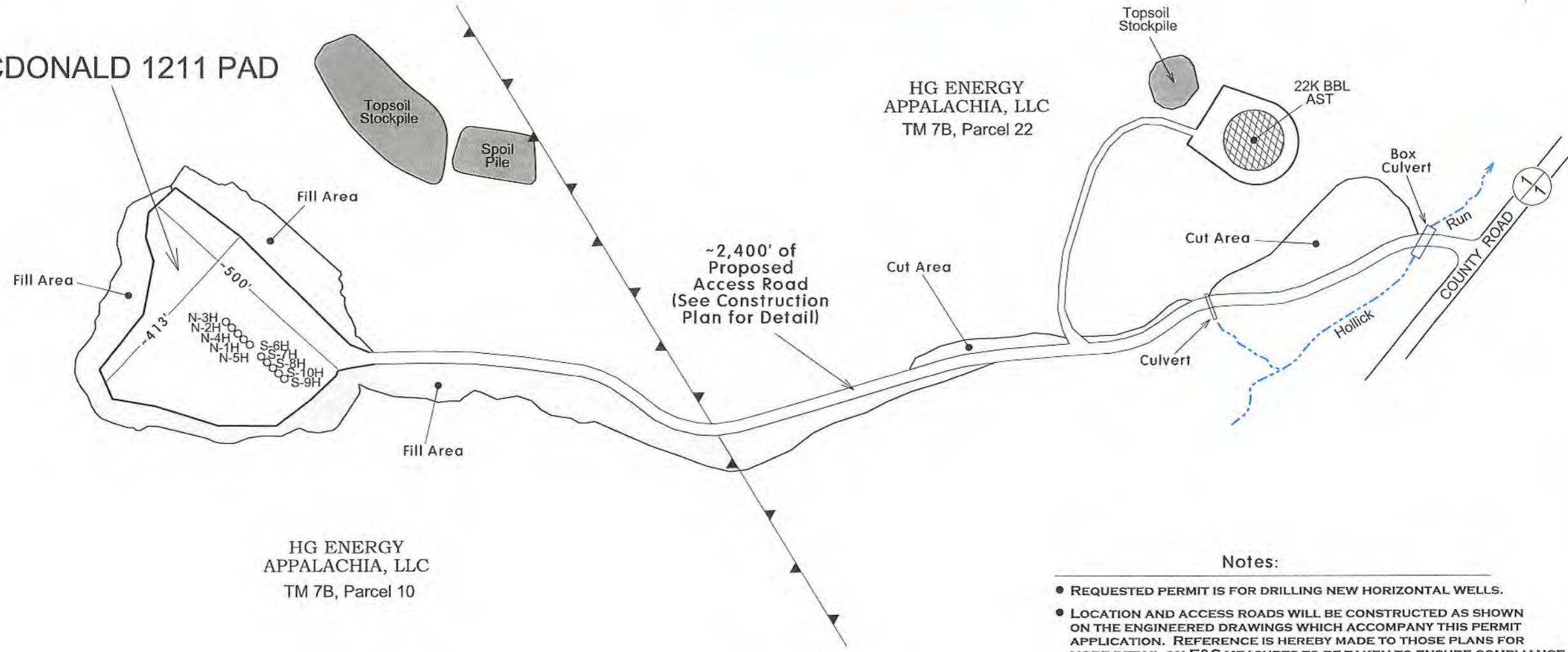
4704-05703

Reclamation Plan For: MCDONALD 1211 PAD

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

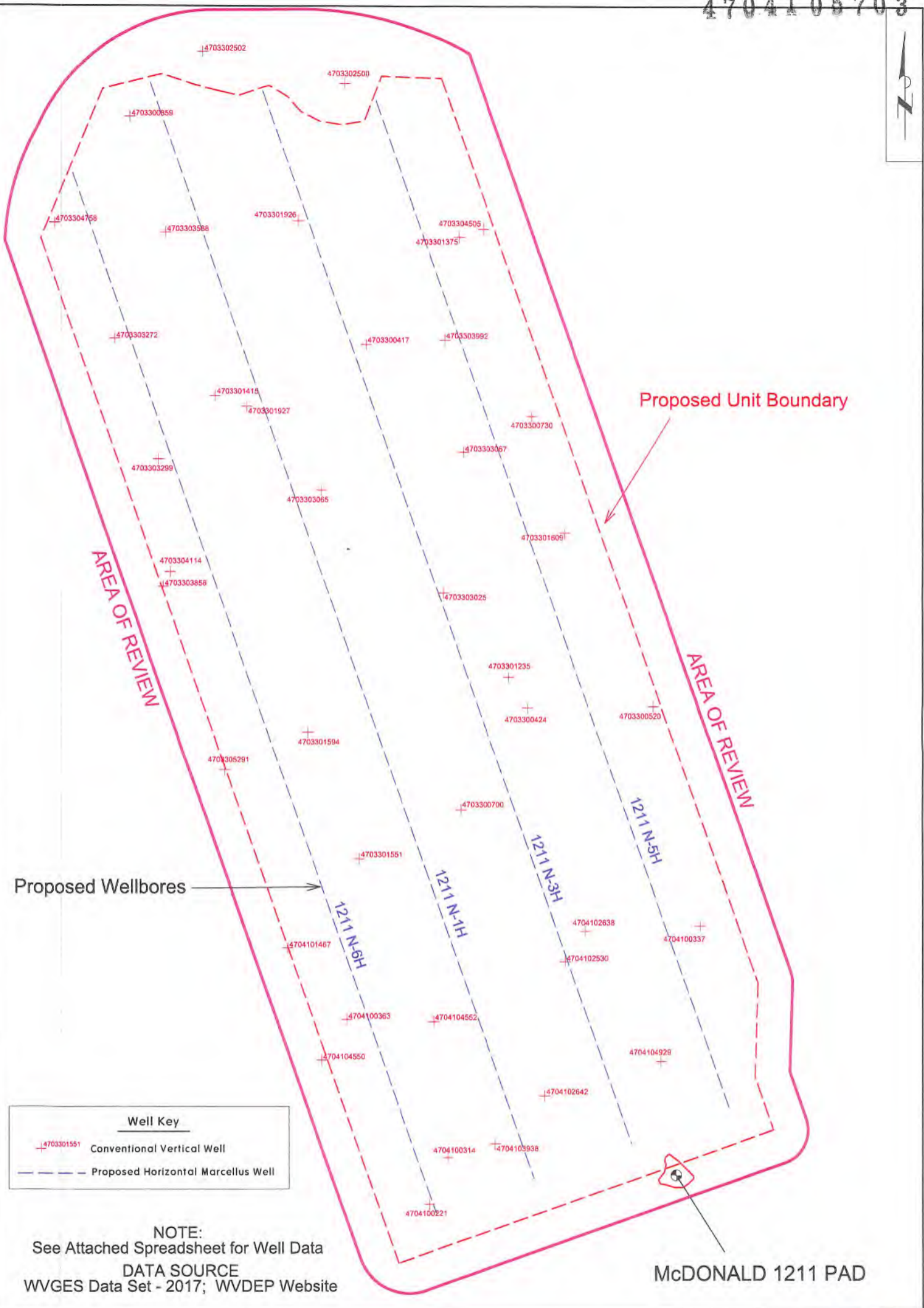


MCDONALD 1211 PAD



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.



Well Key	
	Conventional Vertical Well
	Proposed Horizontal Marcellus Well

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

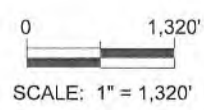
Area of Review for:

McDONALD 1211 PAD

- Proposed 1211 N-1H
- Proposed 1211 N-3H
- Proposed 1211 N-5H
- Proposed 1211 N-6H

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

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



4704 05703

EXISTING WELLS LOCATED WITHIN THE AREA OF REVIEW FOR:

McDONALD 1211 NORTH UNIT AND PROPOSED WELLS N-1H, N-3H, N-5H & N-6H

CT	API	COUNTY	FARM	OPERATOR NAME	FORMATION NAME	WELL TYPE	TVD	STATUS	LATITUDE	LONGITUDE
1	4703300417	Harrison	Jeff Ashcraft	Dominion Energy Transmission, Inc.	Benson	Gas	4500	ACTIVE	39.166811	-80.489914
2	4703300424	Harrison	W R Neely 1	Dominion Energy Transmission, Inc.	Hampshire Grp	Gas	2313	PLUGGED	39.152477	-80.481783
3	4703300520	Harrison	John C. Holden	Dominion Energy Transmission, Inc.	Benson	Gas	4548	ACTIVE	39.152497	-80.475371
4	4703300700	Harrison	A W Davis	Dominion Energy Transmission, Inc.	Benson	Gas	4370	ACTIVE	39.148430	-80.485215
5	4703300730	Harrison	Charles Lee Gray	Clowser Well Service, Inc.	Greenland Gap Fm	Gas	4600	ABANDONED	39.163923	-80.481492
6	4703300859	Harrison	Jesse B Knight	Dominion Energy Transmission, Inc.	Balltown	Gas	3948	ACTIVE	39.175834	-80.501963
7	4703301235	Harrison	Neely & Jackson	Dominion Energy Transmission, Inc.	Benson	Gas	4569	ACTIVE	39.153706	-80.482742
8	4703301375	Harrison	B Thrash	Dominion Energy Transmission, Inc.	Fifth	Gas	2490	ACTIVE	39.171006	-80.485142
9	4703301415	Harrison	D M Cole	Dominion Energy Transmission, Inc.	Bayard	Gas	2610	ACTIVE	39.164807	-80.497666
10	4703301551	Harrison	M Robinson	Dominion Energy Transmission, Inc.	Not Available	Storage	-	ACTIVE	39.146522	-80.490438
11	4703301594	Harrison	Donna Lee Davis	Dominion Energy Transmission, Inc.	Alexander	Gas	5025	ACTIVE	39.151573	-80.493012
12	4703301609	Harrison	Joe Perry	Dominion Energy Transmission, Inc.	Alexander	Gas	5024	ACTIVE	39.159365	-80.479840
13	4703301926	Harrison	Ernest A Rider	Dominion Energy Transmission, Inc.	Greenland Gap Fm	Gas	4727	ACTIVE	39.171679	-80.493348
14	4703301927	Harrison	D M Cole	Dominion Energy Transmission, Inc.	Benson	Gas	4800	ACTIVE	39.164380	-80.496032
15	4703302500	Harrison	Arden Daughtery	Greylock Conventional, LLC	Greenland Gap Fm	Gas	4832	ACTIVE	39.177100	-80.490940
16	4703302502	Harrison	Arden Daughtery 4	Greylock Conventional, LLC	Greenland Gap Fm	Gas	4870	ACTIVE	39.17838	-80.498212
17	4703303025	Harrison	John Garrett 1	Dominion Energy Transmission, Inc.	Benson	Gas	4659	ACTIVE	39.156994	-80.486045
18	4703303065	Harrison	J Ashcraft	Dominion Energy Transmission, Inc.	Gantz	Storage	2236	PLUGGED	39.161097	-80.492248
19	4703303067	Harrison	R C McDonald	Dominion Energy Transmission, Inc.	Not Available	Not Available	-	PLUGGED	39.162549	-80.484982
20	4703303272	Harrison	William L Coffindaffer	Alliance Petroleum Co., LLC	Greenland Gap Fm	Gas	5000	ACTIVE	39.167093	-80.502797
21	4703303299	Harrison	Sherry D Baldwin etal	Alliance Petroleum Co., LLC	Greenland Gap Fm	Gas	5100	ACTIVE	39.162407	-80.500561
22	4703303588	Harrison	G Dickinson etal 1	Dominion Energy Transmission, Inc.	Greenland Gap Fm	Gas	4800	ACTIVE	39.171255	-80.500154
23	4703303858	Harrison	Catherine C Price	Diversified Resources, Inc.	not available	not available	-	Not Drilled	39.157331	-80.500374
24	4703303992	Harrison	B F Thrash 2	Waco Oil & Gas Co., Inc.	Big Injun	Oil and Gas	-	ACTIVE	39.166966	-80.485898
25	4703304114	Harrison	Catherine C Price 1	Enervest Operating, LLC	Greenland Gap Fm	Gas	4800	ACTIVE	39.157911	-80.500002
26	4703304505	Harrison	Betty L Stephenson	Dominion Energy Transmission, Inc.	Greenland Gap Fm	Gas	4977	ACTIVE	39.171322	-80.483894
27	4703304758	Harrison	Geraldine C Dickenson Est	Dominion Energy Transmission, Inc.	Benson	Gas	4950	ACTIVE	39.171734	-80.505778
28	4703305291	Harrison	William R Dallas	Consol Gas Company	not available	not available	-	Not Drilled	39.150104	-80.497282
29	4704100221	Lewis	F L Post 2	Dominion Energy Transmission, Inc.	Gantz	Storage	1970	ACTIVE	39.132930	-80.486946
30	4704100314	Lewis	F L Post	Dominion Energy Transmission, Inc.	Hampshire Grp	Storage	2397	ACTIVE	39.134769	-80.485998
31	4704100314	Lewis	F L Post	Dominion Energy Transmission, Inc.	Hampshire Grp	Storage	2397	ACTIVE	39.134769	-80.485998
32	4704100337	Lewis	Guinn Minter 1	Dominion Energy Transmission, Inc.	Hampshire Grp	Storage	2284	ACTIVE	39.143845	-80.473046
33	4704100363	Lewis	N J Oldaker	UNKNOWN	Up Devonian	Storage	1905	PLUGGED	39.140219	-80.491109

4704-05703

34	4704101467	Lewis	H J Hughes	UNKNOWN	Fifth	Storage	2407	PLUGGED	39.143066	-80.494123
35	4704102530	Lewis	Robert Gene Burnside	Dominion Energy Transmission, Inc.	Greenland Gap Fm	Gas	4465	ACTIVE	39.142465	-80.479953
36	4704102638	Lewis	L W Davis	Dominion Energy Transmission, Inc.	Not Available	Not Available	-	ACTIVE	39.143653	-80.478908
37	4704102642	Lewis	J L Post	Dominion Energy Transmission, Inc.	Not Available	Not Available	-	ACTIVE	39.137167	-80.481036
38	4704103938	Lewis	Robert Brincefield	Dominion Energy Transmission, Inc.	Greenland Gap Fm	Gas	4402	ACTIVE	39.135302	-80.483575
39	4704103938	Lewis	Robert Brincefield	Dominion Energy Transmission, Inc.	Greenland Gap Fm	Gas	4402	ACTIVE	39.13442	-80.485331
40	4704104550	Lewis	R E/Terry Brincefield	Dominion Energy Transmission, Inc.	Greenland Gap Fm	Gas	4618	ACTIVE	39.138624	-80.492411
41	4704104552	Lewis	Robert E Brincefield	Dominion Energy Transmission, Inc.	Greenland Gap Fm	Gas	4677	ACTIVE	39.140103	-80.486672
42	4704104929	Lewis	Robert Brincefield	Dominion Energy Transmission, Inc.	Misc Sands-BNSN/BRLR	Gas	4606	ACTIVE	39.138488	-80.475080
43	4704104939	Lewis	Robert/Terry Brincefield	Dominion Energy Transmission, Inc.	Misc Sands-BNSN/BRLR	Gas	4658	ACTIVE	39.130854	-80.478988
							YELLOW DENOTES WELL WITH TVD > 4,500'		GREEN DENOTES SURVEYED WELLS	

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

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Office of Oil and Gas
NOV 13 2019
WV Department of
Environmental Protection



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

November 7, 2019

Alliance Petroleum Company
 101 McQuiston Drive
 Jackson Center, PA 16133

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

Dear Sir:

HG Energy II Appalachia, LLC, is developing a Marcellus pad (McDonald 1211 pad) located in Lewis County, WV. As an owner or operator of a conventional natural gas well in this area, we are requesting your assistance in this matter.

Due to the apparent presence of unique geological conditions, the potential for communication between deep geologic zones exists in this area. This potential communication, via natural gas, water or both, may occur between hydraulically fractured wells in the Marcellus formation (approximately 6800' TVD) and existing conventional natural gas wells.

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

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

1. Inspect surface equipment prior to fracturing to establish integrity and well conditions.
2. Observe wells closely during and after fracturing and monitor for abnormal increases in gas, water or pressure.
3. Inspect or install master valves rated at 3,000 psi or other necessary equipment for wellhead integrity.
4. Notify the OOG and HG Energy if any changes in water, gas production, pressure or other anomalies are identified.

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

Sincerely,

Diane White

Diane White

Enclosure

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 Office of Oil and Gas

NOV 13 2019

WV Department of
 Environmental Protection



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

November 8, 2019

Greylock Conventional, LLC
500 Corporate Landing
Charleston, WV 25304

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

Dear Sir:

HG Energy II Appalachia, LLC, has developed a Marcellus pad (McDonald 1211 pad) located in Harrison County, WV. As an owner or operator of a conventional natural gas well in this area, we are requesting your assistance in this matter.

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Diane White

Diane White

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Office of Oil and Gas

NOV 13 2019

WV Department of
Environmental Protection



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

4704 05705

November 8, 2019

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

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

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Office of Oil and Gas

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WV Department of
Environmental Protection



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

November 7, 2019

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

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

Diane White

Diane White

Enclosure

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Office of Oil and Gas

NOV 13 2019

WV Department of
Environmental Protection



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

4704 05703

November 7, 2019

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

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Diane White

Diane White

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Office of Oil and Gas

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WV Department of
Environmental Protection



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

47 04 - 057 03

October 25, 2019

CONSOL Gas Company
1000 CONSOL Energy Drive
Cannonsburg, PA 153177

RE: Area of Review – McDonald 1211 Well Pad (N-1H to N-6H)
Hydraulic Fracturing Notice

Dear Sir:

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Sincerely,

Diane White

Diane White

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Office of Oil and Gas

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

October 25, 2019

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

RE: Area of Review – McDonald 1211 Well Pad (N-1H to N-6H)
Hydraulic Fracturing Notice

Dear Sir:

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Sincerely,

Diane White

Enclosure

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Office of Oil and Gas

NOV 13 2019

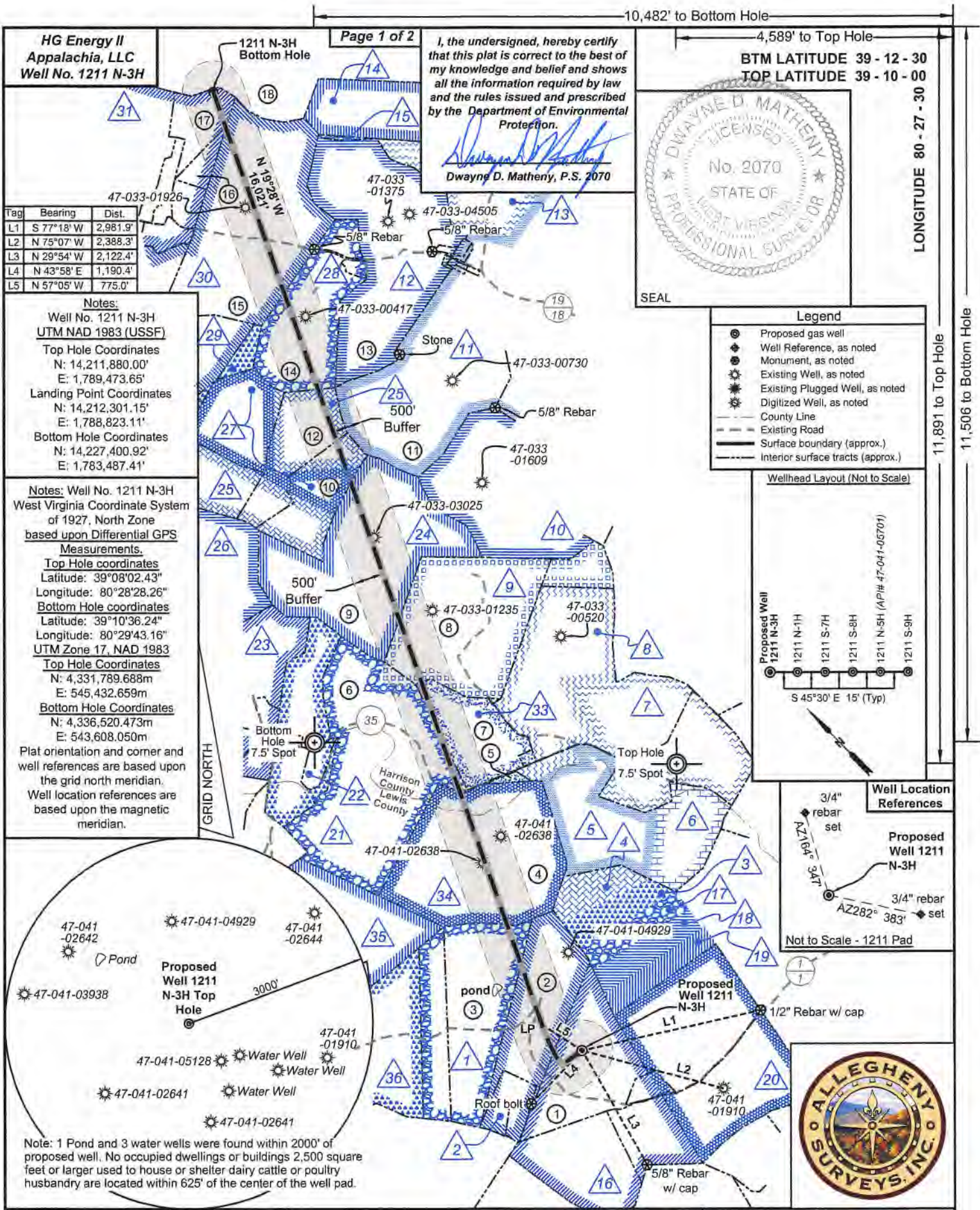
WV Department of
Environmental Protection

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

Denotes Possible
Water Supply Source
to be Tested



SUBJECT WELL
McDonald 1211 N-3H



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

Dwayne D. Matheny
Dwayne D. Matheny, P.S. 2070



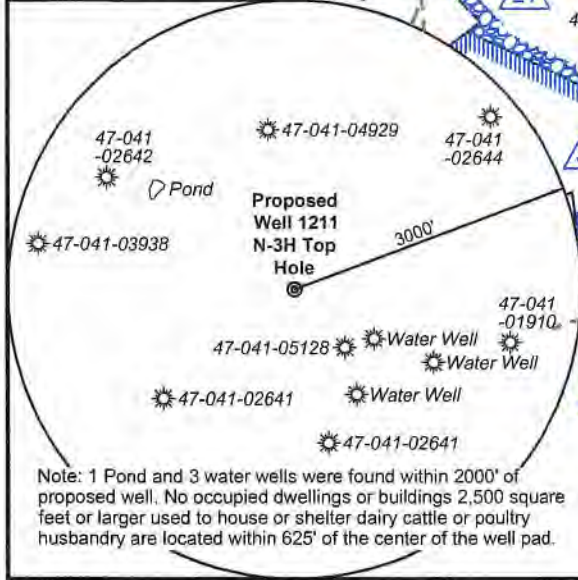
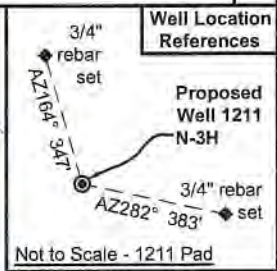
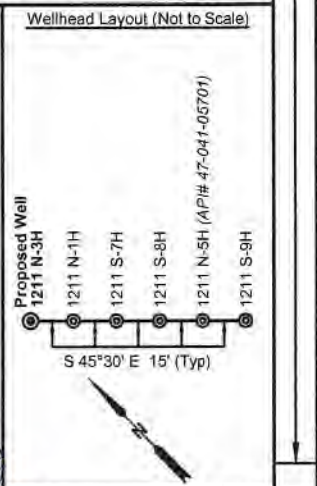
Tag	Bearing	Dist.
L1	S 77°18' W	2,981.9'
L2	N 75°07' W	2,388.3'
L3	N 29°54' W	2,122.4'
L4	N 43°58' E	1,190.4'
L5	N 57°05' W	775.0'

Notes:
Well No. 1211 N-3H
UTM NAD 1983 (USSF)
Top Hole Coordinates
N: 14,211,880.00'
E: 1,789,473.65'
Landing Point Coordinates
N: 14,212,301.15'
E: 1,788,823.11'
Bottom Hole Coordinates
N: 14,227,400.92'
E: 1,783,487.41'

Notes: Well No. 1211 N-3H
West Virginia Coordinate System of 1927, North Zone based upon Differential GPS Measurements.
Top Hole coordinates
Latitude: 39°08'02.43"
Longitude: 80°28'28.26"
Bottom Hole coordinates
Latitude: 39°10'36.24"
Longitude: 80°29'43.16"
UTM Zone 17, NAD 1983
Top Hole Coordinates
N: 4,331,789.688m
E: 545,432.659m
Bottom Hole Coordinates
N: 4,336,520.473m
E: 543,608.050m
Plat orientation and corner and well references are based upon the grid north meridian.
Well location references are based upon the magnetic meridian.

Legend

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



FILE NO: 79-36-12-U-F-18
DRAWING NO: 1211 N-3H 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: October 3 2019
OPERATOR'S WELL NO. 1211 N-3H
API WELL NO. 47-041-05703
STATE COUNTY PERMIT

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

LOCATION: ELEVATION: 1,265.5' WATERSHED: Middle West Fork Creek QUADRANGLE: West Milford
DISTRICT: Freemans Creek COUNTY: Lewis
SURFACE OWNER: HG Energy II Appalachia, LLC ACREAGE: 61.50
ROYALTY OWNER: Mary R. Post, et al, et al LEASE NO: ACREAGE: 145.00
PROPOSED WORK: DRILL CONVERT DRILL DEEPER FRACTURE OR STIMULATE PLUG OFF OLD FORMATION
 PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE IN WELL (SPECIFY) 6,800' TVD
 PLUG AND ABANDON CLEAN OUT AND REPLUG TARGET FORMATION: Marcellus Shale ESTIMATED DEPTH: 23,268' 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



ID	Lease
1	J.L. Post, et al
2	HG Energy II Appalachia, LLC
3	Rosa L. Brown, et al
4	Cora B. Allman, et al
5	Guinn Minter, et al
6	HG Energy II Appalachia, LLC
7	W.R. Neeley, et al
8	HG Energy II Appalachia, LLC
9	J.H. Neeley & et al
10	R.C. McDonald, et al
11	R.C. McDonald, et ux, et al
12	B.F. Thrash, et ux
13	Lola McDonald, et al
14	George Paul Linn
15	HG Energy II Appalachia, LLC
16	Mary E. Post, et al
17	A.D. Beeghley & et al
18	Arthur Beeghley & et al
19	James Beeghley, et al
20	Guinn Minter, et al
21	A.W. Davis
22	Mary Robinson, et al
23	C.C. Ash
24	C.M. Garrett, et al
25	Worthy R. Lowman
26	W.L. Oldaker, et al
27	Worthy R. Lowman
28	William & Sue Gaston
29	E. Rider, et al
30	D.M. Cole, et al
31	Jesse B. Knight, et al
33	Guinn Minter, et al
34	L.W. Davis, et al
35	Henry L. Frashuer, et al
36	Henry L. Frashuer, et al

	No.	TM / Par	Owner	Bk / Pg	Ac.
Lewis County	1	7B / 10	CNX Gas Company, LLC	680 / 266	61.50
	2	7B / 9	Brincefield Family Trust	588 / 740	56.76
	3	6B / 41	Brincefield Family Trust	588 / 740	71.619
	4	6B / 40	Robert G. & Leah V. Burnside	660 / 388	126.50
Harrison County	5	443 / 29.3	Ruth Burnside	1268 / 1168	1.426
	6	443 / 28	Mary Lou Curry, et al	1539 / 769	139.97
	7	443 / 29	Danny L. & Rebecca A. Stickel	1258 / 1130	39.01
	8	443 / 14	Steve L. & Nadine J. Villers	1180 / 529	102.03
	9	433 / 27	James C. Garrett	1412 / 891	128.82
	10	423 / 22	James C. Garrett	1412 / 891	35.58
	11	423 / 7	K. Wade & Mary M. Dickinson	1275 / 492	197.98
	12	423 / 21	Jefferson Lambert & Linda J. Ashcraft	1322 / 689	39.77
	13	423 / 6	K. Wade & Mary M. Dickinson	1275 / 492	127.39
	14	423 / 20	Jefferson Lambert & Linda J. Ashcraft	1320 / 409	56.47
	15	423 / 5	Ernest Aubrey Rider	1136 / 136	137.48
	16	423 / 4.4	CNX Gas Co. LLC	1537 / 119	6.95
	17	423 / 4	James E. Dills	1596 / 158	21.32
	18	403 / 25	Carol Daugherty Skidmore	W145 / 359	201.00

FILE NO: 79-36-12-U-F-18
DRAWING NO: 1211 N-3H 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

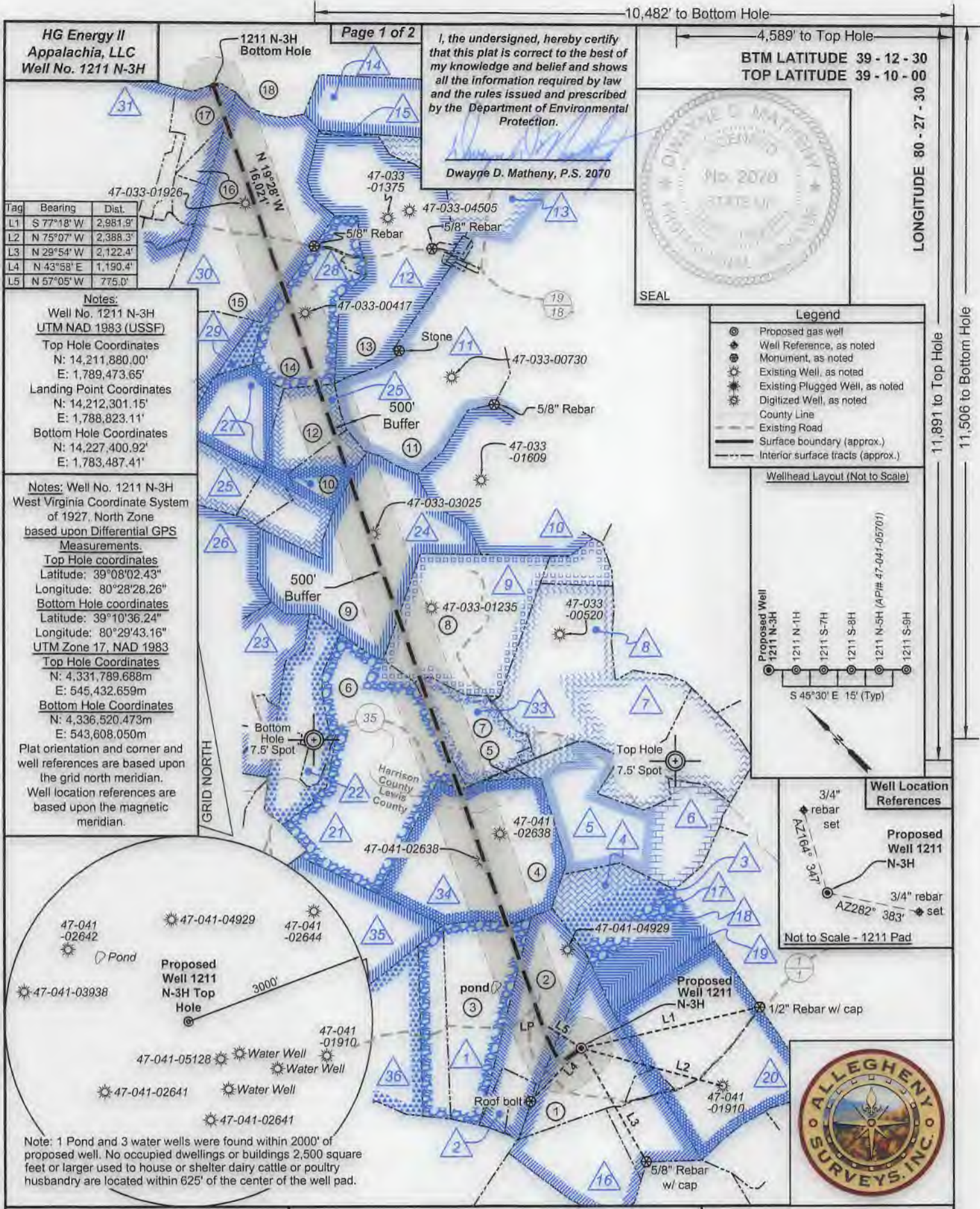


DATE: October 3 20 19
OPERATOR'S WELL NO. 1211 N-3H
API WELL NO ^{H/A}
47 - 041 - 05703
STATE COUNTY PERMIT

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

LOCATION: ELEVATION: 1,265.5' WATERSHED: Middle West Fork Creek QUADRANGLE: West Milford
DISTRICT: Freemans Creek COUNTY: Lewis
SURFACE OWNER: HG Energy II Appalachia, LLC ACREAGE: 61.50
ROYALTY OWNER: Mary R. Post, et al, et al LEASE NO: ACREAGE: 145.00
PROPOSED WORK: DRILL CONVERT DRILL DEEPER FRACTURE OR STIMULATE PLUG OFF OLD FORMATION
 PERFORATE NEW FORMATION OTHER PHYSICAL CHANGE IN WELL (SPECIFY) _____ 6,800' TVD
 PLUG AND ABANDON CLEAN OUT AND REPLUG TARGET FORMATION: Marcellus Shale ESTIMATED DEPTH: 23,268' 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



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

Dwayne D. Matheny, P.S. 2070



SEAL

BTM LATITUDE 39 - 12 - 30
TOP LATITUDE 39 - 10 - 00

LONGITUDE 80 - 27 - 30

11,891' to Top Hole

11,506' to Bottom Hole

Tag	Bearing	Dist.
L1	S 77°18' W	2,981.9'
L2	N 75°07' W	2,388.3'
L3	N 29°54' W	2,122.4'
L4	N 43°58' E	1,190.4'
L5	N 57°05' W	775.0'

Notes:

Well No. 1211 N-3H
UTM NAD 1983 (USSF)
Top Hole Coordinates
N: 14,211,880.00'
E: 1,789,473.65'
Landing Point Coordinates
N: 14,212,301.15'
E: 1,788,823.11'
Bottom Hole Coordinates
N: 14,227,400.92'
E: 1,783,487.41'

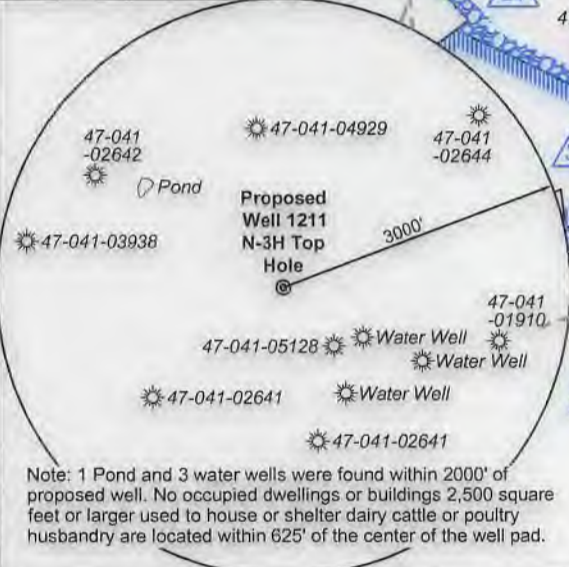
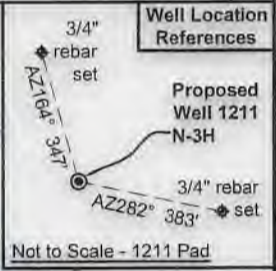
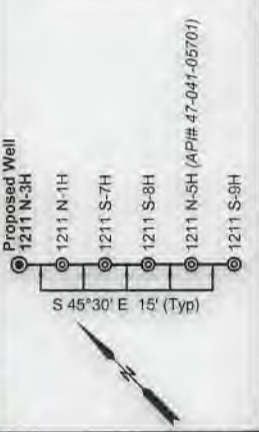
Notes: Well No. 1211 N-3H
West Virginia Coordinate System of 1927, North Zone
based upon Differential GPS Measurements.

Top Hole coordinates
Latitude: 39°08'02.43"
Longitude: 80°28'28.26"
Bottom Hole coordinates
Latitude: 39°10'36.24"
Longitude: 80°29'43.16"
UTM Zone 17, NAD 1983
Top Hole Coordinates
N: 4,331,789.688m
E: 545,432.659m
Bottom Hole Coordinates
N: 4,336,520.473m
E: 543,608.050m
Plat orientation and corner and well references are based upon the grid north meridian.
Well location references are based upon the magnetic meridian.

Legend

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

Wellhead Layout (Not to Scale)



Note: 1 Pond and 3 water wells were found within 2000' of proposed well. No occupied dwellings or buildings 2,500 square feet or larger used to house or shelter dairy cattle or poultry husbandry are located within 625' of the center of the well pad.

FILE NO: 79-36-12-U-F-18
DRAWING NO: 1211 N-3H 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: October 3 20 19
OPERATOR'S WELL NO. 1211 N-3H
API WELL NO. ~~47-041-05103~~ **47-041-05103**
STATE COUNTY PERMIT

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

LOCATION: ELEVATION: 1,265.5' WATERSHED: Middle West Fork Creek
DISTRICT: Freemans Creek
SURFACE OWNER: HG Energy II Appalachia, LLC
ROYALTY OWNER: Mary R. Post, et al, et al LEASE NO: ACREAGE: 145.00
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ADDRESS: 5260 Dupont Road ADDRESS: 5260 Dupont Road
Parkersburg, WV 26101 Parkersburg, WV 26101



ID	Lease
1	J.L. Post, et al
2	HG Energy II Appalachia, LLC
3	Rosa L. Brown, et al
4	Cora B. Allman, et al
5	Guinn Minter, et al
6	HG Energy II Appalachia, LLC
7	W.R. Neeley, et al
8	HG Energy II Appalachia, LLC
9	J.H. Neeley & et al
10	R.C. McDonald, et al
11	R.C. McDonald, et ux, et al
12	B.F. Thrash, et ux
13	Lola McDonald, et al
14	George Paul Linn
15	HG Energy II Appalachia, LLC
16	Mary E. Post, et al
17	A.D. Beeghley & et al
18	Arthur Beeghley & et al
19	James Beeghley, et al
20	Guinn Minter, et al
21	A.W. Davis
22	Mary Robinson, et al
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27	Worthy R. Lowman
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	11	423 / 7	K. Wade & Mary M. Dickinson	1275 / 492	197.98
	12	423 / 21	Jefferson Lambert & Linda J. Ashcraft	1322 / 689	39.77
	13	423 / 6	K. Wade & Mary M. Dickinson	1275 / 492	127.39
	14	423 / 20	Jefferson Lambert & Linda J. Ashcraft	1320 / 409	56.47
	15	423 / 5	Ernest Aubrey Rider	1136 / 136	137.48
	16	423 / 4.4	CNX Gas Co. LLC	1537 / 119	6.95
	17	423 / 4	James E. Dills	1596 / 158	21.32
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API WELL NO WVA
47 -- 041 -- 05703
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ADDRESS: 5260 Dupont Road ADDRESS: 5260 Dupont Road
Parkersburg, WV 26101 Parkersburg, WV 26101

WW-6A1
(5/13)

Operator's Well No. McDonald 1211 N-3H

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

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

(1) the tract of land is the same tract described in this Application, partly or wholly depicted in the accompanying plat, and described in the Construction and Reclamation Plan;

(2) the parties and recordation data (if recorded) for lease(s) or other continuing contract(s) by which the Applicant claims the right to extract, produce or market the oil or gas are as follows:

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

**** See Attached Sheets ****

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

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

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

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

RECEIVED
Office of Oil and Gas

Well Operator: HG Energy II Appalachia, LLC
By: Diane White *diane white*
Its: Agent

NOV 13 2019

4704 05795

HG Energy II Appalachia, LLC
McDonald 1211 N-3H LEASE CHAIN

TRACT #	LEGACY LEASE NUMBER	TAX MAP	LEASE NUMBER	GRANTOR/LESSOR	GRANTEE/LESSEE	ROYALTY	DEED BOOK	PAGE
16	FK053254	03-007B-0010-0000 03-007B-0011-0000 03-007B-0013-0000 p/o 03-007B-0010-0001	Q10048600	MARY E. POST; J. L. POST; F. L. POST AND B. J. POST, HIS WIFE; IDA B. GASTON AND CLARK GASTON, HER HUSBAND; G. W. POST AND FLAVA POST, HIS WIFE	RESERVE GAS COMPANY	NOT LESS THAN 1/8	68	291
				RESERVE GAS COMPANY	HOPE NATURAL GAS COMPANY	CONFIRMATORY DEED	155	202
				HOPE NATURAL GAS COMPANY	CONSOLIDATED GAS SUPPLY CORPORATION	CONFIRMATORY DEED	294	89
				CONSOLIDATED GAS SUPPLY CORPORATION	CONSOLIDATED GAS TRANSMISSION CORPORATION	ASSIGNMENT	425	127
				CONSOLIDATED GAS TRANSMISSION CORPORATION	CNG TRANSMISSION CORPORATION	MERGER/NAME CHANGE	WVSOS	
				CNG TRANSMISSION CORPORATION	DOMINION TRANSMISSION, INC.	MERGER/NAME CHANGE	WVSOS	
				DOMINION TRANSMISSION, INC.	DOMINION EXPLORATION & PRODUCTION, INC.	ASSIGNMENT	620	139
				DOMINION EXPLORATION & PRODUCTION, INC.	DOMINION TRANSMISSION, INC.	ASSIGNMENT	651	137
				DOMINION TRANSMISSION, INC.	CNX GAS COMPANY LLC	MEMORANDUM FARMOUT AGREEMENT	672	154
				CNX GAS COMPANY LLC	NOBLE ENERGY, INC.	LIMITED PARTIAL ASSIGNMENT (50%)	684	57
				DOMINION TRANSMISSION, INC.	CNX GAS COMPANY LLC AND NOBLE ENERGY, INC.	PARTIAL ASSIGNMENT (32%)	712	848
				CNX GAS COMPANY LLC	NOBLE ENERGY, INC.	ASSIGNMENT	717	1
				NOBLE ENERGY, INC.	HG ENERGY II APPALACHIA, LLC	ASSIGNMENT	722	139
				DOMINION TRANSMISSION, INC.	DOMINION ENERGY TRANSMISSION, INC.	MERGER/NAME CHANGE	WVSOS	
				DOMINION ENERGY TRANSMISSION, INC.	HG ENERGY II APPALACHIA, LLC	SECOND AMENDMENT TO MEMORANDUM OF FARMOUT AGREEMENT	723	499
				DOMINION ENERGY TRANSMISSION, INC.	HG ENERGY II APPALACHIA, LLC	AMENDED AND RESTATED PARTIAL ASSIGNMENT	723	527
				2	FK052962	03-007B-0009-0000 03-007B-0009-0001 03-007B-0009-0002	FK052962 FEE	DOMINION TRANSMISSION, INC.
DOMINION TRANSMISSION, INC.	CNX GAS COMPANY LLC	MEMORANDUM FARMOUT AGREEMENT	672					154
CNX GAS COMPANY LLC	NOBLE ENERGY, INC.	LIMITED PARTIAL ASSIGNMENT (50%)	684					57
CNX GAS COMPANY LLC	NOBLE ENERGY, INC.	ASSIGNMENT	717					1
NOBLE ENERGY, INC.	HG ENERGY II APPALACHIA, LLC	ASSIGNMENT	722					170
DOMINION TRANSMISSION, INC.	DOMINION ENERGY TRANSMISSION, INC.	MERGER/NAME CHANGE	WVSOS					
DOMINION ENERGY TRANSMISSION, INC.	HG ENERGY II APPALACHIA, LLC	SECOND AMENDMENT TO MEMORANDUM OF FARMOUT AGREEMENT	723					499
1	FK053255	03-006B-0041-0000 03-006B-0042-0000 RECEIVED Office of Oil and Gas NOV 13 2019	Q100673000	J.L. POST, F.L. POST AND B.J. POST, HIS WIFE	RESERVE GAS COMPANY	NOT LESS THAN 1/8	68	292
				RESERVE GAS COMPANY	HOPE NATURAL GAS COMPANY	CONFIRMATORY DEED	155	202
				HOPE NATURAL GAS COMPANY	CONSOLIDATED GAS SUPPLY CORPORATION	CONFIRMATORY DEED	294	89
				CONSOLIDATED GAS SUPPLY CORPORATION	CONSOLIDATED GAS TRANSMISSION CORPORATION	ASSIGNMENT	425	127
				CONSOLIDATED GAS TRANSMISSION CORPORATION	CNG TRANSMISSION CORPORATION	MERGER/NAME CHANGE	WVSOS	
				CNG TRANSMISSION CORPORATION	DOMINION TRANSMISSION, INC.	MERGER/NAME CHANGE	WVSOS	
				DOMINION TRANSMISSION, INC.	CNX GAS COMPANY LLC	MEMORANDUM FARMOUT AGREEMENT	672	154
				CNX GAS COMPANY LLC	NOBLE ENERGY, INC.	LIMITED PARTIAL ASSIGNMENT (50%)	684	57
				DOMINION TRANSMISSION, INC.	CNX GAS COMPANY LLC AND NOBLE ENERGY, INC.	PARTIAL ASSIGNMENT (32%)	712	848
				CNX GAS COMPANY LLC	NOBLE ENERGY, INC.	ASSIGNMENT	717	1
				NOBLE ENERGY, INC.	HG ENERGY II APPALACHIA, LLC	ASSIGNMENT	722	139
				NOBLE ENERGY, INC.	HG ENERGY II APPALACHIA, LLC	ASSIGNMENT	722	170
				DOMINION TRANSMISSION, INC.	DOMINION ENERGY TRANSMISSION, INC.	MERGER/NAME CHANGE	WVSOS	
				DOMINION ENERGY TRANSMISSION, INC.	HG ENERGY II APPALACHIA, LLC	AMENDED AND RESTATED PARTIAL ASSIGNMENT	723	527
DOMINION ENERGY TRANSMISSION, INC.	HG ENERGY II APPALACHIA, LLC	SECOND AMENDMENT TO MEMORANDUM OF FARMOUT AGREEMENT	723	499				
		WV Department of Environmental Protection		L. W. DAVIS AND M. L. DAVIS, HIS WIFE	RESERVE GAS COMPANY	NOT LESS THAN 1/8	LEWIS 227	356
				RESERVE GAS COMPANY	HOPE NATURAL GAS COMPANY	CONFIRMATORY DEED	HARRISON 176	488
				RESERVE GAS COMPANY	HOPE NATURAL GAS COMPANY	CONFIRMATORY DEED	LEWIS 155	202
				HOPE NATURAL GAS COMPANY	CONSOLIDATED GAS SUPPLY CORPORATION	CONFIRMATORY DEED	HARRISON 508	573
				RESERVE GAS COMPANY	HOPE NATURAL GAS COMPANY	CONFIRMATORY DEED	LEWIS 294	89
				HOPE NATURAL GAS COMPANY	CONSOLIDATED GAS SUPPLY CORPORATION	CONFIRMATORY DEED	HARRISON 903	179

4704 05703

34	FK053250	03-006B-0040-0000	Q100336000	CONSOLIDATED GAS SUPPLY CORPORATION	CONSOLIDATED GAS TRANSMISSION CORPORATION	ASSIGNMENT	LEWIS 425	127
				CONSOLIDATED GAS TRANSMISSION CORPORATION	CNG TRANSMISSION CORPORATION	MERGER/NAME CHANGE	HARRISON 1136	250
				CNG TRANSMISSION CORPORATION	DOMINION TRANSMISSION, INC.	MERGER/NAME CHANGE	WVSOS	
				DOMINION TRANSMISSION, INC.	CNX GAS COMPANY LLC	MEMORANDUM FARMOUT AGREEMENT	LEWIS 672	154
				CNX GAS COMPANY LLC	NOBLE ENERGY, INC.	LIMITED PARTIAL ASSIGNMENT (50%)	HARRISON 1522	33
				DOMINION TRANSMISSION, INC.	CNX GAS COMPANY LLC AND NOBLE ENERGY, INC.	PARTIAL ASSIGNMENT (32%)	LEWIS 684	57
				CNX GAS COMPANY LLC	NOBLE ENERGY, INC.	ASSIGNMENT	HARRISON 1543	1235
				NOBLE ENERGY, INC.	HG ENERGY II APPALACHIA, LLC	ASSIGNMENT	LEWIS 712	848
				NOBLE ENERGY, INC.	HG ENERGY II APPALACHIA, LLC	ASSIGNMENT	HARRISON 1576	125
				DOMINION TRANSMISSION, INC.	DOMINION ENERGY TRANSMISSION, INC.	MERGER/NAME CHANGE	LEWIS 717	1
				DOMINION ENERGY TRANSMISSION, INC.	HG ENERGY II APPALACHIA, LLC	AMENDED AND RESTATED PARTIAL ASSIGNMENT	HARRISON 1584	942
				DOMINION ENERGY TRANSMISSION, INC.	HG ENERGY II APPALACHIA, LLC	SECOND AMENDMENT TO MEMORANDUM OF FARMOUT AGREEMENT	LEWIS 722	139
				DOMINION ENERGY TRANSMISSION, INC.	HG ENERGY II APPALACHIA, LLC	ASSIGNMENT	HARRISON 1600	692
				DOMINION ENERGY TRANSMISSION, INC.	HG ENERGY II APPALACHIA, LLC	ASSIGNMENT	LEWIS 723	527
21	FK053272	p/o 20-0443-0028-0000	Q100488000	A W DAVIS	RESERVE GAS COMPANY	NOT LESS THAN 1/8	LEWIS 723	499
				RESERVE GAS COMPANY	HOPE NATURAL GAS COMPANY	CONFIRMATORY DEED	HARRISON 1601	581
				HOPE NATURAL GAS COMPANY	CONSOLIDATED GAS SUPPLY CORPORATION	CONFIRMATORY DEED	LEWIS 68	521
				CONSOLIDATED GAS SUPPLY CORPORATION	CONSOLIDATED GAS TRANSMISSION CORPORATION	ASSIGNMENT	HARRISON 194	269
				CONSOLIDATED GAS TRANSMISSION CORPORATION	CNG TRANSMISSION CORPORATION	MERGER/NAME CHANGE	LEWIS 155	202
				CNG TRANSMISSION CORPORATION	DOMINION TRANSMISSION, INC.	MERGER/NAME CHANGE	HARRISON 508	573
				DOMINION TRANSMISSION, INC.	CNX GAS COMPANY LLC	MEMORANDUM FARMOUT AGREEMENT	LEWIS 294	89
				DOMINION TRANSMISSION, INC.	CNX GAS COMPANY LLC	FIRST AMENDMENT TO MEMORANDUM FARMOUT AGREEMENT	HARRISON 903	179
				CNX GAS COMPANY LLC	NOBLE ENERGY, INC.	LIMITED PARTIAL ASSIGNMENT (50%)	LEWIS 425	127
				DOMINION TRANSMISSION, INC.	CNX GAS COMPANY LLC AND NOBLE ENERGY, INC.	PARTIAL ASSIGNMENT (32%)	HARRISON 1136	250
				CNX GAS COMPANY LLC	NOBLE ENERGY, INC.	ASSIGNMENT	WVSOS	
				NOBLE ENERGY, INC.	HG ENERGY II APPALACHIA, LLC	ASSIGNMENT	WVSOS	
				NOBLE ENERGY, INC.	HG ENERGY II APPALACHIA, LLC	ASSIGNMENT	LEWIS 672	154
				DOMINION TRANSMISSION, INC.	DOMINION ENERGY TRANSMISSION, INC.	MERGER/NAME CHANGE	HARRISON 1522	33
				DOMINION ENERGY TRANSMISSION, INC.	HG ENERGY II APPALACHIA, LLC	AMENDED AND RESTATED PARTIAL ASSIGNMENT	HARRISON 1524	491
				DOMINION ENERGY TRANSMISSION, INC.	HG ENERGY II APPALACHIA, LLC	SECOND AMENDMENT TO MEMORANDUM OF FARMOUT AGREEMENT	LEWIS 684	57
				DOMINION ENERGY TRANSMISSION, INC.	HG ENERGY II APPALACHIA, LLC	ASSIGNMENT	HARRISON 1543	1235
				GUINN MINTER AND JANE MINTER, HIS WIFE	RESERVE GAS COMPANY	NOT LESS THAN 1/8	LEWIS 712	848
RESERVE GAS COMPANY	HOPE NATURAL GAS COMPANY	CONFIRMATORY DEED	HARRISON 1576	125				

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Office of Oil and Gas

NOV 13 2019

WV Department of
Environmental Protection

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33	FK108080	20-0443-0029-0000 20-0443-0029-0001 20-0443-0029-0003 20-0444-0002-0000 20-0444-0001-0000 20-0444-0024-0000 20-00444-0025-0000 p/o 03-0078-0001-0000 p/o 03-0078-0001-0000 p/o 20-0443-0015-0000 p/o 20-0443-0016-0000 p/o 20-0443-0015-0000	Q101020000	HOPE NATURAL GAS COMPANY	CONSOLIDATED GAS SUPPLY CORPORATION	CONFIRMATORY DEED	LEWIS 294	89				
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				DOMINION TRANSMISSION, INC.	CNX GAS COMPANY LLC	FIRST AMENDMENT TO MEMORANDUM FARMOUT AGREEMENT	HARRISON 1524	491				
				CNX GAS COMPANY LLC	NOBLE ENERGY, INC.	LIMITED PARTIAL ASSIGNMENT (50%)	LEWIS 684	57				
				DOMINION TRANSMISSION, INC.	CNX GAS COMPANY LLC AND NOBLE ENERGY, INC.	PARTIAL ASSIGNMENT (32%)	HARRISON 1543	1235				
				CNX GAS COMPANY LLC	NOBLE ENERGY, INC.	ASSIGNMENT	LEWIS 712	848				
				NOBLE ENERGY, INC.	HG ENERGY II APPALACHIA, LLC	ASSIGNMENT	HARRISON 1576	125				
				NOBLE ENERGY, INC.	HG ENERGY II APPALACHIA, LLC	ASSIGNMENT	LEWIS 717	1				
				DOMINION TRANSMISSION, INC.	DOMINION ENERGY TRANSMISSION, INC.	MERGER/NAME CHANGE	HARRISON 1584	942				
				DOMINION ENERGY TRANSMISSION, INC.	HG ENERGY II APPALACHIA, LLC	AMENDED AND RESTATED PARTIAL ASSIGNMENT	LEWIS 722	139				
				DOMINION ENERGY TRANSMISSION, INC.	HG ENERGY II APPALACHIA, LLC	SECOND AMENDMENT TO MEMORANDUM OF FARMOUT AGREEMENT	HARRISON 1600	660				
			HARRISON 1600	692								
			WVSOS									
			LEWIS 723	527								
			LEWIS 723	499								
			HARRISON 1601	581								
9	FK064871	20-0443-0014-0000 20-0443-0016-0000 p/o 20-0443-0028-0000	Q100993000	J. H. NEELY AND CLAUDIE NEELY, HIS WIFE (1/2)	HOPE NATURAL GAS COMPANY	NOT LESS THAN 1/8	732	315				
				WM. A. JACKSON (1/2)	HOPE NATURAL GAS COMPANY	NOT LESS THAN 1/8	769	40				
				HOPE NATURAL GAS COMPANY	CONSOLIDATED GAS SUPPLY CORPORATION	CONFIRMATORY DEED	903	179				
				CONSOLIDATED GAS SUPPLY CORPORATION	CONSOLIDATED GAS TRANSMISSION CORPORATION	ASSIGNMENT	1136	250				
				CONSOLIDATED GAS TRANSMISSION CORPORATION	CNG TRANSMISSION CORPORATION	MERGER/NAME CHANGE	WVSOS					
				CNG TRANSMISSION CORPORATION	DOMINION TRANSMISSION, INC.	MERGER/NAME CHANGE	WVSOS					
				DOMINION TRANSMISSION, INC.	CONSOL ENERGY HOLDINGS LLC VI, CONSOL ENERGY HOLDINGS LLC XVI, CONSOL GAS COMPANY LLC, CNX GAS COMPANY LLC	MERGER/NAME CHANGE	1472	294				
				DOMINION TRANSMISSION, INC.	CNX GAS COMPANY LLC	MEMORANDUM OF FARMOUT AGREEMENT	1522	33				
				CNX GAS COMPANY LLC	NOBLE ENERGY, INC.	LIMITED PARTIAL ASSIGNMENT (50%)	1543	1235				
				DOMINION TRANSMISSION, INC.	CNX GAS COMPANY LLC AND NOBLE ENERGY, INC.	PARTIAL ASSIGNMENT (32%)	1576	125				
				CNX GAS COMPANY LLC	NOBLE ENERGY, INC.	ASSIGNMENT AND BILL OF SALE	1584	942				
				NOBLE ENERGY, INC.	HG ENERGY II APPALACHIA, LLC	ASSIGNMENT, BILL OF SALE AND CONVEYANCE	1600	660				
				NOBLE ENERGY, INC.	HG ENERGY II APPALACHIA, LLC	ASSIGNMENT, BILL OF SALE AND CONVEYANCE	1600	692				
				24	FK064358	NOV 13 2019 WV Department of Environmental Protection 20-423-0027-0000	Q100857000	C.M. GARRETT AND DELPHIA GARRETT, HIS WIFE; CHARLES M. GARRETT, JR. AND HILDA GARRETT, HIS WIFE; JOSEPH R. GARRETT AND RUTH G. GARRETT, HIS WIFE; JOHN E. GARRETT AND HELEN H. GARRETT, HIS WIFE; LOMAN E. GSARRETT AND VIRGINIA G. GARRETT, HIS WIFE	HOPE NATURAL GAS COMPANY	NOT LESS THAN 1/8	727	333
								HOPE NATURAL GAS COMPANY	CONSOLIDATED GAS SUPPLY CORPORATION	CONFIRMATORY DEED	903	179
CONSOLIDATED GAS SUPPLY CORPORATION	CONSOLIDATED GAS TRANSMISSION CORPORATION	ASSIGNMENT	1136					250				
CONSOLIDATED GAS TRANSMISSION CORPORATION	CNG TRANSMISSION CORPORATION	MERGER/NAME CHANGE	WVSOS									
CNG TRANSMISSION CORPORATION	DOMINION TRANSMISSION, INC.	MERGER/NAME CHANGE	WVSOS									
DOMINION TRANSMISSION, INC.	CNX GAS COMPANY LLC	MEMORANDUM OF FARMOUT AGREEMENT	1522					33				
CNX GAS COMPANY LLC	NOBLE ENERGY, INC.	LIMITED PARTIAL ASSIGNMENT (50%)	1543					1235				
DOMINION TRANSMISSION, INC.	CNX GAS COMPANY LLC AND NOBLE ENERGY, INC.	PARTIAL ASSIGNMENT (32%)	1576					125				
CNX GAS COMPANY LLC	NOBLE ENERGY, INC.	ASSIGNMENT AND BILL OF SALE	1584					942				
NOBLE ENERGY, INC.	HG ENERGY II APPALACHIA, LLC	ASSIGNMENT, BILL OF SALE AND CONVEYANCE	1600					660				
DOMINION ENERGY TRANSMISSION INC.	HG ENERGY II APPALACHIA, LLC	SECOND AMENDMENT TO MEMORANDUM OF FARMOUT AGREEMENT	1601					581				

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25	FK066078	20-0423-0016-000 20-0423-0017-0000 20-0423-0021-0000 20-0423-0022-0000	Q100445000	WORTHY R. LOWMAN AND CORA E. LOWMAN, HIS WIFE; IDA V. LOWMAN, SINGLE; CORA B. RICHARDS AND JOHN E. RICHARDS, HER	HOPE NATURAL GAS COMPANY	NOT LESS THAN 1/8	756	141
				HOPE NATURAL GAS COMPANY	CONSOLIDATED GAS SUPPLY CORPORATION	CONFIRMATORY DEED	903	179
				CONSOLIDATED GAS SUPPLY CORPORATION	CONSOLIDATED GAS TRANSMISSION CORPORATION	ASSIGNMENT	1136	250
				CONSOLIDATED GAS TRANSMISSION CORPORATION	CNG TRANSMISSION CORPORATION	MERGER/NAME CHANGE	WVSOS	
				CNG TRANSMISSION CORPORATION	DOMINION TRANSMISSION, INC.	MERGER/NAME CHANGE	WVSOS	
				DOMINION TRANSMISSION, INC.	CNX GAS COMPANY LLC	MEMORANDUM OF FARMOUT AGREEMENT	1522	33
				CNX GAS COMPANY LLC	NOBLE ENERGY, INC.	LIMITED PARTIAL ASSIGNMENT (50%)	1543	1235
				DOMINION TRANSMISSION, INC.	CNX GAS COMPANY LLC AND NOBLE ENERGY, INC.	PARTIAL ASSIGNMENT (32%)	1576	125
				CNX GAS COMPANY LLC	NOBLE ENERGY, INC.	ASSIGNMENT AND BILL OF SALE	1584	942
				NOBLE ENERGY, INC.	HG ENERGY II APPALACHIA, LLC	ASSIGNMENT, BILL OF SALE AND CONVEYANCE	1600	660
				DOMINION ENERGY TRANSMISSION INC.	HG ENERGY II APPALACHIA, LLC	SECOND AMENDMENT TO MEMORANDUM OF FARMOUT AGREEMENT	1601	581
27	FK066079	20-0423-0016-0000 20-0423-0017-0000 20-0423-0021-0000 20-0423-0022-0000	Q100989000	WORTHY R. LOWMAN AND CORA E. LOWMAN, HIS WIFE; IDA V. LOWMAN, SINGLE; CORA B. RICHARDS AND JOHN E. RICHARDS, HER HUSBAND	HOPE NATURAL GAS COMPANY	NOT LESS THAN 1/8	756	147
				HOPE NATURAL GAS COMPANY	CONSOLIDATED GAS SUPPLY CORPORATION	CONFIRMATORY DEED	903	179
				CONSOLIDATED GAS SUPPLY CORPORATION	CONSOLIDATED GAS TRANSMISSION CORPORATION	ASSIGNMENT	1136	250
				CONSOLIDATED GAS TRANSMISSION CORPORATION	CNG TRANSMISSION CORPORATION	MERGER/NAME CHANGE	51	795
				CNG TRANSMISSION CORPORATION	DOMINION TRANSMISSION, INC.	MERGER/NAME CHANGE	58	362
				DOMINION TRANSMISSION, INC.	CNX GAS COMPANY LLC	MEMORANDUM OF FARMOUT AGREEMENT	1522	33
				CNX GAS COMPANY LLC	NOBLE ENERGY, INC.	LIMITED PARTIAL ASSIGNMENT (50%)	1543	1235
				DOMINION TRANSMISSION, INC.	CNX GAS COMPANY LLC AND NOBLE ENERGY, INC.	PARTIAL ASSIGNMENT (32%)	1576	125
				CNX GAS COMPANY LLC	NOBLE ENERGY, INC.	ASSIGNMENT AND BILL OF SALE	1584	942
				NOBLE ENERGY, INC.	HG ENERGY II APPALACHIA LLC	ASSIGNMENT, BILL OF SALE AND CONVEYANCE	1600	660
				DOMINION ENERGY TRANSMISSION, INC.	HG ENERGY II APPALACHIA LLC	SECOND AMENDMENT TO MEMORANDUM OF	1601	581

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28	FK002350	20-0423-0020-0000 20-0423-0020-0001 20-0423-0020-0002	Q101147000	WILLIAM GASTON AND SUE GASTON, HIS WIFE	SOUTH PENN OIL COMPANY	NOT LESS THAN 1/8	113	439
				HOPE NATURAL GAS COMPANY	CONSOLIDATED GAS SUPPLY CORPORATION	CONFIRMATORY DEED	903	179
				PENNZOIL COMPANY	CONSOLIDATED GAS SUPPLY CORPORATION	ASSIGNMENT	1126	2
				CONSOLIDATED GAS SUPPLY CORPORATION	CONSOLIDATED GAS TRANSMISSION CORPORATION	ASSIGNMENT	1136	250
				CONSOLIDATED GAS TRANSMISSION CORPORATION	CNG TRANSMISSION CORPORATION	MERGER/NAME CHANGE	51	795
				CNG TRANSMISSION CORPORATION	DOMINION TRANSMISSION, INC.	MERGER/NAME CHANGE	58	362
				DOMINION TRANSMISSION, INC.	CNX GAS COMPANY LLC	MEMORANDUM OF FARMOUT AGREEMENT	1522	33
				DOMINION TRANSMISSION, INC.	CNX GAS COMPANY LLC	FIRST AMENDMENT TO MEMORANDUM	1524	491
				CNX GAS COMPANY LLC	NOBLE ENERGY, INC.	LIMITED PARTIAL ASSIGNMENT (50%)	1543	1235
				DOMINION TRANSMISSION, INC.	CNX GAS COMPANY LLC AND NOBLE ENERGY, INC.	PARTIAL ASSIGNMENT (32%)	1576	125
				CNX GAS COMPANY LLC	NOBLE ENERGY, INC.	ASSIGNMENT AND BILL OF SALE	1584	942
				NOBLE ENERGY, INC.	HG ENERGY II APPALACHIA LLC	ASSIGNMENT, BILL OF SALE AND CONVEYANCE	1600	660
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	1601	581				
30	FK013946	20-0423-0018-0000 20-0423-0005-0000 20-0423-0003-0000	Q100907000	D.M. COLE AND E.E. COLE, HIS WIFE	HOPE NATURAL GAS COMPANY	NOT LESS THAN 1/8	175	166
				HOPE NATURAL GAS COMPANY	CONSOLIDATED GAS SUPPLY CORPORATION	CONFIRMATORY DEED	903	179
				CONSOLIDATED GAS SUPPLY CORPORATION	CONSOLIDATED GAS TRANSMISSION CORPORATION	ASSIGNMENT	1136	250
				CONSOLIDATED GAS TRANSMISSION CORPORATION	CNG TRANSMISSION CORPORATION	MERGER/NAME CHANGE	51	795
				CNG TRANSMISSION CORPORATION	DOMINION TRANSMISSION, INC.	MERGER/NAME CHANGE	58	362
				DOMINION TRANSMISSION, INC.	CNX GAS COMPANY LLC	MEMORANDUM OF FARMOUT AGREEMENT	1522	33
				CNX GAS COMPANY LLC	NOBLE ENERGY, INC.	LIMITED PARTIAL ASSIGNMENT (50%)	1543	1235
				DOMINION TRANSMISSION, INC.	CNX GAS COMPANY LLC AND NOBLE ENERGY, INC.	PARTIAL ASSIGNMENT (32%)	1576	125
				CNX GAS COMPANY LLC	NOBLE ENERGY, INC.	ASSIGNMENT AND BILL OF SALE	1584	942
				NOBLE ENERGY, INC.	HG ENERGY II APPALACHIA LLC	ASSIGNMENT, BILL OF SALE AND CONVEYANCE	1600	660
				DOMINION ENERGY TRANSMISSION, INC.	HG ENERGY II APPALACHIA LLC	SECOND AMENDMENT TO MEMORANDUM OF FARMOUT AGREEMENT	1601	581
				31	FK022341	20-0423-0001-0000 20-0423-0001-0001 20-0423-0004-0000 20-0423-0004-0001 20-0423-0004-0002 20-0423-0004-0003 20-0423-0004-0004	Q100750000 Q102356000 FEE	JESSE B. KNIGHT AND LYDIA E. KNIGHT, HIS WIFE; AND A. B. COFFINDAFFER AND S. J. COFFINDAFFER, HIS WIFE
HOPE NATURAL GAS COMPANY	CONSOLIDATED GAS SUPPLY CORPORATION	CONFIRMATORY DEED	903					179
CONSOLIDATED GAS SUPPLY CORPORATION	CONSOLIDATED GAS TRANSMISSION CORPORATION	ASSIGNMENT	1136					250
CONSOLIDATED GAS TRANSMISSION CORPORATION	CNG TRANSMISSION CORPORATION	MERGER/NAME CHANGE	51					795
CNG TRANSMISSION CORPORATION	DOMINION TRANSMISSION, INC.	MERGER/NAME CHANGE	58					362
DOMINION TRANSMISSION, INC.	CNX GAS COMPANY LLC	MEMORANDUM OF FARMOUT AGREEMENT	1522					33
CNX GAS COMPANY LLC	NOBLE ENERGY, INC.	LIMITED PARTIAL ASSIGNMENT (50%)	1543					1235
DOMINION TRANSMISSION, INC.	CNX GAS COMPANY LLC AND NOBLE ENERGY, INC.	PARTIAL ASSIGNMENT (32%)	1576					125
CNX GAS COMPANY LLC	NOBLE ENERGY, INC.	ASSIGNMENT AND BILL OF SALE	1584					942
NOBLE ENERGY, INC.	HG ENERGY II APPALACHIA LLC	ASSIGNMENT, BILL OF SALE AND CONVEYANCE	1600					660
NOBLE ENERGY, INC.	HG ENERGY II APPALACHIA LLC	ASSIGNMENT	1601					692
DOMINION TRANSMISSION INC	DOMINION ENERGY TRANSMISSION, INC.	MERGER/NAME CHANGE	WVSOS					
DOMINION ENERGY TRANSMISSION, INC.	HG ENERGY II APPALACHIA LLC	SECOND AMENDMENT TO MEMORANDUM OF FARMOUT AGREEMENT	1601	581				

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

4704105703

October 21, 2019

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

RE: Drilling Under Roads – McDonald 1211 N-3H
Freeman District, Lewis County
West Virginia

Dear Ms. Adkins:

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

Should you have any questions or need 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: 08/07/2019

API No. 47- _____

Operator's Well No. McDonald 1211 N-3H

Well Pad Name: McDonald Well Pad

Notice has been given:

Pursuant to the provisions in West Virginia Code § 22-6A, the Operator has provided the required parties with the Notice Forms listed below for the tract of land as follows:

State:	<u>West Virginia</u>	UTM NAD 83	Easting:	<u>545432.7</u>
County:	<u>Lewis</u>		Northing:	<u>4331789.7</u>
District:	<u>Freemans Creek</u>	Public Road Access:	<u>SR 1 / Hollick Run Road</u>	
Quadrangle:	<u>West Milford</u>	Generally used farm name:	<u>McDonald</u>	
Watershed:	<u>Middle West Fork Creek</u>			

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

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: *PLEASE CHECK ALL THAT APPLY <input type="checkbox"/> 1. NOTICE OF SEISMIC ACTIVITY or <input checked="" type="checkbox"/> NOTICE NOT REQUIRED BECAUSE NO SEISMIC ACTIVITY WAS CONDUCTED <input checked="" type="checkbox"/> 2. NOTICE OF ENTRY FOR PLAT SURVEY or <input type="checkbox"/> NO PLAT SURVEY WAS CONDUCTED <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 <input type="checkbox"/> WRITTEN WAIVER BY SURFACE OWNER (PLEASE ATTACH) <input checked="" type="checkbox"/> 4. NOTICE OF PLANNED OPERATION <input checked="" type="checkbox"/> 5. PUBLIC NOTICE <input checked="" type="checkbox"/> 6. NOTICE OF APPLICATION		OOG OFFICE USE ONLY <input type="checkbox"/> RECEIVED/ NOT REQUIRED <input type="checkbox"/> RECEIVED <input type="checkbox"/> RECEIVED/ NOT REQUIRED <input type="checkbox"/> RECEIVED <input type="checkbox"/> RECEIVED <input type="checkbox"/> RECEIVED
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Required Attachments:

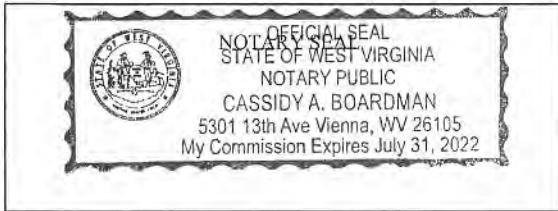
The Operator shall attach to this Notice Certification Form all Notice Forms and Certifications of Notice that have been provided to the required parties and/or any associated written waivers. For the Public Notice, the operator shall attach a copy of the Class II Legal Advertisement with publication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

WV Department of
Environmental Protection

Certification of Notice is hereby given:

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

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



Subscribed and sworn before me this 7th day of August, 2019.

Cassidy A. Boardman Notary Public

My Commission Expires 7/31/2022

Oil and Gas Privacy Notice:

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

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

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

Date of Notice: 10/22/19 **Date Permit Application Filed:** 10/25/19

Notice of:

- PERMIT FOR ANY WELL WORK
- CERTIFICATE OF APPROVAL FOR THE CONSTRUCTION OF AN IMPOUNDMENT OR PIT

Delivery method pursuant to West Virginia Code § 22-6A-10(b)

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

Pursuant to W. Va. Code § 22-6A-10(b) no later than the filing date of the application, the applicant for a permit for any well work or for a certificate of approval for the construction of an impoundment or pit as required by this article shall deliver, by personal service or by registered mail or by any method of delivery that requires a receipt or signature confirmation, copies of the application, the erosion and sediment control plan required by section seven of this article, and the well plat to each of the following persons: (1) The owners of record of the surface of the tract on which the well is or is proposed to be located; (2) The owners of record of the surface tract or tracts overlying the oil and gas leasehold being developed by the proposed well work, if the surface tract is to be used for roads or other land disturbance as described in the erosion and sediment control plan submitted pursuant to subsection (c), section seven of this article; (3) The coal owner, operator or lessee, in the event the tract of land on which the well proposed to be drilled is located [sic] is known to be underlain by one or more coal seams; (4) The owners of record of the surface tract or tracts overlying the oil and gas leasehold being developed by the proposed well work, if the surface tract is to be used for the placement, construction, enlargement, alteration, repair, removal or abandonment of any impoundment or pit as described in section nine of this article; (5) Any surface owner or water purveyor who is known to the applicant to have a water well, spring or water supply source located within one thousand five hundred feet of the center of the well pad which is used to provide water for consumption by humans or domestic animals; and (6) The operator of any natural gas storage field within which the proposed well work activity is to take place. (c)(1) If more than three tenants in common or other co-owners of interests described in subsection (b) of this section hold interests in the lands, the applicant may serve the documents required upon the person described in the records of the sheriff required to be maintained pursuant to section eight, article one, chapter eleven-a of this code. (2) Notwithstanding any provision of this article to the contrary, notice to a lien holder is not notice to a landowner, unless the lien holder is the landowner. W. Va. Code R. § 35-8-5.7.a requires, in part, that the operator shall also provide the Well Site Safety Plan ("WSSP") to the surface owner and any water purveyor or surface owner subject to notice and water testing as provided in section 15 of this rule.

Application Notice WSSP Notice E&S Plan Notice Well Plat Notice is hereby provided to:

SURFACE OWNER(s)
 Name: HG Energy II Appalachia, LLC (Pad and Road)
 Address: 5260 Dupont Road
Parkersburg, WV 26101
 Name: _____
 Address: _____

COAL OWNER OR LESSEE
 Name: _____
 Address: _____

COAL OPERATOR
 Name: _____
 Address: _____

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

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

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

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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Notice is hereby given:

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

This Notice Shall Include:

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

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

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

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

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

Well Location Restrictions

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

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

Water Well Testing:

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

Water Testing Laboratories:

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

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

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

Written Comment:

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

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

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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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4704-05703

API NO. 47- _____ - _____
OPERATOR WELL NO. McDonald 1211 N-3H
Well Pad Name: McDonald 1211

Notice is hereby given by:

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

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

Oil and Gas Privacy Notice:

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



Subscribed and sworn before me this 22nd day of October, 2019.

Cassidy A. Boardman Notary Public

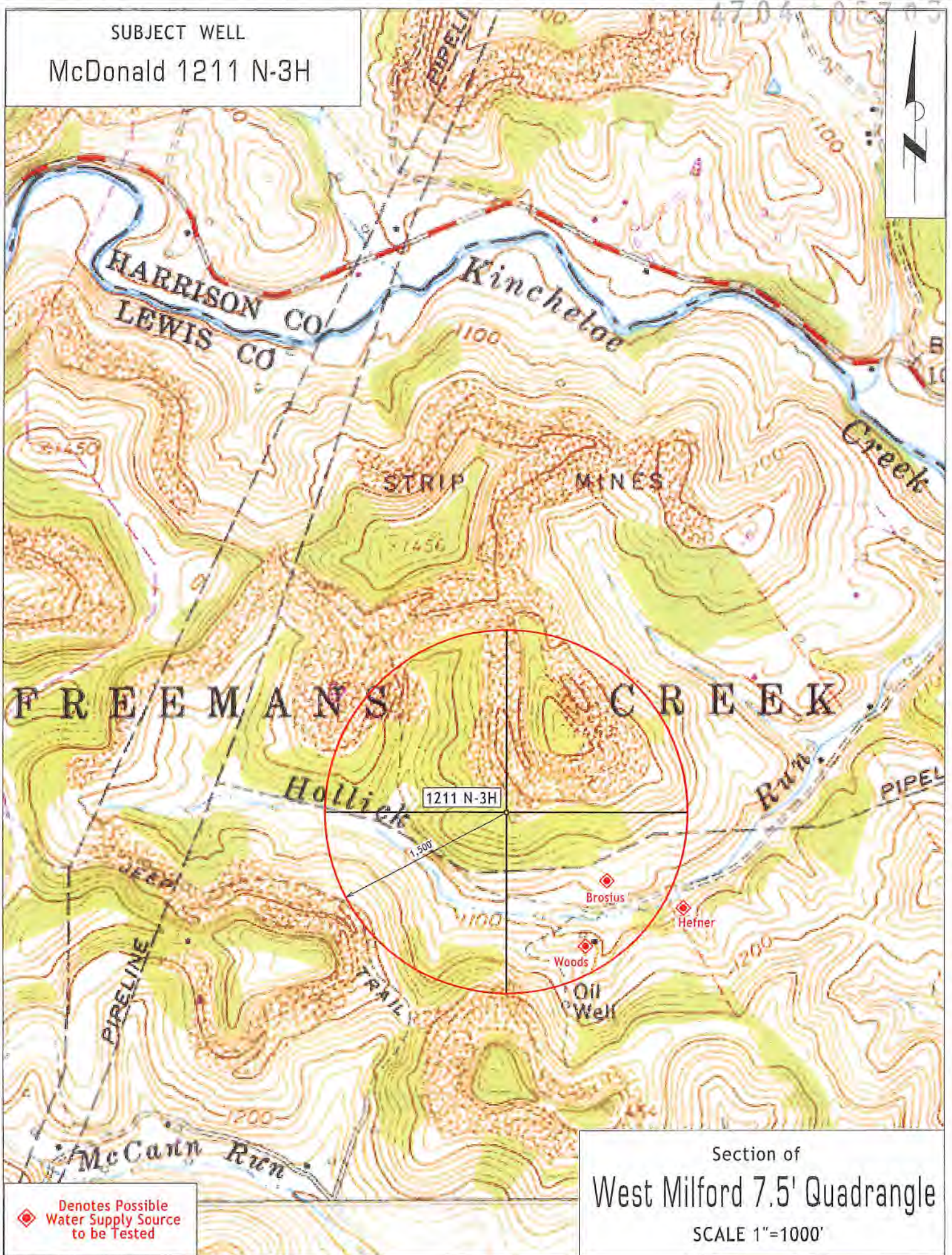
My Commission Expires 7/31/2022

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SUBJECT WELL
McDonald 1211 N-3H



◆ Denotes Possible
Water Supply Source
to be Tested

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

Diane White

From: Diane White
Sent: Wednesday, June 19, 2019 1:26 PM
To: Vickie Hoops (vhoops@sturmenvvironmental.com)
Subject: FW: 1211 WSW Owners

Vicki,
There are three sites with water wells which we'll want to be tested, if the owners allow. I don't have a plat or topo yet, but thought you might be able to locate the sites with their addresses. If not, let me know and I'll forward the location information on to you when I receive it.
The 1211 well pad site is in Lewis county, Freeman's Creek District and these water sources are within 1500'. Please ask the Tech to identify all paperwork with the McDonald 1211 site.
Thanks,
Diane

From: Timothy Roush <troush@hgenergyllc.com>
Sent: Wednesday, June 19, 2019 1:15 PM
To: Diane White <dwhite@hgenergyllc.com>
Cc: Cassidy Boardman <cboardman@hgenergyllc.com>
Subject: 1211 WSW Owners

There are 3 WSW's near the 1211 Pad:

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

Jerry Hefner
893 Hollick Run Road
Jane Lew, WV 26378

Melvin & Terri Woods
54 Orchard Drive
Buckhannon, WV 26201

Timothy P. Roush, PS
HG Energy, LLC
5260 Dupont Road
Parkersburg, WV 26101
troush@hgenergyllc.com
304-420-1120

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

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

Date of Notice: July 31, 2019 **Date of Planned Entry:** August 7, 2019

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

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

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

Notice is hereby provided to:

SURFACE OWNER(s)

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

Name: _____
Address: _____
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Name: _____
Address: _____
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COAL OWNER OR LESSEE

Name: NA
Address: _____

MINERAL OWNER(s)

Name: ** See Attached Listing **
Address: _____

*please attach additional forms if necessary

Notice is hereby given:

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

State: <u>West Virginia</u>	Approx. Latitude & Longitude: <u>39.134102 / -80.474331</u>
County: <u>Lewis</u>	Public Road Access: <u>SR 19/ Kincheloe Run/Hollick Run Road</u>
District: <u>Freemans Creek</u>	Watershed: <u>Hollick Run</u>
Quadrangle: <u>West Milford 7.5'</u>	Generally used farm name: <u>McDonald</u>

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

Notice is hereby given by:

Well Operator: 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 depprivacyofficer@wv.gov.

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Mineral Owners

Aaron K Motley
1526 Lauren Alexis Court
Dallas, NC 28034

Agnes J. Coffindaffer
568 Two Lick Rd
Jane Lew, WV 26378-6901

Alice M Shortridge & Jerry L Perkins
2641 Two Lick Road
Jane Lew, WV 26378

Alissa Kay Kerns
994 Barbour County Hwy
Belington, WV 26250

Alvin Fields Tharp Jr
3587 Perry Dr NW
Massillon, OH 44646

Ana Engelke Yates
444 Richardson Road
Creston, WV 26141

Anita & Ken Marie Davis
103 Park Rd
Aliquippa, PA 15001

Anita Dills Evans & Tommy J Evans Jr.
200 Greenbrier Drive
Lost Creek, WV 26385

Ann Mason Brashear Fitzgerald
625 Windsor Place
Tyler, TX 75701

Anna Arleena Marks
PO Box 8
Lost Creek, WV 26385

Antero Resources Corporation
1410 Spring Hill STE 500
McLean, VA 22102

Appalachian Royalties Inc.
P.O. Box 1917
Clarksburg, WV 26301

Appalachian Royalty Company LLC
10375 Richmond Ave.
Houston, TX 77042

April Victory
11642 Kiowa Ave No 1
Brentwood, CA 90049

Arthur E. Tennant Jr.
4364 Moore Ln.
Culleoka, TN 38451

Auburn Baptist Church
c/o Violet Hardbarger
11849 Auburn Road
Auburn, WV 26325

Avanelle Cole Ross
1623 Big Isaac Rd
Salem, WV 26426

Avis Dare Linger
274 Terrace Ave
Weston, WV 26452

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Mineral Owners

Barbara Gaston
PO Box 302
Anmoore, WV 26323

Barbara Louise (Crislip) Jones
35 S Lake Dr.
Parkersburg, WV 26101

Barbara S Carroll
17 Azalea Dr
Charles Town, WV 25414

Beth Ann Dunham
988 Jackson Mill Rd
Jane Lew, WV 26378

Beth Ann Thompson
103 Park Rd
Aliquippa, PA 15001

Betty Fridley
168 Cr1
Lost Creek, WV 26385

Betty Marion Radcliff
240 Brown Avenue
Weston, WV 26452

Betty Moss Tallman
741 Mulberry Ct
Bensalem, PA 19020

Bradley E. Simmons
PO Box 302
Anmoore, WV 26323

Bradley R. Oldaker
PO Box 436
Weston, WV 25452

Bradley Scott and Terri Lynn Stutler
725 Two Lick Road
Jane Lew, WV 26378

Brenda Jean Smith
9908 Easy St
Disputante, VA 23842

Brent E Radcliff
2826 Berlin Rd, Apt 8
Weston, WV 26452

Brett T. Cox
12819 Old School Rd Nw
Mount Savage, MD 21545

Bryan J Radcliff
349 Center Ave
Weston, WV 26452

Carl B. Davis, Jr.
24833 Harvey Road
Caldwell, ID 83607

Carl E. Smith
by Janet Smith POA
PO Box 364
Grafton, WV 26354

Carl Edward Smith
PO BOX 273
Lost Creek, WV 26385

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Mineral Owners

Carl Wayne Young
c/o Janet Myers
1502 Washington Ave. /
Parkersburg, WV 26101

Carla Davis
4403 Sayre Ave
Parkersburg, WV 26104

Carney Brand Jackson
632 Rockley Rd
Morgantown, WV 26508

Carrie Pratt
12819 Old School Rd. NW
Mt Savage, MD 21545

Carrie Pratt
198 Maple Ave
Clarksburg, WV 26301

Caterina D. Spring
33 Wilma Court
Gerrardstown, WV 25420

Catherine Marie Campbell
170 Fern Ridge Trail
Murphy, NC 28906

Cecil Henry Smith
PO Box 273
Lost Creek, WV 26385

Chad W. Johnson
117 E Main St. STE A
Bridgeport, WV 263301

Charles B. Greene
12819 Old School Rd Nw
Mount Savage, MD 21545

Charles R Gaston
4472 Loos Cir E
Columbus, OH 43214

Charles Russell Jackson
632 Rockley Rd
Morgantown, WV 26508

Charlotte Gatts
12819 Old School Rd Nw
Mount Savage, MD 21545

Charlotte J. Davis
59 Maple Dr
Williamstown, WV 26187

Charlotte Ware
12819 Old School Rd. NW
Mt Savage, MD 21545

Children of Ronald L. Ellis
or Champion Christian Church
3482 B Ivy Hill Cir S
Cortland, OH 44410

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Mineral Owners

Clara Isabel Bernstein
by James Bernstein
16160 SW 88 Ave. Rd.
Palmetto, FL 35157

Clara Jo Morgan
12819 Old School Rd Nw
Mount Savage, MD 21545

Cynthia Boswell
713 Casual Ct
Virginia Beach, VA 23454

Daniel Wolfe
12819 Old School Rd. NW
Mt Savage, MD 21545

Danielle Griffin Goff
31 Occupation Rd
Rivesville, WV 26588

Daryl E and Claudia M Strawhorn
80 Clark Street
Tonawanda, NY 14150

David Beeghley & Barabara Van Cliff
3038 Butler Pike
Conshocken, PA 19428

David G Beeson
4305 Horine Ct
Jefferson, MD 21755-8013

David Gaston Jr
PO Box 302
Anmoore, WV 26323

David L Andrick
1502 Washington Ave.
Parkersburg, WV 26101

David L. Currey
P.O. Box 6368
Charleston, WV 25362

David Lee Lund
PO Box 284
Lost Creek, WV 26385

David Wolfe
12819 Old School Rd. NW
Mt Savage, MD 21545

Debbie Parker
12819 Old School Rd. NW
Mt Savage, MD 21545

Debbie Parker
Salem Manor, Apt 15
Salem, WV 26426

Debra Ann Bonnell
5092 Mt. Alverno Rd.
Cincinnati, OH, 45238

Delilah Fern Linger
PO BOX 88
West Milford, WV 26451

Denise Danielle Cox
12819 Old School Rd Nw
Mount Savage, MD 21545

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Mineral Owners

Denise Springer
8 Deer Run
Jane Lew, WV 26378

Diana Esteve
3926 Alta Vista Drive
Laramie, WY 82072

Diana Jean Smith Rahm
601 Sterling Ave.
Veedersburg, IN 27987-8414

Donald R Reynolds
PO Box 607
Jane Lew, WV 26378

Donald Wolfe
12819 Old School Rd. NW
Mt Savage, MD 21545

Doris Ann Bowyer
1748 Dillon Hollow Rd
Lost Creek, WV 26385

Doris Ann Sheets
12819 Old School Rd Nw
Mount Savage, MD 21545

Doris Sandker
35160 Jimmerson Lk
Angola, IN 46703

Edmund L Washburn
Rebecca D Arthur, POA
1601 Riverbend RD
Lost Creek, WV 26385

Edward Kent Swisher
9546 Chicken Hollow Rd
Ripley, OH 45167

Elaine Moss Kinzer
178 Windsor Ave.
Buena Vista, VA 24416

Elizabeth "Betty" Condon
381 Bunchberry Dr
Maineville, OH 45039

Elizabeth A. and John Blankenship
941 Simpson Run Road
Weston, WV 26452

Elizabeth B and Joseph McLaughlin
4128 Presidential Drive
Lafayette Hill, PA 19444

Elizabeth Bailey
12819 Old School Rd NW
Mt Savage, MD 21545

Elizabeth Bailey
PO Box 421
West Milford, WV 26451

Elizabeth Francene Kirk
986 Ashton Pl
Morgantown, WV 26508

Elizabeth JoAnn White
3218 S. Ogemaw Trl.
West Branch, MI 48661

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Mineral Owners

Elizabeth Loegering
24833 Harvey Road
Caldwell, ID 83607

Eric Riggs
12819 Old School Rd Nw
Mount Savage, MD 21545

Erica Davis
435 Larry Drive
Florissant, MO 63033

Ernest Aubrey Rider
3535 Randolph Rd.
Charlotte, NC 28211

Eugene Russell Smith
PO BOX 141
Lost Creek, WV 26385

Evelyn McDonald
165 Two Licks Rd.8
Jane Lew, WV 26378

Floyd Spivey, Jr.
1100 Shannondale Dr
Raleigh, NC 27603

Frances Joann Lemley
2501 11th Ave
Vienna, WV 26105

Francis LaGatta
127 Columbus St
Westover, WV 26501

Fred Allen Bailey
806 North Main St.
New Martinsville, WV 26155

Fred Bailey
4853 Old Mill Road
Jane Lew, WV 26378

Gary Bailey
12819 Old School Rd. NW
Mt Savage, MD 21545

Gary Bailey
PO Box 477
West Milford, WV 26451

Gary Lynn Hinkle
250 Peake St, NE
Palm Bay, FL 32907

Gary Wayne Ross
5126 Gregory Run Road
Clarksburg, WV 26301

Geneva Gibbs
78 Millstone Ln
Parkersburg, WV 26104

George H. Engelke Alvin
444 Richardson Road
Creston, WV 26141

George Russell Rollyson Jr.
16 Monterey Ln
Cross Lanes, WV 25313

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Mineral Owners

Gerald E. Bennington.
289 Ridgeview Ests
Jane Lew, WV 26378

Harriet Ann Berry Summers
82 Briar Lea Ln.
Morgantown, WV 26508

Harrison County Bank, Trustee
Mary & William Thrash Trust
P. O. Box 98
Lost Creek, WV 26385

Helen Brashear
1417 Hollytree Place
Tyler, TX 75703

Helen Jenkins & Earl M. Jenkins
PO Box 552
Jane Lew, WV 26378

Helen M. Burton
8086 Powell Ave
Stonewood, WV 26301

Herman W. Burkirk
6116 35th Ave North St.
Petersburg, FL 33701

Holt Properties
PO Box 2612
Davidson, NC 28036

Ida Hofer
12050 Montgomery Rd
Cincinnati, OH 45249

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

Jackson Lodge No. 35
A.F. & A.M. Cemetery
PO Box 391
Lost Creek, WV 26385

James C Nabors
7008 Copper Creek Way
Bakersfield, CA 93308

James Carl Robinson
583 Wymer Run Rd.
Jane Lew, WV 26378

James D. Alfred
c/o Bill Ott
4008 Powell St
Parkersburg, WV 26104

James E. Dills
RR 2 Box 177-B
Jane Lew, WV 26378

James Edward Ross
1623 Big Isaac Rd
Salem, WV 25426

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James Elliot Alfred
c/o Bill Ott
4008 Powell St
Parkersburg, WV 26104

James F. Davis
230 Woodmire Dr
Milton, WV 25541

James Ivan McDonald
RR 1 Box 168A
Lost Creek, WV 26385

James L Riggs JR
2312 Wood St
Westernport, MD 21562

James M Andrick
1502 Washington Ave.
Parkersburg, WV 26101

James M & Daryl Ann Beeghley
143 Clinchview Circle
Lebanon, VA 24266

James Russell Rodgers
9580 County Road 4091
Scurry, TX 75158

Jane Ann Barton
PO Box 7733
Indian Lake Estate, FL 33855

Jane Campbell McNeil
142 Whispering Woods Rd.
Charleston, WV 25304

Jane Earle Wagoner
228 Beechwood Estates
Scott Depot, WV 25560

Jane Nicklin Bruce
PO Box 388
Lewisburg, WV 24901

Janet Adkins
6 Emerald St
Melbourne, FL 32904

Janet Myers
1502 Washington Ave.
Parkersburg, WV 26101

Jason Radcliff
1501 Flanders Ln, Trlr G
Harwood, MD 20776

Jean Ann Griffin
2665 Misty Morning Ln.
Rosewell, GA 30076

Jeffrey A. Barnette
Rt 1 Box 610
Mount Clare, WV 26408

Jeffrey A. Greene
12819 Old School Rd Nw
Mount Savage, MD 21545

Jennifer A Dinday
1115 South Willow Ave., Apt. 229
Cookeville, TN 38501

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Mineral Owners

Jennifer Olsen
12819 Old School Rd Nw
Mount Savage, MD 21545

Jenny L. Ankrom
12819 Old School Rd Nw
Mount Savage, MD 21545

Jerry W Gaston
6297 Fredricks Rd,
Sunbury, OH 43074

Joe F. Moss
801 Valley Drive
Neward, DE 19711

Joel Williams
60 Liberty St
Salem, WV 26426

Joellen F. Allman
725 Two Lick Road
Jane Lew, WV 26378

Joey Douglas Wolfe
12819 Old School Rd. NW
Mt Savage, MD 21545

John A. McDonald
RR 2 Box 180
Jane Lew, WV 26378

John D. Morris
11836 Discovery Circle
Parker, CO 80138

John E. Wells
484 Somerville Fk.
Palestine, WV 26160

John Fasciani
7675 Verandah Ct
Littleton, CO 80125

John Joseph Moss
360 American Thread Village Road
Marion, NC 28752

John L. and Laura Beeghley
513 Pebble Lane
Coatesville, PA 19320

John T. Haskins and Judith K. Haskins
PO Box 907
Jane Lew, WV 26378

John Wilmer Norris, Jr.
60 Simpson Run Road
Weston, WV 26452

Johnathan Ridenour
174 Elm Street Apartment 1
Bradford, PA 16701

Jonathan Hanst
1006 Willow Place
Lafayette, CO 80026

Joseph Scott Beeson
1709 Massey Cir
South Charleston, WV 25303-2618

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Mineral Owners

Joyce (Love) Edwards
5031 Garfield Rd
Palestine, WV 26160

Judith Ann Smith Rowe
741 Mulberry Ct
Bensalem, PA 19020

Junior Ray Waid
3393 SR 305
Southington, OH 44470

Justin Williams
60 Liberty St
Salem, WV 26426

Kara L Allman
318 Bloody Run Rd
Jane Lew, WV 26378

Karen Clark
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Mount Savage, MD 21545

Karen Gumz
701 Sitka ST
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Karen Muhleisen
c/o Kelly Shollq
77 Lancer PL
Martinsburg, WV 25404

Karen Muhleisen
C/O Kelly Sholl
316 Gaston Manor Road
Jane Lew, WV 26378

Karen Stillion
5 Wade Ave
Wheeling, WV 26003

Karen Warsaw
5713 Penguin Dr
Roanoke, VA 24018

Karl Dwane Parker
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Washington, PA 15301

Karla Thorndell
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9401 David Andrew Way
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Katharine Sue Cales
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Portland, OR 97221

Kathy Frashure Coers
P.O. Box 691133
Mint Hill, NC 28227

Kathy Jones
61 River Road
Pembroke, ME 04666

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Mineral Owners

Kathy Rymeski
1140 Upland Dr
Portland, OR 97221

Kathy Sullivan
223 McCarty Rd
Fredericksburg, VA 22405

Kelly G. Postlewait
C/O Kelly Sholl & Michael P. Sholl
316 Gaston Manor Road
Jane Lew, WV 26378

Kelly J Postlewait & Mike Sholl
c/o Kelly Sholl
77 Lancer PL
Martinsburg, WV 25404

Kenneth E Bowman
60 Altamont Court
Fort Thomas, KY 41075

Kenneth R. Snider
4820 Old Main St #511
Henrico, VA 23231

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4067 Roweling Oak Crt
Tallahassee, FL 32303

Larger Family Revocable Living Trust
177 Sterling Glen Dr.
Westerville, OH 43081

Lawrence Gene Hinkle
Larry G. Hinkle, CTO
4510 106th Pl SW
Ocala, FL 34476

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Linda A. and David James
837 Old Mill Rd.
Weston, WV 26452

Linda L. Barnes
905 Briarwood St
Morgantown, WV 26505

Linda L. Clutter
823 Laurel St
China Grove, NC 28023

Linda McGinnis
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Charlotte, NC 28214

Linda Osborn
669 Lynn Avenue
Weston, WV 26452

Linda Serna
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Colorado Springs, CO 80936

Linda Surock
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Bridgeport, WV 26330

Linda Welch Johnson
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Sistersville, WV 26175

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Lindeana Bailey
12819 Old School Rd. NW
Mt Savage, MD 21545

Lindeana Bailey
133 Golden Eye Dr, Apt C
Daytona Beach, FL 32119

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Lisa Oldaker Palmer
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Lois J Dearth
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Lori J. McGlumphy
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Lucille Price
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Jane Lew, WV 26378

Marjorie Nicklin Ashbeck
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Marsha K. Hudkins
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Martha Ann Burkhammer
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Mineral Owners

Mary Ann Kelly Combs
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Booneville, KY 41314

Mary Diane Boso
48 Blosser St
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Mary Elizabeth Kennedy
12702 Pleasant Valley Rd
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Mary K. Brant
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Mary Mabel Brown
c/o Bonnie Williams, A-I-F
6198 Morrow Rossburg Rd
Morrow, OH 45152

Mary V Huff
551 Duck Creek Rd,
Lost Creek, WV 26385

Matthew Kent McKinney, Trustee
Billie L. McKinney Revocable Trust
301 Rose Arbor Lane
Matthews, NC 28105

Melissa L Steege
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Nampa, ID 83651

Mary Anne Currey Ford
P.O. Box 6368
Charleston, WV 25362

Mary Diane Boso
Dower Interest of Everett W. Davis
8412 Le Marie Ct
Denham Springs, LA 70706-1536

Mary K Dinday
23 Minor Court
San Rafael, CA 94903

Mary Katherine Ott
c/o Bill Ott
4008 Powell St
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Jane Lew, WV 26378

Michael F & Miriam Nardella
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Clarksburg, WV 26301

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Michael Phillips
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Nancy Ann Hughes
RR 1 Box 215C
Jane Lew, WV 26378

Nancy Jean Bibbee Murphy
3575 Newberry Rd
Little Hocking, OH 45742

Nardella Energy, LLC
309 John St
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Mt Savage, MD 21545

Neil Bailey
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Philippi, WV 26416

Pauline Beeghley
c/o David Beeghley James Price
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Mineral Owners

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Richards Resources
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Salem, WV 26426

Rita Jane Davis
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Broken Arrow, OK 74011

Rita Lynn Barnette
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Jane Lew, WV 26378

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Monroe, OH 45050

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Horner, WV 26372

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South Lake Tahoe, CA 96150

Robert V. Barnette
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Jane Lew, WV 26378

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Ronald & Linda O'Neal, H&W JTWRS
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Buchhannon, WV 26201

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Middletown, MD 21769

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Lemont Furnace, PA 15456

Ruth Ann Wright
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Fairmont, WV 26554

Ruth Messenger
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Clarksburg, WV 26301

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Harrisonburg, VA 22802

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Mineral Owners

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231 Highland Ave
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Sam Layfield Morrison
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Sam Porter
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Massillon, OH 44647

Sandra Jo Hardway
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Akron, OH 44312

Seneca-Upshur Petroleum, LLC
P.O. Box 2048
Buckhannon, WV 26201

Sharen K. Robinson
457 Green Valley Road
Bridgeport, WV 26330

Sharon K. Frashuer Woodridge
7424 Winterleaf Ct
Richmond, VA 23234

Sharon Radcliff Pickens
154 U S Hwy 19 N
Weston, WV 26452

Sharyn Von (Fosson) Sims
78 Garfield Hts
LeRoy, WV 25252

Shawn William Couch Trust
c/o Joseph Moffo, Trustee
5503 Wood Duck Rd.
Middleburg, FL 32068

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Marietta, GA 30062

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Sidney Boggess Jackson
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Morgantown, WV 26508

Stephanie Meads
1124 Riverlane Dr
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Statesville, NC 28625

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c/o Mae Gaston
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Reed City, MI 49677

Susan Lawrence
109 Valley Dr
Bridgeport, WV 26330

Susan M. Young
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Rosewell, GA 30076

Tanya Morrison
12819 Old School Rd. NW
Mt Savage, MD 21545

Thomas A. Tricot
68 Sutherland Ln.
Penhook, VA 24137

Thomas E Bailey
713 Stone Rd
Jane Lew, WV 26378

Thomas R. McConnell
64 Cranesville Rd
Terra Alta, WV 26764

Thuey Morrison
12819 Old School Rd. NW
Mt Savage, MD 21545

Tillman Lee Willams
1545 Flinderation RD
Salem, WV 26426

Timothy Gaston
PO Box 302
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Timothy Stephen Thomas
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4008 Powell St
Parkersburg, WV 26104

Tina Moss McGillivray
2867 Pekin Road
Springboro, OH 45066

Tom Porter
40560 Hanover Ridge Rd
Jewett, OH 43986

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Mineral Owners

Tricot Family Revocable Living Trust
737 Braceville Robinson
Newton Falls, OH 44444

Urcle M Sheets Jr
8058 Kirkton Crt
Sacramento, CA 95828

Vickie Lynn Perez
12819 Old School Rd. NW
Mt Savage, MD 21545

Virginia Coffindaffer
2223 One Heritage Pt.
Morgantown, WV 26505

Virginia Mae Prickett Testam Trust
Virginia Marie Griffin Trustee
fbo Danielle Griffin
12819 Old School Rd NW
Mount Savage, MD 21545

Virginia Ruth Justison
by D L Miller, POA
8650 Whitacre Rd.
Blanchester, OH 45107

Wesley Craft Brashear, Jr.
12205 Creek Point Dr.
Frisco, TX 75035

William "Jeff" Nabors
18726 Trail Bend Ln
Houston, TX 77084

William A Smith
PO BOX 135
Lost Creek, WV 26385

William & Rebecca Davis Living Trust
82 Briar Lea Ln
Morgantown, WV 26508

William C. White
#1 White Lane
PO Box 770
Jane Lew, WV 26378

William Clark Kerns, II
William C Kerns
7245 Innsdale Ave. S
Cottage Grove, MN 55016

William G. Rapping
65 Meade St
Buckhanon, WV 26201

William J. Sheldon
320 Liberty Ave
Clarksburg, WV 26301

William L. Bailey
255 Grass Run Rd
Weston, WV 26452

William Lewis Coffindaffer
RR 2-Box 167
Jane Lew, WV 26378

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Mineral Owners

William Morrison
12819 Old School Rd. NW
Mt Savage, MD 21545

WV Minerals, Inc
PO Box 5044
Fairmont, WV 26554

XTO Energy Inc.
810 Houston St
Fort Worth, TX 76102

Yvonne K Washburn
42 Cove Drive
Oak Hill, WV 25901

Zachary Donald Wolfe;
12819 Old School Rd. NW
Mt Savage, MD 21545

Zelma Bailey
2820 Yankee Doodles Dr
Reynoldsburg, OH 43068

*HG Energy II Appalachia, LLC
5260 Dupont Road
Parkersburg, WV 26101

*Will Not Be Noticed Via Certified Mail

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HG Energy II Appalachia, LLC

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

July 31, 2019

RE: McDonald 1211N (1H – 4H)
Freemans Creek District, Lewis County
West Virginia

To Whom It May Concern:

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

Pursuant to WV Code Chapter 22B, Article 6, you are receiving copies of this correspondence because you are an owner of mineral rights on one or more of the underlying leases impacted by this well (s). Your rights as a royalty owner can be obtained from the Secretary at the WVDEP at 304-926-0450.

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

Very truly yours,

Diane White

Diane C. White

Enclosures

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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: 08/05/2019 **Date Permit Application Filed:** 08/15/2019

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

- HAND DELIVERY CERTIFIED MAIL RETURN RECEIPT REQUESTED

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

Notice is hereby provided to the SURFACE OWNER(s): * Notice Not Sent to HG Energy II Appalachia

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

Name: _____
Address: _____

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Notice is hereby given:

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

State: West Virginia UTM NAD 83 Easting: 545432.7
County: Lewis Northing: 4331789.7
District: Freemans Creek Public Road Access: SR 1 / Hollick Run Rd
Quadrangle: West Milford WV 7.5' Generally used farm name: McDonald
Watershed: Middle West Fork Creek

This Notice Shall Include:

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

Notice is hereby given by:

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

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

Oil and Gas Privacy Notice:

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



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

August 6, 2019

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

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

Subject: DOH Permit for the McDonald 1211 Pad, Lewis County
N-3H Well site

Dear Mr. Martin,

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

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

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Very Truly Yours,

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

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

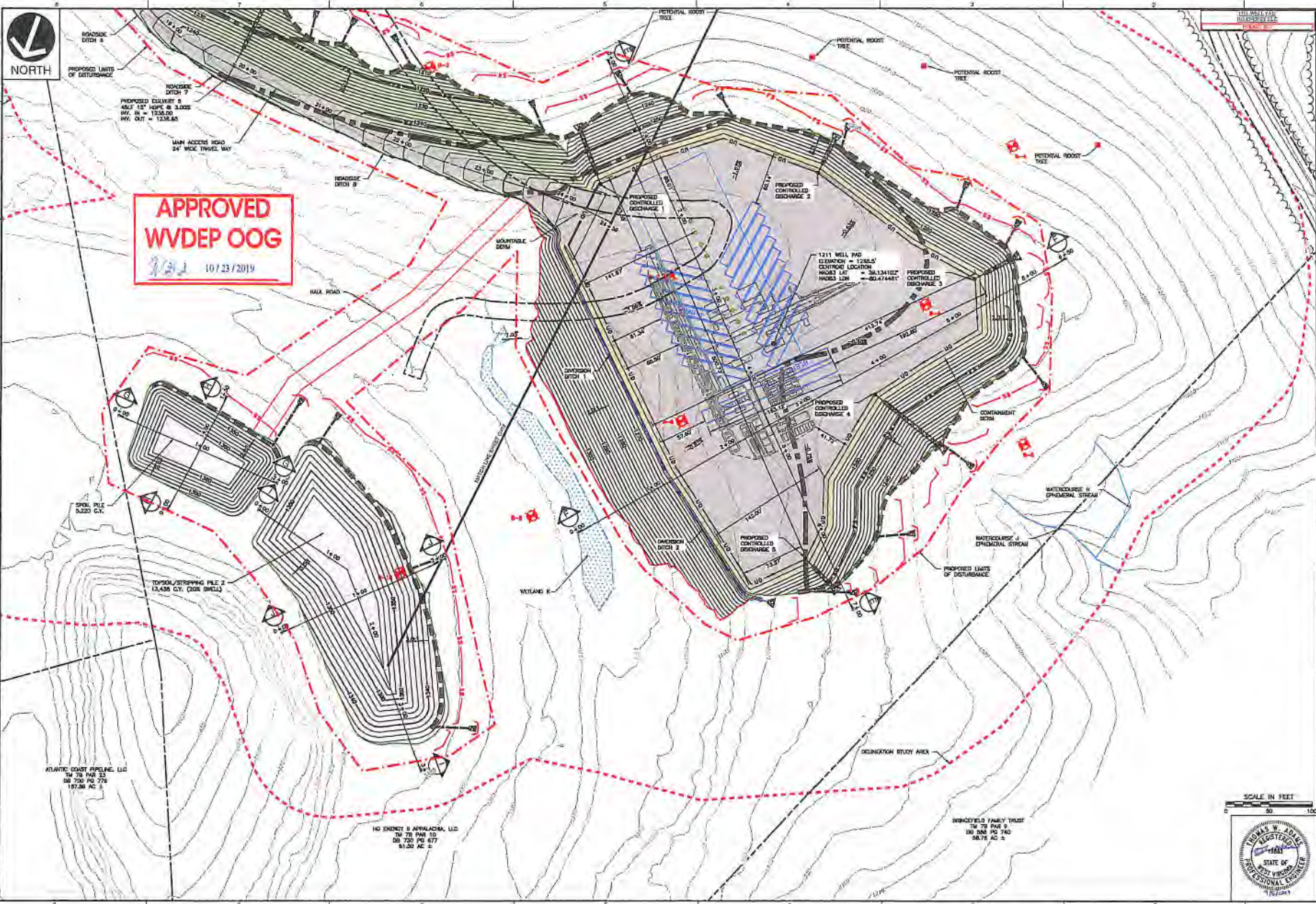
List of Frac Additives by Chemical Name and CAS #**McDonald 1211 Well Pad (N-1H, N-3H, N-5H, S-7H, S-8H, S-9H)**

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

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MW Department of
Environmental Protection



APPROVED
WVDEP OOG
10/23/2019

REVISION RECORD

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

CEC
Civil & Environmental Consultants, Inc.
600 Marketplace Ave. - Suite 200 - Bridgeport, WV 26301
PH: 304.993.3119 - FAX: 304.993.3357
www.cecinc.com

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

SITE LAYOUT

DATE	BY	DATE	BY
JUNE 2018	UNAWAYT	AS SHOWN	UNAWAYT

C303

DATE: JUNE 2018
BY: UNAWAYT
DATE: AS SHOWN
BY: UNAWAYT



SCALE IN FEET
0 50 100

ATLANTIC COAST PIPELINE, LLC
 TM 78 PAD 23
 DB 720 PD 272
 87.26 AC

ATLANTIC COAST PIPELINE, LLC
TM 78 PAD 23
DB 720 PD 272
87.26 AC

HG ENERGY II APPALACHIA, LLC
TM 78 PAD 23
DB 720 PD 272
87.26 AC

DEWETFIELD FAMILY TRUST
TM 78 PAD 8
DB 808 PD 340
84.76 AC